Turbo V-8

Command Index

The Programmer's Guide to Building R:BASE Databases and Custom Applications

R:BASE Technologies, Inc.

R:BASE Turbo V-8

Command Index

by R:BASE Technologies, Inc.

Welcome to R:BASE Turbo V-8 for Windows

Welcome to the Next Generation R:BASE Turbo V-8 for Windows. R:BASE is an Industrial-Strength, True 32-Bit, Multi-User Relational Database. But R:BASE is not just a Database Management System; it is a total GUI development environment for all Windows desktop and network applications. R:BASE Turbo V-8 for Windows is the ideal Database Management Suite for creating and maintaining your mission critical data with a true graphical user interface. Since its introduction in 1981 as the first PC-based database management system based on Dr. Codd's relational model, R:BASE has led as the first 32-bit DBMS in its class, providing programming-free application development, automatic multi-user capabilities, 4GL (a full-featured programming language in the R:BASE base product) and embedded ANSI SQL. And now with R:BASE Turbo V-8 for Windows, we have added a whole new look and feel to enhance the applications you develop in R:BASE. You can rapidly produce the type of results that previously would have required various third party development tools. Simply using native controls, you can now design cool applications at a fraction of the cost and development time when compared to other database and development tools available.

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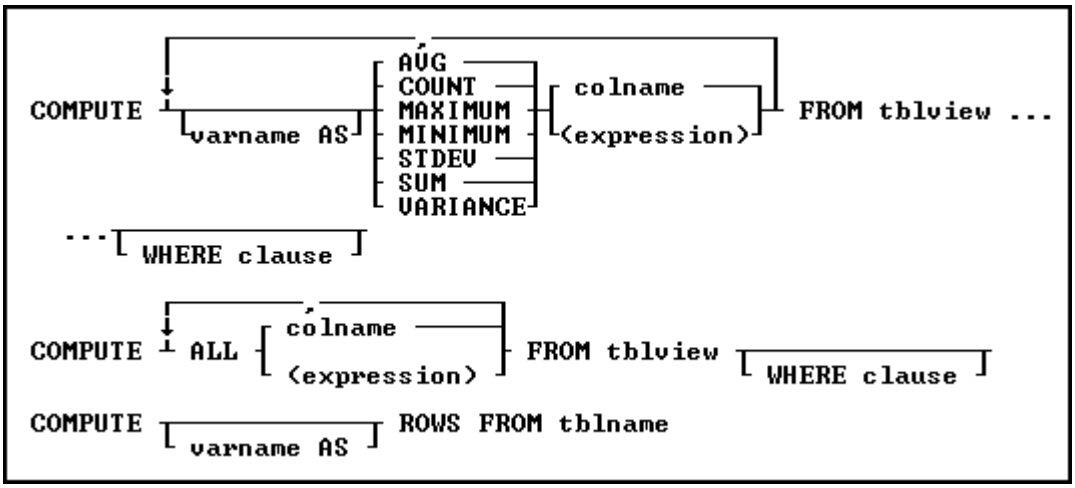
Part I

1 Command Index

1.1 Reading Command Syntax

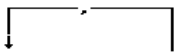
How To Read the Parts of the Command Syntax Diagram



Text Objects in the Command Syntax Diagram

- Keywords, which are uppercase, tell R:BASE what to do.
- Arguments, which are lowercase, represent specific information that you provide, such as a table name, column name, variable name, or expression.

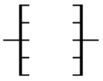
Graphical Parts of the Command Syntax Diagram



An arrow in a command syntax indicates what portion of the command can be repeated. Each part of the command that is repeated must be separated with a comma, or the current delimiter character.

...

Ellipses indicate that the syntax continues to the next line.



If you have a choice of keyword or argument to use, the choices are enclosed in brackets.

This is the main line of the syntax. Any keywords or arguments on the main line are required.

This part of the syntax is below the main line and is therefore optional.

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1.2 A

1.2.1 ABORT

Use the ABORT command in conjuction with the ON CONNECT/PACK command to stop the process, or with a stored procedure to stop a trigger.

Options

ON
The ON option is used in conjunction with the ON CONNECT/PACK command. It stops the connect or pack from being performed after the command file finishes.

TRIGGER
The TRIGGER option is used in a stored procedure to cancel the UPDATE, INSERT, or DELETE command.

About the ABORT ON Command

The ABORT ON command is placed in the command file specified by the ON CONNECT/PACK command. It indicates that the CONNECT or PACK should not be performed after the command file finishes. For example, when using AUTOCHK with ON PACK to check the database for errors, use ABORT ON so the PACK is not performed if errors are found in the database.

Since a trigger runs a stored procedure before the row that triggered it is updated, inserted, or deleted, you can use the ABORT TRIGGER command to cancel the UPDATE, INSERT, OR DELETE command.

1.2.2 ALTER TABLE

Use the ALTER TABLE command to modify an existing table.

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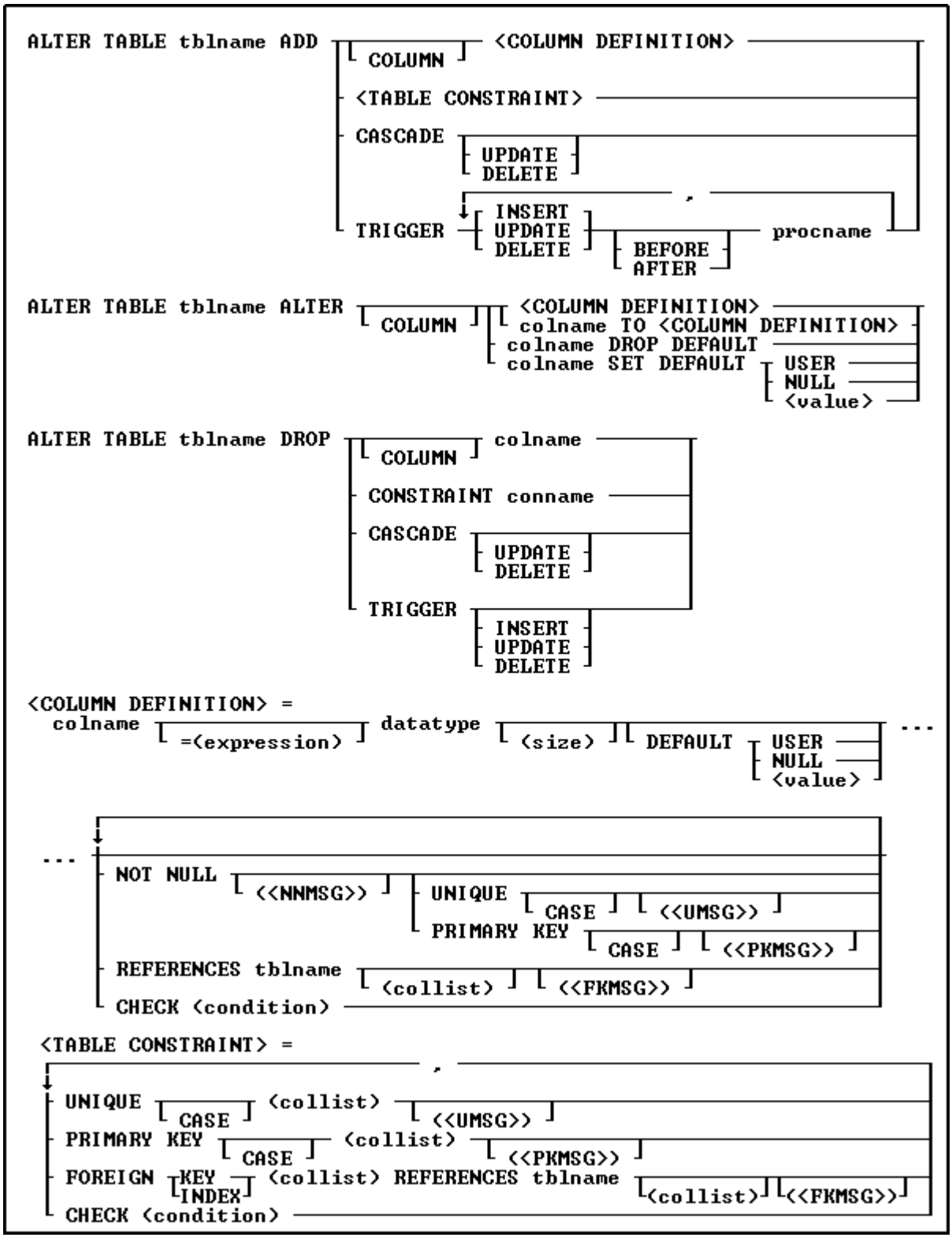

Options

,
Indicates that this part of the command is repeatable.

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ADD
Specifies the column and its definition, or a table constraint to add.

ADD CASCADE
Maintains primary/foreign key relationships automatically. For example, if you either UPDATE or DELETE a primary key value from a table, the corresponding foreign key values are updated or deleted automatically. A CASCADE can applied to UPDATE, DELETE or BOTH to specific primary keys. By not specifying either UPDATE or DELETE, both CASCADE restrictions will be enforced upon the primary/foreign key tables. Separate UPDATE and DELETE data restrictions can allow a CASCADE to be enforced for records that are updated, but not enforced when records are deleted, in order to avoid an accidental or undesired record delete. CASCADE can only be added to tables with primary keys.

ADD TRIGGER
Adds the specified triggers to the table. Triggers run a stored procedure when an UPDATE, DELETE, or INSERT command is executed. If you are using BEFORE and/or AFTER triggers, BOTH must be ADDed at the same time.

AFTER
Sets the trigger to activate after the INSERT, UPDATE or DELETE action.

ALTER
Modifies a column definition.

BEFORE
Sets the trigger to activate before the INSERT, UPDATE or DELETE action. This is the default setting if the BEFORE/AFTER parameter is unused.

CASE
Specifies that the data values will be case sensitive.

CHECK (condition)
Sets a condition to be satisfied before an update or insertion of a row can occur, which creates an R:BASE rule.

(collist)
Specifies a list of one or more column names, separated by a comma (or the current delimiter), used in the unique key specification. This option is only used when referencing a unique key.

colname
Specifies a 1 to 128 character column name.

COLUMN
Specifies the column to add, drop, or alter.

conname
Specifies a constraint name.

datatype
Specifies an R:BASE data type.

DEFAULT
Specifies a default value for the column if no value is provided by the user.

DROP
Removes a column or a constraint. A column, including both its structure and data, is removed from the table. Dropping a constraint removes a primary key, foreign key, unique key, or a not-null constraint.

DROP CASCADE
Disables the CASCADE feature so that primary/foreign key relationships are not maintained automatically.

DROP CONSTRAINT
Removes a constraint.

DROP DEFAULT
Removes a column's default value.

DROP TRIGGER

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Drops either all triggers for a table, or the specified INSERT, UPDATE, or DELETE trigger. There is no need to specify BEFORE and/or AFTER because both triggers will be deleted if they are present using this command.

= (expression)
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as #date, #time, and #pi.

(<FKMSG>)
Creates a constraint violation message to appear whenever a foreign-key data integrity violation occurs. The message can suit the meaning of your data, such as "You must enter a valid number" for a foreign-key constraint violation. You can define two messages: one for inserting and one for updating. A constraint must be dropped, then recreated in order to modify the violation message.

FOREIGN INDEX
With the FASTFK setting on, creates a foreign key that has an index using row pointers for data retrieval on selected columns.

FOREIGN KEY
Specifies a column or set of columns required to match values in a particular primary key or unique key constraint defined in a table.

FOREIGN KEY (collist)
If (collist) comprises one column, this option is equivalent to FOREIGN KEY. If two or more columns are included in (collist), the values in the listed columns must be unique as a group in each row. Each column must be separated by a comma (or the current delimiter).

(<NNMSG>)
Creates a constraint violation message to appear whenever a not-null data integrity violation occurs. The message can suit the meaning of your data, such as "You must enter a valid number" for a not-null constraint violation. A constraint must be dropped, then recreated in order to modify the violation message.

NOCHECK
Optional NOCHECK parameter does not update references to views, tables, and columns in forms, reports, labels, access rights, and rules. In this case, user assumes the responsibilities to update any references to views, tables, and columns in forms, reports, labels, access rights, and rules. This condition is ONLY available for the **ALTER COLUMN** parameter.

NOT NULL
Prevents a column from accepting null values, but permits it to accept duplicate values. If this option is specified without a setting for a default value, you cannot insert rows without specifying values for the given column.

(<PKMSG>)
Creates a constraint violation message to appear whenever a primary-key data integrity violation occurs. The message can suit the meaning of your data, such as "You must enter a valid number" for a primary-key constraint violation. You can define three messages: one for uniqueness, one for deleting, and one for updating. A constraint must be dropped, then recreated in order to modify the violation message.

PRIMARY KEY
Specifies the column(s) to designate as a primary key constraint.

PRIMARY KEY (collist)
If (collist) comprises one column, this option is equivalent to PRIMARY KEY. If two or more columns are included in (collist), the values in the listed columns must be unique as a group in each row. Only columns defined as not null can be included in (collist). Each column must be separated by a comma (or the current delimiter).

procname
The procedure name. If a procedure by this name already exists in the database, an error is generated.

REFERENCES
Identifies the primary key or unique key table to which the foreign key refers.

SET DEFAULT
Changes a column's default value.

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(size)
Defines the length of a column of either the CHARACTER data type (if not the default 1) or TEXT data type (if not the default 8). Defines the precision and scale of a column of the DECIMAL or NUMERIC data type, if not the default of precision 9 and scale 0 (9,0). VARBIT, VARCHAR, and BIT either require or can have a size.

tblname
Specifies a 1 to 18 character table name.

(<UMSG>)
Creates a constraint violation message to appear whenever a unique-key data integrity violation occurs. The message can suit the meaning of your data, such as "You must enter a valid number" for a unique-key constraint violation. You can define three messages: one for uniqueness, one for deleting, and one for updating. A constraint must be dropped, then recreated in order to modify the violation message.

UNIQUE
Requires the values in a column to be unique by creating a unique key constraint.

UNIQUE (collist)
If (collist) is one column, this option is equivalent to UNIQUE. If two or more columns are included in (collist), the values in the listed columns must be unique as a group in each row. Only columns defined as not null can be included in (collist). Each column must be separated by a comma (or the current delimiter).

USER
NULL
(value)
Default USER: Specifies the default value to be the user identifier.
Default NULL: Specifies the default value to be null.
Default (value): Specifies the default to be the indicated value.

About the ALTER TABLE Command

ALTER TABLE creates a temporary internal table by copying a table's structure and data. You must have enough disk space to hold another copy of a table, and your database should not exceed the number of tables and columns R:BASE allows, which includes user-defined tables and system tables.

After the ALTER TABLE command has been executed, the temporary table goes away; however, the disk space the temporary table occupied is not available. To recover this space, pack or reload the database using the PACK or RELOAD commands.

The ALTER TABLE command is supported in EEP's for versions 6.5++ and higher.

Adding Columns

When you add a new column to a database, specify the name, data type, and length when the data type for the column is CHARACTER or TEXT, or precision and scale when the data type for the column is DECIMAL or NUMERIC. When the column is computed, specify the name and expression-a data type is optional. When the column already exists in the database, specify only the name-R:BASE uses the existing data type, and length, if applicable.

Database Access Rights with ALTER TABLE

When access rights for a table or view have been assigned using the GRANT command, ALTER TABLE requires the database owner's user-identifier or permission from the owner to alter specific tables. For more information about
assigning access rights, see the "GRANT" entry.

Limitations of the ALTER TABLE Command

You cannot assign an index to a new column or transfer the index of an existing column with ALTER TABLE. If the added column should be indexed, use the CREATE INDEX command.

You also cannot add or transfer rules with ALTER TABLE. If you want a rule to apply to a column in the table, you must add it with the RULES command or use the Database Designer.

You cannot use ALTER TABLE to modify a view.

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Examples

The following command adds mailadrs, a TEXT column 40 characters wide, at the end (or far right) of the customer table.

```
ALTER TABLE customer ADD mailadrs TEXT 40
```

The following command adds the profit column at the end of product table. The value of profit is computed from the current row values for listprice multiplied by 1.05. The data type specified is REAL.

```
ALTER TABLE product ADD profit=(listprice * 1.05) REAL
```

The following command defines columns one through three as a case-sensitive primary key. Before you use this command, you must add a not-null constraint to each of the columns.

```
ALTER TABLE tablename ADD PRIMARY KEY CASE (column1, column2, column3) ('This is a message from the primary key')
```

The following command line adds a foreign index to the custidcolumn and references the primary key in the customer table.

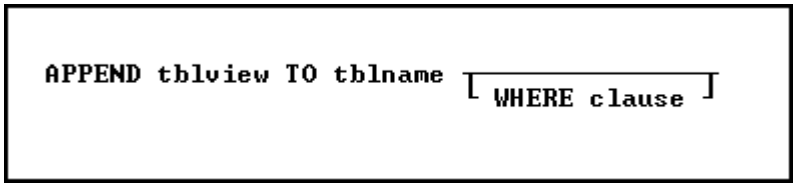
```
ALTER TABLE transmaster ADD FOREIGN INDEX (custid) REFERENCES customer
```

The following command line adds the test trigger for SampleTriggers Table.

```
DROP PROCEDURE MySampleTrigger
PUT AFTER.PRC AS MySampleTrigger
ALTER TABLE SampleTriggers ADD TRIGGER INSERT AFTER MySampleTrigger
RETURN
```

1.2.3 APPEND

Use the APPEND command to copy rows from a table or view to the end of a table.



Options

tblview
Names the table or view from which you want to copy rows-the source.

TO tblname
The name of the table to which you want to copy rows-the destination.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

About the APPEND Command

R:BASE only copies values from the source table or view that have matching column names in the destination table. Columns in the destination table that are not in the source table or view are filled with null values.

Rows are copied, not removed, from the source.

Example

The following command adds the rows containing new employee information from the newemp table to the end of emptable, a table containing information about previous employees. A WHERE clause is not specified, so all rows are copied to emptable.

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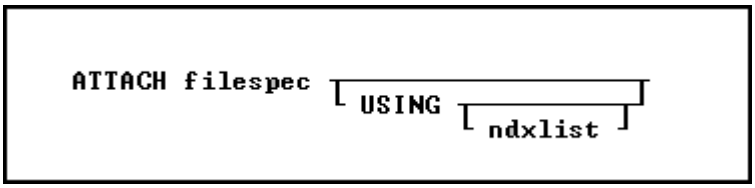
```
APPEND newemp TO emptable
```

1.2.4 ATTACH

Use the ATTACH command to attach a dBASE file to an open R:BASE database.



Options

filespec
A dBASE database name with a drive and path specification in the form D:\PATHNAME/FILENAME.

ndxlist
Specifies a list of index files to associate with the specified dBASE file. You do not have to include the extension for each index file. Separate index file names with a comma (or the current delimiter). Index files must be located with the specified dBASE file.

USING
Removes dBASE index files that were previously associated with the attached dBASE file when this option is used without a list of index files.

About the ATTACH Command

Before you can attach a dBASE file, an R:BASE database must be open. You can open an existing database or use the CREATE SCHEMA command to create a database.

Include the file specification when the file is located on a different drive or directory. You do not have to include the .DBF extension for the dBASE file.

R:BASE directly reads and writes dBASE III and dBASE III PLUS data and index files. R:BASE can also read and write dBASE IV data files and index files that have the .NDX extension, just as dBASE III and dBASE III PLUS can share files with dBASE IV. R:BASE cannot read encrypted files nor read and write to dBASE IV index files, which have .MDX extensions.

Attaching to dBASE Files from a Network

From a network, R:BASE, dBASE III, and dBASE III PLUS users can access the same file at the same time. R:BASE can lock a dBASE file just as dBASE III and dBASE III PLUS can lock a dBASE file. When R:BASE is in multi-user mode, it does not support dBASE IV use. When a dBASE IV file is open by dBASE, R:BASE cannot access that file; when R:BASE attaches to a dBASE IV file, that file cannot be accessed by dBASE IV.

Listing dBASE Files

Use the LIST command to list the dBASE files in an R:BASE database. R:BASE displays DBF in the Rows column to indicate a dBASE file.

Reattaching dBASE Files to R:BASE

A dBASE file stays attached unless you use the DETACH command, which removes a dBASE file and its associated index file from the R:BASE database. The dBASE files stay attached because R:BASE remembers the attached dBASE files and index files when you open a database. At that time, R:BASE searches the current directory and path to find the attached dBASE file; therefore, the location of the dBASE files must be included in your path.

Associating and Modifying dBASE Index Files

You can associate a maximum of seven dBASE index files, which have .NDX extensions, with a dBASE data file by using the ndxlist option. R:BASE remembers each index file you associate with the dBASE data file. Also, use the ndxlist option to modify or preserve a set of indexes. If you issue another ATTACH command with a list

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of index files, R:BASE removes the current index files from the dBASE data file and associates the new list with the dBASE data file.

R:BASE updates the information stored in the dBASE data and index files each time you add or edit information in a dBASE file.

R:BASE Commands that Work with dBASE

The following R:BASE commands work with dBASE files. Limitations are noted following the table.

Commands that Work with dBASE			
ATTACH	DROP LABEL	LIST CURSORS	RENAME FORM
BROWSE	DROP REPORT	LIST DATABASES	RENAME OWNER
CHOOSE	DROP RULE	LIST FORMS	RENAME REPORT
COMMENT ON	DROP TABLE	LIST LABELS	RENAME VIEW
COMMIT *(4)*	DROP VIEW	LIST REPORTS	REPORTS
COMPUTE	EDIT	LIST RULES	REVOKE
CONNECT	EDIT DISTINCT	LIST TABLES	ROLLBACK *(4)*
CONTINUE	EDIT USING	LIST VIEWS	RULES
CREATE VIEW	ENTER USING	LOAD	SELECT
CROSSTAB	FETCH	OPEN CURSOR	SET
DECLARE CURSOR	FUNCTIONS	PACK *(1)*	SHOW
DELETE	GRANT	PRINT	TALLY
DELETE DUPLICATES	INSERT INTO	PROJECT *(2)*	UNLOAD *(3)*
DETACH	LBLPRINT	QUERY	UPDATE
DISCONNECT	LIST ACCESS	RBLABELS	WHENEVER
DROP CURSOR	LIST ALL	RELOAD	ZIP
DROP FORM	LIST COLUMNS	RENAME	COLUMN

1. dBASE files are not affected when you use a PACK command.

2. Using the PROJECT command, you can create a new table from an existing table from dBASE to R:BASE, but not from R:BASE to dBASE.

3. You can unload dBASE tables as ASCII only.

4. You cannot modify dBASE tables when transaction processing is on.

Note: dBASE memo fields can be 64K in size. If the dBASE memo field is larger than 4K (the maximum size of an R:BASE note column), R:BASE reads as much as will fit. If you make changes and then write the record back to dBASE, the existing dBASE memo field is overwritten. The Carriage Return and Line Feed characters in dBASE are mapped to [Alt] + [0255].

R:BASE Commands that Do Not Work with dBASE

The following commands do not work with dBASE files in R:BASE.

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Commands that Do Not Work with dBASE		
ALTER TABLE *(1)*	CREATE INDEX ON	JOIN
APPEND	CREATE SCHEMA AUTHOR	RENAME TABLE
AUTONUM	CREATE TABLE	RESTORE
BACKUP ALL	DROP COLUMN	SUBTRACT
BACKUP DATA	DROP INDEX	UNION
BACKUP STRUCTURE	INTERSECT	

1. Column names for dBASE files can be changed with ALTER TABLE.

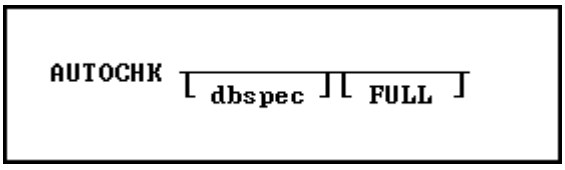
Example

In the following example, the first command opens the concompdatabase. The second command attaches the dBASE file SAMPGATE to the concomp database and associates the dBASE index files COMPID and PRODDESC with the R:BASE file table sampgate.

```
CONNECT concomp
ATTACH sampgate USING compid, proddesc
```

1.2.5 AUTOCHK

Use the AUTOCHK command to check the integrity of a database. You must be disconnected from the database first.



Options

dbspec
Specifies a database other than the open database to check; otherwise, the open database is checked.

FULL
Provides detailed information about the processing being performed, and when AUTOCHK encounters an error, it continues processing.

About the AUTOCHK Command

Use the AUTOCHK command to ensure that the connected database is intact before using the PACK or RELOAD commands, or before making a backup of the database with either the BACKUP or COPY commands.

Please Note: If any user connected to the database has temporary tables or views created you may receive an abnormal amount of errors. This is expected and is a side effect of having temporary tables active during the check. For completely accurate results, have all users disconnect from the database to be checked.

AUTOCHK checks the following:

- The structure-file block sizes and locations.
- The timestamps for all database files.
- The database-file lengths.
- The number of tables and columns.
- The starting and ending pointers for tables.
- The location of columns.

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- The File 4 (.RX4) data pointers.
- The data types of columns.
- The size and number of rows in each table.
- The row pointers in the data file.

AUTOCHK does not check indexes.

When you run AUTOCHK, it systematically checks the structure file (DBNAME.RX1) of the open database, and the data files (DBNAME.RX2 and DBNAME.RX4). AUTOCHK only checks the index file (DBNAME.RX3) for the timestamp and length of the file. When opening a database, AUTOCHK ignores any user-identifier protection. AUTOCHK without the FULL option sets the R:BASE error variable to a non-zero value if errors are found.

The results of AUTOCHK with the FULL option are displayed on screen, or the current OUTPUT device. First, AUTOCHK validates the timestamps in the database files, then systematically checks the structure of each table and view in the database, providing a list of columns, constraints, and indexes for each. Any structure errors are noted after each table listing.

Database Statistics

Next, AUTOCHK checks the data for each table, listing active rows and deleted rows. Any problems with data, such as broken pointers, are listed after the respective tables. Finally, AUTOCHK provides a summary of the database structure, including the number of tables, columns, and indexes, and the actual space that the data occupies in the data file (DBNAME.RB2). AUTOCHK shows the percent of space used for the items in each list to give an idea of how much space has been used, and to indicate the need to recover space in the database files. Any numbers less than 100 percent indicate the need to pack or reload the database using the PACK or RELOAD commands. For more information about the PACK and RELOAD commands, see the "PACK" and "RELOAD" entries.

The following section contains information about using AUTOCHK in application files and capturing the error variables returned. This allows the application developer to prevent users from continuing to use a corrupted database.

```
SET ERROR VAR E1
WRITE 'Checking database for errors...'
AUTOCHK dbname
IF E1 > 40 THEN
   WRITE 'AUTOCHK has found errors in the database!'
   BEEP
ENDIF
If E1 > 0 and E1 < 50 THEN
   WRITE 'AUTOCHK will not run - User Abort or Out of Memory'
   BEEP
ENDIF
IF E1 = 0 THEN
   WRITE 'AUTOCHK successful - No errors found'
ENDIF
PAUSE 2
RETURN
```

If AUTOCHK with no option finds an error, it stops checking the database and displays one error message. If the error message (see list below) indicates that the database is damaged, you might want to start using a backup copy of the database. Alternatively, you might want to use R:SCOPE, a database repair tool available from R:BASE Technologies, Inc.

If AUTOCHK finds no errors, it displays the message "NO ERRORS FOUND." If you press any key while AUTOCHK is checking the database, the program stops and displays the message "USER ABORT." AUTOCHK automatically sets the error variable to the number corresponding to the message returned. For example, if the error "UNABLE TO OPEN DATABASE FILE 2" is returned, the error variable is set to 52.

Multi-User Databases

Use caution when running AUTOCHK in a multi-user environment. If the database being checked is currently open with MULTI set on, AUTOCHK places a database lock on the database. The database lock remains in effect until AUTOCHK stops checking the database. Database users are unable to make any changes to the data or structure of the database while this lock is in place.

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If a user attempts to open a database being checked by AUTOCHK and the database does not have any other users, the user receives an error message indicating that the database is currently open in a mode that makes it unavailable. If other users have the database open with the MULTI set on and the database is being checked, the user attempting to open the database receives a message indicating the user is waiting in a lock queue. If AUTOCHK successfully completes checking the database and finds no errors, it reports that no errors were found and sets the error variable to 0.

Checking continues in multi-user mode (even if a database lock cannot be obtained) if a database is connected by another user; however, row errors in File 2 can occur because of database activity.

Error Messages

AUTOCHK displays one of the following messages when it is unable to start checking or complete checking the database or when it finds an error in the database files. AUTOCHK returns *0 No errors found* if the database is okay. Some of these messages indicate that the database is damaged. Either switch to a backup copy of the database, or attempt repair of the database using R:SCOPE, R:BASE Technologies's database repair tool. If AUTOCHK is unable to open File 1 of the database, check that the path you specified to the database is correct; or, if you are trying a multi-user database, check that no other user has the database connected with MULTI set off.

Checking continues in multi-user mode (even if a database lock cannot be obtained) if a database is connected by another user; however, row errors in File 2 might occur because of database activity.

Any of these messages, except the first (code 0), indicates that the database is damaged. Either switch to a backup copy of the database, or attempt repair of the database using R:SCOPE, R:BASE Technologies's database repair tool.

AUTOCHK Error Messages

Exit	Code Message
0	No errors found
1	This database is not of the correct version
2	The database filenames must all match
20	Out of memory
40	User Abort
50	Unable to open database file number 1
51	Unable to lock this database
52	Unable to open database number 2
53	Unable to open database number 3
54	Unable to open database number 4
55	Error reading the database information block
56	Error reading the timestamp information
57	Timestamp in file number 2 does not match file 1; run RBSYNC
58	Timestamp in file number 3 does not match file 1; run RBSYNC
59	Timestamp in file number 4 does not match file 1; run RBSYNC
60	Invalid number of tables
61	Invalid number of columns
62	Invalid number of indexes
63	File 1 is too small
70	Error in database structure block
80	Error reading the table list
81	Error reading the column list
82	Error reading the index list
100	Incorrect version flag
101	Error reading Case Folding and Collating tables
110	Error in DBinfo block offset
111	Error in DBinfo block length
120	Error in length of database file 2
121	Error in length of database file 3
150	A table's assumed row width is out of range
151	A table's first column is out of range
152	A table's assumed row count is out of range
153	A table's starting pointer is out of range
154	A table's ending pointer is out of range
155	Bad table or column hash value
160	A primary key was found in a table not known to have a primary key

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161 A column is not contiguous
162 A column's data type is invalid
163 A column's length is invalid
164 A column's index file reference is invalid
165 A foreign key is referencing the wrong table
166 A foreign key references a deleted table
167 A foreign key references a table not known to be referenced
168 An index entry contains invalid columns
169 A foreign key was found in a table not known to be referenced
170 The total of a table's column lengths is invalid
200 Error reading the data file
210 The new location of a moved row is invalid
220 A row of data's length is too small
221 A row of data's length is too large
230 A row of data's previous pointer is out of range
231 A row of data's previous pointer is invalid
232 A row of data's next pointer is out of range
240 The last address encountered was not expected
241 The number of rows was not expected
300 Error - Out of Memory reading table information
301 Error reading column information
302 Error - database in need of transaction recovery

Example

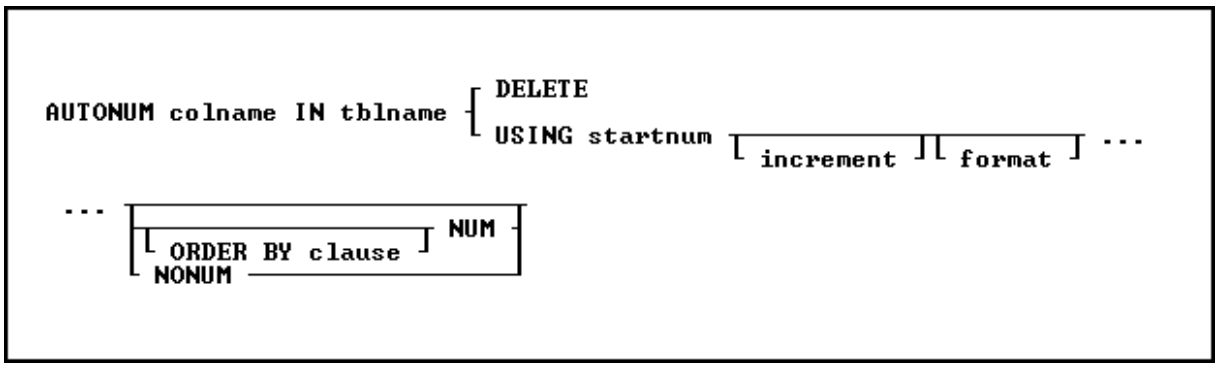
The following is an example of how to put AUTOCHK results in a file for viewing:

```
DISC
OUTPUT dbname.chk
AUTOCHK dbname FULL
OUTPUT SCREEN
```

You can view DBNAME.CHK in the Text Editor to view the results.

1.2.6 AUTONUM

Use the AUTONUM command to define, modify, or remove an autonumber formula from a column.



Options

colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command.

DELETE
Removes a column's autonumber formula.

format
Defines the format in which values are displayed. This option is used only for columns with the TEXT data type. You can use the following formatting characters:

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Formatting Character	Result
9	Specify a numeric digit; leading zeros are suppressed.
0	Specify a numeric digit; leading zeros are displayed.
. (period)	Aligns digits along a decimal point.
[ ] (square brackets)	Encloses literal text.

For example, if the format is [MX]9999 and the numeric value is 123, the value entered will be MX123.

IN tblname
Specifies the table in which to autonumber the column.

increment
Specifies the value of the increment as each new row is added to the table. The default increment is 1.

NONUM
Leaves existing values unchanged and assigns autonumbered values to new rows as they are added to the table. NONUM is the default option.

NUM
Renumbers all the existing values in the column defined as an autonumbered column.

ORDER BY clause
Sorts rows of data. The ORDER BY clause is only used with the NUM option. For more information, see the "ORDER BY" entry.

USING startnum
Defines or redefines the formula for an autonumber column. You must specify a starting value. Optionally, you can specify an increment, and for columns with the TEXT data type, a display format. For a column in a table that contains values, you can either renumber existing values or leave them as they are.

About the AUTONUM Command

An autonumbered column ensures that each row in that column has an incremental value. For example, use an autonumbered column to assign identification numbers, model numbers, or invoice numbers:

The following types of columns can be autonumbered:

- Columns that are not computed.
- Columns with DOUBLE, INTEGER, NUMERIC, REAL, or TEXT data types.

When you use the LIST command to list information about a column or table, autonumbered columns are described as AUTONUMBER in the *attributes* column.

Automatic Numbering

R:BASE automatically enters values in an autonumbered column when you add rows to a table using a form, the Data Editor, INSERT command, or LOAD command with the NUM option. When you import rows to a table that contains an autonumber column, you can either set autonumbering off and load imported values, or set autonumbering on and let R:BASE autonumber the values.

Changing Values

You can change the values in an autonumbered column by using a form, or the UPDATE or EDIT command. However, if you change a value in an autonumbered column, you could assign a duplicate number or disrupt the sequence of numbers. For more information about changing values in an autonumbered column, see the guidelines in "Renumbering Columns Containing Data" later in this entry.

Renumbering Columns Containing Data

If you renumber a column that contains data, use the following guidelines to decide whether to change the

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column's existing values.

Autonumber?	Option to Use	Conditions
Yes	NUM	A column exists in only one table in the database. You can use the ORDER BY NUM clause to sort the rows in the order in which you want them renumbered. When you add new rows, values are numbered in the order in which the rows are added to the table.
No	NONUM (or do not specify)	A linking (or common) column exists in more than one table. You will destroy the common column values that link your tables if you renumber the values in a linking column. R:BASE adds autonumbered values to new rows as you add them to the table.

Redefining Formulas

You can redefine the formula for an autonumbered column. For example, use the AUTONUM command with the NUM option to change a column's display format from suppressing leading zeros to displaying them. For more information about redefining formulas of an autonumbered column, see "Renumbering Columns" earlier in this entry.

Removing Formulas

To remove an autonumber formula for a column, use the DELETE option. R:BASE removes only the formula, not the existing values in the autonumbered column. After you remove an autonumber formula, the user must enter values in the column as rows are added.

Autonumbering Tables Created with Relational Commands

When you create a table with one of the relational commands (INTERSECT, JOIN, PROJECT, SUBTRACT, or UNION), R:BASE transfers an autonumbered column as a regular column. You must define an autonumber formula for the column in the new table.

Database Access Rights with AUTONUM

When access rights for a table have been assigned using the GRANT command, AUTONUM requires either the database owner's user identifier, or the rights to alter a table.

Examples

The following command defines an autonumber formula for the *custid* column in the *customer* table. Existing values are renumbered starting at 100; assigned values increase by one for each row. Only use this command for a column that meets the renumbering guidelines in the section "Renumbering Columns Containing Data."

```
AUTONUM custid IN customer USING 100 1 NUM
```

The following command defines an autonumber formula for the *model* column in the *product* table. Existing values are not renumbered. Values in new rows are numbered starting with 100. Assigned values increase by one each time a row is added. The numbering format specifies that the letters MX always precede the numeric value. The 0000 provides space for a numeric value of up to four digits. When the value is less than four digits, R:BASE enters leading zeros.

```
AUTONUM model IN product USING 100 1 [MX]0000 NONUM
```

The following command assigns autonumbering to the *empid* column in the *employee* table. Existing values are renumbered starting at 100; assigned values increase by one for each row. The rows are renumbered by the employees' last and first names. Only use this command for a column that meets the renumbering guidelines in the section "Renumbering Columns Containing Data."

```
AUTONUM empid IN employee USING 100 1 ORDER BY emplname, empfname NUM
```

The command below deletes the autonumber formula from the *empid*column in the *employee* table.

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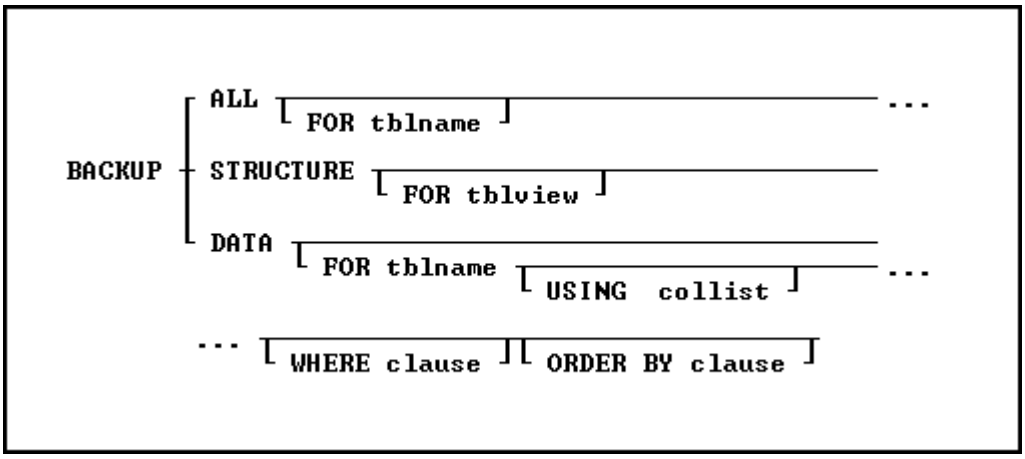
```
AUTONUM empid IN employee DELETE
```

1.3 B

1.3.1 BACKUP

Use the BACKUP command to copy the data and/or structure of a database to floppy disks or another directory on your hard disk. The BACKUP command is very much like the UNLOAD command, only it supports the ability to span multiple diskettes when backing up databases to a floppy drive. With the many various backup software packages, or by simply performing file copies, the BACKUP command has become antiquated.



Options

ALL
Backs up the entire structure and data of the current database.

DATA
Backs up just the data of the current database.

FOR tblname
Specifies a single table to back up. If this clause is not used, all tables in the database are backed up.

FOR tblview
Specifies a table or view to back up. If this clause is not used, all tables and views in the database are backed up.

ORDER BY clause
Sorts rows of data. For more information, see the "ORDER BY" entry.

STRUCTURE
Backs up just the structure of the current database.

USING collist
Specifies the columns to back up and in what order to back them up. USING ALL backs up all columns in the order they are defined in the table.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

About the BACKUP Command

The BACKUP command backs up data and/or structure to a backup file in the ASCII delimited format, which you can edit with a text editor. For example, you can restore the structure or data from one database to a new database, then edit the backup file with a text editor to change the database name to a new one.

BACKUP does not back up computed-column values; the values will be computed when the database is restored.

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BACKUP does not change the data or the structure in the original database. Use the RESTORE command to restore your data.

If a BACKUP command is included in a transaction when transaction processing is on, the backup cannot be rolled back.

The BACKUP command creates a file with a .LOB extension for binary large objects, and a file for the data and/or structure.

SET Special Characters and Operating Conditions

To properly restore a database, BACKUP places the settings for the SET special characters and operating conditions used in the database at the beginning of the ASCII backup file. Within the backup file, object names, such as table names, will be enclosed within the IDQUOTES character, the current setting for DELIMIT is used to separate values, text strings are enclosed in the current setting of QUOTES, and the current value of WIDTH affects the width of data lines in the backup file.

The following are three tips that will ensure your database is restored from a backup properly:

- Set the null symbol to -0- (the R:BASE default) before backing up.
- Do not set a special character to the same setting as another special character.
- For best results backing up, keep all the default settings.

Backing Up to Disks

When you back up data to floppy disks, use blank formatted disks. The backup file can span multiple floppy disks. If BACKUP fills a disk, it prompts you to enter a new disk before continuing.

Note: So that you don't mix up the disks, label and number them as you remove them.

If you are backing up to a hard disk and the disk becomes full, press [Esc] to stop the backup. You can either free up hard disk space before backing up again, or back up to floppy disks.

It is worth noting that even when using R:BASE for Windows you will need to issue this command at the R> Prompt or via a command file.

Note: Backing Up to Floppy Disks is not recommended when using 6.x/7.x/8.x versions of R:BASE.

Using the BACKUP Command

When you back up your data, use the OUTPUT command to specify the filename of the backup. The BACKUP command does not erase files on a floppy disk, but overwrites a file if the filename you specify already exists on the disk. For examples of how to use the OUTPUT command, see the OUTPUT reference.

You can back up a database in one of the following ways:

- Back up both the structure and data.
- Back up only the structure.
- Back up only the data.

The following is information about each method.

Backing Up the Structure and Data

Use the BACKUP ALL command to back up the structure and data in the current database, or the structure and data for a specific table. You can backup a database structure and data to separate files if you prefer two smaller files to one large file. BACKUP writes all the commands necessary to define the database or table, starting with the CREATE SCHEMA AUTHORIZATION dbname command near the beginning of the file.

BACKUP uses the LOAD command to load the data.

If the database is protected by the database owner's user identifier, BACKUP ALL requires the owner's user identifier, which R:BASE places in the backup file to ensure that the restored database file continues to be protected. Keep the backup file from unauthorized users to ensure the database file remains protected.

Backing Up the Structure Only

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Use the BACKUP STRUCTURE command to back up just the structure of the current database, or the structure of a specific table. BACKUP writes all the commands necessary to define the database or table, starting with the CREATE SCHEMA AUTHORIZATION dbname command near the beginning of the file. Any collating or case-folding table defined by the database owner is automatically preserved.

Keep the backup file from unauthorized users to ensure the database file remains protected. If the database is protected by an owner's user identifier, BACKUP STRUCTURE requires the owner's user identifier, which R:BASE places in the backup file to ensure that the restored database file continues to be protected.

Backing Up Data Only

Use the BACKUP DATA option to back up the data in the current database or the data in a specific table. BACKUP uses the LOAD command to load the data. Also, use the BACKUP DATA option to back up any custom information stored in R:BASE system tables such as Forms, Reports, Labels and Stored Procedures.

Examples

The following command lines back up the structure and data for every table in the open database to the MYDB.BUP file on drive A:, redirect the output to the screen, and close the file.

```
OUTPUT a:mydb.bup
BACKUP ALL
OUTPUT SCREEN
```

The command lines below back up the data and structure of the customer table to the CUSTOMER.BUP file, limit the rows to those that are dated after 10/1/89, and order the rows by custid.

```
OUTPUT customer.bup
BACKUP ALL FOR customer WHERE datecol > 10/1/89 ORDER BY custid
OUTPUT SCREEN
```

The following command lines back up the structure of the customer table to the CUSTSTRC.BUP file, redirect the output to the screen, and close the file.

```
OUTPUT custstrc.bup
BACKUP STRUCTURE FOR customer
OUTPUT SCREEN
```

The following command lines back up the data from the producttable to the PRODUCT.BUP file, redirect the output to the screen, and close the file.

```
OUTPUT product.bup
BACKUP DATA FOR product
OUTPUT SCREEN
```

The following command lines show how to transfer a form to a new database. The first five command lines open the olddb database, set the null value to -0-, create the TEMPFORM.DAT file on drive D:, back up the data from the sys_forms2 table that contains the definition of the oldform form, and redirect the output to the screen. Command lines six through eight open the newdb database in order to transfer the oldform form definition (the database you open must not have a form named oldform), set the null value to -0-, and load the form definition from the backup file into the sys_forms2table.

```
CONNECT olddb
SET NULL -0-
OUTPUT d:tempform.dat
BACKUP DATA FOR SYS_FORMS2 WHERE SYS_FORM_NAME = 'oldform'
OUTPUT SCREEN
CONNECT newdb
SET NULL -0-
RUN d:tempform.dat
```

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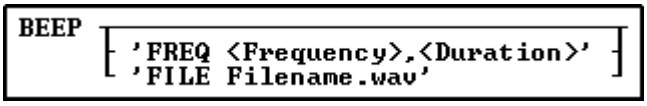
1.3.2 BEEP

Use the BEEP command to sound the computer's bell.



Options

Duration
Time in milliseconds for the bell to sound.

FREQ
Allows for user specified bell properties.
This feature is only applicable to Windows 2000/NT/XP and will be ignored by all other operating systems.

Frequency
A numeric value ranging from 10-65635 which represents the frequency of the bell in Hertz.

FILE
Full path to a WAV sound file to play.

About the BEEP Command

BEEP is useful to signal when a process has finished, or to signal that an error has occurred in a command file.

Example

In the following example, the first command line displays a message to indicate that a process has finished and instructs you to press a key to continue. The second command line sounds the computer's bell. The third command line stops processing until you press any key.

```
WRITE 'Processing is complete. Press any key to continue.'
BEEP
PAUSE
```

1.3.3 BREAK

Use the BREAK command to force an early exit from a WHILE...ENDWHILE loop or a SWITCH...ENDSW structure.

About the BREAK Command

The BREAK command is usually run in an IF...ENDIF structure contained within a WHILE...ENDWHILE loop or a CASE block within a SWITCH...ENDSW structure. The IF conditions indicate when to run the BREAK.

R:BASE exits the currently processing WHILE...ENDWHILE loop or SWITCH...ENDSW structure when a BREAK is encountered, and does not run any further commands in the WHILE loop or SWITCH structure. BREAK decreases the nesting level by one. BREAK passes control to the next line of the command file following the WHILE loop or SWITCH structure.

Examples

For an example of using BREAK with WHILE...ENDWHILE, see the "WHILE...ENDWHILE" entry. For an example of using BREAK with SWITCH...ENDSW, see the "SWITCH...ENDSW" entry.

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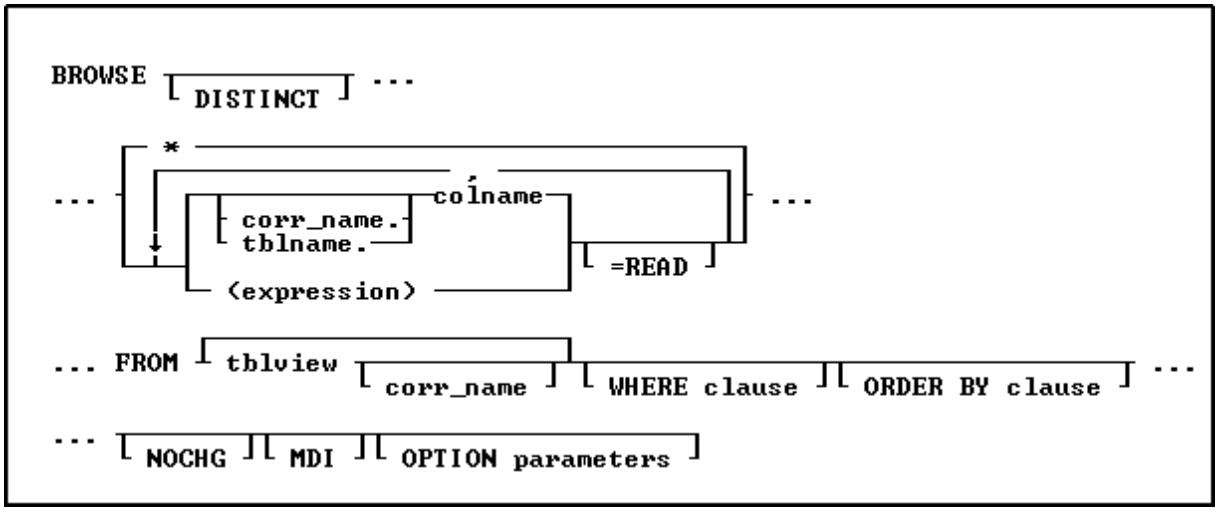
1.3.4 BROWSE

Use the BROWSE command to display data.



DISTINCT
Suppresses the display of duplicate rows.

*****
Specifies all columns.

,
Indicates that this part of the command is repeatable.

corr_name.
Correlation name. A nickname or alias for a table or view name. Use *corr_name* to refer to the same table twice within the command, or to explicitly specify a column in more than one table.

tblname.
Specifies a column using the table name. Use *tblname*.* to specify all columns in the table.

colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command. In an SQL command, a column name can be preceded by a table or correlation name and a period (*tblname.colname*). You can enter *tblname*.* to specify all columns in the table.

(expression)
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

=READ
Specifies that the column is read-only, preventing changes to data.

FROM tblview
Specifies the table or view.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

ORDER BY clause
Sorts rows of data. For more information, see the "ORDER BY" entry.

NOCHG
Prevents changes to the issued BROWSE command; stops users from reaching additional data by adding

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columns to the command or changing the command's WHERE clause. When the NOCHG option appears in the command, users cannot toggle from BROWSE to EDIT by pressing [F4], nor by using the **Edit**menu in R:BASE for Windows. NOCHG is particularly useful when the BROWSE command is issued within an application or command file.

MDI
This option is used in R:BASE for Windows only; specifies a modeless window-a modeless window allows you to access other windows without closing the current window first.

OPTION parameters - provides the ability customize the Data Browser Window. These enhanced parameters are supported at the R> Prompt, in command files, EEPs and Stored Procedures.

WINDOW_STATE *value*

To setup Data Browser window state with the following supported values:

MAXIMIZED - show maximized
NORMAL - show normalized
MINIMIZED - show minimized

CAPTION *value*

To change Data Browser window caption.

LOCK *nnn*

To lock a number of columns in Data Browser window.

ROWVIEW

To open Data Browser window in "View as Row" mode.

READONLY *value*

To open Data Browser window in Read-Only mode. (Default is OFF)

- ON
- OFF

MODAL *value*

To open Data Browser as modal/non-modal window. (Default is ON)

- ON
- OFF

EXPORTRESULT *value*

To enable/disable the "Export Result to->" menu item. (Default is ON)

- ON
- OFF

SAVERESULT *value*

To enable/disable the "Save Data As->" menu item. (Default is ON)

- ON
- OFF

PRINTDATA *value*

To enable/disable the "Print Data" menu item. (Default is ON)

- ON
- OFF

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About the BROWSE Command

The BROWSE command starts the Data Browser and displays the information you specify.

Examples

Example 01:

The following command displays all columns in the *transmaster*table and sorts the rows by the customer identification numbers contained in *custid* column.

```
BROWSE * FROM transmaster ORDER BY custid
```

Example 02:

The following command displays the *custid*, *company*, *custaddress*, *custcity*, *coststate*, and *custzip* columns in the *customer* table. Only the rows where the customer identification is equal to 100 are displayed.

```
BROWSE custid, company, custaddress, custcity, coststate, custzip FROM customer
WHERE custid = 100
```

Example 03:

The following command displays the *custid* column and restricts editing. Do not place a delimiter, such as a comma or a space, between options prefaced with an equal sign when you are building a command.

```
BROWSE custid=read, company, custaddress, custcity, coststate, custzip FROM
customer WHERE custid = 100
```

Example 04:

The following command open all records for the Customer table with a maximized Data Browser window and "Customer Data" as the caption.

```
BROWSE ALL FROM customer OPTION WINDOW_STATE MAXIMIZED|CAPTION Customer Data
```

Example 05:

The following will start the Data Browser for *custid* 125, displaying the data as a single row in read only mode.

```
BROWSE ALL FROM customer WHERE custid = 125 OPTION WINDOW_STATE
             NORMAL|ROWVIEW|READONLY ON
```

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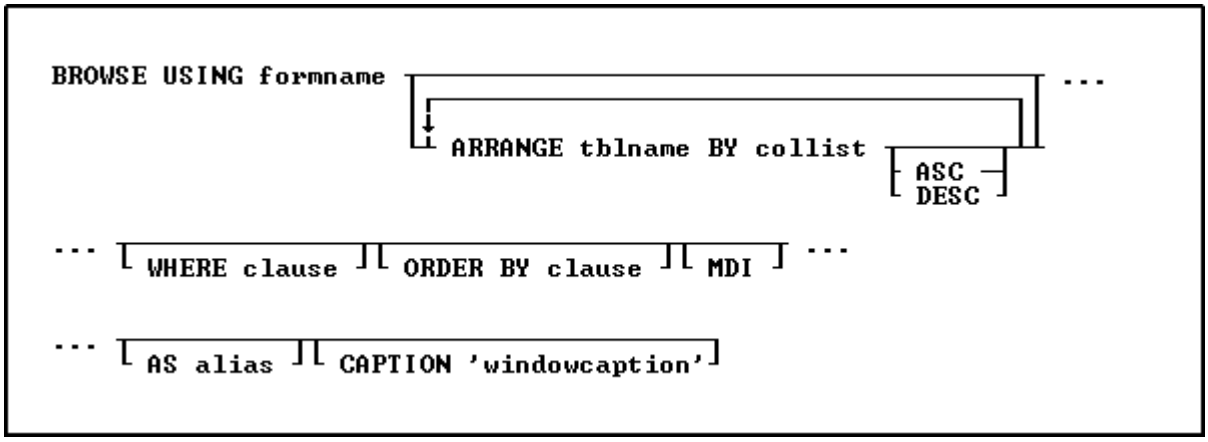
1.3.5 BROWSE USING

The BROWSE USING FormName command will make all column and variable objects on the form READ ONLY.



Options

formname
Specifies a 1 to 18 character form name.

ARRANGE tblname BY collist
Sorts the rows displayed by a form's lower-level tables. Each lower-level table in the form that you want to sort requires its own ARRANGE clause. Now you can specify up to twenty-five tables to ARRANGE and up to five columns in each table on which R:BASE will sort.

ASC
DESC
Specifies whether to sort a column in ascending or descending order.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

ORDER BY clause
Sorts rows of data. For more information, see the "ORDER BY" entry.

MDI
This option is used in R:BASE for Windows only; specifies a modeless form-a modeless form allows you to access other windows without closing the form first.

AS alias
This option is used in R:BASE for Windows only. Allows the user to specify a name for this instance of the form. This option is used in conjunction with the MDI option so that the user can programmatically specify the form with the SETFOCUS command.

CAPTION 'windowcaption'
This option is used in R:BASE for Windows only. Specifies a caption for the window title bar.

About BROWSE USING FormName

The BROWSE USING FormName command will make all column and variable objects on the form READ ONLY.

Example:

```
BROWSE USING CustomerEdit WHERE CustID = 100
```

Notes:

- The Form Settings must include the option of "Editing Data".
- Only Column and Variable Objects are supported for READ ONLY mode when using BROWSE USING

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FormName command.
- Same Form could be used for ENTER/EDITing data accordingly.
- Any code defined within Entry/Exit Procedures (EEPs) will execute regardless of the status of the form in BROWSE mode, however, no table updates will be allowed.

The database RRBYW8 contains a five-table form called *SalesTransactions*. The command below shows how the form's four subordinate tables, InvoiceHeader, InvoiceDetail, Employee and *Contact*, can be sorted using an ARRANGE clause. The ARRANGE clause sorts the second table, *InvoiceHeader*, by the *TransID* column, in ascending order, sorts the third table, *InvoiceDetail*, by the *DetailNum* column, in ascending order, sorts the fourth table, *Employee*, by EmpLName and EmpFName, in ascending order and the fifth table, *Contact,* by the ContLName and ContFName, in ascending order.

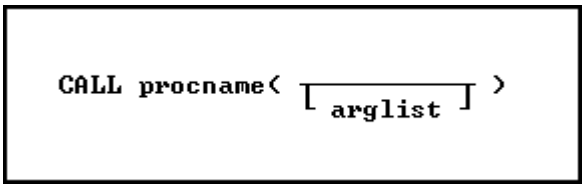
```
CONNECT RRBYW8

BROWSE USING SalesTransactions +
ARRANGE InvoiceHeader BY TransID ASC, +
ARRANGE InvoiceDetail BY DetailNum ASC, +
ARRANGE Employee BY EmpLName ASC, EmpFName ASC,+
ARRANGE Contact BY ContLName ASC, ContFName ASC +
ORDER BY CustID
```

1.4 C

1.4.1 CALL

Runs a procedure.



Syntax

A) As function: SET VAR vVariable TYPE = (CALL procname(arglist))

B) As command: CALL procname(arglist)

About the CALL Command

The call command is used to invoke a stored procedure that was created by using the SET PROCEDURE command. It can be referenced by either a function notation or as a stand-alone command. In either case the argument list must be included. If you wish to include a blank argument list then use an empty pair of parenthesis.

Both methods of using CALL have their advantages. For example, using the function notation allows you to use a stored procedure in a computed view or to invoke a stored procedure via an SQL statement. On the other hand, used as a command, you will be able to reference the stored procedure by itself.

When using the Function notation the return value of the stored procedure is stored in the variable itself or displayed in the column (in the case of a computed column in a table or view). When using the Command notation the return value of the stored procedure will be placed into the system variable STP_RETURN. STP being an abbreiviation of STored Procedure.

The CALL command is supported in EEP's for versions 6.5++ and higher.

Examples

In the example below, a view is using a stored procedure to calculate values from another table.

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```
CREATE VIEW MonthSum (CustomerID,CustomerSummary)AS SELECT T1.CustomerID,(CALL
SumUpCust(T1.CustomerID)) FROM Customers T1
```

In the following example, an SQL select statement is used to invoke a maintenance routine from another application such as Visual Basic or Tango. The use of WHERE LIMIT=1 causes the procedure to run once and only once. Without this clause the stored procedure would execute once for every matching row in the table. The *AnyTable* can be any table in the database in this case. The only requirement is that we must use a table in order to have a "healthy" SELECT clause.

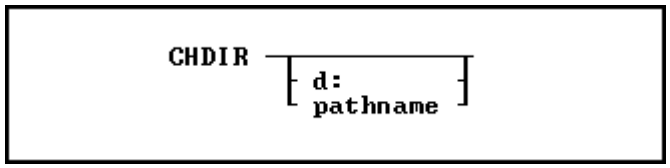
```
SELECT (CALL DBCheck()) FROM AnyTable WHERE LIMIT=1
```

1.4.2 CASCADE

Use the CASCADE command to cascade all open windows.

1.4.3 CHDIR

Use the CHDIR command to display or change the current directory.



Options

d:
Specifies a valid drive letter.

pathname
Specifies one or more directory names that lead from the root directory to a specified directory.

About the CHDIR Command

R:BASE assumes you want to work in the current directory and drive. To display the current drive and directory, enter CHDIR without a path.

CHDIR is similar to the CHDIR command in the operating system; however, the R:BASE CHDIR command requires a space between the command and the directory. For more information about the CHDIR command, refer to your operating system manual.

CHDIR supports long (over 80 character) strings, and long strings with spaces.

Examples

Example 01:

The following command lines change the current directory to the SALEDEPT directory on drive C:.

```
CHDRV c:
CHDIR /saledept
```

Example 02:

The following command moves up one directory level and makes that directory the current directory.

```
CHDIR ..
```

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Example 03 (On a typical MS Windows 2000 work station/server):

At the R> Prompt or in a command file:

```
CD '\Documents and Settings\Administrator\Application Data\Microsoft\ +
    Internet Explorer\Quick Launch'
CHDIR
DIR
RETURN
```

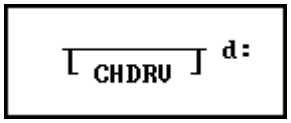
Example 04:

At the R> Prompt or in a command file:

```
CD \FaxFiles\Archive\My_Very_Long_Corporation_Name\Service_Department\ +
General_Pharmacy
CHDIR
DIR
RETURN
```

1.4.4 CHDRV

Use the CHDRV command to change the current drive.



Options

d:
Specifies a valid drive letter.

About the CHDRV Command

R:BASE assumes you want to use the current drive.

To display the current drive, use CHDRV without designating a drive.

Examples

The following command displays the current drive.

```
CHDRV
```

The following command makes drive A: the current drive.

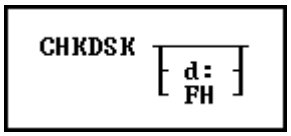
```
CHDRV a:
```

The following command makes drive C: the current drive.

```
c:
```

1.4.5 CHKDSK

Use the CHKDSK command to display information about an active local drive.



Options

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d:
Specifies a drive other than the current drive.

FH
Displays the number of available file handles.

About the CHKDSK Command

CHKDSK lists the following:

- The total number of bytes of disk space.
- The number of bytes of disk space available for use.

To display information about another drive-not the current drive-specify the drive.

CHKDSK is similar to the CHKDSK command in the operating system; however, the operating system command can correct errors in the disk directory or file allocation table.

Use CHKDSK to check available file handles after opening a database, executing a command, running a file, or printing reports. In R:BASE, a maximum of 20 file handles can be open at one time. R:BASE uses four file handles for an open database, two file handles to sort information, two file handles for a temporary scratch file, one file handle for files, and one file handle for each of the following commands: RUN, DISPLAY, CHOOSE, OUTPUT *file name*, RECORD, PLAYBACK, and TYPE.

Examples

The following command displays the total bytes available on the current disk.

```
CHKDSK
```

The display looks similar to the lines below.

```
10592256 bytes total disk space
774144 bytes available on disk
```

The following command checks the total disk space available for the disk in drive A.

```
CHKDSK a:
```

The following command displays the number of file handles currently available.

```
CHKDSK FH
```

The display looks similar to the lines below.

```
File handles: 9 10 11 12 13 14 15 16 17 18 19
```

1.4.6 CHOOSE

Use the CHOOSE command to display the following types of menus: bar with a pull-down, check-box, pop-up, sort check-box, vertical, or WHERE builder.

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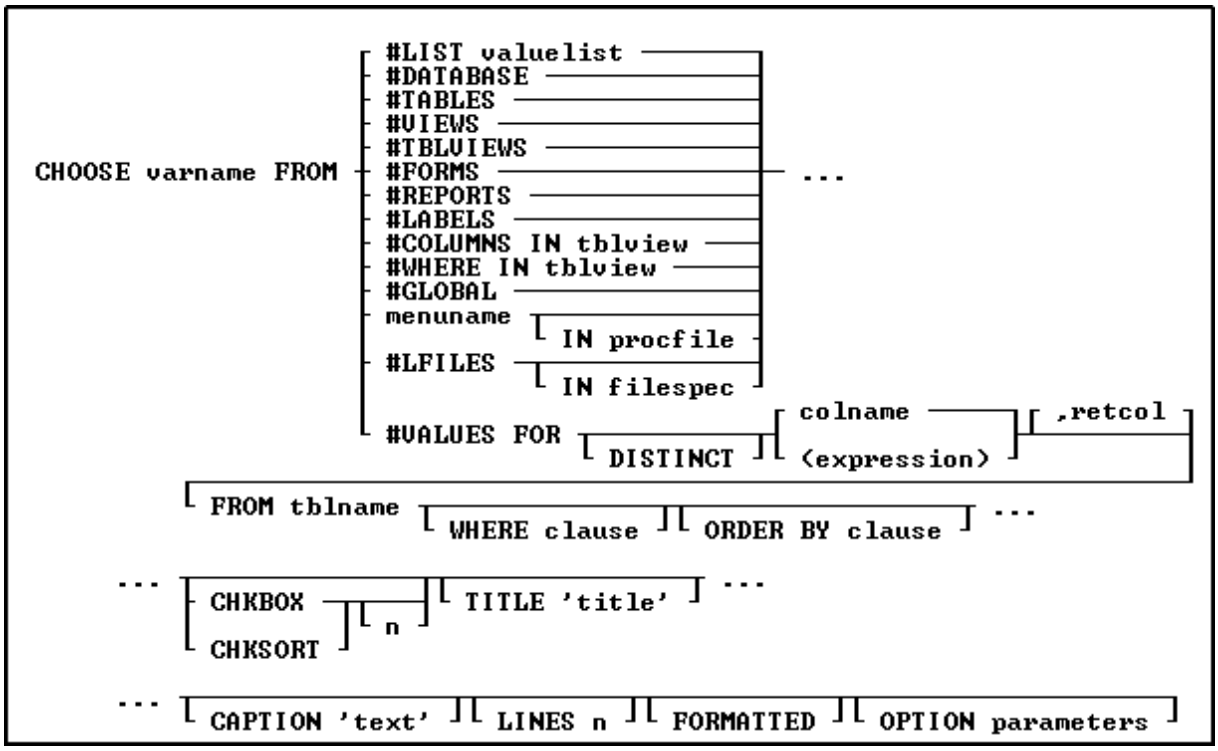

Options

#COLUMNS IN tblview
Displays a pop_up menu containing all columns in the specified table or view and stores the chosen column name in the variable varname.

#DATABASE
Displays a pop_up menu containing all databases in the current directory, and stores the chosen database name in the variable varname.

#FORMS
Displays a pop_up menu containing all forms in the open database and stores the chosen form name in the variable varname.

#GLOBAL
Displays a pop_up menu containing currently defined global variables and stores the chosen variable name in the variable varname.

#LABELS
Displays a pop_up menu containing all labels in the open database and stores the chosen label name in the variable varname.

#LFILES IN filespec
Displays all files in the current directory in a pop_up list, unless the IN filespec option is specified. In this latter case, the user may specify a filespec such as *.MSG, and R:BASE will display a pop_up list of all files in the specified directory with the .MSG extension. The chosen file name is stored in the variable varname.

#LIST valuelist
Allows you to specify a list of values in a comma delimited format. You can also use a variable that contains comma delimited values in the command. The group of values MUST be encapsulated in quotes UNLESS a variable is used.

#REPORTS
Displays a pop_up menu containing all reports in the open database and stores the chosen report name in the variable varname.

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#TABLES
Displays a pop_up menu containing all tables in the open database and stores the chosen table name in the variable varname.

#TBLVIEWS
Displays a pop_up menu containing all tables and views in the open database and stores the chosen table or view name in the variable varname.

#VIEWS
Displays a pop_up menu containing all views in the open database and stores the chosen view name in the variable varname.

#WHERE IN tblview
Opens the WHERE builder for you to enter conditions for the columns in the specified table or view; stores the entire WHERE clause in the variable varname. Your WHERE Clause conditions can also pre-loaded into the WHERE Builder using the **OPTION WHERE_CLAUSE** parameter.

menuname
A user_defined menu can be stored either in an ASCII disk file or as a menu block in an R:BASE procedure file created by CodeLock or the Application Designer. If procfile is used, menuname refers to a procfile menu block. If procfile is not used, menuname specifies an ASCII disk file containing the menu to be displayed.

#VALUES FOR
Displays a pop_up menu containing values from the specified column or expression and table. Use the (expression) option to display more than one column from the table in the menu, such as (colname1 & colname2).

DISTINCT
Suppresses the display of duplicate rows.

colname
Specifies a 1 to 18 character column name. In a command, you can enter #c, where #c is the column number shown when the columns are listed with the LIST TABLES command. In an SQL command, a column name can be preceded by a table or correlation name and a period (tblname.colname).

<expression>
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as #DATE, #TIME, and #PI.

,retcol
Specifies the column whose value is returned into the variable varname. The column does not have to be one of the columns displayed in the menu.

FROM tblname
Specifies the table name.

WHERE clause
Limits rows of data. For more information, see the WHERE command.

ORDER BY clause
Sorts rows of data. For more information, see the ORDER BY command.

CHKBOX
Displays a check_box menu.

CHKSORT
Displays a sort check_box menu

n
n is an optional positive integer specifying the maximum number of options on that menu that can be checked. If n is zero or is greater than the number of menu options, all options can be checked. If n is unspecified, the default value is zero. The maximum value of n is 9999.

TITLE 'title'
Displays a title in the dialog box

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CAPTION 'text'
Displays text in the dialog box title bar

LINES n
Determines the number of lines, n, to display in the listbox. The default is 10.

FORMATTED
Displays the CHOOSE box using a monospace font

OPTION parameters

These parameters can be used to change a "look and feel" of CHOOSE window. All parameters for values must be separated by "|" (pipe) symbol.

Notes:

- CHOOSE will always be displayed at the center of your screen, unless specified using the TOP *nn* LEFT *nn* parameters.
- The resulting variable will always be TEXT
- The resulting variable will be left justified without leading spaces.

Example 1:

```
CLS
CHOOSE vCustIDTxt FROM #VALUES FOR +
(LJS(Company,40)&CustCity+','&CustState),CustID +
FROM Customer ORDER BY Company +
TITLE 'Company Name and Location' +
CAPTION 'Colorful CHOOSE Example 01' LINES 20 FORMATTED
IF vCustIDTxt IS NULL OR vCustIDTxt = '[Esc]' THEN
   GOTO Done
ELSE
   SET VAR vCustID = .vCustIDTxt
ENDIF
__ Do what you have to do here with the variable CustID
LABEL Done
CLEAR VAR vCustIDTxt, vCustID
RETURN
```

Example 2:

```
CLS
CHOOSE vCustIDTxt FROM #VALUES FOR +
(LJS(Company,40)&CustCity+','&CustState),CustID +
FROM Customer ORDER BY Company +
CHKBOX 1 TITLE 'Company Name and Location' +
CAPTION 'Colorful CHOOSE Example 02' LINES 20 FORMATTED
IF vCustIDTxt IS NULL OR vCustIDTxt = '[Esc]' THEN
   GOTO Done
ELSE
   SET VAR vCustID = .vCustIDTxt
ENDIF
__ Do what you have to do here with the variable CustID
LABEL Done
CLEAR VAR vCustIDTxt, vCustID
RETURN
```

Example 3:

```
CLS
CHOOSE vCustIDTxt FROM #VALUES FOR +
(LJS(Company,40)&CustCity+','&CustState),CustID +
```

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```
FROM Customer ORDER BY Company +
TITLE 'Company Name and Location' +
CAPTION 'Colorful CHOOSE Example 03' LINES 20 FORMATTED +
OPTION List_Font_Color WHITE|List_Back_Color TEAL +
|Title_Font_Color TEAL|Title_Back_Color WHITE +
|Window_Back_Color WHITE|Title_Font_Size 24 +
|Title_Font_Name TIMES NEW ROMAN|Window_Caption
IF vCustIDTxt IS NULL OR vCustIDTxt = '[Esc]' THEN
   GOTO Done
ELSE
   SET VAR vCustID = .vCustIDTxt
ENDIF
__ Do what you have to do here with the variable CustID
LABEL Done
CLEAR VAR vCustIDTxt, vCustID
RETURN
```

Example 4:

```
CLS
CHOOSE vCustIDTxt FROM #VALUES FOR +
(LJS(Company,40)&CustCity+','&CustState),CustID +
FROM Customer ORDER BY Company +
TITLE 'Company Name and Location' +
CAPTION 'Colorful CHOOSE Example 04' LINES 20 FORMATTED +
OPTION List_Font_Color WHITE|List_Back_Color TEAL +
|Title_Font_Color TEAL|Title_Back_Color WHITE +
|Window_Back_Color WHITE|Title_Font_Size 24 +
|Title_Font_Name TIMES NEW ROMAN|Window_Caption
IF vCustIDTxt IS NULL OR vCustIDTxt = '[Esc]' THEN
   GOTO Done
ELSE
   SET VAR vCustID = .vCustIDTxt
ENDIF
__ Do what you have to do here with the variable CustID
LABEL Done
CLEAR VAR vCustIDTxt, vCustID
RETURN
```

Example 05:

```
CLS
CHOOSE vCustIDTxt FROM #VALUES FOR +
(LJS(Company,40)&CustCity+','&CustState),CustID +
FROM Customer ORDER BY Company +
CHKBOX 1 TITLE 'Company Name and Location' +
CAPTION 'Colorful CHOOSE Example 05' LINES 20 FORMATTED +
OPTION List_Font_Color WHITE|List_Back_Color TEAL +
|Title_Font_Color TEAL|Title_Back_Color WHITE +
|Window_Back_Color WHITE|Title_Font_Size 24 +
|Title_Font_Name TIMES NEW ROMAN|Window_Caption +
|Buttons_Back_Color WHITE
IF vCustIDTxt IS NULL OR vCustIDTxt = '[Esc]' THEN
   GOTO Done
ELSE
   SET VAR vCustID = .vCustIDTxt
ENDIF
__ Do what you have to do here with the variable CustID
LABEL Done
CLEAR VAR vCustIDTxt, vCustID
RETURN
```

Example 6:

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```
CLS
CHOOSE vCustIDTxt FROM #VALUES FOR +
(LJS(Company,40)&CustCity+','&CustState),CustID +
FROM Customer ORDER BY Company +
CHKBOX 1 TITLE 'Company Name and Location' +
CAPTION 'Colorful CHOOSE Example 06' LINES 20 FORMATTED +
OPTION List_Font_Color WHITE|List_Back_Color TEAL +
|Title_Font_Color TEAL|Title_Back_Color WHITE +
|Window_Back_Color WHITE|Title_Font_Size 24 +
|Title_Font_Name TIMES NEW ROMAN|Window_Caption +
|Buttons_Show_Glyph ON|Buttons_Back_Color WHITE
IF vCustIDTxt IS NULL OR vCustIDTxt = '[Esc]' THEN
   GOTO Done
ELSE
   SET VAR vCustID = .vCustIDTxt
ENDIF
__ Do what you have to do here with the variable CustID
LABEL Done
CLEAR VAR vCustIDTxt, vCustID
RETURN
```

Example 7:

```
CLS
CHOOSE vWhere FOR #WHERE IN Customer +
OPTION THEMENAME R:BASE Rocks! +
|WHERE_CLAUSE WHERE CustState = 'CA' ORDER BY COMPANY
RETURN
```

1.4.6.1 OPTION parameters

These parameters can be used to change the "look and feel" of a CHOOSE window. In addition to the parameters below, you can also alter the CHOOSE Title, List, and Buttons.

WINDOW_CAPTION *value*

Customizes the window caption. Supported values:

- OFF - makes the window caption invisible.
- SMALL - makes the window caption small (tool window).

WINDOW_BACK_COLOR *value*

Changes the color of the WINDOW BACKGROUND area. User can specify the integer value or type one of the predefined values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER

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- SKY BLUE
- TEAL
- WHITE
- YELLOW

TOP *value*

Moves the CHOOSE box location, in pixels, from the top of the screen down.

LEFT *value*

Moves the CHOOSE box location, in pixels, from the left of the screen right.

WHERE_CLAUSE *value*

Allows you to pre-load a WHERE Clause into the WHERE Builder window when using "**#WHERE IN tblview**".

THEMENAME *value*

Will alter the CHOOSE with an artistic representation theme. Values:

- Deep Cyan
- Deep Green
- Deep Orange
- Diamond Blue
- Diamond Green
- Funny Theme
- Gnome
- Green Glass
- Longhorn
- Mac OS
- Matrix
- Media
- One Blue
- One Clear Blue
- One Cyan
- One Green
- One Orange
- Orange Glass
- R:BASE Rocks!
- Razzmatazz
- Real One
- Sports Black
- Sports Blue
- Sports Cyan
- Sports Green
- Sports Orange
- Steel Black
- Steel Blue
- Win Native
- XP Blue
- XP Egypt
- XP Green
- XP Grey Scale
- XP Orange
- XP Silver

All previously defined CHOOSE commands which are redefined to use Themes should be thoroughly checked prior to putting into production as objects and text may look substantially different.

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1.4.6.1.1 Title

These parameters are specific to changing how the CHOOSE "title" is dislayed.

TITLE_BACK_COLOR *value*

Changes the background color of the TITLE area. User can specify the integer value or use one of the predefined values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

TITLE_FONT_NAME *value*

Specifies a font name for the title area. Values would consist of the fonts available on the computer.

TITLE_FONT_SIZE *value*

Specifies a font size in title area

TITLE_FONT_COLOR *value*

Changes the font color of TITLE area. User can specify the integer value or type one of the predefined names:

Values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER

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- SKY BLUE
- TEAL
- WHITE
- YELLOW

TITLE_BOLD *value*

Makes font in title area bold style. Values:

- ON
- OFF

TITLE_ITALIC *value*

Changes the font in title area italic style. Values:

- ON
- OFF

TITLE_UNDERLINE *value*

Changes the font in title area underlined. Values:

- ON
- OFF

TITLE_STRIKEOUT *value*

Makes the font in title area strikeout. Values:

- ON
- OFF

1.4.6.1.2 List

These parameters are specific to changing how the CHOOSE "list" is dislayed.

LIST_BACK_COLOR *value*

Changes the background color of LIST area. User can specify the integer value or type one of the predefined values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

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LIST_FONT_NAME *value*

Specifies a font name in LIST area. Values would consist of the fonts available on the computer.

LIST_FONT_SIZE *value*

Specifies a font size in LIST area

LIST_FONT_COLOR *value*

Changes font color of LIST area. User can specify the integer value or type one of the predefined values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

LIST_BOLD *value*

Makes the font in LIST area bold style. Values:

- ON
- OFF

LIST_ITALIC *value*

Makes the font in title area italic style. Values:

- ON
- OFF

LIST_UNDERLINE *value*

Makes the font in title area underlined. Values:

- ON
- OFF

LIST_STRIKEOUT *value*

Makes the font in title area strikeout. Values:

- ON
- OFF

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1.4.6.1.3 Buttons

These parameters are specific to changing how the CHOOSE "buttons" is dislayed.

BUTTON_OK_CAPTION *value*

Changes the caption for the "OK" button.

BUTTON_CANCEL_CAPTION *value*

Changes the caption for the "Cancel" button.

BUTTONS_SHOW_GLYPH *value*

Places images on the OK and Cancel buttons. Values:

- ON
- OFF

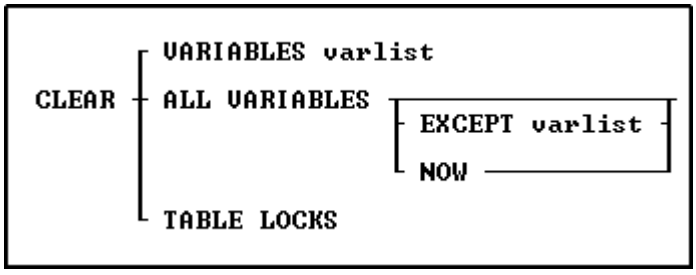
BUTTONS_BACK_COLOR *value*

Changes the color of the BUTTON area. User can specify the integer value or type one of the predefined values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

1.4.7 CLEAR

Use the CLEAR command to remove global variables from memory or table locks.



Options

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ALL VARIABLES
Removes all global variables from memory.

dbspec
Specifies the database name.

EXCEPT varlist
Specifies variables that the CLEAR command will not remove. You can use wildcards in variable names.

NOW
CLEAR ALL VAR NOW, the fourth argument to the CLEAR ALL VAR command clears all the variable storage blocks (VSBs), including all printer control code variables and other non-permanent system variables (NPSVs). It re-allocates the blocks with just the permanent system variables (PSVs), #DATE, #TIME, #PI and SQLCODE.

Without the fourth parameter, printer control code variables and other # variables are NOT cleared. Also, it does not completely re-initialize the memory blocks as does the CLEAR ALL VAR NOW.

TABLE LOCKS
Removes all locks on tables. This command parameter must be used with MULTI set to OFF and while connected to the database.

VARIABLES varlist
Removes a list of one or more variables. Use this option at the end of a complete set of procedures to clear variables that are no longer needed. You can use wildcards in variable names.

About the CLEAR Command

When R:BASE is first loaded into memory, only system variables are defined; they are not affected by the CLEAR command. Variables defined in reports are cleared automatically after the report is printed. Other variables you define remain in memory until you exit from R:BASE or use the CLEAR command.

Examples

The following command removes the global variables *vcounter* and *vname* from memory.

```
CLEAR VARIABLES vcounter, vname
```

The following command removes all global variables from memory.

```
CLEAR ALL VARIABLES
```

The following command removes all global variables except *var1*.

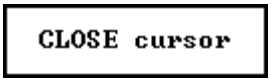
```
CLEAR ALL VARIABLES EXCEPT var1
```

The following command clears all variables beginning with the letter *v*.

```
CLEAR VARIABLES v%
```

1.4.8 CLOSE

Use the CLOSE command to close an open cursor.



Options

cursor
Closes a row pointer in a table that was defined with the DECLARE CURSOR command.

About the CLOSE Command

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Cursors are pointers to rows in a table, and are defined using the DECLARE CURSOR command. When you no longer want to use the cursor but want to retain it for later use, use the CLOSE command to close the cursor. When you open the cursor again, it is positioned at the beginning of the set of rows defined by the DECLARE CURSOR command.

Use the LIST CURSOR command to list all of the currently defined cursors and whether the cursor is opened or closed.

When you close a cursor, most of the memory taken by the cursor definition is returned. If the DECLARE CURSOR
command used any file handles, they are released.

Example

The following command makes the rows defined by the DECLARE CURSOR command as *cursor1* unavailable. To use the information defined by *cursor1* again, you need to reopen the cursor with the OPEN command.

```
CLOSE cursor1
```

For additional examples, see the "DECLARE CURSOR" entry.

1.4.9 CLOSEWINDOW

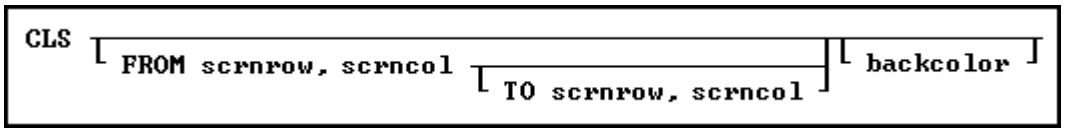
Use the CLOSEWINDOW command to close a form from within an application or entry/exit procedure. Without the alias it closes the current form.

Options

alias
Specifies a window name, which is the name given to the instance of an MDI form started with the "AS *alias"* option when using the ENTER, EDIT USING, or BROWSE USING commands.

1.4.10 CLS

Use the CLS command to clear the R> Prompt window or PAUSE message box that is currently displayed. The additional options below pertain only to DOS versions of R:BASE.



Options

backcolor
Specifies the background color of the cleared area. Valid R:BASE background colors are black, blue, brown, cyan, green, gray, magenta, and red. In Windows you can also use yellow and white.

FROM scrnrow, scrncol
Specifies the first screen row to clear, starting at the column specified by *scrncol*.

TO scrnrow, scrncol
Specifies the last screen row to clear, ending at the column specified by *scrncol*.

About the CLS Command

CLS does not issue a form feed. (The NEWPAGE command does issue a form feed.)

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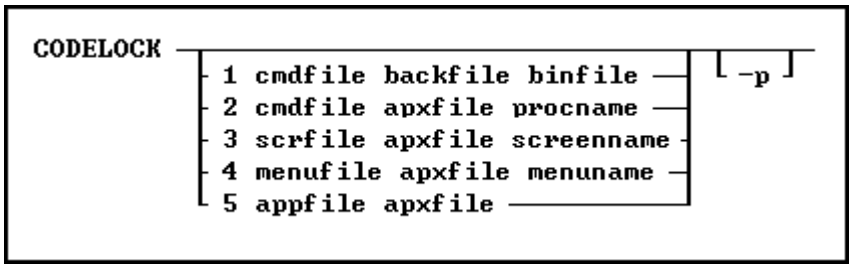
Example

The following example clears the window from row 7 column 5 to row 9 column 60, and sets the background color in the cleared region to red.

```
CLS FROM 7,5 TO 9,60 RED
```

1.4.11 CODELOCK

Use the CODELOCK command to start CodeLock, the ASCII-to-binary conversion program that locks command and procedure files.



Options

1
Corresponds to the first menu choice in CodeLock: "Convert an ASCII command file to a binary command file."

2
Corresponds to the second menu choice in CodeLock: "Add an ASCII command file to a procedure file."

3
Corresponds to the third menu choice in CodeLock: "Add an ASCII screen file to a procedure file."

4
Corresponds to the fourth menu choice in CodeLock: "Add an ASCII menu file to a procedure file."

5
Corresponds to the fifth menu choice in CodeLock: "Convert an ASCII application file to a binary procedure file."

appfile
Specifies an ASCII application file.

apxfile
Specifies the name for the binary procedure file that is produced.

backfile
Specifies the name for the backup file.

binfile
Specifies the name for the binary command file that is produced.

cmdfile
Specifies an ASCII command file.

menufile
Specifies an ASCII menu file.

menuname
Specifies the name for the inserted menu block.

-p
Forces CodeLock to use the older encryption method (used previous to R:BASE version 4.5 Plus!). This option is necessary if the application is run using R:BASE version 4.5 or earlier.

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procname
Specifies the name for the inserted command block.

screenname
Specifies the name for the inserted screen block.

scrfile
Specifies an ASCII screen file.

About the CODELOCK Command

CodeLock is an ASCII-to-binary conversion program that encodes command and procedure files, and creates an .APX file from the source file. CodeLock creates files that can only be run-not viewed or edited.

The advantages to using files encoded by CodeLock are:

- The encoded file that R:BASE creates protects the source file from being altered because the binary files produced by CodeLock cannot be changed with a text editor.
- The run time for the encoded file might be reduced because the commands are already parsed or interpreted by CodeLock; some of the work the computer does to run the ASCII form of the command file is not necessary. Also, calls between binary blocks in procedure files can be done without opening and closing a different disk file for every call.
- A developer can create a complex application that can be distributed in one file instead of several stand-alone files.

In R:BASE for Windows, when MESSAGES is set off, R:BASE does not display the file that is being encoded or any system messages while the file is being encoded. When MESSAGES is set on, the application file is displayed on screen as it is encoded.

When you make additions or changes to an .APX file, the additions and changes are appended to the existing .APX file. If you make regular changes to an .APX file, you should make a new .APX file to avoid the .APX file from getting too large.

Because CodeLock is only run from within R:BASE, R:BASE uses the current QUOTES setting while encoding an application. If R:BASE encounters a SET QUOTES command while encoding an application, R:BASE will use that QUOTES setting until it encounters another SET QUOTES command, or is finished encoding the application. When R:BASE finishes encoding the application, it resets the QUOTES setting to the setting that was in effect before CodeLock began.

1.4.12 COMMENT

Use comments in command or application files to provide internal program documentation.

There are a few comment designators: "--", "{ }", and "*( )".

1. A **"--"** comment can be used only on a single line either by itself or following a command.

   To comment an individual line, add two hyphen characters **"-"** to the beginning of the line. A carriage return at the end of the line indicates the end of the text for a comment that begins with two hyphens. In R:BASE Editor, the syntax highlighting will alter the display and change the font color to pink and the style to italicized. In the following example;

   ```
   CLEAR VAR vResult
   ```

   the command will become:

   ```
   --CLEAR VAR vResult
   ```

2. A **"{ }"** comment may share a command line with a command, occupy a line itself, or extend over multiple command lines.

   This designator is the recommended option with the latest releases of R:BASE, as if helps in avoiding any confusion when using parentheses with your R:BASE expressions. The set of squiggly brackets **"{}"**, with

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the desired commented text or commands enclosed within the squiggly brackets will comment the text. In the following example;

```
PLUGIN RPDFMerge.RBL 'vResult +
|ACTION MERGE +
|DOC_LIST_FILE PDFFilesToMerge.LST +
|SHOW_SETUP_DIALOG ON +
|OUTPUT_FILE OneBigMergedFile.PDF '
```

the command(s) will become:

```
{
PLUGIN RPDFMerge.RBL 'vResult +
|ACTION MERGE +
|DOC_LIST_FILE PDFFilesToMerge.LST +
|SHOW_SETUP_DIALOG ON +
|OUTPUT_FILE OneBigMergedFile.PDF '
}
```

Keep in mind that any command(s) that is embedded within a multiple-line comment will not be executed.

3. A **"*( )"** comment may share a command line with a command, occupy a line itself, or extend over multiple command lines.

   Another use of characters that will comment your code is the asterisk character preceding a set of parentheses **"*()"**, with the desired commented text or commands enclosed within the parentheses. R:BASE interprets text following an asterisk and left parenthesis as a comment until a closing right parenthesis is reached. If the right parenthesis is not entered, R:BASE responds with a continuation prompt (+>). Enter a closing parentheses until you are returned to the R> prompt, or other processing. In the following example;

   ```
   PLUGIN RPDFMerge.RBL 'vResult +
   |ACTION MERGE +
   |DOC_LIST_FILE PDFFilesToMerge.LST +
   |SHOW_SETUP_DIALOG ON +
   |OUTPUT_FILE OneBigMergedFile.PDF '
   ```

   the commands will become:

   ```
   *(
   PLUGIN RPDFMerge.RBL 'vResult +
   |ACTION MERGE +
   |DOC_LIST_FILE PDFFilesToMerge.LST +
   |SHOW_SETUP_DIALOG ON +
   |OUTPUT_FILE OneBigMergedFile.PDF '
   )
   ```

   Although this option is still supported in R:BASE, it is now recommended that you use the squiggly bracket **"{}"** method above. Keep in mind that any command(s) that is embedded within a multiple-line comment will not be executed.

Using Comment Designators

- Although used primarily in command files, you can enter a comment at the R> prompt.
- If you place a comment on the same line as a command, leave at least one space between the comment and the command so the comment is not interpreted as part of the command.

Restrictions on Using the *(Comment) Command

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Do not include comments within the text of an ASCII menu file or a menu block because the comment will be read as part of the file.

1.4.13 COMMENT ON

Use the COMMENT ON command to add a description to a table or column.

Options

colname
Adds a description for a column in all tables in which it appears.

DELETE
Removes a description for a table or for a column in either the specified table or in all tables.

IN tblname
Adds a description for a column only in the specified table.

IS 'description'
Defines a description for a table or for a column in either the specified table or in all tables. The text must be enclosed in quotes using the current QUOTES setting.

TABLE tblname
Adds a description for the specified table.

VIEW viewname
Adds a description for the specified view.

tblname.colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command. In an SQL command, a column name can be preceded by a table or correlation name and a period (*tblname.colname*).

About the COMMENT ON Command

A COMMENT ON description can be a maximum of 80 characters. If the description is longer, R:BASE displays only the first 80 characters. Descriptions must be enclosed in single quotation marks ('), or the current delimiter character for QUOTES.

When you add a description to a column that appears in multiple tables, R:BASE adds the description to the column in every table. If you add a new table containing the column, you must add the description for that column to the new table.

Use the LIST command to list the descriptions of the tables and columns. R:BASE also displays the description when you modify a table using the Database Designer. Comments are stored in thes*ys_comments* system table. When a column or table is renamed or removed, R:BASE automatically updates the *sys_comments* table to reflect the change.

When access rights for a table have been assigned using the GRANT command, COMMENT ON requires the database owner's user identifier to describe tables and columns.

Examples

The following command adds a description to the *employee*table.

```
COMMENT ON TABLE employee IS 'employee information'
```

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The following command adds a description to the *empid* column in all tables in the database.

```
COMMENT ON empid IS 'employee identification number'
```

The following commands show two ways to add a description to the *empid* column in only the *employee* table.

```
COMMENT ON employee.empid IS 'employee identification number'
COMMENT ON empid IN employee IS 'employee identification number'
```

The following command removes the description from the *employee*table.

```
COMMENT ON TABLE employee DELETE
```

The following command removes the description from the *empid*column in every table in which the column occurs.

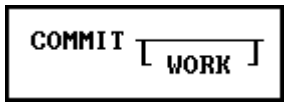
```
COMMENT ON empid DELETE
```

The following command removes the description from the *empid*column in the *employee* table.

```
COMMENT ON empid IN employee DELETE
```

1.4.14 COMMIT

Use the COMMIT command to make permanent the changes to the data or database structure made since the beginning of the transaction.



Options

WORK
WORK is optional and has no effect in R:BASE.

About the COMMIT Command

A transaction consists of all the commands executed since the last COMMIT or ROLLBACK command, or since you connected to the database if a COMMIT command has not been executed.

If you want to be able to process a group of commands, or transaction, without permanently affecting your data until you accept the changes, turn the AUTOCOMMIT setting off. R:BASE stores the information needed to reverse each modification made to the database in a Before Image file.

To accept a transaction and make the changes permanent, enter the COMMIT command after you have entered the transaction. The changes made by the commands in the transaction are made permanent and R:BASE clears the Before Image file to prepare it for the next transaction. The COMMIT command also releases all automatic table and database locks and executes any SET LOCK OFF commands included in the transaction. To reverse the transaction and undo the changes, enter the ROLLBACK command.

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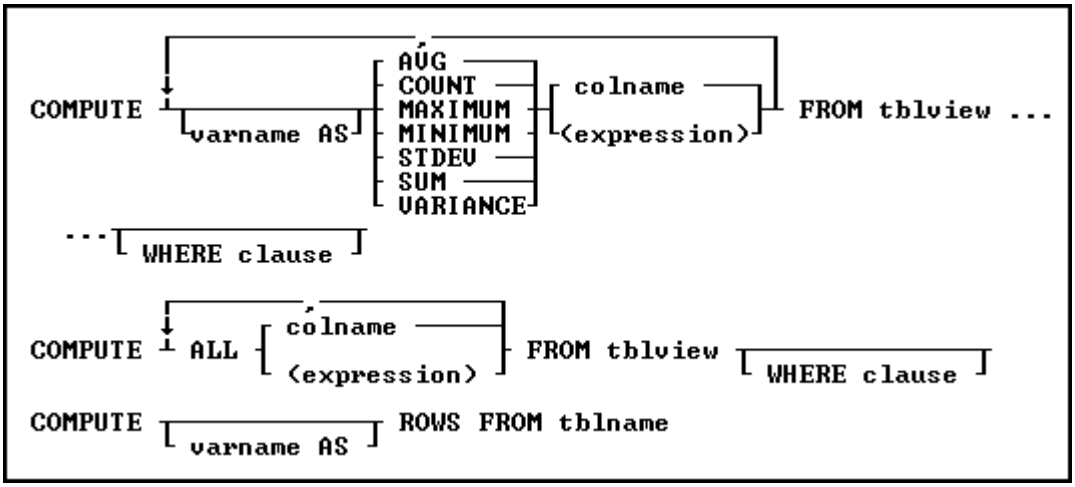
1.4.15 COMPUTE

Use the COMPUTE command to calculate expressions or perform mathematical operations on columns.



Options

,
Indicates that this part of the command is repeatable.

ALL
Executes all of the functions relevant to the data type of the selected column.

AVG
Computes the numeric average of CURRENCY, DOUBLE, NUMERIC, REAL, INTEGER, DATE, or TIME data types. R:BASE rounds averages of integer values to the nearest integer value and currency values to their nearest unit.

colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command. In an SQL command, a column name can be preceded by a table or correlation name and a period (*tblname.colname*).

COUNT
Determines how many non-null entries there are for a particular column item.

(expression)
Determines the value for the column using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

FROM tblview
Specifies the table or view.

MAXIMUM
Selects the maximum value in a column. For TEXT and CHARACTER data types, R:BASE evaluates the first 30 characters. This option accepts columns with any data type except BIT, VARBIT, VARCHAR, and BITNOTE.

MINIMUM
Selects the minimum value in a column. For TEXT and CHARACTER data types, R:BASE evaluates the first 30 characters. This option accepts columns with any data type except BIT, VARBIT, VARCHAR, and BITNOTE.

ROWS FROM tblname
Counts rows in a specified table.

STDEV
Computes standard deviation for CURRENCY, DOUBLE, REAL, NUMERIC, or INTEGER data types.

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SUM
Computes the numeric sum of CURRENCY, DOUBLE, REAL, NUMERIC, or INTEGER data types.

VARIANCE
Determines variance for CURRENCY, DECIMAL, DOUBLE, FLOAT, REAL, NUMERIC, INTEGER, or SMALLINT data types.

varname AS
Specifies a global variable name in which to store the result of a COMPUTE command. If you use the arguments COUNT or ROWS, the variable must be an INTEGER data type.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

About the COMPUTE Command

R:BASE does not consider null values when it calculates averages, minimums, maximums, counts, sums, standard deviation, and variance.

The COMPUTE command can define a global variable with the data type that matches the results of the computation of a column's values.

You can also choose **Calculate** on the **Data Browser** menu in R:BASE for Windows to choose a column, then perform the mathematical operations that apply to the data type of the column.

In general we do recommend using the SELECT Function(Column) notation over the COMPUTE notation as this provides greater compliance to the SQL standard and greater portability to new versions of R:BASE.

Examples

The following command computes, then stores the minimum on-hand quantity in the *vminvar* variable found in the *prodlocation*table.

```
COMPUTE vminvar AS MINIMUM onhand FROM prodlocation
```

The following command computes the total number of rows in the *transmaster* table and places the result in the *vrowcounter*variable.

```
COMPUTE vrowcounter AS ROWS FROM transmaster
```

The following command computes the average of an INTEGER data type (*onhand*) and returns the result as a DOUBLE data type.

```
COMPUTE AVG (onhand * 1.0) FROM prodlocation
```

The following command calculates your multiple computations on different columns. The command counts the number of entries in the *custid* column and averages the entries in the *netamount* column. The *custid* column and the *netamount* column are both from the *transmaster* table; all the specified columns must be in the same table or view.

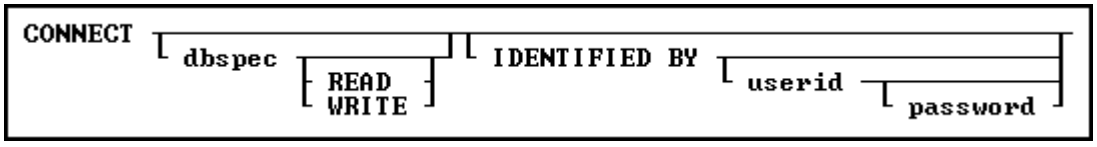
```
COMPUTE COUNT custid, AVG netamount FROM transmaster
```

The command below shows you how to use variables to hold the results of computations.

```
COMPUTE v1 AS COUNT custid,v2 AS AVG netamount FROM transmaster
```

1.4.16 CONNECT

Use the CONNECT command to open a database.



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Options

dbspec
Opens a specified database.

IDENTIFIED BY
Specifies the user identifier. If left blank, R:BASE prompts you for the user identifier. R:BASE does not display it as you enter the text.

password
Optional; verifies the correct user identifier of the current user of the database.

READ
Opens a database as read-only. When you open a database as read-only, you cannot modify the data or database structure. All users must connect to the database in read mode if it is used.

userid
Specifies the user identifier. When access rights have been assigned using the GRANT command, you must enter an appropriate user identifier with the CONNECT command unless permission has been granted to PUBLIC.

WRITE
Opens a database in write/read mode. When you open a database in write/read mode, you can view and modify the database. This mode is the default when you use the CONNECT command without options.

About the CONNECT Command

R:BASE opens a database according to the current settings for the following SET commands: FASTFK, FASTLOCK, MULTI, ROWLOCKS, TRANSACTIONS, and STATICDB. Only one database can be open at a time.

You must open a database to use it; however, a database cannot be open when you copy, rename, or erase the database files.

When you use the CONNECT command without any of its options, R:BASE displays a list of the databases in the current directory. To open a database, highlight the database name and press [Enter]. This differs from older versions of R:BASE which required you to list a database in the connection command.

To open a database that is not in the current directory, add the drive and directory before you enter the database name, or use the CHDIR command before using CONNECT.

Database Access Rights with CONNECT

When you use the IDENTIFIED BY option, R:BASE identifies your level of access to the database. Only the last user identifier specified is in effect. If your user identifier contains spaces, enclose it in quotation marks when you enter it.

Closing a Database

R:BASE closes a database when you:

- Open another database.
- Issue a DISCONNECT command.
- Issue an EXIT command.
- Define a new database.

Updating Database Timestamps

When a database is created or opened, a timestamp is encoded in each of the four database files, enabling the database files to be stored in separate directories apart from one another. To ensure that the correct database files are accessed, R:BASE evaluates the timestamp values of the files as it searches for them on the path statement. R:BASE tries to connect to File 1 first (DBNAME.RX1), then it searches the path for the other database files (DBNAME.RX2, DBNAME.RX3, and DBNAME.RX4).

Updating the encoded timestamp values in the four database files (DBNAME.RX1, DBNAME.RX2, DBNAME.RX3, and DBNAME.RX4) so that they all have the same timestamp values might be necessary if R:BASE is halted or if your computer or operating system crashes. When you try to connect to a database that is out of

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synchronization, R:BASE displays an error message. The RBSYNC command must be run. For more information about RBSYNC, see the "RBSYNC" entry.

Examples

The following command opens the *letters* database located on drive C: in the TOOLS/WP directory. R:BASE opens *letters* for reading and writing.

```
CONNECT c:\tools\wp\letters
```

The following command opens the *mydata* database with *user two* as the user identifier. The user identifier is enclosed in quotation marks because it contains a space.

```
CONNECT mydata IDENTIFIED BY 'user two'
```

The following example displays all databases in the current directory and allows you to select the database you wish to connect to.

```
CONNECT
```

1.4.17 CONTINUE

Use the CONTINUE command to move to the next occurrence of the WHILE loop and run the code.

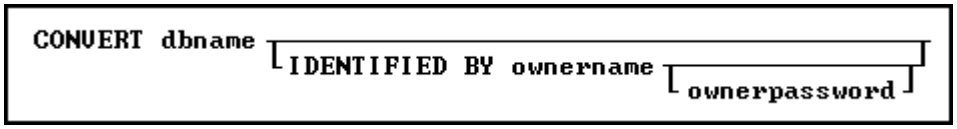
Example

In the following example, when the code is run, processing returns to line 3 after it completes the CONTINUE command on line 6. The while-block commands in line 8 are not run.

```
SET VARIABLE v1=0
SET VARIABLE V2=1
WHILE v1 = 0 THEN
    *(while-block commands)
  IF v2 <> 0 THEN
    CONTINUE
  ENDIF
    *(while-block commands)
ENDWHILE
```

1.4.18 CONVERT

Use the CONVERT command to convert a 4.5 or higher R:BASE database to R:BASE Turbo V-8.



Options

dbname
Specifies the database to be converted.

IDENTIFIED BY ownername
Specifies the ownername; required if one has been defined.

ownerpassword
Optional; verifies the correct ownername for the database.

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About the CONVERT Command

R:BASE Turbo V-8 requires the conversion of your existing 5.5 or lower R:BASE database. Once the database is converted, it CANNOT be accessed by any previous version of R:BASE. Be sure and backup your database before you convert it.

1.4.19 COPY

Use the COPY command to copy files.

```
COPY filespec1 filespec2
```

Options

filespec1
Specifies the file to be copied-the source file.

filespec2
Specifies the file to receive the copy-the target file.

About the COPY Command

This command is similar to the operating system COPY command.

When you copy files from one drive to another, include the drive letter of the drive you want to copy to.

When you copy files from one directory to another directory, the name of the directory you want to copy to must be different from the current directory.

Naming Copied Files

When you copy a file from one drive or directory to another drive or directory, you can keep the same name for the new file, or you can give the file a new name. If you want to make a copy of a file on the same directory, you must give the file a different name. If the new name is the name of an existing file, COPY replaces the existing file with the file you are copying.

Using Wildcards with the COPY Command

When copying a group of files, you can use the operating-system wildcards (? or *) in the file specification. The settings for the R:BASE special characters SINGLE and MANY do not affect the operating system wildcards.

When the target name is the same length as the source name, the command succeeds. However, if the target name is shorter or longer than the source name, the results are unpredictable.

Backing Up with the COPY Command

You can use the COPY command to back up your database, command files, and programs. Copy the four .RB* files as a set.

If you change the .RB* extension when you use COPY to back up your database files, you must change the extension back to .RB* to use the database in R:BASE. The COPY command does not copy files onto multiple disks. If your database is too large to fit on one disk, use the BACKUP command.

Suggestion

On a workstation with multiple drives (local or mapped), especially when the files are on the different drive, it is always the best practice to define a drive letter when copying, deleting, renaming or running files, unless the specified files are located in the working directory. You will not need to specify the drive letter if all of the files are located in the default directory when using the copy, delete, rename or run commands**.**

Examples

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The following command copies the file THISFILE to THATFILE on the current drive and directory.

```
COPY thisfile thatfile
```

The following command copies the MYDATA file on drive C: to the current directory on drive B: using the same file name.

```
COPY c:mydata b:mydata
```

The following command copies any files in the DBS directory that begin with MYDATA and have the extension .RB? to the ADMIN directory on the current drive using the same file names. The files with the .RB? extension could be the four disk files that contain an R:BASE database: MYDATA.RX1, MYDATA.RX2, MYDATA.RX3, and MYDATA.RX4.

```
COPY /dbs/mydata.rb? /admin
```

The following command copies the MYDATA files using the new name SAVDAT.

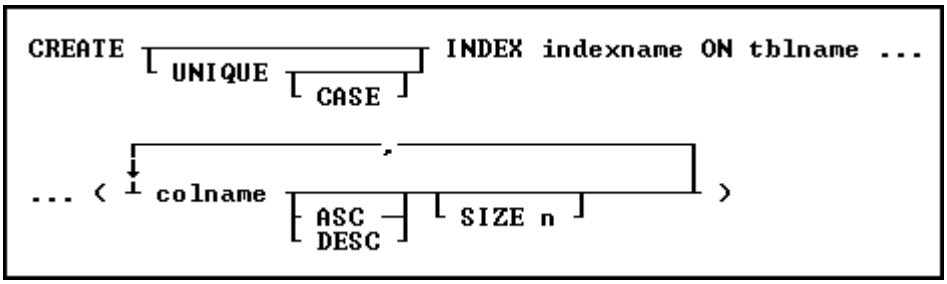
```
COPY mydata savdat
```

The following command copies the MYDATA files with an .RB? extension and changes the extension to .SV?

```
COPY mydata.rb? mydata.sv?
```

1.4.20 CREATE INDEX

Use the CREATE INDEX command to speed up data retrieval by creating pointers that locate rows in a table easily.



Options

,
Indicates that this part of the command is repeatable.

ASC
DESC
Specifies whether to sort a column in ascending or descending order.

CASE
Specifies that the data values will be case sensitive.

colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command.

INDEX indexname
Specifies an index, which is displayed with the LIST INDEX command. An *indexname* is required.

ON tblname
Specifies the table in which to create an index for a column.

SIZE n
Sets the minimum number of characters to preserve to determine uniqueness during hashing. This number can be a maximum of 200 characters. The index is created with the first *n* characters preserved and the rest of the

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value stored as a 4-byte hashed representation.

UNIQUE
Requires the values in a column to be unique.

About the CREATE INDEX Command

An index creates pointers to rows in columns, which allows R:BASE to find the rows using pointers much faster than searching the rows of data sequentially. You can index a column of any data type. An indexed column improves the performance of the following commands, clauses, and operations.

Commands, Clauses, and Operations to Use with Indexes	
DELETE DUPLICATES	RULES
INTERSECT	SELECT (when it includes a WHERE or an ORDER BY clause)
JOIN	SUBTRACT
Look-up expressions in forms or reports	UNION
ORDER BY	WHERE
PROJECT	

Although indexes speed up processing, they might slow down data entry because building an index for each value as it is entered takes time. Creating indexes for columns that contain many duplicate values does not always speed up processing. Indexes also occupy space on a disk.

Null Values

An indexed column can contain null values, but R:BASE uses an index most efficiently if each row in the indexed column contains a value. Primary keys, unique keys, or unique indexes explicitly restrict the insertion of null values. For other indexes, you can define a rule to ensure that a column always contains a value.

UPDATE Permission

When access rights for a table have been assigned using the GRANT command, you must have UPDATE permission for the column you want to index. For information about assigning rights, see the "GRANT" entry.

Indexing Criteria

Some columns are better candidates than others for indexing. To receive the greatest benefit from indexes, use the following criteria to help you decide which type of column is the best choice for indexing your table(s):

Primary Key

R:BASE automatically indexes the column(s) that is defined as the table's primary key.

Foreign Key

R:BASE automatically indexes the column(s) that is defined as the table's foreign key.

Columns Used in Queries

Columns that are not primary or foreign keys but are frequently used in queries should be indexed. Create a unique key constraint for columns that are not primary or foreign keys, but which uniquely identify a row in the table.

Columns Frequently Using ORDER BY or GROUP BY

Include a column in an ascending-order index when the column is not a primary or foreign key but is frequently referenced in an ascending-column ORDER BY or GROUP BY clause. Similarly, include a column in a descending-order index when the column is frequently referenced in a descending-column ORDER BY clause.

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Full- and Partial-Text Indexes

Text columns can make effective indexed columns. If the size of the column that has a TEXT data type is 200 bytes or less, R:BASE creates a full-text index. A full-text index is an index that stores the entire contents of a column as an index in .RX3, which is the file that contains indexes to columns. If the size of the column is greater than 200 bytes, R:BASE creates a partial-text index.

If you specify the SIZE option to be less than the defined length of a column, R:BASE creates a partial-text index, and any text column that has a defined length over 200 bytes must be a partial-text index. For columns that have a TEXT data type and exceed 200 bytes, you can specify the SIZE option to be between 0 and 196 to create a partial-text index. Specifying the size allows you to base your index on a specified number of characters at the beginning of the columns and to hash the remaining characters. For example, you can index a 225-character column with a TEXT data type by specifying the SIZE option to be any number less than 197 bytes. R:BASE will create an index with the first *n* characters and the rest of the value will be stored as a four-byte hashed representation of the text.

Partial-text indexes minimize storage space. However, partial-text indexes might not be as efficient as a full-text index, for example:

```
CREATE TABLE cities (cityname TEXT(40), state TEXT(2), country +
TEXT(20))
CREATE INDEX cityindex ON cities (cityname, state)
INSERT INTO cities VALUES('Bellevue','WA','USA')
INSERT INTO cities VALUES('Belltown','PA','USA')
SELECT cityname, state from cities WHERE cityname = 'Bellevue'
```

In the above example, because the query reads data only from the index named *cityindex*, there is no need to read the actual data stored in .RX2-which is the data file-so the query is done quickly. The query is an index-only retrieval and produces fast results.

If a partial-text index was used in the same query as above, the partial-text index could also only use the index named *cityindex*. Because the partial-text index only preserves the first four characters, it is impossible to return the correct answer to the query from the index. The query, as shown below, would slow processing because R:BASE must read data from the R:BASE system .RX2.

```
CREATE INDEX cityindex ON cities (cityname SIZE 4, state)
SELECT cityname, state from cities WHERE cityname = 'Bellevue'
```

When creating text indexes, be aware of the following:

- If you omit the SIZE option and the text field in the column is greater than 200 bytes, R:BASE creates a partial text index by storing the first 32 bytes of each field and hashing the remaining bytes in each field into a four-byte numeric representation of the text. For example, if the text is 280 bytes and you do not specify a size, R:BASE stores the first 32 bytes of each field and hashes the remaining 248 bytes into a four-byte integer.
- If you specify the SIZE option to be 16 bytes for a 60-byte column with a TEXT data type, R:BASE stores the first 16 bytes of each 60-byte text field and hashes the remaining bytes in each field into a four-byte numeric representation of the text. The total length of each index entry will be 20 bytes (16 + 4).
- If you specify the SIZE option to be 30-bytes for a 250-byte column with a TEXT data type, R:BASE stores the first 30 bytes of each 250-byte field and hashes the remaining bytes in each field into a four-byte numeric representation of the text. The total length of each index entry will be 34 bytes.
- If you specify the SIZE option to be 250 bytes for a column with a TEXT data type, you have made an illegal request because the maximum value for the SIZE option is 196 bytes when the length of the text field is greater than 200 bytes. If you specified the SIZE option to be 196 bytes for a 250-byte column, R:BASE would hash the remaining 54 bytes into a four-byte numeric representation of the text.
- If you omit the SIZE option and the text field in the column is 200 bytes or less, R:BASE creates a full-text index. For example, if the text is 80 bytes and you do not specify a size, R:BASE builds a full-text index of 80 bytes.

Examples

The following command creates an index for the *custid* column in the *transmaster* table.

```
CREATE INDEX trancust ON transmaster (custid)
```

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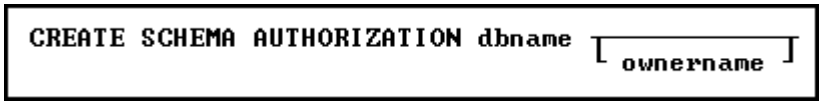
The following example creates a multi-column index for the *company*, *custaddress*, and *custstate* columns in the *customer* table.

```
CREATE INDEX custaddr ON customer (company ASC, custaddress ASC, custstate ASC)
```

1.4.21 CREATE SCHEMA

Use the CREATE SCHEMA command to name a database and assign a user identifier for the database owner.



Options

AUTHORIZATION dbname
Specifies the name of the database.

ownername
Allows you to assign a unique identifier for the owner of the database.

About the CREATE SCHEMA Command

A database name can be a maximum of eight characters, and must be unique. The database name must begin with a letter, and can contain letters, numbers, and the following symbols: number or pound sign (#), dollar sign ($), underscore (_),or percent sign (%). A database name cannot contain blanks or have a file extension, and must follow the naming conventions for R:BASE and the operating system.

R:BASE automatically creates four database files with extensions .RX1, .RX2, .RX3, and .RX4.

After you name a database, you need to use other commands to define the tables, views, rules, and access rights for the database.

Assigning A Database Owner's User Identifier

A database owner's user identifier can be a maximum of 18 characters and must begin with a letter and can contain letters, numbers, and the and the following symbols: number or pound sign (#), dollar sign ($), underscore (_),or percent sign (%). If user identifiers are assigned to users, the database owner's user identifier must be unique among all user identifiers in the database.

If you do not specify a user identifier, R:BASE assigns the default user identifier, PUBLIC. Until a user identifier is assigned, anyone can modify the database structure, read, enter, change, or delete data. When an owner's user identifier is assigned to a database, the database is accessible only by the owner. To give other users access rights to the database, use the GRANT command.

You do not have to assign a user identifier when the database is created. To assign a user identifier after the database has been created, use the RENAME OWNER command, the **Utilities: Access Rights...** menu option in R:BASE for Windows or the **Info: Create: Access Rights: Change Owner** in R:BASE for DOS.

CREATE SCHEMA stores the owner's case folding and collating tables from the RBENGINE8.CFG file in the database.
Be sure to keep a record of the owner's user identifier in a safe place away from your computer. If you lose the owner's identifier, you cannot search the database to find it.

Building a Database

You can use CREATE SCHEMA and other CREATE commands as an alternative to creating a database using the **File: New Database** and **Tools: Database Designer** menu options in R:BASE for Windows or **Databases: Create/modify** in R:BASE for DOS.

When you run the CREATE SCHEMA command, R:BASE closes the currently open database (if one exists), then defines and opens a new database.

Transaction Processing and the CREATE SCHEMA Command

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If transaction processing is on when you enter a CREATE SCHEMA command, R:BASE first commits your current transaction (if any), then creates and connects you to the database. Transaction processing is on in the database, but you cannot reverse the CREATE SCHEMA command.

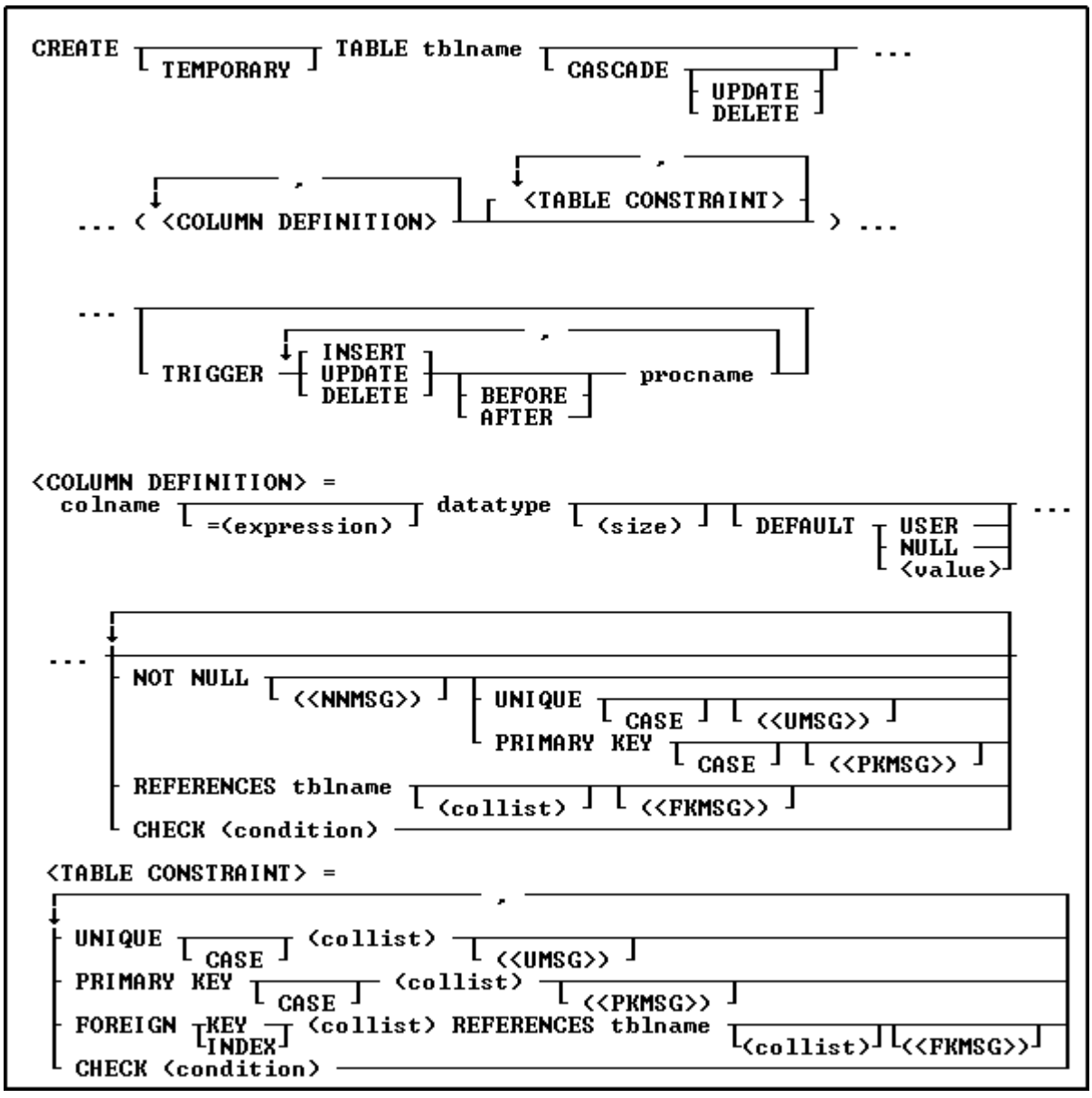
Example

The following command names the *finance* database and assigns *jane* as the database owner's user identifier.

```
CREATE SCHEMA AUTHORIZATION finance jane
```

1.4.22 CREATE TABLE

Use the CREATE TABLE command to define a new table in an existing database.



Options

,
Indicates that this part of the command is repeatable.

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AFTER
Sets the trigger to activate after the INSERT, UPDATE or DELETE action.

BEFORE
Sets the trigger to activate before the INSERT, UPDATE or DELETE action. This is the default setting if the BEFORE/AFTER parameter is unused.

CASCADE
Maintains primary/foreign key relationships automatically. For example, if you either UPDATE or DELETE a primary key value from a table, the corresponding foreign key values are updated or deleted automatically. A CASCADE can applied to UPDATE, DELETE or BOTH to specific primary keys. By not specifying either UPDATE or DELETE, both CASCADE restrictions will be enforced upon the primary/foreign key tables. Separate UPDATE and DELETE data restrictions can allow a CASCADE to be enforced for records that are updated, but not enforced when records are deleted, in order to avoid an accidental or undesired record delete. CASCADE can only be added to tables with primary keys.

CASE
Specifies that the data values will be case sensitive.

CHECK (condition)
Sets a condition to be satisfied before an update or insertion of a row can occur, which creates an R:BASE rule.

(collist)
Specifies a list of one or more column names, separated by a comma (or the current delimiter), used in the unique key specification. This option is only used when referencing a unique key.

colname
Specifies a 1 to 18 character column name.

datatype
Specifies an R:BASE data type.

DEFAULT
Specifies a default value for the column if no value is provided by the user.

= (expression)
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

(<FKMSG>)
Creates a constraint violation message to appear whenever a foreign-key data integrity violation occurs. The message can suit the meaning of your data, such as "You must enter a valid number" for a foreign-key constraint violation. You can define two messages: one for inserting and one for updating. A constraint must be dropped, then recreated in order to modify the violation message.

FOREIGN INDEX
With the FASTFK setting on, creates a foreign key that has an index using row pointers for data retrieval on selected columns.

FOREIGN KEY
Specifies a column or set of columns required to match values in a particular primary key or unique key defined in a table.

(<NNMSG>)
Creates a constraint violation message to appear whenever a not-null data integrity violation occurs. The message can suit the meaning of your data, such as "You must enter a valid number" for a not-null constraint violation. A constraint must be dropped, then recreated in order to modify the violation message.

NOT NULL
Prevents a column from accepting null values, but permits it to accept duplicate values.
If this option is specified without a setting for a default value, you cannot insert rows without specifying values for the given column.

(<PKMSG>)
Creates a constraint violation message to appear whenever a primary-key data integrity violation occurs. The message can suit the meaning of your data, such as "You must enter a valid number" for a primary-key

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constraint violation. You can define three messages: one for uniqueness, one for deleting, and one for updating. A constraint must be dropped, then recreated in order to modify the violation message.

PRIMARY KEY
Specifies the column(s) to designate as a primary key.

procname
The procedure name. If a procedure by this name already exists in the database, an error is generated.

REFERENCES tablename
Identifies the primary key or unique key table to which the foreign key refers.

(size)
Defines the length of a column of either the CHARACTER data type (if not the default 1) or TEXT data type (if not the default 8). Defines the precision and scale of a column of the DECIMAL or NUMERIC data type, if not the default of precision 9 and scale 0 (9,0). VARBIT, VARCHAR, and BIT either require or can have a size.

tblname
Specifies a 1 to 18 character table name.

TEMPORARY
Creates a temporary table that disappears when the database is disconnected.

TRIGGER
Runs a stored procedure when an UPDATE, DELETE, or INSERT command is run on the table.

(<UMSG>)
Creates a constraint violation message to appear whenever a unique-key data integrity violation occurs. The message can suit the meaning of your data, such as "You must enter a valid number" for a unique-key constraint violation. You can define three messages: one for uniqueness, one for deleting, and one for updating. A constraint must be dropped, then recreated in order to modify the violation message.

UNIQUE
Requires the values in a column to be unique by defining a unique key constraint.

USER
NULL
(value)
Default USER: Specifies the default value to be the user identifier.
Default NULL: Specifies the default value to be null.
Default (*value*): Specifies the default to be the indicated value.

About the CREATE TABLE Command

To define a table, you need to specify column definitions. Table and column names can be a maximum of 18 characters and must begin with an upper- or lowercase letter. Names can contain letters, numbers, and the following special characters: #, $, _, and %. R:BASE verifies that a table or column name is unique by reading all 18 characters.

When you define a table, you can also add table constraints.

To define more than one column in a command, use commas (or the current delimiter character) to separate the column definitions.

Computed Columns

A computed column is a column containing a value that R:BASE calculates from an expression defined for the column. In the expression, you can use other columns from the table, constant values, functions, and the system variables *#date*, *#time*, and *#pi*. Global variables are not allowed in an expression.

You must assign a data type that is compatible with the result of the computation. The columns used for calculating the computed column must precede the computed column in the table.

Indexing Columns

If you want to assign an index to a column, use the CREATE INDEX command.

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Database Access Rights with CREATE TABLE

CREATE TABLE requires either the CREATE access right or the owner's user identifier when access rights have been assigned with the GRANT command. For more information about assigning access rights, see the "GRANT" entry.

Examples

The command below defines a table named *employee* with the following columns and data types: *empid* (INTEGER), *emptitle*(TEXT 30), *empfname* (TEXT 10), *emplname* (TEXT 16), *empaddress* (TEXT 30), *empcity* (TEXT 20), *empstate* (TEXT 2), *empzip* (TEXT 10), *empphone* (TEXT 12), *empext*(INTEGER), *hiredate* (DATE), and *entrydate* (DATE). In addition, the NOT NULL option specifies that the columns *empfname*, *emplname*, and *hiredate* must contain a value. The NOT NULL UNIQUE option specifies that the *empid* and *empext* columns must contain unique values.

```
CREATE TABLE employee (empid INTEGER NOT NULL UNIQUE, +
emptitle TEXT 30, empfname TEXT 10 NOT NULL, emplname TEXT +
16 NOT NULL, empaddress TEXT 30, empcity TEXT 20, empstate +
TEXT 2, empzip TEXT 10, empphone TEXT 12, empext INTEGER +
NOT NULL UNIQUE, hiredate DATE NOT NULL, entrydate DATE)
```

The following command creates a table using the column constraint CHECK on the *empid* column.

```
CREATE TABLE employee (empid INTEGER CHECK (empid > 0), +
empname TEXT 40, empage INTEGER)
```

The example below creates a table using the column constraint CHECK on the *empid* and *empage* columns.

```
CREATE TABLE employee (empid INTEGER CHECK (empid > 0), +
empname TEXT 40, empage INTEGER CHECK (empage >0 and empage < 100))
```

Table constraints are defined if it is necessary to reference multiple columns within the same expression. The UNIQUE (*collist*) option is entered at the end of the following command so that the values in the *empid*, *empfname*, *emplname* columns are unique as a group in a row. Because this option follows a column definition, precede the option with a comma.

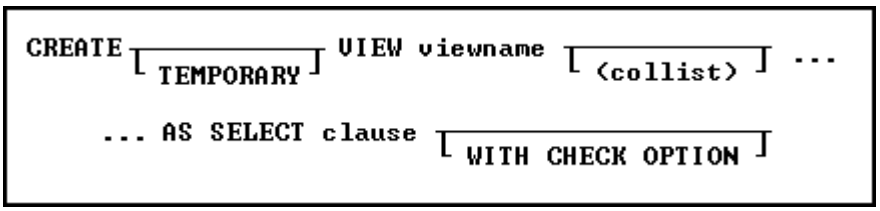
```
CREATE TABLE employee (empid INTEGER NOT NULL, +
emptitle TEXT 30, empfname TEXT 10 NOT NULL, emplname TEXT +
16 NOT NULL, empaddress TEXT 30, empcity TEXT 20, empstate +
TEXT 2, empzip TEXT 10, empphone TEXT 12, empext INTEGER +
NOT NULL UNIQUE, hiredate DATE NOT NULL, entrydate DATE, +
UNIQUE (empid, empfname, emplname))
```

The following command creates a table that would contain an employee's total years of employment. The command places a column constraint on the *empid* and *empage* columns, and a table constraint on the *yrshere* and *yrsanywhere* columns. The value entered for *yrshere* must be less than or equal to the value entered for *yrsanywhere*.

```
CREATE TABLE employee (empid INTEGER CHECK (empid > 0), +
empname TEXT 40, empage INTEGER CHECK +
(empage > 0 and empage < 100), yrshere INTEGER, +
yrsanywhere INTEGER, CHECK (yrshere <= yrsanywhere))
```

1.4.23 CREATE VIEW

Use the CREATE VIEW command to define a view that combines columns from existing tables or views.



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Options

AS SELECT clause
Specifies the columns and rows to include in the view. As a rule anything that is acceptable in an ordinary select clause will work here. If you are planning on using expressions you should considering using the SELECT AS notation to give each column meaningful names.

(collist)
Specifies a list of one or more column names or aliases, separated by a comma (or the current delimiter). These names will be the column headings displayed in the result of a SELECT command or the Data Browser.

TEMPORARY
Creates a temporary view that disappears when the database is disconnected.

viewname
Specifies a 1 to 18 character view name.

WITH CHECK OPTION
Specifies that a row cannot be added or updated unless it meets the conditions included in the WHERE clause (which is part of the SELECT clause). R:BASE uses this option only on a view that can be updated.

About the CREATE VIEW Command

CREATE VIEW defines a view to store in the *sys_views* table. You can use a stored view whenever necessary. Unlike a table, stored views contain no data. R:BASE collects data for the view from the source tables or views when a command calling the view is run.

A view is the most efficient way to gather data from separate tables or views into one location. A view that can be updated allows you to enter, change, and delete data from the source table. The number of tables in a view is dependent on available memory.

You can define a view containing a maximum of 400 columns from as many tables or views as memory allows. However, a view is still limited to the 4,096 character row-size limit. You can use the SQL symbol asterisk (*) to include all columns from all tables or views, or you can specify the columns you want to include. You can combine these two methods to include all columns from one table or view and specify columns from another table or view. You must separate column, table, and view names with commas (or the current delimiter character).

Avoiding Multiple Occurrences of Columns

When you use only an asterisk (*) in the SELECT clause, the view will contain all columns from all tables or views. If the tables or views contain common columns, the view will contain multiple occurrences of those columns.

To avoid multiple occurrences of common columns, specify which columns to include in the view. For example, to include all columns from one table but only certain columns from another table, use an * for the first table, then list the column names to be included from the second table. You can specify the columns for a view as *t1*.*, *t2.col2*, *t2.col3*, where *t1*.* specifies all columns from table *t1*and *t2.col2*, *t2.col3* specifies two columns from table *t2*. Be sure that the list does not include the common columns contained in the second table. When you use a combination of * and column names, you must specify the table with which * is associated. However, you can omit the table or correlation name for the columns listed individually if those columns occur in only one table in the view.

Duplicate Rows

If the tables forming a view contain duplicate rows, either individually or in combination with other tables in the view, multiple duplicate rows will be displayed. Usually, the presence of duplicate rows in a view indicates a database design problem. Check your database structure for design flaws such as redundant data storage.

Linking Columns

When you build a view from two or more tables or views, define the relationship between the source tables and views by identifying linking columns in a WHERE clause. Linking columns are columns that contain the same values; their names can be the same or different. For example, the following WHERE clause specifies that a view displays only those rows where the values in *t1.col1* are equal to the values in the common column *t2.col1*.

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WHERE t1.col1 = t2.col1

UNION Operator

Use views to create a subset of information. The conditions that link the source tables or views in the WHERE clause will limit the rows used in the view. However, you can create a view that uses all the rows from two or more tables by using the UNION operator. The UNION operator allows you to specify different selection criteria for each table in the view, as shown in "Examples" later in this entry.

Updating Views

You can update the data for columns in a view when the view does not contain a UNION operator, and its SELECT clause meets the following requirements:

- The clause does not specify DISTINCT.
- The clause does not include a sub-SELECT command in the WHERE clause.
- The clause does not include a GROUP BY or HAVING clause.
- The clause does not include an ORDER BY clause.

When you add, change, or delete rows by updating a single table view, you also modify the data in the source table. In multi-table views you cannot add, edit, or delete rows. Any additions or changes to data made through a view are subject to all the user-defined rules specified for the table when it was constructed. In addition, if you specify the WITH CHECK OPTION for the view, you can only add or modify rows that meet the conditions defined in the WHERE clause.

You can only use the DELETE, EDIT, INSERT, LOAD, and UPDATE commands with views that can be updated. If a view cannot be updated, you can use the view only to display data or as the basis for reports.

Other Commands to be Used with CREATE VIEW

Use the following commands with any view created with CREATE VIEW.

Available Commands for Views Created with CREATE VIEW			
BROWSE	EDIT USING*	PRINT	REVOKE
COMPUTE	FORMS	PROJECT	SELECT
CREATE VIEW	GRANT	QUERY	TALLY
CROSSTAB	LBLPRINT	RBLABELS	UPDATE**
DROP	LIST	RENAME	
EDIT*	LIST ACCESS	REPORTS	

* These commands will display data when using a multi-table View (a View based on multiple tables), but the data will not be editable. A View with a GROUP BY parameter is also not editable.

** The UPDATE command will not update data when using a multi-table View (a View based on multiple tables), as the data is not editable. A View with a GROUP BY parameter is also not editable.

Views Compared with Look-up Tables

If the data used in a report is stored in more than one table, using a view is more efficient than a driving table and several look-up tables because it takes less time to print the report using a view. Using a view is more efficient because R:BASE gathers the data for a view before, rather than during, printing.

Database Access Rights with CREATE VIEW

The access rights that can be assigned with the GRANT command depend on whether or not the view can be updated. The ALL PRIVILEGES, DELETE, INSERT, SELECT, and UPDATE access rights can be granted on a view that can be updated. You must have ALL PRIVILEGES or SELECT access rights on a table or view to include it in a view.

If you have been assigned the SELECT access right and the WITH GRANT OPTION has been assigned on all the source tables or views used in a view, you can grant both SELECT and the WITH GRANT OPTION to other users.

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If you are the database owner or you have the WITH GRANT OPTION on a view, you can also assign access rights on stored views.

Changing Views

You cannot change a view at the R> prompt. To change a view from the R> prompt, you must delete the view by using the DROP command, then define a new view. However, you can use the **View Designer** option from the **Tools** menu in R:BASE for Windows or **Views: Create/modify: Manage views** in R:BASE for DOS, to change a view that meets the following requirements:

- The view does not include a UNION operator.
- The view does not include a GROUP BY or HAVING clause.
- The view does not include a sub-SELECT command in the WHERE clause.

Examples

The following command defines a view that can be updated and specifies a subset of columns "*custid*, *company*, *custaddress*, *custcity*, *custstate*, and *custzip*" from one table, *customer*. The column list must match the number of columns in the SELECT clause; the names, however, can be different. The WHERE clause restricts the rows to those with zip codes ranging from 40001 through 49999. The WITH CHECK OPTION specifies that only rows that meet the condition included in the WHERE clause can be added or changed in the database.

```
CREATE VIEW cust_addr (custid, custcompany, custaddress, custcity, custstate, +
custzip) AS SELECT custid, company, custaddress, +
custcity, custstate, custzip FROM customer WHERE custzip +
BETWEEN 40001 AND 49999 WITH CHECK OPTION
```

The following command defines a view that will display only those rows from the *customer* and *transmaster* tables that have matching values in the common column *custid*. Therefore, only the rows that have customers who have had a transaction will be included in the view. The command line ORDER BY *custid* tells R:BASE to sort the rows and display them by the customer identification number.

```
CREATE VIEW cust_trans AS SELECT t1.custid, company, netamount +
FROM customer t1, transmaster t2 WHERE t1.custid = t2.custid +
ORDER BY custid
```

The following command defines a view that will display only those rows from the *customer* table where the values in the *custid*column do not exist in the *transmaster* table. Therefore, only the rows that have customers who have not had a transaction will be included in the view.

```
CREATE VIEW cust_notrans AS SELECT custid, company FROM +
customer WHERE custid NOT IN (SELECT custid FROM transmaster) +
ORDER BY custid
```

The following command combines the commands in the two preceding examples, creating a view that will display all rows from both the *customer* and the *transmaster* tables. The UNION operator joins the two SELECT clauses, allowing you to display rows for all customers whether or not they have had a transaction.

The first SELECT clause instructs R:BASE to include the rows from both tables where the values in *custid* match. The second SELECT clause instructs R:BASE to include rows from the *customer* table where there are no values for *custid* in the *transmaster* table.

When you use the UNION operator, the number of columns specified in the SELECT clauses must be the same and the data types of the columns must be compatible. If there is no column in one table that matches a column listed in the other table's SELECT clause, you must substitute a value (or null value). Because the *netamount* column does not exist in the *customer* table used in the second SELECT statement, the value $0.00 was entered in place of *netamount*.

```
CREATE VIEW all_cust_trans AS SELECT t1.custid, company, netamount +
FROM customer t1, transmaster t2 WHERE t1.custid = t2.custid +
UNION SELECT custid, company, $0.00 FROM customer +
WHERE custid NOT IN (SELECT custid FROM transmaster) +
ORDER BY custid
```

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1.4.24 CREATEOBJECT

Use the CREATEOBJECT command to create dynamic form objects on demand.

```
CREATEOBJECT <ObjectType> <ComponentID> <ParentControl> <Left Top Width Height>
```

Options

ComponentID
The unique identifier that you assign to the component when you insert the object.

Height
The Height coordinate for the control

Left
The Left coordinate for the control in relation to the left side of its parent

ObjectType
The form object, or control type. The actual names of the ObjectTypes that must be used in the CREATEOBJECT syntax are listed as follows by Form Control category:

Standard Controls
StaticText
Button
EnhancedPanel
EnhancedGroupBox
Wallpaper
EnhancedWallpaper

Additional Controls
BitBtn
SpeedButton
Image
Shape
Bevel
Animate
Splitter
TabControl
TabSheet
LedTextLabel
Clock
TreeView
ListView
TimeLedLabel
OfficeButton
DropDownButton
GIFImage
LedDisplay
ShapeButton
Meter
EnhancedSpeedButton
PDFViewer
TabSet
GroupBar
Group
EnhancedTabControl
EnhancedTabSheet
Separator
Line
StatusBar
  ClockStatus
  StatusPane

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KeyStatus
GlyphStatus
MarqueeStatus
DBStatus
DBStateStatus

Variable Controls
VarMemo
VarEdit
VarDateTimePicker
VarCalendar
VarCheckBox
VarLabel
VarRadioButton
VarRadioButtonGroup
VarUserComboBox
VarUserListBox
VarLookUpListBox
VarLookUpComboBox
VarSpinEdit
VarEMailLabel
VarWebBrowser
VarImage
VarRichEdit
VarLookUpListView

Database Controls
DBGrid
DBNavigator
DBText
DBEdit
DBDateTimePicker
DBCalendar
DBMemo
DBImage
DBCheckBox
DBRadioGroup
DBLookUpListBox
DBLookUpComboBox
DBRichEdit
DBSpinEdit
DBUserComboBox
DBUserListBox
DBRadioButton
DBTreeView
DBWebBrowser
DBMailLabel
DBLookUpListView
ScrollingRegion

Legacy Controls
VerticalLine
HorizontalLine
3DBox
Panel
GroupBox

Internet Controls
WebBrowser
MailLabel

File System Controls
FileBox
DirTree

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ParentControl
The form object in which other controls are contained within. A parent control can be an actual form or any of the following form controls: Panel, EnhancedPanel, GroupBox, EnhancedGroupBox, Tab Control, Enhanced Tab Control, Status Bar, RadioGroup, DB RadioGroup, Variable RadioGroup, Scrolling Region, etc.

Top
The Top coordinate for the control in relation to the top of its parent

Width
The Width coordinate for the control

About the CREATEOBJECT Command

Any form object can be created at runtime, simply by knowing the exact object type, Component ID, parent (form or any control having the option of container such as Panel, GroupBox, Tab Control, Enhanced Tab Control, Status Bar, DB RadioGroup, Scrolling Region, Variable RadioGroup), and coordinates (Top, Left, Width, Height).

To place DB Objects, you'll need to provide additional parameters, such as, Table Name, Field Name. For Variable Objects, you'll need to provide associated variable name. And, once the object is defined, you need to initialize it to be place on the form. All of these additional definitions for the newly created object are performd using the PROPERTY Command.

Order of Processing To Create an Object

The order of processing for the CREATEOBJECT command is as follows

1. Use **CREATEOBJECT** to create the object
2. For Column(DB) or Variable fields, use the PROPERTY Command to assign the Column(DB) or Variable field
3. When inserting Custom EEPs, use the PROPERTY Command to assign the Custom EEP command syntax
4. Use the **PROPERTY ComponentID INIT 'TRUE'** Command to initialize the object
5. Use the PROPERTY Command to set any additional characteristics, like color, font, background, etc., that would be specific to the type of object you are creating

List of Controls and EEPs:

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Standard Controls					
Button	OnClickEEP				
Database Controls					
DB Grid	OnEntryEEP	OnExitEEP	OnColumnEntryEEP	OnColumnExitEEP	OnColumnMovedEEP
DB Edit	OnEntryEEP	OnExitEEP	OnRightClickEEP		
DB Memo	OnEntryEEP	OnExitEEP	OnRightClickEEP		
DB Rich Edit	OnEntryEEP	OnExitEEP	OnRightClickEEP		
DB Date Time Picker	OnClickEEP				
DB Calendar	OnClickEEP				
DB Image	OnClickEEP	OnRightClickEEP	OnMouseEnterEEP	OnMouseMoveEEP	OnMouseLeaveEEP
DB Check Box	OnClickEEP				
DB Radio Button	OnClickEEP				
DB Radio Group	OnEntryEEP	OnExitEEP	OnClickEEP		
DB Lookup Combo Box	OnEntryEEP	OnExitEEP	OnClickEEP		
DB Lookup List Box	OnEntryEEP	OnExitEEP	OnClickEEP		
DB User Defined Combo Box	OnEntryEEP	OnExitEEP	OnClickEEP		
DB User Defined List Box	OnEntryEEP	OnExitEEP	OnClickEEP		
DB Tree View	OnEntryEEP	OnExitEEP	OnClickEEP		
DB Lookup List View	OnEntryEEP	OnExitEEP	OnClickEEP	OnDblClickEEP	
Variable Controls					
Variable Edit	OnEntryEEP	OnExitEEP	OnRightClickEEP		
Variable Memo	OnEntryEEP	OnExitEEP	OnRightClickEEP		
Variable Rich Edit	OnEntryEEP	OnExitEEP	OnRightClickEEP		
Variable Date Time Picker	OnClickEEP				
Variable Calendar	OnClickEEP				
Variable Image	OnClickEEP	OnRightClickEEP	OnMouseEnterEEP	OnMouseMoveEEP	OnMouseLeaveEEP
Variable Check Box	OnClickEEP				
Variable Radio Button	OnClickEEP				
Variable Radio Group	OnEntryEEP	OnExitEEP	OnClickEEP		
Variable Lookup Combo Box	OnEntryEEP	OnExitEEP	OnClickEEP		

Notes:

- A form must include the associated Master table
- Any additional form related tables MUST be defined using the form designer
- To delete an object on the fly, like **CREATEOBJECT**, refer to the DELETEOBJECT command

Examples

```
-- Place a text caption for the field (ObjectType: StaticText)
```

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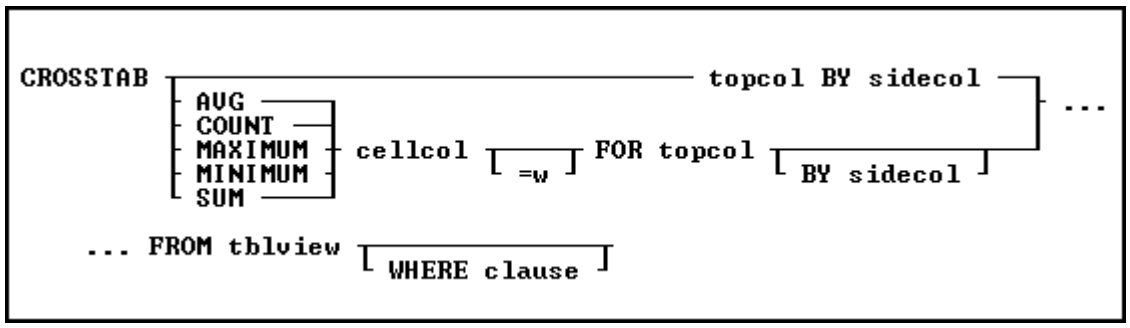
```
CREATEOBJECT StaticText 'StaticText1' 'RBASE_FORM' 10 10 400 20
PROPERTY StaticText1 INIT TRUE
PROPERTY StaticText1 CAPTION 'Dynamically Created DB Controls'

-- Place a Panel on the Form (ObjectType: Panel)
CREATEOBJECT Panel 'Panel' 'RBASE_FORM' 10 40 400 120
PROPERTY Panel INIT TRUE

-- DB Edit Control Based on Table: Customer, Column: CustAddress
CREATEOBJECT DBEdit 'DBEdit2' 'Panel' 100 35 220 20
PROPERTY DBEdit2 TblName 'Customer'
PROPERTY DBEdit2 FldName 'CustAddress'
PROPERTY DBEdit2 INIT TRUE
PROPERTY DBEdit2 FRAMEVISIBLE TRUE

-- Place a DB Navigator Control Based on Table: Customer
CREATEOBJECT DBNavigator 'Navigator' 'Panel' 100 90 200 20
PROPERTY Navigator TblName 'Customer'
PROPERTY Navigator INIT TRUE
PROPERTY Navigator IMAGESTYLE 'Razzmatazz'
PROPERTY Navigator FLAT TRUE

-- To insert Custom EEP command syntax into the "DBEdit2" Control defined
above
-- PROPERTY ComponentID 'Custom_EEP->YourCustomEEP' 'YourCustomEEPText'
CLEAR VAR vCommand1
SET VAR vQuote = (CVAL('QUOTES'))
SET VAR vCommand1 TEXT = ('PAUSE 2 USING'&vQuote&'This is the
Address'&vQuote&';RETURN')
PROPERTY DBEdit2 'Custom_EEP->OnClickEEP' .vCommand1
RETURN
```

1.4.25 CROSSTAB

Use the CROSSTAB command to count the occurrences of each unique pair of values from two columns in a table or view.



Options

AVG
Computes the numeric average of CURRENCY, DOUBLE, NUMERIC, REAL, INTEGER, DATE, or TIME data types. R:BASE rounds averages of integer values to the nearest integer value and currency values to their nearest unit.

BY sidecol
Specifies the column whose values are displayed down the side of the crosstab.

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cellcol
Specifies the column whose values are computed and displayed in the cells portion of the crosstab.

COUNT
Determines how many non-null entries there are for a particular column item.

FOR topcol
Specifies the column whose values are displayed across the top of the crosstab. If the *topcol* option is omitted, the *sidecol* and *cellcol* total or computation is displayed.

FROM tblview
Specifies the table or view.

MAXIMUM
Selects the maximum value in a column. For TEXT and CHARACTER data types, R:BASE evaluates the first eight characters. This option accepts columns with any data type except BIT, LONG VARBIT, LONG VARCHAR, VARBIT, VARCHAR, and BITNOTE.

MINIMUM
Selects the minimum value in a column. For TEXT and CHARACTER data types, R:BASE evaluates the first eight characters. This option accepts columns with any data type except BIT, LONG VARBIT, LONG VARCHAR, VARBIT, VARCHAR, and BITNOTE.

SUM
Computes the numeric sum of CURRENCY, DOUBLE, REAL, NUMERIC, or INTEGER data types.

topcol
Specifies the column whose values are displayed across the top of the crosstab.

=w
Sets the width, in number of characters, of the column displaying the results for *cellcol*.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

About the CROSSTAB Command

You can use CROSSTAB from the R> prompt from the **Calculate**menu in the "Data Browser" window in R:BASE for Windows or **Calculate** from the **Info/views** menu in R:BASE for DOS. R:BASE sorts the information in ascending order and displays it in tabular form. You can also display the results of numeric calculations performed on the values in the two columns in a third column.

You can now do CROSSTAB commands on NOTE fields. It will only use the first 20 characters, but this permits text expressions from views to be used.

The CROSSTAB command does not consider null values in its calculations.

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CROSSTAB Command Arguments	
Argument	**Description**
AVG	Computes the numeric average of CURRENCY, DOUBLE, NUMERIC, REAL, INTEGER, DATE, or TIME data types. R:BASE rounds averages of integer values to the nearest integer value and currency values to their nearest unit.
COUNT	Determines how many entries there are for a particular column item.
MAXIMUM	Selects the value in a column with the greatest numeric, time, date, or alphabetic value. For a TEXT data type, R:BASE evaluates the first eight characters.
MINIMUM	Selects the value in a column with the least numeric, time, date, or alphabetic value. For a TEXT data type, R:BASE evaluates the first eight characters.
SUM	Computes the numeric sum of CURRENCY, DOUBLE, REAL, NUMERIC, INTEGER, or data types.

Example

The following command shows the net sum of the transactions for the sales representative whose employee identification is 102, ordered by transaction date.

```
CROSSTAB SUM netamount FOR empid BY transdate FROM transmaster WHERE empid = 102
```

The results look similar to the following:

```
transdat | 102 (Total)
-------- | --------------- ---------------
01/11/94 | $176,000.00 $176,000.00
02/26/94 | $87,500.00 $87,500.00
02/27/94 | $22,500.00 $22,500.00
02/28/94 | $40,500.00 $40,500.00
03/07/94 | $57,500.00 $57,500.00
09/26/94 | $3,060.00 $3,060.00
-------- | --------------- ---------------
         | $387,060.00 $387,060.00
```

1.5 D

1.5.1 DEBUG

Precede any R:BASE command with the DEBUG command to control the running of the command. In forms runtime, [Ctrl] + [Shift] + [F11] will toggle the DEBUG flag.

Option

command
Specifies a valid command name.

About the DEBUG Command

If DEBUG is set on, the DEBUG command runs; if it is set off, the DEBUG command is ignored. By allowing DEBUG to be set on or off, DEBUG statements in command files or applications can be activated or deactivated.

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Examples

The following command lines show all variables and issue a LIST command.

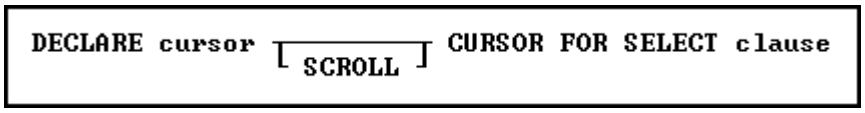
```
SET DEBUG ON
DEBUG SHOW VAR
LIST
SET DEBUG OFF
```

Because DEBUG is set off, the following command sequence only issues the LIST command.

```
SET DEBUG OFF
DEBUG SHOW VAR
LIST
```

1.5.2 DECLARE CURSOR

Use the DECLARE CURSOR command to create a cursor that points to a row in a table or view.



Options

cursor
Specifies a 1 to 18 character cursor name.

CURSOR FOR SELECT clause
Specifies the columns and rows from the table whose values you want to use. You may include the DISTINCT modifier as well as WHERE clauses and ORDER BY clauses.

SCROLL
Defines a cursor that moves forwards and backwards through a table. If this option is omitted, the cursor can only move forward.

About the DECLARE CURSOR Command

In the SELECT clause, specify the columns that contain the values you want to use from the row. Specifying the columns makes the column values accessible to the FETCH and SET VARIABLE commands. Once a cursor is declared, use the OPEN command to initialize the cursor and position it before the first row specified by DECLARE CURSOR.

Use DECLARE CURSOR to define a path through a table or view. You can move through the defined rows using the FETCH command by using either multiple FETCH commands or embedded FETCH commands within a WHILE loop. You only need to point to specific columns with DECLARE CURSOR, then FETCH can retrieve those columns by placing their values into variables. You can define a scrollable cursor, which is a cursor that moves backwards and forwards through a table.

DECLARE CURSOR defines a temporary view in memory; R:BASE does not store the view definition in the *sys_views* table. The SELECT clause defines columns, tables, rows, sort order, and potential grouping for the rows. When DECLARE CURSOR executes, it validates the syntax and names of columns and tables. The OPEN command can evaluate variables, create a copy of the cursor based on those values, then position the cursor before the first row.

Listing Cursors

Use LIST CURSOR to list all currently defined cursors and their status, open or closed.

Using Cursor Names in Commands

You can use the cursor name instead of a table name in commands. The following table provides examples of using the cursor name instead of a table name in commands.

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To do this...	Use the cursor name like this...
Set a variable to a column value	FETCH *cursor* INTO *varlist* SET VARIABLE *varname* = *colname* WHERE CURRENT OF *cursor*
Change a column value to a constant	UPDATE *tblname* SET *colname* + = *value* WHERE CURRENT OF *cursor*
Change a column value to a variable value	UPDATE *tblname* SET *colname* + = .*varname* WHERE CURRENT OF *cursor*
Change a column value to an expression	UPDATE *tblname* SET *colname* + = (expression) WHERE CURRENT OF *cursor*
Delete the pointed-to row	DELETE FROM *tblname* + WHERE CURRENT OF *cursor*

Modifying Data Using a Cursor

If you use a cursor in commands that modify data (the UPDATE and DELETE commands), only the current row is modified. To modify all referenced rows, include FETCH in a WHILE loop to move the cursor through the rows.

Checking for End-of-Data Conditions

End-of-data conditions determine whether you have reached the end of the data declared with the DECLARE CURSOR command. The three ways to check for end-of-data conditions are:

- Use an error variable defined with the SET ERROR VARIABLE command
- Use the *sqlcode* variable
- Include a WHENEVER NOT FOUND command

Closing Cursors

The following commands close cursors.

Command Name	Description
CLOSE	Closes the open cursor but does not remove the cursor definition. However using CLOSE frees most of the memory used when a cursor is opened. CLOSE also frees any file handles used by DECLARE CURSOR.
COMMIT	Closes any open cursors
CONNECT	Removes any cursor definitions from memory
DISCONNECT	Removes any cursor definitions from memory
DROP CURSOR	Entirely removes the cursor definition. Dropping a cursor definition frees all memory used by the definition.
ROLLBACK	Closes any open cursors

Examples

The following example uses the SCROLL option with DECLARE CURSOR.

```
DECLARE c1 SCROLL CURSOR FOR SELECT empid, transid, transdate, custid, netamount
FROM transmaster
```

Checking End-of-Data Conditions Using sqlcode

The following example shows the same type of processing as shown in the first example but uses *sqlcode* instead of an error variable to check end-of-data conditions. Using *sqlcode* is the recommended program structure for DECLARE CURSOR.

The two types of error processing differ. An error variable defined by SET ERROR VARIABLE holds the error value for any type of error; however, the *sqlcode* system variable holds values only for specific types of status.

Type of Error	SQLCODE
Data found	0
Data not found	100

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In the following example, the WHILE statement checks the value of *sqlcode*.

```
1) DECLARE cursor1 CURSOR FOR SELECT custid, netamount +
     FROM transmaster ORDER BY netamount
2) OPEN cursor1
3) FETCH cursor1 INTO vcustid INDICATOR vi1, vnetamt +
     INDICATOR vi2
4) WHILE sqlcode <>100 THEN
     SHOW VARIABLE vcustid
     SHOW VARIABLE vnetamt
5)   FETCH cursor1 INTO vcustid INDICATOR vi1, vnetamt +
       INDICATOR vi2
   ENDWHILE
6) DROP CURSOR cursor1
```

1. DECLARE CURSOR defines the cursor path.
2. OPEN opens the cursor, evaluates variables, and positions the cursor before the first row.
3. The first FETCH command retrieves the first set of values. The indicator variables *vi1* and *vi2* capture the status values, -1 for null and 0 for a value. If you omit indicator variables in FETCH commands, R:BASE displays a message if it encounters a null value, but continues processing rows.
4. The WHILE loop processes the rows until there are no more rows. At that point, *sqlcode* is set to 100, and the WHILE loop ends. Control passes to the command after ENDWHILE. If the first FETCH retrieved no data, the WHILE loop is not entered.
5. FETCH retrieves all succeeding rows and sets *sqlcode*each time. When it does not find any more data, *sqlcode* is set to 100 and the WHILE loop ends.
6. DROP CURSOR removes the cursor definition from memory.

Using the WHENEVER Command with DECLARE CURSOR

The following example shows the use of the WHENEVER command, which checks the value of *sqlcode*. A single WHENEVER command can start a status-checking cycle that remains in operation until a command or procedure file finishes running. As in the first two examples, an indicator variable is included with each variable in FETCH. Without the indicator variables, R:BASE displays a message if it encounters a null value, but continues processing rows.

```
1) WHENEVER NOT FOUND GOTO skiploop
2) DECLARE cursor1 CURSOR FOR SELECT custid, netamount +
     FROM transmaster ORDER BY netamount
3) OPEN cursor1
4) FETCH cursor1 INTO vcustid INDICATOR vi1, vnetamt +
     INDICATOR vi2
5) WHILE #DATE IS NOT NULL THEN
     SHOW VARIABLE vcustid
     SHOW VARIABLE vnetamt
     FETCH cursor1 INTO vcustid INDICATOR vi1, vnetamt +
     INDICATOR vi2
   ENDWHILE
6) LABEL skiploop
7) DROP CURSOR cursor1
```

1. WHENEVER NOT FOUND tells R:BASE to execute GOTO if a command that searches for data, such as FETCH, cannot find more rows. If the first FETCH command does not find any rows, control passes to the command following LABEL *skiploop*. WHENEVER automatically checks any command that searches for data. If a data-not-found condition occurs, control passes to the command following the specified label.
2. DECLARE CURSOR defines the cursor path.
3. OPEN opens the cursor, evaluates the variables, and positions the cursor before the first row.
4. The first FETCH command retrieves the first set of values. If no rows match, control passes to LABEL *skiploop*. Indicator variables *vi1* and *vi2* capture the status values (-1 for null and 0 for a value). If you omit indicator variables in FETCH commands, R:BASE displays a message if it encounters a null value, but continues processing rows. (WHENEVER instructs R:BASE to exit the WHILE loop only when *sqlcode* is 100.)
5. The WHILE loop processes rows until WHENEVER stops execution.
6. This label defines where to pass control if a data-not-found condition occurs before the WHILE loop begins executing. WHENEVER includes this label name.
7. DROP CURSOR removes the cursor definition from memory.

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1.5.3 DEFF

Use the DEFF command to open the External Form File Designer, or to open the designer with aspecific file.

1.5.4 DELETE

Use the DELETE command to remove selected rows from a table.

Options

FROM tblview
Specifies the table or view.

ROWS
This word is optional.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

WHERE CURRENT OF cursor
Specifies a cursor pointing to the row the DELETE command will remove. This option can replace a standard WHERE clause.

Use the DECLARE CURSOR command to define the cursor.

filespec
Specifies the file to be deleted.

On a workstation with multiple drives (local or mapped), especially when the files are on the different drive, it is always the best practice to define a drive letter when copying, deleting, renaming or running files, unless the specified files are located in the working directory. You will not need to specify the drive letter if all of the files are located in the default directory when using the copy, delete, rename or run commands.

About the DELETE Command

DELETE removes rows from a table or view. Without a WHERE or WHERE CURRENT OF clause, R:BASE deletes all rows from the specified table or view. R:BASE displays a confirmation message before deleting the rows. R:BASE does not display a confirmation message when you execute a DELETE command from a command file. Views must be updatable to delete rows from it; for more information about updatable views, see the "CREATE VIEW" entry.

Before you use a WHERE clause with the DELETE command, test the clause by using it with a SELECT command, which allows you to view the rows before deleting them.

The WHERE CURRENT OF clause specifies a cursor pointing to a row that the DELETE command will remove. Once you define a cursor with DECLARE CURSOR and open a route with the OPEN command, you can use the cursor in a WHERE CURRENT OF clause to delete only the current row. Use the FETCH command to move the cursor to the next available row.
You must restore deleted rows from a backed up database or table. To recover disk space after deleting rows, use the PACK or RELOAD commands.

DELETE removes rows from a table or single-table view. If you have set transaction processing on, you can restore rows with ROLLBACK. If not, you must restore them from a backup database or table. If you prefer not to use transaction processing, you can first use a relational command, such as PROJECT, to make a backup copy of the table from which you are deleting rows. Then you can delete rows from the original table and

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remove the backup copy later.

Examples

The following command deletes all rows from the *transmaster*table. When you omit a WHERE clause, be sure that you want to delete all rows from the table.

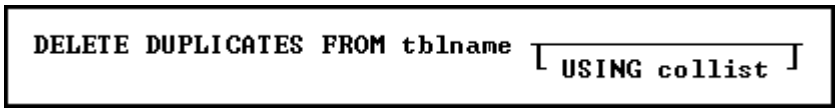
```
DELETE FROM transmaster
```

The following command deletes rows from the *transmaster* table where the *custid* value is 100.

```
DELETE FROM transmaster WHERE custid = 100
```

1.5.5 DELETE DUPLICATES

Use the DELETE DUPLICATES command to remove duplicate rows from a table.



Options

FROM tblname
Specifies the table name.

USING collist
Deletes rows based on duplicate values in the specified list of columns.

About the DELETE DUPLICATES Command

Use DELETE DUPLICATES to delete duplicate rows from a table. A duplicate row is a row where the values for each column are exactly the same as those in another row in the table. This command deletes all but the first row for each set of duplicate rows.

DELETE DUPLICATES processes faster when the table contains an indexed column and the USING *collist* option is used.

Rules for Column Deletion

You can specify which rows to delete in a list of columns. The following rules apply:

- The first row is retained in the table.
- Any row with duplicate values in a specified column list is deleted, regardless of the values in any of its other columns.

Case Sensitivity

DELETE DUPLICATES is case sensitive when CASE is set on. For example, if CASE is set on and one row included the name SMITH and another row included the name Smith, R:BASE would not delete either row. However, if CASE was set off, R:BASE would delete the second row. (The default setting for CASE is off.)

You must restore deleted rows from a backed up database or table. To recover the data's disk space after rows are deleted, use PACK or RELOAD.

If you have set transaction processing on, you can restore rows with ROLLBACK. If not, you must restore them from a backup database or table. If you prefer not to use transaction processing, you can first use a relational command, such as PROJECT to make a backup copy of the table from which you are deleting rows. Then you can delete rows from the original table and remove the backup copy later.

Example

The following command deletes duplicate rows from the *transmaster* table, but retains the first of the duplicate rows.

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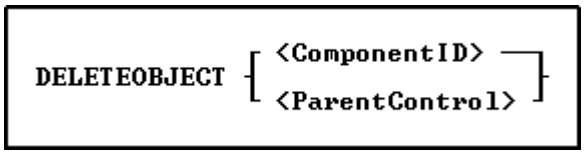
```
DELETE DUPLICATES FROM transmaster
```

The following example deletes duplicate rows based on the *transid*, *empid*, and *custid* columns in the *transmaster* table. Only the designated columns will be used to determine whether the rows are duplicates.

```
DELETE DUPLICATES FROM transmaster USING transid, empid, custid
```

1.5.6 DELETEOBJECT

Use the DELETEOBJECT command to delete form objects on demand.



Options

ComponentID
The unique identifier that is assigned to the component, or control .

ParentControl
The form object in which other controls are contained within. A parent control can be an actual form or any of the following form controls: Panel, EnhancedPanel, GroupBox, EnhancedGroupBox, Tab Control, Enhanced Tab Control, Status Bar, RadioGroup, DB RadioGroup, Variable RadioGroup, Scrolling Region, etc.

This command can be directly associated to the CREATEOBJECT command.

1.5.7 DELROW

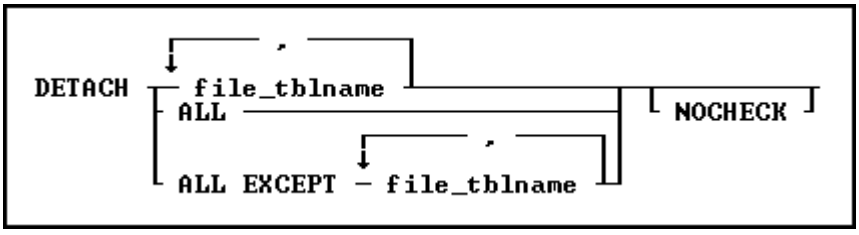
Use the DELROW command to delete the current row of data currently being edited or entered in a form.

About the DELROW Command

Use the DELROW command to delete the current row of data currently being edited or entered in a form.

1.5.8 DETACH

Use the DETACH command to remove a dBASE file table and its associated dBASE index files from the open R:BASE database.



Options

,
Indicates that this part of the command is repeatable.

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ALL
Removes all dBASE tables and associated dBASE index files from the open R:BASE database.

ALL EXCEPT file_tblname
Removes all dBASE tables and associated dBASE index files from the open R:BASE database, except the specified table.

file_tblname
Removes the specified dBASE table and associated dBASE index files from the open R:BASE database.

NOCHECK
Eliminates the confirmation message.

About the DETACH Command

Before you can detach a dBASE file table, an R:BASE database must be open. When you detach a dBASE file table, do not include the .DBF extension. DETACH requires the database owner's user identifier if one has been defined.

If you remove a dBASE file that is used in a form, report, label, or application, make the necessary changes to reflect detaching the dBASE file from the database. The rules, descriptions, and any access rights are deleted when you detach the dBASE file.

Use ATTACH to reattach a detached file to the same or a different database.

When STATICDB is set on-which actives a read-only schema mode-DETACH is unavailable. For more information, see the "SET STATICDB" entry.

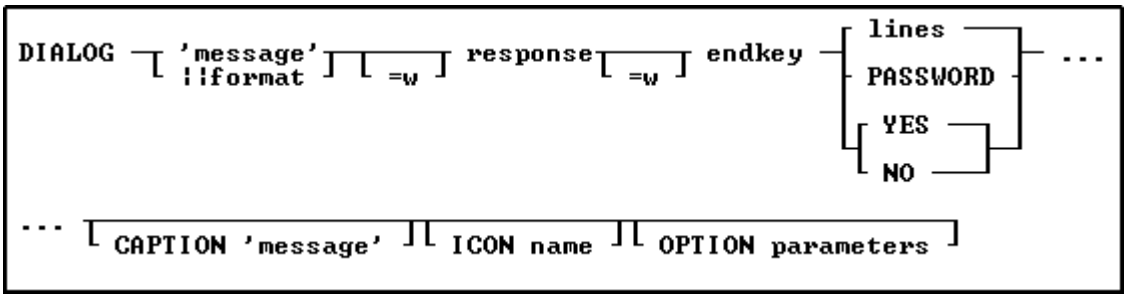
Example

In the following example, the first command line opens the *concomp* database. The second command line detaches the dBASE file table *sampgate* from the *concomp* database.

```
CONNECT concomp
DETACH sampgate
```

1.5.9 DIALOG

Use the DIALOG command to display a dialog box on the screen to accept text entry from a user.



Options

'message'
Specifies the text of the message to display in the dialog box. The value can also be passed as a variable.

||format
Also known as EditMask. You can apply the mask specified by the EditMask parameter to the text string specified by the Value parameter. See the "**||format**" subchapter for more.

=w
Specifies the wrap width for the dialog box message.

response

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Specifies the variable that will contain the dialog box entry.

=w
Specifies the width for the dialog box entry.

endkey
Specifies the variable containing the final keystroke ([Enter] or [Esc]) in a dialog box.

lines
Specifies the number of lines to display for the text entry in a dialog box.

password
Displays the dialog box entry as asterisks.

YES
Creates a Yes/No dialog box and sets the default response to Yes.

NO
Creates a Yes/No dialog box and sets the default response to No.

CAPTION 'message'
Specifies the text of the message to display in the dialog box caption. The value can also be passed as a variable.

ICON *value*

values:

- APPS
- ATTENTION
- CONFIRM
- ERROR
- HELP
- INFO
- QUESTION
- SERIOUS
- STOP
- WARNING
- WINDOWS

OPTION parameters

These parameters can be used to change the "look and feel" of DIALOG window. All parameters and values must be separated by the "|" (pipe) symbol.

Examples

Example 01: (Dialog with Typical OK/CANCEL OPTIONS)

```
CLS
DIALOG 'Enter Last Name' vLastName=26 vEndKey 1 +
CAPTION 'Search Employee by Last Name' +
ICON APP +
OPTION TITLE_FONT_COLOR BLACK +
|TITLE_BACK_COLOR WHITE +
|TRANSPARENCY 255 +
|WINDOW_BACK_COLOR WHITE +
|BUTTON_OK_CAPTION &Search +
|BUTTON_CANCEL_CAPTION &Cancel
```

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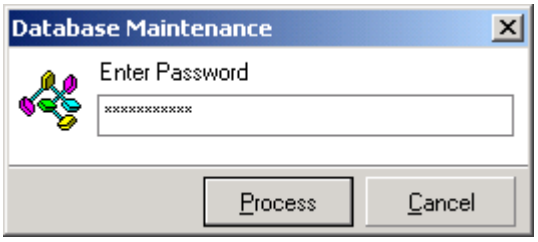
Example 02: (Dialog with Typical OK/CANCEL and PASSWORD OPTION)

```
CLS
DIALOG 'Enter Password' vPassword=26 vEndKey PASSWORD +
CAPTION 'Database Maintenance' +
ICON APP +
OPTION TITLE_FONT_COLOR BLACK +
|TITLE_BACK_COLOR WHITE +
|TRANSPARENCY 255 +
|WINDOW_BACK_COLOR WHITE +
|BUTTON_OK_CAPTION &Process +
|BUTTON_CANCEL_CAPTION &Cancel
```



Example 03: (Dialog with Multi-Line Message with the TOP LEFT parameters)

```
-- (CHAR(009)) = Tab Key (Indent)
-- (CHAR(013)) = Carriage Return
CLS
SET VAR vMsg = +
('Line 1:'+(CHAR(009))+(CHAR(009))&'Contents of Line 1'+(CHAR(013))+ +
 'Line 2:'+(CHAR(009))+(CHAR(009))&'Contents of Line 2'+(CHAR(013))+ +
 'Line 3:'+(CHAR(009))+(CHAR(009))&'Contents of Line 3'+(CHAR(013))+ +
 'Line 4:'+(CHAR(009))+(CHAR(009))&'Contents of Line 4'+(CHAR(013))+ +
 'Line 5:'+(CHAR(009))+(CHAR(009))&'Contents of Line 5'+(CHAR(013))+ +
 'Line 6:'+(CHAR(009))+(CHAR(009))&'Contents of Line 6'+(CHAR(013))+ +
 'Line 7:'+(CHAR(009))+(CHAR(009))&'Contents of Line 7'+(CHAR(013))+ +
 'Line 8:'+(CHAR(009))+(CHAR(009))&'Contents of Line 8'+(CHAR(013))+ +
 'Line 9:'+(CHAR(009))+(CHAR(009))&'Contents of Line 9'++(CHAR(013)))
DIALOG .vMsg vYesNo vEndKey YES +
CAPTION ' Your Dialog Caption Here ...' +
ICON APP +
OPTION TITLE_FONT_COLOR BLACK +
|TITLE_BACK_COLOR WHITE +
|TRANSPARENCY 255 +
|WINDOW_BACK_COLOR WHITE +
|BUTTON_YES_CAPTION &Start +
|BUTTON_NO_CAPTION &Cancel +
|BUTTON_YES_COLOR GREEN +
|BUTTON_NO_COLOR RED +
|BUTTON_YES_FONT_COLOR WHITE +
|BUTTON_NO_FONT_COLOR WHITE +
|TOP 50 +
|LEFT 50
```

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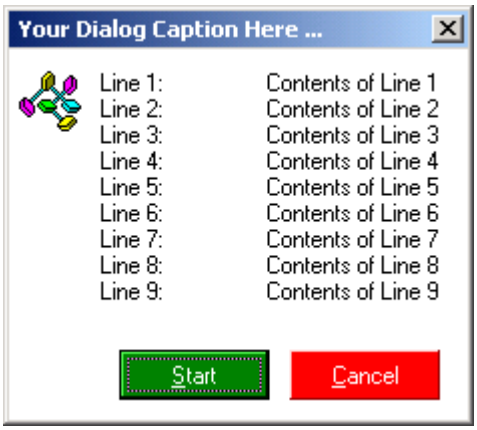

Example 04: (Another Simple Dialog)

```
CLS
SET VAR vResponse TEXT = NULL
SET VAR vEndKey TEXT = NULL
DIALOG 'DIALOG Message Here ...' vResponse=26 vEndKey 1 +
CAPTION 'DIALOG Caption Here ...' ICON APPS +
OPTION TITLE_FONT_COLOR GREEN +
|TITLE_BACK_COLOR WHITE +
|TITLE_FONT_NAME ARIAL +
|TITLE_BOLD OFF +
|WINDOW_BACK_COLOR WHITE +
|BUTTON_YES_CAPTION &Continue +
|BUTTON_NO_CAPTION C&ancel +
|BUTTON_YES_COLOR WHITE +
|BUTTON_NO_COLOR WHITE +
|BUTTON_YES_FONT_COLOR GREEN +
|BUTTON_NO_FONT_COLOR RED
```

Example 05:

```
CLS
SET VAR vResponse TEXT = NULL
SET VAR vEndKey TEXT = NULL
DIALOG 'DIALOG Message Here ...' vResponse=26 vEndKey 1 +
CAPTION 'DIALOG Caption Here ...' ICON APPS +
OPTION TITLE_FONT_COLOR GREEN +
|TITLE_BACK_COLOR WHITE +
|TITLE_FONT_NAME ARIAL +
|TITLE_BOLD OFF +
|WINDOW_BACK_COLOR WHITE +
|BUTTON_OK_CAPTION &Continue +
|BUTTON_CANCEL_CAPTION C&ancel +
|BUTTON_YES_COLOR WHITE +
|BUTTON_NO_COLOR WHITE +
|BUTTON_YES_FONT_COLOR GREEN +
|BUTTON_NO_FONT_COLOR RED +
|BUTTONS_SHOW_GLYPH ON
```

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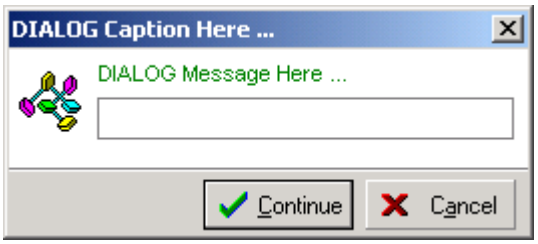

Example 06:

```
CLS
DIALOG 'DIALOG Message Here ...' vResponse=26 vEndKey 1 +
CAPTION 'DIALOG Caption Here ...' ICON APPS +
OPTION TITLE_FONT_COLOR GREEN +
|TITLE_BACK_COLOR WHITE +
|TITLE_FONT_NAME ARIAL +
|TITLE_BOLD OFF +
|WINDOW_BACK_COLOR WHITE +
|BUTTON_OK_CAPTION &Continue +
|BUTTON_CANCEL_CAPTION C&ancel +
|BUTTONS_BACK_COLOR WHITE +
|BUTTON_FONT_COLOR GREEN
```

Example 07: (Small Caption Window)

```
CLS
DIALOG 'DIALOG Message Here ...' vResponse=26 vEndKey 1 +
CAPTION 'DIALOG Caption Here ...' ICON APPS +
OPTION TITLE_FONT_COLOR GREEN +
|WINDOW_CAPTION SMALL +
|TITLE_BACK_COLOR WHITE +
|TITLE_FONT_NAME ARIAL +
|TITLE_BOLD OFF +
|WINDOW_BACK_COLOR WHITE +
|BUTTON_OK_CAPTION &Continue +
|BUTTON_CANCEL_CAPTION C&ancel +
|BUTTONS_BACK_COLOR WHITE +
|BUTTON_FONT_COLOR GREEN
```

Example 08: (No Caption Window)

```
CLS
DIALOG 'DIALOG Message Here ...' vResponse=26 vEndKey 1 +
CAPTION 'DIALOG Caption Here ...' ICON APPS +
```

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```
OPTION TITLE_FONT_COLOR GREEN +
|WINDOW_CAPTION OFF +
|TITLE_BACK_COLOR WHITE +
|TITLE_FONT_NAME ARIAL +
|TITLE_BOLD OFF +
|WINDOW_BACK_COLOR WHITE +
|BUTTON_OK_CAPTION &Continue +
|BUTTON_CANCEL_CAPTION C&ancel +
|BUTTONS_BACK_COLOR WHITE +
|BUTTON_FONT_COLOR GREEN
```

Example 09: Dialog window using themes

```
DIALOG 'DIALOG Message Here ...' vResponse=26 vEndKey 1 CAPTION 'DIALOG Caption Here
...' ICON APPS OPTION themename longhorn
```

1.5.9.1 ||format

To use EditMask feature in DIALOG, you must start the text string with || (double pipe character). The edit mask string consists of three fields with semicolons separating them. The **first part** of the mask is the mask itself. The **second part** is the character that determines whether the literal characters of the mask are matched to characters in the Value parameter or are inserted into the Value string. The **third part** of the mask is the character used to represent missing characters in the mask.

These are the special characters used in the **first part** of the mask:

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Character	Meaning in mask
!	If a ! character appears in the mask, optional characters are represented in the returned string as leading blanks. If a ! character is not present, optional characters are represented in the returned string as trailing blanks.
>	If a > character appears in the mask, all characters that follow are in uppercase until the end of the mask or until a < character is encountered.
<	If a < character appears in the mask, all characters that follow are in lowercase until the end of the mask or until a > character is encountered.
<>	If these two characters appear together in a mask, no case checking is done and the data is formatted with the case present in the Value parameter.
\	The character that follows a \ character is a literal character. Use this character to use any of the mask special characters as a literal.
L	The L character requires an alphabetic character only in this position. For the US, this is A_Z, a_z.
|	The l character permits only an alphabetic character in this position, but doesn't require it.
A	The A character requires an alphanumeric character only in this position. For the US, this is A_Z, a_z, 0_9.
a	The a character permits an alphanumeric character in this position, but doesn't require it.
C	The C character requires an arbitrary character in this position.
c	The c character permits an arbitrary character in this position, but doesn't require it.
0	The 0 character requires a numeric character only in this position.
9	The 9 character permits a numeric character in this position, but doesn't require it.
#	The # character permits a numeric character or a plus or minus sign in this position, but doesn't require it.
:	The : character is used to separate hours, minutes, and seconds in times. If the character that separates hours, minutes, and seconds is different in the regional settings of the Control Panel, that character is substituted in the returned string.
/	The / character is used to separate months, days, and years in dates. If the character that separates months, days, and years is different in the regional settings of the Control Panel, that character is substituted in the returned string.
;	The ; character is used to separate the three fields of the mask.
_	The _ character automatically inserts spaces into the returned string.

Any character that does not appear in the preceding table can appear in the first part of the mask as a literal character. Literal characters are inserted automatically if the second field of the mask is 0, or matched to characters in the Value parameter if the second field is any other value. The special mask characters can also appear as literal characters if preceded by a backslash character (\).

The **second part** of the mask is a single character that indicates whether literal characters from the mask are included in the Value parameter. For example, the mask for a telephone number with area code could be the following string:

(000)_000_0000;0;*

The 0 in the second field indicates that the Value parameter should consist of the 10 digits of the phone number, rather than the 14 characters that make up the final formatted string.

A 0 in the second field indicates that literals are inserted into the Value string, any other character indicates that they should be included.

The **third part** of the mask is the character that appears in the returned string for blanks (characters that do not appear in Value). By default, this is the same as the character that stands for literal spaces. The two characters appear the same in the DIALOG. However, when a user edits the text in a masked edit control, the cursor selects each blank character in turn, and skips over the space character.

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Note:

When working with multibyte character sets, such as Japanese Shift_JIS, each special mask character represents a single byte. To specify double_byte characters using the L,l,A,a,C, or c specifiers, the mask characters must be doubled as well. For example, LL would represent two single_byte alphabetic characters or a one double_byte character. Only single_byte literal characters are supported.

Typical Field Formats by Country:

United States	
Phone	| 4155551212 | !\(999\)000_0000;1;_
Extension	| 15450 | !99999;1;_
Social Security No	| 555555555 | 000_00_0000;1;_
Short Zip Code	| 90504 | 00000;1;_
Long Zip Code	| 905040000 | 00000_9999;1;_
Date	| 062794 | !99/99/00;1;_
Long Time	| 090515PM | !90:00:00>LL;1;_
Short Time	| 1345 | !90:00;1;_

United Kingdom	
Phone	| 1714561234 | !\00009 0000099;1;_
Extension	| 15450 | !99999;1;_
Postcode	| WT3114TA | >AAAa aaaa;1;_
Short Postcode	| EC12 | >AAAa;1;_
National Insurance	| GM134152A | !>AA000000A;1;_
Date	| 270195 | !90/90/00;1;_
Long Time	| 090515PM | !90:00:00>LL;1;_
Short Time	| 1345 | !90:00;1;_

Taiwan	
Zip Code	| 107 | 000;1;_
Organization No	| 86692741 | 00000000;1;_
Social Security No	| A324534422 | L000000000;1;_
ROC Date	| 00850930 | !9990.00.00;1;_
Date	| 100196 | 00/00/00;1;_
Phone	| 03532455768 | \(999\)9000_0000;1;_
Mobile Phone	| 090789879 |000_000000;1;_
Pager	| 060345678 |000_000000;1;_

Sweden	
Social Security No	| 6011012110 | 000000_0000;1;_
Organization Number	| 6011012110 | 000000_0000;1;_
Zip Code	| 64700 | 000 00;1;_
Date	| 950223 | !00/00/00;1;_
Long Date	| 19950223 | !0000/00/00;1;_
Long Time	| 210515 | !90:00:00;1;_
Short Time	| 1345 | !90:00;1;_

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Spain	
Phone	| 4155551212 | !\(999\)0000000;1;_
Social Security No	| 123456789123456 | 0000000000000;1;_
Zip Code	| 90504 | 00000;1;_
Date	| 250895 | !99/99/00;1;_
Long Time	| 210515 | !90:00:00;1;_
Short Time	| 1345 | !90:00;1;_

Norway	
Phone	| 22831310 | 00 09 99 99;1;_
Social Security No	| 01016512345 | 0000000 0000;1;_
Organization Number	| 01016512345 | 0000000 0000;1;_
Zip Code	| 0250 | 0000;1;_
Date	| 170595 | 00\/00_00;1;_
Date	| 170595 | 00/00/00;1;_
Long Time	| 210515 | !90:00:00;1;_
Short Time	| 1345 | !90:00;1;_
Banking	| 12341212345 | 0000 00 00000;1;_

Netherland	
Phone	| 205405400 | !\00099_0000999;1;_
Social Security No	| 123456789 | 000000000;1;_
Zip Code	| 1234AB | 0000 >LL;1;_
Date	| 270695 | !90/90/00;1;_
Long Time	| 214515 | !90:00:00;1;_
Short Time	| 1345 | !90:00;1;_

Korea	
Phone	| 025381890 | !\(9999\)000_0000;1;_
Handphone(Beeper)	| 0005381895 | !000_000_0000;1;_
Social Security No	| 9507271234567 | 000000_0000000;1;_
Zip Code	| 135080 | 000_000;1;_
Date 1	| 950727 | 00_!90_90;1;_
Date 2	| 19950727 | !0000_!90_90;1;_
Date 3	| 950727 | 00|?!90¬•90L|;1;_
Date 4	| 19950727 | !0000|?!90¬•90L|;1;_
Long Time	| 042520PM | !90:00:00 >LL;1;_
Long Korean time	| 042520PM | !90_+00||00+| >LL;1;_
Short Time	| 1625 | !90:00;1;_
Short Korean Time	| 1625 | !90_+00||;1;_

Japan	
Phone	| 0353508393 | !099999_0999_0000;1;_
Zip Code	| 1510073 | 000_0000;1;_
Date	| 062794 | !99/99/00;1;_
Time	| 090515PM | !90:00:00>LL;1;_

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Italy	
Phone	| 0212345678 | !\(9999\) 0000 0000;1;_
Phone with Extension	| 02123456781234 | !\(9999\) 0000 0000\.9999;1;_
Local Phone	| 12345678 | !0000 0000;1;_
Company Tax #	| 00010010023 | 00000000000;1;_
Tax Payer #	| TRMDNC55P27B242Z | >LLLLLL00L00L000L;1;_
Zip Code	| 00100 | 00000;1;_
Short Date	| 130295 | !99/99/00;1;_
Long Date 1	| 130295 | !99/99/\1\900;1;_
Long Date 2	| 13Gen95 | !99 >L<LL \1\900;1;_
Long Time	| 210515 | !90:00:00;1;_
Short Time	| 1345 | !90:00;1;_

Germany	
Phone	| 06103979 | !\(999 99\) 99999;1;_
Extension	| 2010 | !_9999;1;_
Banking	| 50850150 | 000\ 000\ 00;1;_
BRD ZIP Code	| 63225 | D_00000;1;_
Intl ZIP Code	| CH50000 | >cc_99999;1;_
Date	| 301193 | !90/90/00;1;_
Short Time	| 1345 | !90:00;1;_
Long Time	| 193059 | !90:00:00;1;_

France	
Telephone	| 0299887766 | !00_00_00_00_00;1;_
Bank Card	| 5555444433332222 | !0000 0000 0000 0000;1;_
Social Security No	| 166107811122233 | !0000000000000_99;1;_
Zip Code	| 92130 | !00000;1;_
Short Date	| 2712 | !99/99;1;_
Long Date 1	| 271296 | !99/99/00;1;_
Long Date 2	| 27Déc1996 | !99 >L<LL 0000;1;_
Long Time	| 134515 | !90:00:00;1;_
Short Time	| 1345 | !90:00;1;_

Denmark	
Phone	| 48140001 | 00 09 99 99;1;_
Phone with Country	| 48140001 | \+45 00 00 00 00;1;_
Social Security No	| 1234567890 | 000000_0000;1;_
Zip Code	| 3450 | 0000;1;_
Zip Code with Country	| DK3450 | !>LL_0000;1;_
Date	| 260195 | 90\.90\.\1\900;1;_
Date	| 260195 | 90/90/00;1;_
Long Time	210515 | !90:00:00;1;_
Short Time	| 1345 | !90:00;1;_

Example 01: (Capturing Social Security Number)

```
SET VAR vSSN TEXT = NULL
CLS
DIALOG 'Enter Social Security Number||000_00_0000;0;_' +
vSSN=20 vEndKey 1 CAPTION 'Example 01' ICON APPS
```

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Example 01a: (Capturing Social Security Number)

```
SET VAR vSSN TEXT = NULL
SET VAR vMessage TEXT = 'Enter Social Security Number||000_00_0000;0;_'
SET VAR vCaption TEXT = 'Example 01a'
CLS
DIALOG .vMessage vSSN=20 vEndKey 1 CAPTION .vCaption ICON APPS
```

vSSN = 123456789 TEXT

Example 02: (Capturing Phone Number)

```
SET VAR vPhone TEXT = NULL
CLS
DIALOG 'Enter Phone Number||(000) 000_0000;0;_' +
vPhone=20 vEndKey 1 CAPTION 'Example 02' ICON HELP
```

Example 02a: (Capturing Phone Number)

```
SET VAR vPhone TEXT = NULL
SET VAR vMessage TEXT = 'Enter Phone Number||(000) 000_0000;0;_'
SET VAR vCaption TEXT = 'Example 02a'
CLS
DIALOG .vMessage vPhone=20 vEndKey 1 CAPTION .vCaption ICON HELP
```

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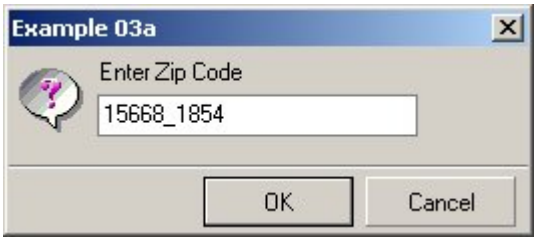
vPhone = 7247330053 TEXT

Example 03: (Capturing Zip Code)

```
SET VAR vZipCode TEXT = NULL
CLS
DIALOG 'Enter Zip Code||00000_0000;0;_' +
vZipCode=20 vEndKey 1 CAPTION 'Example 03' ICON QUESTION
```

Example 03a: (Capturing Zip Code)

```
SET VAR vZipCode TEXT = NULL
SET VAR vMessage TEXT = 'Enter Zip Code||00000_0000;0;_'
SET VAR vCaption TEXT = 'Example 03a'
CLS
DIALOG .vMessage vZipCode=20 vEndKey 1 CAPTION .vCaption ICON QUESTION
```



vZipCode = 156681854 TEXT

Example 04: (Capturing Credit Card Number)

```
SET VAR vCCNumber TEXT = NULL
CLS
DIALOG 'Enter Credit Card Number||0000_0000_0000_0000;0;_' +
vCCNumber=20 vEndKey 1 CAPTION 'Example 04' ICON WINDOWS
```

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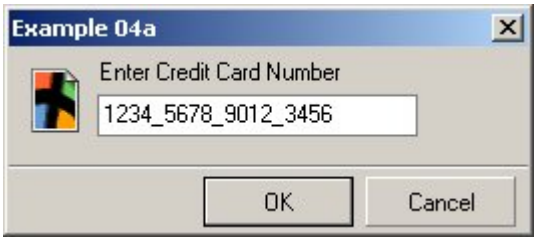
Example 04a: (Capturing Credit Card Number)

```
SET VAR vCCNumber TEXT = NULL
SET VAR vMessage TEXT = 'Enter Credit Card Number||0000_0000_0000_0000;0;_'
SET VAR vCaption TEXT = 'Example 04a'
CLS
DIALOG .vMessage vCCNumber=20 vEndKey 1 CAPTION .vCaption ICON WINDOWS
```



vCCNumber = 1234567891235666 TEXT

1.5.9.2 OPTION parameters

These parameters can be used to change the "look and feel" of DIALOG window. All parameters and values must be separated by the "|" (pipe) symbol.

1.5.9.2.1 Message

These parameters are specific to changing how the DIALOG "message" is dislayed.

MESSAGE_FONT_COLOR *value*

Changes the font color of message area. User can specify the integer value or type one of the predefined color names:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE

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- TEAL
- WHITE
- YELLOW

MESSAGE_BACK_COLOR *value*

Changes the background color of message area. User can specify the integer value or type one of the predefined color names:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- Page 15 of 28
- SKY BLUE
- TEAL
- WHITE
- YELLOW

MESSAGE_BOLD *value*

Makes font in the message area bold style. Values:

- ON
- OFF

MESSAGE_ITALIC *value*

Makes font in the message area italic style. Values:

- ON
- OFF

MESSAGE_UNDERLINE *value*

Makes font in the message area underlined. Values:

- ON
- OFF

MESSAGE_STRIKEOUT *value*

Makes font in the message area strikeout. Values:

- ON
- OFF

MESSAGE_FONT_NAME *value*

Specifies a font name in the message area.

MESSAGE_FONT_SIZE value

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Specifies a font size (Integer value) in the message area.

1.5.9.2.2 Buttons

These parameters are specific to changing how the DIALOG "buttons" are dislayed.

Since you can use a DIALOG window with an edit field using the OK and CANCEL buttons, as well as only YES and NO buttons without the edit field, there are several "Button" parameters available.

The follow parameters can be used to alter both buttons at the same time.

BUTTONS_FONT_SIZE *value*

Specifies the font size for buttons

BUTTONS_SHOW_GLYPH *value*

If ON, images are displayed on the "OK and Cancel" or "Yes and No" buttons

BUTTONS_BACK_COLOR *value*

Specifies the background color for buttons

Additional parameters are available within the subchapters of this topic to alter the button properties individually.

1.5.9.2.2.1 OK and CANCEL

These parameters are specific to changing how the DIALOG **OK and CANCEL** buttons are dislayed.

BUTTON_OK_CAPTION *value*

Specifies the text for the OK button

BUTTON_OK_FONT_COLOR *value*

Specifies the font color for OK button (color values listed below).

BUTTON_OK_BACK_COLOR *value*

Specifies the background color for OK button (color values listed below).

BUTTON_OK_COLOR *value*

Specifies the color for OK button (color values listed below).

BUTTON_OK_FONT_BOLD *value*

Specifies the bold font for OK button. Values:

- ON
- OFF

BUTTON_OK_FONT_ITALIC *value*

Specifies the italic font for OK button. Values:

- ON
- OFF

BUTTON_OK_FONT_UNDERLINE *value*

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Specifies the underline font for OK button. Values:

- ON
- OFF

BUTTON_OK_FONT_STRIKEOUT *value*

Specifies the strike out font for OK button. Values:

- ON
- OFF

BUTTON_OK_FONT_NAME *value*

Specifies the font name for OK button

BUTTON_OK_FONT_SIZE *value*

Specifies the font size for OK button

BUTTON_OK_WIDTH *value*

Specifies the OK button width in pixels

BUTTON_CANCEL_CAPTION *value*

Specifies the text for the Cancel button.

BUTTON_CANCEL_FONT_COLOR *value*

Specifies the font color for the Cancel button (color values listed below).

BUTTON_CANCEL_BACK_COLOR *value*

Specifies the background color for Cancel button (color values listed below).

BUTTON_CANCEL_COLOR *value*

Specifies the color for Cancel button (color values listed below).

BUTTON_CANCEL_FONT_BOLD *value*

Specifies the bold font for Cancel button. Values:

- ON
- OFF

BUTTON_CANCEL_FONT_ITALIC *value*

Specifies the italic font for Cancel button. Values:

- ON
- OFF

BUTTON_CANCEL_FONT_UNDERLINE *value*

Specifies the underline font for Cancel button. Values:

- ON
- OFF

BUTTON_CANCEL_FONT_STRIKEOUT *value*

Specifies the strike out font for Cancel button. Values:

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- ON
- OFF

BUTTON_CANCEL_FONT_NAME *value*

Specifies the font name for Cancel button.

BUTTON_CANCEL_FONT_SIZE *value*

Specifies the font size for Cancel button.

BUTTON_CANCEL_WIDTH *value*

Specifies the Cancel button width in pixels

Available Colors:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

1.5.9.2.2.2 YES and NO

These parameters are specific to changing how the DIALOG **YES and NO** buttons are dislayed.

BUTTON_YES_BACK_COLOR *value*

Specifies the background color for YES button (color values listed below).

BUTTON_YES_CAPTION *value*

Specifies the text for the Yes button.

BUTTON_YES_FONT_SIZE *value*

Specifies the font size for Yes button.

BUTTON_YES_FONT_COLOR *value*

Specifies the font color for Yes button (color values listed below).

BUTTON_YES_COLOR *value*

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Specifies the color for Yes button (color values listed below).

BUTTON_NO_CAPTION *value*

Specifies the text for the No button.

BUTTON_NO_FONT_SIZE *value*

Specifies the font size for No button.

BUTTON_NO_FONT_COLOR *value*

Specifies the font color for No button (color values listed below).

BUTTON_NO_COLOR *value*

Specifies the color for No button (color values listed below).

BUTTON_NO_BACK_COLOR *value*

Specifies the background color for NO button (color values listed below).

Available Colors:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

1.5.9.2.3 Window

These parameters are specific to changing how the DIALOG "window" is dislayed.

ICON_FILE *value*

Specifies the external path and image name for the icon (file size must be 16x16 pixels).

WINDOW_CAPTION *value*

To customize the window caption. Supported values:

- OFF - makes window caption invisible
- SMALL - makes window caption small (tool window)

WINDOW_BACK_COLOR *value*

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To change the background color of window area. User can specify the integer value or type one of the predefined color names:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

TRANSPARENCY *value*

Set the transparency to specify a layered window with a translucent color. The transparency value specifies the degree of translucency. Values:

0 - 255

THEMENAME *value*

Specifies a theme for the entire DIALOG window. Values:

- Deep Cyan
- Deep Green
- Deep Orange
- Diamond Blue
- Diamond Green
- Funny Theme
- Gnome
- Green Glass
- Longhorn
- Mac OS
- Matrix
- Media
- One Blue
- One Clear Blue
- One Cyan
- One Green
- One Orange
- Orange Glass
- R:BASE Rocks!
- Razzmatazz
- Real One
- Sports Black
- Sports Blue
- Sports Cyan
- Sports Green
- Sports Orange
- Steel Black
- Steel Blue

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- Win Native
- XP Blue
- XP Egypt
- XP Green
- XP Grey Scale
- XP Orange
- XP Silver

****All previously defined DIALOG commands which are redefined to use Themes should be thoroughly checked prior to putting into production as objects and text may look substantially different.**

1.5.9.2.4 Popup Menu

These parameters are specific to adding a "custom popup menu" to the the DIALOG window.

POPUP_ENABLED *value*

Enables the option of bringing up the custom pop-up menus when using the double-click. Values:

- ON
- OFF (default)

POPUP_DIALOG_TYPE *value*
Specifies the Pop-up type when double-clicking on the DIALOG box. Values:

- LOOKUP
- DATE
- TIME
- DATETIME
- CALCULATOR

DIALOG_EDIT_HINT *value*

Specifies the hint when you hover your mouse cursor over the dialog edit box, the hint is displayed. Very useful feature to provide hint, such as "Double-Click Here for a List of Customers ..."

AUTOSELECT *value*

Enables the option to select the entire value within the field. Values:

- TRUE
- FALSE

1.5.9.2.4.1 LOOKUP

These parameters are specific to adding a "LOOKUP" custom popup menu to the the DIALOG window.

POPUP_TABLE *value*

Specifies the Table/View Name for Pop-up Menus

POPUP_RETURN_COLUMN *value*

Specifies the Column Returned for Pop-up Menus

POPUP_SELECT *value*

Specifies the SELECT clause for Pop-up Menu Values. *i.e. SELECT ALL FROM Customer*

POPUP_WHERE *value*

Specifies the WHERE clause for Pop-up Menus Values. *i.e. WHERE CustState = 'PA' ORDER BY Company ASC*

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POPUP_DISTINCT *value*

Specifies the option to display Distinct Values for selected columns for Pop-up Menus. Values:

- TRUE
- FALSE

POPUP_RETURN_TYPE *value*
Specifies the option to return either the selected item in Pop-up Menu or the value of Popup Return Column. Values:

- VALUE
- COLUMN

POPUP_CAPTION *value*

Specifies the text for custom pop-up windows caption.

POPUP_TITLE_FONT_NAME *value*

Specifies the font name for custom pop-up title.

POPUP_TITLE_FONT_SIZE *value*

Specifies the font size for custom pop-up title.

POPUP_TITLE_FONT_COLOR *value*

Specifies the font color for custom pop-up title.

POPUP_TITLE_FONT_BOLD *value*

Specifies the bold font for custom pop-up title. Values:

- ON
- OFF

POPUP_TITLE_FONT_ITALIC *value*

Specifies the italic font for custom pop-up title. Values:

- ON
- OFF

POPUP_TITLE_FONT_UNDERLINE *value*

Specifies the underline font for custom pop-up title. Values:

- ON
- OFF

POPUP_TITLE_FONT_STRIKEOUT *value*

Specifies the strike out font for custom pop-up title. Values:

- ON
- OFF

POPUP_TITLE_TEXT *value*

Specifies the text for custom pop-up title.

POPUP_TITLE_BACK_COLOR *value*

Specifies the background color for custom pop-up title.

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POPUP_LIST_FONT_NAME *value*

Specifies the font name for custom pop-up list items.

POPUP_LIST_FONT_SIZE *value*

Specifies the font size for custom pop-up list items.

POPUP_LIST_FONT_COLOR *value*

Specifies the font color for custom pop-up list items.

POPUP_LIST_FONT_BOLD *value*

Specifies the bold font for custom pop-up list items. Values:

- ON
- OFF

POPUP_LIST_FONT_ITALIC *value*

Specifies the italic font for custom pop-up list items. Values:

- ON
- OFF

POPUP_LIST_FONT_UNDERLINE *value*
Specifies the underline font for custom pop-up list items. Values:

- ON
- OFF

POPUP_LIST_FONT_STRIKEOUT *value*

Specifies the strike out font for custom pop-up list items. Values:

- ON
- OFF

POPUP_LIST_BACK_COLOR *value*

Specifies the background color for custom pop-up list items.

MULTISELECT *value*

Enables the option to select the multiple values within a POPUP. Values:

- TRUE
- FALSE

POPUP_LINES *value*

Specifies the number of visible lines to be displayed for list items

POPUP_SHOW_LINES *value*

Specifies the option to Show Lines between selected columns for Pop-up Menus. Values:

- TRUE
- FALSE

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1.5.9.2.4.2 DATE

These parameters are specific to adding a "DATE" custom popup menu to the the DIALOG window.

POPUP_CALENDAR_BACK_COLOR *value*

Specifies the background color of the calendar when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_DAYS_COLOR *value*

Specifies the color of the calendar days when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_FILLDAYS_COLOR *value*

Specifies the color of the calendar fill days when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_DAYSOFWEEK_COLOR *value*

Specifies the color of the calendar days of week when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_LINES_COLOR *value*

Specifies the color of the calendar lines when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_SELBACK_COLOR *value*

Specifies the color of the selected date background when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_SELFORE_COLOR *value*

Specifies the color of the selected date foreground when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_TODAYFRAME_COLOR *value*

Specifies the color of today's frame when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

1.5.9.2.4.3 TIME

These parameters are specific to adding a "TIME" custom popup menu to the the DIALOG window.

POPUP_CLOCK_BACK_COLOR *value*

Specifies the background color of the clock when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_FACE_COLOR *value*

Specifies the face color of the clock when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_HANDS_COLOR *value*

Specifies the color of the clock's hands when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_NUMBERS_COLOR *value*

Specifies the color of the clock's numbers when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_HOURTICKS_COLOR *value*

Specifies the color of the clock's hour ticks when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_MINUTETICKS_COLOR *value*

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Specifies the color of the clock's minute ticks when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

1.5.9.2.4.4 DATETIME

These parameters are specific to adding a "DATETIME" custom popup menu to the the DIALOG window.

POPUP_CALENDAR_BACK_COLOR *value*

Specifies the background color of the calendar when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_DAYS_COLOR *value*

Specifies the color of the calendar days when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_FILLDAYS_COLOR *value*

Specifies the color of the calendar fill days when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_DAYSOFWEEK_COLOR *value*

Specifies the color of the calendar days of week when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_LINES_COLOR *value*

Specifies the color of the calendar lines when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_SELBACK_COLOR *value*

Specifies the color of the selected date background when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_SELFORE_COLOR *value*

Specifies the color of the selected date foreground when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CALENDAR_TODAYFRAME_COLOR *value*

Specifies the color of today's frame when POPUP_DIALOG_TYPE is specified as DATE or DATETIME.

POPUP_CLOCK_BACK_COLOR *value*

Specifies the background color of the clock when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_FACE_COLOR *value*

Specifies the face color of the clock when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_HANDS_COLOR *value*

Specifies the color of the clock's hands when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_NUMBERS_COLOR *value*

Specifies the color of the clock's numbers when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_HOURTICKS_COLOR *value*

Specifies the color of the clock's hour ticks when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

POPUP_CLOCK_MINUTETICKS_COLOR *value*

Specifies the color of the clock's minute ticks when POPUP_DIALOG_TYPE is specified as TIME or DATETIME.

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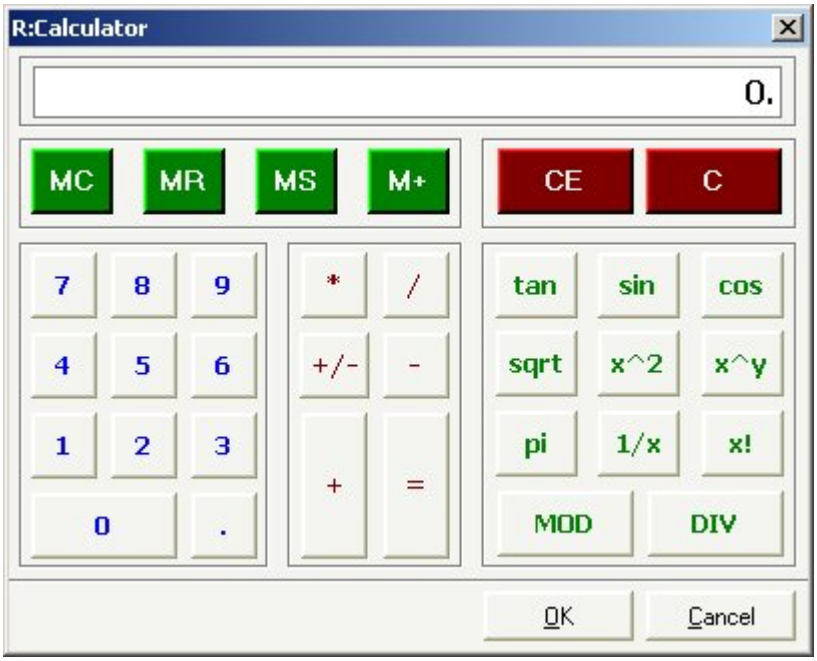
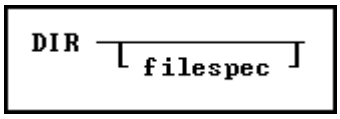
1.5.9.2.4.5 CALCULATOR

When this parameter is specific a "CALCULATOR" popup will appear for the the DIALOG window.



1.5.10 DIR

Use the DIR command to list the files in a directory.



Option

filespec
Specifies a filename, including the drive or directory. Wildcards can be used.

About the DIR Command

This command is similar to the operating system DIR command. The R:BASE DIR command pauses at the end of each full screen of information. This command does not support the wide-display (/W) or pause (/P) switches of the operating system DIR command.

If you specify a file name, R:BASE displays information for that file only. You can use an operating system wildcard character (question mark (?) or asterisk (*)) to display a group of files.

DIR lists the disk's volume label and serial number, followed followed by a list of directories and files on the disk. File information includes the file date, time, size in bytes, and name. DIR also displays the number of files (with their total bytes) and directories listed and the total bytes available on the disk. Subdirectory names, if any, are indicated with <DIR>.

Use DIR to test a file specification that uses a wildcard before using the COPY, RENAME, or ERASE commands. If the directory or disk is empty, or if the specified file(s) is not in the directory, DIR displays:

```
File not found.
```

The DIR command supports long (over 80 character) strings, and long strings with spaces.

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SET SHORTNAME
If you prefer the traditional format of diplaying the directory contents, where the file names are listed first with the short names displayed, you can do so with the SET SHORTNAME parameter. With SHORTNAME SET ON, DIR lists the file name, extension, size in bytes, and the date and time files were last modified. DIR also displays the number of files listed and bytes available on disk. Subdirectory names, if any, are indicated with <DIR>.

Examples

Example 1:

The following command could be used to review the Help files you have placed in your R:BASE program directory (your results may vary). The display uses SHORTNAME set to OFF.

```
R>DIR *.CHM

 Volume in drive C is ACER
 Volume Serial Number is F43A-E9A3

 Directory of C:\RBTI\RBG8\

05/14/2008  12:02 AM           2,544,918 Applications.chm
05/14/2008  12:01 AM             149,699 Codelock.chm
06/13/2008  04:34 PM             655,880 DataBrowseEdit.chm
05/13/2008  11:57 PM             960,100 DBExplorer.chm
06/19/2008  06:37 AM           3,602,275 EForms.chm
06/19/2008  06:35 AM           7,860,989 Forms.chm
05/14/2008  12:03 AM           5,099,517 Gateway.chm
06/19/2008  06:35 AM             698,008 Labels.chm
12/07/2007  06:02 PM             829,028 PluginPowerPack.chm
05/14/2008  12:05 AM           1,159,139 QBE.chm
02/19/2008  04:27 PM             289,839 RArchive.chm
05/14/2008  12:00 AM             470,249 RBDefine.chm
06/13/2008  04:34 PM             560,594 RBEdit.chm
06/19/2008  04:44 PM           5,875,651 RBG8.chm
05/26/2008  02:42 PM             618,075 RBZip.chm
05/16/2008  08:52 AM              54,558 RDWFViewer.chm
06/19/2008  06:38 AM             956,389 Reports.chm
11/06/2007  09:53 AM              86,373 RFTPClient80.chm
04/11/2008  10:13 AM             207,788 RMail30.chm
05/14/2008  12:05 AM             120,572 RPrompt.chm
11/20/2007  03:51 PM             583,616 RSpellChecker80.chm
05/16/2008  09:46 AM             178,341 RZip.chm
05/30/2008  04:28 PM             190,983 Trace.chm
06/13/2008  04:36 PM           3,498,551 Tutorial.chm
          24 File(s)         37,251,132 bytes
           0 Dir(s)      54,854,406,144 bytes free
```

Example 2:

The following command could be used to review the Help files you have placed in your R:BASE program directory (your results may vary). The display uses SHORTNAME set to ON.

```
R>dir *.CHM

 Volume in drive C is ACER
 Directory of C:\RBTI\RBG8\

APPLIC~1 CHM    2544918   5-14-08  12:02a Applications.chm
Codelock chm     149699   5-14-08  12:01a Codelock.chm
DATABR~1 CHM     655880   6-13-08   4:34p DataBrowseEdit.chm
DBEXPL~1 CHM     960100   5-13-08  11:57p DBExplorer.chm
EForms   chm    3602275   6-19-08   6:37a EForms.chm
Forms    chm    7860989   6-19-08   6:35a Forms.chm
Gateway  chm    5099517   5-14-08  12:03a Gateway.chm
Labels   chm     698008   6-19-08   6:35a Labels.chm
```

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```
PLUGIN~1 CHM     829028  12-07-07   6:02p PluginPowerPack.chm
QBE      chm    1159139   5-14-08  12:05a QBE.chm
RArchive chm     289839   2-19-08   4:27p RArchive.chm
RBDefine chm     470249   5-14-08  12:00a RBDefine.chm
RBEdit   chm     560594   6-13-08   4:34p RBEdit.chm
RBG8     chm    5875651   6-19-08   4:44p RBG8.chm
RBZip    chm     618075   5-26-08   2:42p RBZip.chm
RDWFVI~1 CHM      54558   5-16-08   8:52a RDWFViewer.chm
Reports  chm     956389   6-19-08   6:38a Reports.chm
RFTPCL~1 CHM      86373  11-06-07   9:53a RFTPClient80.chm
RMail30  chm     207788   4-11-08  10:13a RMail30.chm
RPrompt  chm     120572   5-14-08  12:05a RPrompt.chm
RSPELL~1 CHM     583616  11-20-07   3:51p RSpellChecker80.chm
RZip     chm     178341   5-16-08   9:46a RZip.chm
Trace    chm     190983   5-30-08   4:28p Trace.chm
Tutorial chm    3498551   6-13-08   4:36p Tutorial.chm
          24 File(s)        37251132 bytes
          24 Dir(s)      54854406144 bytes free
```

1.5.11 DISCONNECT

Use the DISCONNECT command to write any modifications of the currently open database to disk, then close the database.

About the DISCONNECT Command

Use the DISCONNECT command before copying database files, or when you want to leave the open database without opening another database. If you keep your database on a floppy disk, use DISCONNECT to close the database before you remove the floppy disk.

The CONNECT and EXIT commands also close an open database. For more information about these commands, see the "CONNECT" and "EXIT" entries.

If transaction processing is on when you execute DISCONNECT, R:BASE COMMITs (saves) any open transactions.

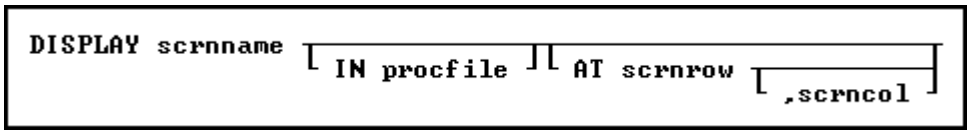
Example

The following command closes an open database:

```
DISCONNECT
```

1.5.12 DISPLAY

Use the DISPLAY command to display up to 24 lines of text that is stored in a screen file. The DISPLAY command is ONLY supported in R:BASE for DOS.



Options

AT scrnrow
Specifies the top line of the display (1-24).

IN procfile
Refers to a procedure file processed through CodeLock.

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,scrncol
Specifies the column of the upper-left corner of the display (1-80).

scrnname
Refers to a screen block stored in a procedure file or to any disk file whose contents are to be displayed.

About the DISPLAY Command

A screen file can be a procedure, ASCII, or snapshot file.

To produce a screen file that you can display with the DISPLAY command, use any of the following methods:

- The **Tools: Text Editor** menu option in R:BASE for Windows.
- A word processor that creates ASCII files.
- The SNAP command.

When you use the SNAP command, the snapshot file contains two screen attributes- colors and reverse video. DISPLAY interprets screen attributes stored in the snapshot file so the screen appears exactly the same as when the snapshot was taken.

When you use the **Take a Snapshot** option from the **Utilities** menu in R:BASE for Windows, the current screen is captured in bitmap form in the Windows Clipboard Viewer. This bitmap file cannot be used by the DISPLAY command.

When you display text from either an ASCII or snapshot file, the *scrname*option refers to the name of the screen file. R:BASE displays the entire contents of the screen file, which could look like the following lines.

```
This is the first line that displays on the screen
You can display up to 24 lines of text
```

When you display text that is stored in a procedure file created by CodeLock, you must use the IN *procfile* option. In this case, *scrnname* refers to a screen block in the procedure file. A screen block in a procedure file looks similar to following lines. The word $SCREEN on the first line identifies the block of text as a screen block. The second line contains the screen block name. Supply a drive letter if the screen file is not stored on the default drive, and a path if it is not in the current directory.

```
$SCREEN
scrnname
This is the first line that displays on the screen
You can display up to 24 lines of text.
```

Examples

The following command displays the screen named *screen1* in the procedure file MYPROC.APX on drive B:.

```
DISPLAY screen1 IN b:myproc.apx
```

In the following example, the first command line sets variable *v1*to a TEXT data type for text entry. The second command line displays the text that is stored in a screen file named MAINMENU in the current directory on the default drive. The third command line writes a user prompt starting at row 16, column 20 on screen. It accepts a single character as a response from the user.

```
SET VARIABLE v1 TEXT
DISPLAY mainmenu
FILLIN v1=0 USING 'Enter a letter (A-F)' AT 16,20
```

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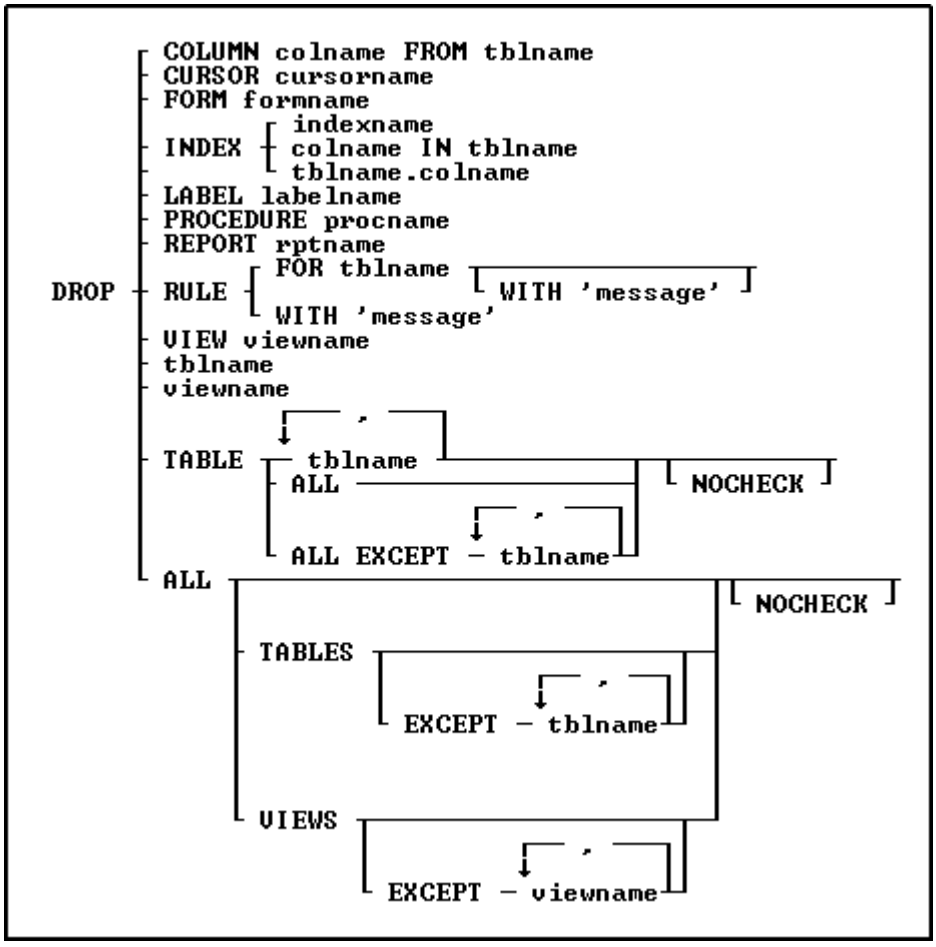
1.5.13 DROP

Use the DROP command to remove the specified item from the database.



Options

,
Indicates that this part of the command is repeatable.

ALL
Removes all tables from the database.

ALL EXCEPT tblname
Removes all tables from the database except the table(s) listed.

ALL EXCEPT viewname
Removes all views from the database except the view(s) listed.

colname IN tblname
Removes the index from the specified column in the specified table.

COLUMN colname FROM tblname
Removes a column's structure and data from the specified table.

CURSOR cursor
Removes the specified cursor. The DROP CURSOR command removes a cursor definition from memory, therefore freeing memory.

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Cursors are dropped when you use the CONNECT command to open another database, or the DISCONNECT command to close the database.

FOR tblname
Removes the rule from the specified table for the specified table.

FORM formname
Removes the specified form.

INDEX
Removes the index from the column in the specified table.

indexname
Removes a named index.

LABEL labelname
Removes the specified label.

NOCHECK
Eliminates the confirmation message.

PROCEDURE procname
Removes the specified stored procedure from the database.

REPORT rptname
Removes the specified report.

RULE
Removes the specified rule.

TABLE
Removes the specified table.

tblname
Specifies the table name to be removed.

tblname.colname
Removes the index from the specified column in the specified table.

VIEW viewname
Removes the specified view.

viewname
Specifies the view name to be removed.

WITH 'message'
Removes the specified rule from all tables to which it applies. Omitting the WITH *'message'* option removes all rules.

About the DROP Command

The table below lists guidelines for using the DROP command.

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When you drop...	You must...
A column used in the definition of a computed column	Remove the computed column first.
A column used in a form, report, or label	Delete the column from the form, report, or label definition.
A column used in a rule	Delete the rule for that column in any table from which you removed the column.
A form, report, label, table, or view used in an application	Revise your application to reflect the changes in the database after dropping the form, report, or label.
A view or table used in a form report or label	Delete the form, report, or label from the database after dropping the form, report, or label.
A column or table used in a view	Delete the view from the database.
A table that has rules	Delete the rule with DROP if the table you are dropping is used in the WHERE clause of a rule definition. For example, a table name is used in a WHERE clause of a rule definition when a rule is used to verify a value in one table against values in another table.

R:BASE deletes the rules if the table is the table on which the rules are based.

After running the DROP command, the database item is gone, but the disk space the item occupied is not available. To recover that space, use the PACK or RELOAD commands.

You can rebuild a dropped index using CREATE INDEX.

When STATICDB is set on-which actives a read-only schema mode-DROP is unavailable. For more information, see the "SET STATICDB" entry.

Database Access Rights with DROP

The DROP command requires that you enter the database owner's user identifier if a user identifier has been assigned with the GRANT command. However, if a user has CREATE or ALTER access rights, that user can use the DROP command to drop tables or any columns in tables to which the user has rights.

Removing Rules with DROP RULE
Before you remove a rule with the DROP RULE command, enter a SELECT command to verify that you would be removing the correct rule from the correct table(s). Use the conditions in a WHERE clause to enter the exact message and any table names that you plan to use in the DROP command. Once you have verified that the message would remove the correct rules, proceed with the DROP RULES command. For example, to verify that a DROP command with the message "Model number must be unique" would remove only the rules you want to remove, enter the following SELECT command. R:BASE would display all the rules for all the tables in the database to which this message applies.

```
SELECT * FROM SYS_RULES WHERE SYS_MESSAGE = 'Model number must be unique'
```

Examples

The following command removes the *empext* column from the *employee* table.

```
DROP COLUMN empext FROM employee
```

The following two command lines show alternative ways to remove the index from the *custid* column in the *transmaster* table.

```
DROP INDEX custid IN transmaster
DROP INDEX transmaster.custid
```

The following command removes from the database all rules with the message 'Model number must be unique.'

```
DROP RULE WITH 'Model number must be unique'
```

The following command removes any rule from the *product* table that starts with the message 'Model number.'

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You can use the wildcard character for MANY (%) in a message.

```
DROP RULE FOR product WITH 'Model number%'
```

The following command removes the cursor named *cursor1* from memory.

```
DROP CURSOR cursor1
```

1.5.14 DUPROW

Use the DUPROW command to duplicate the current row of data currently being edited or entered in a form.

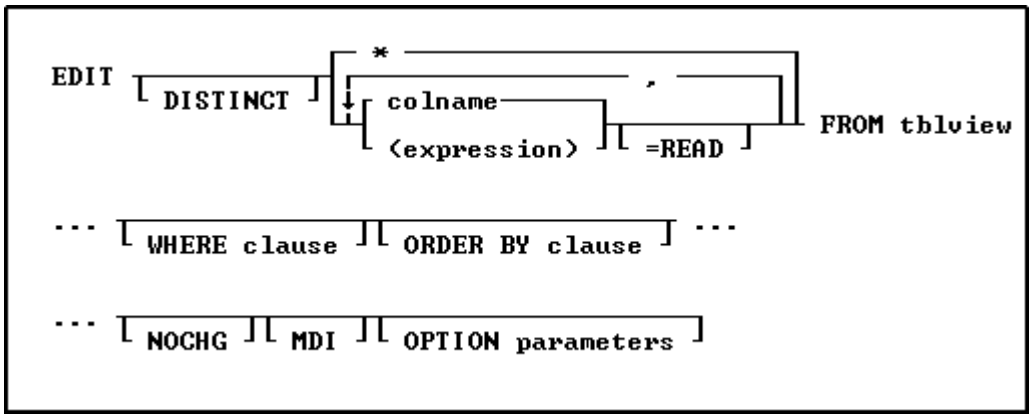
About the DUPROW Command

Use the DUPROW command to duplicate the current row of data currently being edited or entered in a form.

1.6 E

1.6.1 EDIT

Use the EDIT command to change data.



Options

DISTINCT
Suppresses the display of duplicate rows. If you specify DISTINCT, you cannot change the data that is displayed.

*****
Specifies all columns.

,
Indicates that this part of the command is repeatable.

colname
Specifies a 1 to 18 character column name.

<**expression>**
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

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=READ
Specifies that the column is read-only, preventing changes to data.

FROM tbleview
Specifies the table.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

ORDER BY clause
Sorts rows of data. For more information, see the "ORDER BY" entry.

MDI
Specifies a modeless edit window-a modeless edit window allows you to access other windows without closing the edit window first.

OPTION parameters - provides the ability customize the Data Editor Window. These enhanced parameters are supported at the R> Prompt, in command files, EEPs and Stored Procedures.

WINDOW_STATE *value*

To setup Data Editor window state with the following supported values:

MAXIMIZED - show maximized
NORMAL - show normalized
MINIMIZED - show minimized

CAPTION *value*

To change Data Editor window caption.

LOCK *nnn*

To lock a number of columns in Data Editor window.

ROWVIEW

To open Data Editor window in "View as Row" mode.

READONLY *value*

To open Data Editor window in Read-Only mode. (Default is OFF)

- ON
- OFF

MODAL *value*

To open Data Editor as modal/non-modal window. (Default is ON)

- ON
- OFF

EXPORTRESULT *value*

To enable/disable the "Export Result to->" menu item. (Default is ON)

- ON
- OFF

SAVERESULT *value*

To enable/disable the "Save Data As->" menu item. (Default is ON)

- ON
- OFF

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PRINTDATA *value*

To enable/disable the "Print Data" menu item. (Default is ON)

- ON
- OFF

About the EDIT Command

The EDIT command starts the Data Editor and displays the data you specify. In a multi-user environment, R:BASE checks whether the row of data you are editing has been changed by another user and notifies you if it has - this is called concurrency control.

You can use the EDIT command to modify data when the following conditions are met:

- You have not used the DISTINCT option in the command.
- You have rights to change the data in the specified table. Access rights are assigned with the GRANT command.

Notes:

- The EDIT command will display the data within a multi-table View (a View based on multiple tables), but the data will not be editable.
- A View with a GROUP BY parameter is also not editable.

Examples

Example 01:

The following command displays all columns in the *transmaster*table and orders the rows by the customer identification numbers contained in the *custid* column.

```
EDIT * FROM transmaster ORDER BY custid
```

Example 02:

The command below displays the following columns from the *customer*table: *custid*, *company*, *custaddress*, *custcity*, *coststate*, and *custzip*. The only rows that are displayed are rows that have 100 for a customer identification. The *custid* and *company*columns are specified to be read-only and cannot be edited. The command specifies that the display of the *company* column is to be ten characters wide.

```
EDIT custid=READ, company=10=READ, custaddress, custcity, +
coststate, custzip FROM customer WHERE custid = 100
```

Example 03:

The following command open all records for the Customer table with a maximized Data Editor window and "Customer Data" as the caption.

```
EDIT ALL FROM customer OPTION WINDOW_STATE MAXIMIZED|CAPTION Customer Data
```

Example 04:

The following will start the Data Editor for *custid* 125, displaying the data as a single row in read only mode.

```
EDIT ALL FROM customer WHERE custid = 125 OPTION WINDOW_STATE
             NORMAL|ROWVIEW|READONLY ON
```

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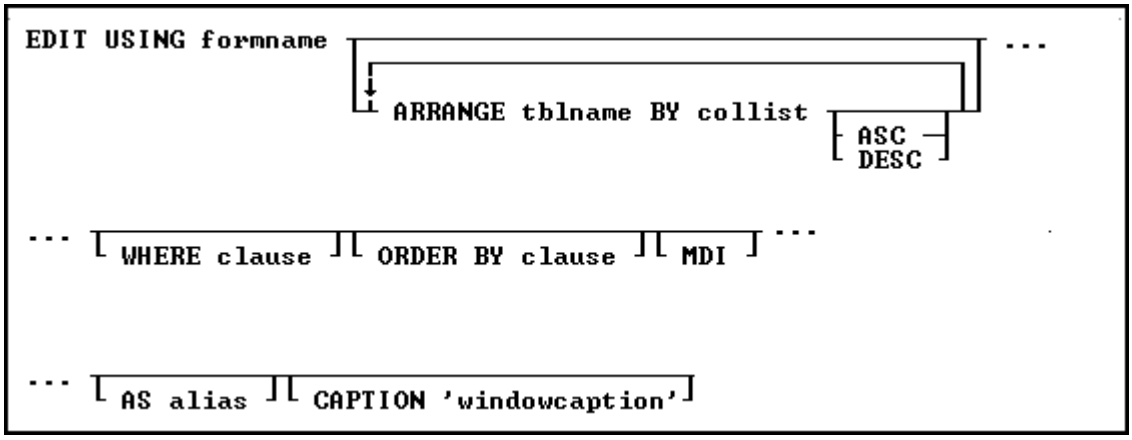
1.6.2 EDIT USING

Use the EDIT USING command to display a form with which to view, add, change, or delete data.



Options

formname
Specifies a 1 to 18 character form name.

ARRANGE tblname BY collist
Sorts the rows displayed by a form's lower-level tables. Each lower-level table in the form that you want to sort requires its own ARRANGE clause. Now you can specify up to twenty-five tables to ARRANGE and up to five columns in each table on which R:BASE will sort.

ASC
DESC
Specifies whether to sort a column in ascending or descending order.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

ORDER BY clause
Sorts rows of data. For more information, see the "ORDER BY" entry.

MDI
This option is used in R:BASE for Windows only; specifies a modeless form-a modeless form allows you to access other windows without closing the form first.

AS alias
This option is used in R:BASE for Windows only. Allows the user to specify a name for this instance of the form. This option is used in conjunction with the MDI option so that the user can programmatically specify the form with the SETFOCUS command.

CAPTION 'windowcaption'
This option is used in R:BASE for Windows only. Specifies a caption for the window title bar.

Example:

```
EDIT USING formname CAPTION 'Form Caption'

EDIT USING formname MDI
```

About the EDIT USING Command

The EDIT USING command displays data in a previously created form. When the form was created, the user who created the form decided which database actions could be used on the form's tables. These database actions appear on the **Forms** menu.

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In a multi-table form, the WHERE and ORDER BY clauses apply only to the first table in the form.

The EDIT USING command allows a form that includes a form called from an entry/exit procedure (EEP). The number of times a form can be invoked within another form is limited only by the amount of stack space available.

In R:BASE for Windows EDIT MDI *formname* AS *alias* can be used to start a form window that can later be accessed with a SETFOCUS command. For more information, see the "SETFOCUS" entry.

Notes:

- The EDIT USING command will display the data in a form based upon a multi-table View (a View based on multiple tables), but the data will not be editable.
- A View with a GROUP BY parameter is also not editable.

Examples

The following command displays the form named *custform* with the rows from the first table, ordered by customer identification.

```
EDIT USING CustomerEdit ORDER BY CustID
```

The command below displays the form named *custform* with the rows from the first table that have a customer identification number equal to 100.

```
EDIT USING CustomerEdit WHERE CustID = 100
```

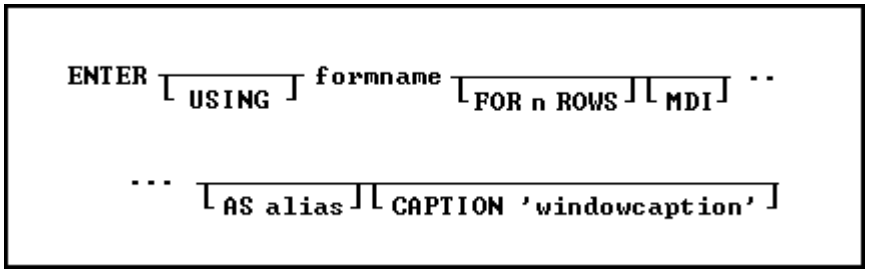
The database RRBYW8 contains a five-table form called *SalesTransactions*. The command below shows how the form's four subordinate tables, InvoiceHeader, InvoiceDetail, Employee and *Contact*, can be sorted using an ARRANGE clause. The ARRANGE clause sorts the second table, *InvoiceHeader*, by the *TransID* column, in ascending order, sorts the third table, *InvoiceDetail*, by the *DetailNum* column, in ascending order, sorts the fourth table, *Employee*, by EmpLName and EmpFName, in ascending order and the fifth table, *Contact,* by the ContLName and ContFName, in ascending order.

```
CONNECT RRBYW8

EDIT USING SalesTransactions +
ARRANGE InvoiceHeader BY TransID ASC, +
ARRANGE InvoiceDetail BY DetailNum ASC, +
ARRANGE Employee BY EmpLName ASC, EmpFName ASC,+
ARRANGE Contact BY ContLName ASC, ContFName ASC +
ORDER BY CustID
```

1.6.3 ENTER

Use the ENTER command to use a form to add information to tables.



Options

USING

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Specifies a modal form - modal means that you must close the form before you can click in another window. If you do not specify an option, a modal form is the default. In R:BASE for DOS, all forms are modal.

formname
Specifies a 1 to 18 character form name.

FOR n ROWS
Limits to *n* (an integer) the number of rows that can be entered into the form's first table during one session of data entry.

MDI
Specifies a modeless form - a modeless form allows you to access other windows without closing the form first. If you do not specify an option, a modal form is the default.

AS alias
Allows the user to specify a name for this instance of the form. This option is used in conjunction with the MDI option so that the user can programmatically specify the form with the SETFOCUS command.

CAPTION 'windowcaption'
Specifies a caption for the window title bar.

About the ENTER Command

This command displays a form for data entry. When the form was created, the creator of the form specified which database actions the user could use on the form's tables. These database actions appear on the **Forms** menu.

Notes:

- The ENTER command will not enter data in a form based upon a multi-table View (a View based on multiple tables), as the data is not editable.
- A View with a GROUP BY parameter is also not editable.

Examples

The following command displays the *tranform* form and allows you to enter one row of data to the first table served by *tranform*. You can enter as many rows of data in subsequent tables as needed for the one row entered in the first table. After you enter the specified number of rows, R:BASE returns you to the R> prompt, or the next line in the command file. Specifying the number of rows of data to enter is useful in applications that require other actions to take place after loading each entry.

```
ENTER tranform FOR 1 ROW
```

1.6.4 ERASE

Use the ERASE command to delete a file.

```
ERASE filespec
```

Options

filespec
Specifies a file name with a drive and path specification in the form D:\PATHNAME\FILENAME.EXT.

About the ERASE Command

If the file is in the current directory, you can omit its path name in the file specification.

R:BASE requires you to close a database before erasing it. ERASE is irreversible. When you use wildcards with ERASE at the R> prompt, R:BASE prompts you to press [Esc] to cancel, or [Enter] to delete the files.

Examples

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The following command erases all files in the OLDSALES directory on the current drive.

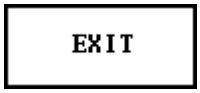
```
ERASE \oldsales\*.*
```

The following command lines close then erase the four files of the *mydb* database in the OLDDATA directory on drive E:.

```
DISCONNECT
DELETE e:\olddata\mydb.rb?
```

1.6.5 EXIT

Use the EXIT command to leave R:BASE and return to the operating system. EXIT closes an open database, releases memory taken by R:BASE, and releases file handles.



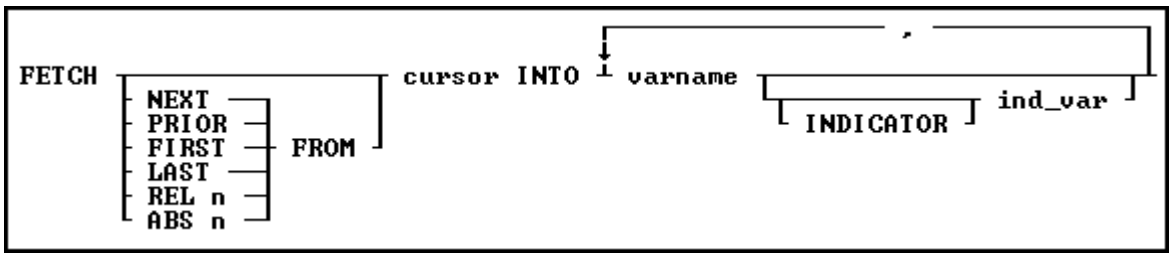
1.6.6 EXITFORM

Use the EXITFORM command to exit the current form currently being edited or entered in R:BASE for DOS. Under Windows this is equivilant to the CLOSEWINDOW command.

1.7 F

1.7.1 FETCH

Use the FETCH command to position the cursor on a row specified by the DECLARE CURSOR command, and place values from the columns into global variables.



Options

ABS n
The value *n* is the *n*th row in the cursor list. The current cursor location is not relevant. Positive numbers count from the first row in the list. Negative numbers force an end-of-data condition. This option applies only to scrolling cursors, which are defined with the DECLARE CURSOR command.

cursor INTO
Names the cursor from which to fetch data into the specified variable list.

FIRST
Specifies the first row in the cursor list. This option applies only to scrolling cursors, which are defined with the DECLARE CURSOR command.

INDICATOR ind_var
Stores the status of the variable: non-null (0) or null (-1).

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LAST
Specifies the last row in the cursor list. This option applies only to scrolling cursors, which are defined with the DECLARE CURSOR command.

NEXT
Specifies the next entry the cursor points to. This option applies only to scrolling cursors, which are defined with the DECLARE CURSOR command.

PRIOR
Specifies the prior entry the cursor points to. This option applies only to scrolling cursors, which are defined with the DECLARE CURSOR command.

REL n
Moves the cursor *n* rows. Positive integers move forward, and negative integers move backwards. For example, if *n* is 5, the cursor moves forward 5 rows. This option applies only to scrolling cursors, which are defined with the DECLARE CURSOR command.

varname
Specifies a 1 to 18 character variable name, which must be unique among the variable names within the database.

About the FETCH Command

FETCH moves the cursor to the next available row referred to by the DECLARE CURSOR command and also accommodates scrollable cursors specified by DECLARE CURSOR. FETCH retrieves the values of columns in the order in which the columns were specified by DECLARE CURSOR. The LIST CURSORS command lists all the defined cursors.

FETCH *cursorname* without any variable specification will retrieve the next row from the cursor. Use the SET VAR *varname*WHERE CURRENT OF *cursor* to retrieve the columns you need.

Using the Sqlcode Variable

You must check the *sqlcode* variable with each use of FETCH to verify that all rows specified by DECLARE CURSOR have been found. Use the WHENEVER *sqlcode* command to check for SQL processing errors other than data-not-found errors.

Use WHENEVER NOT FOUND to check for a data-not-found errors. When you use the WHENEVER NOT FOUND command, data-not-found error checking is automatic; however, you must use the LABEL command. When a data-not-found error occurs, control passes to the command line specified by the LABEL command and the subsequent error-handling commands.

Using Indicator Variables

If the data contains null values, use indicator variables to capture the status of a value. If you do not use indicator variables, R:BASE displays an error message when it encounters a null value, but produces no rows.

Placing a Value into a Numeric Variable

If you use FETCH to place a value into a variable that has not been previously defined and has a NUMERIC data type, then that variable acquires the precision and scale of the column from which the value is fetched.

Using the FETCH Command Without Variable Specification

Using FETCH *cursorname* without any variable specification will retrieve the next row from the cursor. Use the SET VAR *varname*WHERE CURRENT OF *cursor* to retrieve the columns you need.

Example

The following command lines fetch every other row from a table.

```
DROP CURSOR C1
DECLARE c1 SCROLL CURSOR FOR SELECT transid, transdate, +
   netamount FROM transmaster ORDER BY netamount DESC
OPEN c1
FETCH c1 INTO vtransid ind1, vtransdate ind2, vnetamount ind3
```

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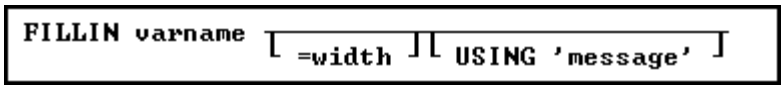
```
SELECT COUNT(*) INTO vtotcount i1 FROM transmaster
SET VAR vcount INT=0
WHILE sqlcode <> 100 THEN
   SET VAR vcount = (.vcount+1)
   WRITE 'Total count', .vtotcount, 'Cursor count', .vcount
   --fetch every other row
   FETCH REL 2 FROM c1 INTO vtransid int1, +
      vtransdate ind2, vnetamount ind3
ENDWHILE
CLOSE C1
DROP CURSOR C1
```

1.7.2 FILLIN

Use the FILLIN command to prompt the user to enter a value at the keyboard.



Options

=width
Specifies the width of the entry field. If set to zero, you do not need to press [Enter] after the response. A single key entry is accepted, although not displayed on the screen. When *varname*=0 is specified, you can capture these keystrokes: [Enter], [Esc], [Home], [End], [PgUp], [PgDn], [Up Arrow], [Down Arrow], [Tab], and [Shift]+[Tab]. For example, [PgDn] is recorded as [PgDn] in the variable. The [Down Arrow] key is recorded as [Down] and [Up Arrow] as [Up]. The variable used with =0 is always a TEXT data type. Alternatively, you can omit this option and use the LASTKEY function to capture the last key pressed. (This is useful with the EDIT clause.) If a height and length are specified, the width references the width of the FILLIN box.

USING 'message'
Specifies the message text (a 1- to 80-character text string in the currently defined QUOTES character) to be displayed. You can use a dot variable in place of it. For example, if you enter FILLIN *var1*USING *.var2*, the screen prompt is the contents of *variable2*.

varname
Specifies a 1 to 18 character variable name, which must be unique among the variable names within the database.

About the FILLIN Command

The value entered at the keyboard is stored in a global variable.

If you will be supporting Windows and DOS in a single installation OR are planning on converting from DOS to Windows it is recommended that you replace your FILLIN commands with the DIALOG command. Under DOS the functionality is almost, if not completely, identical. Under Windows you will find that the DIALOG command is more user friendly.

Setting the Data Type

If the data type of the value that is entered is unambiguous, then the variable is set to that data type. For example, if you enter *123*, the variable is given an INTEGER data type. If you wanted the data type to be TEXT, you would have to set the variable's data type. If the data type is questionable-for example, when entering a date-be sure to define the variable's data type. Also, if you use =0 to accept a single keystroke, the variable's data type must be TEXT.

Examples

The following command lines ensure that the data type is TEXT. The quotation marks around the message are not displayed on screen.

```
SET VARIABLE vfill TEXT
```

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```
FILLIN vfill=10 USING 'Enter a number:'
```

The following command prompts the user for a database name and stores it in the variable *v2*. The database name could then be used in a CONNECT command, for example, CONNECT *.v2*. The dot before the variable indicates that R:BASE is to use the current value of the variable.

```
FILLIN v2 USING 'Enter the name of the database you want to open: '
```

In the following command lines, the first command line sets variable *v1* to TEXT and *A* as its value. The *=1* in the FILLIN command lets the user enter a single character or accept the letter A by pressing [Enter]. After the user responds, the program stores the response in the variable *v1* and continues to the next line in the command file.

```
SET VARIABLE v1 TEXT = 'A'
FILLIN v1=1 USING 'Enter a letter (A-F): '
```

The following command lines use the =0 option to allow a single keystroke entry, then check the variable for [PgUp] and [PgDn]. If the response is [PgUp], then *vend* contains the value [PgUp] and GOTO transfers processing to the lines following LABEL *top*. If the response is [PgDn], control is passed to the lines following LABEL *bottom*. If neither [PgUp] or [PgDn] is entered, control passes to LABEL *tryagain* and the FILLIN is repeated.

```
LABEL top
 .
 .
 .
LABEL tryagain
FILLIN vend=0 USING 'Press PgUp to start again, PgDn to continue.'
SWITCH (.vend)
CASE '[PgUp]'
 GOTO top
CASE '[PgDn]'
 GOTO bottom
DEFAULT
 GOTO tryagain
ENDSW
 .
 .
 .
LABEL bottom
```

The following example creates a FILLIN box 20 characters wide by three lines deep that can contain a maximum of 100 characters. If you designate a box to contain more characters than the size of the box allows, you automatically create a scrolling box.

```
FILLIN v1=20,3,100 USING 'Notation:'
```

1.7.3 FLUSH

Use the FLUSH command to force database information to be written to disk.

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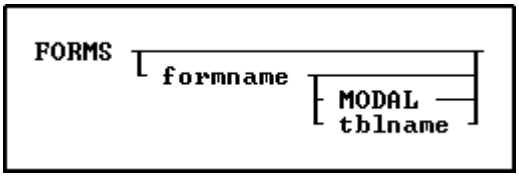
1.7.4 FORMS

Use the FORMS command to start the Form Designer.



Options

formname
Names an existing form to modify. The name can be 1 to 18 characters long.

MODAL
Allows an EEP command block to launch a Form, Label or Report in a designer. After making appropriate changes, you will have to save the changes and close the designer in order to continue the next command in your EEP.

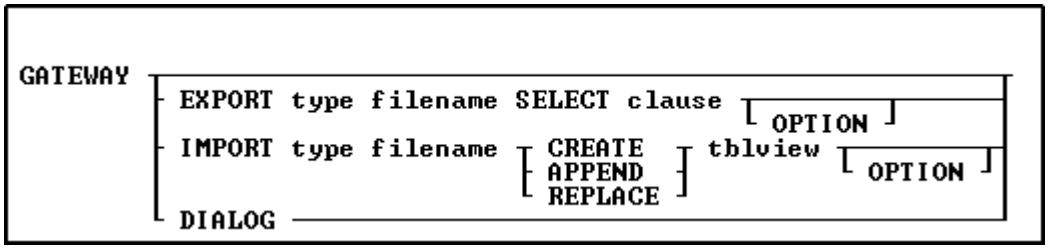
tblview
This option is for R:BASE for DOS only; names the first table or view that a form serves. Use this option when you are creating a new form. This option is available only if you start to build a form from the R> prompt with a database open. Specify both *formname* and *tblview* when you want to build a new form. R:BASE displays the "Form Designer" screen where you can begin to define the new form. Use *formname* alone to specify the name of an existing form you want to modify.

1.8 G

1.8.1 GATEWAY

Use the GATEWAY command to start the import/export of data. Using the **GATEWAY** command at the R> or within command files you can automate the entire task of providing desired data formats to your end-users and/or clients. There are NO limits on importing or exporting numerous records into and out of R:BASE Turbo V-8 for Windows databases with the GATEWAY command.

IMPORTANT NOTE ABOUT GATEWAY: You MUST be aware of both your source file structure and table structure for the command to function properly. The table and file structure MUST coincide with each other.



EXPORT
Specifies that you want to export an R:BASE table or view to an external file.

IMPORT
Specifies that you want to import an external file to an R:BASE table.

DIALOG
Opens the File Gateway dialog for manual Import/Export configuration.

About the GATEWAY Command

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Use the Import/Export utility to import a file from another program into a new or existing table in an R:BASE database or export data from an R:BASE database into a file that can be imported into another program or R:BASE database.

You can access File Gateway graphic user interface module either by clicking on **"*Open File Gateway to Import/Export Data*"** icon on the R:BASE Main Toolbar or typing **GATEWAY** at the R> prompt or in a command file.

In R:BASE for Windows, you can import or export the following types of files:

- Import Formats include:

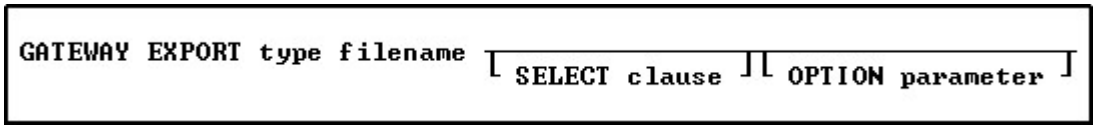
  dBase (*.dbf)
  Paradox (*.db)
  Text (*.txt)
  Comma Delimited (*.csv)
  Text Data (*.dat)
  Text Printout (*.prn)
  Tab Delimited (*.tab)
  ASCII (*.asc)
  HTML (*.htm, *.html)
  MS Excel Spreadsheet (*.xls)
  MS Excel Workbook (*.xls)
  Lotus 1-2-3 (*.wk1)
  Lotus 1-2-3 (*.wk2)
  Lotus Symphony (*.wr1)
  QuattroPro (*.wq1)
  XML (*.xml)
  MS Access Database (*.mdb)

- Export Formats include:

  Paradox (*.db)
  dBase (*.dbf)
  Comma Separated Values (*.csv)
  HTML (*.HTM, *.HTML)
  MS Excel Spreadsheet (*.xls)
  MS Excel Workbook (*.xls)
  MS Word (*.doc)
  Tab Delimited (*.tab)
  SYLK Symbolic Link (*.slk)
  DIF Data Interchange Format (*.dif)
  Lotus 1-2-3 (*.wk1)
  QuattroPro (*.wq1)
  SQL Script (*.sql)
  XML (*.xml)
  MS Windows Clipboard
  Rich Text Format (*.rtf)
  SPSS Format (*.sav)
  Adobe Acrobat Document (*.pdf)
  LDAP Data Interchange Format (*.ldif)

1.8.1.1 EXPORT

Specifies that you want to export an R:BASE table or view to an external file.



type
Specifies one of the following codes for accepted file formats:

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Code	Details
DB	Paradox
DBF	DBASE
CSV	ASCII File, Delimiter Comma, Qualifier Double Quote
HTM	HTML
XLS	MS Excel Spreadsheet
XLSW	MS Excel Workbook
DOC	MS Word
TAB	ASCII File, Delimiter Tab, Qualifier None
SLK	SYLK Symbolic Link
DIF	DIF Data Interchange Format
WK1	Lotus 1_2_3
WQ1	QuattroPro
SQL	SQL Script
XML	XML
CLBR	MS Windows Clipboard
RTF	Rich Text Format
SAV	SPSS Format
PDF	Adobe Acrobat Portable Document Format
LDIF	LDAP Data Interchange Format

filename
Specifies the name of the file to import, or the name of the file to export to.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION
Specifies an additional parameter for the output. Options listed may vary based upon selected format. You must Use the pipe **"|"** symbol to separate OPTION parameters if more than one parameter is used.

- **COL_NAMES**
- **TAB_NAME**
- **TITLE**
- **HTML_PATERN**
- **QUALIFIER**
- **SEPARATOR**
- **BLANK_IF_ZERO**
- **REC_SEP**
- **STYLE**
- **SHOW_PROGRESS**
- **MESSAGES**
- **ACTION**
- **SPECIFICATION_FILE_NAME -** This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

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1.8.1.1.1 DB (Paradox)

Syntax:

```
GATEWAY EXPORT DB filename.db +
SELECT clause +
OPTION SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.db
This parameter defines the file name of target file with exported data as Paradox format. File extension must be **db**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameter:
OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT DB D:\TEMP\EMPLOYEE.DB SELECT * FROM EMPLOYEE OPTION
SHOW_PROGRESS ON
```

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1.8.1.1.2 DBF (dBASE)

Syntax:

```
GATEWAY EXPORT DBF filename.dbf +
SELECT clause +
OPTION SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.dbf
This parameter defines the file name of target file with exported data as dBASE format. File extension must be **dbf**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.
Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT DBF D:\TEMP\EMPLOYEE.DBF SELECT * FROM EMPLOYEE OPTION
SHOW_PROGRESS ON
```

1.8.1.1.3 CSV (Comma Separated Values)

Syntax:

```
GATEWAY EXPORT CSV filename.csv +
SELECT clause +
```

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```
OPTION COL_NAMES +
|QUALIFIER symbol +
|SEPARATOR symbol +
|REC_SEP value +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.csv
This parameter defines the file name of target file with exported data as Comma Separated Values format. File extension must be **csv**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

COL_NAMES
If ON, will add a first row with column names. If OFF, will only export data.

Available Parameters: ON / OFF

QUALIFIER
Changing the value of this option you can define any qualifier for fields in the target Comma Separated Values text file.

The popular value is Quotes (") but you can define any custom character you wish.

SEPARATOR
Defines the separator of fields in target text file.

The popular values are Semicolon (;), Comma (,), Space (#32) but you can define any other character if you wish.

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

REC_SEP
Defines the separator between lines in the target text file.

The popular value is CRLF (#13#10) or CR(#13) but you can define any other custom string.

Available Parameters: CR / LF / CRLF

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

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Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT CSV D:\TEMP\EMPLOYEE.CSV +
SELECT * FROM EMPLOYEE OPTION COL_NAMES ON +
|QUALIFIER " |SEPARATOR , |REC_SEP CRLF +
|SHOW_PROGRESS ON |ACTION OPENVIEW
```

1.8.1.1.4 HTM (HTML)

Syntax:

```
GATEWAY EXPORT HTM filename.htm +
SELECT clause +
OPTION HTML_PATERN filespec +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.htm
This parameter defines the file name of target file with exported data as HTML format. File extension must be either **htm** or **html**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

HTML_PATERN
In this option you can define your own pattern of html_file where you can customize any settings _ fonts, colors, metatags, scripts etc Using this option you can integrate the generated html_file into your own web_site.

By default the HTML Pattern have a simple structure:

```
<html>
<head>
<meta http_equiv="Content_Type"
content="text/html; charset=windows_1251">
<meta name="GENERATOR" content="RBG7 Gateway">
<title>Data Exported by R:BASE 7.6 File Gateway</title>
</head>
<body bgcolor="#FFFFFF">
</body>
```

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

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Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

```
GATEWAY EXPORT HTM D:\TEMP\EMPLOYEE.HTML +
SELECT * FROM EMPLOYEE +
OPTION SHOW_PROGRESS ON +
|ACTION OPENVIEW

GATEWAY EXPORT HTM D:\TEMP\EMPLOYEE.HTML +
SELECT (EmpLName+','&EmpFName) AS Employee_List +
FROM EMPLOYEE OPTION ACTION OPENVIEW
```

Notes:
The generated data table will be inserted before the </body> tag.

1.8.1.1.5 XLS (MS Excel Spreadsheet)

Syntax:

```
GATEWAY EXPORT XLS filename.xls +
SELECT clause +
OPTION COL_NAMES value +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.xls
This parameter defines the file name of target file with exported data as MS Excel Spreadsheet. File extension must be **xls**.

SELECT clause
Use the SELECT command to identify rows of data from a table or view.

OPTION

COL_NAMES
If ON, will add a first row with column names. If OFF, will only export data.

Available Parameters: ON / OFF

BLANK_IF_ZERO

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Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT XLS D:\TEMP\EMPLOYEE.XLS +
SELECT * FROM EMPLOYEE +
OPTION COL_NAMES ON +
|SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

Note:
This option does not use the MS Excel application as OLE_server and is very quick.

1.8.1.1.6 XLSW (MS Excel Workbook)

Syntax:

```
GATEWAY EXPORT XLSW filename.xls +
SELECT clause +
OPTION COL_NAMES value +
|TAB_NAME value +
|STYLE value +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.xls
This parameter defines the file name of target file with exported data as MS Excel Workbook. File extension must be **xls**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

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COL_NAMES
If ON, will add a first row with column names. If OFF, will only export data.

Available Parameters: ON / OFF

TAB_NAME
If defined, will be used as the label for the first tab on MS Excel Workbook.

STYLE
This option adds background color to exported data.

Available Parameters:
NORMAL
PRICELIST
MSMONEY
BRICK
DESERT
EGGPLANT
LILAC
MAPLE
MARINE
ROSE
SPRUCE
WHEAT
ZEBRA

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT XLSW D:\TEMP\EMPLOYEE.XLS +
SELECT * FROM EMPLOYEE +
OPTION COL_NAMES ON +
|TAB_NAME EMPLOYEES +
|STYLE ZEBRA +
```

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```
|SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

Notes:

- Use this option to export data as a MS Excel Workbook file using the MS Excel application as the OLE_server.
- Export process using this type can take a lot of time with large record_sets. However, you have additional options; for example STYLE. If you don't need visual styles in the spreadsheet and want to export data only, you can use the XLS option, which generates the Excel spreadsheet very quickly.
- When providing a file name to export to, you will be required to specify the complete path.

1.8.1.1.7 DOC (MS Word Document)

Syntax:

```
GATEWAY EXPORT DOC filename.doc +
SELECT clause +
OPTION TITLE value +
|COL_NAMES value +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.doc
This parameter defines the file name of target file with exported data as MS Word Document. File extension must be **doc**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

TITLE
If defined, will be the page header on each page of the document.

COL_NAMES
If ON, will add a first row with column names. If OFF, will only export data.

Available Parameters: ON / OFF

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

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ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT DOC D:\TEMP\EMPLOYEE.DOC +
SELECT * FROM EMPLOYEE +
OPTION TITLE Employee List +
|COL_NAMES ON +
|SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

Notes:

- This option uses MS Word application OLE_server to export data and create DOC file. To use this option, you need to have MS Word installed on your computer. Export process using this option can take a lot of time with large record_sets.
- As a faster method we suggest that you use RTF option.

1.8.1.1.8 TAB (Tab Separated Values)

Syntax:

```
GATEWAY EXPORT TAB filename.tab +
SELECT clause +
OPTION COL_NAMES value +
|QUALIFIER symbol +
|SEPARATOR symbol +
|REC_SEP value +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.tab
This parameter defines the file name of target file with exported data as Tab Separated Values format. File extension must be **tab**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

COL_NAMES
If ON, will add a first row with column names. If OFF, will only export data.

Available Parameters: ON / OFF

QUALIFIER
Changing the value of this option you can define any qualifier for fields in the target Tab Separated Values text file.

The popular value is Quotes (") but you can define any custom character you wish.

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Use the word **PIPE** if you wish to use the pipe character as the qualifier.

SEPARATOR
Defines the separator of fields in target text file.

The popular values are Semicolon (;), Comma (,), Space (#32), TAB (#9) but you can define any other character if you wish.

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

REC_SEP
Defines the separator between lines in the target text file.

The popular value is CRLF (#13#10) or CR(#13) but you can define any other custom string.

Available Parameters: CR / LF / CRLF

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT TAB D:\TEMP\EMPLOYEE.TAB +
SELECT * FROM EMPLOYEE +
OPTION COL_NAMES ON +
|QUALIFIER " +
|REC_SEP CRLF +
|SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

1.8.1.1.9 SLK (Symbolic Link)

Syntax:

```
GATEWAY EXPORT SLK filename.slk +
SELECT clause +
```

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```
OPTION SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value  +
|SPECIFICATION_FILE_NAME filename
```

filename.slk
This parameter defines the file name of target file with exported data as Symbolic Link format. File extension must be **slk**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT SLK D:\TEMP\EMPLOYEE.SLK +
SELECT * FROM EMPLOYEE +
OPTION SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

1.8.1.1.10 DIF (Data Interchange Format)

Syntax:

```
GATEWAY EXPORT DIF filename.dif  +
SELECT clause +
OPTION SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

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filename.dif
This parameter defines the file name of target file with exported data as Data Interchange Format. File extension must be **dif**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT DIF D:\TEMP\EMPLOYEE.DIF +
SELECT * FROM EMPLOYEE +
OPTION SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

1.8.1.1.11 WK1 (Lotus)

Syntax:

```
GATEWAY EXPORT WK1 filename.wk1 +
SELECT clause +
OPTION COL_NAMES value +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.wk1
This parameter defines the file name of target file with exported data as Lotus 1-2-3 Format. File extension must be **wk1**.

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SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

COL_NAMES
If ON, will add a first row with column names. If OFF, will only export data.

Available Parameters: ON / OFF

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT WK1 D:\TEMP\EMPLOYEE.WK1 +
SELECT * FROM EMPLOYEE +
OPTION COL_NAMES ON +
|SHOW_PROGRESS ON
```

1.8.1.1.12 WQ1 (QuattroPro)

Syntax:

```
GATEWAY EXPORT WQ1 filename.wq1 +
SELECT clause +
OPTION COL_NAMES +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.wq1
This parameter defines the file name of target file with exported data as Quattro Pro Format. File extension

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must be **wq1**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.
OPTION

COL_NAMES
If ON, will add a first row with column names. If OFF, will only export data.

Available Parameters: ON / OFF

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT WQ1 D:\TEMP\EMPLOYEE.WQ1 +
SELECT * FROM EMPLOYEE +
OPTION COL_NAMES ON +
|SHOW_PROGRESS ON
```

1.8.1.1.13 SQL (SQL Script)

Syntax:

```
GATEWAY EXPORT SQL filename.sql +
SELECT clause +
OPTION QUALIFIER symbol +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.sql

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This parameter defines the file name of target file with exported data as SQL Script. File extension must be **sql**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

QUALIFIER
Changing the value of this option you can define any qualifier for fields in the target SQL script file. The default value is single Quote (') but you can specify double Quotes (") if you wish.

Available Parameters: single quote (') / double quotes (")

BLANK_IF_ZERO

Available Parameters: ON /OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT SQL D:\TEMP\EMPLOYEE.SQL +
SELECT * FROM EMPLOYEE +
OPTION SHOW_PROGRESS ON
```

Notes:
Use this option to generate SQL script with dump of selected table data. Each record will include the INSERT INTO statements which you can execute in any SQL compliant database.

1.8.1.1.14 XML (Extended Markup Language)

Syntax:

```
GATEWAY EXPORT XML filename.xml +
SELECT clause +
OPTION SHOW_PROGRESS value +
|MESSAGES value +
```

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```
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.xml
This parameter defines the file name of target file with exported data as XML format. File extension must be **xml**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

BLANK_IF_ZERO

Available Parameters: ON /OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT XML D:\TEMP\EMPLOYEE.XML +
SELECT * FROM EMPLOYEE +
OPTION SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

NOTES:
Use this option to generate modern and universal XML format to exchange and transfer data between different sources. You can also view any data exported as XML format in MS Internet Explorer 5.0 (or higher) like a tree.

1.8.1.1.15 CLBR (MS Windows Clipboard)

Syntax:

```
GATEWAY EXPORT CLBR +
SELECT clause +
OPTION SHOW_PROGRESS value +
```

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```
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT CLBR +
SELECT * FROM EMPLOYEE +
OPTION SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

Notes:

- Use this option to generate exported data as MS Windows Clipboard Data.
- ACTION OPENVIEW option will launch MS Clipbook Viewer. Then, you have to use Paste option to view all data.
- Refer to MS Clipbook Viewer for more details and handling exported data.

1.8.1.1.16 RTF (Rich Text Format)

Syntax:

```
GATEWAY EXPORT RTF filename.rtf +
SELECT clause +
```

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```
OPTION TITLE value +
|COL_NAMES value +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.rtf
This parameter defines the file name of target file with exported data as Rich Text Format. File extension must be **rtf**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

TITLE
If defined, will be the page header on each page of the document.

COL_NAMES
If ON, will add a first row with column names. If OFF, will only export data.

Available Parameters: ON / OFF

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process the some messages are available (with error messages, for example). Otherwise the export will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT RTF D:\TEMP\EMPLOYEE.RTF +
SELECT * FROM EMPLOYEE +
OPTION TITLE Employee List +
|COL_NAMES ON +
|SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

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1.8.1.1.17 SAV (SPSS Format)

Syntax:

```
GATEWAY EXPORT SAV filename.sav +
SELECT clause +
OPTION SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.sav
This parameter defines the file name of target file with exported data as SPSS Format. File extension must be **sav**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process the some messages are available (with error messages, for example). Otherwise the export will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

1.8.1.1.18 PDF (Adobe Acrobat Portable Document)

Syntax:

```
GATEWAY EXPORT PDF filename.pdf +
SELECT clause +
OPTION COL_NAMES +
|SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.pdf
This parameter defines the file name of target file with exported data as Adobe Acrobat Portable Document Format. File extension must be **pdf**.

SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

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OPTION

COL_NAMES
If ON, will add a first row with column names. If OFF, will only export data.

Available Parameters: ON / OFF

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status
dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process the some messages are available (with error messages, for example). Otherwise the export will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT PDF D:\TEMP\EMPLOYEE.PDF +
SELECT * FROM EMPLOYEE +
OPTION COL_NAMES ON +
|SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

1.8.1.1.19 LDIF (Data Interchange Format)

Syntax:

```
GATEWAY EXPORT LDIF filename.dif +
SELECT clause +
OPTION SHOW_PROGRESS value +
|MESSAGES value +
|ACTION value +
|SPECIFICATION_FILE_NAME filename
```

filename.dif
This parameter defines the file name of target file with exported data as LDAP Data Interchange Format. File extension must be **dif**.

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SELECT clause
Specifies and limits rows of data. For more information, see the "SELECT" command.

OPTION

BLANK_IF_ZERO

Available Parameters: ON / OFF

If ON, will export zero values as blank values. If OFF, will export zero values as zero values. The default is set to OFF.

SHOW_PROGRESS
Indicates whether to display status dialog during export process.

Set SHOW_PROGRESS to ON if you wish to show an animated status dialog during the export process. Set SHOW_PROGRESS to OFF if you wish to export data without animated status dialog.

Available Parameters: ON / OFF

MESSAGES
If ON, during export process some messages will be displayed such as -ERROR- messages, if any. If OFF, the entire export process will be in "silent" mode.

Available Parameters: ON / OFF

ACTION
You can define the default action which will be processed after export is complete, for example, to open the target export file in view/edit mode or send this exported file by e_mail as attachment.

Available Parameters: OPENVIEW

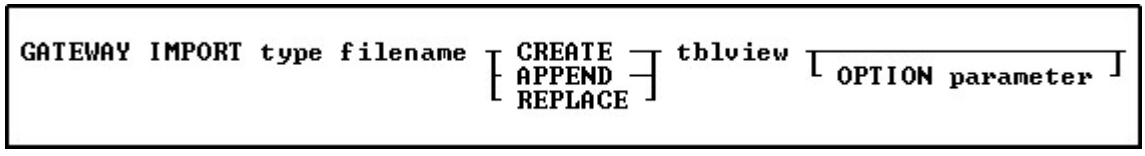
SPECIFICATION_FILE_NAME
This parameter is used to load a prepared specification with all pre-defined settings for exporting. The export must be performed once using the graphic user interface "Export Wizard" and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Example:

```
GATEWAY EXPORT LDIF D:\TEMP\EMPLOYEE.DIF +
SELECT * FROM EMPLOYEE +
OPTION SHOW_PROGRESS ON +
|ACTION OPENVIEW
```

1.8.1.2 IMPORT

Specifies that you want to import an external file to an R:BASE table.



type
Specifies one of the following codes for accepted file formats:

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Code	Details
DB	Paradox
DBF	dBASE
TXT	ASCII File, Delimiter None, Qualifier None
CSV	ASCII File, Delimiter Comma, Qualifier Double Quote
QSV	ASCII File, Delimiter Comma, Qualifier Single Quote
ISV	ASCII File, Delimiter Semicolon, Qualifier Single Quote
TAB	ASCII File, Delimiter Tab, Qualifier None
CUS	ASCII File, Delimiter and Qualifier based on DB Settings
XLS	MS Excel
WKS	Lotus 1-2-3
HTM	HTML
WQ1	QuattroPro
XML	XML Format
MDB	MS Access Database

filename
Specifies the name of the file to import, or the name of the file to export to.

CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION
Specifies an additional parameter for the input. Options listed may vary based upon selected format. You must Use the pipe "**|**" symbol to separate OPTION parameters if more than one parameter is used.

Extended parameters supported for each file format

- **SHEET_INDEX**
- **SOURCE_TABLE**
- **SPECIFICATION_FILE_NAME -** This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

1.8.1.2.1 DB (Paradox)

Syntax:

```
GATEWAY IMPORT DB +
filename.db {CREATE/APPEND/REPLACE} +
<tablename> +
OPTION SPECIFICATION_FILE_NAME filename
```

filename.db
This parameter defines the file name of target file with data as Paradox format. File extension must be **db**.

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CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION

SPECIFICATION_FILE_NAME
This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

```
GATEWAY IMPORT DB D:\TEMP\FNAME.DB CREATE AAA
GATEWAY IMPORT DB D:\TEMP\FNAME.DB APPEND AAA
GATEWAY IMPORT DB D:\TEMP\FNAME.DB REPLACE AAA
```

NOTES:
This option allows to import data from Paradox format using BDE Engine. For use this option, you need to have BDE 32 bit version installed on your computer.

1.8.1.2.2 DBF (dBASE)

Syntax:

```
GATEWAY IMPORT DBF +
filename.dbf {CREATE/APPEND/REPLACE} +
<tablename> +
OPTION SPECIFICATION_FILE_NAME filename
```

filename.dbf
This parameter defines the file name of target file with data as dBASE format. File extension must be **dbf**.

CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION

SPECIFICATION_FILE_NAME
This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

```
GATEWAY IMPORT DBF D:\TEMP\FNAME.DBF CREATE AAA
GATEWAY IMPORT DBF D:\TEMP\FNAME.DBF APPEND AAA
GATEWAY IMPORT DBF D:\TEMP\FNAME.DBF REPLACE AAA
```

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NOTES:
This option allows to import data from dBASE format using BDE Engine. For use this option, you need to have BDE 32 bit version installed on your computer.

1.8.1.2.3 ASCII Text (*.txt, *.csv, *.tab)

Syntax:

```
GATEWAY IMPORT TXT +
filename.txt {CREATE/APPEND/REPLACE} +
<tablename> +
OPTION SPECIFICATION_FILE_NAME filename
```

Code	Delimiter	Qualifier
TXT	None	None
CSV	Comma	Double Quotes
QSV	Comma	Single Quotes
ISV	Semicolon	Single Quotes
TAB	Tab	None
CUS	Database DELIMIT Setting	Database QUOTES Setting

filename.txt
This parameter defines the file name of target file with data as ASCII format.

CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION

SPECIFICATION_FILE_NAME
This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

```
GATEWAY IMPORT TXT D:\TEMP\FNAME.TXT CREATE AAA
GATEWAY IMPORT TXT D:\TEMP\FNAME.TXT APPEND AAA
GATEWAY IMPORT TXT D:\TEMP\FNAME.TXT REPLACE AAA
```

1.8.1.2.4 XLS (MS Excel)

Syntax:

```
GATEWAY IMPORT XLS +
filename.xls {CREATE/APPEND/REPLACE} +
<tablename> +
SHEET_INDEX 0 +
OPTION SPECIFICATION_FILE_NAME filename
```

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filename.xls
This parameter defines the file name of target file with data as MS Excel format. File extension must be **xls**.

CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION

SHEET_INDEX value
This parameter is used to specify a specific sheet of the spreadsheet file, starting with 0.

SPECIFICATION_FILE_NAME
This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

```
GATEWAY IMPORT XLS D:\TEMP\FNAME.XLS CREATE AAA OPTION SHEET_INDEX 0
GATEWAY IMPORT XLS D:\TEMP\FNAME.XLS APPEND AAA OPTION SHEET_INDEX 0
GATEWAY IMPORT XLS D:\TEMP\FNAME.XLS REPLACE AAA OPTION SHEET_INDEX 0
```

NOTES:
Use this option to import data from MS Excel file using the MS Excel application as OLE_server.

1.8.1.2.5 WKS (Lotus 1-2-3)

Syntax:

```
GATEWAY IMPORT WKS +
filename.wk1 {CREATE/APPEND/REPLACE} +
<tablename> +
SHEET_INDEX 0 +
OPTION SPECIFICATION_FILE_NAME filename
```

filename.wk1
This parameter defines the file name of target file with data as Lotus 1-2-3 format. File extension must be **wk1**.

CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION

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SHEET_INDEX value
This parameter is used to specify a specific sheet of the spreadsheet file, starting with 0.

SPECIFICATION_FILE_NAME
This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

```
GATEWAY IMPORT WKS D:\TEMP\FNAME.WK1 CREATE AAA OPTION SHEET_INDEX 0
GATEWAY IMPORT WKS D:\TEMP\FNAME.WK1 APPEND AAA OPTION SHEET_INDEX 0
GATEWAY IMPORT WKS D:\TEMP\FNAME.WK1 REPLACE AAA OPTION SHEET_INDEX 0
```

1.8.1.2.6 HTM (HTML)

Syntax:

```
GATEWAY IMPORT HTML +
filename.htm {CREATE/APPEND/REPLACE} +
<tablename> +
OPTION SPECIFICATION_FILE_NAME filename
```

filename.htm
This parameter defines the file name of target file with data as HTML format. File extension must be **htm** or **html**.

CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION

SPECIFICATION_FILE_NAME
This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

```
GATEWAY IMPORT HTM D:\TEMP\FNAME.HTM CREATE AAA
GATEWAY IMPORT HTM D:\TEMP\FNAME.HTM APPEND AAA
GATEWAY IMPORT HTM D:\TEMP\FNAME.HTM REPLACE AAA
```

1.8.1.2.7 WQ1 (QuattroPro)

Syntax:

```
GATEWAY IMPORT WQ +
filename.wq1 {CREATE/APPEND/REPLACE} +
<tablename> +
SHEET_INDEX 0 +
OPTION SPECIFICATION_FILE_NAME filename
```

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filename.wq1
This parameter defines the file name of target file with data as QuattroPro format. File extension must be **wq1**.

CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION

SHEET_INDEX value
This parameter is used to specify a specific sheet of the spreadsheet file, starting with 0.

SPECIFICATION_FILE_NAME
This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

```
GATEWAY IMPORT WKQ D:\TEMP\FNAME.WQ1 CREATE AAA OPTION SHEET_INDEX 0
GATEWAY IMPORT WKQ D:\TEMP\FNAME.WQ1 APPEND AAA OPTION SHEET_INDEX 0
GATEWAY IMPORT WKQ D:\TEMP\FNAME.WQ1 REPLACE AAA OPTION SHEET_INDEX 0
```

1.8.1.2.8 XML (Extended Markup Language)

Syntax:

```
GATEWAY IMPORT XML +
filename.xml {CREATE/APPEND/REPLACE} +
<tablename> +
OPTION SPECIFICATION_FILE_NAME filename
```

filename.xml
This parameter defines the file name of target file with data as XML format. File extension must be **xml**.

CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION

SPECIFICATION_FILE_NAME
This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

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```
GATEWAY IMPORT XML D:\TEMP\FNAME.XML CREATE AAA
GATEWAY IMPORT XML D:\TEMP\FNAME.XML APPEND AAA
GATEWAY IMPORT XML D:\TEMP\FNAME.XML REPLACE AAA
```

1.8.1.2.9 MDB (MS Access)

Syntax:

```
GATEWAY IMPORT MDB +
filename.mdb {CREATE/APPEND/REPLACE} +
<tablename> +
SOURCE_TABLE tablename +
OPTION SPECIFICATION_FILE_NAME filename
```

filename.mdb
This parameter defines the file name of target file with data as MDB format. File extension must be **mdb**.

CREATE
Creates a destination table with the same name as the imported file.

APPEND
Adds the imported data to the end of the table or view specified in *tblview*.

REPLACE
Replaces the rows in the table or view specified in *tblview* with the imported data.

tblview
Specifies the name of a table or view FOR Import.

OPTION

SOURCE_TABLE value
This parameter is used to specify a specific table of the MDB file.

SPECIFICATION_FILE_NAME
This property is used to load a prepared specification with all pre-defined settings for importing. The import must be performed once using the graphic user interface and saved using the "Specifications.." button. The specifications will be stored in a file with the .RGW file extension.

Examples:

```
GATEWAY IMPORT MDB D:\TEMP\FNAME.MDB CREATE AAA OPTION SOURCE_TABLE TblName
GATEWAY IMPORT MDB D:\TEMP\FNAME.MDB APPEND AAA OPTION SOURCE_TABLE TblName
GATEWAY IMPORT MDB D:\TEMP\FNAME.MDB REPLACE AAA OPTION SOURCE_TABLE
TblName
```

1.8.2 GET

Retrieves a stored procedure .

Options

filename
The name of the file the stored procedure is placed in, in ASCII text format.

LOCK
Locks the procedure so it cannot be locked or unlocked by another user. When a procedure is locked, only the

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user placing the lock can replace the procedure. The NAME setting is used for identification of the user.

procname
The name of the procedure to retrieve.

About the GET Command

The GET command is used to read a stored procedure from the database into an ASCII file. If the LOCK option is used with the GET command, the procedure cannot be replaced by using the PUT command.

Rows are copied, not removed, from the source.

Example

The following command retrieves the SetOrderID procedure and places it into a file name SetOrdID.STP.

```
GET SetOrderID TO SetOrdID.STP
```

The following series of commands will retrieve the CreateTempTabs procedure and place it into a file name TempTabs.STP, then Edit the file, and finally replace the stored procedure from the file with an updated version.

```
GET CreateTempTabs TO TempTabs.STP
RBE TempTabs.STP
PUT TempTabs.STP AS CreateTempTabs
```

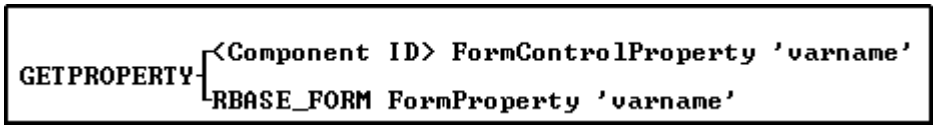
For more information on the PUT command see it's entry in the help files.

Note: The STP file extension is not required by R:BASE it is merely a suggestion for a meaningful naming convention.

1.8.3 GETPROPERTY

GETPROPERTY

Use the GETPROPERTY command to capture the current properties of the form control object(s), as well as the form itself.



Options

Component ID
The unique identifier that you assign to the component when you insert the object on form. A field is located in the object properties dialog menu (right-click) for all objects that are placed on forms. The unique identifier within the GETPROPERTY command must match the unique identifier listed in the object properties.

FormControlProperty
The name of the object's property you wish to get value.

RBASE_FORM FormProperty
To define the form property such as Height, Width, etc.

varname
The variable name with resulting value as text.

Supported Form Control Properties with Component IDs You Can Get

Standard Controls

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- Static Text
- Push Button
- Enhanced Panel
- Enhanced GroupBox
- Wallpaper
- Custom Wallpaper

Database Controls

- DB Grid
- DB Navigator
- DB Label
- DB Edit
- DB Memo
- DB Rich Edit
- DB Date/Time Picker
- DB Calendar
- DB Web Browser
- DB E-Mail Label
- DB Image
- DB Check Box
- DB Radio Button
- DB Radio Group
- DB Lookup ComboBox
- DB Lookup ListBox
- DB Spin Edit
- DB User Defined ComboBox
- DB User Defined ListBox
- Scrolling Region

Variable Controls

- Variable Label
- Variable Edit
- Variable Memo
- Variable Rich Edit
- Variable Date/Time Picker
- Variable Calendar
- Variable Web Browser
- Variable E-Mail Label
- Variable Image
- Variable Check Box
- Variable Radio Button
- Variable Radio Group
- Variable Lookup ComboBox
- Variable Lookup ListBox
- Variable Spin Edit
- Variable User Defined ComboBox
- Variable User Defined ListBox

Additional Controls

- Bit Button
- Speed Button
- Office Button
- Drop-Down Menu Button
- Image
- Animated GIF Control
- Shape
- Bevel
- AVI Animate
- Splitter
- Tab Control
- Tab Page
- LED Text Label
- Analog Clock
- Digital Clock
- Tree View
- ListView
- Shape Button
- Meter

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- Group Bar
- Group
- Enhanced Tab Control
- Enhanced Tab Page

Internet Controls

- Web Browser
- E-Mail Label

File System Controls

- Directory Tree
- File ListBox

Legacy Controls

- Vertical Line
- Horizontal Line
- 3D Box
- Panel
- Group Box

Supported RBASE_FORM Properties You Can Get

- ALPHABLEND
- ALPHABLENDVALUE
- CLIENTHEIGHT
- CLIENTWIDTH
- TRANSPARENTCOLOR
- TRANSPARENTCOLORVALUE
- AUTOSCROLL
- BORDERWIDTH
- ALIGN
- AUTOSIZE
- CAPTION
- COLOR
- ENABLED
- HEIGHT
- HINT
- LEFT
- SHOWHINT
- TOP
- WIDTH

Tips and Techniques:

- Properties of any form control objects can be changed with assigned Component ID ONLY.

  Examples:

  GETPROPERTY mycomponentid1 ALIGN 'vAlign'

  GETPROPERTY mycomponentid1 COLOR 'vColor'

  GETPROPERTY mycomponentid2 VISIBLE 'vVisible'

  GETPROPERTY mycomponentid3 FONT_COLOR 'vFontColor'

  GETPROPERTY mycomponentid3 FONT_SIZE 'vFontSize'

- Select the following URL to use the ***GETPROPERTY Command Syntax Builder***: http://www.rbase.com/getproperty/

- An optional handy tool database for all PROPERTY/GETPROPERTY commands and documentation (**R:Docs**) is also available. Please contact RBTI Sales Staff at sales@rbase.com if you wish to purchase the annual subscription to R:Docs database/application. You also have free access to on-line PROPERTY Syntax Builder at: http://www.rbase.com/property/ and GETPROPERTY Syntax Builder at: http://www.rbase.com/getproperty/

- Preview of R:Docs (Syntax Builder): http://www.rbase.com/products/rdocs/

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1.8.4 GOTO

Use the GOTO command in a program to pass control to the commands following the LABEL command.

```
GOTO lblname
```

Option

lblname
Specifies a 1 to 18 character name that labels a line to skip to when a GOTO command is executed in a command or procedure file.

About the GOTO Command

You should limit the use of the GOTO command because GOTO runs more slowly than other R:BASE control structures. Instead, when possible, use a WHILE loop, SWITCH structure, or IF structure to build the command-file logic. Never use GOTO to exit from a WHILE loop or SWITCH structure.

Using the LABEL Command with GOTO

GOTO must have a corresponding LABEL command within the same command block or file. The LABEL command may precede or follow GOTO in the same command file or, in a procedure file, within the same command block.

You can use a variable containing the name of the label instead of using the specific label name in the GOTO command. To do this, you must use a dot or ampersand variable to tell R:BASE to use the contents of a variable, rather than the variable name as the label name.

Examples

The following example uses a dotted variable containing the name of the label instead of using the specific label name in the GOTO command. If the variable was not a dotted variable, R:BASE would search for a label named *vlabel*. Because it is a dotted variable, R:BASE looks for the correct label name *label1*.

```
SET VARIABLE vlabel = 'label1'
GOTO .vlabel
```

The GOTO *lexit* command in the following example causes the commands following the ENDIF command to be skipped and the QUIT TO command to be run. The only way the commands between the IF structure and LABEL *lexit* command would be executed would be if the value of *v1* is not greater than the value of *.v2*.

```
IF v1 > .v2 THEN
 GOTO lexit
ENDIF
 .
 .
 .
LABEL lexit
QUIT TO caller
```

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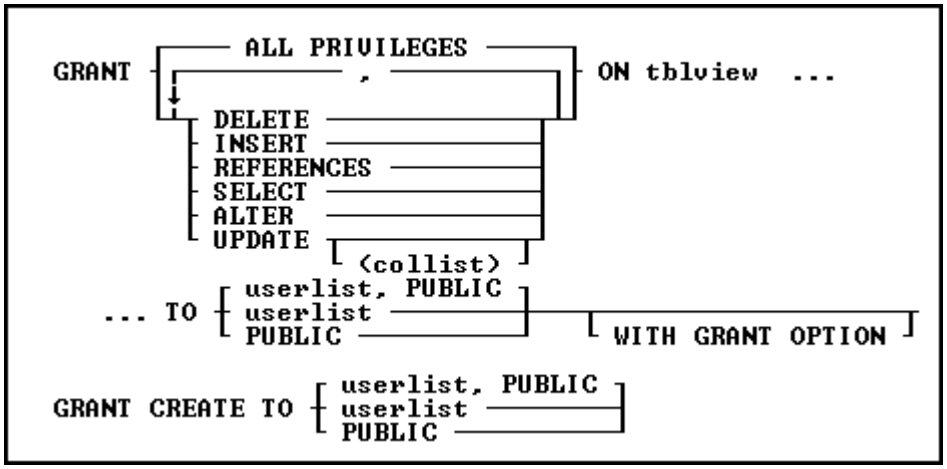
1.8.5 GRANT

Use the GRANT command to assign privileges to users of a table or view.



Options

,
Indicates that this part of the command is repeatable.

ALL PRIVILEGES
Grants all user privileges on the specified table, or on a view that can be updated.

ALTER
Grants permission to alter specific tables.

CREATE TO
Grants permission to users to create tables using the CREATE TABLE command. Users who have been granted permission to use this command have all privileges on the tables they create, including the WITH GRANT OPTION. However, users do not have privileges on any other tables in the database unless they are specifically granted permission by the owner.

DELETE
Grants permission to remove rows from the specified table or from a view that can be updated.

INSERT
Grants permission to add rows to the specified table or to a view that can be updated.

ON tblview
Specifies a table or view.

PUBLIC
Grants specified user privileges to all users.

REFERENCES
Grants permission to create a table with a foreign key that references a table with a primary key.

SELECT
Grants permission to display or print data for the specified table or view.

UPDATE (collist)
Grants permission to change the values of columns in the specified table or a view that cannot be updated. If you do not include the optional (*collist*), the user can update all columns in the table. If you list columns, the user can update only the specified columns.

userlist
Grants specified user privileges to listed users. You must separate user identifiers with a comma (or the current delimiter).

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userlist, PUBLIC
Grants specified user privileges to listed users and PUBLIC. Users in *userlist* can retain their user privileges if user privileges granted to PUBLIC are revoked. If, for example, *ralph*, *sam*, *jane*, and PUBLIC have been granted certain user privileges, revoking those privileges from PUBLIC would not affect the three listed users. You must separate the user identifier with a comma (or the current delimiter).

WITH GRANT OPTION
Allows the specified users to pass the granted user privileges to other users. When you use the LIST ACCESS command, an asterisk is displayed in front of the user privilege to show a user can grant the assigned user privilege to others; for example, *SELECT means a user has permission to display or print data for specified tables or views, and can grant SELECT rights to other users.

About the GRANT Command

As the database owner, you must first set your own user identifier. After setting your user identifier, you can assign privileges to other users for the tables or views in your database. You must specifically grant privileges to other users. You can assign privileges for a table to individual users, to PUBLIC, or to both. Each user can have a different set of user privileges for the same table, and you can grant a user the right to grant user privileges to others. You can set your user identifier with the RENAME OWNER command and assign user privileges to other users by using the GRANT command.

In R:BASE for Windows you can also set your user identifier by choosing **Utilities: Set User ID and Password**. To assign user privileges to other users, choose the **User Privileges** option from the **Utilities** menu.

In R:BASE for DOS, you can also set a user identifier and assign access rights in RBDefine; enter the RBDEFINE command at the R> prompt.

Granting User Privileges

You grant user privileges or access rights on tables or views, however, UPDATE rights must be granted at the column level and CREATE rights must be granted at the database level. If you assign more than one user privilege in a single GRANT command, separate the user privileges with a comma (or the current delimiter).

You can grant the following user privileges: ALL PRIVILEGES, ALTER, CREATE, DELETE, INSERT, REFERENCES, SELECT, and UPDATE; however, you can grant only the SELECT user privilege on views that cannot be updated.

Using User Identifiers and Passwords

A user identifier can be any unique string of 18 characters (or less) that uniquely identifies a user to the system. To maximize security, create user identifiers that are difficult to guess-such as a random string of letters and numbers. Users can assign passwords to their user identifiers for an added level of security. For information about users assigning passwords see the "SET USER" entry.

In a database where users have been assigned rights, printing reports requires one of these conditions:

- A user has been granted SELECT privileges on the driving table or view and any look-up tables.
- A user has been granted SELECT privileges or ALL PRIVILEGES on all tables used for the report.
- PUBLIC has been granted SELECT privileges on the driving table or view.
- PUBLIC has been granted SELECT privileges or ALL PRIVILEGES on all tables used for the report.

The only exception to this system of assigning rights is password-protected forms. Passwords assigned to forms, override user privileges assigned with the GRANT command. If a form has not been assigned a password, the user privileges you granted to the tables associated with the form are in effect.

Once R:BASE determines that a user can have access to a password-protected form, R:BASE does not verify user privileges on the underlying tables. Therefore, access to a password-protected form overrides table-level user privileges, making it possible for a user who does not have user privileges on a table to modify the information in that table.

Creating New Tables

To create new tables in a database, a user must be assigned the CREATE user privilege. R:BASE assigns all user privileges to the user for all tables created, including the GRANT user privilege.

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A user must be assigned the SELECT user privilege to create a new table from existing tables using the INTERSECT, JOIN, PROJECT, SUBTRACT, or UNION commands. R:BASE assigns users who use these commands all user privileges on the new table. These user privileges do not include the GRANT user privilege.

Creating Views

CREATE VIEW also requires the SELECT user privilege on the existing tables. R:BASE assigns users who create views the same user privileges they have on the source table. For views that cannot be updated, R:BASE only assigns users the SELECT user privilege.

Command Authorization Requirements
The following three tables list R:BASE commands and the user privileges they require.

R:BASE Commands that Require the SELECT Access Right

Command	SELECT Access Right on...
BACKUP DATA	Table
BROWSE	Table
COMPUTE	Table
CREATE VIEW	Component tables
CROSSTAB	Table
DECLARE CURSOR	Table
FETCH	Table
INTERSECT	Table 1 and table 2
JOIN	Table 1 and table 2
OPEN CURSOR	Table
PRINT	Driving table/view, and any look-up tables
PROJECT	Table 1
QUERY	Table
SELECT	Table
SET VARIABLE *1*	Table
SUBTRACT	Table 1 and table 2
TALLY	Table
UNION	Table 1 and table 2
UNLOAD DATA	Table

1 SET VARIABLE requires the SELECT user privilege only when the value of the variable is derived from a column.

R:BASE Commands that Require the UPDATE User Privilege

Command	UPDATE User Privilege on...
CREATE INDEX	Column
EDIT ALL	Table. All columns in the table are displayed if you have SELECT permission on the table.
QUERY	Column
UPDATE	Column list

R:BASE Commands that Require Other User Privileges

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Command	User Privileget	Access on...
DELETE	DELETE	Table or single-table view.
EDIT USING	UPDATE, SELECT, DELETE, ALL PRIVILEGES	If the form is protected by a password at either the read or write level, the password on the form is the overriding user privilege. If the form is not protected by a password, the owner of the database must grant the specific user privileges on the tables used in the form.
ENTER	INSERT, ALL PRIVILEGES	If the form is protected by a password at either the read or write level, the password on the form is the overriding user privilege. If the form is not protected by a password, the owner of the database must grant the specific user privileges on the tables used in the form.
INSERT	INSERT	Table or single-table view.
LIST ALL	Any user privilege	Any user privilege granted allows users to list all tables for which they have user privileges.
LIST COLUMNS	Any user privilege	Any user privilege granted allows users to display columns for which they have user privileges.
LIST CONSTRAINTS	Any user privilege	Any user privilege granted allows users to display constraints for tables for which they have user privileges.
LIST INDEXES	Any user privilege	Any user privilege granted allowsusers to display indexes for which they have user privileges.
LIST SYS_%	SELECT	The SELECT user privilege allows users to view a generalized list of system tables and views.
LIST TABLE SYS_%	SELECT	The SELECT user privilege allows users to view a detailed list of system tables and views
LIST TABLES	Any user privilege	Any user privilege granted allows users to display tables for which they have user privileges.
LIST VIEWS	Any user privilege	Any user privileges allows users to display views for which they have user privileges.

The following table lists the user privileges and the commands that use them. Some commands appear under more than one user privilege.

User Privileges for R:BASE Commands

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Access Right	R:BASE Commands that Require The Access Right		
ALTER	ALTER TABLE	AUTONUM	DROP COLUMN
CREATE	ALTER TABLE	DROP	REVOKE *1*
	AUTONUM	GRANT *1*	RULES
	BACKUP ALL	PACK	UNLOAD ALL
	BACKUP STRUCTURE	RELOAD	UNLOAD STRUCTURE
	COMMENT ON	RENAME	
	CREATE TABLE	RESTORE	
Database owner's user identifier	ALTER TABLE	DROP	REVOKE *1*
	AUTONUM	GRANT *1*	RESTORE
	BACKUP ALL	PACK	RULES
	BACKUP STRUCTURE	RELOAD	UNLOAD ALL
	COMMENT ON	RENAME	UNLOAD STRUCTURE
	CREATE TABLE		
DELETE	DELETE	EDIT	LIST *3*
Form password *2*	EDIT USING *2*	ENTER *1*	
INSERT	EDIT	ENTER *2*	LIST *3*
	EDIT USING	INSERT	LOAD
REFERENCES	ENTER *2*	INSERT	UPDATE
	EDIT	LIST *3*	
	EDIT USING	LOAD	
SELECT	BACKUP DATA	FETCH	SELECT
	BROWSE	INTERSECT	SET VARIABLE *4*
	COMPUTE	JOIN	SUBTRACT
	CREATE VIEW	LIST3	TALLY
	CROSSTAB	PRINT	UNION
	DECLARE CURSOR	PROJECT	UNLOAD DATA
UPDATE	CREATE INDEX	EDIT USING	UPDATE
	EDIT	LIST *3*	

1. GRANT and REVOKE do not require the database owner's user identifier for an user privilege that includes GRANT permission.

2. Form passwords override user privileges assigned with the GRANT command. If a form does not have a password, the INSERT, DELETE , SELECT, or UPDATE user privileges are required for the underlying tables.

3. Any user privilege granted allows users to list all tables for which they have user privileges.

4. SET VARIABLE requires the SELECT user privilege only when the value of the variable is derived from a column.

Revoking User Privileges

The database owner can remove user privileges with the REVOKE command. The syntax for the REVOKE command is the same as the syntax for the GRANT command. If you issue the REVOKE ALL PRIVILEGES command without specifying a table, R:BASE revokes all user privileges including ALTER and CREATE.

Examples

The following command grants user privileges to display the view named *slsview* to a specific user-*jane*, and to all users-PUBLIC.

```
GRANT SELECT ON slsview TO jane, PUBLIC
```

The following command grants user privileges to add or remove information to or from the *transmaster* table

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to any user entering the user identifier *sam* or *ralph*.

```
GRANT INSERT, DELETE ON transmaster TO sam, ralph
```

The following command grants user privileges to display and enter information in the *transmaster* table. Also, the command allows any user entering the user identifier *jane*to pass the SELECT and INSERT user privileges on to other users.

```
GRANT SELECT, INSERT ON transmaster TO jane WITH GRANT OPTION
```

The following command grants a user who is not the database owner permission to alter a specified table.

```
GRANT ALTER ON customer TO John
```

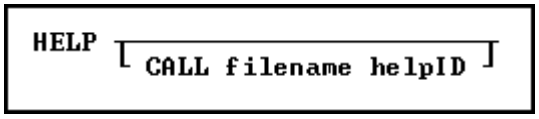
The following command line grants a user who is not the database owner permission to create tables.

```
GRANT CREATE TO John
```

1.9 H

1.9.1 HELP

Use the HELP command to start R:BASE *online Help*.



About the HELP Command

To start *online Help*, press [F1]. You can also start *online Help* at the R> prompt by entering "HELP," or "HELP" followed by a command name.

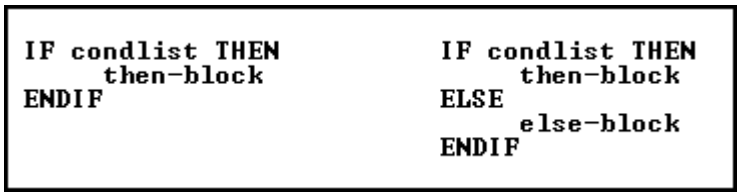
Press [Shift] + [F1] to display context-sensitive *online Help*.

The help file contains all the R:BASE help information and must be located on the default directory and drive, or on the current operating system path. The name of the help file depends on the operating system in which you are running R:BASE, but all help files have the .HLP extension.

1.10 I

1.10.1 IF/ENDIF

Use an IF...ENDIF structure in a command file to cause a block of commands to be run when the specified conditions are met.



Options

condlist
Lists a set of conditions that combine to form a statement that is either true or false. Conditions are combined with the connecting operators AND, OR, AND NOT, and OR NOT.

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else-block
Contains one or more R:BASE commands to execute when the conditions specified in *condlist* are false.

then-block
Contains one or more R:BASE commands to execute when the conditions specified in *condlist* are true.

About the IF...ENDIF Command

When the conditions in an IF...ENDIF structure are true, R:BASE runs all the commands between THEN and ELSE, or if the ELSE option is not included, between the THEN and ENDIF.

If you use the ELSE option and the conditions are false, R:BASE runs the block of commands between the ELSE and the ENDIF. If you do not use the ELSE option and the conditions are false, R:BASE runs the command line immediately after ENDIF.

IF...ENDIF structures can be nested with other IF...ENDIF structures.

IF...ENDIF structures can be on a single line in a command file. You cannot put an IF...ENDIF structure on a single line when any of the following occur in a command file:

- The last command in the then-block is QUIT.
- The structure contains an else-block.
- The structure contains a RUN command.

Using Conditions in an IF...ENDIF Structure

The conditions for an IF...ENDIF structure are listed in the table below.

Condition	Description
varname IS NULL	The value of the variable is null.
varname IS NOT NULL	The value of the variable is not null.
varname CONTAINS *'string'*	The variable has a TEXT data type and contains a '*string'* as a substring in the variable value.
varname NOT CONTAINS *'string'*	The variable has a TEXT data type and a *'string'* is not contained as a substring in the variable value.
varname LIKE *'string'*	The variable equals a '*string*.' A *'string'* can contain wildcards.
varname NOT LIKE *'string'*	The variable does not equal the *'string*'. A '*string'* can contain wildcards.
varname BETWEEN *value1* AND *value2*	The value of the variable is greater than or equal to *value1* and less than or equal to *value2*. The variable and the values must be the same data type.
varname NOT BETWEEN *value1* AND *value2*	The value of the variable is less than *value1* or greater than *value2*. The variable and the values must be the same data type.
item1 op *item2*	*Item1* has the specified relationship to *item2. Item1* can be a column name, value, or expression; *item2* can be a column name, value, or expression.

The valid operators (*op*) for the conditions in an IF...ENDIF structure are listed in the table below. Do not use wildcard characters with these operators.

Operator	Description
=	Equals
<=	Less than or equal to
>=	Greater than or equal to
<	Less than
>	Greater than
<>	Not equal

An expression can be substituted for the first variable in each of the conditions. The second variable in the

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comparison must be dotted so that the value of the variable is used, not the variable name.

Wildcards can be used with LIKE or NOT LIKE (for example, *varname* LIKE 'string%').

If you use multiple AND and OR operators, you must enter them in the correct order, or use parentheses to obtain the desired result. If SET AND is on (the default setting) conditions connected by AND are evaluated first; then conditions connected by OR are evaluated.

Examples

The following command lines show three nested IF...ENDIF structures.

```
IF vqtyord > .vlastqty THEN
 IF vqtyord <> 0 THEN
 IF vchng > 0 AND vbackord IS NOT NULL THEN
 .
 .
 .
 ELSE
 .
 .
 .
 ENDIF
 ENDIF
 ENDIF
```

The following example shows an IF...ENDIF structure on a single line.

```
IF v2 = 0 THEN ; SET VARIABLE v1 = (.v1 + 1) ; ENDIF
```

1.10.2 INPUT

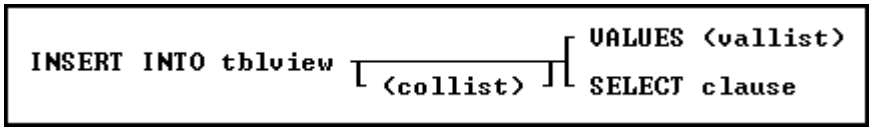
Use the INPUT command to make a specified file current input device.

INPUT command is used most often to load an ASCII file created with the OUTPUT and LOAD commands back into a database.

- Transfers the contents of a backup file generated by BACKUP or UNLOAD. INPUT executes the commands in the file and loads the data contained in the backup file. Do not use INPUT when the backup file is on more than one floppy disk.
- Enter a drive if the input file is not on the default drive.
- Enter a path if the input file is not on the current directory and default drive.
- If you specify a command file, it starts after you press [Enter].
- INPUT TERMINAL or INPUT KEYBOARD commands clear all nesting levels and return control to the R> prompt.

1.10.3 INSERT

Use the INSERT command to add data to a table or view without using a data-entry form.



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Options

(collist)
Specifies a list of one or more column names, separated by a comma (or the current delimiter). In an SQL command, any column name in the list can be preceded by a table or correlation name and a period (*tblname.colname*).

INTO tblview
Specifies the table or view name (views must be updatable).

SELECT clause
Finds values in a table, tables, or view to insert into the table or view specified by the INTO *tblview* option and the columns specified by the *collist* option.

VALUES (vallist)
Specifies a list of values to insert into the table specified by the INTO *tblview* option and the columns specified by the *collist* option. Separate values with a comma or the current delimiter.

For these data types...	**Use this format for *vallist***
All data types except BIT, BITNOTE, LONG VARBIT, and VARBIT	'string' or value
BIT, BITNOTE, LONG VARBIT, LONG VARCHAR, VARBIT, and VARCHAR	['filename.ext'] or ['filename.ext', filetype, offset, length] **Note:** When you use VARCHAR, the filetype is always TXT. When you use VARBIT, BIT, and BITNOTE, filetype refers to the standard graphical file types.

About the INSERT Command

The INSERT command assigns a default value of null to any column not named in the *collist* unless a default value has been assigned to a column with the CREATE TABLE or ALTER TABLE command.

To ensure that rules are checked while adding data with the INSERT command, set RULES on before running the INSERT command.

The setting of the SET ZERO command affects the calculation of numeric computed columns. To have null values treated as zeros in expressions, set ZERO on. When ZERO is set off, if the value of a column used in a expression is null, the computed value will be null.

You cannot insert values into the table used in the SELECT clause.

To ensure that data is placed in the intended column, use the following guidelines:

- Do not embed commas within entries for CURRENCY, DOUBLE, INTEGER, NUMERIC, or REAL data types. R:BASE automatically inserts commas and the current currency symbol.
- When values for CURRENCY, DOUBLE, NUMERIC, or REAL or data types are decimal fractions, you must enter the decimal point. When values are whole numbers, R:BASE adds a decimal point for you at the end of the number. R:BASE adds zeros for subunits in whole currency values; For example, using the default currency format, R:BASE loads an entry of 1000 as $1,000.00.
- When values for NOTE or TEXT data types contain commas, you can either enclose the entries within quotes, or use SET DELIMIT to change the default delimiter (comma) to another character.
- When values for NOTE or TEXT data types contain single quotes ('), and you are using the default QUOTES character ('), use two single quotes ('') in the text string. For example, 'Walter Finnegan''s order.'
- When a value you specify for a column is not the same data type as the column's data type, R:BASE displays an error message and you need to re-enter the entire row.
- When values for NOTE or TEXT data types exceed the maximum length of a column, R:BASE truncates the value and adds it to the table. A message is displayed that tells you which row has been truncated.

Inserting an Autonumbered Column

When you use INSERT to add a row, INSERT assigns the next available number to autonumbered columns in the table. Therefore, omit autonumbered columns and their values from a *collist.*Also, if you use the SELECT option, omit an autonumbered column from the *collist*. If a value is included for an autonumbered column that was omitted from the column list, R:BASE does not run the command because it cannot identify which column

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to load.

Inserting a Computed Column

Because a computed column's value is calculated, you cannot insert a new value. Omit computed columns from a *collist* or, if you are adding data to all columns, do not use a *collist* and do not specify a value for the computed column. R:BASE will skip the computed column when the row is inserted.

Examples

In the following example, the *sales* table has three columns, *col1*, *col2*, and *col3*; and *col2* is a computed column. To insert a row, you would only specify values for *col1* and *col3*. In this example, the value for *col1* is 100, and the value for *col3*is 200.

If the expression for *col2* was (*col1 + 200*), then *col2* would have the value 300 when the row is inserted.

```
INSERT INTO sales VALUES (100, 200)
```

In the following example, a *vallist* adds a new row to the *product* table, filling the *model*, *prodname*, *proddesc*, and *listprice* columns.

```
INSERT INTO product (model, prodname, proddesc, listprice) +
   VALUES ('PB3060', 'Portable Advanced PC', 'System-Single +
   Drive w/Hard Disk-Portable', 3795)
```

The following command uses a *vallist* with global variables to insert the values from variables *v1*, *v2*, and *v3* into the *bonusrate* table.

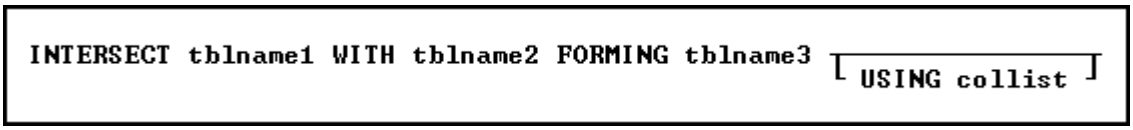
```
SET VARIABLE v1 CURRENCY = 50000, v2 CURRENCY = 75000, +
   v3 REAL = .10
INSERT INTO bonusrate VALUES (.v1, .v2, .v3)
```

The following example adds rows to *customer* table selected from *temp* table. It adds data into the *company* and *custphone* columns. The columns taken from the *temp* table can have different column names, the data types must be the same, and the order and number of columns in the column list of the source table (designated by SELECT) must match the column list of the destination table (designated by INTO).

```
INSERT INTO customer (company, custphone) +
   SELECT cname, phone FROM temp
```

1.10.4 INTERSECT

Use the INTERSECT command to form a new table by combining two tables that have one or more common columns.



Options

FORMING tblname3
Specifies the name of the new table.

tblname1
Specifies the name of the first table to intersect.

USING collist
Specifies which columns to include in the new table. The clause must include at least one common column. You can use the clause to order the columns in the new table and to determine which columns from the original tables will be in the new table.

If you do not include the clause, R:BASE uses all columns from both tables. Columns from *tblname1* provide the order for rows and columns in the new table. R:BASE adds columns from *tblname2* that are not in

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tblname1 to the right of the columns from *tblname1*.

The USING clause also determines which common columns are used for comparison. For example, if *frstname* and *lastname* are in both tables but only *lastname* is included in the USING clause, INTERSECT will compare the tables based only on *lastname*.

WITH tblname2
Specifies the name of the second table to intersect.

About the INTERSECT Command

A new table only contains the rows in which there were identical values in each of the common columns in both tables. If the common columns for a row in each table have the same value, R:BASE combines the two rows into one in the new table. If the common columns in each table have multiple matches, R:BASE adds a row for each match in the new table. For example, if *tblname1* has two rows with an identification number of 100 and *tblname2* has three rows with the same identification number, *tblname3* will have six rows, one for each possible combination.

If you combine one or more NOTE columns with the INTERSECT command, R:BASE might truncate the last NOTE column. The maximum total row length is 32,768 characters.

In the new table, R:BASE does not update the value in the row for the autonumbered column. The autonumbered column becomes a regular column.

Including Computed Columns in a New Table

R:BASE uses the current values in computed columns to determine whether the values in common computed columns are identical. To include a computed column in a new table, include each column used in the computed column's definition in the USING clause, placing the columns before the computed column. Without such a USING clause, R:BASE makes the computed column a regular column, and displays a message suggesting you rename the column in the new table. If you do not rename the column, the new table will have a column that has the same name but a different data type from the original table. If you have columns with the same name but different data types, you will not be able use the BACKUP and UNLOAD commands.

Increasing the Speed of INTERSECT

You can increase the speed of the INTERSECT command by creating an index for the common column in *tblname2*. The INTERSECT command does not use an index in *tblname1*. Below are guidelines for indexing columns in *tblname2*:

- If one table has more rows than the other table, place the larger table second (*tblname2*) in the command and create an index for its common column.
- If both tables have many rows, place the table with the shorter row length first (*tblname1*)and index the common column in the second table.
- If the tables have more than one common column, index the common column that has the most unique values in the second table (*tblname2*).

Examples

The following command forms the *models* table by combining the rows from the *component* and *compused* tables that contain identical values in a column common in both tables. Because the USING clause is not included, the *models* table contains all columns from both tables.

```
INTERSECT component WITH compused FORMING models
```

The following command lines create a table containing employee information on sales representatives and their sales bonuses. The *repsales* table only contains the rows that match in *employee*and *salesbonus* tables.

```
INTERSECT employee WITH salesbonus FORMING repsales +
   USING emplname, empid, hiredate, netamount, transdate, bonus, bonuspct
```

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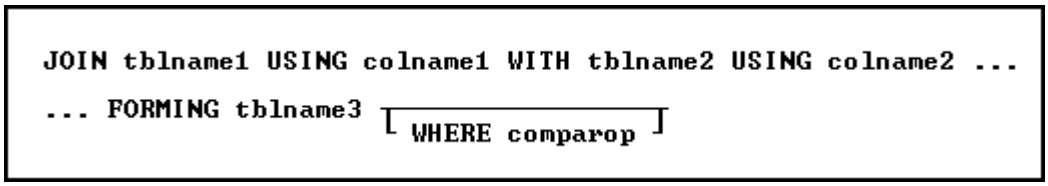
1.11 J

1.11.1 JOIN

Use the JOIN command to form a new table by combining rows from two existing tables based on a comparison of the columns you specify.



Option

FORMING tblname3
Specifies the name of the new table.

tblname1
Specifies the name of the first table to join.

USING colname1
Specifies the columns to be compared; *colname1* is a column in *tblname1*.

USING colname2
Specifies the columns to be compared; *colname2* is a column in *tblname2*.

WHERE comparop
States the condition used to compare columns. If omitted, the condition is = or EQ (equal).
Use only the following comparison operators in a JOIN WHERE clause:

Comparison Operator		Rows are included if...
=	EQ	*colname1* is equal to *colname2* (the default)
<>	NE	*colname1* is not equal to *colname2*
>	GT	*colname1* is greater than *colname2*
>=	GE	*colname1* is greater than or equal to *colname2*
<	LT	*colname1* is less than *colname2*
<=	LE	*colname1* is less than or equal to *colname2*

WITH tblname2
Specifies the name of the second table to join.

About the JOIN Command

JOIN combines all columns from two tables into a new table. R:BASE adds rows to the new table (*tblname3*) that satisfy the comparison condition (*comparop*) of a column from each of the existing tables (*tblname1* and *tblname2*). You must specify the columns to be compared: *colname1* is a column in *tblname1* and *colname2* is a column in *tblname2*.

The important characteristic of JOIN is the relationship between column values in the two tables. R:BASE compares the values of one column in the first table to the values of another column in the second table based on the operator you specify. The two tables do not need common columns to satisfy the comparison.

Column Names
If any columns in the existing tables have the same name, change the column name in one of the tables before you join them or before you use the new table. (R:BASE creates the new table and gives the two columns the same name.) If you want to use the columns with the same column name in the USING clause, change one of them before you join the tables. The column names can be different, but their data type and size must be the same.

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When the comparison between the two specified columns is satisfied, R:BASE creates a row in the new table that is a combination of all columns from the row in *tblname1* and its corresponding row in *tblname2*.

NOTE Columns
If you use JOIN to combine one or more columns that have a NOTE data type, R:BASE, starting with the last column that has a NOTE data type, truncates the column until the row length is within the 32,768-character limit.

Autonumbered Columns
In the new table, R:BASE does not update the values for the autonumbered column. The autonumbered column becomes a regular column.

Improving Performance with Indexing
When a WHERE clause is used, you can speed up JOIN by creating an index for the compared column in *tblname2*. JOIN does not use an index in *tblname1*. If one table has more rows than the other table, name the larger table second in the command and index its compared column. If both tables have many rows, place the table with the shorter row length first, then create an index for the compared column in the second table.

Example

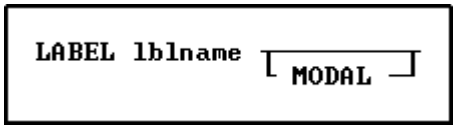
The following command creates a new table named *prodcom* by combining rows from the *prodlocation* and *component* tables. The rows included in *prodcom* are based on a comparison of the values in the *model* column in *prodlocation* and the values in the *compid* column in *component*. The WHERE clause specifies that the new table will contain only the rows in which the *model*value equals the *compid* value. Because the equal sign (=) is the default operator, you could omit the WHERE =. All the columns in *prodlocation* and *component* are included in *prodcom*.

```
JOIN prodlocation USING model WITH component USING compid +
FORMING prodcom WHERE =
```

1.12 L

1.12.1 LABEL

In a GOTO or WHENEVER statement, use the LABEL command to identify the command line to which control should be passed.



Option

lblname
Specifies a 1 to 18 character name that labels a line to skip to when a GOTO command is executed in a command or procedure file.

MODAL
Allows an EEP command block to launch a Form, Label or Report in a designer. After making appropriate changes, you will have to save the changes and close the designer in order to continue the next command in your EEP.

About the LABEL Command

After a command file is run once, R:BASE stores the labels in memory. When the command file is run again, R:BASE retrieves the location of a label when the GOTO or WHENEVER is run. However, if the GOTO or WHENEVER command is going to be run only once, place the LABEL command below the GOTO or WHENEVER command because it is more efficient for R:BASE to search downward in the command file for the matching label.

Example

In the following example, if the *vctrvar* variable in the IF...THEN statement is equal to 999, control passes to

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the command lines following the LABEL command, which defines the *endproc* label. If *vctrvar* does not equal 999, the command lines following the ELSE statement are performed.

```
IF vctrvar = 999 THEN
   GOTO endproc
ELSE
   *( commands to execute )
ENDIF

.
.
.

LABEL endproc
   *( commands to execute )
```

1.12.2 LAUNCH

The LAUNCH command invokes/runs any associated files along with required programs.

```
LAUNCH filename.ext|<parameters>|W
```

Options

filename.ext
The name of file which has a corresponding association registered with Windows.

|<parameters>
To specify additional parameters

|W
To specify Wait Until Finished option

About the LAUNCH Command

LAUNCH command is used to execute (or LAUNCH) another application or process, from within R:BASE Turbo V-8 for Windows and higher. It designates which file to execute. This means that the FileName can be set to any file that has a corresponding association registered with Windows. For example, setting FileName to 'RBW65PP3.TXT' will invoke the Windows NotePad when LAUNCHed. If a full path is not specified, the current search path is used.

The enhanced LAUNCH command allows you to set the FileName property to the file to be executed, and specify any command line parameters using the "Parameters". The selected program will start when the LAUNCH command is used. The LAUNCHed application will start in the same directory as the executable file or in the directory referenced, if specified.

The enhanced LAUNCH command also allows you to use the "Wait Until Finished" option to specify whether or not you want R:BASE Turbo V-8 for Windows and higher to sleep while the launched program executes or continue running. If the Wait Until Finished parameter "|W", i.e. pipe W with no space, is added to the LAUNCH command, the R:BASE will sleep until the launched process completes. If the Wait Until Finished parameter "|W" is not specified, the launched process is executed in its own thread, and the R:BASE will continue to execute.

At the R> prompt or in a command file:

Example 01:

```
LAUNCH charts.VBS
```

will invoke VBScript:Windows Scripting Host Sample and will demonstrate how to access Excel using the Windows Scripting Host in an active R:BASE session.

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or

```
LAUNCH c:\windows\samples\wsh\charts.vbs
```

Example 02:

```
LAUNCH myfile.DOC
```

will invoke MSWord (if installed), and let you edit the file in an active R:BASE session.

or

```
LAUNCH c:\mydocs\myfile.doc
```

Example 03:

```
LAUNCH myfile.WPD
```

will invoke Corel WordPerfect (if installed), and let you edit the file in an active R:BASE session.

or

```
LAUNCH c:\mydocs\myfile.wpd
```

Example 04:

```
LAUNCH myfile.TXT
```

will invoke MS NotePad, and let you edit the file in an active R:BASE session.

or

```
LAUNCH c:\mydocs\myfile.txt
```

Example 05:

```
LAUNCH myfile.PDF
```

will invoke Adobe Acrobat Reader, and let you view the file in an active R:BASE session.

or

```
LAUNCH c:\mydocs\myfile.pdf
```

Example 06: (To automate e-mails via R:BASE)

If you know the e-mail tags of your default e-mail program, using the LAUNCH command you could easily achieve that task of automating e-mails.

```
SET VAR vMailTo TEXT = NULL
SET VAR vCustID INTEGER = 2001
SELECT ('mailto:'+EMailAddress) INTO vMailTo INDIC IvMailTo +
FROM Contacts WHERE CustId = .vCustID
LAUNCH .vMailTo
That will launch default e-mail programs with filled in To:
You could follow the same scenario for other e-mail tags, such as:
Subject:
Cc:
Bcc:
Attached:
Message:
```

Example 07: (Simple LAUNCH command)

```
LAUNCH RBW65PP3.TXT
```

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This will invoke the Windows NotePad with RBW65PP3.TXT.

Example 08: (LAUNCH command with Parameters)

```
LAUNCH C:\WordDocuments\TestFile.DOC|/MacroName
```

This will invoke the MS Word with TestFile.DOC running MacroName.

Notice the pipe "|" symbol right after TestFile.DOC to specify additional parameter.

Example 09: (LAUNCH command with Parameters and Wait Until Finished option)

```
LAUNCH C:\WordDocuments\TestFile.DOC|/MacroName|W
```

This will invoke the MS Word with TestFile.DOC using MacroName as a main window while R:BASE 2000 (version 6.5++) or higher sleeps in the back. You will have to Exit MS Word in order to give control back to R:BASE window/application.

Notice the additional pipe "|" symbol with "W" right after /MacroName to specify Wait Until Finish option.

Example 10: (LAUNCHing NotePad with Wait Until Wait option)

```
LAUNCH RBW65PP3.TXT||W
```

This will invoke the Windows NotePad with RBW65PP3.TXT as a main window while R:BASE sleeps in the back. You will have to Exit NotePad in order to get control back to R:BASE window/application.

Notice the two (2) pipes with no spaces right after RBW65PP3.TXT. The first pipe with no parameters and no space while the second pipe with Wait Until Finished "W" option.

* NO NEED TO ZIP OUT or running batch files, etc.

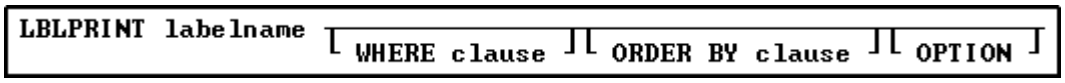
* NO flashing screens (in and out of DOS).

* LAUNCH command is also supported in EEPs.

The new LAUNCH command in R:BASE Turbo V-8 will execute ANY windows program as long as it is installed and the file extension is associated in the registry.

1.12.3 LBLPRINT

Use the LBLPRINT command to send a set of labels to a screen, printer, file, or any combination of destinations.



Options

labelname
Specifies a 1 to 18 character label name.

ORDER BY clause
Sorts rows of data. For more information, see the "ORDER BY" entry.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

OPTION
Specifies output options of the label.

PRINTING TO SCREEN

LBLPRINT labelname WHERE whereclause OPTION SCREEN|WINDOW_STATE MAXIMIZED

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WINDOW_STATE MAXIMIZED
Specifies that the preview window is maximized. By default, the window state is normalized.

PRINTING TO PRINTER WITH PARAMETERS

LBLPRINT labelname WHERE whereclause OPTION PRINTER|TRAY <value>| COLLATION ON/OFF|COPIES <value>|DOCUMENT_NAME <value>|DUPLEX <value>| ORIENTATION <value>|PAPER_NAME <value>|PAPER_WIDTH <value>| PAPER_HEIGHT <value>|PRINTER_NAME <value>

TRAY
The name of the bin (paper tray) containing the paper on which the label will be printed. A common use of this property is to set it to Manual Feed on mailing label reports. That way you can provide a means to load the special label paper without manually setting the printer.

COLLATION
This property indicates whether multiple copies will print in presorted order.

- ON
- OFF

COPIES
This property indicates the number of copies to print. If the Collation property is set to ON, the copies will print in sorted order.

DOCUMENT_NAME
When a label is printing, this is the name of the document as it should appear when listed in the Print Manager and on network header pages. This value can also be displayed in reports using the DocumentName type of the SystemVariable component.

DUPLEX
This property indicates what type of two-sided printing should occur. Not all printers support duplex printing.

- NONE - Duplex printing is disabled.
- HORIZONTAL - Duplex printing should be performed across the page, from left to right, so the text will read as in a book
- VERTICAL - Duplex printing should be performed down the page, from top to bottom, so the text will read as in tablet

ORIENTATION
The value of the Orientation property determines whether a label prints vertically or horizontally on a page.

- PORTRAIT - The print job prints vertically on the page.
- LANDSCAPE - The print job prints horizontally on the page**.**

PAPER_NAME
The name of the paper on which the label will be printed. When you specify a value for the PAPER_NAME property, the PaperWidth and PaperHeight are automatically set to the proper values. For example, if Legal is specified, the PAPER_WIDTH will be set to 8.5" and the PAPER_HEIGHT will be set to 14" when ORIENTATION is PORTRAIT (if the ORIENTATION is LANDSCAPE, the values will be reversed).

PAPER_WIDTH
The value of the PAPER_WIDTH are always expressed in the units specified by the Label.

PAPER_HEIGHT
The value of the PAPER_HEIGHT are always expressed in the units specified by the Label.

PRINTER_NAME
The name of the printer that will be used to print the label.

PRINTING TO BITMAP

LBLPRINT labelname WHERE … OPTION BMP|FILENAME <value>|PIXELFORMAT <value>|BACKGROUND_COLOR <value>|BACKGROUND_FILE <value>|BACKGROUND_TYPE

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<value>|MONOCHROME <value>|SCALEX <value>|SCALEY <value>|OPEN <value>|

FILENAME
filename of bmp-file

PIXELFORMAT
Specifies the pixel format of the bmp-file (bits/pixel)

- **1 :** 1bit
- **4 :** 4bit
- **8 :** 8bit
- **15 :** 15bit
- **16 :** 16bit
- **24 :** 24bit
- **32 :** 32bit

BACKGROUND_COLOR
Indicates the color to be used as background color of all pages of label (default : White)

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BACKGROUND_FILE
Stores the image file name that is to be used as background image of all pages of label.

BACKGROUND_TYPE
Specifies the way background image has to be displayed in the bmp-file.

- TILE
- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

MONOCHROME
Specifies whether bmp-file produced are color or monochrome images

- ON
- OFF

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SCALEX
double; Scaling factor for the width of the exported page

SCALEY
double; Scaling factor for the height of the exported page

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

Example:

LBLPRINT CustomerLabels option bmp|filename d:\testbmp.bmp|BACKGROUND_COLOR WHITE|BACKGROUND_TYPE TILE|BACKGROUND_FILE d:\tema.gif|OPEN ON

PRINTING TO GIF-File

LBLPRINT labelname WHERE … OPTION GIF|FILENAME <value> |PIXELFORMAT <value>|BACKGROUND_COLOR <value>|BACKGROUND_FILE <value>|BACKGROUND_TYPE <value>|MONOCHROME <value>|SCALEX <value>|SCALEY <value>|OPEN <value>|

FILENAME
filename of GIF-file

PIXELFORMAT
Specifies the pixel format of the GIF-file (bits/pixel)

- **1 :** 1bit
- **4 :** 4bit
- **8 :** 8bit
- **15 :** 15bit
- **16 :** 16bit
- **24 :** 24bit
- **32 :** 32bit

BACKGROUND_COLOR
Indicates the color to be used as background color of all pages of label (default : White)

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BACKGROUND_FILE
Stores the image file name that is to be used as background image of all pages of label.

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BACKGROUND_TYPE
Specifies the way background image has to be displayed in the GIF-file.

- TILE
- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

MONOCHROME
Specifies whether GIF-file produced are color or monochrome images

- ON
- OFF

SCALEX
double; Scaling factor for the width of the exported page

SCALEY
double; Scaling factor for the height of the exported page

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

Example:

LBLPRINT CustomerLabels option GIF|filename d:\testGIF.GIF|BACKGROUND_COLOR WHITE|BACKGROUND_TYPE TILE|BACKGROUND_FILE d:\tema.gif|OPEN ON

PRINTING TO JPEG-File

LBLPRINT labelname WHERE … OPTION JPG|FILENAME <value> |PIXELFORMAT <value>|BACKGROUND_COLOR <value>|BACKGROUND_FILE <value>|BACKGROUND_TYPE <value>|MONOCHROME <value>|SCALEX <value>|SCALEY <value>|GRAYSCALE <value>|PROGRESSIVE_ENCODING <value>|OPEN <value>|

FILENAME
filename of JPEG-file

PIXELFORMAT
Specifies the pixel format of the JPEG-file (bits/pixel)

- **1 :** 1bit
- **4 :** 4bit
- **8 :** 8bit
- **15 :** 15bit
- **16 :** 16bit
- **24 :** 24bit
- **32 :** 32bit

BACKGROUND_COLOR
Indicates the color to be used as background color of all pages of label (default : White)

- AQUA
- BLACK
- BLUE
- CREAM

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- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BACKGROUND_FILE
Stores the image file name that is to be used as background image of all pages of label.

BACKGROUND_TYPE
Specifies the way background image has to be displayed in the JPEG-file.

- TILE
- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

MONOCHROME
Specifies whether JPEG-file produced are color or monochrome images

- ON
- OFF

SCALEX
double; Scaling factor for the width of the exported page

SCALEY
double; Scaling factor for the height of the exported page

GRAYSCALE
Determines whether the image output of a JPEG image is black and white, or color. Use GrayScale for reading in and writing out, that is, for decompressing and compressing, a jpeg image. This property affects how the image is displayed.

GrayScale is used for speed in output optimization. When GrayScale is set to ON, the color is separated from luminosity. Color takes the most time to decompress, so for previewing the image, GrayScale can be set to True for speed. The output then contains 255 shades of gray.

- ON
- OFF

PROGRESSIVE_ENCODING
Determines whether an image can be progressively displayed when it is decompressed.

- ON
- OFF

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QUALITY
Determines the closeness of the saved, JPEG image to the original.

Quality determines the closeness of the saved, JPEG image to the original. As a side effect it also matter to the size of the saved file. Setting a larger value improves image quality but also increases file size; a smaller value decreases image quality and also reduces file size. Alter it according to the need.

- 1-100

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

Example:

LBLPRINT CustomerLabels option JPG|filename d:\testJPEG.JPEG|BACKGROUND_COLOR WHITE|BACKGROUND_TYPE TILE|BACKGROUND_FILE d:\tema.gif|OPEN ON

PRINTING TO ADOBE ACROBAT DOCUMENT

LBLPRINT labelname WHERE … OPTION PDF|FILENAME filespec |AUTHOR authorname |BACKGROUND_COLOR value|BACKGROUND_FILE filespec|BACKGROUND_TYPE value|COMPRESSION_METHOD value|FONT_ENCODING value|IMAGE_FORMAT value|IMAGE_DPI value|PIXELFORMAT value|INCLUDE_IMAGES|INCLUDE_LINES|INCLUDE_RICHTEXT|INCLUDE_SHAPES| JPEG_QUALITY value|RICHTEXT_ENCODING_TYPE value|SUBJECT <value>|TITLE <value>|USE_COMPRESSION|

FILENAME
filename of PDF-file

AUTHOR
Stores the name of the author of the label.

BACKGROUND_COLOR
Indicates the color to be used as background color of all pages of label (default : White)

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BACKGROUND_FILE
Stores the image file name that is to be used as background image of all pages of label.

BACKGROUND_TYPE

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Specifies the way background image has to be displayed in the bmp-file.

- TILE
- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

COMPRESSION_METHOD
Specifies the type of compression to be used to compress text and Image.

- FASTEST
- NORMAL
- MAXCOMPRESS

FONT_ENCODING
Specifies the type of font encoding to be used to encode font.

- WIN_ANSI
- MAC_ROMAN
- MAC_EXPERT
- STANDART
- PDF_DOC

IMAGE_FORMAT
Specifies the Linked image file format for image controls used in the label

- GIF
- JPG
- BMP

IMAGE_DPI
Indicates the DPI value to be used while encoding images.

PIXELFORMAT
Specifies the pixel format of the bmp-file (bits/pixel)

- **1 :** 1bit
- **4 :** 4bit
- **8 :** 8bit
- **15 :** 15bit
- **16 :** 16bit
- **24 :** 24bit
- **32 :** 32bit

INCLUDE_IMAGES
Specifies whether Images on the label should be included in the exported file.

- ON
- OFF

INCLUDE_LINES
Specifies whether lines on the label should be included in the exported file.

- ON
- OFF

INCLUDE_RICHTEXT
Specifies whether contents of the RichText objects on the label should be included in the exported file

- ON

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- OFF

INCLUDE_SHAPES
Specifies whether shapes on the label should be included in the exported file.

- ON
- OFF

JPEG_QUALITY
Specifies the Quality of the JPEG Image. Used when IMAGE_FORMAT = JPG.

RICHTEXT_ENCODING_TYPE
Specify the way in which RichText contents should be encoded in exported PDF document. Set RICHTEXT_ENCODING_TYPE to IMAGE to encode RichText contents as exact graphical representations. Set RICHTEXT_ENCODING_TYPE to PLAINTEXT to encode RichText contents as unformatted text. The font used when encoding RichText as plain text is the one set in the Font property of the RichText object.

- IMAGE
- PLAINTEXT

SUBJECT
Stores the subject of the label.

TITLE
Stores the title of the label.

USE_COMPRESSION
Specifies whether compression should be used.

- ON
- OFF

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

Example:
LBLPRINT CustomerLabels option pdf|filename d:\testbmp.bmp|BACKGROUND_COLOR WHITE|AUTHOR LYOLIK|OPEN ON

PRINTING TO HTML DOCUMENT

LBLPRINT labelname WHERE … OPTION HTML|FILENAME filespec |AUTHOR authorname |BACKGROUND_COLOR value|BACKGROUND_FILE filespec| BACKGROUND_TYPE value| CSSFILE filespec| IMAGE_FORMAT value| IMAGE_FOLDER value|IMAGE_DPI value|PIXELFORMAT value|INCLUDE_IMAGES value|INCLUDE_LINES value |INCLUDE_RICHTEXT value |INCLUDE_SHAPES value |JPEG_QUALITY value|KEYWORDS value|LINK_BACK_COLOR value| LINK_H_BACK_COLOR value|LINK_H_FORE_COLOR value|LINK_IMG_FILE_FIRST filespec|LINK_IMG_FILE_LAST filespec|LINK_IMG_FILE_NEXT filespec| LINK_IMG_FILE_PREV filespec|LINK_TEXT_FIRST value|LINK_TEXT_LAST value| LINK_TEXT_NEXT value|LINK_TEXT_PREV value|NAV_ORIENT value|NAV_POS value|NAV_TYPE value|PAGE_END_LINES value|RICHTEXT_ENCODING_TYPE value| SEP_FILE_PER_PAGE value|NAV_SHOW value|SUBJECT value|TITLE value| USE_TEXT_LINKS value|OPEN value|

FILENAME
filename of HTML-file

AUTHOR
Stores the name of the author of the label.

BACKGROUND_COLOR
Indicates the color to be used as background color of all pages of label (default : White)

- AQUA

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- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BACKGROUND_FILE
Stores the image file name that is to be used as background image of all pages of label.

BACKGROUND_TYPE
Specifies the way background image has to be displayed in the bmp-file.

- TILE
- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

CSSFILE
Stores the name of the CSS file.

- <filespec>

IMAGE_FORMAT
Specifies the Linked image file format for image controls used in the label

- GIF
- JPG
- BMP

IMAGE_DPI
Indicates the DPI value to be used while encoding images.

PIXELFORMAT
Specifies the pixel format of the bmp-file (bits/pixel)

- **1 :** 1bit
- **4 :** 4bit
- **8 :** 8bit
- **15 :** 15bit
- **16 :** 16bit
- **24 :** 24bit
- **32 :** 32bit

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INCLUDE_IMAGES
Specifies whether Images on the label should be included in the exported file.

- ON
- OFF

INCLUDE_LINES
Specifies whether lines on the label should be included in the exported file.

- ON
- OFF

INCLUDE_RICHTEXT
Specifies whether contents of the RichText objects on the label should be included in the exported file

- ON
- OFF

INCLUDE_SHAPES
Specifies whether shapes on the label should be included in the exported file.

- ON
- OFF

JPEG_QUALITY
Specifies the Quality of the JPEG Image. Used when IMAGE_FORMAT = JPG.

- 1-100

KEYWORDS
Stores the list of keywords used in the label. Specify a list of keywords for the document that should be encoded as the Keywords Meta content.

LINK_BACK_COLOR
Indicates the background color of navigator. It will be used only if SEP_FILE_PER_PAGE ON and NAV_SHOW ON.

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

LINK_H_BACK_COLOR
Indicates the background color of navigator when the mouse is hovered over it. It will be used only if SEP_FILE_PER_PAGE ON and NAV_SHOW ON.

- AQUA
- BLACK

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- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

LINK_H_FORE_COLOR
Indicates the color of navigator when the mouse is hovered over it. It will be used only if SEP_FILE_PER_PAGE ON and NAV_SHOW ON.

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

LINK_IMG_FILE_FIRST
Indicates the filename of the image to be used as navigator image linking to first page. It will be used only if SEP_FILE_PER_PAGE ON and NAV_SHOW ON and USE_TEXT_LINKS OFF.

- <filespec>

LINK_IMG_FILE_LAST
Indicates the filename of the image to be used as navigator image linking to last page. It will be used only if SEP_FILE_PER_PAGE ON and NAV_SHOW ON and USE_TEXT_LINKS OFF.

- <filespec>

LINK_IMG_FILE_NEXT
Indicates the filename of the image to be used as navigator image linking to last page. It will be used only if SEP_FILE_PER_PAGE ON and NAV_SHOW ON and USE_TEXT_LINKS OFF.

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- <filespec>

LINK_IMG_FILE_PREV
Indicates the filename of the image to be used as navigator image linking to previous page. It will be used only if SEP_FILE_PER_PAGE ON and NAV_SHOW ON and USE_TEXT_LINKS OFF.

- <filespec>

LINK_TEXT_FIRST
Indicate the text that should be used as the caption for the first page navigator link that appear at the bottom of the produced HTML. SEP_FILE_PER_PAGE ON and NAV_SHOW ON and USE_TEXT_LINKS ON.

- <value>

LINK_TEXT_LAST
Indicate the text that should be used as the caption for the last page navigator link that appear at the bottom of the produced HTML. SEP_FILE_PER_PAGE ON and NAV_SHOW ON and USE_TEXT_LINKS ON.

- <value>

LINK_TEXT_NEXT
Indicate the text that should be used as the caption for the next page navigator link that appear at the bottom of the produced HTML. SEP_FILE_PER_PAGE ON and NAV_SHOW ON and USE_TEXT_LINKS ON.

- <value>

LINK_TEXT_PREV
Indicate the text that should be used as the caption for the previous page navigator link that appear at the bottom of the produced HTML. SEP_FILE_PER_PAGE ON and NAV_SHOW ON and USE_TEXT_LINKS ON.

- <value>

NAV_ORIENT
Specifies the orientation of the navigator. if NAV_ORIENT HOR then, a Horizontal navigator is encoded, else a Vertical navigator is encoded. NAV_ORIENT will be considered only when SEP_FILE_PER_PAGE ON and NAV_SHOW ON.

- VERT
- HOR

NAV_POS
Specifies the position of the navigator. NAV_POS will be considered only when SEP_FILE_PER_PAGE ON and NAV_SHOW ON.

- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

NAV_TYPE
Specifies the type of the navigator. If NAV_TYPE SCREEN then the navigator will be fixed to screen, else the navigator will be fixed to page. NAV_TYPE will be considered only when SEP_FILE_PER_PAGE ON and NAV_SHOW ON.

- PAGE
- SCREEN

PAGE_END_LINES
Indicates whether a line should be drawn at the end of each page. Setting PAGE_END_LINES to ON draws a line after each page. PAGE_END_LINES is considered only when SEP_FILE_PER_PAGE OFF.

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- ON
- OFF

RICHTEXT_ENCODING_TYPE
Specify the way in which RichText contents should be encoded in exported PDF document. Set RICHTEXT_ENCODING_TYPE to IMAGE to encode RichText contents as exact graphical representations. Set RICHTEXT_ENCODING_TYPE to PLAINTEXT to encode RichText contents as unformatted text. The font used when encoding RichText as plain text is the one set in the Font property of the RichText object.

- IMAGE
- PLAINTEXT

NAV_SHOW
Set to ON to show a collection of links that enable easy navigation between pages of the exported HTML. The links function much like the navigator buttons in the standard preview of Label Preview: one link to jump to the first page; one to the last page; one to the next page and another to get back to the previous page. NAV_SHOW is only effective when SEP_FILE_PER_PAGE ON.

- ON
- OFF

SUBJECT
Stores the subject of the label.

TITLE
Stores the title of the label.

USE_TEXT_LINKS
Indicate the type of the navigator links that should be encoded for a multi-file HTML output. Setting USE_TEXT_LINKS to ON uses the text provided in LINK_TEXT_FIRST, LINK_TEXT_LAST, LINK_TEXT_NEXT and LINK_TEXT_PREV as the hyperlink's caption. Setting to OFF uses Images specified by LINK_IMG_FILE_FIRST, LINK_IMG_FILE_LAST, LINK_IMG_FILE_NEXT, LINK_IMG_FILE_PREV. The property is effective only when SEP_FILE_PER_PAGE ON and NAV_SHOW ON.

- ON
- OFF

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

Example:
LBLPRINT CustomerLabels option HTML|filename d:\testhtml.html|BACKGROUND_COLOR WHITE|AUTHOR LYOLIK|OPEN ON

PRINTING TO WMF(Windows Metafile)

LBLPRINT labelname WHERE … OPTION WMF|FILENAME <value>|BACKGROUND_COLOR <value>|BACKGROUND_FILE <value>| BACKGROUND_TYPE <value>|SCALEX <value>|SCALEY <value>|OPEN <value>|

FILENAME
filename of wmf-file

BACKGROUND_COLOR
Indicates the color to be used as background color of all pages of label (default : White)

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA

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- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BACKGROUND_FILE
Stores the image file name that is to be used as background image of all pages of label.

BACKGROUND_TYPE
Specifies the way background image has to be displayed in the wmf-file.

- TILE
- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

SCALEX
double; Scaling factor for the width of the exported page

SCALEY
double; Scaling factor for the height of the exported page

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

Example:

LBLPRINT CustomerLabels option wmf|filename d:\testbmp.wmf|BACKGROUND_COLOR WHITE|BACKGROUND_TYPE TILE|BACKGROUND_FILE d:\tema.gif|OPEN ON

PRINTING TO EMF(Enhanced Metafile)

LBLPRINT labelname WHERE … OPTION EMF|FILENAME <value>|BACKGROUND_COLOR <value>|BACKGROUND_FILE <value>| BACKGROUND_TYPE <value>|SCALEX <value>|SCALEY <value>|OPEN <value>|

FILENAME
filename of emf-file

BACKGROUND_COLOR
Indicates the color to be used as background color of all pages of label (default : White)

- AQUA
- BLACK

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- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BACKGROUND_FILE
Stores the image file name that is to be used as background image of all pages of label.

BACKGROUND_TYPE
Specifies the way background image has to be displayed in the emf-file.

- TILE
- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

SCALEX
double; Scaling factor for the width of the exported page

SCALEY
double; Scaling factor for the height of the exported page

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

Example:

LBLPRINT CustomerLabels option emf|filename d:\testbmp.emf|BACKGROUND_COLOR WHITE|BACKGROUND_TYPE TILE|BACKGROUND_FILE d:\tema.gif|OPEN ON

PRINTING TO TXT-File

LBLPRINT labelname WHERE … OPTION TXT|FILENAME <value>|OPEN <value>

FILENAME
filename of txt-file

OPEN
Specifies whether the label should be opened after it is generated

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- ON
- OFF

Example:

LBLPRINT CustomerLabels option txt|filename d:\test.txt|OPEN ON

PRINTING TO Label Emulation Text File

LBLPRINT labelname WHERE … OPTION ETXT|FILENAME <value>|OPEN <value>

FILENAME
filename of Label Emulation Text File

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

LBLPRINT CustomerLabels option etxt|filename d:\test.txt|OPEN ON

PRINTING TO RTF File

LBLPRINT labelname WHERE … OPTION RTF | FILENAME <filespec> | AUTHOR <value>| BACKGROUND_COLOR <value> | BACKGROUND_TYPE <value> | BACKGROUND_FILE <filespec> | IMAGE_FORMAT <value> |IMAGE_DPI <value>| INCLUDE_SHAPES <value> | INCLUDE_IMAGES <value> | INCLUDE_IMAGES <value> |INCLUDE_LINES <value> | INCLUDE_RICHTEXT <value> |JPEG_QUALITY <value>|KEYWORDS <value>|SUBJECT <value>|TITLE <value>|OPEN <value>|

FILENAME
filename of RTF File

AUTHOR
Stores the name of the author of the label.

BACKGROUND_COLOR
Indicates the color to be used as background color of all pages of label (default : White)

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BACKGROUND_FILE
Stores the image file name that is to be used as background image of all pages of label.

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BACKGROUND_TYPE
Specifies the way background image has to be displayed in the rtf-file.

- TILE
- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

IMAGE_FORMAT
Specifies the Linked image file format for image controls used in the label

- GIF
- JPG
- BMP

IMAGE_DPI
Indicates the DPI value to be used while encoding images.

INCLUDE_IMAGES
Specifies whether Images on the label should be included in the exported file.

- ON
- OFF

INCLUDE_LINES
Specifies whether lines on the label should be included in the exported file.

- ON
- OFF

INCLUDE_RICHTEXT
Specifies whether contents of the RichText objects on the label should be included in the exported file

- ON
- OFF

INCLUDE_SHAPES
Specifies whether shapes on the label should be included in the exported file.

- ON
- OFF

JPEG_QUALITY
Specifies the Quality of the JPEG Image. Used when IMAGE_FORMAT = JPG.

KEYWORDS
Stores the list of keywords used in the label. Specify a list of keywords for the document that should be encoded as the Keywords Meta content.

SUBJECT
Stores the subject of the label.

TITLE
Stores the title of the label.

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

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PRINTING TO Excel File

LBLPRINT labelname WHERE … OPTION XLS | FILENAME <filespec> | INCLUDE_RICH_TEXT <value>| LINE_SPACE <value>| CELL_ATTR <value>|OPEN <value>|

FILENAME
filename of Excel File

INCLUDE_RICHTEXT
Specifies whether contents of the RichText objects on the label should be included in the exported file

- ON
- OFF

LINE_SPACE
Indicate the amount of spacing between lines

- ACTUAL
- 0
- 1
- 2
- 3
- 4
- 5

CELL_ATTR
Cell attributes include shading of the cell whose color is not WHITE

OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

LBLPRINT CustomerLabels option XLS|filename d:\test.xls|OPEN ON

PRINTING TO TIFF-File

LBLPRINT labelname WHERE … OPTION TIFF|FILENAME <value> |PIXELFORMAT <value>|BACKGROUND_COLOR <value>|BACKGROUND_FILE <value>|BACKGROUND_TYPE <value>|MONOCHROME <value>|COMPRESSION <value> |MULTIPAGE <value>|SCALEX <value>|SCALEY <value>|OPEN <value>|

FILENAME
filename of TIFF-file

PIXELFORMAT
Specifies the pixel format of the GIF-file (bits/pixel)

- **1 :** 1bit
- **4 :** 4bit
- **8 :** 8bit
- **15 :** 15bit
- **16 :** 16bit
- **24 :** 24bit
- **32 :** 32bit

BACKGROUND_COLOR
Indicates the color to be used as background color of all pages of label (default : White)

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY

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- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BACKGROUND_FILE
Stores the image file name that is to be used as background image of all pages of label.

BACKGROUND_TYPE
Specifies the way background image has to be displayed in the TIFF-file.

- TILE
- TOPLEFT
- TOPCENTER
- TOPRIGHT
- CENTERLEFT
- CENTER
- CENTERRIGHT
- BOTTOMLEFT
- BOTTOMCENTER
- BOTTOMRIGHT

MONOCHROME
Specifies whether TIFF-file produced are color or monochrome images

- ON
- OFF

COMPRESSION
When an image is loaded, this parameter indicates the compression used by the image. When saving in image, the parameter may be set to specify which compression method to use.

- NONE - None
- PACKBITS - Packbits
- GROUP3_1D - CCITT Group 3, 1D
- GROUP3_2D - CCITT Group 3, 2D
- GROUP4 - CCITT Group 4
- ZLIB - Zlib(Default)
- JPEG - JPEG

MULTIPAGE
Output label to one multipage file or one file per page.

- ON
- OFF

SCALEX
double; Scaling factor for the width of the exported page

SCALEY
double; Scaling factor for the height of the exported page

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OPEN
Specifies whether the label should be opened after it is generated

- ON
- OFF

Example:

LBLPRINT CustomerLabels option TIFF|filename d:\test.tiff|OPEN ON

About the LBLPRINT Command

To send labels to a file or a printer, use the OUTPUT command to designate the output device before the LBLPRINT command. (The default output device is the screen.) After printing the labels, be sure to return the output to the screen. When you send labels to a file, R:BASE only writes the last buffer of information to the file after the OUTPUT SCREEN command is run.

Examples

The following command lines print labels using the *employee* table. The labels are printed in the order that the names are stored in the table. After the labels are printed, R:BASE directs output back to the screen.

```
OUTPUT PRINTER
LBLPRINT emplabel
OUTPUT SCREEN
```

The following command lines print labels in ascending zip code order, from the smallest to the largest zip code. After the labels are printed, R:BASE directs output back to the screen.

```
OUTPUT PRINTER
LBLPRINT emplabel ORDER BY empzip
OUTPUT SCREEN
```

The following command lines print a row of test labels to check the alignment of the label stock in your printer.

```
OUTPUT PRINTER
LBLPRINT emplabel CHECK ORDER BY empzip
OUTPUT SCREEN
```

The following command displays the mailing labels on screen in ascending zip code order, up to and including zip code 98100. Any labels with zip codes greater than 98100 are not displayed.

```
LBLPRINT emplabel WHERE empzip <= 98100 ORDER BY empzip
```

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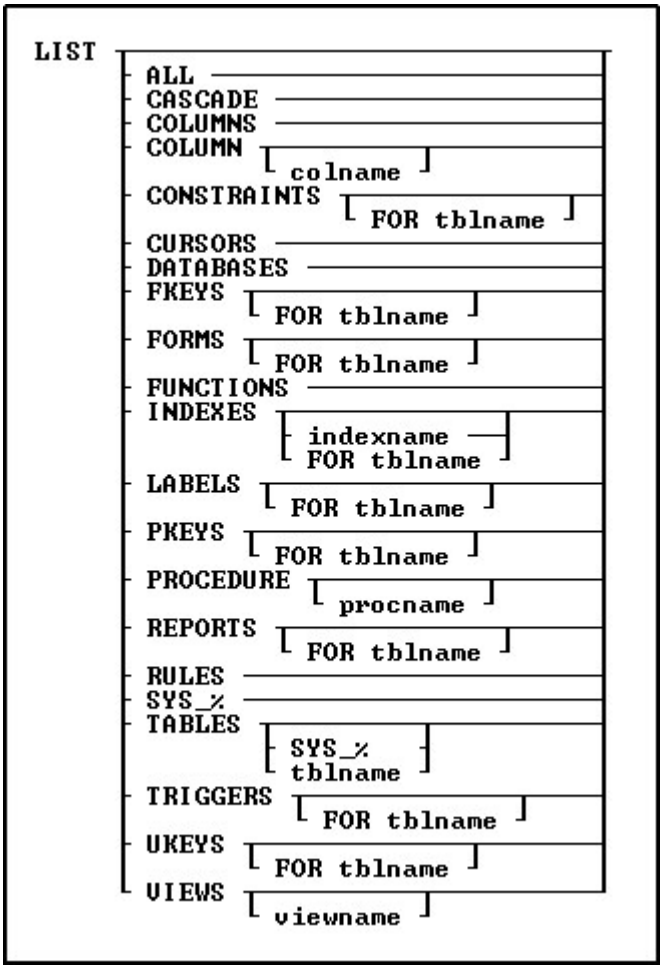
1.12.4 LIST

Use the LIST command to display or print information about a database.



Options

ALL
Displays by table the column numbers, column names, data types, sizes, indexes, autonumbering status, expressions for computed columns, default values, column descriptions, table description, and row count for each table in the open database. A blank line wil be inserted between each table.

CASCADE
Displays a list of tables with the CASCADE flag, and the type of flag; UPDATE, DELETE, or BOTH.

COLUMNS
Displays the name, data type, size, table name, index status, autonumbering status, expression, any default value, and description for each column in the open database.

If you specify part of a column name followed by a wildcard character, R:BASE will only show the column names that match that pattern.

COLUMN colname
Displays the name, data type, size, table name, index status, autonumbering status, expression, any default value, and description for the column that you enter in every table.

CONSTRAINTS
Displays the name, type, table name, and referenced table for each constraint in the database.

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CONSTRAINTS FOR tblname
Specifies a table name for which to list constraints.

CURSORS
Specifies the status of cursors and cursor definitions.

DATABASES
Lists all databases in the current directory.

FKEYS
Displays the key ID number, the type of key (foreign), the table name the key is located in, and the table that the foreign key references.

FKEYS FOR tblname
Displays the key ID number, the type of key (foreign), the column name of the foreign key in the specified table, the table name that the foreign key references, and the column name that the foreign key references.

FORMS
Displays the name, driving table or view, and description for every form in the open database.

FORMS FOR tblname
Displays the name, driving table or view, and description for all forms defined for *tblname*.

FUNCTIONS
Displays all defined DLL functions.

INDEXES
Displays the name, table name, and column names for all indexes in the open database.

INDEXES FOR tblname
Displays the name, table name, column names, data types, orders, and sizes for all indexes defined for *tblname*.

INDEXES indexname
Displays the name, table name, column names, data types, orders, and sizes for *indexname*.

LABELS
Displays the name, driving table or view, and description for every label in the open database.

LABELS FOR tblname
Displays the name, driving table or view, and description for all labels defined for *tblname*.

PKEYS
Displays the key ID number, the type of key (primary) and if it is referenced in another table, the table name the key is located in.

PKEYS FOR tblname
Displays the key ID number, the type of key (primary), the column name of the primary key in the specified table, the table name that references the primary key, and the column name that references the primary key.

PROCEDURE
Displays the name and description for every procedure in the open database.

PROCEDURE procname
Displays the name, description, ID, date last modified, version, locked by (if locked) and return type for the specified procedure. Also, if the procedure was stored with parameters, the number of parameters, names and descriptions will be displayed.

REPORTS
Displays the name, driving table or view, and description for every report in the open database.

REPORTS FOR tblname
Displays the name, driving table or view, and description for all reports defined for *tblname*.

RULES

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Displays whether rules checking is set on or off, the table name, whether the conditions in the WHERE clause must be met, the rule message, and the WHERE clause for every rule in the open database.

SYS_%
Displays a summary of system tables and views.

TABLES
Displays the database name, table name, number of columns, number of rows for each table in the open database, and lists all views, attached dBASE files, and attached foreign server tables. In addition, the LIST TABLES command shows the number of tables, columns, and indexes in the database. These numbers all include system tables. Temporary tables in a read-only schema mode are displayed dimmed. (For more information about the read-only scheme mode, see the "SET STATICDB" entry.) When you enter the LIST command by itself, R:BASE executes the LIST TABLES command.

TABLES SYS_%
Displays a detailed list of system tables and views.

TABLES tblname
Displays the name and description of the table, table number, name, data type, size, index status, autonumbering status, expression, default value, description, constraints, and index types for each column in the table. Columns are displayed in the order they were defined. The same output is displayed if you enter LIST tblname as a command.

TRIGGERS
Displays all of the tables that have triggers and their triggers in the open database.

TRIGGERS FOR tblname
Displays the triggers for the specified table.

UKEYS
Displays the key ID number, the type of key (unique), and the table name the key is located in.

UKEYS FOR tblname
Displays the key ID number, the type of key (unique), and the column name the unique key is assigned to.

VIEWS
Displays the database name and the names of all the views in the open database. Temporary views in read-only schema mode are dimmed.

VIEWS viewname
Displays the name and the SELECT clause defined for the view.

About the LIST Command

If the LIST command is entered without any options, R:BASE executes the LIST TABLES command. Column numbers that are displayed with the LIST command can be entered in other commands instead of column names. The total number of tables and columns listed includes R:BASE system tables (of which some are hidden) and their associated columns.

When a table has a LOCK on it, the LIST command will display "(L)" in front of the table name.

When a table is a TEMPORARY table, the LIST command will display "(T)" in front of the table name.

Database Access Rights with LIST
Before using the LIST command, enter the correct user identifier with the CONNECT or SET USER command.

When access rights have been assigned to a user with the GRANT command, R:BASE displays only those tables, columns, and views for which the user has been granted access.

In a multi-user environment, locked tables are displayed in reverse video when the LIST command is run. When you run the LIST TABLE *tblname* command, R:BASE tells you if the lock is an edit, cursor, local, or remote lock.

Example

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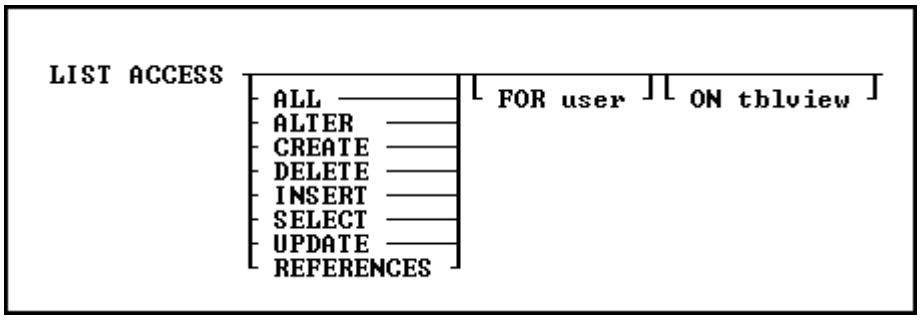
Column numbers that are displayed with the LIST command can be entered in other commands instead of column names. The following command would display the first column, *custid*, in the *customer* table.

```
SELECT #1 FROM customer
```

1.12.5 LIST ACCESS

Use the LIST ACCESS command to allow the owner of a database to view all user's access rights assigned by the GRANT command, and to allow users to view their access rights and rights granted to PUBLIC.



Options

ALL
Displays the users and tables to which the ALL PRIVILEGES access right has been assigned.

ALTER
Displays the users and tables to which the ALTER access right has been assigned.

CREATE
Displays the users and tables to which the CREATE access right has been assigned.

DELETE
Displays the users and tables to which the DELETE access right has been assigned.

FOR user
Displays the tables and access rights for a specific user.

INSERT
Displays the users and tables to which the INSERT access right has been assigned.

ON tblview
Displays the users and their access rights for a specific table or view.

REFERENCES
Displays the users who have rights to reference a primary-key or unique-key table.

SELECT
Displays the users and tables to which the SELECT access right has been assigned.

UPDATE
Displays the users, tables, and columns to which the UPDATE access right has been assigned.

About the LIST ACCESS Command

The LIST ACCESS command is available when access rights have been granted. When access rights have been granted with the WITH GRANT OPTION, the LIST ACCESS command displays an asterisk in front of the access right. When the LIST ACCESS command is entered without any options, it displays all access rights that have been granted on all tables to which the current user identifier has access.

The LIST ACCESS command requires a user identifier-either the database owner's, user's, or NONE. When you enter the owner's user identifier, the LIST ACCESS command allows you to view all current access rights assigned with the GRANT command. When you enter your user identifier, the LIST ACCESS command displays

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only the access rights granted to PUBLIC and to you. Users other than the database owner who are assigned access rights with the WITH GRANT OPTION are able to display the access rights they grant to other users.

Examples

The following commands assign access rights.

```
GRANT INSERT ON employee TO mike, dale
GRANT SELECT, INSERT ON transmaster TO dawn +
   WITH GRANT OPTION
GRANT UPDATE ON transmaster TO andrea
GRANT UPDATE (company, custaddress, custcity) +
   ON customer TO mike, PUBLIC
```

Based on the access rights assigned with the GRANT commands above, the LIST ACCESS command would display the information below. Column names listed under Column are columns that are specified with the UPDATE access right. Columns are only displayed when a user has been assigned UPDATE rights to specific columns.

User Identifier	Table	Access	Column
MIKE	Employee	INSERT	
DALE	Employee	INSERT	
DAVN	TransMaster	*SELECT	
DAVN	TransMaster	*INSERT	
ANDREA	TransMaster	UPDATE	
MIKE	Customer	UPDATE	company
			custaddress
			custcity
PUBLIC	Customer	UPDATE	company
			custaddress
			custcity

Based on the access rights assigned with the GRANT commands above, the LIST ACCESS UPDATE command would display the information below.

User Identifier	Table	Access	Column
ANDREA	TransMaster	UPDATE	
MIKE	Customer	UPDATE	company
			custaddress
			custcity
PUBLIC	Customer	UPDATE	company
			custaddress
			custcity

Based on the access rights assigned with the GRANT commands above, the LIST ACCESS ON *transmaster* command would display the information below. The asterisk (*) by SELECT and INSERT shows that Dawn can grant those access rights to other users.

User Identifier	Table	Access	Column
DAVN	TransMaster	*SELECT	
DAVN	TransMaster	*INSERT	
ANDREA	TransMaster	UPDATE	

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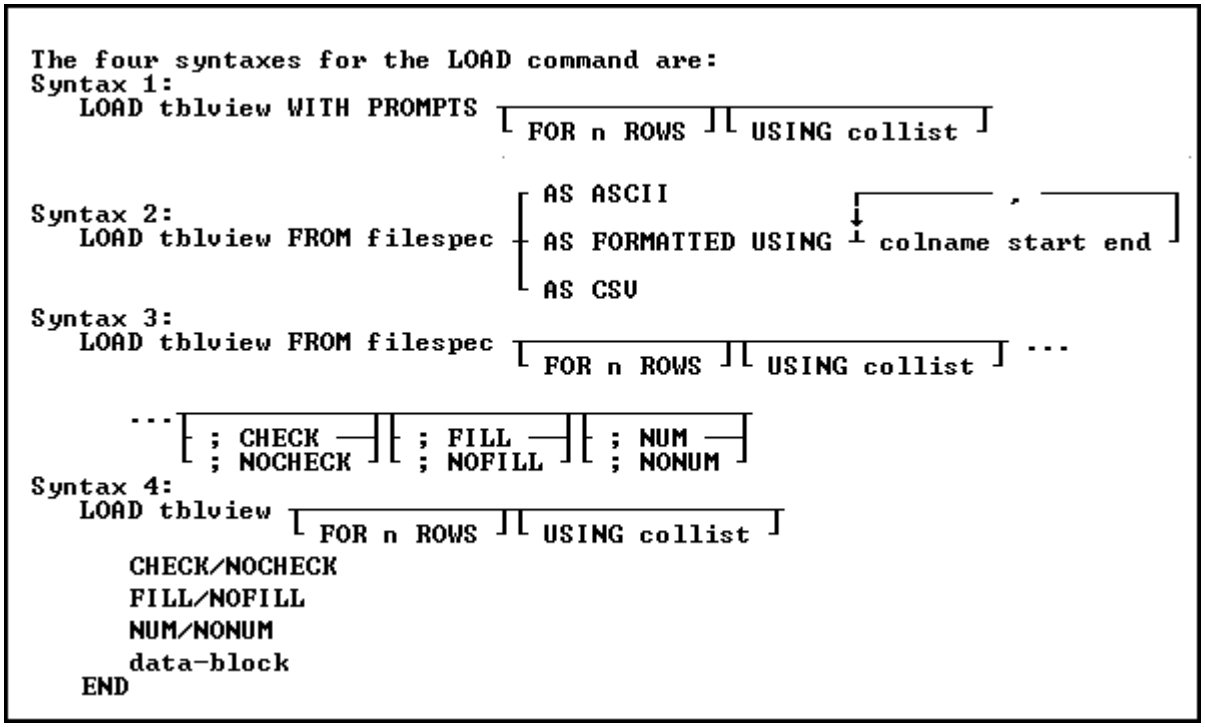
1.12.6 LOAD

Use the LOAD command to add data to a table or to a single table view that can be updated.



Options

,
Indicates that this part of the command is repeatable.

AS ASCII
The LOAD AS ASCII command is designed strictly for speed of operation. LOAD AS ASCII checks rules and constraints. However, following is a list of the limitations of the LOAD AS ASCII command:

- It does not check the data types; therefore, invalid data will be loaded as null values into columns; no error messages about this conversion are displayed.
- It does not display error messages when columns must be truncated, or when excess data exists on any line.
- It does not echo data to the screen regardless of the setting for SET ECHO.

To achieve maximum speed of loading, the data must look like the data that R:BASE unloads with the UNLOAD DATA AS ASCII command. That is, the data must conform to the following:

- The carriage return/line feed characters define the end of the line for a given row; the maximum row size is 32,768 characters.
- The data cannot include variables.
- The data cannot include comments.

AS FORMATTED USING
Loads data from an ASCII file when the data is formatted in fixed column locations, with the following restrictions:

- The carriage return/line feed characters define the end of the line for a given row; the maximum row size is 32,768 characters.
- The data cannot include variables.
- The data cannot include comments.
- You must specify the name of each column of the table to be loaded, and the starting and ending

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position of its data in the line, which is specified in the USING clause of this command.

CHECK
NOCHECK
CHECK turns on rule checking. When rule checking is on, R:BASE checks input against data validation rules. NOCHECK turns off rule checking. CHECK and NOCHECK override the current setting of the SET RULES command. The default is CHECK.

colname start end
Specifies the name of a column in the table and the starting and ending position of its data in the line; this option is used with the AS FORMATTED option.

data-block
Includes lines of data to be loaded, as well as the LOAD subcommands.

For these data types...	**Use this format for *data-block***
All data types except BIT, BITNOTE, LONG VARBIT, and VARBIT	'string' or value
BIT, BITNOTE, LONG VARBIT, LONG VARCHAR, VARBIT, and VARCHAR	['filename.ext'] or ['filename.ext', filetype, offset, length] **Note:** When you use VARCHAR, the filetype is always TXT. When you use VARBIT, BIT, and BITNOTE, filetype refers to the standard graphical file types.

FILL
NOFILL
FILL makes null any columns that have not been assigned values. All of the missing values must be at the end of the row. If a rule specifies that a column requires an entry other than null, do not use FILL. NOFILL turns off FILL and requires a value for each column. The default is NOFILL.

FOR n ROWS
Directs R:BASE to stop processing after loading *n* rows, where *n* is a positive whole number. In the fourth syntax diagram, END is not used if FOR *n* ROWS is included.

FROM filespec
Loads data into the specified table with data from an external ASCII delimited file.

NUM
NONUM
NUM specifies that autonumbering columns will be numbered as they are loaded. NONUM turns off autonumbering while loading, thereby allowing loading of a specific value for autonumber columns. The default is NUM.

tblview
Specifies a table or view name to load.

USING collist
Specifies the column(s) to use with the command.

WITH PROMPTS
Loads data into the specified table from keyboard entries. R:BASE asks for the values of each column by displaying the column name and its data type. To end the loading session, press [Esc].

About the LOAD Command

You cannot load data into a multi-table view.

Instead of using LOAD, you can also use INSERT, the Data Editor, or a form to add data to a table.

You can use the LOAD command to load data into R:BASE from a file that was not created by R:BASE. The file must be an ASCII file, either delimited or fixed.

The LOAD command will differentiate between END and 'END'; FILL and 'FILL'; NOFILL and 'NOFILL'; CHECK and 'CHECK'; NOCHECK and 'NOCHECK'; NUM and 'NUM'; NONUM and 'NONUM'. So, make sure to use the proper syntax when creating LOAD statements.

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To ensure that data is placed in the intended column, use the following guidelines:

- Do not embed commas within entries for CURRENCY, DATE, DATETIME, DOUBLE, INTEGER, NUMERIC, or REAL data types. R:BASE automatically inserts commas and the current currency symbol.
- When values for CURRENCY, DOUBLE, NUMERIC, or REAL or data types are decimal fractions, you must enter the decimal point. When values are whole numbers, R:BASE adds a decimal point for you at the end of the number. R:BASE adds zeros for subunits in whole currency values. For example, using the default currency format, R:BASE loads an entry of 1000 as $1,000.00.
- When values for NOTE or TEXT data types contain commas, you can either enclose the entries within quotes, or use SET DELIMIT to change the default delimiter (comma) to another character.
- When values for NOTE or TEXT data types contain single quotes ('), and you are using the default QUOTES character ('), use two single quotes ('') in the text string. For example, 'Walter Finnegan''s order.'
- When a value you specify for a column is not the same data type as the column's data type, R:BASE displays an error message and you need to re-enter the entire row.
- When values for NOTE or TEXT data types exceed the maximum length of a column, R:BASE truncates the value and adds it to the table. A message is displayed that tells you which row has been truncated.

Loading with a USING Clause
A USING clause is helpful when you do not have all the information that is to be added to a table. The following example lets you enter some information for a product but does not require that all columns be entered. The *model* and *listprice* columns are the first and last columns in the *product* table. The *prodname* and *proddesc* columns are not included in the command and are loaded with null values. You can later edit the *product* table to enter data into the columns that have null values.

```
LOAD product USING model listprice
```

Loading with the CHECK Option
The SET RULES command does not have any effect on the CHECK option because CHECK has precedence over a RULES setting. When RULES is set off, the CHECK option still verifies data entry against existing rules.

When a user identifier has been assigned to the database owner, you must enter the owner's user identifier with the CONNECT or SET USER command before you use the CHECK or NOCHECK option. R:BASE does not accept the CHECK or NOCHECK option unless the owner's user identifier has been entered.

Loading Computed Columns
You cannot load data directly into a computed column. After you load the column values that are used to calculate the computed column, R:BASE fills the computed column with the computed value.

The setting of the SET ZERO command affects the calculation of numeric computed columns. To have null values treated as zeros in expressions, set ZERO on. When ZERO is set off, if the value of a column used in a expression is null, the computed value will be null.

Loading Negative CURRENCY values
When loading negative CURRENCY values into a table, the format must include the hyphen, i.e -$500.00. Negative CURRENCY values encased in parenthesis are not recognized, i.e. ($500.00).

Loading with Prompts
When you run the LOAD command using prompts, you load one row of data at a time into the table you specified. (See Syntax 1). For each new row you add, R:BASE displays the name and data type of the row's column as prompts. At each prompt, you enter the value that you want the column to contain. You are prompted for each column in the row beginning with the first column, unless you used a USING *collist* clause to limit the number of the columns to load, or to change the order in which the columns are loaded. Any columns not listed in the *collist* are given null values when the rows are entered.

When you load data with prompts, the default length for a text entry is 80 characters. To enter columns with a NOTE or TEXT data types that contain more than 80 characters, load the data without prompts, make a custom data-entry form, or set the WIDTH so you can enter more characters.

R:BASE does not prompt you for computed or autonumbered column values.

Loading without Prompts
Loading without prompts (See Syntax 4) is faster but requires that you remember the order of the columns in the table. When you load without using prompts and not from an ASCII file, the LOAD command provides its own distinctive prompt. The following options can be entered at this prompt: CHECK, NOCHECK, FILL, NOFILL,

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NUM, and NONUM.

Loading from an ASCII File
Use the LOAD command from the R> prompt or a command file to load data into an existing table from both delimited and fixed field ASCII files. (See Syntax 2 and 3 diagrams.) Each record in the ASCII file corresponds to one row of data in a table, and each item of data in a record corresponds to one column value in a row. Therefore, organize data in the file in the same order as the columns in the table to be loaded.

Items of data in a line of the ASCII file must be delimited to be properly placed within the columns of a row. The delimiter character must be the same as the current delimiter character specified with the SET DELIMIT command. (The default delimiter is a comma.) R:BASE also accepts a blank space as a delimiter, regardless of the setting of the SET DELIMIT command.

Data can be loaded in a fixed-field formatted ASCII file with the AS FORMATTED option. The column name and the start and end positions within the file must be specified for each value in the row of data that is to be loaded. When the start and end positions are specified, the delimiter character does not have any effect because the start and end positions for each column identify the data.

When loading from a file, be sure that the current null symbol is not a blank. If the first four characters of a field in a file are blank, R:BASE adds the column as a null column and does not read any additional characters that make up the field value.

When loading data from an ASCII file, make sure the file meets the following requirements listed in the table below.

Elements in an ASCII File	**Requirement**
INTEGER data types	Items of data to be loaded into columns with INTEGER data types cannot contain internal commas unless the item is enclosed in quotes. The default QUOTES character in R:BASE is a single quote ('); if your ASCII file uses double quotes ("), change the QUOTES setting before you load the file. If the file does not have quotes around the integer values containing commas, you must edit the ASCII file to remove any commas from the integer values, or enclose each integer value in quotes.
Embedded punctuation	Items of data containing ampersands, commas, embedded blanks, plus signs, equal signs, or semicolons must be enclosed in quotes if they are to be loaded into columns with a TEXT or NOTE data type. The default QUOTES character in R:BASE is a single quote ('); if your ASCII file uses double quotes ("), change the QUOTES setting before you load the file.
Embedded quotes	Items of data requiring quotes can also contain embedded quotes. For example, the item '*Basic*' *Keyboard* contains both a blank space and embedded quotes. Using single quotes ('), which is the default QUOTES setting, to add enclosing quotes, the item would looks like this: '''Basic'' Keyboard'
Currency	R:BASE automatically adds a currency symbol, commas, and zeros for currency units. For example, using the default currency format, R:BASE loads an entry of *1000* as *$1,000.00.*
Dates	The SET DATE sequence command sets the sequence for the date-dates in the file are loaded if the dates match the current date sequence established with the SET DATE command.
Computed columns	If the table being loaded has computed columns and the file contains values for the computed columns, R:BASE tries to load the computed column's value from the file into the column following the computed column. This results in an error because the data type of the next column might not be the correct data type, or the file will have too many values for the table because R:BASE does not load the computed column's value from the file.
Rules processing	Unless you run the SET RULES OFF command before loading the file, rules processing is in effect. When an incoming data item violates a rule, R:BASE does not load the row. Instead, R:BASE displays the message for the rule that has been violated. To see the data that causes a rule violation, set ECHO on when loading a table and use the [Pause] key to stop the screen from scrolling when the rule violation occurs.

Loading a Data Block

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The data block shown in the Syntax 4 diagram can include lines of data and any of the options available with LOAD-CHECK/NOCHECK, FILL/NOFILL, and NUM/NONUM. You can intersperse the options with data lines, and you can enter more than one option on a line if you separate the options with semicolons. However, you cannot combine data and options on the same line.

R:BASE displays the dialog prompt to accept data-block entry. LOAD adds data to a table, row by row, without using a data-entry form and without prompting for each data item.

You can enter the options for the LOAD command at the dialog prompt at any time during data loading. Or you can include them on the command line, separated from the command by semicolons, as shown in the example below. (Do not use this format in command or procedure files. All options must follow the LOAD command on separate lines in command or procedure files.)

```
LOAD transdetail ; CHECK ; NUM
```

You can use global or system variables instead of constant values in the data block.

To enter values properly, use the following guidelines.

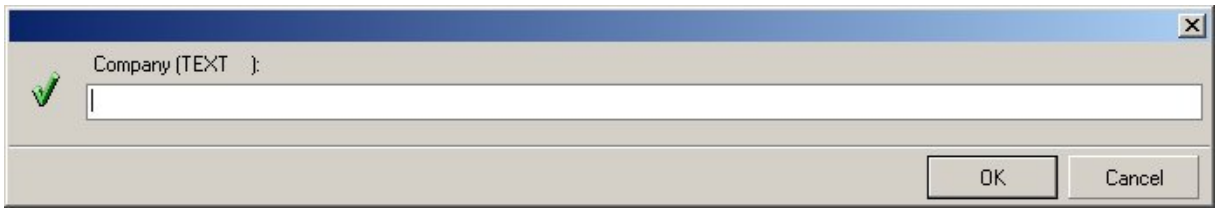
- Enter column values in the order that columns are defined in the table, and separate the values with a delimiter character. The default delimiter character is the comma.
- You can enter up to 75 characters on a single line. If a row is longer than 75 characters, continue on to the next line by typing past the end of the current line or by entering a plus (+) sign at any point on the current line. The plus sign must be the last entry on the line. The new line will begin with a +> prompt to indicate the continuation of the current line. If you are using this form of the LOAD command in a command file, you must use a + to continue on the next line; the lines will not automatically wrap.
- For other requirements on loading data, see "Loading from an ASCII File" earlier in this entry.

Examples

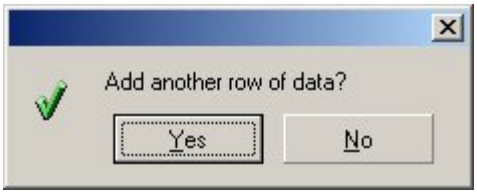
Example 01:
The following command line allow you to load rows containing new customer information to the *customer* table. R:BASE asks for each column by column name and data type. Two columns in the table, *custid* and *custphone*, are omitted from the list. R:BASE automatically supplies a number for the *custid* column because it is an autonumbered column. R:BASE leaves the *custphone* column empty (null) when data is loaded, and does not prompt for either column.

```
LOAD customer WITH PROMPTS USING company, +
custaddress, custcity, custstate, custzip
```

After the above command is run, the WITH PROMPTS option displays the message below.



If you press the [Esc] key or the "Cancel" button before you have finished entering data in a row, the row is not added to the table. You will be prompted to add another row.



To continue, press the "Yes" button. To exit, press the "No" button or the [Esc] key.

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Example 02:
The following command loads five rows of data into the *customer* table from CUST.DAT, a delimited ASCII file. The data in the ASCII file must be in the same order as the columns in the *customer* table. Only the first five lines from the file will be loaded:

```
LOAD customer FROM cust.dat FOR 5 ROWS
```

Example 03:
In the following example, the command line tells R:BASE to start loading data for the *customer* table. A dialog prompt is displayed for each new row. Each column value would be entered in this one dialog and separated with a comma, or the current delimiter. The legnth of the text available to fit in the dialog is 4096 characters.

```
LOAD customer
```

Example 04:
After the command line in the following example is run, R:BASE expects the next five lines entered at the dialog prompt to contain data to be loaded into the *customer* table. After the fifth line of data is entered, the loading ends. To end loading before five rows of data are entered, enter END.

```
LOAD customer FOR 5 ROWS
```

Example 05:
The following command lines show you how to load data into the *company*, *custaddress, custcity, custstate*, and *custzip* columns of the *customer* table. The *custid* and *custphone* columns in the *customer* table will not have data loaded and will be given null values.

```
LOAD customer FROM customer.fix AS FORMATTED +
USING company 11 50, custaddress 51 80, +
custcity 81 100, custstate 101 102, custzip 103 112
```

Example 06:
When you use the LOAD command, you must omit values for computed or autonumbered columns. Instead, enter the value for the next column in the data list. In the following example, to add a row to the *transdetail* table, which has a computed column, you would only enter data for the first five columns; the sixth column is a computed column based on the fourth and fifth columns. The columns entered are *transid*, *detailnum*, *model*, *units*, and *price*. The computed column is *extprice* and has the expression (*units* * *price*).

```
LOAD transdetail
  6000,1,'CX3000',100,$1900
END
```

1.13 M

1.13.1 MAXIMIZE

Use the MAXIMIZE command to maximize the R> prompt window.

About the MAXIMIZE command

Use the MAXIMIZE command to maximize the R> prompt window.

1.13.2 MINIMIZE

Use the MINIMIZE command to minimize the R> prompt window.

About the MINIMIZE command.

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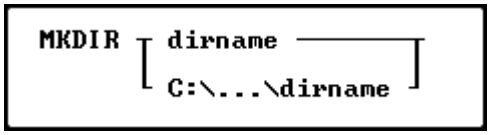
Use the MINIMIZE command to minimize the R> prompt window.

1.13.3 MKDIR

Use the MKDIR command to create a new directory.



Options

pathname
Specifies one or more directory names that lead from the root directory to a specified directory.

About the MKDIR Command

The R:BASE MKDIR command is similar to the operating system MKDIR command. For more information about the MKDIR command, refer to your operating system manual.

Examples

The following command creates the OLDDATA directory as a sub-directory in the current directory.

```
MKDIR olddata
```

1.14 N

1.14.1 NEWPAGE

Use the NEWPAGE command to send a form feed to the current output device: printer, screen, or file.

About the NEWPAGE Command

When the current output device is the computer screen, entering the NEWPAGE command clears the window and moves the R> prompt and cursor to the top of a new window. When the current output device is a printer, entering the NEWPAGE command sends a form feed that advances the paper to the top of the next page. When the current output device is a file, entering the NEWPAGE command sends a form feed character to the file.

1.14.2 NEWROW

Use the NEWROW command in an entry/exit procedure (EEP) to add a row.

About the NEWROW Command

The NEWROW command displays a blank data entry form for the user to enter data.

To see the effect of the NEWROW command, you must include the SCREEN RESTORE OFF command in the EEP.

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1.14.3 NEXTROW

Use the NEXTROW command in an entry/exit procedure (EEP) to move to the next row.

1.14.4 NEXTTAB

Use the NEXTTAB command in an entry/exit procedure (EEP) to move to the next table.

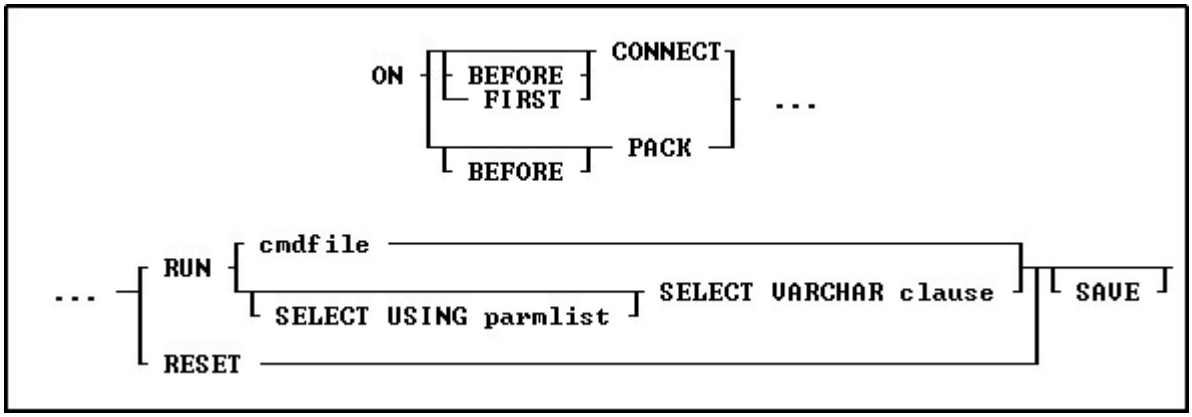
1.14.5 NORMALIZE

Use the NORMALIZE command to size the R> prompt window to the default size.

1.15 O

1.15.1 ON CONNECT/PACK

Use the ON CONNECT/PACK command to run a command file before or after connecting to or packing a database.



Options

BEFORE
Indicates the command file should be run before the CONNECT/PACK.

CONNECT
Indicates the command file should be run when connecting a database.

FIRST
Indicates the command file should be run on the first connect only.

PACK

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Indicates the command file should be run when packing a database.

RESET
Clears out the ON CONNECT/PACK command recorded in the database.

cmdfile
Specifies the name of the command file to execute.

SAVE
Specifies that the parameters in the **cmdfile** or from the **RESET** will be saved to the database. Any options without the SAVE parameters will only be active for a session.

SELECT VARCHAR clause
Specifies a column defined with the VARCHAR data type from a table, from which you can run the contents. The SELECT clause must limit the data to only one row; otherwise, an error is returned.

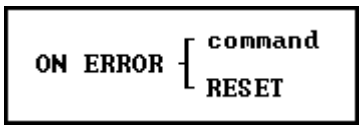
USING parmlist
Lists the values the command file uses when it runs. The parameter list can contain up to 18 values. The first value in the list is referenced in the executed file as %1, the second as %2, and so on through %9. They are treated just like other variables. To reference the contents of these variables, preface the variable name with a dot (.); for example, set *v1* =.%1.

About the ON CONNECT/PACK command

The ON CONNECT/PACK command is useful for running a specific command file whenever a database is connected or packed. A common use would be to run a command file that does an AUTOCHK command before connecting. The ABORT ON command could then be used to cause the CONNECT/PACK to be aborted after the command file finishes.

1.15.2 ON ERROR

Use the ON ERROR command to execute a command if an error occurs.



Options

command
Specifies the command to run when an error occurs.

RESET
Turns ON ERROR processing off.

About the ON ERROR Command

The default is ON ERROR RESET.

Any command that can be used in an entry/exit procedure (EEP) can be used with ON ERROR except: TRACE, form specific commands such as NEXTROW, SKIP, etc., and commands more than 2000 characters long. If a command can't be used in an EEP, such as DROP, CREATE, CONNECT, and DISCONNECT, it can't be used with ON ERROR.

Since this command remains in effect until it is re-issued, you should place ON ERROR RESET at the end of command files that use it. If ON ERROR runs a command file, the file must end with a RETURN command.

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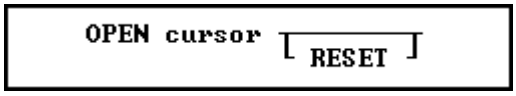
1.15.3 OPEN

Use the OPEN command before using the cursor designated by the DECLARE CURSOR command.



Options

cursor
Specifies a 1 to 18 character *cursor* name that has been previously specified by the DECLARE CURSOR command.

RESET
Reopens a cursor with the current values of any variables referenced in the DECLARE CURSOR statement. This improves performance by eliminating the need to re-optimize the query.

About the OPEN Command

OPEN evaluates the SELECT clause of the DECLARE CURSOR command using the current values of any variables that it contains. Then OPEN stores that copy of the cursor definition and places the cursor before the first row.

After you close a cursor with the CLOSE command, you can reopen it by repeating the OPEN command. Every time you open a cursor, R:BASE reads the rows again, so that any changes you previously made through the cursor are visible when you look at the rows.

You can display all currently defined cursors with the LIST CURSOR command.

When using the RESET option, the WHERE clause is evaluated with the current values of any referenced variables, and the cursor is reopened without requiring a CLOSE command. The cursor is positioned at the beginning of the result set when the FETCH command is run.

Example

The following command lines show the OPEN command with the RESET option.

```
   DROP CURSOR c1
   DROP CURSOR c2
   SET VAR vc1custid INTEGER
   DECLARE c1 CURSOR FOR SELECT custid FROM customer
-- Selects the transaction rows for the customer
   DECLARE c2 CURSOR FOR SELECT transid, invoicetotal +
      FROM transmaster WHERE custid = .vc1custid
-- Process the query in cursor c1 and get the first custid
   OPEN c1
   FETCH c1 INTO vc1custid IND c1ind1
   WHILE sqlcode <> 100 THEN
   -- Process the query in c2. As each row is fetched in the
   -- customer table, the custid changes; each time
   -- the "OPEN c2 RESET command" processes the c2's query it
   -- retrieves different rows
      OPEN c2 RESET
   -- Fetch the transid (invoicenumber) and invoice total amount
      FETCH c2 into vtransid, vamt
      WHILE sqlcode <> 100 THEN
         WRITE .vtransid, .vamt
         FETCH c2 into vtransid, vamt
      ENDWHILE
   FETCH c1 INTO vc1custid
   ENDWHILE
   CLOSE c1
   CLOSE c2
   DROP CURSOR c1
```

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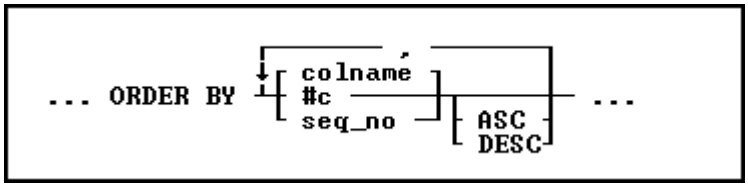
```
DROP CURSOR c2
```

For other examples of the OPEN command, see the DECLARE CURSOR entry.

1.15.4 ORDER BY

Use the ORDER BY clause with an R:BASE command to specify the order in which rows of data from a table are displayed.



Options

,
Indicates that this part of the command is repeatable.

ASC
DESC
Specifies whether to sort a column in ascending or descending order.

#c
Takes the place of a column name and refers to the column numbers displayed with the LIST TABLE command.

colname
Sorts by any column name or combination of column names.

seq_no
Refers to the items listed in the SELECT command that is using the ORDER BY command, ordered from left to right. An item can be a column name, expression, or SELECT function.

About the ORDER BY Command

The syntax for the ORDER BY clause is the same for all commands. ORDER BY must refer to only one table or view.

You can significantly reduce the time R:BASE takes to process an ORDER BY clause when the column or columns listed in the ORDER BY clause are included in an index with the same column sort order as that specified in the ORDER BY clause.

Using the SET SORT Command
The ORDER BY command uses the R:BASE automatic sort optimizer. If you are sorting extremely large tables, and if your disk space is limited, the automatic sort optimizer might be unable to sort the data. Instead, use the SET SORT ON command because it uses the least disk space necessary to sort data; however, the SET SORT ON command is slower than the automatic sort.

Examples

The following command displays data from the *custid*, *company*, and *custcity* columns from the *customer*table.

```
SELECT custid, company, custcity FROM customer
```

The ORDER BY clause in the command below arranges the *custid*values in descending order.

```
SELECT custid, company, custcity FROM customer +
ORDER BY custid DESC
```

You can substitute a column's sequence number for a column named in the ORDER BY clause. You must use a sequence number when referring to an expression, function, constant, or when a UNION operator is used. The following command is equivalent to the command example above.

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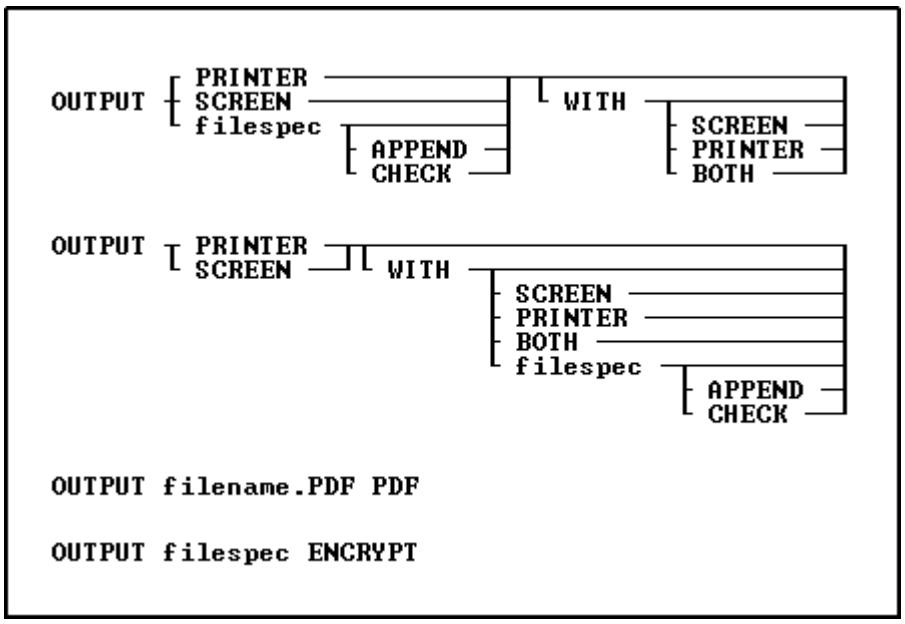
```
SELECT custid, company, custcity FROM customer ORDER +
BY 1 DESC
```

R:BASE for DOS only: You can also specify the maximum and minimum memory allocated with the SET SORT command using the MAX and MIN functions. You can show the current memory allocation settings with SHOW SORT using the MAX, MIN, and LAST functions-LAST shows the amount of memory you need to perform the last sort.

1.15.5 OUTPUT

Use the OUTPUT command to direct messages and results of commands to a file, printer, screen, or a combination of the three destinations.



Options

APPEND
Appends data to the end of an existing file without overwriting the file. If you specify APPEND when the specified file does not exist, R:BASE creates the file with that name.

BOTH
Refers to PRINTER and SCREEN.

CHECK
Checks for file existence and prompts the user for confirmation before writing to it.

ENCRYPT
A 512-bit encryption method is used to obscure any outout information, making it unreadable without R:BASE and your decryption password. Immediately after using the ENCRYPT parameter in your OUTPUT command, you will be prompted for a password. The password is limited 32 characters.

When running encrypted files with R:BASE, you would RUN the file followed by the password. When opening an encrypted file, you will be prompted for the password.

filespec
Indicates the output device. Specify a file name, with or without an extension. You can also specify a drive and/or path.

printer
Indicates the output device. *Printer* is either the word PRINTER or a valid output port such as LPT1 or COM1. An output port is treated as a file that is automatically copied to the printer device when an OUTPUT SCREEN

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command is issued.

SCREEN
Indicates the output device is the screen.

filename.PDF PDF
Will create the output as PDF.

About the OUTPUT Command

The default output device is the screen. After sending data to a printer or file, change the output device to the screen. When using the OUTPUT *filespec* command, you might lose the data in the file if you exit from R:BASE without sending an OUTPUT SCREEN command to close the file.

You cannot combine two *filespec* designations such as OUTPUT *filespec* WITH *filespec*.

R:BASE cannot tell that the argument LPT1 or COM1 is not the name of a file. For example, if you use the command OUTPUT LPT1, R:BASE creates a file named LPT1. Because R:BASE thinks LPT1 is a file, R:BASE does not print the last buffer of output until you redirect output to the screen.

Sending Data to a Printer
Printer refers to the system default printer. In Windows to change a printer, choose **Print Setup** from the **File** menu, or change it in the Windows Control Panel Setup. In DOS, *printer* refers to the printer that is attached to LPT1.

If you are using R:BASE on a local area network, you can direct output to any printer to which you have network access. A common method is to enter the OUTPUT command followed by either the network name of the printer or the printer port on the server.

Sending Data to the Screen
The SET LINES command determines how many lines display on a screen. If a file contains more lines than are designated to display on a screen, R:BASE pauses after each screen display. When displaying a report on a screen, the number of lines specified in the report are displayed.

If the primary output device is a file or a printer and the secondary output device is the screen, R:BASE pauses after each screen display.

Backing Up with OUTPUT
The OUTPUT command can be used with the BACKUP or UNLOAD commands to back up your database to a file. If some part of the command is incorrect-for example, if you fail to specify the correct user identifier for the database-the resulting file contains only the error message produced by the incorrect entry. Use the TYPE or DISPLAY command to display the contents of the file and view the results.

Using SET ECHO ON
To send both your commands and the results of the commands to an output device, enter the command SET ECHO ON before beginning the OUTPUT session. The SET ECHO OFF command only sends command results to an output device.

Examples

In the following example, the OUTPUT command sends data and messages to the printer and simultaneously displays the data and messages on screen with pauses between screens, if needed.

```
OUTPUT PRINTER WITH SCREEN
```

In the following example, the first OUTPUT command directs output to the BACKUP.DAT file on drive A:. The UNLOAD command sends the data stored in the *transmaster* table to the file. The second OUTPUT command closes the file and redirects output to the screen.

```
OUTPUT a:backup.dat
UNLOAD DATA FOR transmaster
OUTPUT SCREEN
```

The following command sends data and messages to the printer, designated as COM1. COM1 is treated as a file that is automatically copied to a printer device when the OUTPUT SCREEN command is issued.

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```
OUTPUT COM1
```

Additional parameters of FONTNAME and FONTSIZE expands the use of printer outputs with your favorite fonts and size.

```
OUTPUT PRINTER <FONTNAME font name> <FONTSIZE font size>
```

The default font name is Courier New and font size 10.

Example 01:

```
OUTPUT PRINTER
SELECT Company, CustCity, CustState FROM Customer
OUTPUT SCREEN
-- Resulting output will be Courier New 10
```

Example 02:

```
OUTPUT PRINTER FONTSIZE 8
SELECT Company, CustCity, CustState FROM Customer
OUTPUT SCREEN
-- Resulting output will be Courier New 8
```

Example 03:

```
OUTPUT PRINTER FONTSIZE 12
SELECT Company, CustCity, CustState FROM Customer
OUTPUT SCREEN
-- Resulting output will be Courier New 12
```

Example 04:

```
OUTPUT PRINTER FONTNAME Arial FONTSIZE 10
SELECT Company, CustCity, CustState FROM Customer
OUTPUT SCREEN
-- Resulting output will be Arial 10
```

Example 05:

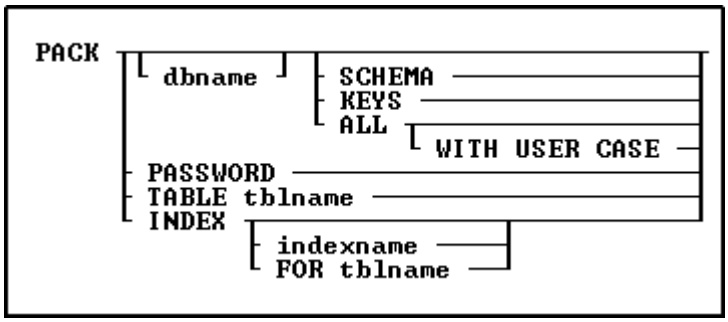
```
OUTPUT CustomerList.PDF PDF
SELECT Company FROM Customer ORDER BY Company
OUTPUT SCREEN
```

Then, either you can view the PDF output using the **LAUNCH CustomerList.PDF** command or e-mail to someone as an attachment

1.16 P

1.16.1 PACK

Use the PACK command on an open database to recover unusable disk space.



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Options

ALL
Packs File 1 (schema information), File 2 (data), File 3 (indexes), and File 4 (large object data).

dbname
Specifies the name of the database to pack.

FOR tblname
Specifies a particular table whos indices you want to PACK.

INDEX
Use this option to PACK all indices for the currently CONNECTED database. PACK INDEX is now supported in multi-user environments. This command will execute on the currently CONNECTED database.

indexname
Packs a specified index from File 3 (indexes); this option will work when STATICDB is set on. PACK INDEX indexname is now supported in multi-user environments. This command will execute on the currently CONNECTED database.

KEYS
Packs only File 3 (indexes).

PASSWORD
Use this option to clean out bogus rows from SYS_PASSWORDS table.

PACK PASSWORD command is also supported in a multi-user session. Database must be CONNected in order to use this command.

SCHEMA
Packs only File 1 (schema information).

TABLE tblname
Packing a single table when MULTI is set ON. This parameter is very beneficial with databases that are always is use.

WITH USER CASE
Replaces the case folding/collating tables in the database with those defined in the user configuration file (RBENGINE8.CFG).

About the PACK Command

Disk space becomes unusable when you delete rows or indexes, remove columns or tables, or add or modify columns with the ALTER TABLE command. To use the PACK command, a database must be open. If the database you want to pack is not in the current directory, include the drive, path, and database name. When you pack a database that is in a different directory, R:BASE closes any open database, then opens the database you want to pack.

PACK requires the database owner's user identifier if the database is protected by the owner's user identifier.

You cannot use PACK when a database is stored on a network drive and MULTI has been set on, unless you are ONLY packing one table. Set MULTI off before packing the database.

PACK is unavailable when transaction processing is on.

Because you pack an open database, back up your database before you pack it. An interruption to a pack could cause damage to your database.

PACK Versus RELOAD
Both the PACK and RELOAD commands recover unusable disk space; however, RELOAD requires more disk space than PACK because RELOAD copies a database table by table, collects the rows of each table, then reorganizes the rows on the disk.

Example

The following command packs the *concomp* database in the RBWIN directory on drive C:

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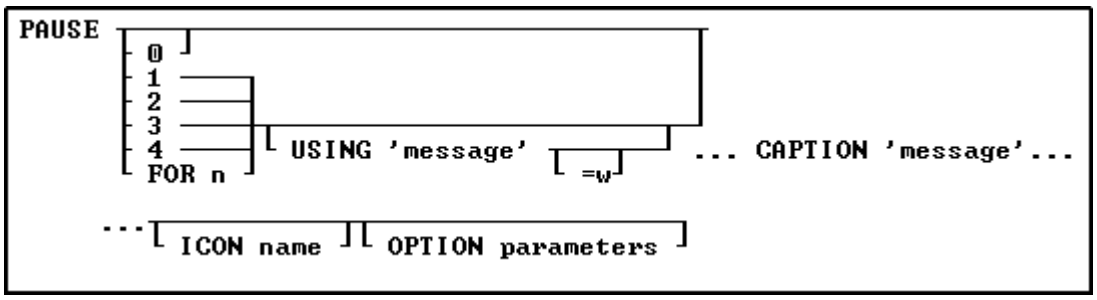
```
PACK c:\rbwin/concomp
```

1.16.2 PAUSE

Use the PAUSE command to suspend the running of the command file.



Options

0
Pauses without a message.

1
Displays "Press OK to continue" or any message using the USING option in a Windows dialog box. The R> screen then clears with the next keystroke.

2
Same as the 1 option, except the R> screen does not clear with the next keystroke.

3
Does not pause the running of the command file and therefore does not wait for the next keystroke.

4
If a PAUSE 3 dialog already exists only the message will be repainted to avoid flickering. Otherwise, this is exactly like the PAUSE 3 option.

FOR n
Sets the pause duration in seconds; **n** must be a positive integer. Any keystroke interrupts the pause, regardless of duration. In the absence of a USING clause, no message is displayed. With a USING clause, the message is displayed in an Windows dialog box

USING 'message'
Displays the specified message in a Windows dialog box. This value can also be passed as a variable.

Using this default parameter the maximum width of message text in a Windows dialog box is 77 characters and is limited to one line. However, if you need to display a multi-line PAUSE window, you can create separate lines with the ASCII characters for a carriage return and indent ([Tab] key). A sample is provided below.

=width
Specifies the wrap width for the dialog box message.

CAPTION 'message'
Specifies the text of the message to display in the dialog box caption. The value can also be passed as a variable.

ICON name List of ICONS used with the PAUSE command

- APPS
- ATTENTION
- CONFIRM
- ERROR
- HELP
- INFO

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- QUESTION
- SERIOUS
- STOP
- WARNING
- WINDOWS

OPTION parameters

These parameters can be used to change the "look and feel" of PAUSE window. All parameters and values must be separated by the "|" (pipe) symbol.

Examples:

```
CLS
PAUSE 2 USING 'PAUSE with APPS Icon' CAPTION 'New PAUSE Command' ICON APPS
```

```
CLS
PAUSE 2 USING 'PAUSE with ATTENTION Icon' CAPTION 'New PAUSE Command' ICON ATTENTION
```

```
CLS
PAUSE 2 USING 'Now you can customize the message for button!' CAPTION 'New PAUSE
Command' ICON INFO BUTTON 'Your customized message here ...'
```

-- Standard PAUSE Command with ICON

```
PAUSE 2 USING 'Message Text' +
CAPTION 'Caption Text' +
ICON HELP OPTION +
BUTTON 'Button Text' +
|BACK_COLOR WHITE +
|MESSAGE_COLOR WHITE +
|MESSAGE_FONT_COLOR GREEN +
```

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```
|BUTTON_COLOR WHITE +
|BUTTON_FONT_COLOR GREEN +
|TRANSPARENCY 255
```

-- Standard PAUSE Command with custom ICON

```
PAUSE 2 USING 'Message Text' +
CAPTION 'Caption Text' +
BUTTON 'Button Text' +
OPTION ICON_FILE path\directory\filename.bmp +
|BACK_COLOR WHITE +
|MESSAGE_COLOR WHITE +
|MESSAGE_FONT_COLOR GREEN +
|BUTTON_COLOR WHITE +
|BUTTON_FONT_COLOR GREEN +
|TRANSPARENCY 255
```

Note: Custom icon to be used in PAUSE option must be 16x16 pixels BMP file.

-- Multi-Line PAUSE Command

```
-- (CHAR(009)) = Tab Key (Indent)
-- (CHAR(013)) = Carriage Return
CLS
SET VAR vMsg = +
('Line 1:'+(CHAR(009))+(CHAR(009))&'Contents of Line 1'+(CHAR(009))+(CHAR(013))+ +
 'Line 2:'+(CHAR(009))+(CHAR(009))&'Contents of Line 2'+(CHAR(009))+(CHAR(013))+ +
 'Line 3:'+(CHAR(009))+(CHAR(009))&'Contents of Line 3'+(CHAR(009))+(CHAR(013))+ +
 'Line 4:'+(CHAR(009))+(CHAR(009))&'Contents of Line 4'+(CHAR(009))+(CHAR(013))+ +
 'Line 5:'+(CHAR(009))+(CHAR(009))&'Contents of Line 5'+(CHAR(009))+(CHAR(013))+ +
 'Line 6:'+(CHAR(009))+(CHAR(009))&'Contents of Line 6'+(CHAR(009))+(CHAR(013))+ +
 'Line 7:'+(CHAR(009))+(CHAR(009))&'Contents of Line 7'+(CHAR(009))+(CHAR(013))+ +
 'Line 8:'+(CHAR(009))+(CHAR(009))&'Contents of Line 8'+(CHAR(009))+(CHAR(013))+ +
 'Line 9:'+(CHAR(009))+(CHAR(009))&'Contents of Line 9'+(CHAR(009))+(CHAR(013)))

PAUSE 2 USING .vMsg +
CAPTION 'Caption Text' +
ICON APP +
BUTTON 'Button Text' +
OPTION BACK_COLOR WHITE +
|MESSAGE_COLOR WHITE +
|MESSAGE_FONT_COLOR GREEN +
|BUTTON_COLOR WHITE +
|BUTTON_FONT_COLOR GREEN +
|TRANSPARENCY 255
```

-- Standard PAUSE Command with custom ICON with Themes

```
PAUSE 2 USING +
'Now you can add themes to PAUSE windows!' +
CAPTION 'New PAUSE Command' ICON INFO +
OPTION themename Longhorn
```

-- PAUSE Command with Meter Progress Bar

```
PAUSE 3 USING +
```

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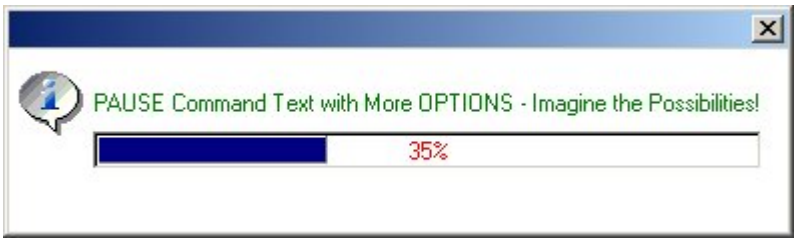
```
'PAUSE Command Text with More OPTIONS - Imagine the Possibilities!' +
CAPTION ' ' +
OPTION METER_VISIBLE ON +
|METER_VALUE .vProgress +
|METER_TYPE BAR3D +
|METER_BACK_COLOR WHITE +
|METER_BAR_COLOR NAVY +
|METER_FONT_COLOR YELLOW +
|BACK_COLOR WHITE +
|MESSAGE_COLOR WHITE +
|MESSAGE_FONT_COLOR GREEN
```



-- PAUSE Command with GAUGE Progress Bar

```
PAUSE 3 USING 'Calculating ... Please Stand By ...'  +
CAPTION '                    Pause 3 with Gauge '  +
ICON WINDOWS  OPTION GAUGE_VISIBLE ON  +
|GAUGE_COLOR RED  +
|GAUGE_INTERVAL 10  +
|MESSAGE_FONT_NAME VERDANA  +
|MESSAGE_FONT_SIZE 10  +
|MESSAGE_FONT_COLOR WHITE  +
|THEMENAME Steel Blue
```

1.16.2.1 OPTION parameters

These parameters can be used to change the "look and feel" of a PAUSE window. In addition to the parameters below, you can also alter the PAUSE Message, as well as add a Meter or Gauge Meter.

ICON_FILE *value*

Specifies the external path and image name for the icon (file size must be 16x16 pixels).

BACK_COLOR *value*

Changes the color of the WINDOW BACKGROUND area. User can specify the integer value or type one of the predefined values:

- AQUA

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- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BUTTON_COLOR *value*

Changes the background color of the button. Values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

BUTTON_FONT_COLOR *value*

Changes the font color of the button. Values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY

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- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

TRANSPARENCY *value*

Set the transparency to specify a layered window with a translucent color. The transparency value specifies the degree of translucency. Values:

0 - 255

TOP *value*

Moves the pause box location, in pixels, from the top of the screen down

LEFT *value*

Moves the pause box location, in pixels, from the left of the screen down

THEMENAME *value*

Will alter the CHOOSE with an artistic representation theme. Values:

- Deep Cyan
- Deep Green
- Deep Orange
- Diamond Blue
- Diamond Green
- Funny Theme
- Gnome
- Green Glass
- Longhorn
- Mac OS
- Matrix
- Media
- One Blue
- One Clear Blue
- One Cyan
- One Green
- One Orange
- Orange Glass
- R:BASE Rocks!
- Razzmatazz
- Real One
- Sports Black
- Sports Blue
- Sports Cyan
- Sports Green
- Sports Orange
- Steel Black
- Steel Blue
- Win Native
- XP Blue
- XP Egypt
- XP Green
- XP Grey Scale
- XP Orange
- XP Silver

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All previously defined PAUSE commands which are redefined to use Themes should be thoroughly checked prior to putting into production as objects and text may look substantially different.

1.16.2.1.1 Message

These parameters the message within the PAUSE window.

MESSAGE_COLOR *value*

Changes the color of the actual message. Values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

MESSAGE_FONT_COLOR *value*

Changes the color of message font. Values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

MESSAGE_FONT_NAME *value*

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Specifies a font name for the message. Values would consist of the fonts available on the computer.

MESSAGE_FONT_SIZE *value*

Specifies the font size

MESSAGE_FONT_BOLD *value*

Specifies if the message font is bold type. Values:

- ON
- OFF

MESSAGE_FONT_ITALIC *value*

Specifies if the message font is italic type. Values:

- ON
- OFF

MESSAGE_FONT_UNDERLINE *value*

Specifies if the message font is underline type. Values:

- ON
- OFF

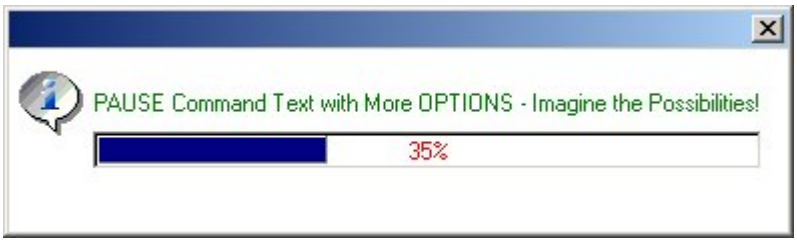
MESSAGE_FONT_STRIKEOUT *value*

Specifies if the message font is strikeout type. Values:

- ON
- OFF

1.16.2.1.2 Meter

These parameters will display a meter within the PAUSE window.



METER_VISIBLE *value*

Displays a meter to show a progress in percentage values. Values:

- ON
- OFF

METER_TYPE *value*

Three meter options are available. Values:

- NORMAL
- BAR3D
- LED

METER_VALUE *value*

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Specifies the percentage to display the meter progress. Value:

0 to 100

METER_BAR_COLOR *value*

Specifies the color of the meter bar (color values listed below).

METER_BACK_COLOR *value*

Specifies the meter background color (color values listed below).

METER_FONT_COLOR *value*

Specifies the color of the meter font (color values listed below).

METER_MAX_VALUE *value*

Specifies the maximum percentage to display the meter progress. Values:

0 to 100

METER_COLOR1 *value*

Specifies the color of the meter when using three color segments (green, yellow, red) (color values listed below).

METER_COLOR2 *value*

Specifies the color of the meter when using three color segments (green, yellow, red) (color values listed below).

METER_COLOR3 *value*

Specifies the color of the meter when using three color segments (green, yellow, red) (color values listed below).

METER_COLOR_OFF *value*

Sets the color off when using three color segments (color values listed below).

Available Colors:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

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1.16.2.1.3 Gauge Meter

These parameters will display an oscilating meter within the PAUSE window.

GAUGE_VISIBLE *value*

Displays an oscillating progress gauge. Values:

- ON
- OFF

GAUGE_COLOR *value*

Specifies the color of the progress gauge. Values:

- AQUA
- BLACK
- BLUE
- CREAM
- DARK GRAY
- FUCHSIA
- GRAY
- GREEN
- LIME
- LIGHT GRAY
- MAROON
- MEDIUM GRAY
- MINT GREEN
- NAVY
- OLIVE
- PURPLE
- RED
- SILVER
- SKY BLUE
- TEAL
- WHITE
- YELLOW

GAUGE_INTERVAL *value*

Specifies the speed interval of the oscillating progress gauge. Values:

10-100

-- PAUSE Command Example with GAUGE Progress Bar

```
PAUSE 3 USING 'Calculating ... Please Stand By ...'  +
CAPTION '                    Pause 3 with Gauge '  +
ICON WINDOWS  OPTION GAUGE_VISIBLE ON  +
|GAUGE_COLOR RED  +
```

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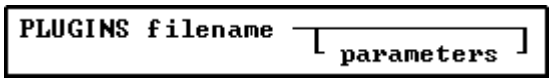
```
|GAUGE_INTERVAL 10  +
|MESSAGE_FONT_NAME VERDANA  +
|MESSAGE_FONT_SIZE 10  +
|MESSAGE_FONT_COLOR WHITE  +
|THEMENAME Steel Blue
```

1.16.3 PLUGINS

Many software products now used a technology called "PLUGIN". This technology is based on API, which is declared by the program creator. A sample of products which use plugins includes: WinAMP, Adobe Photoshop, ACDSee, etc. It means that the computer programmers can enhance and improve product possibilities using programing languages such as C/C++, Pascal, Basic.



Options

filename
Your plugin file name (extension for plugin must be **RBL**)

parameters
parameters which used internally by a plugin

Plugins can be the following type:

100 – General type of plugin, these plugins appear in RBG76 Main Menu under "Utilities" > "Plugins".
101 – These plugins does not appear in RBG76 Main Menu, but return a value to R:BASE.

Additional Plugins are made available through R:BASE Technologies, Inc. and Authorized R:BASE Developers at the R:BASE Community Home Page: http://www.rbasecommunity.com/

These plugins are DLL files with 4 exported functions:

GetRBPluginName

Syntax:

```
procedure GetRBPluginName(Value : PChar); stdcall;
```

Value – result value which you can see in Plugins menu.

A sample of implementing this function in RBL:

```
procedure GetRBPluginName(Value : PChar); stdcall;
var Name : string;
begin
  Name := 'My Sample Plugin';
  StrLCopy(Value, Pchar(Name), Length(Name));
end;
```

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GetRBPluginType

Syntax:

```
function GetRBPluginType : integer; stdcall;
```

This function returns the type of a plugin to RBG76.

A sample of implementing this function in RBL:

```
function GetRBPluginType : integer; stdcall;
begin
  Result := 100;
end;
```

GetBitmap

Syntax:

```
function GetGetBitmap : THandle; stdcall;
```

This function returns to RBG76 a handle for a Bitmap. This is the bitmap you can see in the plugins menu.

A sample of implementing this function in RBL:

```
function GetGetBitmap : THandle; stdcall;
begin
  Bitmap.LoadFromResourceName(Hinstance, 'MAINBMP');
  Result := Bitmap.Handle;
end;
```

StartRBPlugin

Syntax:

```
procedure StartRBPlugin(Params : PChar); stdcall;
```

This function starts your plugin.

101 – Same as in type 100 except:

```
function StartRBPlugin(Params : PChar) : PChar; stdcall;
```

In the result of this function, you need to put a value which will go to the R:BASE variable.

LoadDirectoryName Plugin schema:

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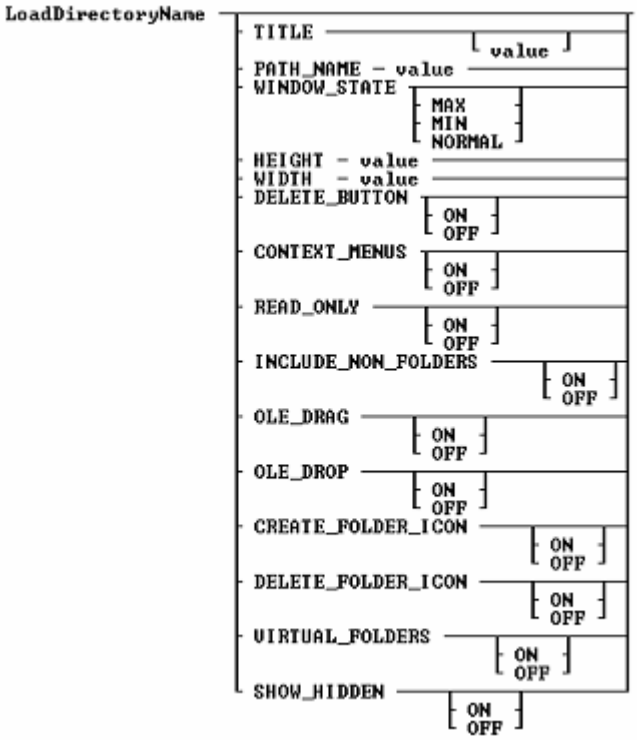

Example:

```
////////////////////////////////////////////////////////////////////////
// Example to presentation:                                           //
//                                                                    //
//                                                                    //
//                                                                    //
// "Designing and Implementing R:BASE 7.6 Plugins"                    //
//                                                                    //
//                                                                    //
//                                                                    //
// Author: Aleksey V. Chuyasov.                                       //
//                                                                    //
//                                                                    //
//                                                                    //
// Load user-selected folder name to R:BASE variable                  //
//                                                                    //
////////////////////////////////////////////////////////////////////////

library LoadDirectoryName;

uses
  SysUtils,
  RzShellDialogs,
  Forms,
  Classes;

{$E rbl}

{$R *.res}

procedure GetRBPluginName(ResName : PChar); stdcall;
var Name : string;
begin
  Name := 'Get File Name';
  StrLCopy(ResName, PChar(Name), Length(Name));
```

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```
end;

function GetRBPluginType : Integer; stdcall;
begin
  Result := 101;
end;

function StartRBPlugin(Params : PChar) : PChar; stdcall;

  procedure ParseParams(Strings : TStringList);
  var st, s : string;
      i : integer;
  begin
    Strings.Clear;
    st := string(Params);
    s := '';
    for i := 1 to Length(Params) do
    begin
      if st[i] <> '|' then
      begin
        s := s + st[i];
        if i = Length(Params) then Strings.Add(s);
      end else
      begin
        Strings.Add(s);
        s := '';
      end;
    end;
  end;

var FolderDLG : TRzSelectFolderDialog;
    FileName : string;
    st, st2 : string;
    List : TStringList;
    CurrDir : string;
    i,j : integer;
    fullpath : boolean;
    Ans : array[0..65535] of char;
begin
  FillChar(Ans, 65536, #0);
  CurrDir := GetCurrentDir;
  try
    FolderDLG := TRzSelectFolderDialog.Create(nil);
    try
      List := TStringList.Create;
      try
        ParseParams(List);
        for i := 0 to List.Count - 1 do
        begin
          st  := trim(UpperCase(List[i]));
          st2 := trim(List[i]);
          if pos('TITLE', st) = 1 then
          begin
            Delete(st2, 1, Length('TITLE'));
            st := trim(st2);
            FolderDLG.Title := st;
          end else
          if pos('PATH_NAME', st) = 1 then
          begin
            Delete(st2, 1, Length('PATH_NAME'));
            st := trim(st2);
            FolderDLG.SelectedPathName := st;
          end else
          if pos('WINDOW_STATE', st) = 1 then
```

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```
begin
  Delete(st, 1, Length('WINDOW_STATE'));
  st := trim(st);
  if st = 'MAX' then
     FolderDLG.FormWindowState :=  wsMaximized else
  if st = 'MIN' then
     FolderDLG.FormWindowState :=  wsMinimized else
  if st = 'NORMAL' then
    FolderDLG.FormWindowState :=  wsNormal;
end else
if pos('HEIGHT', st) = 1 then
begin
  Delete(st, 1, Length('HEIGHT'));
  st := trim(st);
  try
    FolderDLG.FormHeight := StrToInt(st);
  except
    //if user typing non-integer value here.
  end;
end else
if pos('WIDTH', st) = 1 then
begin
  Delete(st, 1, Length('WIDTH'));
  st := trim(st);
  try
    FolderDLG.FormWidth := StrToInt(st);
  except
    //if user typing non-integer value here.
  end;
end else
if pos('DELETE_BUTTON', st) = 1 then
begin
  Delete(st, 1, Length('DELETE_BUTTON'));
  st := trim(st);
  if st = 'ON' then FolderDLG.Options :=
      FolderDLG.Options + [sfdoCreateDeleteButtons]  else
  if st = 'OFF' then FolderDLG.Options :=
      FolderDLG.Options - [sfdoCreateDeleteButtons];
end else
if pos('CONTEXT_MENUS', st) = 1 then
begin
  Delete(st, 1, Length('CONTEXT_MENUS'));
  st := trim(st);
  if st = 'ON' then FolderDLG.Options :=
       FolderDLG.Options + [sfdoContextMenus]  else
  if st = 'OFF' then FolderDLG.Options :=
       FolderDLG.Options - [sfdoContextMenus];
end else
if pos('READ_ONLY', st) = 1 then
begin
  Delete(st, 1, Length('READ_ONLY'));
  st := trim(st);
  if st = 'ON' then FolderDLG.Options :=
    FolderDLG.Options + [sfdoReadOnly]  else
  if st = 'OFF' then FolderDLG.Options :=
    FolderDLG.Options - [sfdoReadOnly];
end else
if pos('INCLUDE_NON_FOLDERS', st) = 1 then
begin
  Delete(st, 1, Length('INCLUDE_NON_FOLDERS'));
  st := trim(st);
  if st = 'ON' then FolderDLG.Options :=
    FolderDLG.Options + [sfdoIncludeNonFolders]  else
  if st = 'OFF' then FolderDLG.Options :=
```

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```
        FolderDLG.Options - [sfdoIncludeNonFolders];
    end else
    if pos('OLE_DRAG', st) = 1 then
    begin
      Delete(st, 1, Length('OLE_DRAG'));
      st := trim(st);
      if st = 'ON' then FolderDLG.Options :=
        FolderDLG.Options + [sfdoOleDrag]  else
      if st = 'OFF' then FolderDLG.Options :=
         FolderDLG.Options - [sfdoOleDrag];
    end else
    if pos('OLE_DROP', st) = 1 then
    begin
      Delete(st, 1, Length('OLE_DROP'));
      st := trim(st);
      if st = 'ON' then FolderDLG.Options :=
        FolderDLG.Options + [sfdoOleDrop]  else
      if st = 'OFF' then FolderDLG.Options :=
        FolderDLG.Options - [sfdoOleDrop];
    end else
    if pos('CREATE_FOLDER_ICON', st) = 1 then
    begin
      Delete(st, 1, Length('CREATE_FOLDER_ICON'));
      st := trim(st);
      if st = 'ON' then FolderDLG.Options :=
        FolderDLG.Options + [sfdoCreateFolderIcon]  else
      if st = 'OFF' then FolderDLG.Options :=
        FolderDLG.Options - [sfdoCreateFolderIcon];
    end else
    if pos('DELETE_FOLDER_ICON', st) = 1 then
    begin
      Delete(st, 1, Length('DELETE_FOLDER_ICON'));
      st := trim(st);
      if st = 'ON' then FolderDLG.Options :=
        FolderDLG.Options + [sfdoDeleteFolderIcon]  else
      if st = 'OFF' then FolderDLG.Options :=
        FolderDLG.Options - [sfdoDeleteFolderIcon];
    end else
    if pos('VIRTUAL_FOLDERS', st) = 1 then
    begin
      Delete(st, 1, Length('VIRTUAL_FOLDERS'));
      st := trim(st);
      if st = 'ON' then FolderDLG.Options :=
        FolderDLG.Options + [sfdoVirtualFolders]  else
      if st = 'OFF' then FolderDLG.Options :=
        FolderDLG.Options - [sfdoVirtualFolders];
    end else
    if pos('SHOW_HIDDEN', st) = 1 then
    begin
      Delete(st, 1, Length('SHOW_HIDDEN'));
      st := trim(st);
      if st = 'ON' then FolderDLG.Options :=
        FolderDLG.Options + [sfdoShowHidden]  else
      if st = 'OFF' then FolderDLG.Options :=
        FolderDLG.Options - [sfdoShowHidden];
    end;
  end;
  if FolderDLG.Execute then
  begin
    FileName := FolderDLG.SelectedPathName;
  end;
finally
  List.Free;
end;
```

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```
    finally
      FolderDLG.Free;
    end;
  finally
    StrPCopy(Ans, FileName);
    Result := Ans;
    SetCurrentDir(CurrDir);
  end;
end;

Exports GetRBPluginName, GetRBPluginType, StartRBPlugin;
begin

end.
```

SYNTAX:

```
PLUGIN LoadDirectoryName.rbl vFolderName|CREATE_FOLDER_ICON ON| DELETE_FOLDER_ICON
ON
```

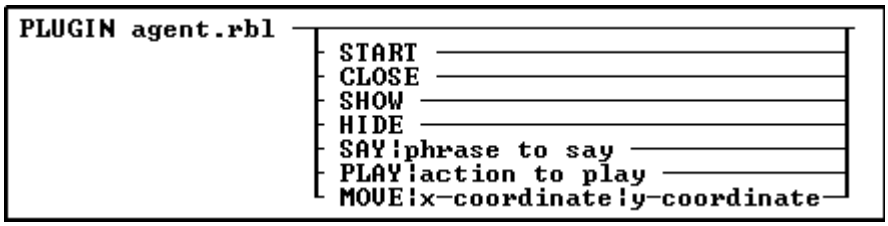
1.16.3.1 Agent.rbl

The Agent.rbl uses Microsoft's Agent technology to that enables an enriched form of user interaction, that can make using and learning to use a computer easier and more naturally. With the Microsoft Agent set of software services, developers can easily enhance the user interface of their applications and Web pages with interactive personalities in the form of animated characters. It does not appear in the R:BASE for Windows Plugins Menu. The Agent.rbl was included in the 2004 R:BASE Developers' Conference Package. It is currently available in the R:BASE Plugin Power Pack.

To start working with MS Agent character, you need to make sure that your computer has installed MS Agent engine. This engine can be downloaded from:
http://activex.microsoft.com/activex/controls/agent2/MSagent.exe

Every agent has its own set of supported animations. The user can find this information on the developer web-site or in the Agent documentation. The Agent.rbl uses the MS Agent technology, with R:BASE 7.x, displaying the Merlin Character:

Syntax:



Where:

START is used to initialize the MS Agent engine. If the user does not specify the character file name, Agent.rbl plugin will use the Merlin character. Usually agent characters are found in 2 locations:

1. C:\WINNT\MSAGENT\CHARS\
2. C:\WINDOWS\MSAGENT\CHARS\

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CLOSE is used to stop MS Agent engine

SHOW is used to show the character on a screen

HIDE is used to hide the character

SAY is used to show a balloon hint with phrase, and if installed, MS Speech engine to hear this phrase.

PLUGIN Agent.rbl SAY|Hello World!!!

PLAY is used to make the character perform some actions

PLUGIN Agent.rbl PLAY|Announce

This is a list of supported commands for Merlin character:

- Acknowledge
- Alert
- AlertReturn
- Announce
- AnnounceReturn
- Blink
- Confused
- ConfusedReturn
- Congratulate
- CongratulateReturn
- Congratulate_2
- Decline
- DeclineReturn
- DoMagic1
- DoMagic2
- DoMagicReturn
- DontRecognize
- DontRecognizeReturn
- Explain
- ExplainReturn
- GestureDown
- GestureDownReturn
- GestureLeft
- GestureLeftReturn
- GestureRight
- GestureRightReturn
- GestureUp
- GestureUpReturn
- GetAttention
- GetAttentionReturn
- GlanceDown
- GlanceLeft
- GlanceRight
- GlanceUp
- Greet
- GreetReturn
- Hear_1
- Hear_2
- Hear_3
- Hear_4
- Hide
- Idle1_1
- Idle1_2
- Idle1_3
- Idle1_4
- Idle2_1
- Idle2_2
- Idle3_1
- Idle3_1Return

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- Idle3_2
- LookDown
- LookDownBlink
- LookDownReturn
- LookLeft
- LookLeftBlink
- LookLeftReturn
- LookRight
- LookRightBlink
- LookRightReturn
- LookUp
- LookUpBlink
- LookUpReturn
- MoveDown
- MoveDownReturn
- MoveLeft
- MoveLeftReturn
- MoveRight
- MoveRightReturn
- MoveUp
- MoveUpReturn
- Pleased
- PleasedReturn
- Processing
- ProcessingReturn
- Read
- ReadContinued
- ReadReturn
- Reading
- ReadingReturn
- RestPose
- Sad
- SadReturn
- Show
- StartListening
- StartListeningReturn
- StopListening
- StopListeningReturn
- Suggest
- SuggestReturn
- Surprised
- SurprisedReturn
- Think
- ThinkReturn
- Uncertain
- UncertainReturn
- Wave
- WaveReturn
- Write
- WriteContinued
- WriteReturn
- Writing
- WritingReturn

MOVE is used to make the character move on a screen

PLUGIN Agent.rbl MOVE|0|0

Or

PLUGIN Agent.rbl MOVE|500|500

Other Agent characters can be found online.

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1.16.3.2 DialogBuilder.rbl

The DialogBuilder.rbl Plugin is a syntax builder for the DIALOG command. It appears in the R:BASE 7.6 for Windows Menu Bar under "Utilities" > "Plugins" > "Dialog Builder".

Using this plugin you can easily create dialog windows to prompt end users for information within your R:BASE application.

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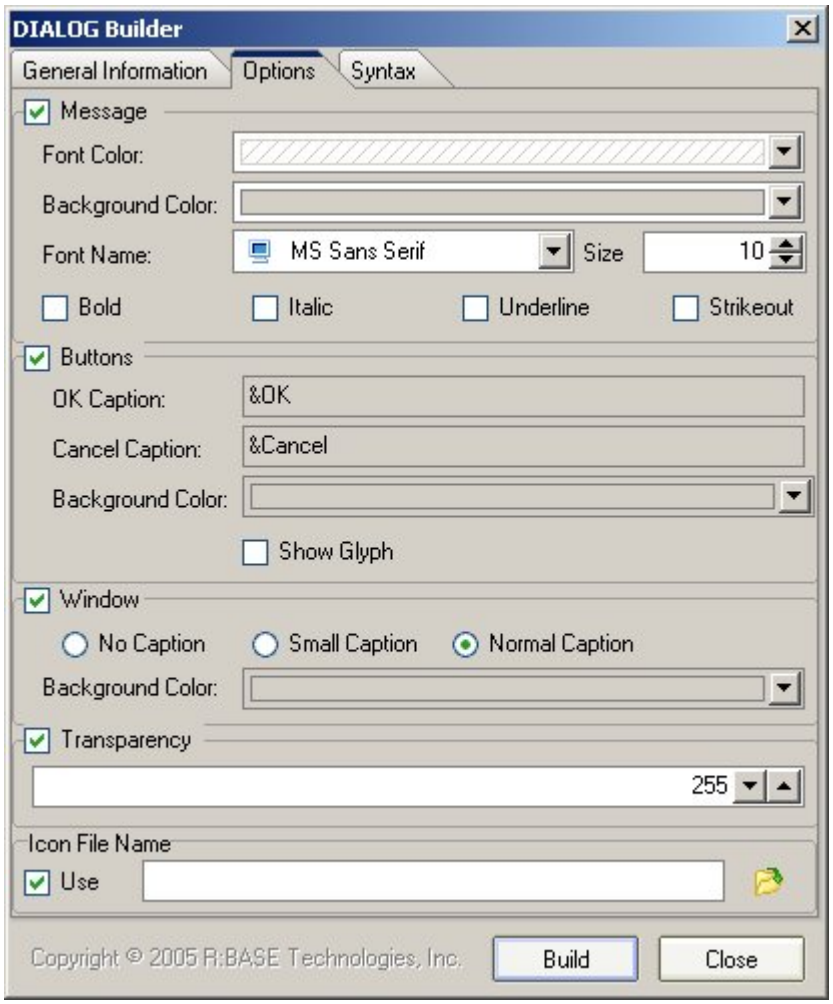

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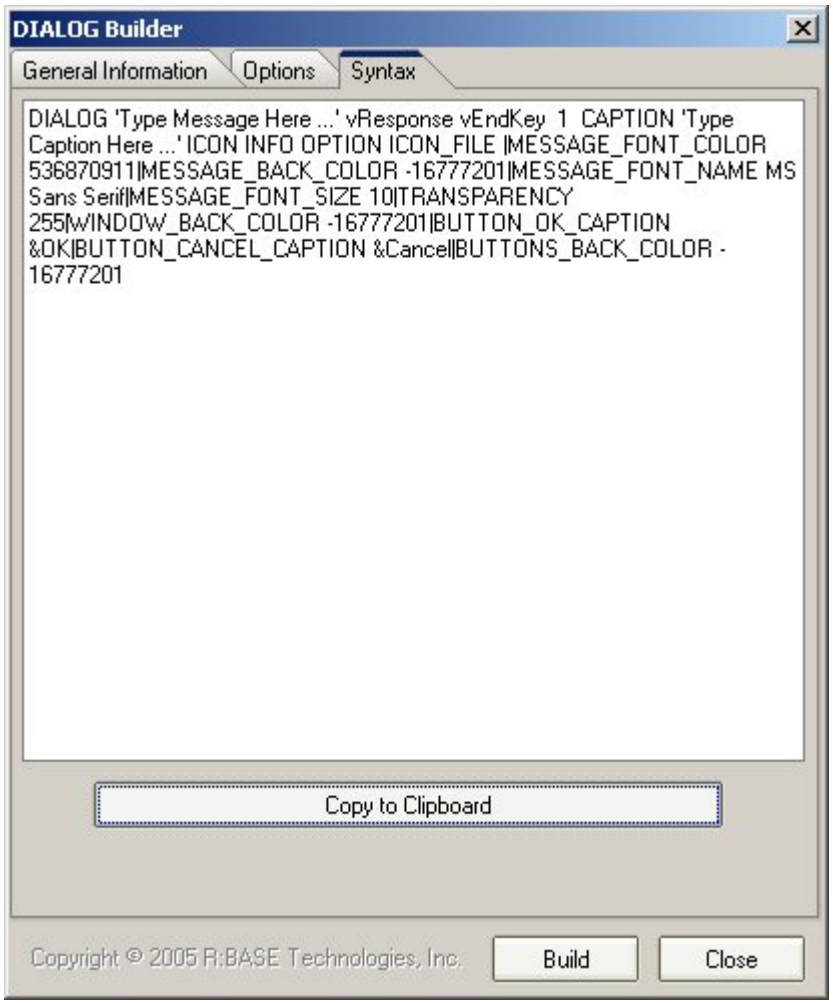

1.16.3.3 DialogBuilderPlus.rbl

The DialogBuilderPlus.rbl Plugin is a syntax builder for the DIALOG command, only it supports the use of themes. It does not appear in the R:BASE for Windows Plugins Menu. The DialogBuilderPlus.rbl is included with the purchase of R:BASE Plugin Power Pack.

Using this plugin you can easily create dialog windows to prompt end users for information within your R:BASE application.

Syntax:

PLUGIN DialogBuilderPlus.rbl vResult|THEMENAME Razzmatazz

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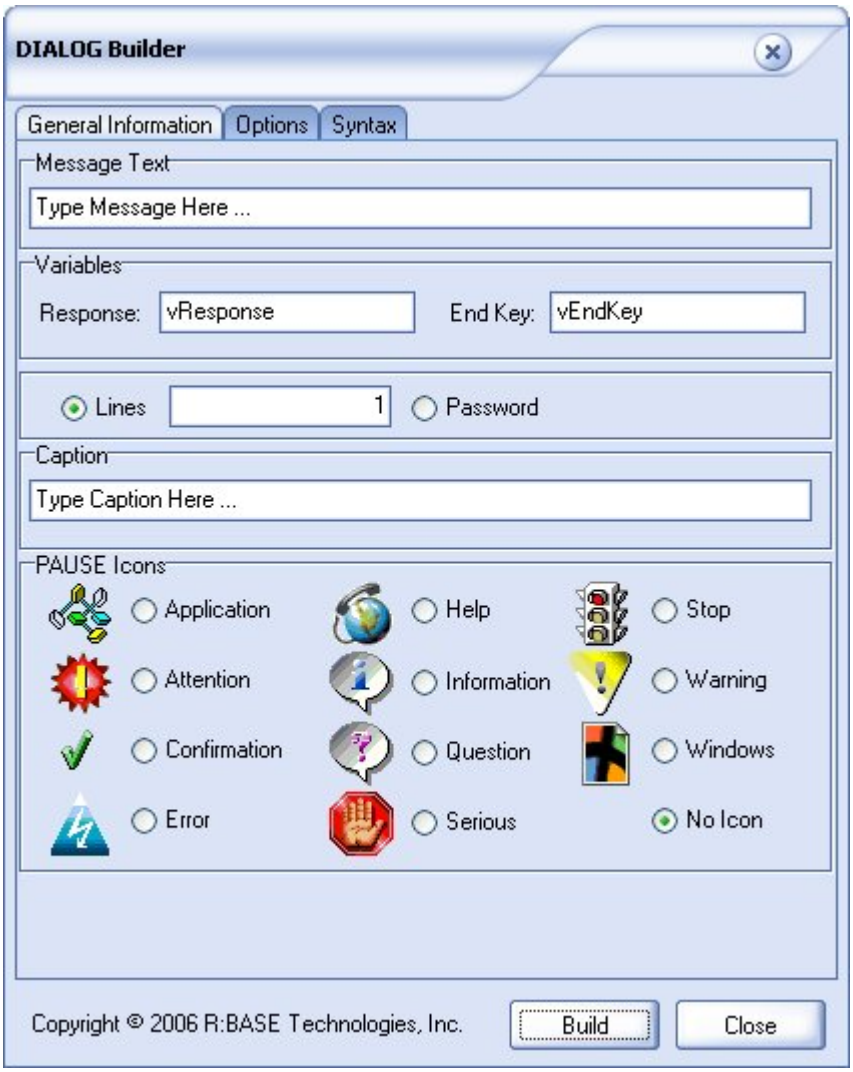

1.16.3.4 DialogWithButtonBuilder.rbl

The DialogWithButtonBuilder.rbl Plugin is a syntax builder for the DIALOG command. It appears in the R:BASE 7.6 for Windows Menu Bar under "Utilities" > "Plugins" > "Dialog with ButtonsBuilder".

Using this plugin you can easily create dialog windows with buttons for end users to select within your R:BASE application.

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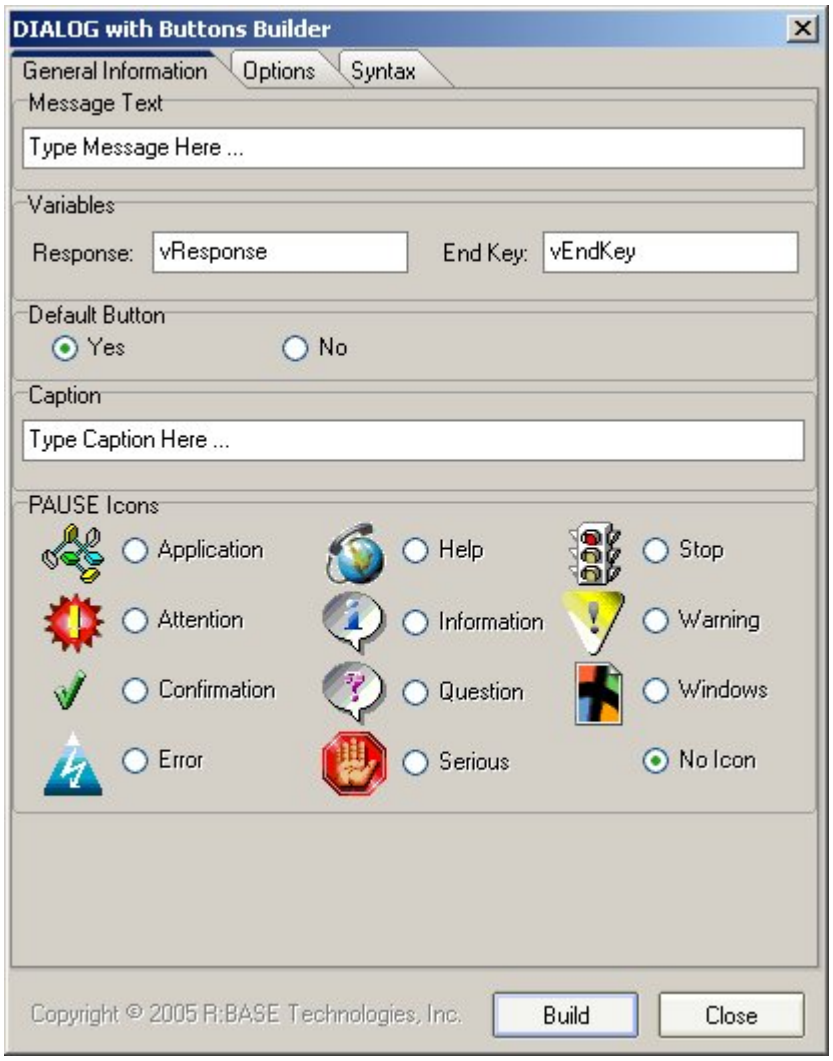

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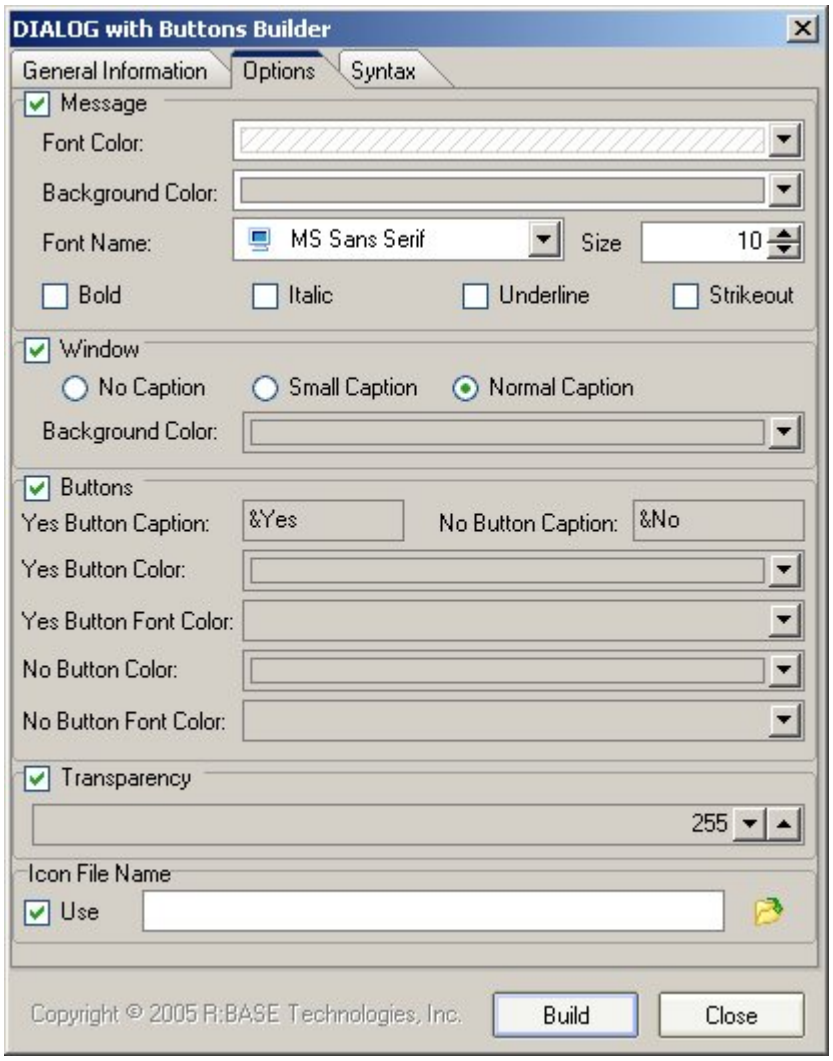

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1.16.3.5 DialogWithButtonBuilderPlus.rbl

The DialogWithButtonBuilderPlus.rbl Plugin is a syntax builder for the DIALOG command using buttons, only it supports the use of themes. It does not appear in the R:BASE for Windows Plugins Menu. The DialogWithButtonBuilder.rbl is included with the purchase of R:BASE.

Using this plugin you can easily create dialog windows with buttons for end users to select within your R:BASE application.

Syntax:

PLUGIN DialogWithButtonBuilderPlus.rbl vResult|THEMENAME Razzmatazz

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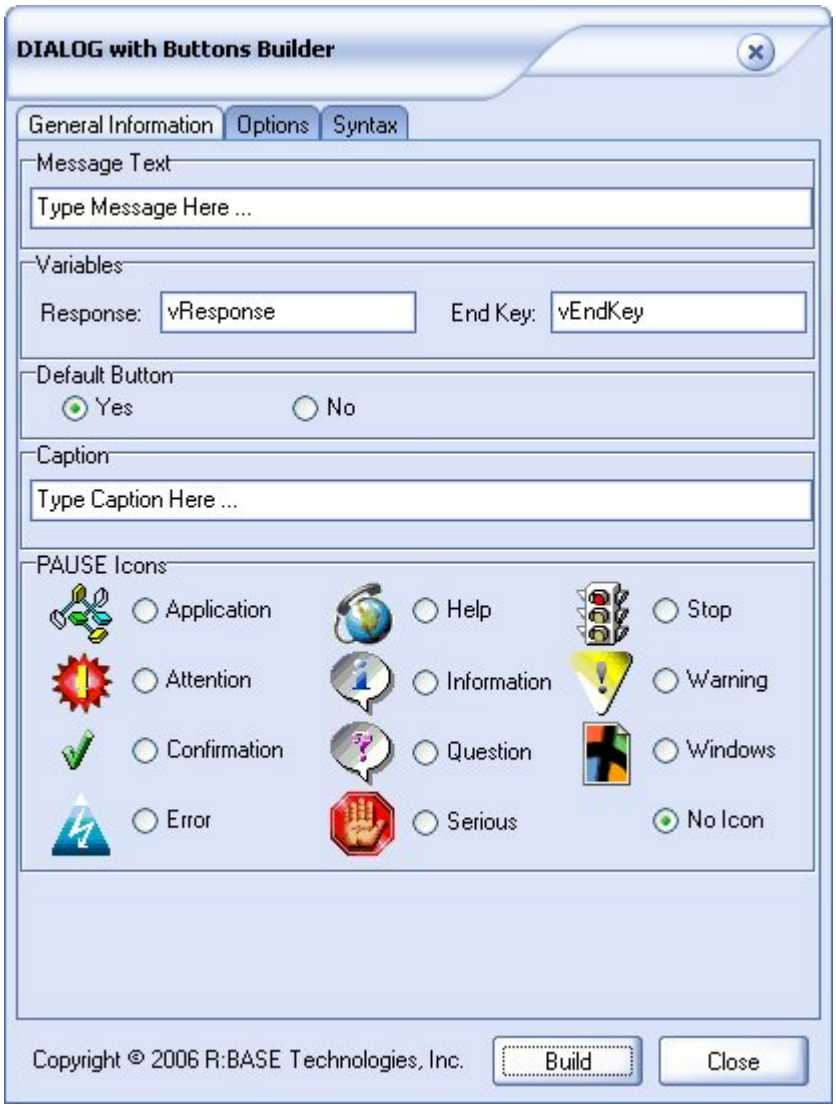

1.16.3.6 GetFileExt.rbl

The GetFileExt.rbl Plugin is used to capture the file extension of a particular file. It does not appear in the R:BASE 7.6 for Windows Menu. This Plugin is provided through the R:BASE Advanced Training and is currently available in the R:BASE Plugin Power Pack.

Syntax:

PLUGIN GetFileExt.rbl vFileExt|FileName.ext

Where:

vFileExt is the variable to return the text value of a given file extension

FileName.ext is the actual name and extension of file, preceding with the full path.

Notes:

Returned variable name and the exact file name with path must be separated by a "|" pipe symbol.

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1.16.3.7 GetFileSize.rbl

The GetFileSize.rbl Plugin is used to capture the size of a particular file. It does not appear in the R:BASE 7.6 for Windows Menu. The GetFileSize.rbl Plugin was created and made available after the release of R:BASE 7.5 and is currently available in the R:BASE Plugin Power Pack.

Syntax:

PLUGIN GetFileSize.rbl vFileSizeTxt|FileName.ext

Where:

vFileSizeTxt is the variable to return the text value of a given file size

FileName.ext is the actual name and extension of file, preceding with the full path.

Notes:

Returned variable name and the exact file name with path must be separated by a "|" pipe symbol.

1.16.3.8 GetTimeStamp.rbl

The GetTimeStamp.rbl Plugin is used to capture the time stamp of a particular file. It does not appear in the R:BASE 7.6 for Windows Menu. The GetTimeStamp.rbl Plugin was created and made available after the release of R:BASE 7.5 and is currently available in the R:BASE Plugin Power Pack.

Syntax:

PLUGIN GetTimeStamp.rbl vFileTimeStampTxt|FileName.ext

Where:

vFileTimeStampTxt is the variable to return the text value of a time stamp

FileName.ext is the actual name and extension of file, preceding with the full path.

Notes:

Returned variable name and the exact file name with path must be separated by a "|" pipe symbol.

1.16.3.9 LoadDirectoryName.rbl

The LoadDirectoryName.rbl Plugin is used to load a directory path into a variable by displaying a dialog window for the user to browse the operating system. It does not appear in the R:BASE 7.6 for Windows Menu.

Syntax:

PLUGINS LoadDirectoryName.rbl VarName|<options>

Options:

FULLPATH (ON/OFF)
TITLE <value>
PATH_NAME <value>
WINDOW_STATE (MAX/MIN/NORMAL)
HEIGHT <value>
WIDTH <value>
DELETE_BUTTON (ON/OFF)
CONTEXT_MENUS (ON/OFF)
READ_ONLY (ON/OFF)
INCLUDE_NON_FOLDERS (ON/OFF)
OLE_DRAG (ON/OFF)
OLE_DROP (ON/OFF)
CREATE_FOLDER_ICON (ON/OFF)

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DELETE_FOLDER_ICON (ON/OFF)
VIRTUAL_FOLDERS (ON/OFF)
SHOW_HIDDEN (ON/OFF)

Where:

VarName is the variable to return the text value of the results

Notes:

Each parameter must be separated by pipe "|" symbol. A value of '[Esc]' will be returned if clicked on [Cancel] button or Close Window [x] option of file-selection dialog.

1.16.3.10 LoadFileName.rbl

The LoadFileName.rbl Plugin is used to load a file name into a variable by displaying a dialog window for the user to browse the operating system. The LoadFileNamePlus.rbl Plugin replaced the LoadFileName.rbl Plugin with additional options to load a file name. It does not appear in the R:BASE 7.6 for Windows Menu.

Syntax:

PLUGINS LoadFileName.rbl VarName|<options>

Options:

FULLPATH (ON/OFF)
TITLE <value>
FILTER <value>
INITIAL_DIR <value>
MULTISELECT (ON/OFF)
SHOW_HIDDEN (ON/OFF)
NO_LONG_NAMES (ON/OFF)
NO_NETWORK_BUTTON (ON/OFF)
HIDE_READ_ONLY (ON/OFF)
NO_DEREFERENCE_LINKS (ON/OFF)
DONT_ADD_TO_RECENT (ON/OFF)
ENABLE_SIZING (ON/OFF)
OLD_STYLE (ON/OFF)
NO_VALIDATE (ON/OFF)

Where:

VarName is the variable name to return text results

Notes:

Each parameter must be separated by pipe "|" symbol. A value of '[Esc]' will be returned if clicked on [Cancel] button or Close Window [x] option of file-selection dialog.

1.16.3.11 LoadFileNamePlus.rbl

The LoadFileNamePlus.rbl Plugin is used to load a file name into a variable by displaying a dialog window for the user to browse the operating system. The LoadFileNamePlus.rbl Plugin replaced the LoadFileName.rbl Plugin with additional options to load a file name. It does not appear in the R:BASE 7.6 for Windows Menu.

Syntax:

PLUGINS LoadFileNamePlus.rbl VarName|<options>

Options:

FULLPATH (ON/OFF)
TITLE <value>
VIEW_MODE <value>

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THUMBNAILS
TILES
ICONS (Default)
LIST
DETAILS
FILTER <value>
INITIAL_DIR <value>
MULTISELECT (ON/OFF)
SHOW_HIDDEN (ON/OFF)
NO_LONG_NAMES (ON/OFF)
NO_NETWORK_BUTTON (ON/OFF)
HIDE_READ_ONLY (ON/OFF)
NO_DEREFERENCE_LINKS (ON/OFF)
DONT_ADD_TO_RECENT (ON/OFF)
ENABLE_SIZING (ON/OFF)
OLD_STYLE (ON/OFF)
NO_VALIDATE (ON/OFF)

Where:

VarName is the variable name to return text results

Notes:

Each parameter must be separated by pipe "|" symbol. A value of '[Esc]' will be returned if clicked on [Cancel] button or Close Window [x] option of file-selection dialog.

1.16.3.12 LoadFileNamePlusPlus.rbl

The LoadFileNamePlusPlus.rbl Plugin is used to load a file name into a variable by displaying a dialog window for the user to browse the operating system. The LoadFileNamePlusPlus.rbl Plugin allows all the same parameters from previous "LoadFileName" Plugins, only this version return a list of variable values after a file or files are selected. It does not appear in the R:BASE for Windows Plugins Menu. The LoadFileNamePlusPlus.rbl is only made available through the purchase of the R:BASE Plugin Power Pack.

Syntax:

PLUGINS LoadFileNamePlusPlus.rbl VarName|<options>

Options:

FULLPATH (ON/OFF)
TITLE <value>
VIEW_MODE <value>
THUMBNAILS
TILES
ICONS (Default)
LIST
DETAILS
FILTER <value>
INITIAL_DIR <value>
MULTISELECT (ON/OFF)
SHOW_HIDDEN (ON/OFF)
NO_LONG_NAMES (ON/OFF)
NO_NETWORK_BUTTON (ON/OFF)
HIDE_READ_ONLY (ON/OFF)
NO_DEREFERENCE_LINKS (ON/OFF)
DONT_ADD_TO_RECENT (ON/OFF)
ENABLE_SIZING (ON/OFF)
OLD_STYLE (ON/OFF)
NO_VALIDATE (ON/OFF)

Where:

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VarName is the variable name to return text results

Returned Variables

```
vLFNFileCount  = 1                                                    INTEGER
vLFNFileName1  = C:\RBTI\RBG75\Samples\RRBYW10\CustomerList_I0002.jpg TEXT
vLFNFilePath1  = C:\RBTI\RBG75\Samples\RRBYW10\                       TEXT
vLFNFileNameS1 = CustomerList_I0002.jpg                               TEXT
vLFNFileExt1   = .jpg                                                 TEXT
vLFNFileDT1    = 9/14/2006 9:15:00 AM                                 TEXT
vLFNFileSize1  = 5018                                                 INTEGER
```

Notes:

Each parameter must be separated by the pipe "|" symbol. A value of '[Esc]' will be returned if clicked on [Cancel] button or Close Window [x] option of file-selection dialog.

1.16.3.13 Num2Word.rbl

The Num2Wrd.rbl Plugin is used to convert a number to it's written out text value. It does not appear in the R:BASE 7.6 for Windows Menu. The Num2Wrd.rbl Plugin was created and made available after the release of R:BASE 7.5 and is currently available in the R:BASE Plugin Power Pack.

Syntax:

PLUGIN Num2Wrd.rbl vResult|<value>

Where:

vResult is the variable to return the text value of the number provided

Notes:

Returned variable name and the value must be separated by a "|" pipe symbol.

1.16.3.14 PausePlug.rbl

The PausePlug.rbl Plugin is a syntax builder for the PAUSE command. It appears in the R:BASE 7.6 for Windows Menu Bar under "Utilities" > "Plugins" > "PAUSE Builder".

Using this plugin you can easily create message windows to display information within your R:BASE application.

1.16.3.15 RCalculator.rbl

The RCalculator.rbl Plugin is used to launch a calculator to to perform any of the standard operations for which you would normally use a handheld calculator. It does not appear in the R:BASE 7.6 for Windows Menu.

Syntax:

PLUGIN 'RCalculator.rbl' 'vResult'

Where:

vResult is the variable to return the value of the calculated result

Notes:

The returned variable value will be the correct data type of the calculated result (INTEGER, DOUBLE, REAL).

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1.16.3.16 RCalculatorPlus.rbl

The RCalculatorPlus.rbl Plugin is used to launch a calculator to perform any of the standard operations for which you would normally use a handheld calculator. The difference between the RCalculatorPlus.rbl and RCalculator.rbl Plugins is that the RCalculatorPlus.rbl supports the use of themes. It does not appear in the R:BASE for Windows Plugins Menu.

Syntax:

PLUGIN RCalculatorPlus.rbl vResult|THEMENAME Razzmatazz

Where:

vResult is the variable to return the value of the calculated result

Razzmatazz will display the calculator using the theme beow

Notes:

The returned variable value will be the correct data type of the calculated result (INTEGER, DOUBLE, REAL).

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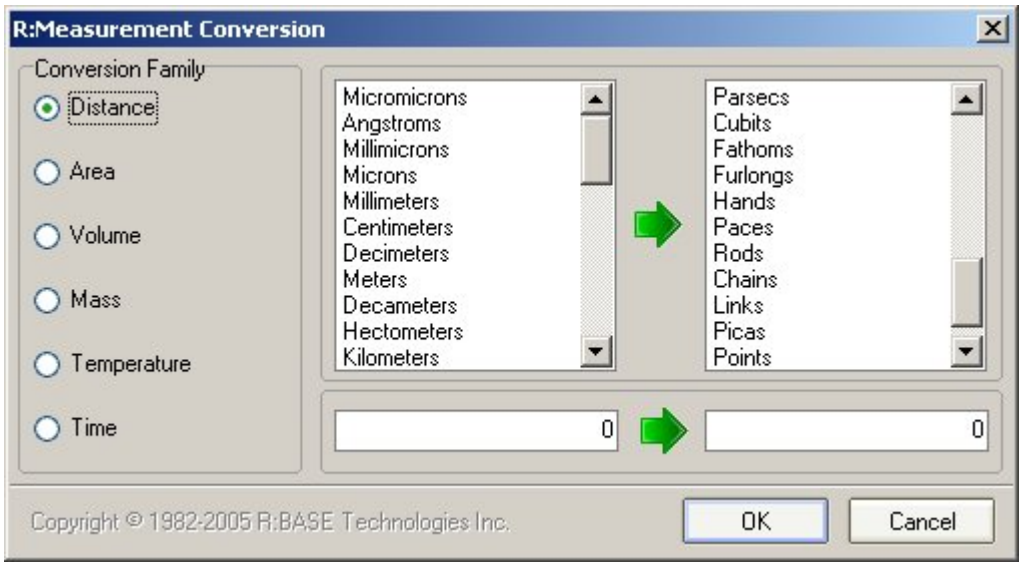
1.16.3.17 RMeasurementConversion.rbl

The RMeasurementConversion.rbl Plugin is a measurment conversion utility to convert any value of measurement to another within a type of scale. This Plugin is provided through the R:BASE Advanced Training.



1.16.3.18 RWhois.rbl

The RWhois.rbl Plugin will find out who registered a domain name and view additional registration and Web site data. It appears in the R:BASE 7.6 for Windows Menu Bar under "Utilities" > "Plugins" > "R:WHOIS".

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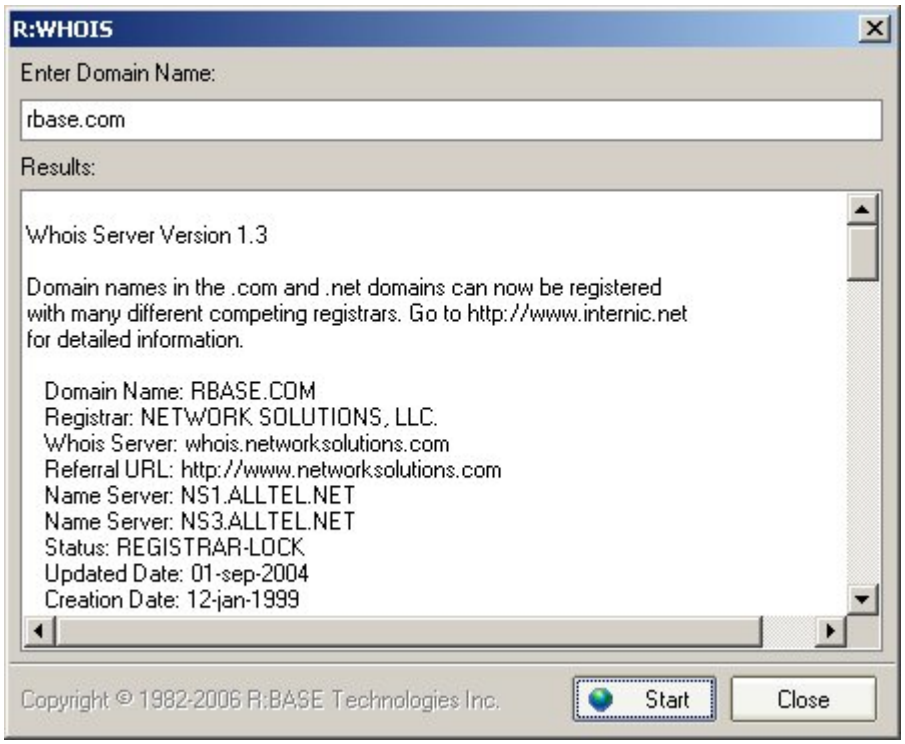


1.16.3.19 WCCountRBL.rbl

The WCCountRBL.rbl Plugin is used to capture the number of words within a particular file. It does not appear in the R:BASE 7.6 for Windows Menu. This Plugin is provided through the R:BASE Advanced Training.

Syntax:

PLUGIN WCCountRBL.rbl vWrdCount|FileName.ext

Where:

vWrdCount is the variable to return the value of the word count

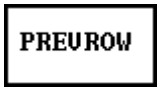
FileName.ext is the actual name and extension of file, preceding with the full path.

Notes:

Returned variable name and the exact file name with path must be separated by a "|" pipe symbol.

1.16.4 PREVROW

Use the PREVROW command in an entry/exit procedure (EEP) to move to the previous row.



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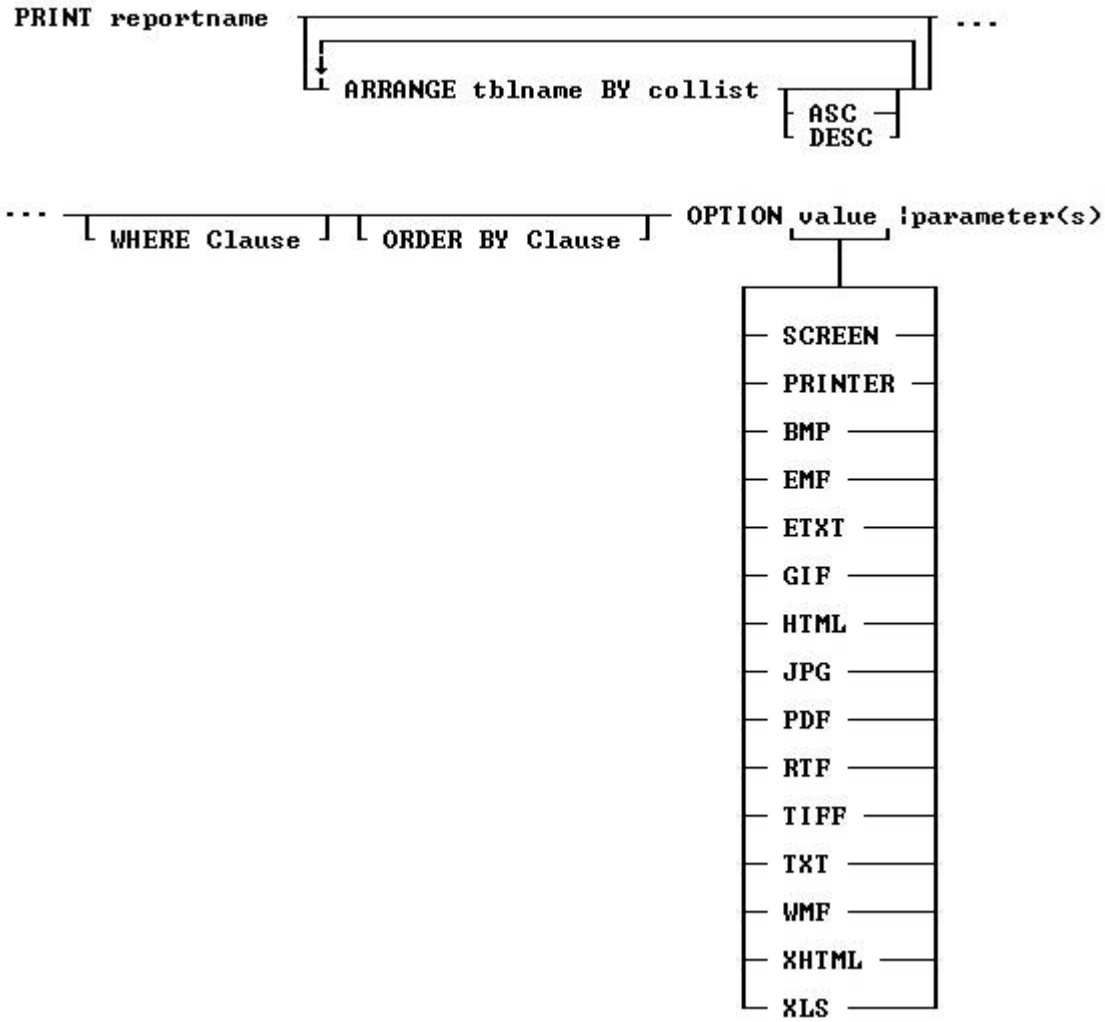
1.16.5 PREVTAB

Use the PREVTAB command in an entry/exit procedure (EEP) to move to the previous table.

1.16.6 PRINT

Use the PRINT command to send a report to the screen, printer, or file.



Options

rptname
Specifies the name of the report you want to print.

ARRANGE tblname BY collist
Sorts the rows displayed by a report's lower-level tables. Each lower-level table in the report that you want to sort requires its own ARRANGE clause. Now you can specify up to twenty-five tables to ARRANGE and up to

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five columns in each table on which R:BASE will sort.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

ORDER BY clause
Sorts rows of data. For more information, see the "ORDER BY" entry.

OPTION
specifies output options of the report along with additional parameters for each output such as:

- SCREEN
- PRINTER
- BMP
- EMF
- ETXT (Report Emulation Text)
- GIF
- HTML
- JPG
- PDF
- RTF
- TIFF
- TXT
- WMF
- XHTML
- XLS

About the PRINT Command

Working with Breakpoints
When a report has breakpoints, R:BASE automatically sorts by the defined breakpoint columns. You can sort additional columns other than breakpoint columns if the breakpoint columns are listed in the ORDER BY clause first. If an ORDER BY clause that overrides the breakpoint sort is included in the PRINT command, the report might not produce the results defined by the breakpoints.

1.16.6.1 SCREEN

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION SCREEN

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

WINDOW_STATE specifies the state of preview window. By default, the window state is normalized.

Values:
MAXIMIZED
MINIMIZED
NORMAL

TOOLBAR_VISIBLE specifies the option to display preview toolbar with all buttons such as, Print, Whole Page, Page Width, 100%, Zoom Level, First, Page Previous Page, Next Page, Last Page and Cancel/Close.

Values:
TRUE
FALSE

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BUTTONBAR_VISIBLE specifies the option to display button bar with Whole Page, Page Width and 100%. If set to FALSE, all three buttons (Whole Page, Page Width and 100%) will not be visible.

Values:
TRUE
FALSE

BTNPRINT_VISIBLE specifies the option to display Printer button on the button toolbar.

Values:
TRUE
FALSE

BTNWHOLEPAGE_VISIBLE specifies the option to display Whole Page button on the button toolbar.

Values:
TRUE
FALSE

BTNPAGEWIDTH_VISIBLE specifies the option to display Page Width button on the button toolbar.

Values:
TRUE
FALSE

BTNP100PERCENT_VISIBLE specifies the option to display 100% button on the button toolbar.

Values:
TRUE
FALSE

ZOOMPERCENT_VISIBLE specifies the option to display Zoom Level button on the button toolbar.

Values:
TRUE
FALSE

BTNFIRST_VISIBLE specifies the option to display First Page button on the button toolbar.

Values:
TRUE
FALSE

BTNPRIOR_VISIBLE specifies the option to display Previous Page button on the button toolbar.

Values:
TRUE
FALSE

PAGENO_VISIBLE specifies the option to display Page Number button on the button toolbar.

Values:
TRUE
FALSE

BTNNEXT_VISIBLE specifies the option to display Next Page button on the button toolbar.

Values:
TRUE
FALSE

BTNLAST_VISIBLE specifies the option to display Last Page button on the button toolbar.

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Values:
TRUE
FALSE

BTNCANCEL_VISIBLE specifies the option to display Cancel/Close button on the button toolbar.

Values:
TRUE
FALSE

ZOOM_TYPE specifies the zoom type, such as PAGE_WIDTH, WHOLE_PAGE, 100_PERCENT or PERCENTAGE.

Values:
PAGE_WIDTH
WHOLE_PAGE
100_PERCENT
PERCENTAGE (to be used when specifying the ZOOMPERCENT option)

ZOOMPERCENTAGE specifies the zoom level percentage, such as 70, 100, 120, 200, 250.

PREVIEW_CAPTION specifies the caption for the preview window

Note:
You must use ZOOM_TYPE value as PERCENTAGE when specifying the ZOOMPERCENTAGE value. See examples below for a more practical use of this option.

MDI specifies the option to display the preview window in a modeless window, to access other windows without closing it first.

LEFT *nnn* - specifies the left coordinate of the print preview window

TOP *nnn* - specifies the top coordinate of the print preview window

WIDTH *nnn* - specifies the width of the print preview window

HEIGHT *nnn* - specifies the height of the print preview window

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

THEMENAME
Will dynamically provide over thirty pre-defined themes

Values:

- Deep Cyan
- Deep Green
- Deep Orange
- Diamond Blue
- Diamond Green
- Funny Theme
- Gnome
- Green Glass

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- Longhorn
- Mac OS
- Matrix
- Media
- One Blue
- One Clear Blue
- One Cyan
- One Green
- One Orange
- Orange Glass
- R:BASE Rocks!
- Razzmatazz
- Real One
- Sports Black
- Sports Blue
- Sports Cyan
- Sports Green
- Sports Orange
- Steel Black
- Steel Blue
- Win Native
- XP Blue
- XP Egypt
- XP Green
- XP Grey Scale
- XP Orange
- XP Silver

Eamples:

Example 01 (Typical Print Preview on SCREEN with Toolbar):

```
PRINT Invoice WHERE TransID = 1002 OPTION SCREEN
```

Example 02 (Typical Print Preview on SCREEN with maximized preview window):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED
```

Example 03 (Typical Print Preview on SCREEN with zoom type as page width):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|ZOOM_TYPE PAGE_WIDTH
```

Example 04 (Typical Print Preview on SCREEN with zoom type as whole page):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|ZOOM_TYPE WHOLE_PAGE
```

Example 05 (Typical Print Preview on SCREEN with zoom type as 100%):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|ZOOM_TYPE 100_PERCENT
```

Example 06 (Typical Print Preview on SCREEN with zoom type as 90%):

```
PRINT Invoice WHERE CustID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|ZOOM_TYPE PERCENTAGE|ZOOMPERCENT 90
```

Example 07 (Print Preview Tool Bar without Printer Icon):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
```

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```
|BTNPRINT_VISIBLE FALSE
```

Example 07 (Print Preview Tool Bar without Whole Page Icon):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|BTNWHOLEPAGE_VISIBLE FALSE
```

Example 07 (Print Preview Tool Bar without Page Width Icon):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|BTNPAGEWIDTH_VISIBLE FALSE
```

Example 08 (Print Preview Tool Bar without 100% Icon):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|BTN100PERCENT_VISIBLE FALSE
```

Example 09 (Print Preview Tool Bar without Zoom Percentage Icon):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|ZOOMPERCENT_VISIBLE FALSE
```

Example 10 (Print Preview Tool Bar without First Page Icon):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|BTNFIRST_VISIBLE FALSE
```

Example 11 (Print Preview Tool Bar without Previous Page Icon):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|BTNPRIOR_VISIBLE FALSE
```

Example 12 (Print Preview Tool Bar without Page Number Icon):

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|PAGENO_VISIBLE FALSE
```

Example 13 (Print Preview Tool Bar without Next Page Icon)

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|BTNNEXT_VISIBLE FALSE
```

Example 14 (Print Preview Tool Bar without Last Page Icon)

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|BTNLAST_VISIBLE FALSE
```

Example 15 (Print Preview Tool Bar without Cancel/Close Icon)

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|BTNCANCEL_VISIBLE FALSE
```

Example 16 (Print Preview without the entire Tool Bar)

```
PRINT Invoice WHERE TransID = 1002 +
```

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```
OPTION SCREEN|WINDOW_STATE MAXIMIZED +
|TOOLBAR_VISIBLE FALSE
```

Example 17 (Print Preview with a MDI window using specified coordinates)

```
PRINT Invoice WHERE TransID = 1002 +
OPTION SCREEN MDI|LEFT 20|TOP 20|WIDTH 800|HEIGHT 500
```

For more examples and templates, please refer to ***R:Docs***.

1.16.6.2 PRINTER

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION PRINTER

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)
OFF

TRAY specifies the name of the bin (paper tray) containing the paper on which the report will be printed. A common use of this property is to set it to Manual Feed on mailing label reports. That way you can provide a means to load the special label paper without manually setting the printer.

COLLATION indicates whether multiple copies will print in pre-sorted order.

Values:
ON
OFF

COPIES specifies the number of copies to print. If the Collation property is set to ON, the copies will print in sorted order.

DOCUMENT_NAME When a report is printing, this is the name of the document as it should appear when listed in the Print Manager and on network header pages. This value can also be displayed in reports using the DocumentName type of the SystemVariable component.

DUPLEX This property indicates what type of two-sided printing should occur. Not all printers support duplex printing.

Values:
NONE - Duplex printing is disabled.
HORIZONTAL - Duplex printing should be performed across the page, from left to right, so the text will read as in a book
VERTICAL - Duplex printing should be performed down the page, from top to bottom, so the text will read as in tablet

ORIENTATION The value of the Orientation property determines whether a report prints vertically or horizontally on a page.

Values:
PORTRAIT - The print job prints vertically on the page.
LANDSCAPE - The print job prints horizontally on the page.

PAPER_NAME The name of the paper on which the report will be printed. When you specify a value for the PAPER_NAME property, the PaperWidth and PaperHeight are automatically set to the proper values. For example, if Legal is specified, the PAPER_WIDTH will be set to 8.5" and the PAPER_HEIGHT will be set to 14"

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when ORIENTATION is PORTRAIT (if the ORIENTATION is LANDSCAPE, the values will be reversed).

PAPER_WIDTH The value of the PAPER_WIDTH are always expressed in the units specified by the Report.

PAPER_HEIGHT The value of the PAPER_HEIGHT are always expressed in the units specified by the Report.

PRINTER_NAME The name of the printer that will be used to print the report.

PAGE_SETTINGS specifies the option to print All, First, Last or a given number of pages when used in combination with PAGE_LIST and PAGE_LIST_VALUES.

Values:
ALL
FIRST
LAST
PAGE_LIST - specifies the option to print a given number of pages. This option must be used with PAGE_SETTINGS and PAGE_LIST_VALUES. See examples below for more practical use of this option.

PAGE_LIST_VALUES specifies the values for number of pages, such as, 3,5,8 or 3,8 or 3, or 1-3,8 or 3,5,9-15. This option must be used with PAGE_SETTINGS and PAGE_LIST. See examples below for more practical use of this option.

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

Examples:

Example 01 (To print Customer List on your default Windows printer):

```
PRINT CustomerList OPTION PRINTER
```

Example 02 (To print Customer List on your network printer):

```
PRINT CustomerList +
OPTION PRINTER +
|COPIES 1 +
|ORIENTATION PORTRAIT +
|PRINTER_NAME \\MyServer\hp LaserJet 1320 PCL 6
```

Example 03 (To print Customer Shipping Labels on your label printer):

```
LBLPRINT CustShippingLabel WHERE CustID = 127 OPTION PRINTER +
|COPIES 2 +
|PRINTER_NAME DYMO LabelWriter 2 +
|ORIENTATION LANDSCAPE
```

Example 04 (To print first page of Customer List report only)

```
PRINT CustomerList OPTION PRINTER|PAGE_SETTINGS FIRST
```

Example 05 (To print last page of Customer List Report only)

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```
PRINT CustomerList OPTION PRINTER|PAGE_SETTINGS LAST
```

Example 06 (To PRINT all pages)

```
PRINT ReportName OPTION PRINTER|PAGE_SETTINGS ALL
```

Example 07 (To print pages 3, 5, and 8 of your big report)

```
PRINT ReportName OPTION PRINTER +
|PAGE_SETTINGS PAGE_LIST +
|PAGE_LIST_VALUES 3,5,8
```

Example 08 (To print pages 3 and 8 of your big report)

```
PRINT ReportName OPTION PRINTER +
|PAGE_SETTINGS PAGE_LIST +
|PAGE_LIST_VALUES 3,8
```

Example 09 (To print page 3 only)

```
PRINT ReportName OPTION PRINTER +
|PAGE_SETTINGS PAGE_LIST +
|PAGE_LIST_VALUES 3
```

Example 10 (To print pages 1 through 3 and 8 of your big report)

```
PRINT ReportName OPTION PRINTER +
|PAGE_SETTINGS PAGE_LIST +
|PAGE_LIST_VALUES 1-3,8
```

Example 11 (To print pages 3, 5, and 9 through 15 of your big report)

```
PRINT ReportName OPTION PRINTER +
|PAGE_SETTINGS PAGE_LIST +
|PAGE_LIST_VALUES 3,5,9-15
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.3 BMP

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION BMP

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)
OFF

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:
AQUA
BLACK

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BLUE
CREAM
DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY
MINT GREEN
NAVY
OLIVE
PURPLE
RED
SILVER
SKY BLUE
TEAL
WHITE (default)
YELLOW

BACKGROUND_TYPE specifies the way background image has to be displayed in the BMP file.

Values:
TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of report.

MONOCHROME specifies whether bmp-file produced are color or monochrome images.

Values:
ON
OFF

PIXELFORMAT specifies the pixel format of the bmp-file (bits/pixel).

Values:
1 : 1bit
4 : 4bit
8 : 8bit
15 : 15bit
16 : 16bit
24 : 24bit
32 : 32bit

SCALEX double; Scaling factor for the width of the exported page. Use 1 for actual width.

SCALEY double; Scaling factor for the height of the exported page. Use 1 for actual height.

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

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MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print Invoice as BMP file)

```
PRINT Invoice WHERE TransID = 1068 +
OPTION BMP +
|FILENAME Invoice1068.BMP +
|SHOW_CANCEL_DIALOG OFF +
|BACKGROUND_COLOR WHITE +
|MONOCHROME OFF +
|PIXELFORMAT 32 +
|SCALEX 1 +
|SCALE 1 +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.4 EMF

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION EMF

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)

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OFF

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:
AQUA
BLACK
BLUE
CREAM
DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY
MINT GREEN
NAVY
OLIVE
PURPLE
RED
SILVER
SKY BLUE
TEAL
WHITE (default)
YELLOW

BACKGROUND_TYPE specifies the way background image has to be displayed in the EMF file.

Values:
TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of report.

SCALEX double; Scaling factor for the width of the exported page. Use 1 for actual width.

SCALEY double; Scaling factor for the height of the exported page. Use 1 for actual height.

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report

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component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print Invoice as EMF file)

```
PRINT Invoice WHERE TransID = 1068 +
OPTION EMF +
|FILENAME Invoice1068.EMF +
|SHOW_CANCEL_DIALOG OFF +
|BACKGROUND_COLOR WHITE +
|SCALEX 1 +
|SCALE 1 +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.5 ETXT

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION ETXT

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

The **Report Emulation Text File (ETXT)** option allows you to print the exact report as plain readable text including all bands, such as Report Header, Page Header, Break Headers, Break Footers, Page Footers and Report Footers, if any.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)
OFF

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

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MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:

ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print columnar report as Emulation Text - ETXT file)

```
PRINT ColumnarReport +
OPTION ETXT +
|FILENAME ColumnarReport.TXT +
|SHOW_CANCEL_DIALOG OFF +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.6 GIF

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION GIF

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:

ON (default)
OFF

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:

AQUA
BLACK
BLUE

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CREAM
DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY
MINT GREEN
NAVY
OLIVE
PURPLE
RED
SILVER
SKY BLUE
TEAL
WHITE (default)
YELLOW

BACKGROUND_TYPE specifies the way background image has to be displayed in the GIF file.

Values:

TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of report.

MONOCHROME specifies whether bmp-file produced are color or monochrome images.

Values:

ON
OFF

PIXELFORMAT specifies the pixel format of the bmp-file (bits/pixel).

Values:

1 : 1bit
4 : 4bit
8 : 8bit
15 : 15bit
16 : 16bit
24 : 24bit
32 : 32bit

SCALEX double; Scaling factor for the width of the exported page. Use 1 for actual width.

SCALEY double; Scaling factor for the height of the exported page. Use 1 for actual height.

OPEN specifies whether the report should be opened after it is generated.

Values:

ON
OFF

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report

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component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print Invoice as GIF file)

```
PRINT Invoice WHERE TransID = 1068 +
OPTION GIF +
|FILENAME Invoice1068.GIF +
|SHOW_CANCEL_DIALOG OFF +
|BACKGROUND_COLOR WHITE +
|MONOCHROME OFF +
|PIXELFORMAT 32 +
|SCALEX 1 +
|SCALE 1 +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.7 HTML

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION HTML

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)
OFF

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of

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report.

BACKGROUND_TYPE specifies the way background image has to be displayed in the HTML file.

Values:

TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:

AQUA
BLACK
BLUE
CREAM
DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY
MINT GREEN
NAVY
OLIVE
PURPLE
RED
SILVER
SKY BLUE
TEAL
WHITE (default)
YELLOW

INCLUDE_LINES specifies whether lines on the report should be included in the exported file.
.
Values:

ON
OFF

INCLUDE_SHAPES specifies whether shapes on the report should be included in the exported file.
.
Values:

ON
OFF

INCLUDE_RICHTEXT specifies whether contents of the RichText objects on the report should be included in the exported file.

Values:

ON
OFF

RICHTEXT_ENCODING_TYPE specifies the way in which RichText contents should be encoded in exported HTML document when INCLUDE_RICHTEXT option is set to ON.

Set RICHTEXT_ENCODING_TYPE to IMAGE to encode RichText contents as exact graphical representations. Set RICHTEXT_ENCODING_TYPE to PLAINTEXT to encode RichText contents as unformatted text. The font used

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when encoding RichText as plain text is the one set in the Font property of the RichText object.

Values:
IMAGE
PLAINTEXT

INCLUDE_IMAGES specifies whether Images on the report should be included in the exported file.

Values:
ON
OFF

IMAGE_FORMAT specifies the Linked image file format for image controls used in the report when INCLUDE_IMAGES option is set to ON.

Values:
GIF
JPG
BMP

JPEG_QUALITY specifies the quality of the JPEG Image when INCLUDE_IMAGES is set to ON and IMAGE_FORMAT is set to JPG.

Values:
1-100

IMAGE_DPI specifies the depth of image as dots per inch.

Values:
-1

PIXELFORMAT specifies the pixel format of the image-file (bits/pixel).

Values:
1 : 1bit
4 : 4bit
8 : 8bit
15 : 15bit
16 : 16bit
24 : 24bit
32 : 32bit

INCLUDE_HYPERLINKS specifies whether hyperlinks in your report should be included in the exported file.

Values:
ON
OFF

TITLE specifies the title of the report.

SUBJECT specifies the subject of the report.

AUTHOR specifies the author of the report.

KEYWORDS stores the list of keywords used in the report. Specify a list of keywords for the document that should be encoded as the Keywords Meta content.

OPTIMIZE_FOR_IE specifies whether the entire report output as HTML document should be optimized for MS Internet Explorer browser.

Values:
ON
OFF

PAGE_END_LINES indicates whether a line should be drawn at the end of each page. Setting PAGE_END_LINES to ON draws a line after each page. PAGE_END_LINES is considered only when

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SEP_FILE_PER_PAGE is set to OFF.

Values:
ON
OFF

OUTPUT_STYLES_TO_CSS_FILE specifies whether to output styles to a CSS (Cascade Style Sheet) file.

Values:
ON
OFF

CSSFILE specify the CSS file name if OUTPUT_STYLES_TO_CSS_FILE is set to ON.

OUTPUT_SCRIPTS_TO_JAVA_SCRIPT_FILE specifies whether to output scripts to a Java Script File.

Values:
ON
OFF

JAVA_SCRIPT_FILE_NAME specify the file name if the OUTPUT_SCRIPTS_TO_JAVA_SCRIPT_FILE is set to ON.

GENERATE_TOC specifies whether to generate a **T**able **o**f **C**ontents based on all report Break Header(s), if defined.

Values:
ON
OFF

TOC_FILE_NAME specify the file name for the Table of Contents, if the GENERATE_TOC option is set to ON.

IMAGE_FOLDER specify the folder path and name for HTML document images.

DEFAULT_FONT_NAME specify the default font name for HTML document.

DEFAULT_FONT_SIZE specify the default font size for HTML document.

DEFAULT_FONT_COLOR specify the default font color for HTML document.

DEFAULT_FONT_BOLD specifies whether the font is bold faced.

Values:
ON
OFF

DEFAULT_FONT_ITALIC specifies whether the font is italicized.

Values:
ON
OFF

DEFAULT_FONT_UNDERLINE specifies whether the font is underlined.

Values:
ON
OFF

DEFAULT_FONT_STRIKEOUT specifies whether the font is displayed with a horizontal line through it.

Values:
ON
OFF

SEP_FILE_PER_PAGE specifies whether to create a separate file for each page of the report.

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Values:
ON
OFF

NAV_SHOW Set to ON to show a collection of links that enable easy navigation between pages of the exported HTML. The links function much like the navigator buttons in the standard preview of Report Preview: one link to jump to the first page; one to the last page; one to the next page and another to get back to the previous page. NAV_SHOW is only effective when the option for SEP_FILE_PER_PAGE is set to ON.

Values:
ON
OFF

LINK_BACK_COLOR specifies the background color of navigator. This option will only be used if the SEP_FILE_PER_PAGE and NAV_SHOW options are set to ON.

LINK_H_BACK_COLOR specifies the background color of navigator when the mouse is hovered over it. This option will only be used if the SEP_FILE_PER_PAGE and NAV_SHOW options are set to ON.

LINK_H_FORE_COLOR specifies the color of navigator when the mouse is hovered over it. This option will only be used if the SEP_FILE_PER_PAGE and NAV_SHOW options are set to ON.

USE_TEXT_LINKS specifies the type of the navigator links that should be encoded for a multi-file HTML output. Setting USE_TEXT_LINKS to ON uses the text provided in **LINK_TEXT_FIRST**, **LINK_TEXT_PREV**, **LINK_TEXT_NEXT** and **LINK_TEXT_LAST** as the hyperlink's caption. Setting to OFF uses Images specified by **LINK_IMG_FILE_FIRST**, **LINK_IMG_FILE_PREV**, **LINK_IMG_FILE_NEXT**, **LINK_IMG_FILE_LAST**. The property is effective only when the options for SEP_FILE_PER_PAGE and NAV_SHOW are set to ON.

Values:
ON
OFF

LINK_TEXT_FIRST specifies the hyperlink's text caption for first page when USE_TEXT_LINKS option is set to ON.

LINK_TEXT_PREV specifies the hyperlink's text caption for previous page when USE_TEXT_LINKS option is set to ON.

LINK_TEXT_NEXT specifies the hyperlink's text caption for next page when USE_TEXT_LINKS option is set to ON.

LINK_TEXT_LAST specifies the hyperlink's text caption for last page when USE_TEXT_LINKS option is set to ON.

LINK_FONT_NAME specify the font name for navigator links.

LINK_FONT_SIZE specify the font size for navigator links.

LINK_FONT_COLOR specify the font color for navigator links.

LINK_FONT_BOLD specifies whether the font is bold faced for navigator links.

Values:
ON
OFF

LINK_FONT_ITALIC specifies whether the font is italicized for navigator links.

Values:
ON
OFF

LINK_FONT_UNDERLINE specifies whether the font is underlined for navigator links.

Values:
ON

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OFF

LINK_FONT_STRIKEOUT specifies whether the font for navigator link is displayed with a horizontal line through it.

Values:
ON
OFF

LINK_IMG_FILE_FIRST specifies the hyperlink's image file for first page when USE_TEXT_LINKS option is set to OFF.

LINK_IMG_FILE_PREV specifies the hyperlink's image file for previous page when USE_TEXT_LINKS option is set to OFF.

LINK_IMG_FILE_NEXT specifies the hyperlink's image file for next page when USE_TEXT_LINKS option is set to OFF.

LINK_IMG_FILE_LAST specifies the hyperlink's image file for last page when USE_TEXT_LINKS option is set to OFF.

NAV_TYPE specifies the type of the navigator. If NAV_TYPE is set to SCREEN then the navigator will be fixed to screen, else the navigator will be fixed to page. The property is effective only when the options for SEP_FILE_PER_PAGE and NAV_SHOW are set to ON.

Values:
PAGE
SCREEN

NAV_ORIENT specifies the orientation of the navigator. if NAV_ORIENT is set to HORIZONTAL then, a Horizontal navigator is encoded, else a Vertical navigator is encoded. The property is effective only when the options for SEP_FILE_PER_PAGE and NAV_SHOW are set to ON.

Values:
VERTICAL
HORIZONTAL

NAV_POS specifies the position of the navigator. The property is effective only when the options for SEP_FILE_PER_PAGE and NAV_SHOW are set to ON.

Values:
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

DISABLE_RIGHT_CLICK specifies whether to disable the typical speed menu options when you right click on your mouse button.

Values:
ON
OFF

DISABLE_COPYING specifies whether to disable the option to highlight and copy the text.

Values:
ON
OFF

AUTO_MAXIMIZE_WINDOW specifies whether to automatically maximize the window when HTML document is opened.

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Values:
ON
OFF

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print SalesSumAndSubTot report as HTML file)

```
PRINT SalesSumAndSubTot +
OPTION HTML +
|FILENAME SalesSumAndSubTot.htm +
|SHOW_CANCEL_DIALOG ON +
|BACKGROUND_FILE NONE +
|BACKGROUND_TYPE CENTER +
|BACKGROUND_COLOR WHITE +
|INCLUDE_LINES ON +
|INCLUDE_SHAPES ON +
|INCLUDE_RICHTEXT OFF +
|RICHTEXT_ENCODING_TYPE PLAINTEXT +
|INCLUDE_IMAGES ON +
|IMAGE_FORMAT JPG +
|JPEG_QUALITY 100 +
|IMAGE_DPI -1 +
|PIXELFORMAT 24 +
|INCLUDE_HYPERLINKS ON +
|TITLE Customer Sales Sub-Totals and Totals +
|SUBJECT ConComp Sales Summary Report +
|AUTHOR Accounting Team of ConComp +
|KEYWORDS SubTotals Totals Sales Summary +
|OPTIMIZE_FOR_IE ON +
|PAGE_END_LINES ON +
|OUTPUT_STYLES_TO_CSS_FILE ON +
|CSSFILE +
|OUTPUT_SCRIPTS_TO_JAVA_SCRIPT_FILE ON +
```

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```
|JAVA_SCRIPT_FILE_NAME +
|GENERATE_TOC ON +
|TOC_FILE_NAME Index.htm +
|IMAGE_FOLDER Images +
|DEFAULT_FONT_NAME Verdana +
|DEFAULT_FONT_SIZE 9 +
|DEFAULT_FONT_COLOR BLACK +
|DEFAULT_FONT_BOLD OFF +
|DEFAULT_FONT_ITALIC OFF +
|DEFAULT_FONT_UNDERLINE OFF +
|DEFAULT_FONT_STRIKEOUT OFF +
|SEP_FILE_PER_PAGE ON +
|NAV_SHOW ON +
|LINK_BACK_COLOR WHITE +
|LINK_H_BACK_COLOR BLUE +
|LINK_H_FORE_COLOR WHITE +
|USE_TEXT_LINKS OFF +
|LINK_TEXT_FIRST First +
|LINK_TEXT_PREV Previous +
|LINK_TEXT_NEXT Next +
|LINK_TEXT_LAST Last +
|LINK_FONT_NAME Wingdings +
|LINK_FONT_SIZE 10 +
|LINK_FONT_COLOR BLUE +
|LINK_FONT_BOLD OFF +
|LINK_FONT_ITALIC OFF +
|LINK_FONT_UNDERLINE OFF +
|LINK_FONT_STRIKEOUT OFF +
|LINK_IMG_FILE_FIRST Images\FirstOff.gif +
|LINK_IMG_FILE_PREV Images\PrevOff.gif +
|LINK_IMG_FILE_NEXT Images\NextOff.gif +
|LINK_IMG_FILE_LAST Images\LastOff.gif +
|NAV_TYPE PAGE +
|NAV_ORIENT HORIZONTAL +
|NAV_POS BOTTOMCENTER +
|DISABLE_RIGHT_CLICK OFF +
|DISABLE_COPYING OFF +
|AUTO_MAXIMIZE_WINDOW ON +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.8 JPG

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION JPG

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:

ON (default)

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OFF

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of report.

BACKGROUND_TYPE specifies the way background image has to be displayed in the GIF file.

Values:

TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:

AQUA
BLACK
BLUE
CREAM
DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY
MINT GREEN
NAVY
OLIVE
PURPLE
RED
SILVER
SKY BLUE
TEAL
WHITE (default)
YELLOW

GRAYSCALE determines whether the image output of a JPEG image is black and white, or color. Use GrayScale for reading in and writing out, that is, for decompressing and compressing, a JPEG image. This property affects how the image is displayed.

GrayScale is used for speed in output optimization. When GrayScale is set to ON, the color is separated from luminosity. Color takes the most time to decompress, so for previewing the image, GrayScale can be set to True for speed. The output then contains 255 shades of gray.

Values:

ON
OFF

PROGRESSIVE_ENCODING determines whether an image can be progressively displayed when it is decompressed.

Values:

ON
OFF

PIXELFORMAT specifies the pixel format of the jpg-file (bits/pixel).

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Values:

1 : 1bit
4 : 4bit
8 : 8bit
15 : 15bit
16 : 16bit
24 : 24bit
32 : 32bit

QUALITY determines the closeness of the saved, JPEG image to the original. As a side effect it also matter to the size of the saved file. Setting a larger value improves image quality but also increases file size; a smaller value decreases image quality and also reduces file size. Alter it according to the need.

Values:

1-100

SCALEX double; Scaling factor for the width of the exported page. Use 1 for actual width.

SCALEY double; Scaling factor for the height of the exported page. Use 1 for actual height.

OPEN specifies whether the report should be opened after it is generated.

Values:

ON
OFF

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:

ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print Invoice as JPG file)

```
PRINT Invoice WHERE TransID = 1068 +
OPTION JPG +
|FILENAME Invoice1068.JPG +
|SHOW_CANCEL_DIALOG OFF +
|BACKGROUND_COLOR WHITE +
|GRAYSCALE OFF +
|PIXELFORMAT 32 +
|QUALITY 100 +
|SCALEX 1 +
|SCALE 1 +
|OPEN ON
```

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RETURN

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.9 PDF

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION PDF

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)
OFF

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of report.

BACKGROUND_TYPE specifies the way background image has to be displayed in the PDF file.

Values:
TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:
AQUA
BLACK
BLUE
CREAM

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DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY
MINT GREEN
NAVY
OLIVE
PURPLE
RED
SILVER
SKY BLUE
TEAL
WHITE (default)
YELLOW

INCLUDE_LINES specifies whether lines on the report should be included in the exported file.

Values:
ON
OFF

INCLUDE_SHAPES specifies whether shapes on the report should be included in the exported file.

Values:
ON
OFF

INCLUDE_RICHTEXT specifies whether contents of the RichText objects on the report should be included in the exported file.

Values:
ON
OFF

RICHTEXT_ENCODING_TYPE specifies the way in which RichText contents should be encoded in exported HTML document when INCLUDE_RICHTEXT option is set to ON.

Set RICHTEXT_ENCODING_TYPE to IMAGE to encode RichText contents as exact graphical representations. Set RICHTEXT_ENCODING_TYPE to PLAINTEXT to encode RichText contents as unformatted text. The font used when encoding RichText as plain text is the one set in the Font property of the RichText object.

Values:
IMAGE
PLAINTEXT

INCLUDE_IMAGES specifies whether Images on the report should be included in the exported file.

Values:
ON
OFF

IMAGE_FORMAT specifies the Linked image file format for image controls used in the report when INCLUDE_IMAGES option is set to ON.

Values:
JPG
BMP

JPEG_QUALITY specifies the quality of the JPEG Image when INCLUDE_IMAGES is set to ON and IMAGE_FORMAT is set to JPG.

Values:

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1-100

IMAGE_DPI specifies the depth of image as dots per inch.

Values:
-1

PIXELFORMAT specifies the pixel format of the image-file (bits/pixel).

Values:
1 : 1bit
4 : 4bit
8 : 8bit
15 : 15bit
16 : 16bit
24 : 24bit
32 : 32bit

INCLUDE_HYPERLINKS specifies whether to convert all Internet addresses in your report to hyperlinks.

Values:
ON
OFF

GENERATE_TOC specifies whether to generate a **T**able **o**f **C**ontents based on all report Break Header(s), if defined.

Values:
ON
OFF

Set GENERATE_TOC to ON to generate a table of contents based on report headers, if defined, and encode it as outlines in PDF document.

TITLE specifies the title of the report.

SUBJECT specifies the subject of the report.

AUTHOR specifies the author of the report.

KEYWORDS stores the list of keywords used in the report. Specify a list of keywords for the document that should be encoded as the Keywords in PDF document summary properties.

USE_COMPRESSION specifies whether compression should be used.

Values:
ON
OFF

COMPRESSION_METHOD specifies the type of compression to be used to compress text and Image.

Values:
FASTEST
NORMAL
MAXCOMPRESS

FONT_ENCODING specifies the type of font encoding to be used to encode font.

Values:
WIN_ANSI
MAC_ROMAN
MAC_EXPERT
STANDART
PDF_DOC

EMBED_USED_FONTS specifies whether all the used fonts should be embedded in the PDF document.

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Values:
ON
OFF

Set EMBED_USED_FONTS to ON to embed all the fonts used in the report. Fonts are embedded only if embedding is permitted depending on the Embedding Flags of the font.

ENCRYPT_FILE specifies whether the PDF document should be encrypted.

Values:
ON
OFF (default)

Set ENCRYPT_FILE to ON to encrypt the PDF document.

USER_PASSWORD specifies the user password of the encrypted PDF document. Opening the document with the correct user password allows additional operations to be performed according to the user access permissions specified by the permissions properties such as, ENABLE_PRINTING (ON/OFF), ENABLE_COPYING (ON/OFF), and ENABLE_MODIFYING (ON/OFF). These permissions are considered by the viewer applications if the document is opened with the User password. If ENABLE_PRINTING is OFF then printing is not enabled. If ENABLE_COPYING is OFF then page contents cannot be selected and copied. If ENABLE_MODIFYING is OFF then the PDF document cannot be modified.

OWNER_PASSWORD specifies the owner password of the encrypted PDF document. Opening the document with the correct owner password (assuming it is not same as the user password) allows full (owner) access to the document. This unlimited access includes the ability to change the document's passwords and access permissions.

ENCRYPTION_LEVEL specifies the level of encryption of the PDF document.

Values:
40BIT
128BIT

Set ENCRYPTION_LEVEL to 40BIT for a 40 bit encryption of the PDF document, i.e a 40 bit key is used to encrypt the PDF document. Set ENCRYPTION_LEVEL to 128BIT for a 128 bit encryption of the PDF document, i.e a 128 bit key is used to encrypt the PDF document. ENCRYPTION_LEVEL is considered only if ENCRYPT_FILE is set to ON.

ENABLE_PRINTING specifies whether to allow printing when USER_PASSWORD is set.

Values:
ON (default)
OFF

If ENABLE_PRINTING is OFF then the printing is not enabled.

ENABLE_COPYING specifies whether to allow page contents to be selected and copied when USER_PASSWORD is set.

Values:
ON (default)
OFF

If ENABLE_COPYING is OFF then the page contents cannot be selected and copied.

ENABLE_MODIFYING specifies whether the PDF document can be modified when USER_PASSWORD is set.

Values:
ON (default)
OFF

If ENABLE_MODIFYING is OFF then the PDF document cannot be modified.
HIDE_TOOLBAR specifies whether to hide the viewer application's toolbars, such as Acrobat Reader or R:PDF Viewer, when the document is active. If the value is ON then the viewer applications toolbars are hidden.

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Values:
ON
OFF (default)

HIDE_MENUBAR specifies whether to hide the viewer application's menu bar, such as Acrobat Reader or R:PDF Viewer, when the document is active. If the value is ON then the viewer applications menu bar is hidden.

Values:
ON
OFF (default)

HIDE_WINDOW_UI specifes whether to hide user interface elements in the document's window (such as scroll bars and navigation controls), leaving only the document's contents displayed. If the value is ON then documents user interface elements are hidden.

Values:
ON
OFF (default)

FIT_WINDOW specifies whether to resize the document's window to fit the size of the first displayed page. If the value is ON then the first page displayed is resized to fit the document's window.

Values:
ON
OFF (default)

CENTER_WINDOW specifies whether to position the document's window in the center of the screen. If the value is ON then the document is positioned at the center of the screen when opened.

Values:
ON
OFF (default)

PAGE_LAYOUT specifies the page layout to be used when the PDF document is opened.

Values:
SINGLE_PAGE
ONE_COLUMN
TWO_COLUMN_LEFT
TWO_COLUMN_RIGHT

If the value is set to SINGLE_PAGE then one page is displayed at a time. If the value is set to ONE_COLUMN then pages are displayed in one column. If the value is set to TWO_COLUMN_LEFT then pages are displayed in two columns with odd numbered pages on the left. If the value is set to TWO_COLUMN_RIGHT then pages are displayed in two columns with odd numbered pages on the right.

PAGE_MODE specifies how the document should be displayed when opened.

Values:
ONE
OUTLINES
THUMBS
FULLSCREEN

If the value is set to ONE then neither document outlines nor thumbnail images are visible. If the value is set to OUTLINES then document outline is visible. If the value is set to THUMBS then thumbnail images are visible. If the value is setto FULLSCREEN then document is opened in Full Screen mode with no menu bar, window controls, or any other window visible.

NON_FULL_SCREEN_PAGE_MODE specifies how to display the document on exiting full screen mode. This is meaningful only if the PAGE_MODE value is set to FULLSCREEN.

Values:
NONE
USE_OUTLINES

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USE_THUMB

If the value is set to NONE then neither document outlines nor thumbnail images are visible. If the value is set to USE_OUTLINES then document outline is visible. If the value is set to USE_TNUMB then thumbnail images are visible.

PRESENTATION_MODE similar to transition effects specifies how the viewer application, such as Acrobat Reader or R:PDF Viewer, should display/present the document. Some viewer applications allow a document to be displayed in the form of a presentation or "slide show," advancing from one page to the next either automatically or under user control.

Values:

SPLIT_HOR_INWARD
SPLIT_HOR_OUTWARD
SPLIT_VERT_INWARD
SPLIT_VERT_OUTWARD
BLINDS_HOR
BLINDS_VERT
BOX_INWARD
BOX_OUTWARD
WIPE_LEFT_TO_RIGHT
WIPE_BOTTOM_TO_TOP
WIPE_RIGHT_TO_LEFT
WIPE_TOP_TO_BOTTOM
DISSOLVE
GLITTER_LEFT_TO_RIGHT
GLITTER_TOP_TO_BOTTOM
GLITTER_TOPLEFT_TO_BOTTOMRIGHT
NONE

SPLIT_HOR_INWARD: Two lines sweep across the screen, revealing the new page. The lines are horizontal and move inward from the edges of the page.

SPLIT_HOR_OUTWARD: Two lines sweep across the screen, revealing the new page. The lines are horizontal and move outward from the center of the page.

SPLIT_VERT_INWARD: Two lines sweep across the screen, revealing the new page. The lines are vertical and move inward from the edges of the page.

SPLIT_VERT_OUTWARD: Two lines sweep across the screen, revealing the new page. The lines are vertical and move outward from the center of the page.

BLINDS_HOR: Multiple lines, evenly spaced across the screen, synchronously sweep in the same direction to reveal the new page. The lines are horizontal and move downward.

BLINDS_VERT: Multiple lines, evenly spaced across the screen, synchronously sweep in the same direction to reveal the new page. The lines are vertical and move to the right.

BOX_INWARD: A rectangular box sweeps inward from the edges of the page revealing the new page.

BOX_OUTWARD: A rectangular box sweeps outward from the center of the page revealing the new page.

WIPE_LEFT_TO_RIGHT: A single line sweeps across the screen from Left to Right edge of the page

WIPE_BOTTOM_TO_TOP: A single line sweeps across the screen from Bottom to the Top edge of the page

WIPE_RIGHT_TO_LEFT: A single line sweeps across the screen from Right to the Left edge of the page

WIPE_TOP_TO_BOTTOM: A single line sweeps across the screen from Top to Bottom edge of the page

DISSOLVE: The old page "dissolves" gradually to reveal the new one.

GLITTER_LEFT_TO_RIGHT: Similar to Dissolve, except that the effect sweeps across the page in a wide band moving from Left side of the screen to the Right side.

GLITTER_TOP_TO_BOTTOM: Similar to Dissolve, except that the effect sweeps across the page in a wide band

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moving from Top side of the screen to the Bottom side.

GLITTER_TOPLEFT_TO_BOTTOMRIGHT: Similar to Dissolve, except that the effect sweeps across the page in a wide band moving from TopLeft corner of the screen to the BottomRight corner.

NONE: The new page simply replaces the old one with no special transition effect.

DURATION specifies the duration of the presentation mode (transition effect) in seconds.

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print SalesSumAndSubTot report as secure PDF document)

```
PRINT SalesSumAndSubTot +
OPTION PDF +
|FILENAME SalesSumAndSubTotals.PDF +
|SHOW_CANCEL_DIALOG ON +
|BACKGROUND_FILE NONE +
|BACKGROUND_TYPE CENTER +
|BACKGROUND_COLOR WHITE +
|INCLUDE_LINES ON +
|INCLUDE_SHAPES ON +
|INCLUDE_RICHTEXT ON +
|RICHTEXT_ENCODING_TYPE PLAINTEXT +
|INCLUDE_IMAGES ON +
|IMAGE_FORMAT JPG +
|PIXELFORMAT 32 +
|JPEG_QUALITY 100 +
|IMAGE_DPI -1 +
|INCLUDE_HYPERLINKS ON +
|GENERATE_TOC ON +
|TITLE Customer Sales Sub-Totals and Totals +
|SUBJECT Sales Summary Report +
|AUTHOR Accounting Team of Consolidated Computer Company +
|KEYWORDS SubTotals Totals Sales Summary +
|USE_COMPRESSION ON +
|COMPRESSION_METHOD MAXCOMPRESS +
|FONT_ENCODING WIN_ANSI +
|EMBED_USED_FONTS ON +
|ENCRYPT_FILE ON +
|USER_PASSWORD RRBYW10 +
|OWNER_PASSWORD RRBYW10Owner +
|ENCRYPTION_LEVEL 128BIT +
|ENABLE_PRINTING OFF +
|ENABLE_COPYING OFF +
|ENABLE_MODIFYING OFF +
|HIDE_TOOLBAR OFF +
|HIDE_MENUBAR OFF +
|HIDE_WINDOW_UI OFF +
|FIT_WINDOW OFF +
```

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```
|CENTER_WINDOW OFF +
|PAGE_LAYOUT SINGLE_PAGE +
|PAGE_MODE NONE +
|NON_FULL_SCREEN_PAGE_MODE NONE +
|PRESENTATION_MODE NONE +
|DURATION 0 +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.10 RTF

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION RTF

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)
OFF

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of report.

BACKGROUND_TYPE specifies the way background image has to be displayed in the RTF file.

Values:
TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:
AQUA
BLACK
BLUE
CREAM
DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY

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MINT GREEN
NAVY
OLIVE
PURPLE
RED
SILVER
SKY BLUE
TEAL
WHITE (default)
YELLOW

INCLUDE_LINES specifies whether lines on the report should be included in the exported file.

Values:
ON
OFF

INCLUDE_SHAPES specifies whether shapes on the report should be included in the exported file.

Values:
ON
OFF

INCLUDE_RICHTEXT specifies whether contents of the RichText objects on the report should be included in the exported file.

Values:
ON
OFF

INCLUDE_IMAGES specifies whether Images on the report should be included in the exported file.

Values:
ON
OFF

IMAGE_FORMAT specifies the Linked image file format for image controls used in the report when INCLUDE_IMAGES option is set to ON.

Values:
GIF
JPG
BMP

JPEG_QUALITY specifies the quality of the JPEG Image when INCLUDE_IMAGES is set to ON and IMAGE_FORMAT is set to JPG.

Values:
1-100

IMAGE_DPI specifies the depth of image as dots per inch.

Values:
-1

PIXELFORMAT specifies the pixel format of the image-file (bits/pixel).

Values:
1 : 1bit
4 : 4bit
8 : 8bit
15 : 15bit
16 : 16bit
24 : 24bit
32 : 32bit

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GRAPHIC_DATA_IN_BINARY specifies whether graphic data is to be encoded in binary format.

Values:
ON (default)
OFF

Set to ON to encode graphic data in binary format. If OFF, graphic data is encoded in hexadecimal format.

OPTIMIZATION specifies the type of encoding of the RTF document.

Values:
POSITIONAL_ACCURACY (default)
EASE_OF_EDITING

Resulting RTF document can be either optimized for positional accuracy (meaning that the placement of the objects will be as close as possible to a printed report), or for ease of editing (meaning that everything is treated as simple text and it is much easier to edit the file at the expense of aesthetics).

Set OPTIMIZATION EASE_OF_EDITING if you wish to easily modify the resulting RTF document.

TITLE specifies the title of the report.

SUBJECT specifies the subject of the report.

AUTHOR specifies the author of the report.

KEYWORDS stores the list of keywords used in the report. Specify a list of keywords for the document that should be encoded as the Keywords Meta content in RTF document property summary.

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print `invoice` report as RTF document)

```
PRINT Invoice WHERE TransID = 1068 +
OPTION RTF +
```

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```
|FILENAME Invoice1068.RTF +
|SHOW_CANCEL_DIALOG ON +
|BACKGROUND_FILE NONE +
|BACKGROUND_TYPE CENTER +
|INCLUDE_LINES ON +
|INCLUDE_SHAPES ON +
|INCLUDE_RICHTEXT ON +
|INCLUDE_IMAGES ON +
|IMAGE_FORMAT JPG +
|JPEG_QUALITY 100 +
|IMAGE_DPI -1 +
|PIXELFORMAT 32 +
|GRAPHIC_DATA_IN_BINARY ON +
|OPTIMIZATION POSITIONAL_ACCURACY +
|TITLE Customer Invoice +
|SUBJECT Sales Order +
|AUTHOR Accounting Team of Consolidated Computer Company +
|KEYWORDS Invoice +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.11 TIFF

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION TIFF

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:

ON (default)
OFF

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:

AQUA
BLACK
BLUE
CREAM
DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY
MINT GREEN
NAVY
OLIVE
PURPLE

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RED
SILVER
SKY BLUE
TEAL
WHITE (default)
YELLOW

BACKGROUND_TYPE specifies the way background image has to be displayed in the BMP file.

Values:

TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of report.

MONOCHROME specifies whether tiff-file produced are color or monochrome images.

Values:

ON
OFF

MULTIPAGE specifies the output report to one multi-page file or one file per page.

Values:

ON
OFF

PIXELFORMAT specifies the pixel format of the tiff-file (bits/pixel).

Values:

1 : 1bit
4 : 4bit
8 : 8bit
15 : 15bit
16 : 16bit
24 : 24bit
32 : 32bit

SCALEX double; Scaling factor for the width of the exported page. Use 1 for actual width.

SCALEY double; Scaling factor for the height of the exported page. Use 1 for actual height.

COMPRESSION When an image is loaded, this parameter indicates the compression used by the image. When saving in image, the parameter may be set to specify which compression method to use.

Values:

NONE
PACKBITS
GROUP3_1D
GROUP3_2D
GROUP4
ZLIB
JPEG

OPEN specifies whether the report should be opened after it is generated.

Values:

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ON
OFF

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print Invoice as TIF file)

```
PRINT Invoice WHERE TransID = 1068 +
OPTION TIFF +
|FILENAME Invoice1068.TIF +
|SHOW_CANCEL_DIALOG OFF +
|BACKGROUND_COLOR WHITE +
|MONOCHROME OFF +
|MULTIPAGE OFF +
|PIXELFORMAT 32 +
|SCALEX 1 +
|SCALE 1 +
|COMPRESSION NONE +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.12 TXT

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION TXT

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

The TXT "Text File" option allows you to define a particular band to print the data as Comma Delimited, Tab Delimited or Fixed Length file. This is the perfect option to export selective and/or summarized data used in a report band.

Caution:

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This option requires the report setup to define the exact band to be print as text file.

Report Designer | File | Print to Text File Setup ...

If a user attempts to PRINT the report as Text File (OPTION TXT) without first having defined the Text File Setup in Report Designer, the program will return an -ERROR- message and not just write a zero length file.

The same rule applies when printing the report as Text File using the Print to a File option from the Database Explorer.

Database Explorer | Reports | Run Report | Print Target .. File

For step-by-step instructions on how to set up a report to print as Text File, please refer to the article on From The Edge: Printing Report as Text File (May 6, 2005).

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)
OFF

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print columnar report as Text file)

```
PRINT ColumnarReport +
OPTION TXT +
|FILENAME ColumnarReport.TXT +
|SHOW_CANCEL_DIALOG OFF +
```

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```
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.13 WMF

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION WMF

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)
OFF

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of report.

BACKGROUND_TYPE specifies the way background image has to be displayed in the WMF file.

Values:
TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:
AQUA
BLACK
BLUE
CREAM
DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY
MINT GREEN
NAVY
OLIVE
PURPLE
RED
SILVER
SKY BLUE

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TEAL
WHITE (default)
YELLOW

SCALEX double; Scaling factor for the width of the exported page. Use 1 for actual width.

SCALEY double; Scaling factor for the height of the exported page. Use 1 for actual height.

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print Invoice as WMF file)

```
PRINT Invoice WHERE TransID = 1068 +
OPTION WMF +
|FILENAME Invoice1068.WMF +
|SHOW_CANCEL_DIALOG OFF +
|BACKGROUND_COLOR WHITE +
|SCALEX 1 +
|SCALE 1 +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.14 XHTML

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION XHTML

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol.

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OPTION Parameters:

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:

ON (default)
OFF

BACKGROUND_FILE stores the image file name that is to be used as background image of all pages of report.

BACKGROUND_TYPE specifies the way background image has to be displayed in the XHTML file.

Values:

TILE
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT
CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

BACKGROUND_COLOR indicates the color to be used as background color of all pages of report.

Values:

AQUA
BLACK
BLUE
CREAM
DARK GRAY
FUCHSIA
GRAY
GREEN
LIME
LIGHT GRAY
MAROON
MEDIUM GRAY
MINT GREEN
NAVY
OLIVE
PURPLE
RED
SILVER

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SKY BLUE
TEAL
WHITE (default)
YELLOW

INCLUDE_LINES specifies whether lines on the report should be included in the exported file.

Values:
ON
OFF

INCLUDE_SHAPES specifies whether shapes on the report should be included in the exported file.

Values:
ON
OFF

INCLUDE_RICHTEXT specifies whether contents of the RichText objects on the report should be included in the exported file.

Values:
ON
OFF

RICHTEXT_ENCODING_TYPE specifies the way in which RichText contents should be encoded in exported HTML document when INCLUDE_RICHTEXT option is set to ON.

Set RICHTEXT_ENCODING_TYPE to IMAGE to encode RichText contents as exact graphical representations. Set RICHTEXT_ENCODING_TYPE to PLAINTEXT to encode RichText contents as unformatted text. The font used when encoding RichText as plain text is the one set in the Font property of the RichText object.

Values:
IMAGE
PLAINTEXT

INCLUDE_IMAGES specifies whether Images on the report should be included in the exported file.

Values:
ON
OFF

IMAGE_FORMAT specifies the Linked image file format for image controls used in the report when INCLUDE_IMAGES option is set to ON.

Values:
GIF
JPG
BMP

JPEG_QUALITY specifies the quality of the JPEG Image when INCLUDE_IMAGES is set to ON and IMAGE_FORMAT is set to JPG.

Values:
1-100

IMAGE_DPI specifies the depth of image as dots per inch.

Values:
-1

PIXELFORMAT specifies the pixel format of the image-file (bits/pixel).

Values:
1 : 1bit
4 : 4bit
8 : 8bit

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15 : 15bit
16 : 16bit
24 : 24bit
32 : 32bit

INCLUDE_HYPERLINKS specifies whether hyperlinks in your report should be included in the exported file.

Values:
ON
OFF

TITLE specifies the title of the report.

SUBJECT specifies the subject of the report.

AUTHOR specifies the author of the report.

KEYWORDS stores the list of keywords used in the report. Specify a list of keywords for the document that should be encoded as the Keywords Meta content.

PAGE_END_LINES indicates whether a line should be drawn at the end of each page. Setting PAGE_END_LINES to ON draws a line after each page. PAGE_END_LINES is considered only when SEP_FILE_PER_PAGE is set to OFF.

Values:
ON
OFF

OUTPUT_STYLES_TO_CSS_FILE specifies whether to output styles to a CSS (Cascade Style Sheet) file.

Values:
ON
OFF

CSSFILE specify the CSS file name if OUTPUT_STYLES_TO_CSS_FILE is set to ON.

OUTPUT_SCRIPTS_TO_JAVA_SCRIPT_FILE specifies whether to output scripts to a Java Script File.

Values:
ON
OFF

JAVA_SCRIPT_FILE_NAME specify the file name if the OUTPUT_SCRIPTS_TO_JAVA_SCRIPT_FILE is set to ON.

GENERATE_TOC specifies whether to generate a **T**able **o**f **C**ontents based on all report Break Header(s), if defined.

Values:
ON
OFF

TOC_FILE_NAME specify the file name for the Table of Contents, if the GENERATE_TOC option is set to ON.

IMAGE_FOLDER specify the folder path and name for XHTML document images.

DEFAULT_FONT_NAME specify the default font name for XHTML document.

DEFAULT_FONT_SIZE specify the default font size for XHTML document.

DEFAULT_FONT_COLOR specify the default font color for XHTML document.

DEFAULT_FONT_BOLD specifies whether the font is bold faced.

Values:
ON

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OFF

DEFAULT_FONT_ITALIC specifies whether the font is italicized.

Values:
ON
OFF

DEFAULT_FONT_UNDERLINE specifies whether the font is underlined.

Values:
ON
OFF

DEFAULT_FONT_STRIKEOUT specifies whether the font is displayed with a horizontal line through it.

Values:
ON
OFF

SEP_FILE_PER_PAGE specifies whether to create a separate file for each page of the report.

Values:
ON
OFF

NAV_SHOW Set to ON to show a collection of links that enable easy navigation between pages of the exported XHTML. The links function much like the navigator buttons in the standard preview of Report Preview: one link to jump to the first page; one to the last page; one to the next page and another to get back to the previous page. NAV_SHOW is only effective when the option for SEP_FILE_PER_PAGE is set to ON.

Values:
ON
OFF

LINK_BACK_COLOR specifies the background color of navigator. This option will only be used if the SEP_FILE_PER_PAGE and NAV_SHOW options are set to ON.

LINK_H_BACK_COLOR specifies the background color of navigator when the mouse is hovered over it. This option will only be used if the SEP_FILE_PER_PAGE and NAV_SHOW options are set to ON.

LINK_H_FORE_COLOR specifies the color of navigator when the mouse is hovered over it. This option will only be used if the SEP_FILE_PER_PAGE and NAV_SHOW options are set to ON.

USE_TEXT_LINKS specifies the type of the navigator links that should be encoded for a multi-file HTML output. Setting USE_TEXT_LINKS to ON uses the text provided in **LINK_TEXT_FIRST**, **LINK_TEXT_PREV**, **LINK_TEXT_NEXT** and **LINK_TEXT_LAST** as the hyperlink's caption. Setting to OFF uses Images specified by **LINK_IMG_FILE_FIRST**, **LINK_IMG_FILE_PREV**, **LINK_IMG_FILE_NEXT**, **LINK_IMG_FILE_LAST**. The property is effective only when the options for SEP_FILE_PER_PAGE and NAV_SHOW are set to ON.

Values:
ON
OFF

LINK_TEXT_FIRST specifies the hyperlink's text caption for first page when USE_TEXT_LINKS option is set to ON.

LINK_TEXT_PREV specifies the hyperlink's text caption for previous page when USE_TEXT_LINKS option is set to ON.

LINK_TEXT_NEXT specifies the hyperlink's text caption for next page when USE_TEXT_LINKS option is set to ON.

LINK_TEXT_LAST specifies the hyperlink's text caption for last page when USE_TEXT_LINKS option is set to ON.

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LINK_FONT_NAME specify the font name for navigator links.

LINK_FONT_SIZE specify the font size for navigator links.

LINK_FONT_COLOR specify the font color for navigator links.

LINK_FONT_BOLD specifies whether the font is bold faced for navigator links.

Values:
ON
OFF

LINK_FONT_ITALIC specifies whether the font is italicized for navigator links.

Values:
ON
OFF

LINK_FONT_UNDERLINE specifies whether the font is underlined for navigator links.

Values:
ON
OFF

LINK_FONT_STRIKEOUT specifies whether the font for navigator link is displayed with a horizontal line through it.

Values:
ON
OFF

LINK_IMG_FILE_FIRST specifies the hyperlink's image file for first page when USE_TEXT_LINKS option is set to OFF.

LINK_IMG_FILE_PREV specifies the hyperlink's image file for previous page when USE_TEXT_LINKS option is set to OFF.

LINK_IMG_FILE_NEXT specifies the hyperlink's image file for next page when USE_TEXT_LINKS option is set to OFF.

LINK_IMG_FILE_LAST specifies the hyperlink's image file for last page when USE_TEXT_LINKS option is set to OFF.

NAV_TYPE specifies the type of the navigator. If NAV_TYPE is set to SCREEN then the navigator will be fixed to screen, else the navigator will be fixed to page. The property is effective only when the options for SEP_FILE_PER_PAGE and NAV_SHOW are set to ON.
Values:
PAGE
SCREEN

NAV_ORIENT specifies the orientation of the navigator. if NAV_ORIENT is set to HORIZONTAL then, a Horizontal navigator is encoded, else a Vertical navigator is encoded. The property is effective only when the options for SEP_FILE_PER_PAGE and NAV_SHOW are set to ON.
Values:
VERTICAL
HORIZONTAL

NAV_POS specifies the position of the navigator. The property is effective only when the options for SEP_FILE_PER_PAGE and NAV_SHOW are set to ON.

Values:
TOPLEFT
TOPCENTER
TOPRIGHT
CENTERLEFT

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CENTER
CENTERRIGHT
BOTTOMLEFT
BOTTOMCENTER
BOTTOMRIGHT

DISABLE_RIGHT_CLICK specifies whether to disable the typical speed menu options when you right click on your mouse button.

Values:
ON
OFF

DISABLE_COPYING specifies whether to disable the option to highlight and copy the text.

Values:
ON
OFF

AUTO_MAXIMIZE_WINDOW specifies whether to automatically maximize the window when HTML document is opened.

Values:
ON
OFF

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print SalesSumAndSubTot report as XHTML file)

```
PRINT SalesSumAndSubTot +
OPTION XHTML +
|FILENAME SalesSumAndSubTot.htm +
|SHOW_CANCEL_DIALOG ON +
|BACKGROUND_FILE NONE +
|BACKGROUND_TYPE CENTER +
|BACKGROUND_COLOR WHITE +
|INCLUDE_LINES ON +
|INCLUDE_SHAPES ON +
|INCLUDE_RICHTEXT OFF +
|RICHTEXT_ENCODING_TYPE PLAINTEXT +
|INCLUDE_IMAGES ON +
|IMAGE_FORMAT JPG +
|JPEG_QUALITY 100 +
|IMAGE_DPI -1 +
|PIXELFORMAT 24 +
|INCLUDE_HYPERLINKS ON +
|TITLE Customer Sales Sub-Totals and Totals +
|SUBJECT ConComp Sales Summary Report +
```

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```
|AUTHOR Accounting Team of ConComp +
|KEYWORDS SubTotals Totals Sales Summary +
|PAGE_END_LINES ON +
|OUTPUT_STYLES_TO_CSS_FILE ON +
|CSSFILE +
|OUTPUT_SCRIPTS_TO_JAVA_SCRIPT_FILE ON +
|JAVA_SCRIPT_FILE_NAME +
|GENERATE_TOC ON +
|TOC_FILE_NAME Index.htm +
|IMAGE_FOLDER Images +
|DEFAULT_FONT_NAME Verdana +
|DEFAULT_FONT_SIZE 9 +
|DEFAULT_FONT_COLOR BLACK +
|DEFAULT_FONT_BOLD OFF +
|DEFAULT_FONT_ITALIC OFF +
|DEFAULT_FONT_UNDERLINE OFF +
|DEFAULT_FONT_STRIKEOUT OFF +
|SEP_FILE_PER_PAGE ON +
|NAV_SHOW ON +
|LINK_BACK_COLOR WHITE +
|LINK_H_BACK_COLOR BLUE +
|LINK_H_FORE_COLOR WHITE +
|USE_TEXT_LINKS OFF +
|LINK_TEXT_FIRST First +
|LINK_TEXT_PREV Previous +
|LINK_TEXT_NEXT Next +
|LINK_TEXT_LAST Last +
|LINK_FONT_NAME Wingdings +
|LINK_FONT_SIZE 10 +
|LINK_FONT_COLOR BLUE +
|LINK_FONT_BOLD OFF +
|LINK_FONT_ITALIC OFF +
|LINK_FONT_UNDERLINE OFF +
|LINK_FONT_STRIKEOUT OFF +
|LINK_IMG_FILE_FIRST Images\FirstOff.gif +
|LINK_IMG_FILE_PREV Images\PrevOff.gif +
|LINK_IMG_FILE_NEXT Images\NextOff.gif +
|LINK_IMG_FILE_LAST Images\LastOff.gif +
|NAV_TYPE PAGE +
|NAV_ORIENT HORIZONTAL +
|NAV_POS BOTTOMCENTER +
|DISABLE_RIGHT_CLICK OFF +
|DISABLE_COPYING OFF +
|AUTO_MAXIMIZE_WINDOW ON +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.15 XLS

PRINT reportname ARRANGE clause WHERE clause .. ORDER BY clause .. OPTION XLS

Note: Each additional OPTION parameter must be separated by the pipe **|** symbol**.**

IMPORTANT: When printing to the XLS format, the report objects must be spaced apart appropriately or "padded" in order for the report data to appear correctly in the Excel report output. Experimenting with vertical and horizontal will also allow you to attain your desired output. Also, please refrain from using elaborate fonts

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that may not be supported within Excel.

OPTION Parameters:

FILENAME specifies the full path and filename. If no path is defined, output will be saved in the current working directory.

SHOW_CANCEL_DIALOG specifies whether to suppress cancel dialog box during the print process.

Values:
ON (default)
OFF

ALL_TEXT_IN_GENERAL_FORMAT Specifies whether all the text in the report should be converted to general format or the format of the text should be detected and encoded accordingly.

Vales:

ON
OFF

Set ALL_TEXT_IN_GENERAL_FORMAT to ON to encode all the text contents in the report in general format. General format text have no specific number format. Set ALL_TEXT_IN_GENERAL_FORMAT to OFF to detect the format of the text and encode accordingly. In this case number and other formats are identified and encoded.

CELL_ATTR Cell attributes include shading of the cell whose color is not WHITE.

Values:
ON
OFF

INCLUDE_IMAGES specifies whether Image objects on the report should be included in the exported file.

Values:
ON
OFF

IMAGE_FORMAT specifies the Linked image file format for image controls used in the report.

Values:
BMP
WMF

INCLUDE_LINES specifies whether lines on the report should be included in the exported file.

Values:
ON
OFF (default)

INCLUDE_RICH_TEXT specifies whether contents of the RichText objects on the report should be included in the exported file.

Values:
ON (default)
OFF

RICHTEXT_ENCODING_TYPE indicates the way in which RichText contents should be encoded in Excel document.

Values:
IMAGE (default)
PLAINTEXT

Set RICHTEXT_ENCODING_TYPE to IMAGE to encode RichText contents as exact graphical representations. Set RICHTEXT_ENCODING_TYPE to PLAINTEXT to encode RichText contents as unformatted text. The font used

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when encoding RichText as plain text is the one set in the Font property of the RichText object. When RICHTEXT_ENCODING_TYPE is set to PLAINTEXT make sure you set the Default Font property of the RichText control in report designer to true and set the required font in the Font property.

INCLUDE_SHAPES specifies whether shapes on the report should be included in the exported file.

Values:
ON
OFF (default)

LINE_SPACE specifies the spacing to be used between lines of text.

Values:
ACTUAL
0
1
2
3
4
5

ONE_SHEET_PER_PAGE specifies whether each page in the report should be encoded into separate excel sheets or all the pages should be encoded in a single excel sheet.

Values:
ON
OFF (default)

OPEN specifies whether the report should be opened after it is generated.

Values:
ON
OFF

MARGIN_LEFT *nnn* - specifies the horizontal position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_LEFT parameter is set to 0.25 inches and you place a report component in a band and set the component's "left" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the left margin).

MARGIN_TOP *nnn* - specifies the vertical position on the page where printing should begin. All report component positions are relative to the margin. In other words, if the MARGIN_TOP parameter is set to 0.25 inches and you place a report component in a band and set the component's "top" parameter to 0, then that component will print 0.25 inches from the edge of page (or at the top margin).

MARGIN_RIGHT *nnn* - specifies the horizontal position on the page where printing should stop. All report component positions are relative to the margin.

MARGIN_BOTTOM *nnn* - specifies the vertical position on the page where printing should stop. All report component positions are relative to the margin.

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:
ON
OFF

See additional options when EMAIL value is set to ON. EMAIL SET ON

Example:

Example 01 (To print Invoices as XLS file)

```
PRINT Invoice WHERE CustID = 127 +
OPTION XLS +
|FILENAME Invoice.XLS +
```

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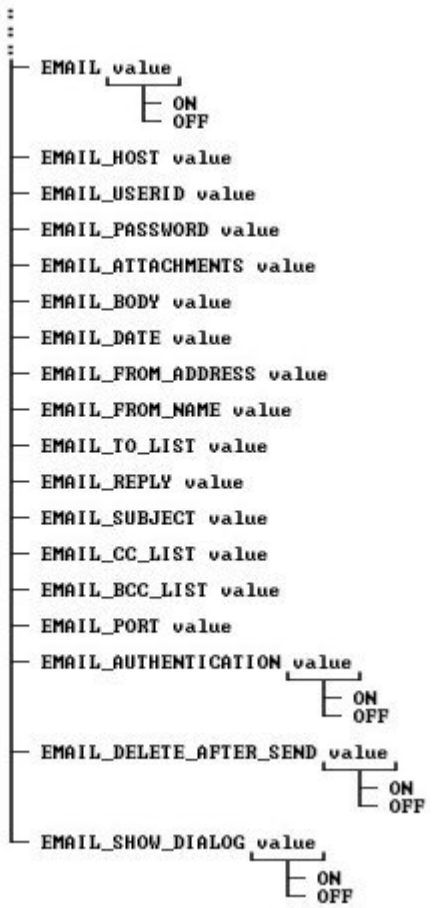
```
|SHOW_CANCEL_DIALOG OFF +
|ALL_TEXT_IN_GENERAL_FORMAT OFF +
|CELL_ATTR ON +
|INCLUDE_IMAGES OFF +
|INCLUDE_LINES OFF +
|INCLUDE_RICH_TEXT ON +
|RICHTEXT_ENCODING_TYPE IMAGE +
|INCLUDE_SHAPES OFF +
|LINE_SPACE ACTUAL +
|ONE_SHEET_PER_PAGE ON +
|OPEN ON
RETURN
```

For more examples and templates, please refer to ***R:Docs*** (version 2.5 or higher).

1.16.6.16 EMAIL SET ON

Additional options when the **EMAIL** value is set to **ON:**



Note: Each additional OPTION parameter must be separated by pipe **|** symbol

OPTION Parameters:

EMAIL specifies the report output (defined as FILENAME filename.ext) to be sent via e-mail as an attachment.

Values:

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ON
OFF

EMAIL_HOST specifies Hostname/IP Address of SMTP Server (Outgoing). Also sometimes known as your 'Sending Mail Server', your SMTP server receives and processes all of your outgoing mail.
For example, your Outgoing Mail Server might be called something like 'my-internet-provider.com' or 'outgoing-mail.mycompany.com'. The SMTP server name is sometimes the same as your incoming mail server name. If your ISP or your network administrator has not given this server name to you, you can leave the box blank. If you do not know what your outgoing mail server name is, you need to contact your Internet Service Provider or Network Administrator.

EMAIL_USERID specifies a valid User Name or Login Name for SMTP Server. This is the name you use to log into your email account. Your ISP or organization provides it. It is generally, but not necessarily, the name that appears before the at sign (@) in your return email address. For example, if your email address was <jim@my-server.com> - then your username would be 'jim' (no quotes). If you do not know what your username is, you need to contact your Internet Service Provider or Network Administrator.

EMAIL_PASSWORD specifies valid SMTP Server Password for the user.

EMAIL_ATTACHMENTS specifies file list. Each file must be separated by # symbol.

EMAIL_BODY This option contains body of the mail.

EMAIL_DATE This option holds the date the message was sent. (Default = .#DATE)

EMAIL_FROM_ADDRESS specifies the address of the E-mail account from which the mail is to be sent. Sender E-Mail Address (From E-Mail Address:) Enter your e-mail address here. For example, your email address might be 'jim@my-internet-service.com' or 'molly@my-business-domain.com'
Take care not to make a mistake here - or else it will make it difficult for others to reply to your emails. If you do not know what your e-mail address is, you need to contact your Internet Service Provider or Network Administrator.

EMAIL_FROM_NAME represents the person's name in an E-mail address. Your real name or what you want to appear as your name on messages that you send out.

EMAIL_TO_LIST identifies the recipient(s) of a message. Specify the list of valid e-mail address(s) to which the e-mail is to be sent.

EMAIL_REPLY identifies the delivery address for message replies. This is typically the same as Sender E-Mail Address. Enter your e-mail address here. For example, your email address might be 'jim@my-internet-service.com' or 'molly@my-business-domain.com' Take care not to make a mistake here - or else it will make it difficult for others to reply to your emails. If you do not know what your e-mail address is, you need to contact your Internet Service Provider or Network Administrator.

EMAIL_SUBJECT identifies the subject for the message. Subject is a text string that identifies the subject for the message.

EMAIL_CC_LIST specied the list of e-mail addresses as Carbon Copies to be sent along with the e-mail.

EMAIL_BCC_LIST specifies the list of e-mail addresses as Blind Carbon Copies to be sent along with the mail.

EMAIL_PORT specifies the Integer value of SMTP Server Port. (Default = 25).

EMAIL_AUTHENTICATION Set the value for this option to ON if your SMTP Server requires user authentication.

Values:
ON
OFF

EMAIL_DELETE_AFTER_SEND Set the value for this option to ON if you wish to delete the report files after sending e-mail.

EMAIL_SHOW_DIALOG Set the value for this option to ON if you would like to show e-mail setup dialog.

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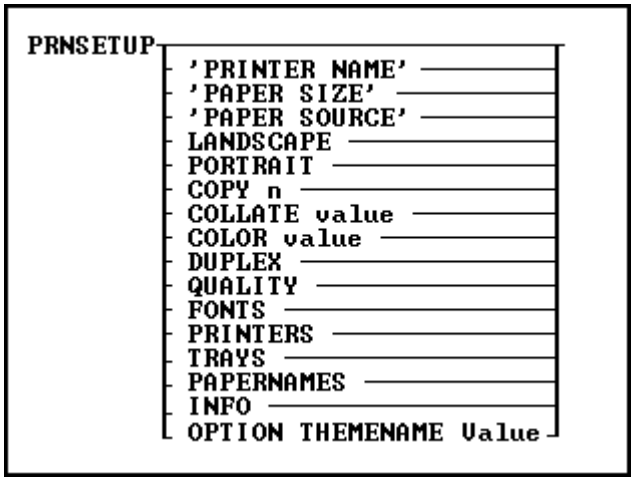
Example:

```
CONNECT RRBYW10
PRINT Invoice WHERE TransID = 1031 +
OPTION PDF|FILENAME Invoice_1031.PDF +
|EMAIL ON +
|EMAIL_TO_LIST yourname@yourdomain.com, whoelse@yourdomain.com +
|EMAIL_FROM_NAME John D. Johnson +
|EMAIL_FROM_ADDRESS johndjohnson@yourdomain.com +
|EMAIL_SUBJECT Imagine The Possibilities! +
|EMAIL_BODY Attached is the invoice - sent via R:BASE. Because we Can! +
|EMAIL_ATTACHMENTS C:\Letters\otherstuff.pdf#C:\Letters\morestuff.pdf +
|EMAIL_DELETE_AFTER_SEND ON +
|EMAIL_SHOW_DIALOG OFF
RETURN
```

1.16.7 PRNSETUP

Use the PRNSETUP command to open the "Printer Setup" dialog box.



The PRNSETUP command allows you to control a Windows printer from within R:BASE. If you wish to use more than one option you will need to issue these as separate commands. If you change the printer using the 'printer name' your other print options will be reset so be sure to issue that command first.

It is worth noting that if you use a printer name that does not exist there will be no error and the current printer will not be changed.

Options

'PRINTER NAME'
Specify which printer to print to. This must match the name of the printer as it is displayed in the Windows Printer Control Panel Applet.

'PAPER SIZE'

Options:

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LETTER	Letter 8 12 x 11 in
LETTERSMALL	Letter Small 8 12 x 11 in
TABLOID	Tabloid 11 x 17 in
LEDGER	Ledger 17 x 11 in
LEGAL	Legal 8 12 x 14 in
STATEMENT	Statement 5 12 x 8 12 in
EXECUTIVE	Executive 7 14 x 10 12 in
A3	A3 297 x 420 mm
A4	A4 210 x 297 mm
A4SMALL	A4 Small 210 x 297 mm
A5	A5 148 x 210 mm
B4	B4 (JIS) 250 x 354
B5	B5 (JIS) 182 x 257 mm
FOLIO	Folio 8 12 x 13 in
QUARTO	Quarto 215 x 275 mm
10X14	10x14 in
11X17	11x17 in
NOTE	Note 8 12 x 11 in
ENV9	Envelope #9 3 78 x 8 78
ENV10	Envelope #10 4 18 x 9 12
ENV11	Envelope #11 4 12 x 10 38
ENV12	Envelope #12 4 \276 x 11
ENV14	Envelope #14 5 x 11 12
CSHEET	C size sheet
DSHEET	D size sheet
ESHEET	E size sheet
ENVDL	Envelope DL 110 x 220mm
ENVC3	Envelope C3 324 x 458 mm
ENVC4	Envelope C4 229 x 324 mm
ENVC5	Envelope C5 162 x 229 mm
ENVC6	Envelope C6 114 x 162 mm
ENVC65	Envelope C65 114 x 229 mm
ENVB4	Envelope B4 250 x 353 mm
ENVB5	Envelope B5 176 x 250 mm
ENVB6	Envelope B6 176 x 125 mm
ENVITALY	Envelope 110 x 230 mm
ENVMONARCH	Envelope Monarch 3.875 x Turbo V-8 in
ENVPERSONAL	6 34 Envelope 3 58 x 6 12 in
FANFOLDUS	US Std Fanfold 14 78 x 11 in
FANFOLDSG	German Std Fanfold 8 12 x 12 in
FANFOLDLG	German Legal Fanfold 8 12 x 13 in
ISOB4	B4 (ISO) 250 x 353 mm
JPPOSTCARD	Japanese Postcard 100 x 148 mm
9X11	9 x 11 in
10X11	10 x 11 in

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'PAPER SOURCE'
Specifies the paper source.

Options:

- UPPER
- LOWER
- MIDDLE
- MANUAL
- ENVELOPE
- ENVMANUAL
- AUTO
- TRACTOR
- SMALLFMT
- LARGEFMT
- LARGECAPACITY
- CASSETTE

LANDSCAPE
Specifies to the landscape for the type of the report you want to print.

PORTRAIT
Specifies to the portrait for the type of the report you want to print.

COPY n
Specifies the number of copies to print.

COLLATE value
Specifies whether collation should be used when printing multiple copies. This parameter can be one of the following values:

- ON - Collate when printing multiple copies.
- OFF - Do not collate when printing multiple copies.

COLOR value
Switches between color and monochrome on color printers. Following are the possible values:

- ON
- OFF

DUPLEX
Select duplex or double_sided printing for printers capable of duplex printing. Following are the possible:

- SIMPLEX - Normal(nonduplex) printing
- HORIZONTAL - Short_edge binding, that is, the long edge of the page is horizontal.
- VERTICAL - Short_edge binding, that is, the long edge of the page is vertical.

QUALITY
Specifies the printer resolution. There are four values:

- HIGH
- MEDIUM
- LOW
- DRAFT

FONTS
Read Fonts to get a list of the fonts supported by the printer.

PRINTERS
Lists all printers installed in Windows.

TRAYS
Retrieves a list of the names of the paper bins.

PAPERNAMES

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Retrieves a list of supported paper names (for example, Letter or Legal).

INFO
Retrieves a list of current printer settings like:

- Current Printer :
- Paper Orientation :
- Paper Size :
- Paper Source :
- Print Quality (DPI) :
- Copies :
- Color Mode :
- Duplex Mode :
- Collation :

Note: Only use options specific to your printer.

TOP - will move the print dialog location in pixels from the top of the screen down

LEFT - will move the print dialog location in pixels from the left of the screen down

OPTION THEMENAME
Will dynamically provide over thirty pre-defined themes

Values:

- Deep Cyan
- Deep Green
- Deep Orange
- Diamond Blue
- Diamond Green
- Funny Theme
- Gnome
- Green Glass
- Longhorn
- Mac OS
- Matrix
- Media
- One Blue
- One Clear Blue
- One Cyan
- One Green
- One Orange
- Orange Glass
- R:BASE Rocks!
- Razzmatazz
- Real One
- Sports Black
- Sports Blue
- Sports Cyan
- Sports Green
- Sports Orange
- Steel Black
- Steel Blue
- Win Native
- XP Blue
- XP Egypt
- XP Green
- XP Grey Scale
- XP Orange
- XP Silver

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1.16.8 ProcessMessage

Use the **ProcessMessage** command to free up resources in order to display any PAUSE 3 messages.

```
--Example 01:
SET VAR vPauseMessage TEXT = ((CHAR(013))+'Computing - Please Wait
......')
CLS
PAUSE 3 USING .vPauseMessage +
CAPTION ' Pause 3 with ProcessMessage' +
OPTION ICON_FILE Hourglass.GIF +
|BACK_COLOR WHITE +
|MESSAGE_COLOR WHITE +
|MESSAGE_FONT_NAME VERDANA +
|MESSAGE_FONT_COLOR RED +
|MESSAGE_FONT_SIZE 10 +
|THEMENAME R:BASE Rocks!
SET VAR vCounter INT = 1
WHILE vCounter < 2500000 THEN
SET VAR vCounter = (.vCounter + 1)
ProcessMessage
ENDWHILE
CLEAR VARIABLE vPauseMessage,vCounter
CLS
RETURN

--Example 02:
CLS
PAUSE 3 USING ' Calculating ... Please Stand By ...' +
CAPTION ' Pause 3 with Gauge + ProcessMessage' ICON APP +
OPTION GAUGE_VISIBLE ON +
|GAUGE_COLOR [R218,G228,B246] +
|GAUGE_INTERVAL 10 +
|MESSAGE_FONT_NAME VERDANA +
|MESSAGE_FONT_SIZE 10 +
|MESSAGE_FONT_COLOR BLUE +
|THEMENAME Razzmatazz
SET VAR vCounter INTEGER = 1
WHILE vCounter < 2500000 THEN
SET VAR vCounter = (.vCounter + 1)
ProcessMessage
ENDWHILE
CLEAR VARIABLE vCounter
CLS
RETURN

--Example 03:
CLS
PAUSE 3 USING ' Calculating ... Please Stand By ...' +
CAPTION ' Pause 3 with Gauge + ProcessMessage' ICON APP +
OPTION GAUGE_VISIBLE ON +
|GAUGE_COLOR 2708091 +
|GAUGE_INTERVAL 10 +
|MESSAGE_FONT_NAME VERDANA +
|MESSAGE_FONT_SIZE 10 +
|MESSAGE_FONT_COLOR RED +
|THEMENAME R:BASE Rocks!
SET VAR vCounter INTEGER = 1
WHILE vCounter < 2500000 THEN
```

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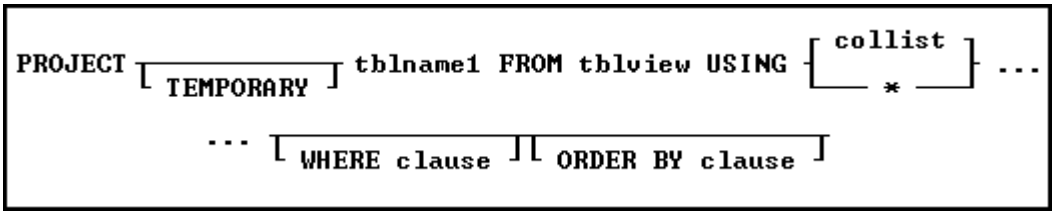
```
SET VAR vCounter = (.vCounter + 1)
ProcessMessage
ENDWHILE
CLEAR VARIABLE vCounter
CLS
RETURN

--Example 04:
CLS
PAUSE 3 USING ' Calculating ... Please Stand By ...' +
CAPTION ' Pause 3 with Gauge + PM' +
ICON WINDOWS +
OPTION GAUGE_VISIBLE ON +
|GAUGE_COLOR RED +
|GAUGE_INTERVAL 10 +
|MESSAGE_FONT_NAME VERDANA +
|MESSAGE_FONT_SIZE 10 +
|MESSAGE_FONT_COLOR WHITE +
|THEMENAME Steel Blue
SET VAR vCounter INTEGER = 1
WHILE vCounter < 2500000 THEN
SET VAR vCounter = (.vCounter + 1)
ProcessMessage
ENDWHILE
CLEAR VARIABLE vCounter
CLS
RETURN
```

1.16.9 PROJECT

Use the PROJECT command to create a new table from an existing table or view.



Options

ORDER BY clause
Sorts rows of data. For more information, see the "ORDER BY" entry.

tblname1 FROM tblview
Tblname1 is the name of the new table you want to create, and FROM *tblview* specifies the existing table or view you want to copy.

TEMPORARY
Allows you to create a Temporary Table with the PROJECT command.

USING *
Specifies to use all columns with the command.

USING collist
Specifies the column(s) to use with the command.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

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About the PROJECT Command

The new table can be a copy of an existing table, a copy of an existing table with the rows sorted in a different order, a duplicate of a table structure without any data, or a table that contains specific rows and columns from an existing table.

You must include the USING clause with the PROJECT command. The USING clause specifies the columns to be included in the new table. If you want the new table to include all the columns from an existing table, use an asterisk (*) in the clause. If you want the new table to include only specific columns from the existing table, list them in the order you want them to appear in the new table. If you want the new table to include all columns in a different order, list them in the order you want them to appear.

Working with Computed Columns
R:BASE copies the data from each column into the new table. If a computed column is included, R:BASE transfers the current values in the computed column to the new table. In order to calculate computed values in the column in the new table, R:BASE needs the column names used in the computed column's expression. Therefore, include those column names in the USING clause before the computed column. When you do not include those column names in the USING clause before the computed column, R:BASE makes the computed column a regular column, assigns a data type, and displays a message suggesting you rename the column in the new table. If you do not rename the column, the new table has a column with the same name as the column in the original table, but does not have the designation COMPUTED. You will not be able to use the BACKUP and UNLOAD commands, because you cannot have a computed column and a regular column with the same name.

Working with Autonumbered Columns
In a new table, R:BASE does not update the value in a row for the autonumber column. The autonumber column becomes a regular column.

Removing Columns and Rows from a Table
PROJECT is also useful if you want to remove several columns or rows from a table. To delete columns from a table, create a new table that retains the columns you want to keep, or to delete rows, create a new table using a WHERE clause. Use the DROP command to remove the table you no longer want, then use the RENAME command to give the new table the original table's name.

Transferring Default Column Definitions
Default column definitions are not transferred to a new table. When rows are added to the new table with the INSERT command, they are given a null value. If you want a default column definition, define the default column again.

Examples

The following command creates a new table that is a duplicate of the *employee* table.

```
PROJECT reps FROM employee USING *
```

The following command creates a table named *empty* that has the same structure as the *prodlocation* table but contains no rows of data.

```
PROJECT empty FROM prodlocation USING * WHERE LIMIT=0
```

The example below creates a table named *gt5year*. The order of the columns in the *gt5year* table are specified in the USING clause. The WHERE clause specifies that only the information for employees hired before January 1, 1984 will be selected. The ORDER BY clause sorts the rows in alphabetical order by the employees' last names.

```
PROJECT gt5year FROM employee USING empfname, emplname, +
empid, empext, hiredate WHERE hiredate < '01/01/84' +
ORDER BY emplname
```

1.16.10 PROPERTY

Use the PROPERTY command to dynamically change the properties of the form control object(s), the form itself, and the form table.

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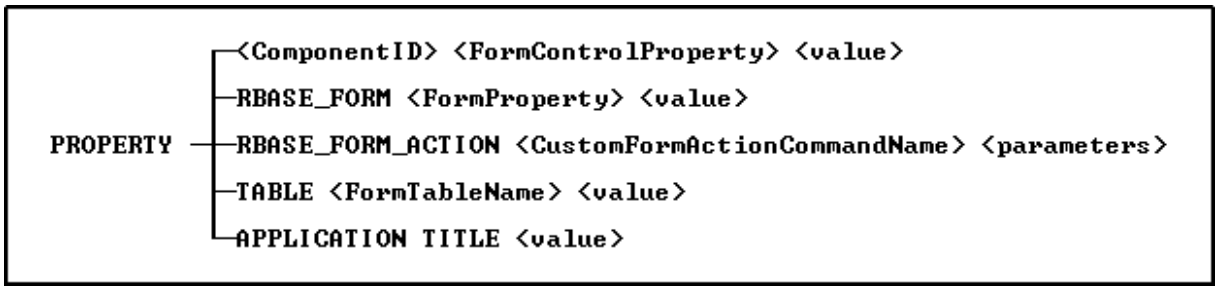

Options

ComponentID
The unique identifier that you assign to the component when you insert the object. A field is located in the object properties dialog menu (right-click) for all objects that are placed on forms. The unique identifier within the PROPERTY command must match the unique identifier listed in the object properties. **Wildcards are supported for altering the properties of multiple components.**

FormControlProperty
The name of the form control object's property you wish to change.

RBASE_FORM FormProperty
The property of the form itself, such as Caption, Width, Height, Align, etc.

RBASE_FORM_ACTION CustomFormActionName
The actual name of the Command Name assigned when designing Custom Form Actions in Form Designer.

Parameters
The optional value(s) you can pass onto the calling command,if required. Use ' ' blank space with single or double quotes (depending on your database QUOTE settings), if parameter is not required in calling command block.

TABLE FormTableName
The driving table name of the form.

value
The new value to assign to the property of the object specified.

Supported Form Controls with Component IDs

Standard Controls
- Static Text
- Push Button
- Enhanced Panel
- Enhanced GroupBox
- Wallpaper
- Custom Wallpaper

Database Controls
- DB Grid
- DB Navigator
- DB Label
- DB Edit
- DB Memo
- DB Rich Edit
- DB Date/Time Picker
- DB Calendar
- DB Web Browser
- DB E-Mail Label
- DB Image
- DB Check Box
- DB Radio Button
- DB Radio Group
- DB Lookup ComboBox

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- DB Lookup ListBox
- DB Spin Edit
- DB User Defined ComboBox
- DB User Defined ListBox
- Scrolling Region

Variable Controls

- Variable Label
- Variable Edit
- Variable Memo
- Variable Rich Edit
- Variable Date/Time Picker
- Variable Calendar
- Variable Web Browser
- Variable E-Mail Label
- Variable Image
- Variable Check Box
- Variable Radio Button
- Variable Radio Group
- Variable Lookup ComboBox
- Variable Lookup ListBox
- Variable Spin Edit
- Variable User Defined ComboBox
- Variable User Defined ListBox
- Variable Lookup ListView

Additional Controls

- Bit Button
- Speed Button
- Office Button
- Drop-Down Menu Button
- Image
- Animated GIF Control
- Shape
- Bevel
- AVI Animate
- Splitter
- Tab Control
- Tab Page
- LED Text Label
- Analog Clock
- Digital Clock
- Tree View
- ListView
- Shape Button
- Meter
- Group Bar
- Group
- Enhanced Tab Control
- Enhanced Tab Page
- Enhanced Speed Button
- Separator
- Arrow Line
- Status Bar
- PDF Viewer
- Tab Set

Internet Controls

- Web Browser
- E-Mail Label

File System Controls

- Directory Tree
- File ListBox

Legacy Controls

- Vertical Line
- Horizontal Line
- 3D Box
- Panel

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- Group Box

RBASE_FORM Properties You Can Change

- ALIGN
- ALPHABLEND
- ALPHABLENDVALUE
- AUTOSCROLL
- AUTOSIZE
- BORDERWIDTH
- CAPTION
- CLIENTHEIGHT
- CLIENTWIDTH
- COLOR
- DONTSHOWDIALOG
- ENABLED
- HEIGHT
- HINT
- LEFT
- PRINT
- SHOWHINT
- SHOW_CLOSE_BUTTON
- SHOW_MAXIMIZE_BUTTON
- SHOW_MINIMIZE_BUTTON
- TOP
- TRANSPARENTCOLOR
- TRANSPARENTCOLORVALUE
- WIDTH

TABLE Properties You Can Change

- APPEND
- CANCEL
- DELETE
- EDIT
- FIRST
- LAST
- NEXT
- POST
- PRIOR
- REFRESH

Miscellaneous Properties You Can Change

STAY_ON_TOP
SET_FOCUS
FONT_BOLD
FONT_ITALIC
FONT_UNDERLINE
FONT_STRIKEOUT
FONT_NAME
FONT_SIZE
FONT_COLOR

Use **PROPERTY APPLICATION TITLE 'application title'** command to assign customized name for R:BASE application session.

Example:

Using the following command at the beginning of your application command will assign custom name for the R:BASE icon placed on Windows Taskbar.

```
PROPERTY APPLICATION TITLE 'Customer Management System'
RETURN
```

The R:BASE icon on the Taskbar will read as Customer Management System.

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Tips and Techniques

- Properties of any form control objects can be changed with assigned Component ID ONLY.
- Always use QUOTES around the value, if TEXT.

  Examples:

  PROPERTY mycomponentid1 COLOR 'RED'

  PROPERTY mycomponentid2 VISIBLE 'FALSE'

  PROPERTY mycomponentid3 FONT_COLOR 'GREEN'

  PROPERTY mycomponentid3 FONT_SIZE 36

  PROPERTY RBASE_FORM WIDTH 300

  PROPERTY RBASE_FORM HEIGHT 300

  PROPERTY RBASE_FORM AUTOSCROLL 'TRUE'

  PROPERTY RBASE_FORM COLOR 'TEAL'

  PROPERTY RBASE_FORM CAPTION 'New Form Caption'

  PROPERTY RBASE_FORM HINT 'New Form Hint'

  PROPERTY TABLE Customer 'REFRESH'

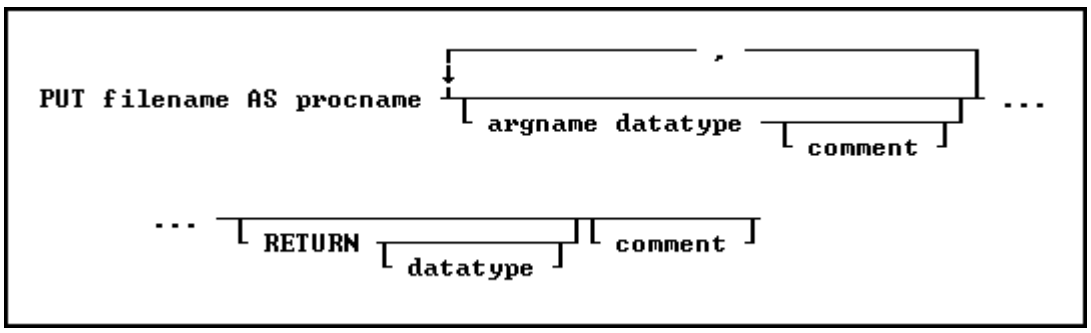
  PROPERTY TABLE Customer 'LAST'

  PROPERTY TABLE Customer 'FIRST'

  Notice the quotes around the TEXT value while value with number without the quotes.
- Select the following URL to use the ***PROPERTY Command Syntax Builder***: http://www.rbase.com/property/
- An optional handy tool database for all PROPERTY/GETPROPERTY commands and documentation (**R:Docs**) is also available. Please contact RBTI Sales Staff at sales@rbase.com if you wish to purchase the annual subscription to R:Docs database/application. You also have free access to on-line PROPERTY Syntax Builder at: http://www.rbase.com/property/ and GETPROPERTY Syntax Builder at: http://www.rbase.com/getproperty/
- Preview of R:Docs (Syntax Builder): http://www.rbase.com/products/rdocs/

1.16.11 PUT

Loads a procedure into the database.



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Options

argname datatype
The parameter name and datatype. This portion may be reported.

comment
An optional comment for the parameter or, if placed after RETURN, an optional comment for the entire procedure. The comment must be enclosed in the current quote setting.

filename
The filename in ASCII text format, with full path, to load as the stored procedure.

procname
The procedure name. If a procedure by this name already exists in the database, an error is generated.

RETURN datatype
Determines the datatype of the value returned by the procedure.

About the PUT Command

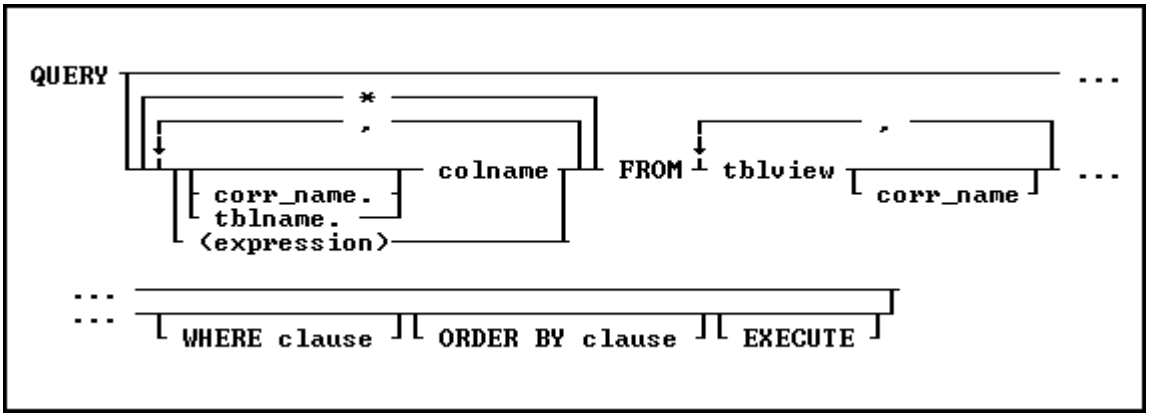
The PUT command is used to create or replace Stored Procedures.

If you are replaceing an existing procedure, you must LOCK the procedure first either with the GET LOCK or the SET PROCEDURE command. Once the procedure is locked, it is replaced by an updated file using the PUT command. A procedure cannot be replaced unless it is locked. A procedure is automatically unlocked when replaced with the PUT command.

1.17 Q

1.17.1 QUERY

Use the QUERY command to select, combine, manipulate, and retrieve data from tables.



Options

*****
Specifies all columns.

,
Indicates that this part of the command is repeatable.

colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command. In an SQL command, a column name can be preceded by a table or correlation name and a period (*tblname.colname*). You can enter *tblname.** to specify all columns in the table.

corr_name

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Correlation name. A nickname or alias for a table or view name. Use *corr_name* to refer to the same table twice within the command, or to more briefly specify a column in more than one table.

EXECUTE
Retrieves columns and their data, then displays the columns with their data in the Data Browser.

(expression)
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

FROM tblview
Specifies the name of the table(s) or view(s) to query.

ORDER BY clause
Sorts rows of data. For more information, see the "ORDER BY" entry.

tblname.
Specifies the table containing the columns. You can use *tblname.**to specify all columns in the table.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

About the QUERY Command

You construct a query to get information from your database's tables and columns. The process of selecting, retrieving, and working with data is referred to as creating and executing a query. R:BASE processes the query and displays what you request.

You can specify a maximum of ten tables and correlation names.

You can save the query as a view, or you can create a new table from the columns.

In R:BASE for Windows QUERY starts the **Query By Example** option from the **Tools** menu. After you enter the command QUERY, what R:BASE displays depends on the options you specified.

To display...	Do the following...
The "Query By Example" window	Use the QUERY command without specifying any options.
The "Query By Example" window and the query contained in the QUERY command	Use the QUERY command with any option except EXECUTE.
The Data Browser with the data retrieved by the QUERY command	Use the QUERY command with EXECUTE and any other option.

Examples

The following command chooses all the columns from the *customer*table and displays the columns' names and data on the screen.

```
QUERY * FROM customer EXECUTE
```

The next command selects the *empid*, *empfname*, and *emplname* columns from the *employee* table, and displays the column names on the screen.

```
QUERY empid, empfname, emplname FROM employee
```

The following command selects the data from the *custid* column in the *customer* table and the matching *netamount* columns in the *transmaster* table. *T1* and *t2* are correlation names. In the WHERE clause, the link is established between the two tables by comparing the values of the *custid* column between the two tables. The linking columns can have different names; however, they must have the same data type.

```
QUERY t1.custid, t2.netamount FROM customer t1, transmaster t2 +
```

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```
WHERE t1.custid = t2.custid EXECUTE
```

1.17.2 QUIT

In a program, use QUIT to close all open program files, IF structures, SWITCH structures, and WHILE loops.

Option

TO filespec
Specifies the command file that is to run after the QUIT command executes. QUIT TO another codelocked binary command file is also supported.

About the QUIT Command

When the QUIT command runs, it clears the nesting levels R:BASE maintains to control the following two items:

- Nesting command files called by the RUN commands.
- Levels for nesting IF structures, SWITCH structures, and WHILE loops.

Examples

The following command closes all open command files, IF structures, SWITCH structures, and WHILE loops, then you are returned to the R> prompt.

```
QUIT
```

The command below closes all open command files, IF structures, SWITCH structures, and WHILE loops, and runs the command file named GETVAL.INV.

```
QUIT TO getval.inv
```

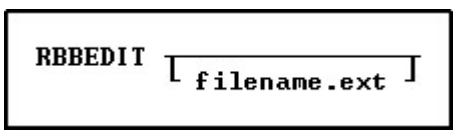
1.18 R

1.18.1 RBAPP

Use the RBAPP command to start the Application Designer with which you can create or edit RBA application files.

1.18.2 RBBEDIT

Use the RBBEDIT command to start the R:BASE R:BASE BLOB Editor, with which you can create or edit binary files.



You can use the RBBEDIT command to launch the R:BASE BLOB Editor for managing external files at the R> Prompt, in a command file, or in an EEP. Depending on the file extennsion, the Note/BLOB Viewer/Editor will display the available options accordingly.

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Options

filename.ext
Specifies an external ASCII text, RTF, or image file. The R:BASE R:BASE BLOB Editor recognizes the following image formats:

GIF	BMP
DCX	PCC
PCX	AFI
VST	TGA
PNG	JPEG
JPG	TIFF
TIF	ICO
EMF	WMF

Examples:

01.
The following will display the "Images" and "Multipage Images" tabs of the Note/BLOB Viewer/Editor for yout o load an image.

```
RBBEDIT
```

02.
The following will display a bmp image in the "Images" tab of the Note/BLOB Viewer/Editor.

```
RBBEDIT myphoto.bmp
```

03.
The following will display the RTF file in the "RTF" tab of the Note/BLOB Viewer/Editor.

```
RBBEDIT myfile.rtf
```

04.
The following will display the text file in the "Note/VarChar" tab of the Note/BLOB Viewer/Editor.

```
RBBEDIT mytext.txt
```

You can also use the RBBEDIT command to launch the Note/BLOB Viewer/Editor to create a "new" RTF file.

05.
The following will display the "RTF" tab of the Note/BLOB Viewer/Editor for you to create a new RTF file.

```
RBBEDIT myfile.RTF
```

1.18.3 RBDEFINE

Use the RBDEFINE command to start the Database Designer.

RBDEFINE

About the RBDEFINE Command

Use the **Database Designer** option from the **Tools** menu in R:BASE for Windows to create or modify an existing table and its constraints, rules, indexes, and primary or unique keys.

Alternative R:BASE Commands

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Use the following commands as an alternative to the Database Designer.

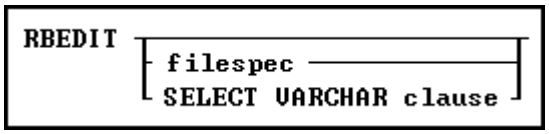
CREATE SCHEMA CREATE TABLE

Use the following R:BASE commands to enhance or modify a database.

ALTER TABLE DROP
COMMENT ON LIST
CREATE INDEX RENAME
CREATE VIEW RULES
DELETE

1.18.4 RBEDIT

Use the RBEDIT command to start the R:BASE editor with which you can create or edit text files and command files.



Options

filespec
Displays the contents of the file on the screen for editing. If the file does not exist, a blank screen is displayed. If you specify a wildcard with the *filespec* option, RBEDIT displays a list of all files that meet the condition. You can then choose a file from the list.

SELECT VARCHAR clause
Specifies a column defined with the VARCHAR data type from a table, then you can edit the contents. The SELECT clause must limit the data to only one row; otherwise, an error is returned.

About the RBEDIT Command

You can start the R:BASE editor by entering RBEDIT at the R> prompt, or by choosing **R:BASE Editor** from the **Tools** menu in R:BASE.

Example

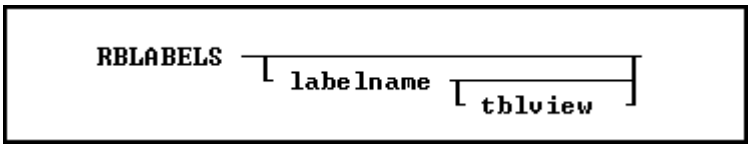
The following command starts RBEdit and displays the file named OLDFILE for editing. If OLDFILE does not exist, the editor creates a new file and names it OLDFILE.

```
RBEDIT oldfile
```

Use the following link to launch the complete documentation for the R:BASE Editor module. To launch the help from within the R:BASE Editor, press [Shift]+[F1].

1.18.5 RBLABELS

Use the RBLABELS command to create and edit labels from the R> prompt.



Options

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labelname
Specifies the name of an existing label to modify.

tblview
This option is for DOS only; names the first table or view that a label serves. Use this option when you are creating a new label. This option is available only if you start to build a label from the R> prompt with a database open.

Specify both *labelname* and *tblview* when you want to build a new label. R:BASE displays the Label Designer" screen where you can begin to define the new label. Use *labelname* alone to specify the name of an existing label you want to modify.

About the RBLABELS Command

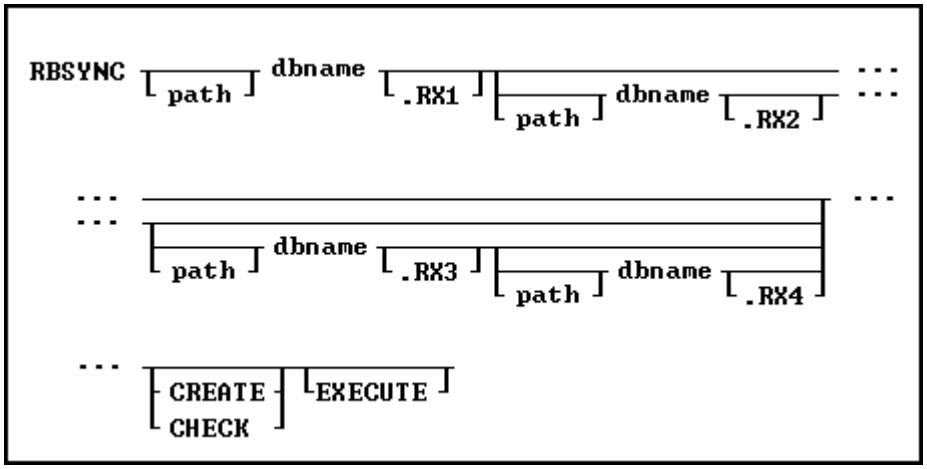
You can display the "Label Designer" window by entering RBLABELS at the R> prompt, or by choosing **Label Designer** from the **Tools**menu in R:BASE for Windows. If you have not yet opened a database, you are prompted to do so.

When creating labels, you can do the following:

- Build a label definition to create labels from data in a table or view.
- Set dimensions of a label definition to fit all popular label stock.
- Define variables and include them on your labels.
- Print labels on a printer, display them on screen, or send them to a file.

1.18.6 RBSYNC

Use the RBSYNC command to synchronize the timestamps for database files.



Options

dbname
Specifies the name of the database to synch.

path
Specifies the location of the database files.

.RX1
Specifies a path for database file .RX1.

.RX2
Specifies a path for database file .RX2.

.RX3
Specifies a path for database file .RX3.

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.RX4
Specifies a path for database file .RX4.

CREATE
Creates a skeleton .RX3 index file if it can't be found.

CHECK
Shows current synch status only. This is the default option unless you specify otherwise.

EXECUTE
Executes the command to synch the database.

About the RBSYNC Command

Use the RBSYNC command to synchronize the date and timestamps for the database files. The database files can become out of synch when R:BASE is not exited normally. You cannot open a database if the database files are out of sync.

With RBSYNC.EXE, a database owner can update the encoded timestamp values in the four database files (DBNAME.RX1, DBNAME.RX2, DBNAME.RX3, and DBNAME.RX4) to all have the same timestamp values. This might be necessary if R:BASE was aborted or if the computer or operating system crashes.

When a database is created or opened, a timestamp is encoded in each of the four files. Encoding the timestamp in each of the four database files enables the database files to be stored in separate directories apart from one another. To ensure that the correct database files are accessed, R:BASE evaluates the timestamp values of the files as it searches for them on the path statement. R:BASE must first try to connect to File 1 (DBNAME.RX1), and then it searches the path for the other database files (DBNAME.RX2, DBNAME.RX3, and DBNAME.RX4).

When you start RBSYNC, you can choose the location of File 1, enter the database owner's user identifier if one exists, then RBSYNC displays the location and timestamp for all four database files.

RBSYNC displays error messages if the database is already open or if any of the three files can't be located; however, if .RX1 and .RX2 are located but not .RX3, the user has the option to create a new (empty) .RX3 or abort. If creating a new .RX3, RBSYNC displays a warning message stating that a PACK operation should be performed.

RBSYNC requires the EXECUTE option to actually perform the synchronization.

Note: The *path*, *dbname*, and .RB* options below (after the first set) are rarely used except when the database files are in different locations.

1.18.7 RECALC

Use the RECALC command in an entry/exit procedure (EEP) to recalculate expressions in a form.

Options

TABLES
Finds, recalculates, and redraws the lower-level tables to reflect the actions of the entry/exit procedure (EEP).

VARIABLES
Redisplays all variables for the current table.

About the RECALC Command

Without using the RECALC Command in EEPs-A recalculation takes place when you move to the field following the field that triggered the EEP. R:BASE automatically redisplays the value in a form field (variable) that calls the EEP. Redisplaying the value in a form field ensures that the field always contains the correct

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value.

To automatically redisplay a field, the following statements must be true:

- The EEP must be started from the field you want redisplayed.
- The field you want redisplayed must be a variable.
- The EEP loads a new value into a variable that is the same as the variable that started the EEP.

If you want to load the value into a column, create a form expression that equates the variable and the column, for example, *colname=.varname*.

Using the RECALC Command in EEPs-Use RECALC to ensure that expressions based on variables modified by an EEP are always current. RECALC only updates expressions when the following conditions apply:

- The field containing the EEP is a variable.
- The EEP changes the value of the variable.
- The EEP runs the RECALC command before returning to the form.
- At least one form expression has the variable to the right of the equal sign, which signifies a dependent expression.

When you use the RECALC command without any options, RECALC redisplays only the variable in the field that started the EEP, and recalculates only expressions using that variable. Use the VARIABLES option to force redisplay of all variables placed on the form and recalculation of all table expressions. Use the TABLES option to force recalculation of expressions in the other tables used in a multi-table form. The TABLES option recalculates lower tables only, not the current table.

Example

If you have an EEP in a form that calculates a value for a variable that you want to load into a column, follow the procedure below:

To calculate a value for a variable to load into a column:

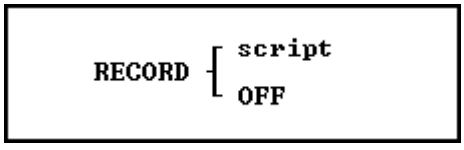
1. Place the variable on the form.
2. Include the EEP in the field settings for the variable.
3. Create an expression that equates the column to the variable so that the variable is loaded into the column.
   For example: colname1 = (.varname1)
4. Include RECALC or RECALC VARIABLES in the EEP.

   For example, a procedure that calculates the sum from a column could be:

```
SELECT SUM colname2 INTO varname1 FROM tblname WHERE +
colname3 = .varname2
RECALC VARIABLES
RETURN
```

1.18.8 RECORD

Use the RECORD command to record a series of keystrokes in a script file.



Options

OFF
Stops recording.

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script
Specifies the name of the recorded file. A drive and path specification can be added in the form D:\PATHNAME/FILENAME.EXT.

About the RECORD Command

You can also choose Record a Script from the Utilities menu to record a series of keystrokes. R:BASE prompts for a script file name; enter any valid file name, including a drive and directory path name if desired.

To end recording, use the RECORD OFF command, or choose Stop Recording from the Utilities menu in R:BASE for Windows.

A script file is also called a *playback file*.

Use the RBEDIT command to edit a script file.

Examples

The following command begins recording all keystrokes into the file named GETFILE.

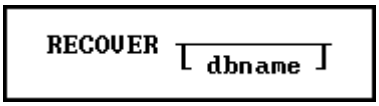
```
RECORD getfile
```

The command below stops the current recording session and saves the script file using the name specified with the RECORD command.

```
RECORD OFF
```

1.18.9 RECOVER

Use the RECOVER command to start the Recover utility, which corrects errors that occur during transaction processing, for instance from a network or power failure.



Options

dbname
Specifies the database to recover.

About the RECOVER Command

You can use the RECOVER command to restabilize a database after a transaction is interrupted. The following conditions can interrupt a transaction:

- R:BASE discovers minor inconsistencies or unresolvable resource conflicts within a transaction. R:BASE automatically rolls back the transaction and displays an error message.
- Transaction processing has been interrupted unexpectedly. When you try to connect to the database, R:BASE detects either an existing Before Image file (a log of the commands issued in a transaction) or major inconsistencies. An error message tells you to use the RECOVER command.

  Other users connected to the same database might get the same message, but not until they disconnect from the database and try to reconnect to it. The transactions entered by other users still connected to the database are executed properly unless they try to access system resources (such as tables and views) that are directly affected by the transaction error.

When transaction processing is on, R:BASE creates Before Image files for the current database. When you use the RECOVER command, it rolls back the interrupted transaction by using each Before Image file, clears all table and database locks, and resolves any other internal inconsistencies.

Before you use the RECOVER command, do the following:

- Back up your database and Before Image files. The Before Image files are in the same directory as

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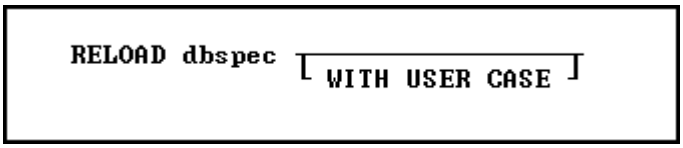
the database and have extensions that begin with "B," such as DATABASE.B01.
- Make sure all users have exited from the affected database.

1.18.10 REFF

Use the REFF command to run the External Form Files.

1.18.11 RELOAD

Use the RELOAD command to copy an open database without copying any unusable space.



Options

dbspec
Specifies the new database name.

WITH USER CASE
Incorporates case folding and collating tables defined in the user's configuration file (RBENGINE8.CFG) into the reloaded database.

About the RELOAD Command

Disk space becomes unavailable in a database when the following actions are perfomed:

- Deleting rows or indexes.
- Removing tables or columns.
- Adding columns or modifing tables with the ALTER TABLE command.

RELOAD copies a database table by table, and places all rows for each table in a single area on the disk, which improves database-response time.

When you use RELOAD to reload a database on the same disk and directory as the original database, enter a different name for the new database. When you reload a database from a different disk or directory onto the current disk, you can use the same database name for the copy. Be sure to specify the new drive or directory when you enter the command.

If there is not enough available disk space to copy a database using the RELOAD command, use the PACK command instead. Back up the database before packing. PACK eliminates unused space in a database; however, PACK does not rearrange the rows-only the RELOAD command rearranges rows.

RELOAD is available when MULTI is set on and a user has not set any locks on the database.

RELOAD is unavailable when transaction processing is on.

When you reload data that has a NOTE data type, the rows are adjusted according to the current setting of the SET NOTE_PAD command.

RELOAD is unavailable when STATICDB is set on, which activates a read-only schema mode.

Database Access Rights with RELOAD

When access rights for a table have been assigned using the GRANT command, RELOAD requires the database owner's user identifier to RELOAD a database.

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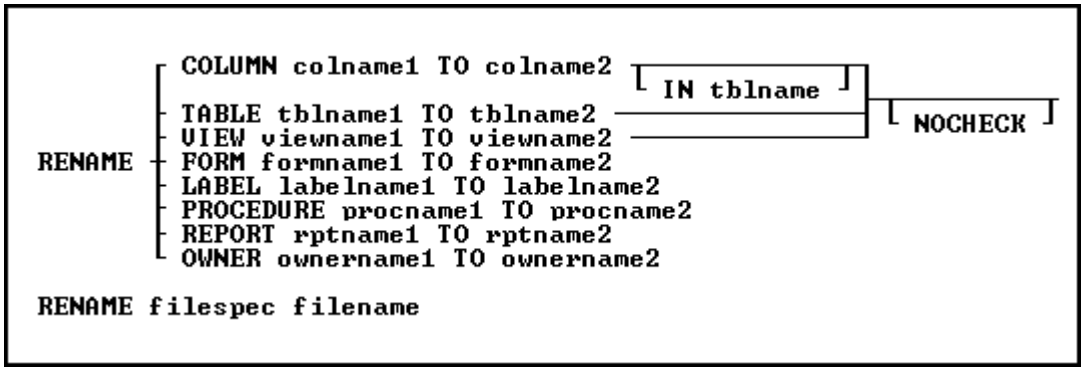
Example

The following command reloads an open database and gives it the name *newbase* in the RBASE directory of drive C:.

```
RELOAD c:\rbase/newbase
```

1.18.12 RENAME

Use the RENAME command to change a form, report, label, table, view, or column name, and the database owner's user identifier. You can also use RENAME to change the name of an existing file.



Options

COLUMN colname1 TO colname2
Renames a column in one table or in all tables in the open database.

filename
Specifies the new name of the file.

filespec
Specifies the file you want to rename. Optionally, include a drive and path specification in the form D:\PATHNAME/FILENAME.EXT.

FORM formname1 TO formname2
Renames a form in the open database.

IN tblname
Specifies the table in which you want to rename a column.

LABEL labelname1 TO labelname2
Renames a label in the open database.

NOCHECK
Does not update references to views, tables, and columns in forms, reports, labels, access rights, and rules.

OWNER ownername1 TO ownername2
Renames an owner in the open database.

PROCEDURE procname1 TO procname2
Renames a stored procedure in the open database.

REPORT rptname1 TO rptname2
Renames a report in the open database.

TABLE tblname1 TO tblname2
Renames a table in the open database.

VIEW viewname1 TO viewname2
Renames a view in the open database.

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About the RENAME Command

If you do not want R:BASE to update references to views, tables, and columns when you rename them, include the NOCHECK option with the command.

Renaming Columns
You can rename a column in an entire database or in a single table. R:BASE does not update column references in rules. When you rename a column, R:BASE automatically updates references to the column in the following instances:

- If the column has a description.
- If it is used in a form, report, label, computed column, UPDATE access right, or autonumbered column. However, because of possible size problems, R:BASE does not change column references inside an expression in a form, report, or label. These column references must be modified manually through the Form, Report, or Label Designer.

Updating Views and Tables
R:BASE automatically updates references to views and tables in the following instances:

- If you rename a view used in a report, label, or access right.
- If you rename a table that has a description, or is used in a form, report, label, or access right.

R:BASE does not update table or column references in views.

To update a view, delete it with the DROP command and define it again with the CREATE VIEW command, or QBE. To update a rule, you can use the RULES command, or the **Database Designer**. If you use the RULES command, you must first delete the rule with the DROP command and then add it again with the RULES command.

Renaming Tables
When you rename a table that is used as the rule table in a data-entry rule, R:BASE updates the rule definition. However, if you rename a table used in the WHERE clause of a rule definition, you must update the rule yourself. R:BASE does not update table references in views.

Renaming Files
When you use RENAME to change the name of a disk file, only the name of the file is changed. The file remains in the same directory on the same drive. You can include a file specification for the file you are renaming but not for the new file name. If you want the file to reside in a different drive or directory, use the COPY command. This command is similar to the operating system command RENAME.

On a workstation with multiple drives (local or mapped), especially when the files are on the different drive, it is always the best practice to define a drive letter when copying, deleting, renaming or running files, unless the specified files are located in the working directory. You will not need to specify the drive letter if all of the files are located in the default directory when using the copy, delete, rename or run commands.

Updating Command Files
R:BASE also does not update column, table, view, form, report, or label references in command files or applications. To update command files, use RBEdit or another text editor. To update applications, use the Application Designer.

Assigning User Identifiers
You can assign or change the database owner's user identifier with RENAME. The default user identifier is PUBLIC. Until this default is changed, any user can modify the database structure, read, enter, change, or delete data.

An owner's user identifer can be a maximum of eighteen characters. It must begin with a letter, and can contain letters, numbers, and the symbols #, $, _, and %, and must be unique among all user identifiers.

Examples

The following command renames a column from *transid* to *transxno* in the *transmaster* table.

```
RENAME COLUMN transid TO transxno IN transmaster
```

The following command changes the database owner's user identifier from the default PUBLIC to *june*.

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```
RENAME OWNER PUBLIC TO june
```

The following command changes the name of the CUSTOMER file to CUSTOMER.DAT.

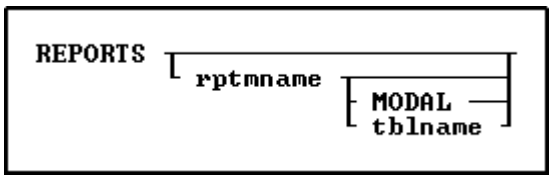
```
RENAME customer customer.dat
```

The following command renames all four database files to NYC.RX1, NYC.RX2, NYC.RX3, and NYC.RX4.

```
RENAME newyork.rb? nyc.rb?
```

1.18.13 REPORTS

Use the REPORTS command to start the Report Designer.



Options

MODAL
Allows an EEP command block to launch a Form, Label or Report in a designer. After making appropriate changes, you will have to save the changes and close the designer in order to continue the next command in your EEP.

rptname
Specifies an existing report whose definition you want to modify.

tblview
This options is for DOS only; specify both *rptname* and *tblview* when you want to build a new report. R:BASE displays the "Report Designer" window where you can begin to define the new report. Use *rptname* alone to specify the name of an existing report you want to modify.

About the REPORTS Command

You also start the Report Designer from the **Tools** menu in R:BASE for Windows.

When designing a report, you can do the folllwing:

- Define a Quick or a Custom report that prints or displays data from a table or view.
- Group data by unique column values.
- Define variables and include them in the report.
- Look up values from columns in other tables.
- Draw lines, borders, 3D boxes, and standard boxes on the report.
- Print a report to a printer, the screen, or a disk file.
- Print summary information, such as subtotals.
- Create display masks for data.
- Place a graphic on a report.

1.18.14 RESETROW

Use the RESETROW command to RESET the current row of data currently being edited or entered in a form. This will cause the data to revert to it's original format and content.

About the RESETROW Command

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Use the RESETROW command to RESET the current row of data currently being edited or entered in a form. This will cause the data to revert to it's original format and content.

1.18.15 RESTORE

Use the RESTORE command to restore part or all of a database from a file created with BACKUP.

Option

filespec
Specifies a file name with a drive and path specification in the form D:\PATHNAME/FILENAME.EXT.

About the RESTORE Command

To use RESTORE, the RESTORE.RMD file must be in the directory containing the R:BASE program files.

If you are restoring a backup copy from a floppy disk, insert the disk in the floppy drive. If there is more than one backup disk, insert the disk labeled 1 first. RESTORE prompts you for the appropriate disk and allows you to confirm each disk. If you backed up data and structure separately, you can choose not to restore any subsequent disks. RESTORE appends data to the table if it exists in the database.

If your database becomes damaged after your last backup and any of the .RB*n* files of the database remain, you can rename the database files, restore the database on a different directory, or erase them before you restore the database from the backup.

When STATICDB is set on-which actives a read-only schema mode-RESTORE is unavailable. For more information, see the "SET STATICDB" entry.

Examples

This command restores the *concomp* database from the CONCOMP.BUP file on drive A:.

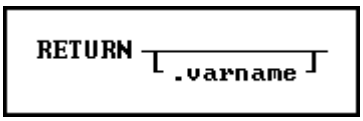
```
RESTORE a:concomp.bup
```

The following command lines open the database and restore the TBLNAME.BUP file on drive A: that contains a backup of a table. R:BASE generated the TBLNAME.BUP file when you used the BACKUP DATA command.

```
CONNECT dbname
RESTORE a:table.bup
```

1.18.16 RETURN

Use the RETURN command in a program to return control to a program or to the R> prompt.



Options

.varname
Used ONLY within a Stored Procedure to return a value. The returned value will be stored in the STP_RETURN system variable. This option will return an error when used outside of a Stored Procedure. The default is text 8 characters, but if you want more, set it to a larger value.

Example:

Put test.prc as test p1 integer RETURN TEXT (30) will set the limit for the return value at 30 characters.

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About the RETURN Command

When you use RETURN to return to a command file or a block in a procedure file, the next command executed is the command following RUN in the command file or procedure file.

If you used the RUN commands to run a command file or a block in a procedure file from the R> prompt, control returns to the R> prompt when RETURN is executed.

Examples

Assume you have two command files named CMDFIL1 and CMDFIL2 with the commands shown below.
*(CMDFIL1)

```
WRITE 'This command file (cmdfil1) calls cmdfil2'
RUN cmdfil2
CLS
WRITE 'Cmdfil1 is in control'
*(CMDFIL2)
LABEL top
FILLIN vend=0 USING 'Press Q to quit: '
IF vend = 'Q' THEN
   RETURN
ELSE
   GOTO top
ENDIF
```

When you run CMDFIL1 by entering RUN CMDFIL1, the following messages appear on the screen.

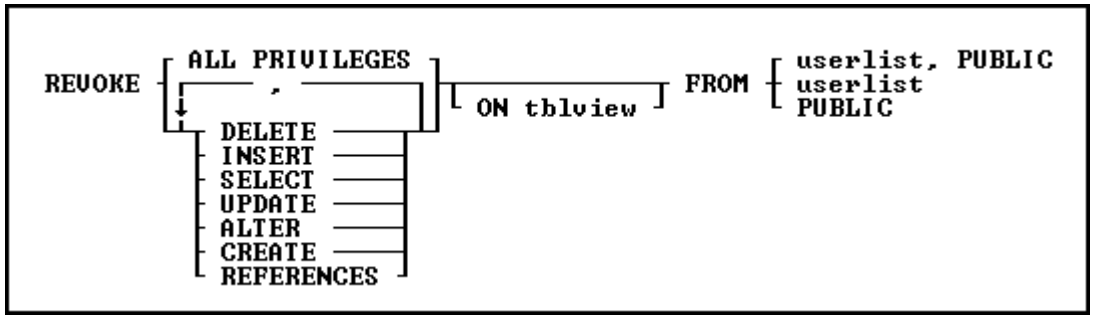
```
This command file (cmdfil1) calls cmdfil2
Press Q to quit:
```

If you press [Q] at the FILLIN command prompt, control returns to CMDFIL1. The following message appears on screen, processing stops, and you are returned to the R> prompt.

Cmdfil1 is in control

1.18.17 REVOKE

Use the REVOKE command to remove privileges granted to users.



Options

,
Indicates that this part of the command is repeatable.

ALL PRIVILEGES
Removes all user privileges granted for all tables and views or for one table or view.

ALTER
Removes permission from users to modify the structure of all tables or specified tables.

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CREATE
Removes permission from users to create new tables. Do not specify any tables or views when removing this permission.

DELETE
Removes permission to remove rows from all tables and views, or from a specified table or view.

FROM PUBLIC
Specifies PUBLIC. If, for example, *ralph*, *sam*, *jane*, and PUBLIC have been granted certain user user privileges, revoking privileges from PUBLIC would not affect the three listed users.

FROM userlist
Specifies individual users whose access is to be revoked. You must separate user identifiers with a comma (or the current delimiter).

FROM userlist, PUBLIC
Specifies both individual users and PUBLIC, whose access is to be revoked. You must separate user identifiers with a comma (or the current delimiter).

INSERT
Removes permission to add rows to all tables and views or to a specified table or view.

ON tblview
Specifies a table or view from which to remove user privileges.

REFERENCES
Removes permission to create a table with a foreign key that references a table with a primary key.

SELECT
Removes permission to view and print data from all tables and views, or from a specified table or view.

UPDATE
Removes permission to change the value of all columns on all tables and views, or on a specified table or view. You cannot specify columns when revoking UPDATE permission.

About the REVOKE Command

If you are the owner of a database, you can revoke any user privileges granted to users. If the database owner or other users have assigned you user privileges with the WITH GRANT OPTION, you can revoke only the user privileges that you have granted to other users.

To remove the WITH GRANT OPTION, you must first revoke the privilege(s) to which the WITH GRANT OPTION has been assigned. Use the LIST ACCESS command to display a list of user privileges. An asterisk before an user privilege indicates that the WITH GRANT OPTION has been assigned to that user privilege, for example, *UPDATE.

REVOKE ALL PRIVILEGES revokes all user privileges that have been granted. However, REVOKE combined with ALTER, CREATE, DELETE, INSERT, REFERENCES, SELECT or UPDATE only applies to those privileges.

You can remove more than one user privilege in a REVOKE command. Separate the user privileges with a comma (or the current delimiter). You can also revoke user privileges using the **User Privileges** option from the **Utilities** menu in R:BASE for Windows. In R:BASE for DOS, choose **Databases: Create/modify**, choose **Modify: *database name***, then choose **Access Rights: Revoke**.

Examples

Assume that the following sequence of GRANT commands represents all the user privileges granted for the *concomp* database.

```
GRANT INSERT ON employee TO ralph, sam
GRANT SELECT, INSERT ON transmaster TO jane WITH GRANT OPTION
GRANT UPDATE ON transmaster TO sam
GRANT UPDATE (company, custaddress, custcity) ON customer TO sam, PUBLIC
```

The following command revokes permission granted to *jane*to display or print data, or add rows to the *transmaster* table.

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```
REVOKE SELECT, INSERT ON transmaster FROM jane
```

The following command revokes the UPDATE user privilege granted to *sam* for all tables and views in the database.

```
REVOKE UPDATE FROM sam
```

The following command revokes all user privileges granted to *sam*, except those granted to him as a member of PUBLIC.

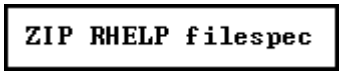
```
REVOKE ALL PRIVILEGES FROM sam
```

The following command revokes all user privileges for all tables and views for all users.

```
REVOKE ALL PRIVILEGES FROM sam, jane, ralph, PUBLIC
```

1.18.18 RHELP

Included with R:BASE 2000 is the external file RHelp.EXE. This file can be called using the ZIP command and will display the contents of the file specified. Users will not be able to edit the file displayed. This window can be Minimized, Normalized and Maximized with an option to Close [x].



Options

filespec
Displays the contents of the file on the screen. This may be either a plain text file or a Rich Text Format (RTF) file. If the file name includes spaces you must enclose the filespec in either single or double quotes.

About the RHELP Command

Included with R:BASE 2000 is the external file RHelp.EXE. This file can be called using the ZIP command and will display the contents of the file specified. Users will not be able to edit the file displayed. This window can be Minimized, Normalized and Maximized with an option to Close [x].

Example

The following command starts RHelp and displays the file named RichFile.RTF for viewing.

```
ZIP RHELP C:\RBTI\RichFile.RTF
```

The following example displays the Long File Named file "This is a Test.RTF" from a network share "Users" on the server "InHouse".

```
ZIP RHELP "\\InHouse\Users\This Is a Test.RTF"
```

1.18.19 RHIDE

To hide the background R> window when using modal forms

* RHIDE command is also supported in EEPs.

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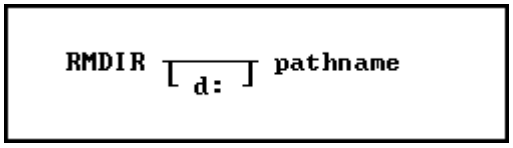
1.18.20 RMDIR

Use the RMDIR command to remove a directory from a drive.



Options

d:
Specifies a drive letter.

pathname
Specifies one or more directory names that lead from the root directory to a specified directory.

About the RMDIR Command

The R:BASE RMDIR command is similar to the operating system RMDIR command. For more information about the RMDIR command, refer to your operating system manual.

You cannot remove the root directory or the current directory. Before you can remove a directory, all files and directories in that directory must be removed. To delete files from a directory, use the ERASE command. When a file path includes more than one directory, the last directory listed is removed.

Examples

The following command removes the OLDDATA directory from the current drive.

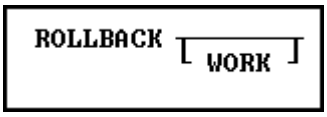
```
RMDIR olddata
```

The following command removes the OLDDATA directory from the /SALESDEP/YTDSALES file path on drive C:.

```
RD c:\salesdep/ytdsales/olddata
```

1.18.21 ROLLBACK

Use the ROLLBACK command to cancel the changes made to the data or database structure made since the beginning of the transaction.



Options

WORK
WORK is optional and has no effect in R:BASE.

About the ROLLBACK Command

A transaction consists of all the commands executed since the last COMMIT or ROLLBACK command, or since you connected to the database if a COMMIT command has not been executed.

If you want to be able to process a group of commands, or transaction, without permanently affecting your data until you accept the changes, turn the AUTOCOMMIT setting off. R:BASE stores the information needed to reverse each modification made to the database in a Before Image file.

To reverse a transaction and undo the changes, enter the ROLLBACK command after you have entered the transaction. The ROLLBACK command also releases all automatic table and database locks. If you want to make the changes permanent, enter the COMMIT command.

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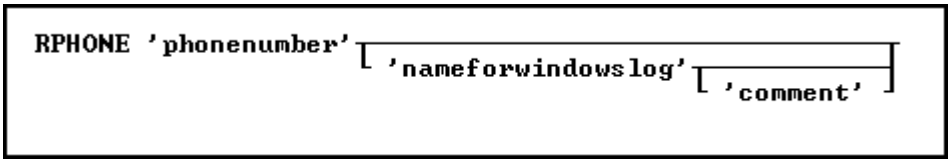
This command is only valid when you open a database with TRANSACT set on.

1.18.22 RPHONE

The RPHONE command uses the Windows Phone Dialer to dial a call. You must have a modem installed in your computer.



Options

nameforwindowslog
Optionally pass in the name of the party you are calling to the Windows Dialer call log.

comment
Optionally pass a comment about the phone call into the Windows Dialer call log.

About the RPHONE Command

RPHONE command uses the Windows Phone Dialer to dial a call. You must have a modem installed in your computer.

RPHONE command requires the number that you want to call. You may optionally pass in the name of the party you are calling and a comment about the call. This information will be placed in the Windows Dialer call log if the call is successful.

EXAMPLE 01:

```
RPHONE '(724) 733-0053'
```

EXAMPLE 02:

```
RPHONE '(724) 733-0053' 'R:BASE Technologies' 'Pre-Order Turbo V-8'
```

EXAMPLE 03:

```
SELECT CustPhone, Company INTO +
vCustPhone INDIC IvCustPhone, +
vCompany INDIC IvCompany +
FROM Customer WHERE CustID = .vCustID
RPHONE .vCustPhone .vCompany 'Follow-Up'
```

Note: RPHONE command is also supported in EEPs.

1.18.23 RSHOW

To bring back the background R> window when using modal forms

* RSHOW command is also supported in EEPs.

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1.18.24 RULES

Use the RULES command to regulate data entry in a database.

Options

DELETE
- **DELETE SUCCEEDS** deletes a row from a database when the conditions in the WHERE clause are met.
- **DELETE FAILS** deletes a row from a database when the conditions in the WHERE clause are not met.

FOR tblname
Specifies the name of the table for which you are defining rules.

FAILS
Specifies that a row must not meet the conditions included in the WHERE clause in order to be added to the database.

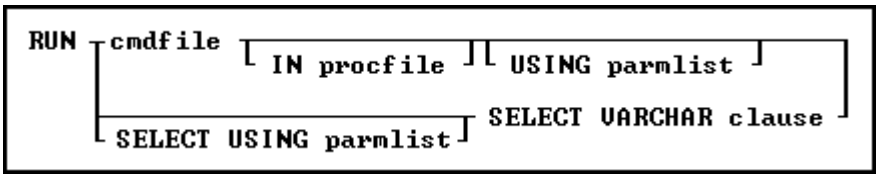
'message'
Specifies a message to be displayed when a rule is violated.

SUCCEEDS
Specifies that a row must meet the conditions included in the WHERE clause in order to be added to the database.

WHERE clause
Limits rows of data. For more information, see the WHERE command.

1.18.25 RUN

Use the RUN command to run command blocks, command files, and command files requiring passed parameters.



Options

cmdfile
Specifies the name of the command block or command file to execute.

On a workstation with multiple drives (local or mapped), especially when the files are on the different drive, it is always the best practice to define a drive letter when copying, deleting, renaming or running files, unless the specified files are located in the working directory. You will not need to specify the drive letter if all of the files are located in the default directory when using the copy, delete, rename or run commands.

IN procfile
Specifies the name of a procedure file. A procedure file is a compiled binary file that contains stored menu, screen, and command blocks. Include a drive and path name if the procedure file is not on the current drive and directory.

SELECT VARCHAR clause
Specifies a column defined with the VARCHAR data type from a table, then you can run the contents. The SELECT clause must limit the data to only one row; otherwise, an error is returned.

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USING parmlist
Lists the values the command file uses when it runs. The parameter list can contain up to 18 values. The first value in the list is referenced in the executed file as %1, the second as %2, and so on through %9. They are treated just like other variables. To reference the contents of these variables, preface the variable name with a dot (.); for example, set *v1* =.%1.

About the RUN Command

The RUN command must be on a line by itself and not combined with other commands.

Examples

The following command runs a file named MYCMD.CMD in the current working directory.

```
RUN mycmd.cmd
```

The following command runs a command block named *mycmdfil*in the MYPROCFL.APX procedure file.

```
RUN mycmdfil IN myprocfl.apx
```

The following command executes the *mycmdfil* command block in the MYPROCFL.APX procedure file, placing the parameter values, *Display This Message* and *10*, into parameter variables %1 and %2, respectively.

```
RUN mycmdfil IN myprocfl.apx USING 'Display This Message' 10
```

The following commands, which use the system variable *#time*, make up a timing procedure called *mycmdfil.* This procedure displays the message passed as parameter *%1* for the length of time indicated in parameter *%2*. If *mycmdfil* is added in a procedure file named MYPROCFL.APX, the RUN command causes *mycmdfil* to display the message for 10 seconds.

```
$COMMAND
mycmdfil
SET VARIABLE vstart TIME = .#TIME, vwait INTEGER = 0
WHILE vwait < .%2 THEN
   SHOW VARIABLE %1 AT 10 20
   SET VARIABLE vwait = (.#TIME - .vstart)
ENDWHILE
CLS FROM 10 TO 10
CLEAR VARIABLES vstart, vwait, %1, %2
RETURN
```

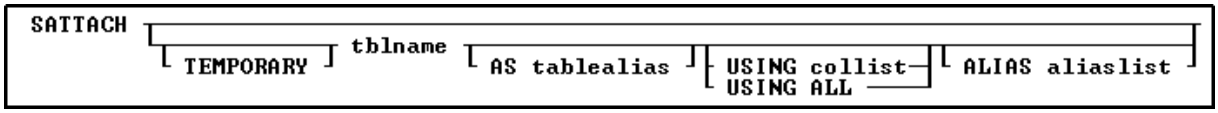
The following RUN command executes the command syntax with the *CmdData* VARCHAR data field inside the table *IntrnlCmd.*

```
RUN SELECT CmdData FROM IntrnlCmd WHERE CmdName = 'NewKey'
```

1.19 S

1.19.1 SATTACH

Use the SATTACH command to attach a specified table from a foreign database to a connected R:BASE database.



Options

ALIAS AliasList
To specify alias names for columns.

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AS tablealias
Specifies an alias, or temporary name, for the foreign table.

tblname
Specifies the table in the foreign database to attach.

TEMPORARY
Allows you to create a Temporary Table with the SATTACH command. The temporary tables will disappear when the database is disconnected. **NOTE:** Any changed made to the temporary table will not be reflected upon the original SQL data source.

USING ALL
Specifies all columns uniquely identify the rows in an attached table if no primary or unique keys are defined.

USING collist
If the foreign table has no primary or unique key, specifies the column(s) that uniquely identify the rows in the table.

About the SATTACH Command

Before you can attach a foreign data source table, an R:BASE database must be connected. Also, your workstation must be connected to the data source.

If you use SATTACH without the *tblname* option, R:BASE displays the "Attach Table(s)" dialog box with names of tables in the data source. You can then select a table to attach.

After you have exited R:BASE or disconnected the database to which the foreign table is attached, you don't need to reconnect to the table's data source when you open the database again. The data source is connected when you use the attached table. The data source table remains attached until you detach it with the SDETACH command, or use the **Utilities: Detach SQL Database Table** menu option in R:BASE for Windows.

When a foreign table is attached, R:BASE writes a table description that identifies the table as a data source table and names its data source. Use the LIST TABLES *tblname* command to review table descriptions.

SATTACH requires an owner password if one has been defined, or permission to create tables.

Notes:

When you attach a foreign table, R:BASE only includes the columns with legal names. For example, R:BASE does not include columns that have spaces in the name, or column names over 18-characters.

When you attach a foreign table and select the columns that uniquely identify its rows in the "Select Column Set" dialog box, do not select columns that have LOB data types--unpredictable results might occur.

When running applications that connect to foreign data sources, you should always disconnect from the R:BASE database before running the application again.

R:BASE 2000 (version 6.5++), Build:1.847xRT03 and Higher …
Enhanced Syntax:

```
SATTACH [TableName [AS TableAlias] [USING ColumnList] [ALIAS AliasList]]
```

There are no parentheses around the aliaslist, just names separated by commas.

[AS TableAlias] specifies an alias, or temporary name, for the foreign table.

[USING ColumnList] If the foreign table has no primary or unique key, specifies the column(s) that uniquely identify the rows in the table.

[ALIAS AliasList] to specify alias names for columns.

Additional Notes:

- Syntax has been extended to allow you to specify only the changed columns. For example, if you only need to alias the second column you can use ...alias ,,location,,
- The "missing alias names" mean to use the default name.

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- If Qualkey defined as "using", it no longer prompts when you supplied already.
- If there is a conflicting column name, you will be prompted with a new -ERROR- message (3069). It basically states that: "column xxx will not be attached" When a name is too long it should be obvious why it is asking for an alias.
- If the name conflicts with another name then you get the error message first explaining the conflict, then the dialog box.
- If no qualkey is specified, automatic qualkeys will be assigned based on information from the ODBC source

Examples:

The Following scenarios will help you understand the use of enhanced SATTACH command in R:BASE 2000 (ver 6.5++), Build:1.847 and higher for Windows.

Scenario A:

When the foreign data source database includes the same table name as in your database, you need to attach the table with a different name.

Commands to Use: SCONNECT and SATTACH

Syntax:

```
SCONNECT DataSourceName IDENTIFIED BY UserID
```

Where:

DataSourceName is the foreign data source to connect

IDENTIFIED BY UserID specifies the user identifier. When access rights have been assigned using the GRANT command, you must enter an appropriate user identifier with the SCONNECT command unless permission has been granted to PUBLIC.

Syntax:

```
SATTACH TableName AS AliasTableName USING collist
```

Where:

TableName is the table to attach

AS AliasTableName to specifies an alias, or temporary name, for the foreign table.

USING collist, if the foreign table has no primary or unique key, specifies the column(s) that uniquely identify the rows in the table.

Example 01.

```
SET ERROR MESSAGE 2038 OFF
SDISCONNECT DataSourceName
SCONNECT DataSourceName IDENTIFIED BY NONE
SDETACH tCustomers NOCHECK
SATTACH Customers AS tCustomers USING CustomerID
```

OR

```
SET ERROR MESSAGE 2038 OFF
SDISCONNECT DataSourceName
SCONNECT DataSourceName IDENTIFIED BY password
SDETACH tCustomers NOCHECK
SATTACH Customers AS tCustomers USING ALL
```

Scenario B:

When the foreign data source database includes the same table name as in your database, as well as one of

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the columns in foreign table conflicts with the data type, you need to attach the table with different name as well as one of the columns as a different column name to avoid any conflict with data type.

Example 02:

```
SET ERROR MESSAGE 2038 OFF
SDISCONNECT DataSourceName
SCONNECT DataSourceName IDENTIFIED BY NONE
SDETACH tOrders NOCHECK
SATTACH Orders AS tOrders USING +
OrderID ALIAS +
OrderID, +
CustomerID, +
EmployeeID, +
OrderDate, +
RequiredDate, +
ShippedDate, +
ShipVia, +
tFreight, +
ShipName, +
ShipAddress, +
ShipCity, +
ShipRegion, +
ShipPostalCode, +
ShipCountry
```

Notice that the table Orders will be attached as tOrders, column OrderID will be used AS Primary Key and the column Freight will be an alias tFreight to avoid any conflict.

If you know the exact column sequence and the column you would like to alias, you can use the following simple version of the same command:

Example 02A:

```
SET ERROR MESSAGE 2038 OFF
SDISCONNECT DataSourceName
SCONNECT DataSourceName IDENTIFIED BY NONE
SDETACH tOrders NOCHECK
SATTACH Orders AS tOrders USING +
OrderID ALIAS ,,,,,,,,tFreight,,,,,,
```

Notice that the table Orders will be attached as tOrders, column OrderID will be used as the Primary Key and instead of defining individual columns, you can start the list of columns with comma, add comma for each column and the AliasColumn, such a tFreight, to be aliased, and then continue with a comma for each additional column.

In the above example we have eight (8) commas, then AliasColumn and an additional six (6) commas.

There are a total of fourteen (14) columns in tOrders table.

So, start with first comma, seven commas for first seven columns, AliasName, and then additional six commas for columns nine through fourteen.

Scenario C:

When the foreign data source database includes the table name with spaces, you need to attach the table with a different name.

Example 03:

```
SET ERROR MESSAGE 2038 OFF
SDISCONNECT DataSourceName
SCONNECT DataSourceName IDENTIFIED BY NONE
SDETACH tOrderDetails NOCHECK
SATTACH `Order Details` AS tOrderDetails USING +
OrderID, +
```

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```
ProductID
```

Notice that the table `Order Details` with spaces is surrounded by IDQUOTES and will be attached as an alias table tOrderDetails, column OrderID will be used as Primary Key.

1.19.2 SAVEROW

Use the SAVEROW command in an entry/exit procedure (EEP) to save a row.

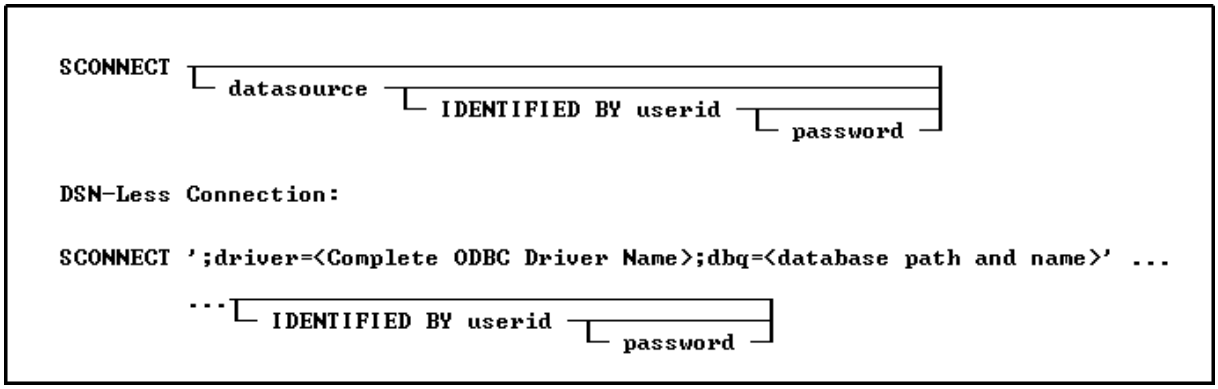
About the SAVEROW Command

Use the SAVEROW command to save changes to the row of data currently being edited or entered in a form. SAVEROW is not the same as **Save Changes** option on the **Forms** menu, which saves the edits to the data then displays the next row. To perform the same functions as this menu option, use the SAVEROW command followed by the NEXTROW command.

The SAVEROW command, used in an exit procedure, leaves you in the field from which it was called. To move to the next field, add the command SKIP 1 to the EEP.

1.19.3 SCONNECT

Use the SCONNECT command to connect R:BASE to a data source.



Options

datasource
Specifies the name of the foreign data source that contains the table you want.

IDENTIFIED BY userid
Specifies your user account name for the foreign data source. You can use '' (two single quotes) in this position if there is no User ID.

password
Specifies your password for the foreign data source. You can use '' (two single quotes) in this position if there is no password.

About the SCONNECT Command

If you omit the *datasource* option, a dialog box opens, listing data sources from which to choose and continues with prompts for *username* and *password*.

About the DSN-Less Connection

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A data source name (DSN) is a data structure that contains the information about a specific database that an Open Database Connectivity (ODBC) driver needs in order to connect to it. Included in the DSN, which resides either in the registry or as a separate text file, is information such as the name, directory and driver of the database, and, depending on the type of DSN, the ID and password of the user. The developer creates a separate DSN for each database. To connect to a particular database, the developer specifies its DSN within a program. In contrast, DSN-less connections require that all the necessary information be specified within the command. DSN-Less connection requires no server setup, just a carefully constructed connection string.

There are three kinds of DSN: user DSNs (sometimes called machine DSNs); system DSNs; and file DSNs. User and system DSNs are specific to a particular computer, and store DSN information in the registry. A user DSN allows database access for a single user on a single computer, and a system DSN for any user of a particular computer. A file DSN contains the relevant information within a text file with a .DSN file extension, and can be shared by users of different computers who have the same drivers installed.

DSN-less connections demand that you know the name of the file (i.e. file based databases like R:BASE) or the address of the data server (SQL Server for example).

Armed with appropriate information you could open a data source without a DSN!

Normally on the SCONNECT command you specify the DSN you want to use. ODBC looks up this DSN and determines the driver to use and what connection it needs. In this version we let you specify the ODBC driver instead of an DSN. This is done as follows:

Assume you have a R:BASE database called RRBYW8 located in a folder called D:\71D. To access this database you need an R:BASE V-8 or Oterro 8.0 ODBC driver installed. For the SCONNECT command use this:

Examples 01 (Using R:BASE Turbo V-8 ODBC Driver):

```
SCONNECT ';driver=R:BASE 8.0 Turbo Database Driver (*.RX1);dbq=d:\71d\rrbyw8'
```

Examples 02 (Using Oterro 8.0 ODBC Driver):

```
SCONNECT ';driver=Oterro 8.0 Database Driver (*.RX1);dbq=d:\71d\rrbyw8'
```

Note the initial semi-colon. This is the flag that you are not specifying a DSN. The item after the 'driver' is the actual name of the driver as defined in ODBC. Make sure you spell and space this exactly as it is defined in ODBC Data Source Administrator Drivers. The database and the exact path of the database is specified in the 'dbq' part of the string. The entire string must be surrounded by your database QUOTE character. Single quotes are used in the example above.

Example 03: (To use an Access database in "dsnless" mode):

```
SCONNECT ';Driver={Microsoft Access Driver (*.mdb)};DBQ=c:\Documents and
Settings\Administrator\My Documents\db1.mdb;'
```

This example uses a database called db1.mdb in the "My Documents" folder. The connection can specify additional items like user id with the "UID=" parameter and a password with the "PWD=" parameter.

Example 04: (To use a SQL Server database):

```
SCONNECT ';driver={SQL
Server};server=corpseadb0d;uid=my_user_name;pwd=my_pw;database=JohnDoe;'
```

In this one note the server and database within the server get specified along with the uid and pwd.

Use SATTACH command to attach table(s).

With a connection like this you can use a linked R:BASE database without a pre-defined DSN. A table attached using such a connection remembers all this for later "DSN-less" access.

Notes:

To disconnect the DSN-less connection, use the exact same syntax using SDISCONNECT command.

Example 01a:

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```
SDISCONNECT ';driver=R:BASE 8.0 Turbo Database Driver (*.RX1);dbq=d:\71d\rrbyw8'
```

Example 02a:

```
SDISCONNECT ';driver=Oterro 3.0 Database Driver (*.RX1);dbq=d:\71d\rrbyw8'
```

Example 03a:

```
SDISCONNECT ';Driver={Microsoft Access Driver (*.mdb)};DBQ=c:\Documents and
Settings\Administrator\My Documents\db1.mdb;'
```

Example 04a:

```
SDISCONNECT
';driver={SQLServer};server=corpseadb0d;uid=my_user_name;pwd=my_pw;database=JohnDo
e;'
```

1.19.4 SCREEN RESTORE

Use the SCREEN RESTORE command in forms when you want to redisplay the screen after returning from an entry/exit procedure (EEP).

Options

OFF
Set SCREEN RESTORE off to prevent the original form from displaying any changes after an entry/exit procedure executes in a form.

ON
Set SCREEN RESTORE on to redisplay the original form after an entry/exit procedure is executed in a form.

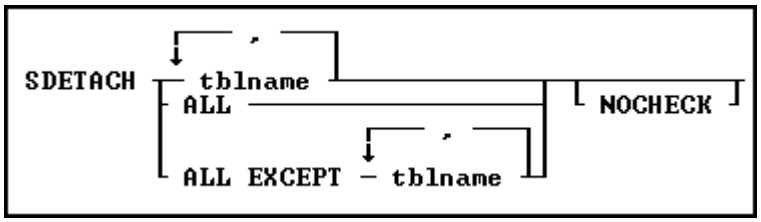
About the SCREEN RESTORE Command

The SCREEN RESTORE ON command, which is the default, redisplays the original screen. The SCREEN RESTORE OFF command does not redisplay the original screen, allowing for screen I/O during execution of the EEP to remain when control returns to the form.

In Windows, if one EEP uses the SCREEN RESTORE OFF command, all EEPs must also use it.

1.19.5 SDETACH

Use the SDETACH command to remove a foreign table from a connected R:BASE database.



Options

,
Indicates that this part of the command is repeatable.

ALL

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Specifies all tables.

ALL EXCEPT tblname
Specifies all tables except those specified.

NOCHECK
Eliminates the confirmation message.

tblname
Specifies the table to detach.

1.19.6 SDISCONNECT

Use the SDISCONNECT command to disconnect a foreign data source from an R:BASE database.

```
SDISCONNECT datasource
```

Options

datasource
Specifies the data source to disconnect.

About the SDISCONNECT Command

If you omit the *datasource* option, a dialog box opens listing data sources from which to choose.

Notes:

To disconnect the DSN-less connection, use the exact same data source syntax as the SCONNECT command, only with SDISCONNECT.

Example 01:

```
SDISCONNECT ';driver=R:BASE 7.6 Database Driver (*.rb1);dbq=d:\71d\rrbyw8'
```

Example 02:

```
SDISCONNECT ';driver=Oterro 3.0 Database Driver (*.rb1);dbq=d:\71d\rrbyw8'
```

Example 03:

```
SDISCONNECT ';Driver={Microsoft Access Driver (*.mdb)};DBQ=c:\Documents and
Settings\Administrator\My Documents\db1.mdb;'
```

Example 04:

```
SDISCONNECT
';driver={SQLServer};server=corpseadb0d;uid=my_user_name;pwd=my_pw;database=JohnDo
e;'
```

See also disconnecting DSN-less connections.

1.19.7 SELECT

Use the SELECT command to display rows of data from a table or view. To display the data in the order you want, modify the SELECT command by using various clauses.

The SELECT command is a very powerful data retrieval command. By learning this command, and all of its parts you can greatly enhance your ability to work with any other R:BASE command that uses those same

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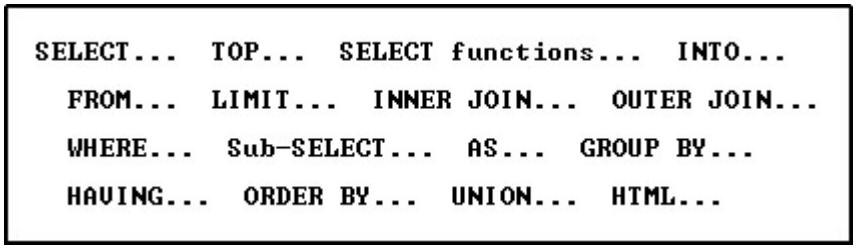
portions. For example, learning to use a WHERE clause with SELECT will help you work with WHERE clauses on other commands.

You can use the SELECT command to do the following:

- Display rows of information from a table or view
- Extract information from a table or view by using a nested SELECT command (a sub-SELECT statement) in a WHERE command
- Extract information from a table or view by using a SELECT clause in another command

A SELECT command is essentially a process of elimination. A SELECT command can contain a number of clauses (two are required), each of which begins with a keyword, such as "FROM" or "WHERE."

The diagram below shows the different clauses in a SELECT command.



Each of the SELECT clauses has a specific purpose for determining what data you want. The operators are processed in the order in which they appear in the preceding diagram.

N**ote:** Many of the SELECT clauses use the same options, such as *expression* or *colname*. These common options are described only once in "SELECT Command Clause" below.

SELECT Command Clause

The required SELECT command clause specifies which columns to include. You can:

- Select all columns by entering SELECT with an asterisk.
- Name the columns you want to select.
- Use expressions and SELECT functions to perform calculations whose results will also appear as a column in the final result.
- Select the column or expression values and load them into variables.

Syntax:

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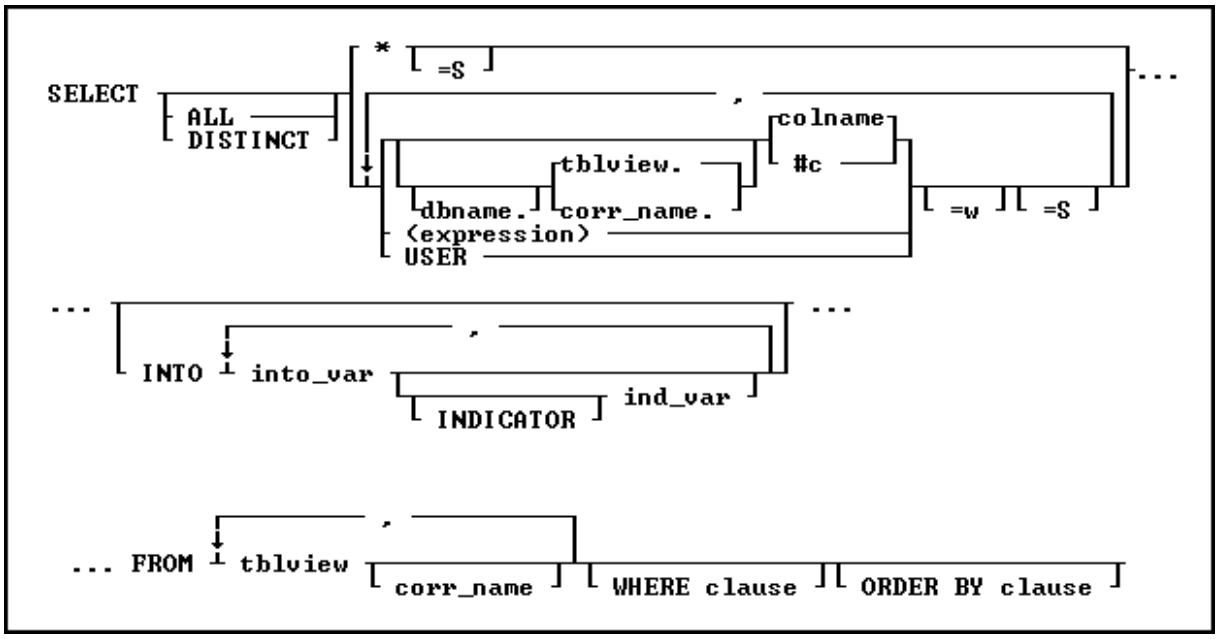

Options

*****
Specifies all columns.

,
Indicates that this part of the command is repeatable.

ALL
Specifies all rows returned by the other clauses.

#c
Specifies a column, where *#c* is the column number shown in the output of the LIST TABLES command. You can enter a table or correlation name before the *#c*.

colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command. In an SQL command, a column name can be preceded by a table or correlation name and a period (*tblname.colname*). You can enter *tblname.** to specify all columns in the table.

corr_name
Correlation name. A nickname or alias for a table or view name. Use *corr_name* to refer to the same table twice within the command, or to explicitly specify a column in more than one table.

dbname
Currently connected database name, plus the drive and directory if the database is not on the current directory. It has the form D:\PATHNAME/DBNAME where D: is the optional drive letter, /PATHNAME is the optional directory path, and /DBNAME is the database name.

DISTINCT
Eliminates duplicate rows from the resulting data set.

(expression)
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

FROM
Lists the tables from which data is to be displayed.

ind_var

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Specifies a variable result indicator to be used with an INTO clause in a SELECT command. This variable stores the status of the variable: non-null (0) or null (-1).

INDICATOR
Indicates the following variable is an indicator variable, which is used to indicate if a null value is retrieved.

INTO
Selects information directly from a table and puts it into variables. You must include a WHERE clause so the SELECT command finds only one row.

into_var
Specifies a variable whose value is assigned with an INTO clause in a SELECT command.

ORDER BY clause
Sorts rows of data. See "ORDER BY Clause" later in this entry.

=S
Calculates the sum of a column that has CURRENCY, DOUBLE, INTEGER, NUMERIC, or REAL data type values, or the results of an expression using CURRENCY, DOUBLE, INTEGER, NUMERIC, or REAL data type values.

tblview
Specifies a table or view name.

USER
Retrieves the current user as a constant.

=w
Specifies a display width.

WHERE clause
Limits rows of data. See "WHERE Clause" later in this entry.

Examples

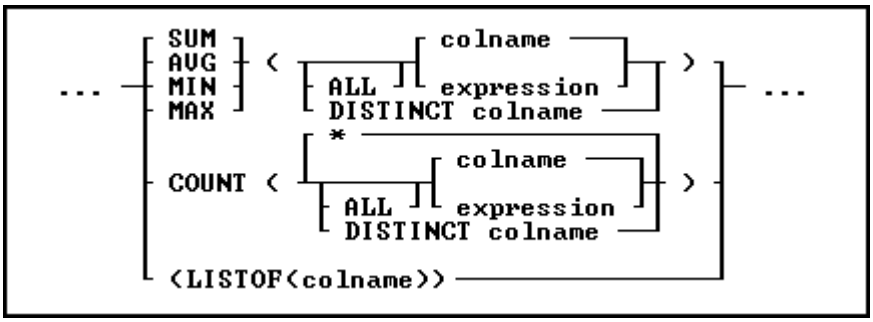
The following command selects the company name and ID for companies in Washington state:

```
SELECT custid, company FROM customer +
WHERE custstate = 'WA' ORDER BY company
```

```
custid company
122    Data Solutions
119    Datacrafters Infosystems
130    MIS by Design
114    Softech Database Design
```

1.19.7.1 SELECT Functions

This clause, determines which columns to include.



Options

*****
Specifies all rows.

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AVG
Computes the numeric average of CURRENCY, DOUBLE, NUMERIC, REAL, INTEGER, DATE, or TIME data types. R:BASE rounds averages of integer values to the nearest integer value and currency values to their nearest unit.

COUNT
Determines how many non-null entries there are for a particular column item.

DISTINCT
Eliminates duplicate rows from the calculation.

LISTOF
Creates a text string of the values separated by the current comma delimiter character.

The LISTOF function can be used with the "SELECT ... INTO ..." to populate a variable with a list of values which can then be used in a CHOOSE command with the #LIST option. It can also be used in Forms, Reports or Labels to look up values from multiple rows.

MAX
Selects the maximum value in a column. This option accepts columns with any data type except BIT, VARBIT, VARCHAR, and BITNOTE.

MIN
Selects the minimum value in a column. This option accepts columns with any data type except BIT, VARBIT, VARCHAR, and BITNOTE.

SUM
Computes the numeric sum of CURRENCY, DOUBLE, REAL, NUMERIC, or INTEGER data types.

About SELECT Functions

A SELECT function can be used to provide summary data about a group of rows in a table or for all rows in a table. These functions may only be used with the GROUP BY clause or when only SELECT functions are specified.

Note:
Using MIN and MAX functions for NOTE data type. Select aggregate functions, such as MIN and MAX, require that we keep an accumulator and choose to only use the **first 80 characters** for NOTE values. This matches the fact that if you sort on NOTE fields, the sort will be based on the first 80 characters only.

Examples

The COUNT function works in two different ways, depending on its argument. COUNT(*) counts all rows in a table, but COUNT(*colname*) counts only rows in which the value in the specified column is not null. For example:

```
SELECT emptitle, COUNT(*), COUNT(emptitle) +
FROM employee GROUP BY emptitle
```

The final result contains both forms of the COUNT function.

emptitle	COUNT(*)	COUNT(emptitle)
Manager	2	2
Representative	3	3
Sales Clerk	1	1
-0-	2	0

If you wanted to compute the difference between each employee's average sales and the average sales for all employees, you would first use a SELECT function to calculate the average for all employees and store the result in a variable. For more information, see "INTO Clause" later in this entry.

The following command assigns the value $71,571.88 to the *vaverage* variable.

```
SELECT AVG(netamount) INTO vaverage FROM transmaster
```

Next, you can use the variable and another SELECT function in an expression to calculate the difference for

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each employee, and display the average net amount for each employee.

```
SELECT empid, AVG(netamount), +
   (.vaverage - (AVG(netamount)))=30 +
          FROM transmaster GROUP BY empid
```

```
empid  AVG (netamount)     (.vaverage - AVG(netamount))
102    $64,510.00          $7,061.88
129    $69,555.00          $2,016.88
131    $118,000.00         -$46,428.12
133    $44,380.00          $27,191.88
160    $114,850.00         -$43,278.12
165    $14,685.00          $56,886.88
167    $3,830.00           $67,741.88
```

Examples Using the LISTOF Function

```
SELECT (LISTOF(ColumnName)) INTO VariableName INDICATOR IndVar +
FROM TableView WHERE ...
```

In a Form, Report or Label Expression:

```
VariableName = (LISTOF(ColumnName)) IN LookUpTableView WHERE +
KeyColumn = KeyColumn
```

Example 01:

```
SET VAR vValueList TEXT = NULL
SELECT (LISTOF(ColumnName)) INTO vValueList INDIC IvValueList +
FROM TableName WHERE ...
```

The variable vValueList will be a text string of the values separated by the current comma delimiter character.

If you would like to add a single space after each value, then:

```
SET VAR vValueList TEXT = NULL
SELECT (SRPL(LISTOF(ColumnName),',',', ',0)) INTO +
vValueList INDIC IvValueList FROM TableName WHERE ...
```

Notice the additional space after comma in ReplaceString.

If you would like to use a carriage return after each value, then:

```
SET VAR vValueList TEXT = NULL
SELECT (SRPL(LISTOF(ColumnName),',',(CHAR(10)),0)) INTO +
vValueList INDIC IvValueList FROM TableName WHERE ...
```

Example 02:

```
CONNECT Concomp IDENTIFIED BY NONE
SET CAPTION ' '
SET AUTODROP OFF
SET RBGSIZE CENTER CENTER 800 600
SET VAR vLines INTEGER = 0
SET VAR vValueList TEXT = NULL
SET VAR vLastName TEXT = NULL
SET VAR vTitle TEXT = 'List Created Using LISTOF Function'
SET VAR vCaption TEXT = 'Using #LIST Options in CHOOSE Command!'
CLS
PAUSE 3 USING 'Collecting Values ...' CAPTION .vCaption AT 16 30
SELECT (COUNT(*)), (LISTOF(EmpLName)) INTO +
vLines INDIC IvLines, vValueList INDIC IvValueList FROM Employee
IF vLines > 18 THEN
   SET VAR vLines = 18
ENDIF
CLS
```

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```
CHOOSE vLastname FROM #LIST .vValueList AT 6 30 +
TITLE .vTitle CAPTION .vCaption LINES .vLines FORMATTED
IF vLastName IS NULL OR vLastName = '[Esc]' THEN
   GOTO Done
ELSE
   CLEAR ALL VAR EXCEPT vLastName
ENDIF
-- Do what you have to do here ...
LABEL Done
CLS
CLEAR ALL VAR
QUIT TO MainMenu.RMD
RETURN
```

Example 03:

If you would like to retrieve the list of DISTINCT values, then:

```
SET VAR vValueList TEXT = NULL
SELECT (LISTOF(DISTINCT ColumnName)) INTO +
vValueList INDIC IvValueList FROM TableName WHERE ...
```

1.19.7.2 TOP

This parameter includes the support to specify the TOP n qualifier for the SELECT command. The TOP n will retreive the top number of records from the table.

The "TOP n" goes between the word SELECT and the column list for the command.

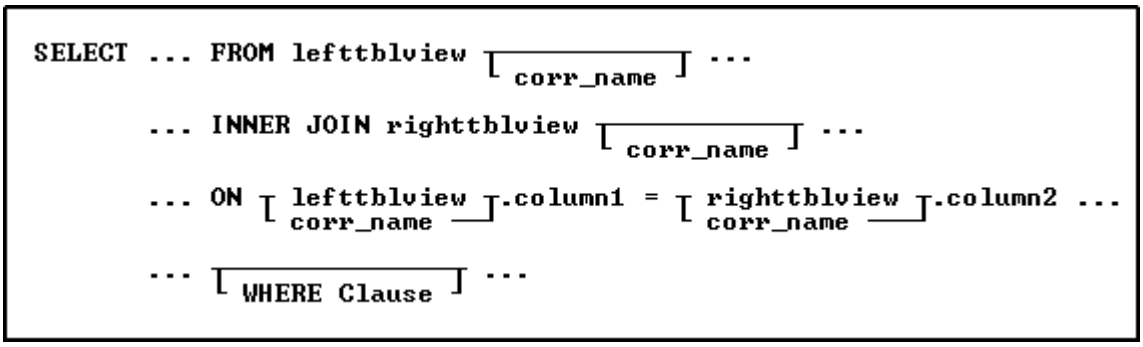
Example:

To show the top 5 bonuses where the bonus is under $500 from SalesBonus table in ConComp:

SELECT TOP 5 * FROM SalesBonus WHERE Bonus < 500 ORDER BY Bonus=DESC

1.19.7.3 INNER JOIN

This clause is used to retrieve data from two tables.



Options

.column1
Defines the column on which to link.

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.column2
Defines the column on which to link.

corr_name
A correlation name is an alias or nickname for a table. It lets you refer to the same table twice in one command, use a shorter name, and explicitly refer to a column when referring to the same column if that column appears in more than one table.

FROM lefttblview
Specifies the left table or view.

lefttblview
Explicitly defines the column on which to link the left table name or view.

INNER JOIN righttblview
Specifies the right table or view.

righttblview
Explicitly defines the column on which to link the right table name or view.

WHERE clause
Limits rows of data. See "WHERE Clause" entry.

About JOIN

When you perform a SQL JOIN, you specify one column from each table to join on. These two columns contain data that is shared across both tables. You can use multiple joins in the same SQL statement to query data from as many tables as you like.

JOIN Types

Depending on your requirements, you can do an "**INNER**" join or an "OUTER" join. The differences are:

- **INNER JOIN**: This will only return rows when there is at least one row in both tables that match the join condition.
- **LEFT OUTER JOIN**: This will return rows that have data in the left table (left of the JOIN keyword), even if there's no matching rows in the right table.
- **RIGHT OUTER JOIN**: This will return rows that have data in the right table (right of the JOIN keyword), even if there's no matching rows in the left table.
- **FULL OUTER JOIN**: This will return all rows, as long as there's matching data in one of the tables.

Example (INNER JOIN)

The following example lists all of the employees and their total sales, including those employees who have not yet completed a sale.

```
SELECT t1.empid, t2.netamount, t2.transdate FROM employee t1 +
INNER JOIN transmaster t2 ON t1.empid = t2.empid +
WHERE empid = 129
```

t1.empid	t2.netamount	t2.TransDate
129	$3,080.00	07/02/2003
129	$5,385.00	07/08/2003
129	$6,160.00	07/11/2003
129	$5,575.00	08/24/2003
129	$10,445.00	08/24/2003
129	$10,175.00	08/25/2003
129	$2,195.00	08/27/2003

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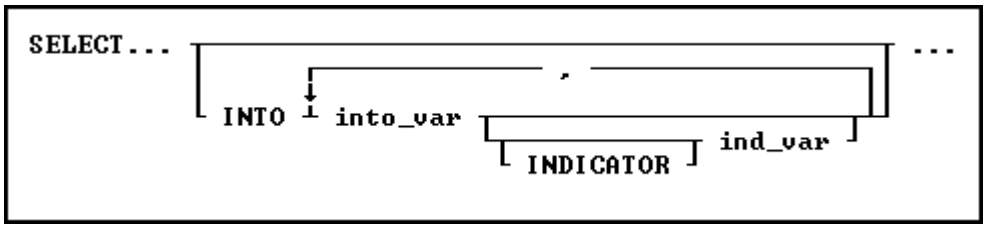
1.19.7.4 INTO

If the result consists of one row, this clause loads the data into one or more variables, one for each column value in the result.



Options

ind_var
Stores an INTEGER value (-1 or 0) that indicates whether the preceding *into_var* received a null value or a non-null value; this is an optional indicator variable. If you omit indicator variables, R:BASE displays a message and assigns a negative integer to SQLCODE if it encounters a null value. The command continues to process rows.

INDICATOR
Indicates the following variable is an indicator variable, which is used to indicate if a null value is retrieved.

into_var
Assigns the result associated with a column, expression, or function named in the command clause to the corresponding variable named in the INTO clause. The number of items or variables named in the command and INTO clauses, as well as their data types, must be the same.

About the SELECT INTO command

This optional clause loads the results of a SELECT command into variables, but does not display the results on screen.

An INTO clause loads the resulting value of each column, expression, or function included in the command clause into a variable. If previous clauses have returned more than one row, the values assigned to the variables are unpredictable. You should make sure you are returning only one row. Either test the results before using an INTO clause or check the value of the variable *sqlcode* after executing the command. If the clause is successful, *sqlcode* is 0.

Comments

The INTO clause must have a corresponding variable for every item in the command clause; values are assigned to variables in the order of items in the command clause. The data type of each command clause item and its corresponding *into_var* must be compatible. For example:

```
SELECT MAX(listprice), MIN(listprice) +
   INTO vmaxprice INDICATOR vind_max, +
               vminprice INDICATOR vind_min +
                     FROM product
```

The MAX and MIN functions assign the value $3,100.00 to the variable *vmaxprice* and $1,900.00 to *vminprice*. These values are the maximum and minimum values for the *listprice* column in the *product* table. Since both functions returned values, the value of both indicator variables is 0. Also, since only SELECT functions are specified, a GROUP BY clause is not required.

If you select and load a value into an undefined numeric variable, that variable acquires the precision and scale of the column from which the value is selected.

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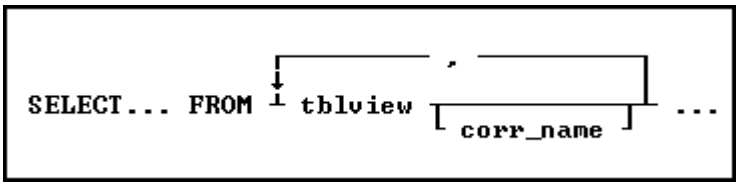
1.19.7.5 FROM

Starting with all the tables, views, rows, and columns in the database, this clause specifies one or more tables or views from which you want data.



Options

,
Indicates that this part of the command is repeatable.

corr_name
A correlation name is an alias or nickname for a table. It lets you refer to the same table twice in one command, use a shorter name, and explicitly refer to a column when referring to the same column if that column appears in more than one table.

tblview
A table or view containing one or more columns named in the command clause.

About the FROM Clause

The FROM clause names one or more tables and/or views from which the information is used in a SELECT command or other command. It is one of the two REQUIRED portions of a SELECT statement. The other required portion being the column listing. Some other commands that may use a FROM clause include TALLY, COMPUTE and CHOOSE.

Examples

The following command selects all columns from the *transmaster* table in the R:BASE sample database, *concomp*.

```
SELECT * FROM transmaster
```

The result of this command appears in the following table. The *transid* column is the primary key for this table; that is, *transid* contains a unique value for each row in the table. Columns that are not primary keys can have the same value in more than one row. The result shown here is used in the discussions of other SELECT clauses later in this section.

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transid	custid	empid	transdate	netamount	freight
4760	100	133	01/02/94	$32,400.00	$324.00
4780	105	160	01/08/94	$9,500.00	$95.00
4790	104	129	01/09/94	$6,400.00	$64.00
4795	101	102	01/11/94	$176,000.00	$1,760.00
4800	105	160	02/22/94	$194,750.00	$1,947.50
4865	102	129	02/22/94	$34,125.00	$341.25
4970	103	131	02/23/94	$152,250.00	$1,522.50
4975	101	102	02/26/94	$87,500.00	$875.00
4980	101	102	02/27/94	$22,500.00	$225.00
5000	101	102	02/28/94	$40,500.00	$405.00
5010	107	131	03/02/94	$108,750.00	$1,087.50
5015	103	131	03/05/94	$80,500.00	$805.00
5050	104	129	03/06/94	$56,250.00	$562.50
5060	101	102	03/07/94	$57,500.00	$575.00
5065	106	160	03/13/94	$140,300.00	$1,403.00
5070	104	129	03/14/94	$95,500.00	$955.00
5075	102	129	03/15/94	$155,500.00	$1,555.00
5080	100	133	03/19/94	$88,000.00	$880.00
5085	107	131	03/18/94	$130,500.00	$1,305.00
5045	100	102	09/26/94	$3,060.00	$30.60
5046	101	165	09/27/94	$3,060.00	$30.60
5047	102	167	09/27/94	$3,830.00	$38.30
5048	103	133	-0-	$12,740.00	$127.40
5049	102	165	04/21/94	$26,310.00	$263.10

When a column appears in more than one table, enter the table name and a period preceding each column name to specify the column you want. For example:

```
SELECT transmaster.transid, transmaster.netamount,+
transdetail.model FROM transmaster, transdetail +
WHERE transmaster.transid = transdetail.transid
```

Or, you can assign a correlation name to a table. The following command is equivalent to the previous example:

```
SELECT t1.transid, t1.netamount, t2.model +
FROM transmaster t1, transdetail t2 +
WHERE t1.transid = t2.transid
```

In this SELECT command, the FROM clause assigns correlation names to the *transmaster* and *transdetail* tables. Because the *transid* column appears in both tables, the correlation names, *t1* and *t2*, clarify which table each column is from.

Because R:BASE processes the FROM clause first, you must use correlation names, if you have assigned them, throughout the SELECT command.

1.19.7.6 LIMIT

This parameter includes the support to LIMIT the SELECT results.

```
SELECT * FROM tablename LIMIT offset, row_count
```

The LIMIT clause can be used to constrain the number of rows returned by the SELECT statement. LIMIT takes

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one or two numeric arguments, which must be integer constants.

With two arguments, the first argument specifies the offset of the first row to return, and the second specifies the maximum number of rows to return. The offset of the initial row is 0 (not 1):

SELECT * FROM table LIMIT 5,10
Retrieves rows 6-15

To retrieve all rows from a certain offset up to the end of the result set, you can use some large number for the second parameter. This statement retrieves all rows from the 96th row to the last:

SELECT * FROM table LIMIT 95,99999999

With one argument, the value specifies the number of rows to return from the beginning of the result set:

SELECT * FROM table LIMIT 5
Retrieve first 5 rows

In other words, LIMIT n is equivalent to LIMIT 0,n.

Examples (Using Bluzvan Database)**:**

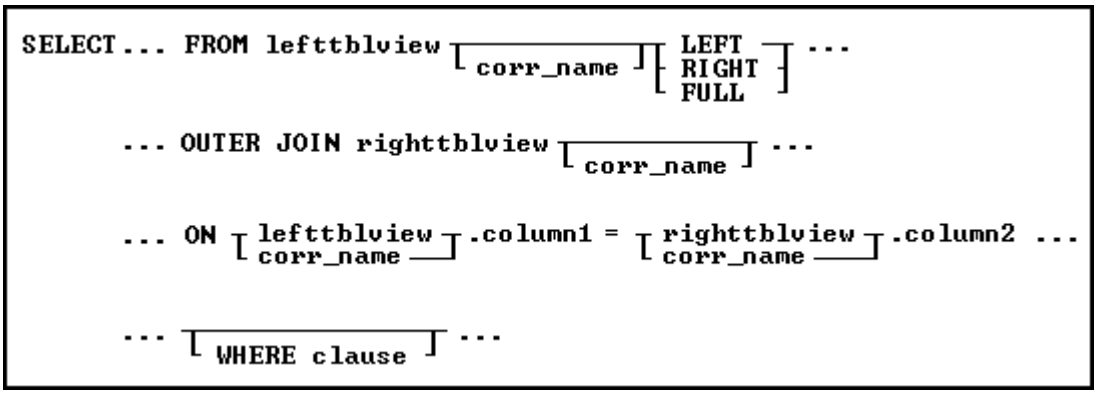
SELECT * FROM Albums LIMIT 0,30
Gets rows 1-30 from Albums table

SELECT * FROM Albums LIMIT 5,10
Gets rows 6-15 from Albums table

SELECT * FROM Albums LIMIT 10
Gets the first 10 rows from Albums table

1.19.7.7 OUTER JOIN

This clause is used to retrieve data from two tables.



Options

.column1
Defines the column on which to link.

.column2
Defines the column on which to link.

corr_name
A correlation name is an alias or nickname for a table. It lets you refer to the same table twice in one command, use a shorter name, and explicitly refer to a column when referring to the same column if that

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column appears in more than one table.

FROM lefttblview
Specifies the left table or view.

LEFT
RIGHT
FULL
Specifies the type of outer join.

lefttblview
Explicitly defines the column on which to link the left table name or view.

OUTER JOIN righttblview
Specifies the right table or view.

righttblview
Explicitly defines the column on which to link the right table name or view.

WHERE clause
Limits rows of data. See "WHERE Clause" entry.

About JOIN

When you perform a SQL JOIN, you specify one column from each table to join on. These two columns contain data that is shared across both tables. You can use multiple joins in the same SQL statement to query data from as many tables as you like.

JOIN Types

Depending on your requirements, you can do an "INNER" join or an "**OUTER**" join. The differences are:

- **INNER JOIN**: This will only return rows when there is at least one row in both tables that match the join condition.
- **LEFT OUTER JOIN**: This will return rows that have data in the left table (left of the JOIN keyword), even if there's no matching rows in the right table.
- **RIGHT OUTER JOIN**: This will return rows that have data in the right table (right of the JOIN keyword), even if there's no matching rows in the left table.
- **FULL OUTER JOIN**: This will return all rows, as long as there's matching data in one of the tables.

About OUTER JOIN

When you use an outer join, rows are not required to have matching values. The table order in the FROM clause specifies the left and right table. You can include a WHERE clause and other SELECT clause options such as GROUP BY. The result set is built from the following criteria:

- In all types of outer joins, if the same values for the linking columns are found in each table, R:BASE joins the two rows.
- For a left outer join, R:BASE uses each value unique to the left (first) table and completes it with nulls for the columns of the right (second) table when the linking columns do not match.
- A right outer join uses unique values found in the right (second) table and completes the rows with nulls for columns of the left (first) table when the linking columns do not match.
- A full outer join first joins the linking values, followed by a left and right outer join.

Example

The following example lists all of the employees and their total sales, including those employees who have not yet completed a sale.

```
SELECT t1.empid, SUM(t2.netamount) FROM employee t1 +
FULL OUTER JOIN transmaster t2 ON t1.empid = t2.empid +
GROUP BY t1.empid
```

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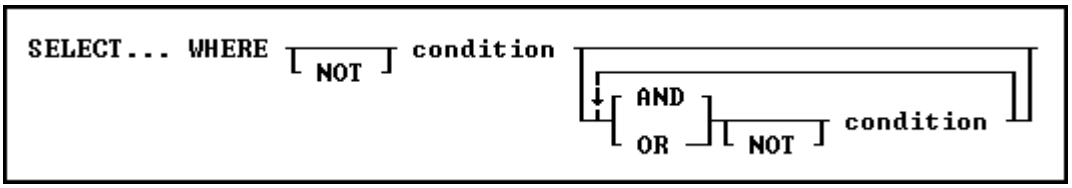
```
t1.empid      SUM(t2.netamount)
102           $387,060.00
129           $347,775.00
131           $472,000.00
133           $133,140.00
160           $344,550.00
165           $29,370.00
166           $0.00
167           $3,830.00
```

1.19.7.8 WHERE

This clause determines which rows of data to include.



Options

AND
Indicates the following condition must be met along with the preceding condition.

condition
Identifies requirements to be in the WHERE syntax.

NOT
Reverses the meaning of a connecting operator. AND NOT, for example, indicates that the first condition must be met and the following condition must not be met.

OR
Indicates the following condition can be met instead of the preceding condition.

About the WHERE Clause

In most commands, a WHERE clause follows the syntax diagram above. The JOIN command does not use that syntax diagram because it uses only comparison operators in a WHERE clause to compare two columns.

The two main elements in any WHERE clause are conditions and connecting operators.

We now support "COUNT = LAST" in two different ways. If the entire WHERE clause is "WHERE COUNT = LAST" then R:BASE works like it always has to quickly fetch the last row of the table. The NEW functionality is to have other conditions in the WHERE clause and you want the last row of whatever qualifies.

To make it work this way specify the other conditions and then add "AND COUNT = LAST".

Here is an example:

SELECT * FROM Customer WHERE CustID > 100 AND COUNT = LAST

WHERE Clause Conditions

The following syntax diagram and table show the basic formats for WHERE clause conditions, which can be used alone or together.

Note: Placing NOT before most text operators (such as NULL or BETWEEN) reverses their meaning.

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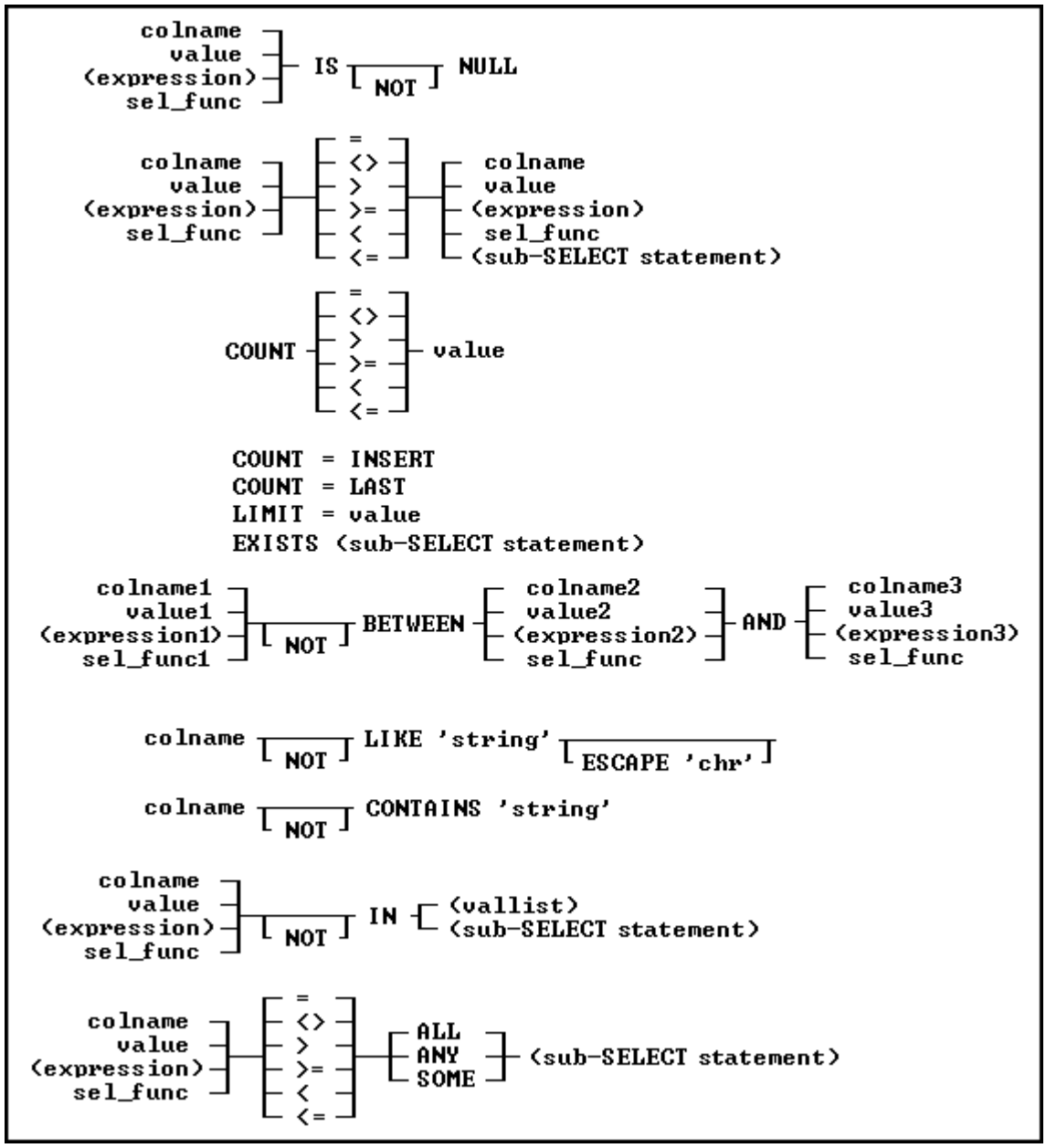

Basic WHERE Clause Conditions

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Condition Syntax	Description
colname op DEFAULT	True if a column value compares correctly with the DEFAULT value for the column. *Op* can be =, <>, >=, >, <=, or <.
colname = USER	True if a column value equals the current user identifier.
item1 IS NULL	True if *item1* has a null value. *Item1* can be a column name, value, or expression. A null value cannot be used in a comparison with an operator.
item1 op item2	True if the relationship between two items is true as defined by an operator. *Item1* can be a column name, value, or expression; *item2* can be a column name, value, expression, or sub-SELECT statement.
COUNT=INSERT	Refers to the last row inserted by the current user, even if it has been modified by another user.
COUNT=LAST	Refers to the last row in a table. COUNT cannot be used with a view.
COUNT *op value*	Refers to a number of rows defined by *op* and *value*.
LIMIT=*value*	Specifies a number of rows affected by a command. A LIMIT condition should be the last condition in a WHERE clause.
EXISTS (sub-SELECT statement)	True if sub-SELECT statement returns one or more rows.
item1 BETWEEN *item2* AND *item3*	True if the value of *item1* is greater than or equal to the value of *item2*, and if the value of *item1* is less than or equal to the value of *item3*.
colname LIKE '*string* '	True if a column value equals the text string. With LIKE, a string can also be a DATE, TIME, or DATETIME value. The text string can contain R:BASE wildcard characters.
colname LIKE '*string* ' ESCAPE '*chr* '	True if a column value equals a text string. If you want to use a wildcard character as a text character in the string, specify the ESCAPE character 1*chr*. In the string, use *chr* in front of the wildcard character.
colname CONTAINS '*string* '	True if a column value contains the text string.
colname SOUNDS '*string* '	True if the soundex value of a column matches the soundex value of the text string.
item1 IN (*vallist*)	True if *item1* is in the value list.
item1 IN (sub-SELECT statement)	True if *item1* is in the rows selected by a sub-SELECT.
item1 op ALL (sub-SELECT statement)	True if the relationship between *item1* and every row returned by a sub-SELECT statement matches an operator.
item1 op ANY(sub-SELECT statement)	True if the relationship between *item1* and at least one value returned by a sub-SELECT statement matches an operator.
item1 op SOME (sub-SELECT statement)	ANY and SOME are equivalent.

Note: When a SELECT statement is part of a WHERE clause, it is called a sub-SELECT clause. A sub-SELECT clause can contain only one column name (not a column list or *), expression, or function. The INTO and ORDER BY clauses in a sub-SELECT are ignored.

You can only use the current wildcard characters to compare a column to a text value when using the LIKE comparison. The default wildcard characters are the percent sign (%), which is used for one or more characters, and the underscore (_), which is used for a single character.

If you compare a column with a value, you can either enter the value or specify a global variable. If you specify a variable, R:BASE compares the column with the current value of the variable.

To significantly reduce processing time for a WHERE clause, use INDEX processing. To use indexes, the following conditions must be met:

- A condition in the WHERE clause compares an indexed column.
- If the WHERE clause contains more than one condition, R:BASE selects the condition that places the greatest restriction on the WHERE clause.
- Conditions are not joined by the OR operator.
- The comparison value is not an expression.

Connecting Operators

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When you use more than one condition in a WHERE clause, the conditions are connected using the connecting operators AND, OR, AND NOT, and OR NOT.

The connecting operator AND requires that both conditions it separates must be satisfied. The connecting operator OR requires that either condition it separates must be satisfied.

The connecting operator AND NOT requires that the preceding condition must be satisfied, and the following condition must not be satisfied. The connecting operator OR NOT requires that either the preceding condition must be satisfied, or any condition except the following condition must be satisfied.

In WHERE clauses with multiple conditions, conditions that are connected by AND or AND NOT are evaluated before those connected by OR or OR NOT. However, you can control the order in which conditions are evaluated by either placing parentheses around conditions or using the SET AND command. If you set AND off, conditions are always evaluated from left to right.

Examples

The following WHERE clause chooses sales amounts that are less than the value of a variable containing the daily average.

```
... WHERE amount < .dailyave
```

The following WHERE clause specifies the seventh row.

```
... WHERE COUNT = 7
```

The following WHERE clause specifies each row from the *employee*table that contains both the first name *June* and the last name *Wilson*.

```
SELECT * FROM employee WHERE empfname = 'june' AND emplname = 'wilson'
```

The following WHERE clause selects dates in the *actdate* column that are greater than dates in the *begdate* column or are less than dates in the *enddate* column.

```
... WHERE actdate BETWEEN begdate AND enddate
```

The next three WHERE clauses use the following data:

```
empfname emplname
-------- --------
    Mary Jones
    John Smith
   Agnes Smith
    John Brown
```

In both of the following clauses, R:BASE first evaluates the conditions connected by AND, selecting John Smith. Then R:BASE adds any Marys to the list because the connecting operator is OR. The final result includes John Smith and Mary Jones.

```
...WHERE empfname = 'Mary' OR empfname = 'John' +
 AND emplname = 'Smith'

...WHERE empfname = 'Mary' OR (empfname = 'John' +
 AND emplname = 'Smith')
```

By moving the parentheses around the conditions connected by OR, you can select only John Smith. In the following WHERE clause, the first name can be either Mary or John, but the last name must be Smith.

```
...WHERE (empfname = 'Mary' OR empfname = 'John') AND +
 emplname = 'Smith'
```

The following example illustrates a sub-SELECT in a WHERE clause. Assume you wanted a list of all sales representatives that had transactions greater than $100,000, and the information for such a list was contained in two tables, *employee* and *transmaster*. The relevant columns in these tables are:

```
employee transmaster
```

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```
empid  emplname empid    netamount
----- --------- ----- ------------
  102 Wilson      133   $32,400.00
  129 Hernandez   160    $9,500.00
  133 Coffin      129    $6,400.00
  165 Williams    102  $176,000.00
  166 Chou        160  $194,750.00
  167 Watson      129   $34,125.00
  160 Smith       131  $152,250.00
  131 Simpson     102   $87,500.00
  102                   $22,500.00
  102                   $40,500.00
  131                  $108,750.00
  131                   $80,500.00
  129                   $56,250.00
  102                   $57,500.00
  160                  $140,300.00
  129                   $95,500.00
  129                  $155,500.00
  133                   $88,000.00
  131                  $130,500.00
  102                    $3,060.00
  165                    $3,060.00
  167                    $3,830.00
  133                   $12,740.00
  165                   $26,310.00
```

To display a list of employees in the *transmaster* table with a transaction larger than $100,000, enter the following command:

```
SELECT empid, emplname FROM employee WHERE empid IN +
   (SELECT empid FROM transmaster WHERE netamount > 100000)
```

R:BASE displays the following list:

```
    empid emplname
--------- ----------------
      102 Wilson
      129 Hernandez
      131 Simpson
      160 Smith
```

Note: You can use a sub-SELECT in any command that allows a full WHERE clause.

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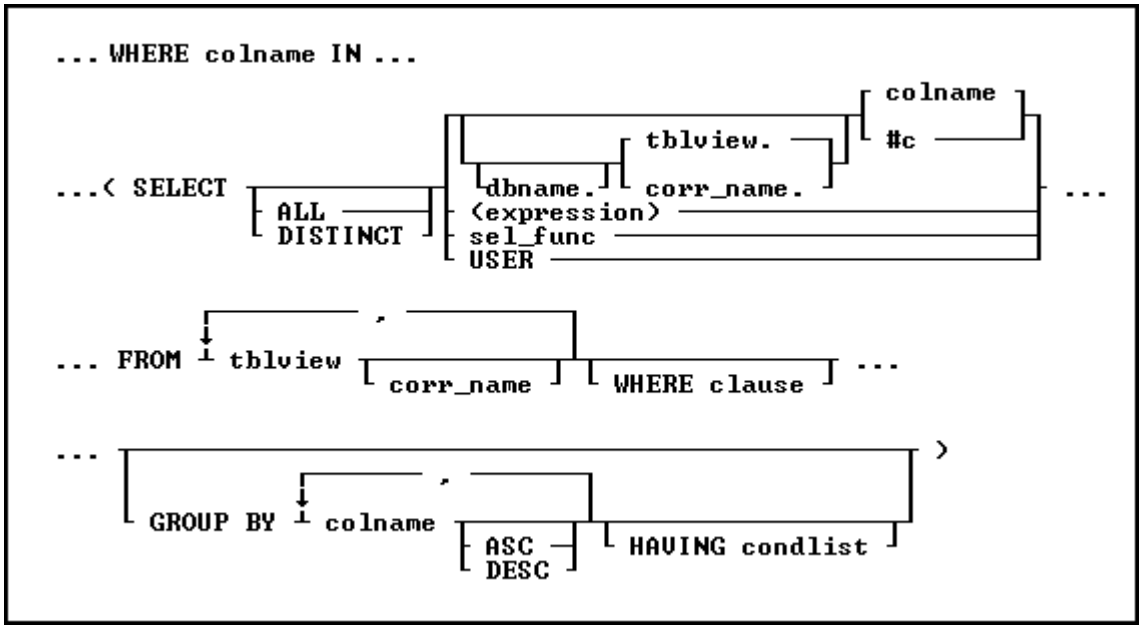
1.19.7.9 Sub-SELECT

This clause works in conjunction with the WHERE clause to determine which rows of data to include.



Options

For a description of the options, see the "SELECT" entry.

About the Sub-SELECT Clause

A sub-SELECT command, which is a SELECT command nested within another command, always appears in a WHERE clause, whether the sub-SELECT command is nested in the WHERE clause of a SELECT command or in another command such as EDIT USING *form*. R:BASE processes the clauses in a sub-SELECT in the same order as in a SELECT command.

Example

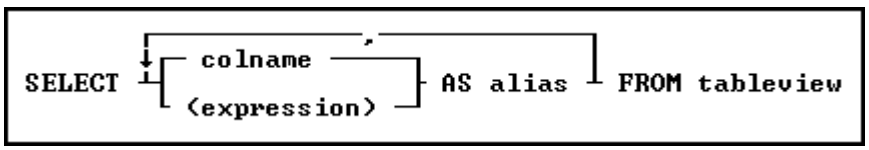
The following example selects customers that have purchased items in the month of January.

```
SELECT company FROM customer WHERE custid +
   IN (SELECT custid FROM transmaster +
   WHERE (IMON(transdate)=1))
```

```
company
PC Distribution Inc.
Computer Distributors Inc.
Industrial Concepts Inc.
PC Consultation and Design
```

1.19.7.10 AS

This clause dynamically renames columns in a select clause.



Options

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,
Indicates that this part of the command is repeatable.

colname
Specifies a 1 to 18 character column name.

(expression)
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

AS alias
Determines the alias of the column. This may be used to refer to the column in other locations.

FROM tableview
Specifies the table or view to draw information from.

About the SELECT AS command

The SELECT AS command functions exactly like any other SELECT command and will accept all other SELECT options. The one noticeable exception is that this allows you to give a column an alias. This can be most useful when used in conjunction with the CREATE VIEW command.

Examples

The following 3 examples are based on the ConComp database.

The following command selects the EmpID and the EmpName columns from the Employee table and renames them to "EmployeeID" and "Name".

```
SELECT EmpID AS EmployeeID,EmpName AS Name FROM Employee
```

The following command creates a VIEW using the SELECT AS notation. This view contains a column for Employee ID, Employee Name (which is a single column based on the EmpFName and EmpLName columns) from the Employee table and the Transdate and NetAmount columns from the Transmaster table. The immediately following command browses the Employee Name, Transdate and Netamount column. For more on Views please see the **CREATE VIEW** command.

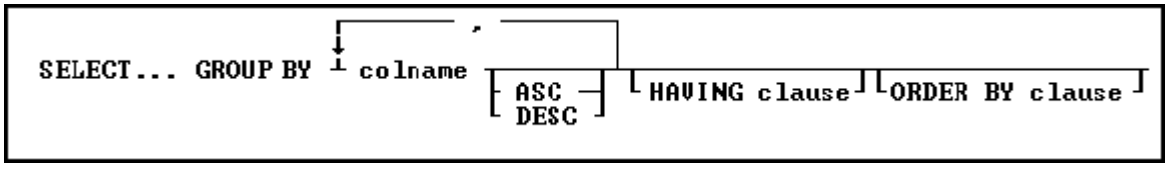
```
CREATE VIEW EmpAmount AS SELECT T1.EmpID, +
   (T1.EmpFName + ' ' + T1.EmpLName) AS EmpName, +
   T2.TransDate,T2.NetAmount FROM Employee T1, +
   TransMaster T2 WHERE T1.EmpID = T2.EmpID

BROWSE EmpName,TransDate,NetAmount FROM EmpAmount
```

This final example uses IDQuotes to create a column name with spaces in it and then uses the SELECT HTML option to turn that into an HTML table with the column name. The OUTPUT commands redirect output to a file called "Emp.HTM" and then back to the screen. We do NOT recommend using this method to create VIEWS or TABLES with names that contain spaces as this could lead to Database Corruption.

```
OUTPUT EMP.HTM
SELECT EmpID as `Employee ID` FROM Employee HTML
OUTPUT SCREEN
```

1.19.7.11 GROUP BY

This clause determines which rows of data to include.



Options

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,
Indicates that this part of the command is repeatable.

ASC
DESC
Specifies whether to sort a column in ascending or descending order.

colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command. In an SQL command, a column name can be preceded by a table or correlation name and a period (*tblname.colname*).

GROUP BY
Returns a groups of rows as a summary resulting in only unique rows. This option is generally used with SELECT functions.

HAVING clause
Limits the rows affected by the GROUP BY clause.

ORDER BY clause
Sorts rows of data.

About the GROUP BY command

This optional clause groups rows according to the values in one or more columns and sorts the results. GROUP BY consolidates the information from several rows into one row. This results in a table with one row for each value in the named column or columns and one or more values per column.

The columns listed in the GROUP BY clause are related to those listed in the command clause. Any column named in the GROUP BY clause can also be named in the command clause, but any column not named in the GROUP BY clause can be used only in the command clause if the column is used in a SELECT function.

Examples

The SELECT command clause can contain the columns named in the GROUP BY clause, and SELECT functions that refer only to columns not named in the GROUP BY clause. Because the GROUP BY clause processes information resulting from a WHERE clause, you can add a GROUP BY clause to see the sales each employee has made:

```
SELECT empid FROM transmaster WHERE netamount < $100,000 + GROUP BY empid
```

The following intermediate result table contains columns not named in the command clause because the command clause has not been processed yet (not all the columns fit in the display, however). The first part of the processing is to group the rows by *empid.* Because seven different employees are included, the intermediate result table includes seven rows.

Intermediate Result Table-GROUP BY empid

transid	custid	empid	netamount
4975, 4980, 5000, 5060, 5045	101, 101, 101, 101, 100	102	$87,500, $22,500, $40,500, $57,500, $3,060
4790, 4865, 5050, 5070	104, 102, 104, 104	129	$6,400, $34,125, $56,250, $95,500
5015	103	131	$80,500
4760, 5080, 5048	100, 100, 103	133	$32,400, $88,000, $12,740
4780	105	160	$9,500
5046, 5049	101, 102	165	$3,060, $26,310
5047	102	167	$3,830

You can include more than one column in a GROUP BY clause. If you group the rows in the above example by *custid* as well as *empid*, the command looks like this:

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```
SELECT empid, custid FROM transmaster +
WHERE netamount < $100,000 GROUP BY empid, custid
```

In the following table, rows are now grouped by both *empid* and *custid*, resulting in eleven groups.

Intermediate Result Table-GROUP BY empid and custid

transid	custid	empid	netamount
5045	100	102	$3,060
4975, 4980, 5000, 5060	101	102	$87,500, $22,500, $40,500, $57,500
4865	102	129	$34,125
4790, 5050, 5070	104	129	$64,000, $56,250, $95,500
5015	103	131	$80,500
4760, 5080	100	133	$32,400, $88,000
5048	103	133	$12,740
4780	105	160	$9,500
5046	101	165	$3,060
5049	102	165	$26,310
5047	102	167	$3,830

If one or more of the columns named in the GROUP BY clause contain null values, R:BASE forms a separate group for null values. Review the result of this SELECT command for the *employee* table:

```
SELECT empid, emplname, hiredate, emptitle FROM employee
```

empid	emplname	hiredate	emptitle
102	Wilson	03/18/90	Manager
129	Hernandez	08/28/91	Manager
131	Smith	04/14/92	-0-
133	Coffin	11/26/93	Representative
160	Simpson	01/09/94	-0-
165	Williams	07/05/92	Representative
167	Watson	07/10/92	Representative
166	Chou	07/10/93	Sales Clerk

If you group these rows by the *emptitle* column, which contains null values, you get the following intermediate result table:

Intermediate Result Table-GROUP BY emptitle

empid	emplname	hiredate	emptitle
102, 129	Wilson, Hernandez	03/18/90, 08/28/91	Manager
133, 165, 167	Coffin, Williams, Watson	11/26/93, 07/05/92, 07/10/92	Representative
166	Chou	07/10/93	Sales Clerk
131, 160	Smith, Simpson	04/14/94, 01/09/94	-0-

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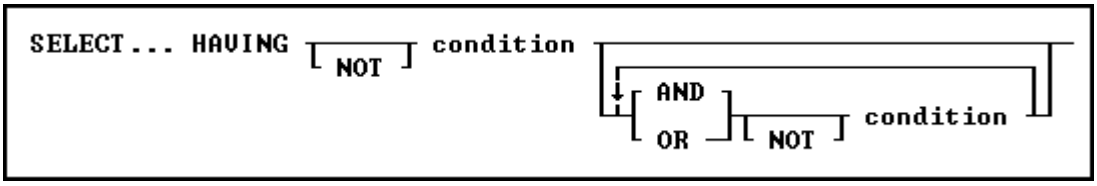
1.19.7.12 HAVING

This clause determines which rows of data to include based on the results of a prior GROUP BY clause.



Options

AND
OR
AND indicates two conditions must both be true.
OR indicates either condition must be true.

condition
Specifies a combination of one or more expressions and/or operations that would evaluate to either true or false. See "HAVING Conditions" below.

NOT
Reverses the meaning of an operator or indicates that a condition is not true.

About the HAVING command

The optional HAVING clause selects rows that meet one or more conditions from among the results of the GROUP BY clause. HAVING works the same as a WHERE clause with the following exceptions:

- A WHERE clause modifies the intermediate results of a FROM clause; a HAVING clause modifies the intermediate results of a GROUP BY clause.
- A HAVING clause can include SELECT functions.

HAVING Conditions:

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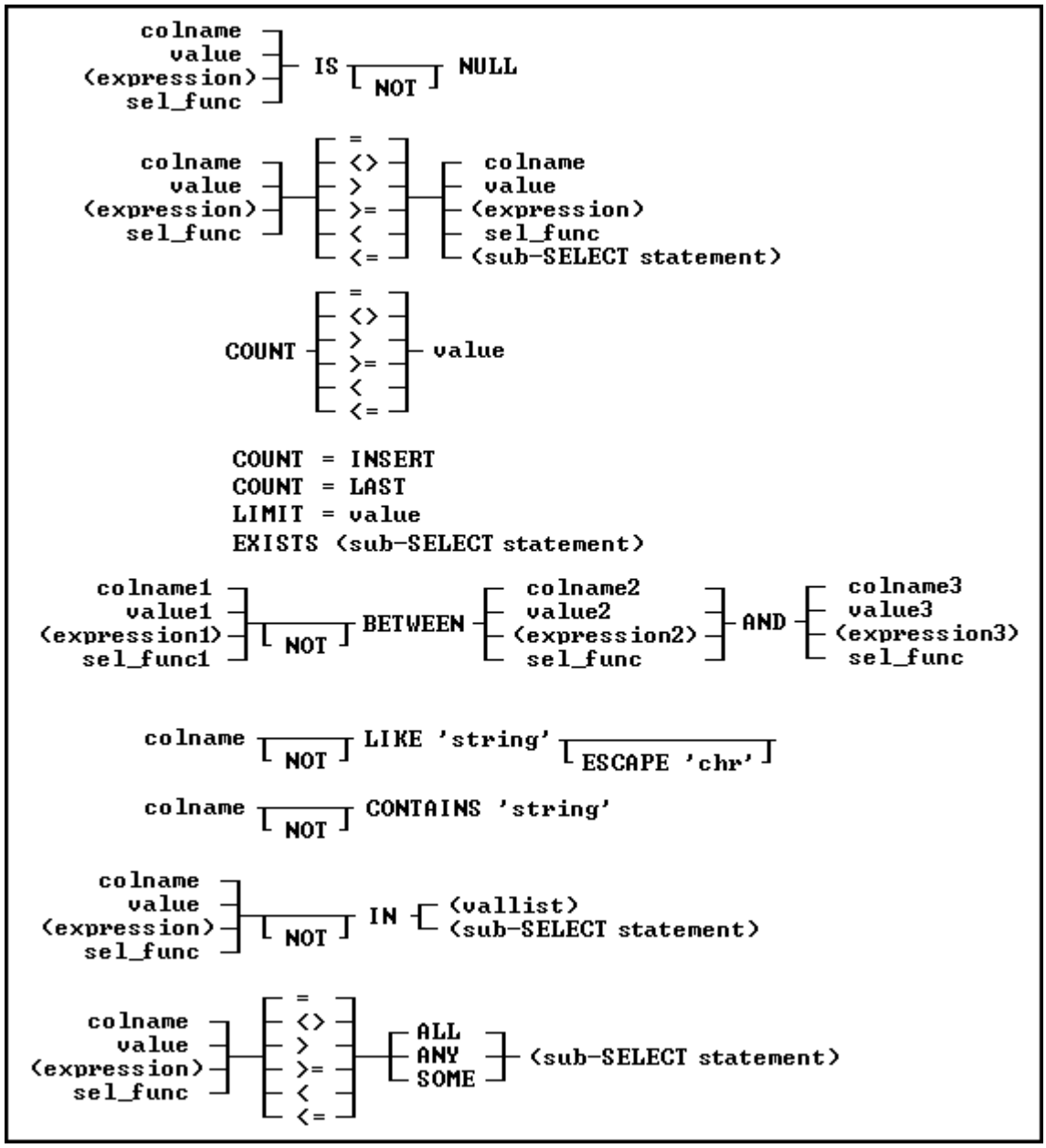

Examples

To display sales information for only those employees who have made more than one sale to the same customer, add a HAVING clause such as the following to one of the examples shown previously in "GROUP BY Clause." When used in a HAVING clause, SELECT functions compute results based on the values grouped in the specified column. In this HAVING clause, COUNT returns the number of values grouped in the *transid* column.

```
SELECT empid, custid FROM transmaster +
WHERE netamount < $100,000 +
GROUP BY empid, custid HAVING COUNT(transid) > 1
```

Intermediate Result Table-HAVING COUNT(transid) > 1

transid	custid	empid	netamount
4975, 4980, 5000, 5060	101	102	$87,500, $22,500, $40,500, $57,500
4790, 5050, 5070	104	129	$6,400, $56,250, $95,500

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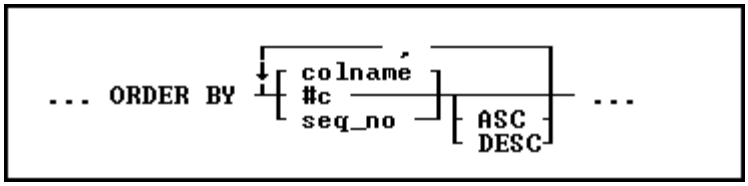
```
5080                    100    133    $32,400, $88,000
```

1.19.7.13 ORDER BY

This clause specifies how to sort the result of the SELECT command.



Options

,
Indicates that this part of the command is repeatable.

ASC
DESC
Specifies whether to sort a column in ascending or descending order.

#c
Takes the place of a column name and refers to the column numbers displayed with the LIST TABLE command.

colname
Sorts by any column name or combination of column names.

seq_no
Refers to the items listed in the SELECT command that is using the ORDER BY command, ordered from left to right. An item can be a column name, expression, or SELECT function.

About the ORDER BY Command

The syntax for the ORDER BY clause is the same for all commands. ORDER BY must refer to only one table or view.

You can significantly reduce the time R:BASE takes to process an ORDER BY clause when the column or columns listed in the ORDER BY clause are included in an index with the same column sort order as that specified in the ORDER BY clause.

Using the SET SORT Command

The ORDER BY command uses the R:BASE automatic sort optimizer. If you are sorting extremely large tables, and if your disk space is limited, the automatic sort optimizer might be unable to sort the data. Instead, use the SET SORT ON command because it uses the least disk space necessary to sort data; however, the SET SORT ON command is slower than the automatic sort.

Examples

The following command displays data from the *custid*, *company*, and *custcity* columns from the *customer*table.

```
SELECT custid, company, custcity FROM customer
```

The ORDER BY clause in the command below arranges the *custid*values in descending order.

```
SELECT custid, company, custcity FROM customer +
ORDER BY custid DESC
```

You can substitute a column's sequence number for a column named in the ORDER BY clause. You must use a sequence number when referring to an expression, function, constant, or when a UNION operator is used. The following command is equivalent to the command example above.

```
SELECT custid, company, custcity FROM customer ORDER +
```

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```
BY 1 DESC
```

R:BASE for DOS only: You can also specify the maximum and minimum memory allocated with the SET SORT command using the MAX and MIN functions. You can show the current memory allocation settings with SHOW SORT using the MAX, MIN, and LAST functions-LAST shows the amount of memory you need to perform the last sort.

1.19.7.14 UNION

You can use this operator to combine the results of two or more SELECT statements.

About the UNION SELECT command

This optional operator combines the results of two SELECT commands or clauses, displaying the results of the second SELECT command below those of the first. By default, UNION deletes duplicate rows. Include the optional keyword ALL to include duplicate rows in the final result. You cannot combine sub-SELECT commands using UNION.

The UNION operator requires the following three conditions:

- The SELECT statements must specify an equal number of columns.
- Columns that are being combined must have the same data type.
- Only the last SELECT statement can contain an ORDER BY clause.

Examples

The following example lists all employees and the sales transactions for each, including those employees who have not yet completed a sale.

```
SELECT employee.empid, transid +
   FROM employee, transmaster +
   WHERE employee.empid = transmaster.empid +
UNION SELECT empid, 0 +
   FROM employee +
   WHERE employee.empid NOT IN +
      (SELECT empid FROM transmaster)
```

The first SELECT displays the *empid* column from the *employee* table and *transid* from the *transmaster* table, linking the tables by the common column, *empid*. In short, the first SELECT displays all employees who have made a sale.

The second SELECT command selects the *empid* column from *employee*, including rows only for those employees who are not listed in the *transmaster* table. Because the results of the second SELECT are appended to those of the first (by the UNION operator), those employees who have not yet made a sale are shown at the bottom of the results with a zero in the *transid* column. The final results look like this:

```
empid  transid
102    4795
102    4975
102    4980
102    5000
102    5045
102    5060
129    4790
129    4865
129    5050
129    5070
129    5075
131    4970
131    5010
131    5015
```

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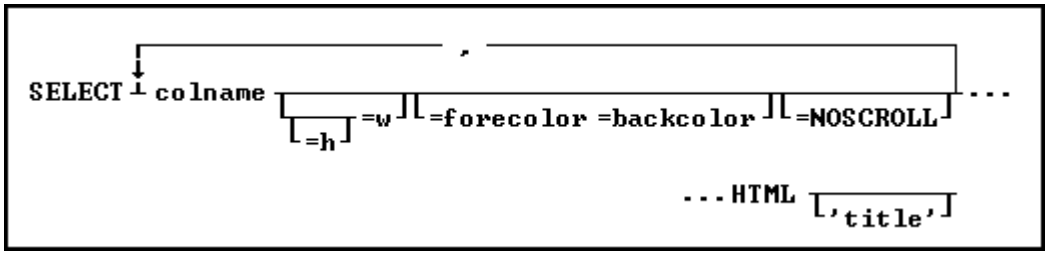
```
131    5085
133    4760
133    5048
133    5080
160    4780
160    4800
160    5065
165    5046
165    5049
166    0
```

1.19.7.15 HTML

You can use this command to output data in HTML format.

The rows and columns that each clause selects produce an intermediate result table that exists only in temporary memory. One after another, the clauses restrict the rows or columns included in the intermediate result table. After R:BASE has processed all the clauses and any UNION operators, the intermediate result table becomes the final result table.



Options

=backcolor
Is currently not supported; it must be set to: =default.

colname
Specifies a 1 to 18 character column name.

=forecolor
Specifies the text color for the data in the column.

=h =w
Specifies height and width parameters. For both, the keywords LEFT, RIGHT, and CENTER can be used. For width, the range is from 0 - 255 pixels. 0 is no width specification. The height is the addition of the following values, one value from each item:

data justification:	0=default, 1=left, 2=center, 3=right
heading justification:	0=default, 4=left, 8=center, 12=right
vertical alignment:	0=default, 16=top, 32=middle, 48=bottom
HTML format flag:	0=no, 64=yes

HTML
Converts the data to HTML code.

'title'
This is the text that appears in the caption at the top of the Web Browser window. Adding '*title*' creates the beginning and ending table tag as well as putting the text you enter in the caption. Without '*title*', a partial HTML file with the selected data in table row format is generated.

About the SELECT...HTML Command

The SELECT...HTML command is a modification of the SELECT command to output data in HTML format. If a title is specified, a full HTML file will be generated. Otherwise, a partial HTML file with the selected data in table row format will be generated.

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1.19.8 SET

Use SET to change the current status of R:BASE special characters and operating conditions for any SET category. The SET operating conditions are used to set the database environment while you build and run commands from the R> prompt or command files and applications.

About the SET Command

To change the setting from the R> prompt for a special character, enter:

```
SET special character name=value
```

Do not use spaces on either side of the equal sign (=). For example:

```
SET QUOTES='
```

To change the setting from the R> prompt for an operating condition, enter:

```
SET keyword setting
```

For example:

```
SET BELL ON
```

To remap keys on the keyboard from the R> prompt, enter:

```
SET KEYMAP keyname = remapped keys
```

For example, if you want to remap [SHIFT] [F6] to [F2], enter:

```
SET KEYMAP [SHIFT] [F6] = [F2]
```

To reset a key to its original default value from the R> prompt, enter:

```
SET KEYMAP keyname OFF
```

Saving Settings

Settings can be changed at the R> Prompt for the current session. They will revert to the default upon exiting R:BASE. Users can save settings in the R:BASE configuration file (RBENGINE8.CFG). Some settings are stored within the database itself and only the database owner can save changes to the settings that are stored in the database. If you are not the database owner, you can only change the settings that are stored in the database for the current database session.

The R:BASE/Oterro database provides the following categories of SET Keywords:

- Data Integrity
- Display Control
- Environment
- Format
- Programming
- Special Characters
- Transaction Processing and Multi-User
- Database Specific

1.19.8.1 AND

Operating Condition

Syntax: SET AND ON/OFF

Default: ON

SET AND gives the connecting operator AND precedence over OR in WHERE, IF, and WHILE conditions. When on, R:BASE processes conditions in the following order: all AND NOT followed by all AND OR, and all AND

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before all OR conditions.

SET AND OFF directs R:BASE to process conditions from left to right. The WHERE clause A AND B OR C AND D is evaluated as (((A AND B) OR C) AND D). SET AND ON directs R:BASE to give the operator AND precedence over OR. The WHERE clause A AND B OR C AND D is evaluated as ((A AND B) OR (C AND D)), which is a different result set.

1.19.8.2 ANSI

Operating Condition

Syntax: SET ANSI ON/OFF

Default: ON

Set ANSI off to restrict R:BASE to the list of reserved words shown in the table below. To change the default, save the setting to the RBENGINE.CFG file.

R:BASE reserved words with ANSI set off:

ABS	**ACOS**	**AINT**	**ALL**
AND	**ANINT**	**ASIN**	**ATAN**
ATAN2	**AVERAGE**	**CHAR**	**CHKKEY**
COS	**COSH**	**COUNT**	**CTR**
CTXT	**CURRENT**	**CVAL**	**DATE**
DATETIME	**DEXTRACT**	**DIM**	**ENVVAL**
EXP	**FLOAT**	**FOR**	**FORMAT**
FROM	**FULL**	**FV1**	**FV2**
GETKEY	**HELP**	**ICAP1**	**ICAP2**
ICHAR	**IDAY**	**IDWK**	**IFEQ**
IFGT	**IFLT**	**IFRC**	**IHASH**
IHR	**IMIN**	**IMON**	**IN**
INT	**ISEC**	**ISTAT**	**IYR**
JDATE	**LAST**	**LASTKEY**	**LAVG**
LIMIT	**LIST**	**LJS**	**LMAX**
LMIN	**LOG**	**LOG10**	**LUC**
MAXIMUM	**MINIMUM**	**MOD**	**NEW**
NEWPAGE	**NEXT**	**NINT**	**NOT**
OR	**OUTER**	**PASSTAB**	**PMT1**
PMT2	**PROMPT**	**PROMPTS**	**PV1**
PV2	**RATE1**	**RATE2**	**RATE3**
RDATE	**RJS**	**RTIME**	**SFIL**
SGET	**SIGN**	**SIN**	**SINH**
SLEN	**SLOC**	**SMOVE**	**SPUT**
SQRT	**SRPL**	**SSUB**	**STDEV**
STRIM	**SUM**	**TAN**	**TANH**
TDWK	**TERM1**	**TERM2**	**TERM3**
TEXT	**TEXTRACT**	**TMON**	**UDF**
ULC	**UNNAMED**	**VARIABLE**	**VARIANCE**
WHERE			

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1.19.8.3 AUTOCOMMIT

Operating Condition

Syntax: SET AUTOCOMMIT ON/OFF

Default: OFF

Mode: Transaction Processing

SET AUTOCOMMIT toggles AUTOCOMMIT processing on and off. When transaction processing and AUTOCOMMIT are on, each command that is executed successfully is immediately made permanent and visible to network users. If transaction processing is on and AUTOCOMMIT is off, you must enter a COMMIT command to make changes permanent. Also, leaving the database causes R:BASE to issue the COMMIT command.

When transaction processing is on and AUTOCOMMIT is off, you can enter a series of commands (a transaction) that change data or the database structure, then enter either a COMMIT or ROLLBACK command. COMMIT makes permanent all changes executed by commands in the transaction. ROLLBACK deletes all the changes, restoring the database to its state before the transaction began.

If you have started a transaction when you set AUTOCOMMIT on, R:BASE commits the transaction and turns AUTOCOMMIT on. You cannot open a cursor while AUTOCOMMIT is set on, and you cannot set AUTOCOMMIT on while a cursor is open.

AUTOCOMMIT can affect system performance. You can increase performance by setting AUTOCOMMIT to on when you do not need to enter commands in groups.

1.19.8.4 AUTOCONVERT

Operating Condition

Syntax: SET AUTOCONVERT ON/OFF

Default: OFF

Set AUTOCONVERT on to automatically convert R:BASE databases created in versions prior to 6.0 to R:BASE Turbo V-8. The user is not given the option to halt the conversion process.

1.19.8.5 AUTODROP

Operating Condition

Syntax: SET AUTODROP ON/OFF

Default: OFF

Controls the feature for a combo-box in a form to automatically drop-down the list when it gets focus.

When AUTODROP is SET to ON, this new setting controls the feature for a combo-box in a form to automatically drop-down the list when it gets focus. The editable or non-editable automatic drop-down list of combo box will
allow the user to place the value into a column or variable.

The default for AUTODROP is to be OFF which makes previous versions of R:BASE 2000 (ver 6.5++) for Windows behave in the standard way.

This new setting can be saved in your R:BASE Turbo V-8 for Windows RBENGINE8.CFG file or in your individual application startup file.
Supported environments:

- RBENGINE8.CFG
- Command File
- EEPs

Notes:

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- SHOW AUTODROP will display the current setting of AUTODROP.
- (CVAL('AUTODROP')) will return the current setting of AUTODROP

1.19.8.6 AUTORECOVER

Operating Condition

Syntax: SET AUTORECOVER ON/OFF

Default: OFF

Mode: Transaction Processing

If AUTORECOVER is set on, errors that can occur during transaction processing when the program in interrupted, for example from a network or power failure, are automatically corrected.

1.19.8.7 AUTOROWVER

Operating Condition

Syntax: SET AUTOROWVER ON/OFF

Default: OFF

AUTOROWVER is used for Oterro compatibility only. If AUTOROWVER is set on, every CREATE TABLE or ALTER TABLE command will add the SYS_ROWVER column if it does not already exist. The SYS_ROWVER column is not comapatible with R:BASE 6.0 databases.

1.19.8.8 AUTOSKIP

Operating Condition

Syntax: SET AUTOSKIP ON/OFF

Default: OFF

Set AUTOSKIP on to move the cursor automatically to the next data-entry field in a form after filling the entire field. Specify off to press [Tab] after each entry. R:BASE stores the setting with the database.

1.19.8.9 AUTOSYNC

Operating Condition

Syntax: SET AUTOSYNC ON/OFF

Default: OFF

If AUTOSYNC is set on, connecting to a database will automatically synchronize the database files if necessary. If AUTOSYNC is set off and an error occurs during the connect because the files are out of sync, the database is not connected.

1.19.8.10 AUTOUPGRADE

Operating Condition

Syntax: SET AUTOUPGRADE ON/OFF

Default: OFF

AUTOUPGRADE converts R:BASE 6.0 databases to Turbo V-8 and adds the new system tables for handling stored procedures and triggers.

1.19.8.11 BELL

Operating Condition

Syntax: SET BELL ON/OFF

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Default: ON

Set BELL on to sound the bell when an error occurs. Specify off to suppress the bell. R:BASE stores the setting with the database.

1.19.8.12 BLANK

Special Character

Sets the character for spaces. The BLANK character is used to separate words in a command string.

Syntax: SET BLANK=NULL

Syntax: SET BLANK=char
(Use NULL to disable the special character.)

Default: (space)

1.19.8.13 CAPTION

Operating Condition

Syntax: SET CAPTION 'window title'

SET CAPTION specifies a title for an application or a command file. This title appears in the title bar when you run the application or command file.

1.19.8.14 CASE

Operating Condition

Syntax: SET CASE ON/OFF

Default: OFF

SET CASE sets the uppercase or lowercase distinction when a comparison is used with WHERE clauses, IF structures, WHILE loops, the TALLY command, and in the RULES command where comparisons are equal or not equal. R:BASE stores the setting with the database. If CASE is set off, both uppercase and lowercase text are displayed for a comparison regardless of how you enter the text. For example, if you enter "case", you could find "Case" and "CASE".

1.19.8.15 CLEAR

Operating Condition

Syntax: SET CLEAR ON/OFF

Default: ON

Mode: Single-user

SET CLEAR determines when R:BASE clears the internal buffers and transfers the data to disk.

When CLEAR is set on, the internal buffers are cleared and data is transferred to disk after each modification. Setting CLEAR on does not always make R:BASE automatically write each new or changed row to disk. For example, when you use a form, R:BASE writes the edits to disk when you finish using the form.

Set CLEAR off to write modified data to disk only when the buffer is full, a database is closed, or you exit R:BASE. If CLEAR is set off, repetitive modifications to a database can run faster, but you could lose all of your changes stored in the buffer if an accident, such as a fluctuation in power supply, occurs.

In multi-user mode, the CLEAR setting has no effect and always acts as though it is set on.

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1.19.8.16 CLIPBOARD

Environment

Syntax: SET ClipBoard <TextString or Variable>

About the SET CLIPBOARD Command

Places the specified string onto the Windows clipboard, where it can be accessed from other programs.

EXAMPLE 01:

```
SET CLIPBOARD 'Here is text for the clipboard'
```

EXAMPLE 02:

Assuming you have already created a MS Word Document (TestDoc.DOC) or WordPerfect Document (TestDoc.WPD).

```
-- ClipBrd.RMD
CONNect ConComp
SET VAR vAddressBlock TEXT = NULL
SET VAR vCustID INTEGER = 100
SELECT (Company+(CHAR(10))+CustAddress+(CHAR(10)) +
  +CustCity+','&CustState&CustZip+(CHAR(10))) +
   INTO vAddressBlock INDIC IvAddressBlock +
   FROM Customer WHERE CustID = .vCustID
SET CLIPBOARD .vAddressBlock
LAUNCH TestDoc.DOC
  or
LAUNCH TestDoc.WPD
```

Once the MS Word or WordPerfect is launched and the document is opened, you could either use Edit > Paste or Ctrl+V to paste the windows clipboard text!

The resulting pasted block of text would look like:

Pc Distribution Inc.
3200 Westminster Way
Boston, MA 02178

Above example could be used in your application command file or in an EEP.

1.19.8.17 COLOR

Operating Condition

Syntax: SET COLOR
SET COLOR FOREGRND color
SET COLOR BACKGRND color
SET COLOR BACKGRND (redvalue, greenvalue, bluevalue)

You can specify foreground and background colors for the R> prompt window. To set colors using the "Colors Settings" dialog box, enter:

SET COLOR

You can also specify colors using the SET command. For example, to change the background color to cyan, enter:

SET COLOR BACKGRND cyan

You can even select a custom color for the background using a combination of red, blue, and green values. For example, to change the background to orange, enter:

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SET COLOR BACKGRND (255, 128, 64)

Available Colors:

1.19.8.18 COMPATIB

Operating Condition

Syntax: SET COMPATIB ON/OFF

Default: ON

Compatibility with R:BASE Transactions

SET COMPATIB toggles COMPATIBILITY with R:BASE transactions on and off.
The first "compatibility" setting in R:BASE goes back to the 3.1 versions where it was used to allow concurrent access to a database from both 3.1 and 2.11 at the same time. Remember that database files back then were still "rbf" files. Once we went to the "rb1,rb2,..." files the setting was obsolete.

In 1997 when Oterro was first released, it supported a different scheme for managing transactions (when TRANSACTIONS are set on) than R:BASE itself used at that time. This new scheme used a different file to track transactions and had a larger allocated buffer size on the file to manage ongoing transactions. To make R:BASE compatible with Oterro when transactions were on it needed to support the new method, but it also needed to be able to support the older style that previous versions of R:BASE used (version 6.0 and older).

The first R:BASE version that could support the two methods was 6.1. When the "compatibility" setting is on, R:BASE will use the older "non-Oterro" style of transaction. When "compatibility" is off, the Oterro method will be used. If you never run with TRANSACTIONS ON then the compatibility setting does not have any effect.

1.19.8.19 CURRENCY

Operating Condition

Syntax: SET CURRENCY $ PREF 2 B

SET CURRENCY sets the symbol, location, subunits, and format for currency values. R:BASE stores the setting with the database.

Changing the CURRENCY parameters affects all columns in the database that have a CURRENCY data type. You must enter the parameters in the following order: SYMBOL, PREF or SUFF, digits, and format; that is, even if you want to change the digits only, you must also enter the symbol and its position.

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- **Symbol** (default $)--A symbol is any ASCII character or string of one to four characters. You can include a space in place of one character at the beginning or end of the string, but if you do, enclose the string in quotation marks.

- **PREF and SUFF** (default PREF)--Specify the position of the symbol as before (PREF) or after (SUFF) the currency value. In the SET CURRENCY command, enter a space between the symbol and its position, PREF or SUFF.

- **Subunit digits** (default 2)--Indicates the number of digits from 0 to 16 to be displayed in a currency subunit. In the case of dollars, the subunit is cents, so the digits setting for dollars is 2. For example, setting digits to 3 will display currency values similar to these:

  20.000,000DM
  20,000.000
  2,000.000

  If you change digits when the database contains data, the new digit setting affects how R:BASE displays and uses the data already entered. For example, if you change the setting from 2 to 4, an existing value such as 1,234.00 becomes 12.3400.

- **Format** (default B)--Format specifies how R:BASE displays the thousands and decimal delimiters. *A*, *B*, and *C* specify how the thousands and decimal delimiter displays for values with CURRENCY, REAL, and DOUBLE data types. Before you change the format, you must change the DELIMIT character.
  Delimiter Conventions for CURRENCY, REAL, and DOUBLE Values

Convention	Thousands Delimiter	Decimal Delimiter	Example
A	.	,	123.456.793,01
B	,	.	123,456,793.01
C	(blank)	,	123 456 793,01
D	N/A	.	123456793.01

  For example, to display currency in two digits with a prefix of DM (deutsche marks) with the display format *A*, at the R> prompt, enter:

```
SET DELIMIT=!
SET CURRENCY DM PREF 2 A
```

  This command displays 1,500 deutsche marks and 25 pfennigs in the format like this:

```
DM 1.500,25.
```

  If you set CURRENCY to the delimiter formats *A* or *C* without changing DELIMIT to a character other than the comma--the default setting for DELIMIT--R:BASE displays the following message:

  Decimal character cannot be the same as DELIMIT
  In this case, use SET DELIMIT to change the delimiter to a less commonly used character such as an exclamation point; then set CURRENCY to the delimiter formats *A* or *C*.

1.19.8.20 DATE

Operating Condition

Syntax: SET DATE CENTURY value
SET DATE YEAR value
SET DATE MM/DD/YY (date sequence and format)
SET DATE SEQ MMDDYY (date sequence)
SET DATE FOR MM/DD/YY (date format)

SET DATE sets the date sequence for entry, and format for display. A valid date can have up to 30 characters. R:BASE stores the setting with the database.

Use the SET DATE CENTURY *value* command to set the default century (the first two digits of a four-digit year). For example, if you enter a two-digit year and you want it to default to the twenty-first century, enter the following command:

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```
SET DATE CENTURY 20
```

A year such as "25" would be stored as "2025."

Use the SET DATE YEAR *value* command to have two default centuries for dates entered, depending on the year. All years from 00 to (YEAR *value*-1) are stored with the next century (CENTURY *value*+1), and all years from *value* to 99 are stored with the default century (CENTURY *value*). For example, you can have all dates from the year 50 to 99 default to the twentieth century, and all dates from 00 to 49 default to the twenty-first century by entering the following commands:

```
SET DATE CENTURY 19
SET DATE YEAR 50
```

The SET DATE CENTURY 19 command sets the default century to 19. The SET DATE YEAR 50 command stores all years from 50 to 99 with the default century, 19. All dates from 0 to 49 are stored with the next century, 20. Therefore, years entered from 50 to 99 are stored as 1950 to 1999, and years entered from 00 to 49 are stored as 2000 to 2049.

Note: The DATE CENTURY and DATE YEAR options can only be used when the date format and sequence options are set to the defaults (SET DATE FOR MM/DD/YY and SET SEQ MMDDYY).

R:BASE accepts a date between January 1, 3999 BC and December 31, 9999 AD. You can set the date sequence and format separately. R:BASE displays the date based on the format. When setting the format to display numerals for the month, day, and year, use a separator such as the slash (/), hyphen (-), comma (,) or space (blank). For example, if you set the date format to MM/DD/YY and enter 061193, R:BASE displays 06/11/93.

You can also include text for the weekday and month in the date format to a maximum of 30 characters. Include WWW for a three-letter day abbreviation, WWW+ for the full day name, MMM for a three-letter month abbreviation, and MMM+ for the full month name. If the date format contains spaces or commas, enclose the format in quotes. For example, if the special character for QUOTES is set to the R:BASE default ('), the format 'MMM DD, YYYY CC' displays Jun 11, 1993 AD.

If you use YY in the date format, R:BASE displays only the last two digits of the year. To view dates in other centuries, use a date format with a four-digit year such as 'MM DD, YYYY'. If you use BC dates, add CC to the format. Dates entered with BC are shown with BC; otherwise, the date is shown with AD. For example, you could use the sequence MMDDYY and the format 'MMM DD, YYYY CC' to accept and display BC dates. If you enter '06 11 93BC,' R:BASE displays Jun 11, 0093 BC.

Example: Valid date formats, using June 11, 1993

Date Format	Display
'MMM+ DD' MM/YY	June 11 06/93
'WWW the DD' 'WWW+, MMM+ DD, YYYY CC'	Sun the 11 Sunday, June 11, 1993 AD

You can omit the SEQ and FOR keywords to set both sequence and format in a single SET DATE command. For example, enter SET DATE MM/DD/YYYY to set both date sequence and format to a four-digit year.

Enter the date in any form as long as the sequence of M's, D's, Y's, and C's are in the same order defined for the date sequence. The display, however, is always exactly as defined by the DATE format.

If, for example, you set the date sequence to a four-digit year with SET DATE SEQ MMDDYYYY, set the date format to a two-digit year with SET DATE FOR MM/DD/YY, and later enter a two-digit year, R:BASE will store and might display a date you do not expect. As the following table shows, if you enter 06/11/93, R:BASE stores the date as 06/11/0093 and displays 06/11/93.

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How R:BASE stores and displays dates:

DATE Sequence	Date Entered	Date Stored
MMDDYYYY	6/11/94	06/11/0094
MMDDYY	6/11/0094	06/11/1994
MMYY	6/11	06/01/1994
MMDD	6/11	06/11/1994
DDYY	6/11	01/06/1911
DDYY	11/94	01/11/1994

DATE Format (2-digit Year)	DATE Format (4-digit Year)
06/11/94	06/11/0094
06/11/94	06/11/1994
06/01/94	06/11/1994
06/11/94	06/11/1994
01/06/11	01/06/1911
01/11/94	01/11/1994

If the sequence is set to a four-digit year and the format is set to a two-digit year, R:BASE stores the date you enter, such as 06/11/95, as a four-digit year. As a result, if you use a WHERE clause to display rows that have dates greater than 06/11/95, R:BASE returns all rows greater than 06/11/0095.

The DATE format can affect date functions. For best results, set the format to the default MM/DD/YY and then use a date function.

1.19.8.21 DEBUG

Operating Condition

Syntax: SET DEBUG ON/OFF

Default: OFF

You can use SET DEBUG as follows:

1. Precede any R:BASE command you want to control with the DEBUG modifier in a command file.
2. Set DEBUG on to have R:BASE run the command; set DEBUG off to have R:BASE ignore the command.

1.19.8.22 DELIMIT

Special Character

Separates a character, string, or items in a list used in commands. Also used to separate repeatable parts of a command.

Syntax: SET DELIMIT=NULL
SET DELIMIT=char
(Use NULL to disable the special character.)

Default: ,

1.19.8.23 ECHO

Operating Condition

Syntax: SET ECHO ON/OFF

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Default: OFF

SET ECHO displays or suppresses commands as they are processed from the current ASCII input device. Specify on or ECHO to display commands; specify ECHO off or NOECHO to turn off the command display.

Use SET ECHO as a debugging technique as you develop a command file. With ECHO set on, you can see the commands as they are processed when you run a command file. SET ECHO works only when the command file is an ASCII file; it will not display commands that were run from a binary procedure file.

Enter a SET ECHO ON command at the beginning of the program. Then, when the program runs, R:BASE displays each command as it is interpreted and, if needed, runs it. Sometimes the commands scroll on the screen faster than you can read, especially if they are read by R:BASE but not run. You can temporarily stop the display by pressing [Ctrl]+[Break], which stops the file from running, and restart it by pressing [Enter], or stop completely by pressing [Esc]. Set ECHO off to suppress command display.

Even more useful, you can direct output to a printer or a file before you set ECHO to on. Then, when the command file runs, the commands and any errors are saved either in printed form or in a file you can look at.

When R:BASE runs the commands below in an ASCII file, you see the commands on lines two, three, and four displayed at the top of the screen and the message displayed on line 10 beginning at column 20.

```
CLS
SET ECHO ON
WRITE 'This is a message' at 10 20
SET ECHO OFF
```

1.19.8.24 EDITOR

Environment Setting

Syntax: SET EDITOR RBEDIT/filespec

Default: RBEDIT

The SET EDITOR setting allows you to specify the internal R:BASE Editor or some other text editor as your default text editor for R:BASE command files.

For example, if you wish to alter the default text editor to the external R:BASE Editor program, you would use the following syntax:

```
SET EDITOR C:\RBTI\RBEdit\RBEdit.exe
```

1.19.8.25 EOFCHAR

Operating Condition

Syntax: SET EOFCHAR ON/OFF

Default: ON

If EOFCHAR is set OFF, a control-Z character will not be appended to the end of output files.

1.19.8.26 EQNULL

Operating Condition

Syntax: SET EQNULL ON/OFF

Default: OFF

This Command determines whether or not NULL = NULL.

Compare these code samples:

```
SET VAR v1 TEXT = NULL
```

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```
SET VAR v2 TEXT = NULL


SET EQNULL OFF
IF v1 = .v2 THEN
  -- will not be a hit
ENDIF
IF v1 <> .v2 THEN
   -- will not be a hit
ENDIF
IF v1 <> 'This' THEN
   -- will not be a hit (it used to be before this fix)
ENDIF


SET EQNULL ON
IF v1 = .v2 THEN
   -- will be a hit
ENDIF
IF v1 <> .v2 THEN
   -- will not be a hit
ENDIF
IF v1 <> 'This' THEN
   -- will be a hit
ENDIF
```

Before this fix, the comparison "IF v1 <> 'This' THEN" would be a hit with EQNULL set ON or FALSE when it should only be a hit when EQNULL is ON. This means that now "IF (.v1) <> 'This' THEN" and "IF v1 <> 'This' THEN" will both process the same way. In the past they would be different because of this problem.

In your code if you want the comparison of a NULL variable and a non-NULL constant to be a hit then you should run with EQNULL set ON.

1.19.8.27 ERROR MESSAGE

Special Condition

Syntax: SET ERROR MESSAGE Error# ON/OFF

Default: ON

SET ERROR MESSAGE Error# ON/OFF displays or suppresses a particular error message when a system error occurs.

You can selectively turn OFF any -ERROR- message(s) in your command file (very handy for debugging) by doing the following:

```
SET ERROR MESSAGE Error# OFF
```

To turn it back ON:

```
SET ERROR MESSAGE Error# ON
```

For example, to not see the:

-WARNING- No rows exist or the specified clause.

You can do the following:

```
SET ERROR MESSAGE 2059 OFF
```

This new feature has a limit of 50 -ERROR- numbers to set OFF and each one requires a separate command.

NOTE: Each turned OFF message must be turned back ON before turning it OFF again. If not, you'll get the error message.

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1.19.8.28 ERROR MESSAGES

Operating Condition

Syntax: SET ERROR MESSAGES ON/OFF

Default: ON

SET ERROR MESSAGES displays or suppresses an error message when a system error occurs. Specify off to suppress error and rule violation messages.

1.19.8.29 ERROR VARIABLE

Operating Condition

Syntax: SET ERROR VARIABLE varname
SET ERROR VARIABLE ON/OFF

SET ERROR VARIABLE defines an error variable to hold error message numbers. The variable name (*varname*) defines the variable R:BASE uses to hold R:BASE error codes. If set to off (the default), error variable processing is removed.

When an error occurs in a command file, R:BASE normally displays a system error message. SET ERROR enables a programmer to anticipate errors in command and procedure files and program the file to keep running even when an error occurs.
You must always set ERROR VARIABLE off, rather than clearing it with the CLEAR VARIABLES command.

R:BASE resets the error variable to zero as each command is successfully run. If an error occurs, the error variable is set to the error number value. To determine the error condition for any line, you must immediately check the value of the error variable or capture the error value in a global variable for later examination.

By checking the error variable for a non-zero value, you can detect (or trap) many errors and run a sequence of error-handling commands such as an error-recovery procedure. Once the error number is captured in an error variable, you can write error-handling command files to control a program's flow based on these errors (error values).

The error variable value is set for each command that is run, not each line in a command file. If you have placed multiple commands on a line, the last command's error value is placed in the error variable. A similar situation occurs for multi-line commands such as the subcommands you can use when loading a data block with the LOAD command. For example, a data block loaded with the LOAD command leaves the error variable with a value of zero because the END command runs successfully, whether or not the data is actually loaded.

Rule violations do not set the error variable to a non-zero value; they are not the same as errors recognized by R:BASE.

The command below defines *errvar* as the current error variable:

```
SET ERROR VARIABLE errvar
```

When a command is run, R:BASE sets the error variable *errvar* to the error code before anything else happens. The following command lines illustrate how to use *errvar* in a command file.

```
LABEL tryagain
FILLIN vdbname USING 'Enter the database name: '
CONNECT .vdbname
IF errvar <> 0 THEN
   WRITE 'Database not found.'
      GOTO tryagain
ENDIF
```

The first command establishes a label to return to, the second requests that the user enter the name of a database, and the third opens the specified database using the global variable defined by the FILLIN command.

The IF...ENDIF structure checks the error variable value. If the value is not zero (that is, if the database was not opened successfully), then it sends a message to the screen and passes control to the label *tryagain* so that the user is asked to enter the database name again.

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You can also write a separate command file specifically designed to handle a variety of errors. In this case, the above code might look like this:

```
FILLIN vdbname USING 'Enter the database name: '
CONNECT .vdbname
SET VARIABLE verr1 = .errvar
IF verr1 <> 0 THEN
       RUN errhandl.cmd USING .verr1
ENDIF
```

This series of commands captures the error value in the global variable *verr1* so that it can be passed through the USING clause of the RUN command to an error-handling routine. The routine itself determines the nature of the error and how to take care of the problem.

You can use the WHENEVER command to run status-checking routines for SQL commands. WHENEVER uses the special R:BASE variable SQLCODE.

1.19.8.30 ESCAPE

Operating Condition

Syntax: SET ESCAPE ON/OFF

Default: ON

SET ESCAPE allows you to use [Ctrl]+[Break] to escape or abort command file processing or database file access. Specify on to enable users to abort processing in the middle of command files, WHILE loops, and database access. Specify off to prevent users from prematurely aborting a command file or an application such as when R:BASE runs processes that create new tables (such as the relational commands) from within a command.

1.19.8.31 EXPLODE

Operating Condition

Syntax: SET EXPLODE ON/OFF

Default: OFF

Controls how DOS dialogs are displayed.

Used with R:BASE for DOS only. When EXPLODE is set on, dialog boxes are displayed in full size instantly. When EXPLODE is set off, dialog boxes are displayed in an expanding fashion from the center.

1.19.8.32 FASTFK

Operating Condition

Syntax: SET FASTFK ON/OFF

Default: OFF

This setting, when on, permits R:BASE to operate a foreign key index using a condensed index for maintaining that foreign key. If the foreign key is not used for retrieving data or linking columns, a complete index is unnecessary and actually inhibits speed. When set to on, R:BASE creates a condensed index for any existing foreign keys.

To switch to condensed indexes on existing foreign keys, you need to run a PACK, PACK KEYS, or RELOAD command with FASTFK on; these actions cause R:BASE to rebuild the database with condensed foreign key indexes.

Keep in mind, however, that you might need complete indexes on foreign keys where such indexes are needed for retrieving data. Retaining a separate index on columns used in foreign keys that link tables is preferred. Indexes are also needed on foreign keys that you use for selecting column values; therefore, use the CREATE INDEX command to explicitly create indexes for columns used in foreign keys in a database where FASTFK is

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set on.

The command SHOW FASTFK displays the FASTFK state and whether FASTFK is operational in the current database. For example:

```
SHOW FASTFK
(FASTFK ) ON Use fast Foreign Key (FK) structures on rebuild.
OFF FASTFK setting for current database
```

Once you rebuild the keys in a database with the FASTFK setting on, SHOW FASTFK displays the following:

```
SHOW FASTFK
(FASTFK ) ON Use fast Foreign Key (FK) structures on rebuild
ON FASTFK setting for current database
```

1.19.8.33 FASTLOCK

Operating Condition

Syntax: SET FASTLOCK ON/OFF

Mode: Multi-user and STATICDB

Set FASTLOCK on for faster multi-user performance while modifying data. With FASTLOCK on, R:BASE does not place a table lock on the table, allowing for greater throughput. A table lock is only needed to prevent structure changes.

FASTLOCK can only be set on when STATICDB is set on, and both FASTLOCK and STATICDB must be set on before the database is connected. Like other R:BASE database modes (SET MULTI and SET STATICDB), FASTLOCK requires all users to be connected with the same setting.

The following command lines set STATICDB and FASTLOCK correctly.

```
SET STATICDB ON
SET FASTLOCK ON
CONNECT concomp
```

1.19.8.34 FEEDBACK

Operating Condition

Syntax: SET FEEDBACK ON/OFF

Default: OFF

This setting displays processing results when either calculating or editing rows. With this setting on, R:BASE displays the number of rows processed and the elapsed time to completion in the status bar. Displays occur while in the Data Browser, when printing reports and labels, and when using certain R:BASE commands including:

1. ALTER TABLE
2. COMPUTE
3. CREATE INDEX
4. CROSSTAB
5. DELETE
6. INSERT
7. The data transfer for the JOIN of two tables
8. LOAD
9. The data transfer for a PROJECT command
10. SELECT
11. SORTing a huge record set
12. the data transfer for a SUBTRACT of two tables
13. TALLY
14. The R:BASE UNION command

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1.19.8.35 FILES

Operating Condition

Syntax: SET FILES value

Range: 1 to 255 files

Default: 5

SET FILES sets the maximum number of files that can be open at a time. The maximum, depending on available memory, is 255.

1.19.8.36 FIXED

Operating Condition

Syntax: SET FIXED ON/OFF

Default: ON

Controls column width in SELECT

This controls whether R:BASE will automatically shrink column widths in SELECT commands.

1.19.8.37 FONT

Operating Condition

Syntax: SET FONT keyword

Default: OEM

The FONT setting changes the font used in the "R> Prompt" window.

You can choose from three settings, which are mono-spaced stock fonts used in Windows:

- System--fonts compatible with the system font in Windows.
- OEM--an IBM PC character set for IBM computers.
- Ansi--a fixed-pitch font based on the Windows character set. A Courier font is typically used.

1.19.8.38 HEADINGS

Operating Condition

Syntax: SET HEADINGS ON/OFF

Default: ON

SET HEADINGS displays columns with or without headings when you enter the SELECT and TALLY commands.

1.19.8.39 IDQUOTES

Operating Condition

Syntax: SET IDQUOTES

Default: Turbo V-8: Back Quote (`) Prior: NULL

Controls the character that is used to set off object names.

IDQUOTES sets the character for enclosing object names, such as column or table names, in R:BASE and ODBC commands. This is especially critical when using ODBC to connect to a non-R:BASE Database that allows characters such as spaces in Column or Table naes. This is also critical to SOME internal R:BASE processing.

Note: Older databases may default to NULL which is not ODBC or SQL compliant.

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In general, setting IDQUOTES will have no effect on legacy applications as they will not, in most cases, know that this exists. The one exception to this is UNLOADing data from a database that has IDQUOTES set, such as an upgraded R:BASE 2000 database, and importing into a Legacy database. If you are attempting to do this you should set your IDQUOTES to NULL.

The Back Quote is the Reverse Single Quote that is located, on most standard US Keyboards, under the Tilde (~) character and to the left of the numeral 1.

1.19.8.40 INDEXONLY

Operating Condition

Syntax: SET INDEXONLY ON/OFF

Default: ON

Sets a flag to disable "index only" select retrievals.

1.19.8.41 INSERT

Operating Condition

Syntax: SET INSERT ON/OFF

Default: ON

SET INSERT turns insert/overwrite on or off. Set INSERT on to use either the insert or overwrite mode. Pressing [Ins] when you have specified INSERT to be on toggles you between insert mode and overwrite mode. In insert mode, the cursor indicator is larger. Press the space bar to insert a space. Set INSERT off to use only the overwrite mode; the cursor indicator is smaller.

1.19.8.42 INTERVAL

Operating Condition

Syntax: SET INTERVAL value

Default: 5

Range: 0 to 9 tenths of a second

Mode: Multi-user

The SET INTERVAL command specifies the time to elapse before R:BASE retries the command that caused a conflict within the waiting period (see WAIT).

1.19.8.43 KEYMAP

Operating Condition

Syntax: SET KEYMAP keyname OFF
SET KEYMAP ALL OFF
SET KEYMAP keyname=remapped keys

You can define key maps with a single statement, which is similar to defining key maps using the **Define a Keymap** option from the **Utilities** menu. This enables you to define key maps in command files. For example:

```
SET KEYMAP [SHIFT][F3] TO [F2]
SET KEYMAP [ALT]M= [F2]
```

To return to the original key mapping, enter the following:

```
SET KEYMAP [ALT]M OFF
```

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1.19.8.44 LAYOUT

Operating Condition

Syntax: SET LAYOUT ON/OFF

Default: ON

SET LAYOUT switches saving layouts on or off. When LAYOUT is set on, R:BASE saves the layout of data displayed in the Data Browser when you exit. R:BASE saves layouts for single tables only. The next time you display the table with the Data Browser, the layout of data will be as you previously arranged it.

When LAYOUT is set off, R:BASE does not save the layout of data and ignores any saved layouts. If you want to see a table displayed in its default format without changing the saved layout for it, set LAYOUT off before displaying the table.

1.19.8.45 LINEEND

Special Character

Syntax: SET LINEEND value

Default: [Alt] + [0254]

You can set an end of line ASCII character for NOTE and TEXT fields in forms, reports and the Data Browser. When you insert the character in those fields and then zoom in by pressing [SHIFT]+[F2] or print a report, you see lines break as established by the line end character. The default character is ASCII value 0254.

Note: If the line end character has been set to the currency character, R:BASE changes it to ASCII value 0254 when you connect to a database.

1.19.8.46 LINES

Operating Condition

Syntax: SET LINES value

Range: 0 to 32,767 lines

Default: 20

SET LINES sets the number of lines per page or screen when you use the CROSSTAB, DISPLAY, DIR, LIST, OUTPUT, SELECT, LIST RULES, SHOW VARIABLES, TALLY, or TYPE commands. LINES does not affect report generation; you can define the number of lines on a page for each report. Setting LINES to zero displays lines as continuous output.

1.19.8.47 LOCK

Operating Condition

Syntax: SET LOCK tbllist ON/OFF

Default: OFF

Mode: Multi-user

SET LOCK manually sets locks on or removes locks from tables specified in the list of tables (*tbllist*). Use the command whenever you want a procedure or transaction to have exclusive use of tables. Setting LOCK to off disables locks for each of the tables in *tbllist*.

In command or procedure files it is sometimes necessary to prevent access to a table or group of tables while certain operations are performed. Although R:BASE handles most locks automatically according to the command that is running, at times you might want more control over table locking. SET LOCK provides you explicit control over access to tables during processing by the commands that retrieve and update data.

If R:BASE cannot lock all the tables listed after SET LOCK, it issues a message saying that not all tables are available to be locked. R:BASE does not lock any tables unless it can lock all tables listed, and it sets an error

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code when SET LOCK fails.

Group the tables used into one SET LOCK command to avoid tying up needed resources. Be sure to issue the SET LOCK OFF command to remove the locks after processing is complete. Locks set with this command are cumulative. You need to issue one SET LOCK OFF command for each SET LOCK ON command that you have entered for a given table. The user who set the table locks must issue SET LOCK OFF; otherwise no other user can access the locked tables until the first user exits the database.

LIST displays locked tables in reverse video. With LIST TABLE, on the other hand, the type of multi-user locks is displayed. Only the highest priority lock is displayed for each table.

LIST TABLE tells you whether the lock is an edit, row, cursor, local, or remote lock. Edit, row, and cursor locks are set by R:BASE as part of its internal concurrency control. A local lock is set by a SET LOCK command issued at the workstation that issued the LIST TABLE command. And a remote lock is set by a command that obtains a table lock and is issued from a workstation other than the workstation that issued the LIST TABLE command.

The first command line below sets an exclusive lock on the *customer* table. The second command line sets additional exclusive locks on the *transmaster* and *transdetail* tables. These exclusive locks prevent access to the three tables by any user other than the one who issued the SET LOCK ON commands. The SET LOCK OFF command removes the locks on all three tables.

```
SET LOCK customer ON
SET LOCK transmaster, transdetail ON
SET LOCK customer, transmaster, transdetail OFF
```

1.19.8.48 LOOKUP

Operating Condition

Syntax: SET LOOKUP value

Default: 5

SET LOOKUP tells R:BASE how many form look-up expressions to store in memory. Storing a look-up expression in memory enables R:BASE to display data more quickly in a form. The number of look-up expressions you can specify depends on the memory available in your computer. R:BASE needs approximately 500 bytes of RAM for each look-up expression. SET LOOKUP does not affect master look-up expressions or pop-up menus in a form.

For example, when your form contains 10 look-up expressions and LOOKUP is set to 5, only the first five look-up expressions are stored in memory. R:BASE must retrieve/reevaluate the remaining look-up expressions. So that the form works faster, you can set LOOKUP to a higher value to store more look-up expressions in memory.

1.19.8.49 MANOPT

Operating Condition

Syntax: SET MANOPT ON/OFF

Default: OFF

MANOPT disables the automatic table-order optimization that R:BASE performs when running queries. This gives maximum control over the order in which columns and tables are assembled in response to a query. With MANOPT on, R:BASE uses the order of the tables in the FROM clause and the order of the columns in the column list of the SELECT clause to construct the query.

1.19.8.50 MANY

Special Character

Sets the character for the many wildcard for R:BASE commands and clauses.

Syntax: SET MANY=NULL
SET MANY=char
(Use NULL to disable the special character.)

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Default: %

1.19.8.51 MAXTRANS

Operating Condition

Syntax: SET MAXTRANS value

Range: 1 to 255

Default: 10

Mode: Transaction Processing

SET MAXTRANS specifies the maximum number of users who can have the same database open concurrently with transaction processing on.

Only the first user to connect to a closed database can enter the MAXTRANS setting for that database. Enter the command before connecting to the database. If anyone else already has the database open, R:BASE displays a message telling you that your SET MAXTRANS command will have no effect on the database.

MAXTRANS can affect system performance. The higher the MAXTRANS setting, the more overhead the system must carry to process transactions across the network. Also, the more users who are actually entering transactions, the slower the system operates.

1.19.8.52 MDI

Operating Condition

Syntax: SET MDI ON/OFF

Default: ON

Use the SET MDI command to launch forms from the Database Explorer, toolbar, or the R> prompt as MDI windows.

1.19.8.53 MESSAGES

Operating Condition

Syntax: SET MESSAGES ON/OFF

Default: ON

SET MESSAGES either displays or suppresses system messages. Set MESSAGES to off when ERROR is set on to display only error messages.

1.19.8.54 MIRROR

Operating Condition

Syntax: SET MIRROR <path>

Syntax: SET MIRROR OFF/DELETE

Default: OFF

SET MIRROR <path> maintains a duplicate copy of the database. This duplicate copy is created and maintained in the directory designated in *path.* The duplicate database will have the same name, therefore *path* must designate a backup directory. With this setting, all modifcations to the original database are duplicated in the mirrored database.Be sure all users are mapped to the save drive letters. SET MIRROR OFF turns off mirroring of the database; SET MIRROR DELETE turns off mirroring and then deletes the duplicate database.

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1.19.8.55 MOUSE

Operating Condition

Syntax: SET MOUSE -1 to 100

Default: 30

Controls how DOS dialogs are displayed.

Used with R:BASE for DOS only. When EXPLODE is set on, dialog boxes are displayed in full size instantly. When EXPLODE is set off, dialog boxes are displayed in an expanding fashion from the center.

Controls mouse sensitivity

Used with R:BASE for DOS only. SET MOUSE controls the period of time in hundreths of a second in which the mouse registers a double click. Setting the time too low makes it impossible to double-click the mouse. A setting of -1 disables the mouse. To set the mouse speed each time you use R:BASE, include the SET MOUSE command in a startup file.

1.19.8.56 MULTI

Operating Condition

Syntax: SET MULTI ON/OFF

Default: OFF

SET MULTI sets multi-user capability on or off when you next connect a database. This setting must be used while you are disconnected from a database.

1.19.8.57 NAME

Operating Condition

Syntax: SET NAME network identification

Default: USER********** (USER and 14 numerals for date and time)

Mode: Multi-user

SET NAME specifies a network identification for your system when you start R:BASE. NAME is text and can contain spaces.

NAME must be saved to the RBENGINE8.CFG file.

1.19.8.58 NAMEWIDTH

Operating Condition

Syntax: SET NAMEWIDTH 0 to 100

Default: 18

SET NAMEWIDTH controls the name width of a table, column, form, report, label, etc. that R:BASE directs to the printer, screen, or file when using the BACKUP, COMPUTE, CROSSTAB, DISPLAY, SELECT, TYPE, UNLOAD, or WRITE commands. Do not set the width to a number greater than the number of characters your printer can fit on a line; a typical page and computer screen display 80 characters. WIDTH does not affect report generation; each report defines the width of a data line.

1.19.8.59 NOTE_PAD

Operating Condition

Syntax: SET NOTE_PAD

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Range: 0 to 100 (percent)

Default: 10

This setting allocates an additional percentage of storage space in NOTE columns to accommodate value increases (additional text), so that rows don't need to move to different disk locations. This increases performance by reducing disk reading.

The default setting is 10% of the row size, and can be set from 0 to 100%. Setting NOTE_PAD to 0% disables padding.

1.19.8.60 NULL

Special Character

Syntax: SET NULL -0- (1 to 4 characters)

Default: -0-

SET NULL sets the display symbol for null. You can use up to four characters. If you set null to a blank space, R:BASE does not display rows composed entirely of nulls with the SELECT command.R:BASE stores the setting with the database.

If you enter the following command, R:BASE displays a slash in the absence of data:

```
SET NULL /
```

1.19.8.61 ONELINE

Operating Condition

Syntax: SET ONELINE ON/OFF

Default: OFF

Controls text and note field wrapping.

When set to ON NOTE and TEXT fields will never wrap to the next line in Reports and SELECTS. Instead they will be truncated at the end of the column.

1.19.8.62 PAGEMODE

Operating Condition

Syntax: SET PAGEMODE ON/OFF

Default: OFF

Mode: Single- or Multi-user

Use PAGEMODE to design reports through a custom R:BASE program. With PAGEMODE on, you create a page of a report in memory, then send the report to a printer or file. PAGEMODE is an alternative method to creating reports through the Report Designer; the two methods work in different ways.

The WRITE, SHOW VARIABLE, and SELECT commands are used to "display" data on a virtual page. To determine the row location of the cursor on the virtual page, use the ISTAT function with the keyword PAGEROW after a SHOW VARIABLE command. (ISTAT('*pagerow*') does not work with the WRITE command.) The DECLARE CURSOR command is usually used for retrieving data for printing. You control form feeds (new pages) in your program by using the NEWPAGE or OUTPUT SCREEN command.

At the beginning of your program, set both SET LINES and SET WIDTH to accommodate the report's size. Then set PAGEMODE to on. You cannot write to a line longer than the current LINES setting or wider than the current WIDTH setting. You also cannot change the LINES and WIDTH setting without setting PAGEMODE to off first.

To send printer control codes to a printer, use the CHAR function to define a variable containing the printer

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control codes. Then, that variable is sent to the printer using the SHOW VARIABLE or WRITE command. For example,

```
SET VARIABLE vLandscape = (CHAR(27) + CHAR+
                          (38) + CHAR(108) + CHAR+
                          (49) + CHAR(79))
WRITE .vLandscape
```

The printer control codes can be found in the user's manual for your printer.
PAGEMODE allows you to:

Create reports wider than 255 columns and longer than 84 lines.

- Produce multi-column reports.
- Design different styles for the pages of the report, such as a report with a personalized letter as the first page.
- Create reports from tables with many-to-many relationships that have two or more detail sections.
- Format odd and even pages differently throughout a report.
- Print headers and footers only on the last page or first page.
- Customize reports so break headers and footers are located on the same page.
- Place a different break header on every page or the same break header on every page.

The following command line sets PAGEMODE on:

```
SET PAGEMODE ON
```

1.19.8.63 PASSTHROUGH

Operating Condition

Syntax: SET PASSTHROUGH ON/OFF

Default: OFF

When PASSTHROUGH is set on, SELECT statements are sent directly to the foreign data source and are not processed by R:BASE. Set PASSTHROUGH on when you use special syntax, such as non-SQL syntax, or syntax that is not supported by R:BASE.

1.19.8.64 PLUS

Special Character

Sets the character for the command line continuation character.

Syntax: SET PLUS=NULL

Syntax: SET PLUS=char
(Use NULL to disable the special character.)

Default: +

1.19.8.65 POSFIXED

Operating Condition

Syntax: SET POSFIXED ON/OFF

Default: OFF

Controls how the AT parameter works.

When you use *AT row,col* to position dialog, pause and other windows, the actual position depends on the current font size of the R> Prompt window. If you always want the calculation to use the 8x12 size of the OEM font then set POSFIXED to ON. If you want the dimensions of the current font to be used then set POSFIXED to OFF.

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1.19.8.66 PRINTER

Operating Condition

Syntax: SET PRINTER printername

Controls the DOS printer

Used with R:BASE for DOS only. SET PRINTER specifies the printer for your system. The configuration file reads the printer file and sets the printer values as variables for the printer.

```
SET PRINTER epson.prd
```

This command specifies an Epson printer as the printer file named in the configuration file. The extension .PRD is not required.

1.19.8.67 PROCEDURE

Stored Procedures & Triggers

Options

ON
Enables a lock

OFF
Disables a lock set by SET PROCEDURE or GET LOCK.

About the SET PROCEDURE Command

The SET PROCEDURE command locks a procedure so it can be replaced. It works like the GET LOCK command without retrieving the stored procedure into an ASCII file. ON sets the lock; OFF releases the lock placed by the SET PROCEDURE or the GET command.

When a procedure is locked, only the user placing the lock can replace the procedure or remove the lock. The NAME setting is used for identification of the user.

1.19.8.68 PROGRESS

Operating Condition

Syntax: SET PROGRESS ON/OFF

Default: OFF

This setting displays processing results when building indexes, packing or reloading a database. With this setting on, R:BASE displays the process being performed, the overall progress, and the completion percentage of each.

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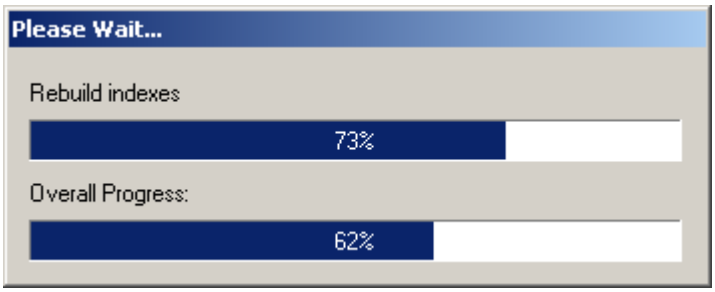

1.19.8.69 QUALCOLS

Operating Condition

Syntax: SET QUALCOLS (2 or 10)

Mode: Multi-user

Default: 10

Use QUALCOLS to choose page or row locking. The settings for QUALCOLS are:

- **2 -** R:BASE uses a fast row-locking method. When QUALCOLS is set to 2, you can lock rows of data instead of locking a page of data. You increase multi-user performance when QUALCOLS is set to 2 and STATICDB and FASTLOCK are on.
- **10 -** R:BASE uses page locking. When QUALCOLS is set to 10 and two or more users are updating rows within the same page of data, R:BASE only lets the first user update rows--the other users are locked out until the first user's update has been completed.

Note: QUALCOLS is not the same as SET ROWLOCKS. ROWLOCKS and QUALCOLS can be set on at the same time.

The following command line sets QUALCOLS to 2:

```
SET QUALCOLS 2
```

1.19.8.70 QUOTES

Special Character

Sets the character for quotation marks.This character is used around all text strings.

Syntax: SET QUOTES=NULL
SET QUOTES=char
(Use NULL to disable the special character.)

Default: '

1.19.8.71 RBADMIN

Operating Condition

Syntax: SET RBADMIN ON/OFF

Default: OFF

The RBADMIN setting is used for RBAdmin, the R:BASE Network Database Administrator utility.

In order for RBAdmin to disconnect users from the database, this setting must be set to ON. All users, whether their setting for RBADMIN is ON or OFF will be seen within RBAdmin. It is recommended that this setting be added to a database application startup file for ease of implementation with RBAdmin. When RBADMIN is set ON and connections are made to the database, a hidden binary file will be created in the database directory. The name of the file is unique to each database; consisting of "RBAdmin_" + dbname + ".bin". The binary file

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for the ConComp sample database, with RBADMIN set ON, would be "RBAdmin_ConComp.bin".

1.19.8.72 RECYCLE

Operating Condition

Syntax: SET RECYCLE ON/OFF

Default: OFF

If RECYCLE is ON, when adding new rows require a new block from file 2, a new routine is called which searches for a suitable unused block rather than always adding a new block to the end of the file

The criteria for such a block are:
- No other table uses it
- The block is further down the file than the current last block of the table

PROS
If a suitable block is found, the block will be allocated to the table requiring the additional space and File 2 will not grow as a result of this allocation. The main benefit of using RECYCLE is that the growth of File 2 will be minimized. Over time this can add up to significant savings on disk space and backup media.

CONS
Since a new routine is being called to search for a suitable block, there will be a slight performance penalty. The penalty will only be incurred when an INSERT requires a new block.

Considerations
For RECYCLE to be effective, all users should have the setting ON. Do this in the RBENGINE8.CFG configuration file. RECYCLE will only have an impact when used in conjunction with PACK TABLE. Dead space in File 2 must first be freed up before it can be reused. RECYCLE will not be of benefit if your database does not end up with lots of deleted rows over time, providing the opportunity to recover dead space.

Conclusions
Periodic use of PACK TABLE tablename in conjunction with RECYCLE ON will retard File 2 growth and reduce fragmentation. Use of PACK INDEX FOR tablename will keep the index statistics fresh and query optimization results maximized. The need for planned downtime will be reduced.

1.19.8.73 REFRESH

Operating Condition

Syntax: SET REFRESH value

Range: 10 to 65535 seconds

Default: 0

Mode: Multi-user

SET REFRESH specifies how often R:BASE refreshes the form or the Data Browser, and displays current data. It also automatically recalculates lower tables in forms. Specify zero to turn the setting off. When REFRESH is set off, R:BASE tells you of edits when you save or delete a row.

1.19.8.74 REVERSE

Operating Condition

Syntax: SET REVERSE ON/OFF

Default: ON

SET REVERSE ON displays data-entry fields in reverse video in forms. R:BASE stores the setting with the database.

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1.19.8.75 ROWLOCKS

Operating Condition

Syntax: SET ROWLOCKS ON/OFF

Default: ON

Mode: Multi-user

R:BASE uses row-level locking in a multi-user environment. This command causes R:BASE to lock only the required row for the current command instead of locking the entire table. For example, if multiple users are modifying the same table using the UPDATE command, R:BASE locks only the rows affected by each UPDATE. When ROWLOCKS is set off, R:BASE sets table locks during each UPDATE, regardless of how many rows are affected.

1.19.8.76 RULES

Operating Condition

Syntax: SET RULES ON/OFF

Default: ON

SET RULES determines whether R:BASE checks data against all existing rules during data entry and modification when you use the EDIT, EDIT USING, ENTER, INSERT, LOAD, or UPDATE commands, or the import/export utility.

Set RULES off to direct R:BASE to ignore all rules when rules are not defined for a table, you are archiving data, or you are transferring data into another database. This speeds up processing because R:BASE normally checks the SYS_RULES table even if no rules are defined for a table. R:BASE does, however, check each entry against the data type of the column regardless of the RULES setting. If the database is protected by a database owner's user identifier, R:BASE does not accept the SET RULES command until you enter the owner's user identifier.

1.19.8.77 SCRATCH

Operating Condition

Syntax: SET SCRATCH ON / OFF / TMP / <path>

Default: ON

SET SCRATCH sets the drive and directory location for temporary files created when sorting data.

- SET SCRATCH ON to store temporary sort files on the database drive and directory.
- SET SCRATCH OFF to store temporary files on the current drive and directory.
- SET SCRATCH TMP to store temporary files in the Windows TEMP directory.
- SET SCRATCH <path> provides the path to the location where temporary files are stored.

You can use the SCRATCH command in the RBENGINE8.CFG file so that the setting is made prior to launching R:BASE.

About SCRATCH TMP

By default, R:BASE configuration files (RBEngine.CFG, RBEngine75.CFG, RBEngine76.CFG, RBEngine8.CFG, OTERRO.CFG, OTERRO35 and OTERRO8.CFG) include the TMP for SCRATCH setting.

This default will allow R:BASE or Oterro sessions to use the user's TMP environment settings for SCRATCH files on startup and eliminate all issues related to setting the SCRATCH directory and related files.

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To take advantage of this setting, use the option "SCRATCH TMP" in the appropriate R:BASE and OTERRO configuration files or use the "SET SCRATCH TMP" command in your application startup files.

1.19.8.78 SELMARGIN

Operating Condition

Syntax: SET SELMARGIN value

Range: 0 to the width of your screen

Default: 0

Use SELMARGIN to set the left margin for displaying the results of a SELECT command.
The default for SELMARGIN is 0 (zero), which sets the margin to column 2. Use SELMARGIN when an ASCII file requires a predefined position or when data has a required starting point.

Note: Setting SELMARGIN to 0 (zero) or 2 begins the left margin at column two.

1.19.8.79 SEMI

Operating Condition

Syntax: SET SEMI ON/OFF

Default: OFF

Use SEMI to set the semicolon (;) key as the command terminator instead of the [Enter] key.

When SEMI is set on, you can enter multiple command lines without a continuation symbol. Also, the semicolon runs commands created for other SQL databases, such as SQL Server.

Note: When SEMI is set on, all commands, including EXIT, must be followed with a semicolon.

The following command line sets SEMI off:

```
SET SEMI OFF;
```

1.19.8.80 SEMI (Special Character)

Special Character

Sets the character for the command separator.

Syntax: SET SEMI=NULL
SET SEMI=char
(Use NULL to disable the special character.)

Default: ;

1.19.8.81 SERVER

Operating Condition

Syntax: SET SERVER ON/OFF

Default: ON

SET SERVER sets messages from a foreign data source on or off. When SERVER is set on, messages from the foreign data source are displayed.

1.19.8.82 SHORTNAME

Operating Condition

Syntax: SET SHORTNAME ON/OFF

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Default: OFF

Alters the display format of the directory contents, where the file names are listed.

With SHORTNAME set to ON, the DIR command lists the file name, extension, size in bytes, and the date and time files were last modified, only listing the contents in the traditional format.

In the following example, the DIR command could be used to review the Help files you have placed in your R:BASE program directory (your results may vary). The display uses SHORTNAME set to ON.

```
R>dir *.CHM

 Volume in drive C is ACER
  Directory of C:\RBTI\RBG8\

APPLIC~1 CHM    2544918   5-14-08  12:02a Applications.chm
Codelock chm     149699   5-14-08  12:01a Codelock.chm
DATABR~1 CHM     655880   6-13-08   4:34p DataBrowseEdit.chm
DBEXPL~1 CHM     960100   5-13-08  11:57p DBExplorer.chm
EForms   chm    3602275   6-19-08   6:37a EForms.chm
Forms    chm    7860989   6-19-08   6:35a Forms.chm
Gateway  chm    5099517   5-14-08  12:03a Gateway.chm
Labels   chm     698008   6-19-08   6:35a Labels.chm
PLUGIN~1 CHM     829028  12-07-07   6:02p PluginPowerPack.chm
QBE      chm    1159139   5-14-08  12:05a QBE.chm
RArchive chm     289839   2-19-08   4:27p RArchive.chm
RBDefine chm     470249   5-14-08  12:00a RBDefine.chm
RBEdit   chm     560594   6-13-08   4:34p RBEdit.chm
RBG8     chm    5875651   6-19-08   4:44p RBG8.chm
RBZip    chm     618075   5-26-08   2:42p RBZip.chm
RDWFVI~1 CHM      54558   5-16-08   8:52a RDWFViewer.chm
Reports  chm     956389   6-19-08   6:38a Reports.chm
RFTPCL~1 CHM      86373  11-06-07   9:53a RFTPClient80.chm
RMail30  chm     207788   4-11-08  10:13a RMail30.chm
RPrompt  chm     120572   5-14-08  12:05a RPrompt.chm
RSPELL~1 CHM     583616  11-20-07   3:51p RSpellChecker80.chm
RZip     chm     178341   5-16-08   9:46a RZip.chm
Trace    chm     190983   5-30-08   4:28p Trace.chm
Tutorial chm    3498551   6-13-08   4:36p Tutorial.chm
          24 File(s)        37251132 bytes
          24 Dir(s)      54854406144 bytes free
```

1.19.8.83 SINGLE

Special Character

Sets the character for the single wildcard for R:BASE commands and clauses.

Syntax: SET SINGLE=NULL
SET SINGLE=char
(Use NULL to disable the special character.)

Default: _

1.19.8.84 SORT

Operating Condition

Syntax: SET SORT ON/OFF

Default: OFF

SET SORT sets the sort optimizer on or off. When set on, R:BASE sorts the minimal amount of data for large tables and recombines the sorted data with the unsorted rows using the minimum amount of disk space. Set SORT on when a sort fails.

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SORT is only to be used when displaying a column, or columns, which are not indexed. Otherwise, no results will be displayed.

1.19.8.85 SORTMENU

Operating Condition

Syntax: SET SORTMENU ON/OFF

Default: ON

SORTMENU causes all data dictionary menus to be in alphabetical ascending order, including all pop-up menus that display tables, forms, views, labels, and reports. Menus with column names and values remain unsorted in their original order.

1.19.8.86 STATICDB

Operating Condition

Syntax: SET STATICDB ON/OFF

Default: OFF

Activates a read-only schema mode. A user who first connects to a database with STATICDB set to on engages that database to operate in a read-only schema mode whereby any user must have their STATICDB setting on in order to connect to that database.

The effect of having STATICDB set on is that no schema changes can occur during that connection session.

1.19.8.87 TIME

Operating Condition

Syntax: **SET TIME SEQUENCE HHMMSS** (time sequence)
SET TIME FORMAT HH:MM:SS (time format)

Default: **SET TIME SEQUENCE HHMMSS** (time sequence)
SET TIME FORMAT HH:MM:SS (time format)

SET TIME sets the time entry sequence and output format, using up to 20 characters. Set TIME entry sequence and display format in separate commands. Use H to specify hours, M for minutes, S for seconds, and .SSS for thousandths. TIME can be specified of up to thousandths of a second. R:BASE stores the setting with the database.

The keyword SEQ (sequence) sets the entry sequence such as HHMMSS while the keyword FOR (format) sets the display format. For example, the format HH:MM:SS can display 14:30:20. R:BASE displays midnight (24:00) as 0:00. You can also include AP to display time on a 12-hour clock. In the previous example, if you change the format to HH:MM:SS AP, R:BASE displays 2:30:20 PM. If the format contains spaces or commas, enclose the format in quotes. Enter the hours, minutes, and seconds in the order SEQ specifies.

Example: Valid Time Formats using two thirty and twenty seconds, p.m.

Time Format	Displays
HH:MM:SS	14:30:20
HH:MM:SS AP	2:30:20 PM
HH/MM/SS	14/30/20
HH-MM-SS AP	2-30-20 PM

TIME can affect time functions. For best results, first set TIME to the default HH:MM:SS and then use the time functions.

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1.19.8.88 TIMEOUT

Operating Condition

Syntax: SET TIMEOUT value

Range: 0 to 1440

Default: 0

Use TIMEOUT to shut down an inactive R:BASE workstation and exit to Windows after a set amount of time passes. A countdown only begins when R:BASE is waiting for a keystroke--not while R:BASE is processing commands or while you are entering data. This is a useful feature for automatically disconnecting idle R:BASE sessions for scheduled database maintenance.

The default for TIMEOUT is 0 (zero), which does not activate a countdown. TIMEOUT is set in minutes (not seconds), and all workstations must set TIMEOUT separately.

When a TIMEOUT occurs, a command file can be run; however, the command file cannot include a FILLIN, DIALOG, or PAUSE command, or expect a keystroke. If you want to run a command file when a TIMEOUT occurs, you need to store the name of the file in a variable called RBTI_TIMEOUT.

For example:

```
SET VARIABLE RBTI_TIMEOUT TEXT = 'c:\word\cleanup.rmd'
```

Note: The command file must end with a RETURN command.

The following command line will exit a user to Windows after the user's workstation is inactive for one hour:

```
SET TIMEOUT 60
```

NOTE: The TIMEOUT command will close ANY and ALL open forms, designers, and editors WITHOUT saving the changes which have been made since the last save. It is the responsibility of the developer and end-user to implement proper coding and/or behavior to eliminate unexpected shutdowns without saving the changes. The TIMEOUT command will disconnect from the currently opened database (if applicable) before terminating the R:BASE session.

1.19.8.89 TOLERANCE

Operating Condition

Syntax: SET TOLERANCE value

Default: 0

SET TOLERANCE sets the tolerance for comparisons between numbers with REAL and DOUBLE data types. The default tolerance of 0 means that the match must be exact to six digits of accuracy for REAL numbers and to 15 digits of accuracy for DOUBLE numbers. R:BASE stores the setting with the database.

The following command specifies a tolerance of .1 when testing column values. If the tolerance is .1 and the WHERE clause specifies *colname* = 100, then values between 99.9 and 100.1 are valid. If you set the tolerance to one, the values between 99 and 101 are valid.

```
SET TOLERANCE .1
```

1.19.8.90 TRACE

Operating Condition

Syntax: SET TRACE ON/OFF

Default: ON

SET TRACE ON will execute TRACE (Interactive Command File Debugger) inside a command file to trace a block of code as defined.

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Example 01:

TRACE filename.ext (typical command line option)

Example 02: (in a command file)

your code here ....
SET TRACE ON (this will start the trace within a command file)
Your code here ...
SET TRACE OFF (this will stop the trace within a command file)
Your remaining code here ...

Notes:
- Once you turn OFF the TRACE in an R:BASE session, you will need to turn it back ON.
- **(CVAL('TRACE'))** will return the current status of TRACE (Values: ON or OFF)
- **SHOW TRACE** will display the current status of TRACE (Values: ON or OFF)
- Newly created RBENGINE8.CFG will also include the option for **TRACE ON**
- If you want no one to TRACE your code, setting the TRACE option to OFF at the beginning of your code or startup file will disable the TRACE command.

1.19.8.91 TRANSACT

Operating Condition

Syntax: SET TRANSACT ON/OFF
SET TRANS ON/OFF

Default: OFF

Mode: Transaction Processing

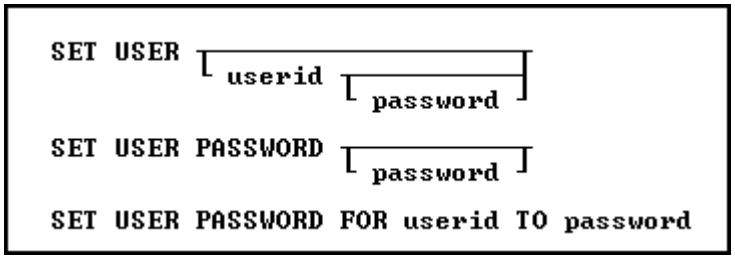
SET TRANSACT toggles transaction processing on and off. When transaction processing is set on and AUTOCOMMIT is set off, all commands entered after one COMMIT or ROLLBACK command until the next comprise a transaction. The commands in a transaction are executed as they are entered, but changes to the data and database structure are not made permanent until you enter COMMIT (or exit the database). You can undo all changes in the transaction by entering ROLLBACK.

When transaction processing is on and AUTOCOMMIT is also on, each command that is executed successfully is treated as a transaction and made permanent. ROLLBACK has no effect when AUTOCOMMIT is on.

Only the first user to connect to a closed database can enter the TRANSACT setting for that database. Enter the command before connecting to the database. If anyone else already has the database open, R:BASE displays a message telling you that your TRANSACT setting must match that of the open database before you can connect. Transaction processing is either on for all users or off for all users in a given database.

1.19.8.92 USER

Use the SET USER command to run R:BASE with a user identifier and password, if one has been set up.



Options

FOR userid
Specifies a user identifier.

password

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Creates a new password. Enter NONE to remove an existing password.

PASSWORD
Specifies or changes the password for the current user identifier.

TO password
Creates a new password. Enter NONE to remove an existing password.

userid
Specifies a user identifier.

About the SET USER Command

Passwords are specific to user identifiers and databases and are not required by R:BASE; however, once a password is set up, R:BASE prompts for the user's password every time the user connects to the database or issues his/her user identifier. User identifiers have a maximum length of 18 characters. Passwords have a minimum length of three characters and maximum length of 18 characters

To run R:BASE with your user identifier then connect to the database, enter the following command line:

```
SET USER <Userid>
```

You can also enter the following command line to run R:BASE with your user identifier:

```
SET USER
```

R:BASE displays a dialog box and prompts you for your user identifier.

When a password has been set up for a user identifier, R:BASE prompts for the password after the correct user identifier has been entered.

Note: When a user enters a user identifier or password in a dialog box, the user identifier is not displayed on screen.
To add or change a password, connect to the database with the user identifier and enter the following command line:

```
SET USER PASSWORD
```

R:BASE prompts for the user's identifier, then prompts for the password. A user can cancel a password by entering NONE.

If the database owner is the current user, the database owner can assign him/herself a password using the SET USER PASSWORD command; however, if the database owner forgets the assigned password, the password cannot be found or changed.

As the database owner, to change a user's password, connect to the database and enter the following command line:

```
SET USER PASSWORD FOR <Userid> TO <Password>
```

Enter your current password when R:BASE prompts you for it, then when R:BASE prompts you for a new password, enter NONE.

Note: A user's password is revoked when the database owner revokes all the user's privileges.

1.19.8.93 VERIFY

Operating Condition

Syntax: SET VERIFY COLUMN/ROW

Default: COLUMN

SET VERIFY, used in the multi-user environment, specifies the level of concurrency control as a row or a column within a row.

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SET VERIFY allows you to specify whether R:BASE concurrency control will apply to individual columns within a row or to all columns in the row. When the level of concurrency control is set to COLUMN, R:BASE checks only the columns you change while you are editing. When the level of concurrency control is set to ROW, if you change data in any column, R:BASE checks every column in the row.

R:BASE concurrency control operates automatically when you are using a form in multi-user environments. Concurrency control includes autorefresh and verification. When you refresh or try to save a row, R:BASE checks whether data has been changed by another user and alerts you if it has changed. This prevents simultaneous changes that could corrupt the integrity of your data. The SET VERIFY command affects the operation of both autorefresh and verification when you are using a form.

When concurrency control is set to COLUMN, R:BASE looks for conflicts, those instances when two users have both modified the same column. When R:BASE detects a conflict in at least one field:

- R:BASE displays all of the other user's changes in the appropriate fields.
- Where there is no conflict, changes you made continue to be displayed.
- R:BASE displays a message informing you that data has changed.

When concurrency control is set to ROW, R:BASE looks for a change to any column in the whole row, whether it is a conflict or not. When R:BASE detects a change:

- R:BASE displays all of the other user's changes in the appropriate fields.
- Where there is no conflict, changes you made to the data are discarded.
- R:BASE displays a message informing you that data has changed.

Whether concurrency control is set to COLUMN or ROW, you can review the changes and then continue editing the data in the form. After autorefresh, R:BASE prompts you to press any key to continue editing. After verification, you can either move on to your next task or edit the data again. If you choose to move on when the level of concurrency control is set to COLUMN, you will be discarding any changes you made that are still displayed. R:BASE prompts you to press [Esc] if you want to move on, or to press [Enter] if you want to edit the displayed data.

When you edit data in a form, concurrency control is always enforced.

When you enter data in a form, concurrency control is enforced only when you are entering values in fields defined with a same-table look-up, or when you return to a row in a region that you had entered previously.

The first command line in the following example sets the level of concurrency control to check for changes in the entire row. The second command line starts an editing session using the form named *custform*.

```
SET VERIFY ROW
EDIT USING custform
```

1.19.8.94 WAIT

Operating Condition

Syntax: SET WAIT value

Range: 0 to 16383 seconds

Default: 4

Mode: Multi-user

SET WAIT sets the minimum number of seconds to retry the last requested resource (a table or database) before halting execution. Rather than aborting execution, SET WAIT allows you to set a length of time for R:BASE to keep trying to access a resource. A message is displayed showing the approximate percentage of wait time remaining.

If you do not run a SET WAIT command, R:BASE automatically retries the locked resource for approximately four seconds before issuing a retry message.

For commands that wait for resources, the precise period of the wait is at least as long as the time specified. On some computers, processing requirements may extend the length of the wait to longer than one second for each second designated.

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When you enter a command from the R> prompt and the waiting period expires, R:BASE displays a message prompting you to retry or ignore the command. When the command runs as part of a command file, however, and the waiting period expires, R:BASE ignores the command and goes on to the next command.

The following command tells R:BASE to retry the last requested resource for approximately 20 seconds.

```
SET WAIT 20
```

You can also adjust the interval in which R:BASE tries the command during the SET WAIT period.

For more information, see INTERVAL.

1.19.8.95 WALKMENU

Operating Condition

Syntax: SET WALKMENU ON/OFF

Default: OFF

Allows shortcut access to menus

SET WALKMENU is a menu shortcut function allowing the user to access menu selections by typing the beginning characters (up to when a match is made) of their names. Pressing any navigational keys (such as [Home] or [Page Up]) clears the buffer containing the keystrokes entered by the user while traversing the menu list. Any keystrokes not resulting in a match are not stored in the buffer, causing a beep.

1.19.8.96 WHILEOPT

Operating Condition

Syntax: SET WHILEOPT ON/OFF

Default: ON

SET WHILEOPT improves the optimization and processing of WHILE ...ENDWHILE loops within applications by pre-compiling variables used within the WHILE loop. Follow these guidelines:

- Don't clear your WHILE variable(s).
- Don't define variables within your WHILE loop, only outside the loop; values can change within the loop.
- Adhere to the syntax rules for the SWITCH statement by making sure that the argument for the SWITCH statement is an expression.
- If you issue multiple SET VARIABLE commands on a single command line, those variables will not be optimized. If you want to increase the speed for that loop, put those SET VARIABLE commands on separate lines.

The WHILEOPT setting must be changed in a command file. The setting cannot be saved to the RBENGINE8.CFG file.

1.19.8.97 WIDTH

Operating Condition

Syntax: SET WIDTH value

Range: 40 to 5000 characters

Default: 79

SET WIDTH controls the width of a data line that R:BASE directs to the printer, screen, or file when using the BACKUP, COMPUTE, CROSSTAB, DISPLAY, SELECT, TYPE, UNLOAD, or WRITE commands. Do not set the width to a number greater than the number of characters your printer can fit on a line; a typical page and computer screen display 80 characters. WIDTH does not affect report generation; each report defines the width of a data line.

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Note: The 5000-character maximum does not apply to the TYPE or DISPLAY commands, which continue to have 256-character width limits.

1.19.8.98 WINBEEP

Operating Condition

Syntax: SET WINBEEP ON/OFF

Default: OFF

Allows R:BASE to access a subset of the Sound Events in Windows. WINBBEP command will use the current system sound schema.

When set to OFF R:BASE will use a standard Windows sound for all errors and the BEEP command. When set to ON certain sounds, as set in the Windows Control Panel, will be used instead depending on which soundtype is used. Below is a table of Types and their corresponding sound event. You must set the actual sounds used in the Windows Sounds Control Panel Applet. You will also need to ensure that your speakers are Un-Muted and working properly. In either case, WINBEEP ON or WINBEEP OFF, if you have the "No Sounds" scheme selected in your Sounds Control Panel you will not hear any beeps from R:BASE for Windows.

Sound Type	Sound Event
0	SYSTEM
1	SYSTEMSTART
2	SYSTEMEXIT
3	SYSTEMHAND
4	SYSTEMASTERISK
5	SYSTEMQUESTION
6	SYSTEMEXCLAMATION
7	SYSTEMWELCOME
8	SYSTEMDEFAULT

Examples

```
SET CAPTION ' '
SET VAR VRows INTEGER = 0
SET VAR VMsg TEXT = NULL
SELECT COUNT(*) INTO VRows INDIC IVRows FROM TableName
IF VRows = 0 THEN
   CLS
   SET WINBEEP ON 2
   BEEP
   PAUSE 2 USING 'No Record(s) on File!' AT CENTER CENTER
   SET WINBEEP OFF
   GOTO Done
ELSE
   CLS
   SET WINBEEP ON 1
   BEEP
   SET VAR VMsg = ((CTXT(.VRows)) & 'Record(s) on File!')
   PAUSE 2 USING .VMsg AT CENTER CENTER
   SET WINBEEP OFF
   GOTO Done
ENDIF

LABEL Done
   CLS
   CLEAR ALL VAR
```

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1.19.8.99 WRAP

Operating Condition

Syntax: SET WRAP ON/OFF

Default: ON

Text in fields that have NOTE and TEXT data types will wrap in forms and FILLIN windows, variables, and reports.

1.19.8.100 WRITECHK

Operating Condition

Syntax: SET WRITECHK ON/OFF

Default: OFF

SET WRITECHK ON tells R:BASE to verify every write to disk.

1.19.8.101 ZERO

Operating Condition

Syntax: SET ZERO ON/OFF

Default: OFF

SET ZERO allows a null to be treated as a zero in a mathematical expression involving INTEGER, NUMERIC, REAL, DOUBLE, CURRENCY, DATE, DATETIME, or TIME data types. With ZERO set on, R:BASE returns a negative number when you subtract an integer from a null. With ZERO set off, the same computation results in a null. R:BASE stores the setting with the database.

1.19.8.102 ZOOMEDIT

Operating Condition

Syntax: SET ZOOMEDIT ON/OFF

Default: OFF

Toggles the field expansion method.

This SET keyword is used in R:BASE for DOS only. Set ZOOMEDIT to on if you want to open RBEdit, the R:BASE text editor, when you zoom in on a NOTE filed in a form. When ZOOMEDIT is off, a dialog box that wraps text is opened instead.

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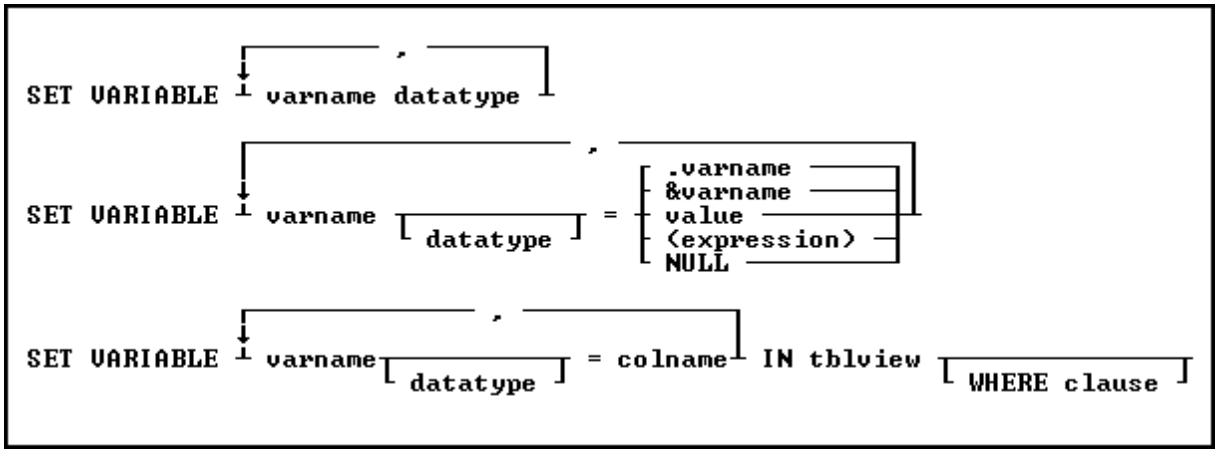
1.19.9 SET VARIABLE

Use the SET VARIABLE command to define or redefine a variable value and/or data type.



Options

,
Indicates that this part of the command is repeatable.

colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command. In an SQL command, a column name can be preceded by a table or correlation name and a period (*tblname.colname*).

datatype
Specifies an R:BASE data type for the variable. See Data Types.

(expression)
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

IN tblview
Specifies a table or view.

NULL
Sets the variable equal to NULL.

value
Sets the variable equal to a specified value. A value is a constant amount, text string, date, or time, or the value assigned to *varname*.

varname
Specifies a 1 to 18 character variable name.

&varname
Sets the first variable equal to the exact contents of a second variable; the ampersand tells R:BASE to evaluate the contents of the variable first.

For example, if *varname* is the text string (2+3), then &*varname* is the value 5.

.varname
Sets the first variable equal to the exact contents of a second variable.

For example, if *varname* is the text string (2+3), then .*varname* is (2+3).

WHERE clause
Limits rows of data. For more information, see the WHERE Clause.

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About the SET VARIABLE Command

Variables identify a changeable value. R:BASE provides three kinds of variables: global, error, and system. The SET VARIABLE command defines global variables, which are temporary variables that exist within R:BASE, but are not part of any database. Global variables remain in memory until you clear them or exit from R:BASE. R:BASE sets error and system variables internally.

Global variables have several uses: they can provide a temporary value in a command, hold the result of a calculation, act as a counter, or capture keyboard entries for use with menus or screens. The most common method of defining variables is to assign the variable value with the SET VARIABLE command. For information about defining global variables, see Variables.

Variable names can be a maximum of 18 characters, and have the following restrictions:

- The variable name is not an R:BASE reserved word.
- The variable name begins with a letter, contains only letters, numbers, and the following special characters: #, $, _ , and %.

It is good programming practice to always define the data type for the variable before assigning it a value, unless you are setting a variable to a column value or using the variable in the CHOOSE command.

When defining an variable as a text string, enclose the text string in single quote marks (or the current QUOTES character); otherwise, it might be interpreted as an arithmetic expression.

Assigning a Data Type to a Variable

The *datatype* option refers to one of the valid R:BASE data types: BIT, BITNOTE, CURRENCY, DATE, DATETIME, DOUBLE, INTEGER, LONG VARBIT, LONG VARCHAR, NOTE, NUMERIC, REAL, TIME, VARBIT, OR VARCHAR. You can define a variable to have a NOTE data type, but R:BASE treats it as TEXT for most uses. You can also specify the precision and scale for NUMERIC data types.

The *datatype* option creates a variable, determines its data type, and sets its value to null. Use this option to define a variable's data type before assigning a value to the variable. To set multiple variables in the same command, separate the variables by a comma or the current delimiter.

For an existing variable, you can use the *datatype* option to change the data type, but it is recommended to use one of the conversion functions. If you change the data type, the new data type must be compatible with the current variable value; if the variable is not compatible, R:BASE displays an error message and leaves the value and data type unchanged. If you change a variable with a TEXT data type to a non-compatible data type, R:BASE changes the value to null.

Assigning a Value to a Variable

The *value* option is a data value or constant, such as 10, TOM, 3.1416, or $17.23. If the variable already exists, any new value must have a data type that is compatible with that variable. If the variable does not exist, R:BASE defines the variable's data type.

You can also define the variable's data type in this command before assigning it a value.

Setting the Value of a Variable to Another Variable

When you set the variable to the value of another variable, the second variable must be a dot variable (.) or an ampersand (&) variable.

When you precede a variable with a dot (.), R:BASE uses the value stored in the variable as if it were a constant.

When you precede a variable with an ampersand (&), R:BASE first evaluates the value contained in the ampersand variable. For example, consider the following uses of the command:

```
SET VARIABLE v1 TEXT = '(A + B)'
SET VARIABLE v2 = .v1
SET VARIABLE v3 = &v1
```

When the first command line runs, variable *v1* will contain (A + B). When the second command line runs, variable *v2* will also contain (A + B) because the dot tells R:BASE to set the value as an exact match to the

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contents of variable *v1*. When the third command line runs, variable *v3* will contain AB (the concatenation of A and B) because the ampersand tells R:BASE to compute the contents of variable *v1*.

As shown in the example above, an ampersand variable can contain one command or part of one command, such as an expression. The first variable is set to the computed value of the ampersand variable. Below is an example:

```
1.  SET VARIABLE v1 TEXT
2.  SET VARIABLE v2 INTEGER
3.  SET VARIABLE v1 = '((50 + 100)/ 2)'
4.  SET VARIABLE v2 = &v1
5.  SHOW VARIABLE
```

- Sets the data types for variables *v1* and *v2* to TEXT and INTEGER, respectively.
- Sets variable *v1* to a text value that is a valid arithmetic expression.
- Sets variable *v2* to &*v1*.
- Displays the value of all variables, including the system variables.

R:BASE computes the expression contained in *v1* and assigns the calculated value to *v2*. When R:BASE sees a variable name preceded by ampersand, it treats the contents of the variable as if it was entered from the keyboard. The SHOW VARIABLE display would like the following:

Variable	= Value	Type
#date	= 04/12/94	DATE
#time	= 22:52:52	TIME
#pi	= 3.14159265358979	DOUBLE
sqlcode	= 0	INTEGER
v1	= ((50 + 100) / 2)	TEXT
v2	= 75	INTEGER

Setting a Variable to an Expression

An (*expression*) can be either an arithmetic operation that combines two or more items in an arithmetic computation, or a string expression that concatenates two or more text items, or uses a TEXT function. The items can be values or the values contained in variables.

If you do not predefine the data type of a variable, the original data type of each item determines the data type of the result. For example, if you add a variable that has an INTEGER data type to a variable that has a REAL data type, the resulting variable has a REAL data type unless you define the result to be an INTEGER data type.

If any item in an arithmetic expression is null, the result will be null unless you specify SET ZERO ON.

Assigning Column Values in a Table or View

If you specify a table or view in a SET VARIABLE command, you can include an optional WHERE clause to indicate which row to use. If you do not include the WHERE clause, R:BASE uses the value for the column in the first row.

You must have SELECT privileges on the table to use this form of SET VARIABLE.

In instances where your building a dynamic SET VARIABLE command based on previous options made, you must use an ampersand variable in place of a column or table name, for example:

```
CHOOSE vtab FROM #TABLES
CHOOSE vcol FROM #COLUMNS IN &vtab
SET VARIABLE vnewpr = &vcol IN &vtab
```

Enter the table and column names into the *vtab* and *vcol* variables first. You can do this by using the CHOOSE #TABLES and CHOOSE #COLUMNS commands, as shown in the above example. The CHOOSE command displays a menu of tables or columns from which to choose. By using ampersand variables to hold the table and column names, you can use the same SET VARIABLE command to get values from different columns in a table or from different tables. Each time SET VARIABLE requests a column, it retrieves information from the first row in the table stored in *&vtab*.

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You can define multiple variables with a single SET VARIABLE command when you set the value of the variables to the value of columns in a table. However, when capturing column data into variables, it is better to use the SELECT command; specifically, SELECT INTO. SELECT INTO is the SQL compliant command when capturing table data into variables.

Examples

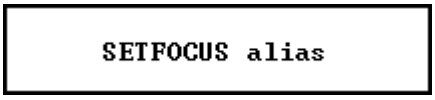
The following table provides examples of the SET VARIABLE command.

SET VARIABLE Examples

Examples	Description
SET VARIABLE *vtext* TEXT	Defines the *vtext* variable to have a TEXT data type.
SET VARIABLE *vreal* REAL = 100.9	Defines *vreal* variable to have a REAL data type, and assigns it the value 100.9.
SET VARIABLE *vnumer* NUMERIC (9,3)	Defines the *vnumer* variable to have a NUMERIC data type having a precision of 9 and scale of 3.
SET VARIABLE *vnum* = 14322	Assigns the integer value 14322 to the *vnum* variable.
SET VARIABLE *VTWO* =.VNUM	Assigns the value of the *vnum* variable to the *vtwo* variable.
SET VARIABLE *V3* = &*V4*	Assigns the computed value of *v4* to the *v3* variable.
SET VARIABLE *vltdate* = ('12/25/93' + 90)	Assigns the value 03/25/94 to the *vltdate* variable.
SET VARIABLE *vfulln* = (.*VFIRSTN* & .*VLASTN*)	Assigns to the *vfulln* variable the value of the full name formed by concatenating the values in the *vfirstn* and *vlastn* variables The ampersand inserts a space between the two values.
SET VARIABLE *v1* = *col1*, *v2* = *col2*, *v3*= *col3* IN *tbl1* WHERE *col1* = 'Smith' **OR SQL compliant variation:** SELECT *col1, col2, col3* INTO *v1* INDI *iv1, v2* INDI *iv2, v3* INDI *iv3* FROM *tbl1* WHERE *col1* = 'Smith' *See* SELECT INTO	Assigns Smith to the variable *v1*; the value of column *col2* to *v2*; and the value of column *col3* in *tbl1*, from the row where *col1* contains Smith, to variable *v3*.

1.19.10 SETFOCUS

Use the SETFOCUS command to return focus to an MDI form from within an application.

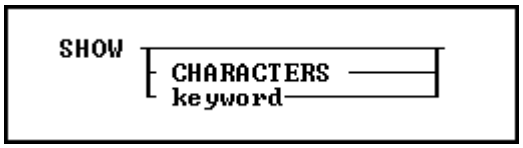


Options

alias
Specifies a window name, which is the name given to the instance of a form started with the MDI option when using the AS *alias* option with the EDIT USING or ENTER command.

1.19.11 SHOW

Use the SHOW command to display the status of system parameters, format conditions, and default conditions.



Options

CHARACTERS

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Shows the current settings for the BLANK, DELIMIT, LINEEND, MANY, PLUS, QUOTES, SEMI, and SINGLE special characters.

keyword
Shows the current setting for the environment condition specified in the *keyword* option.

About the SHOW Command

Use any of the SET keywords in a SHOW command to display an environment setting. You can also display special characters and environment settings using **Utilities: Settings**.

The following commands are not displayed in a standard SHOW and must be requested manually.

- AUTOCONVERT
- AUTORECOVER
- AUTOROWVER
- AUTOSYNC
- AUTOUPGRADE
- BUILD
- COMPATIBLE
- FASTFK
- FASTLOCK
- PAGEMODE
- PASSTHRO
- QUALCOLS
- SERVER
- VERSION
- WHILEOPT

Examples

The following command displays all characters and settings.

```
SHOW
```

The following command displays settings for the special characters BLANK, DELIMIT, LINEEND, MANY, PLUS, QUOTES, SEMI, and SINGLE.

```
SHOW CHARACTERS
```

The following command displays the status of rules checking.

```
SHOW RULES
```

The following command displays the current user identifier.

```
SHOW USER
```

The following command displays the front end build of the product.

```
SHOW BUILD
```

R:BASE for Windows

What follows is the output from a SHOW command in R:BASE for Windows

```
BLANK
DELIMIT     ,
LINEEND     þ
SEMI        ;
QUOTES      '
PLUS        +
SINGLE      _
MANY        %
IDQUOTES    `
```

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```
 DATE format     MM/DD/YYYY
 DATE sequence   MMDDYY
 Century threshold YEAR is 30
 Default CENTURY is  19
 TIME format     HH:MM:SS
 TIME sequence   HHMMSS
 LINES/page     20
 WIDTH/line    79
 TOLERANCE               0.
 NULL symbol     -0-
 Lock WAIT time       2
 Lock INTERVAL time (in .1 sec)       5
 REFRESH TIME         0
 MAXTRANS          10
 EDIT verification level COLUMN
 FILES                5
 PRINTER
 NOTE column PADding percentage 10
 CURRENCY SYMBOL     '$'
 CURRENCY LOCATION   PREF
 CURRENCY DIGITS        2
 CURRENCY CONVENTION B

(AND      ) ON  Use SQL precedence for ANDs and ORs
(ANSI     ) ON  ANSI SQL name restrictions
(AUTOCOMM ) OFF AUTOmatically COMMit after each command
(AUTOSKIP ) OFF AUTOmatically SKIP to the next field when editing
(BELL     ) ON  Sound the BELL on an error
(CAPTION  ) ON  Display caption on DIALOG, PAUSE
(CASE     ) OFF Distinguish between UPPER and lower CASE
(CLEAR    ) ON  CLEAR data buffers after modifications
(DEBUG    ) OFF Debug command is effective
(ECHO     ) OFF ECHO input from command files
(EQNULL   ) OFF Treat null EQual NULL as a match
(EOFCHAR  ) ON  Add EOF CHARacter to the end of output files
(ERROR    ) ON  Display ERROR messages during processing
(ESCAPE   ) ON  ESCAPE allowed to abort processing
(EXPLODE  ) OFF Exploding windows on dialog boxes
(FEEDBACK ) OFF Display FEEDBACK status during command processing
(FIXED    ) OFF Delete header space for SELECT
(HEADINGS ) ON  Display column HEADINGS on SELECT and TALLY commands
(INSERT   ) ON  Use INSERT key as a toggle
(INTENSITY) ON  Intensity field in form
(LAYOUT   ) OFF Save the LAYOUT of data displayed on Browse/Edit
(MANOPT   ) OFF Disable optimizer table reordering
(OLDLINE  ) ON  Use OLD style vertical LINE processing in reports
(ONELINE  ) OFF Display only one line per row in select output
(MDI      ) ON  Default startup mode for forms will be MDI
(MESSAGES ) ON  Display informational MESSAGES during processing
(MIRROR   ) OFF Maintains MIRROR images of database files
(MULTI    ) ON  MULTI-user database access capability
(POSFIXED ) ON  POSition DIALOG, PAUSE based on FIXED OEM font size
(REVERSE  ) ON  REVERSE video highlighting on data entry/edit
(ROWLOCKS ) ON  ROW LOCK database access capability
(RULES    ) ON  Check data validation RULES
(SCRATCH  ) ON  SCRATCH files on same path as the database
(SORT     ) OFF Optimize SORTing to minimize disk space used
(SORTMENU ) ON  Sort menu items for selected menu types
(STATICDB ) OFF STATIC DataBase schema mode
(TRANSACT ) OFF Connect in TRANSACTion mode
(WALKMENU ) OFF Search menus based on multiple keystrokes
(WINBEEP  ) OFF Use selected WINdows BEEPs for beep sound
(WRAP     ) ON  Word WRAP text for display and edit
(WRITECHK ) OFF Verify each WRITE to disk
(ZERO     ) OFF Treat nulls as ZERO in numeric calculations
(ZOOMEDIT ) ON  Convert LINEEND to CR and back on ZOOMed EDIT fields
```

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R:BASE for DOS

What follows is the output from a SHOW command in R:BASE for DOS

```
BLANK
DELIMIT     ,
LINEEND     ^
SEMI        ;
QUOTES      '
PLUS        +
SINGLE      _
MANY        %
IDQUOTES    `

 DATE format     MM/DD/YYYY
 DATE sequence   MMDDYY
 Century threshold YEAR is 30
 Default CENTURY is  19
 TIME format     HH:MM:SS
 TIME sequence   HHMMSS
 LINES/page     20
 WIDTH/line    79
 TOLERANCE               0.
 NULL symbol     -0-
 Lock WAIT time       4
 Lock INTERVAL time (in .1 sec)       5
 REFRESH TIME         0
 MAXTRANS         201
 EDIT verification level COLUMN
 FILES                5
 PRINTER  HPLASER1
 NOTE column PADding percentage 10
 CURRENCY SYMBOL     '$'
 CURRENCY LOCATION   PREF
 CURRENCY DIGITS        2
 CURRENCY CONVENTION B

(AND      ) ON  Use SQL precedence for ANDs and ORs
(ANSI     ) ON  ANSI SQL name restrictions
(AUTOCOMM ) OFF AUTOmatically COMMit after each command
(AUTOSKIP ) OFF AUTOmatically SKIP to the next field when editing
(BELL     ) ON  Sound the BELL on an error
(CASE     ) OFF Distinguish between UPPER and lower CASE
(CLEAR    ) ON  CLEAR data buffers after modifications
(DEBUG    ) OFF Debug command is effective
(ECHO     ) OFF ECHO input from command files
(EQNULL   ) OFF Treat null EQual NULL as a match
(EOFCHAR  ) ON  Add EOF CHARacter to the end of output files
(ERROR    ) ON  Display ERROR messages during processing
(ESCAPE   ) ON  ESCAPE allowed to abort processing
(EXPLODE  ) OFF Exploding windows on dialog boxes
(FEEDBACK ) OFF Display FEEDBACK status during command processing
(HEADINGS ) ON  Display column HEADINGS on SELECT and TALLY commands
(INSERT   ) ON  Use INSERT key as a toggle
(LAYOUT   ) OFF Save the LAYOUT of data displayed on Browse/Edit
(MANOPT   ) OFF Disable optimizer table reordering
(OLDLINE  ) ON  Use OLD style vertical LINE processing in reports
(ONELINE  ) OFF Display only one line per row in select output
(MDI      ) ON  Default startup mode for forms will be MDI
(MESSAGES ) ON  Display informational MESSAGES during processing
(MIRROR   ) OFF Maintains MIRROR images of database files
(MULTI    ) ON  MULTI-user database access capability
(REVERSE  ) ON  REVERSE video highlighting on data entry/edit
(ROWLOCKS ) ON  ROW LOCK database access capability
(RULES    ) ON  Check data validation RULES
(SCRATCH  ) ON  SCRATCH files on same path as the database
```

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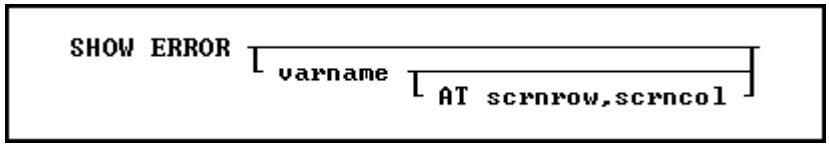
```
(SORT     ) OFF Optimize SORTing to minimize disk space used
(SORTMENU ) ON  Sort menu items for selected menu types
(STATICDB ) OFF STATIC DataBase schema mode
(TRANSACT ) OFF Connect in TRANSACTion mode
(WALKMENU ) OFF Search menus based on multiple keystrokes
(WRAP     ) ON  Word WRAP text for display and edit
(WRITECHK ) OFF Verify each WRITE to disk
(ZERO     ) OFF Treat nulls as ZERO in numeric calculations
(ZOOMEDIT ) ON  Convert LINEEND to CR and back on ZOOMed EDIT fields
```

1.19.12 SHOW ERROR

Use the SHOW ERROR command without a variable name to display error-message status, which can be on or off.



Options

AT scrnrow, scrncol
Defines the screen row and column at which to display the first character of the error message. Screen rows are between 1 and 25 and screen columns are between 1 and 80. (Supported in DOS platforms only)

varname
Specifies the name of the error variable, defined with the SET ERROR VARIABLE command. Alternatively, *varname* can be a global variable that captures the value of an error code from the defined error variable. If you enter the SHOW ERROR command without the *varname* option, R:BASE tells you whether error messages are on or off.

About the SHOW ERROR Command

Use SHOW ERROR with the name of an error variable to display the error message of the last R:BASE error that occurred.

The SHOW ERROR command with a variable name displays the error message of the error variable captured by the SET ERROR VARIABLE command. The variable can be either a currently defined error variable (defined with the SET ERROR VARIABLE command) or a global variable used to capture the value of the error variable.

You can capture an error-variable value in a global variable so that any additional commands that are processed do not change the value of the variable. Once you have captured the error number in a global variable, you can use the SHOW ERROR command to display the error message by referencing the global variable name.

Examples

The following series of commands:

- Define an error variable named *verrvar*.
- Connect to the *dbname* database.
- Capture the value of the *verrvar* error variable in the *vglobal* global variable.
- Check the value of *vglobal* and, if it is not 0 (zero), display the error message on screen line 20, beginning in screen column 10.

```
SET ERROR VARIABLE verrvar
CONNECT dbname
SET VARIABLE vglobal = .verrvar
IF vglobal <> 0 THEN
 SHOW ERROR vglobal AT 20 10
ENDIF
```

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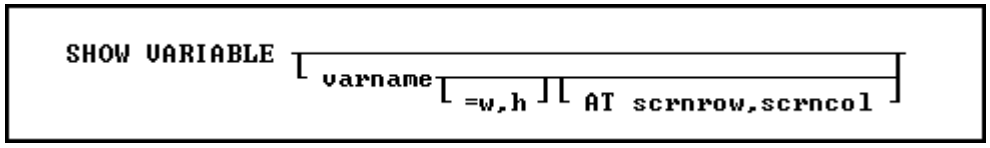
Used without a variable name, the following command displays the error-message status.

```
SHOW ERROR
(ERROR) ON Display ERROR messages during processing
```

1.19.13 SHOW VARIABLE

Use the SHOW VARIABLE command to display the current values and data types of global variables.



Options

AT scrnrow, scrncol
Defines the screen row and column where the first character of the value of the variable is displayed. Text values are left justified and numeric values are right justified within the display width specified by the *=w* option. Screen rows range from 1 to 25 and screen columns from 1 to 80. (Supported in DOS platforms only)

varname
Specifies a variable to be displayed. You can use wildcards to display variables that match a specific pattern.

=w,h
Specifies a maximum width and number of lines for the display of the variable. Long text variables are displayed on multiple lines. The *=w,h* option is limited to 30 characters and one line for these data types: CURRENCY, DATE, DATETIME, DOUBLE, INTEGER, NUMERIC, REAL, and TIME. When using the *=w,h* option for BIT, BITNOTE, LONG VARCHAR, LONG VARBIT, NOTE, TEXT, VARCHAR, and VARBIT variables, you can widen the display and set the total number of lines to display. If *h* is omitted, the value defaults to the number of lines needed to display the text for LONG VARCHAR, NOTE, TEXT, or VARCHAR data types, and only displays the file type for BIT, BITNOTE, LONG VARBIT, and VARBIT data types.

About the SHOW VARIABLE Command

Use SHOW VARIABLE to include variable values in screen displays in a procedure or command file. After displaying the variable values, R:BASE moves the cursor to the beginning of the next row.

You can also use SHOW VARIABLE with the PAUSE command to help debug command files by tracing the changing values of one or more variables.

Examples

The following command displays all global variables and the system variables *#date*, *#pi*, *#time*, and *sqlcode*.

```
SHOW VARIABLE
```

The following command displays the contents of the *vstatus*variable at screen row 10 and screen column 15.

```
SHOW VARIABLE vstatus AT 10 15
```

The following command displays the contents of the *vaddr2*variable starting at row 10 and in column 15. If *vaddr2* has a TEXT data type with a length of 30, R:BASE displays only the first 22 characters on line 10. R:BASE displays the remaining characters starting at row 11 in column 15. The setting for SET WRAP affects the display of variables.

```
SHOW VARIABLE vaddr2 =22 AT 10 15
```

The following command displays all global variables that begin with the characters "*emp*." You must use the wildcard characters that are defined by the settings for SET SINGLE and SET MANY.

```
SHOW VARIABLE emp%
```

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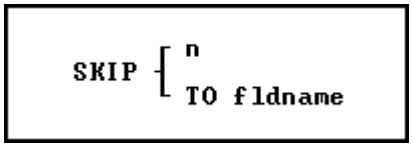
1.19.14 SKIP

Use the SKIP command in an entry/exit procedure (EEP) to automatically skip fields in a form.



Options

n
Specifies the number of fields you want to skip, where *n* is a positive or negative integer. Use positive numbers to move forward through the field order in the form, and negative numbers to move backward. When you establish a value for *n*, count only those fields that allow you to enter or edit data.

SKIP 0 returns you to the same field you were in.

TO fldname
Specifies the field to which you want to skip, either forward or backward through the field order, where *fldname* is the column or variable name associated with a field.

About the SKIP Command

When an EEP is run, SKIP moves backward or forward through the fields in a form. SKIP operates within a form like the [Tab] key-it does not move to fields other than those in the current row or current table. You can use SKIP only in an EEP within a form.

This command is useful when you want to skip over certain fields in the form, depending on the data entered. A variable must always be associated with a field. You can set up an EEP to check the value entered in the field's variable, and then, depending on the value, skip to another field.

NOTES:
- SKIP TO Fldname or SKIP n when used in a Tab Form will ONLY be applicable to that Tab (i.e., page) of the Tab Control. Therefore, you CANNOT use SKIP command to switch from any field on one page of the Tab Control to another page of the Tab Control. A Tab (page) of the tab control is similar to a "container". Thus, the SKIP command will ONLY work with objects on the same page of the Tab Control.

- You may also use **PROPERTY <ComponentID> SET_FOCUS 'TRUE'** command to achieve the same functionality.

Examples

The following commands cause a form to skip three fields if the *vcashtype* variable contains any value.

```
IF vcashtype IS NOT NULL THEN
 SKIP 3
ENDIF
```

The following commands cause a form to skip to the field containing the *amount* column if the *vcashtype* variable contains any value.

```
IF vcashtype IS NOT NULL THEN
 SKIP TO amount
ENDIF
```

1.19.15 SNAP

Use the SNAP command to capture the current screen as a file that can be displayed later with the DISPLAY command. The SNAP command is no longer supported in R:BASE for Windows.

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```
SNAP filespec
```

Option

filespec
Specifies a file name of the screen capture with a drive and path specification in the form D:\PATHNAME/FILENAME.EXT.

About the SNAP Command

The SNAP command is useful for taking a snapshot of a screen display. Screen snapshots are files that hold the text and the screen attributes of any screen that appears in R:BASE. You can also create a snapshot with the **Take a Snapshot** option from the **Utilities** menu in R:BASE for Windows.

When you use SNAP command, it produces a file that contains the screen text and images. You cannot edit this file with the R:BASE editor. In R:BASE for Windows, when you use the **Take a Snapshot** option from the **Utilities** menu, the current screen is captured in bitmap form in the Windows Clipboard Viewer.

Only snapshot files that are created with the SNAP command can be displayed with the DISPLAY command. You can include a drive or directory with the file name if the file is not stored in the current drive and directory. The screen image looks exactly as it appeared when the snapshot was taken.

Examples

The following command captures the entire screen and stores it in a file named MYFORM.FIL.

```
SNAP myform.fil
```

The following command captures a screen image starting at screen row 10 and screen column 15 and stores it in a file named PARTSCN1. Screen columns 1 through 15 are not included for any of the screen rows.

```
SNAP partscn1 FROM 10 15
```

The following command captures a screen image from screen row 1, screen column 1 to screen row 10, screen column 10, and stores it in a file named PARTSCN2.

```
SNAP partscn2 FROM 1 1 TO 10 10
```

1.19.16 SSQL

Use the SSQL command to pass SQL commands through R:BASE to the foreign data source, where the commands will be interpreted and executed.

```
SSQL SQLcommand
```

Options

SQLcommand
Specifies the SQL command to send.

About the SSQL Command

SSQL requires R:BASE to already be connected to the data source. With a few exceptions, you can use every SQL command supported by the connected data source. You cannot use commands that usually return data, such as SELECT commands.

To retrieve data from a foreign table, attach the table and use standard R:BASE commands. SSQL can be used to send structure modification commands that alter the foreign database subject to the access rights and restrictions placed on the user by the foreign database.

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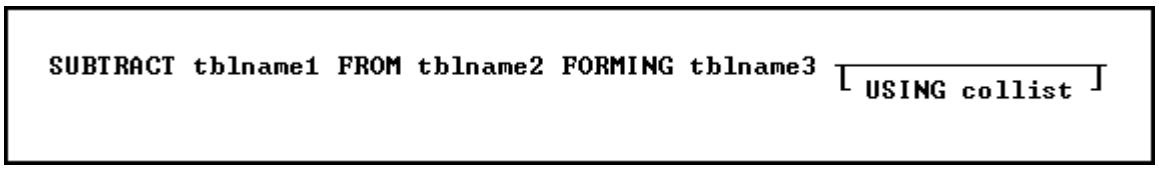
Additional support was added to SSQL for support in EEPs.

1.19.17 SUBTRACT

Use the SUBTRACT command to form a new table by subtracting rows in one table from a second table based on common columns.



Options

FORMING tblname3
Specifies the name of the table that is produced when you subtract one table from another.

FROM tblname2
Specifies the name of the table from which you want to subtract another table.

tblname1
Specifies the name of the table you want to subtract from a second table.

USING collist
Specifies the columns and order of columns that you want to include in the new table. At least one column in the USING clause must exist in both tables. If you do not include the clause, R:BASE makes a new table that includes all columns from both tables.

About the SUBTRACT Command

When one table (*tblname1*) is subtracted from another table (*tblname2*), R:BASE looks for columns in both tables that have the same name. The values in these common columns are subtracted and placed in the new table (*tblname3*). *Tblname3* also contains all columns from *tblname2* that are not in common with *tblname1*, unless columns are listed in the USING clause. It is worth noting that when there is more than one column with the same name R:BASE will not allow you to use the Subtract Command without using the USING clause to specify which columns to compare.

Use SUBTRACT when you want to create a table that identifies differences between two tables, such as unique rows.
When computed columns are common, R:BASE subtracts the current values in the computed columns. If you include a computed column in the USING clause, R:BASE transfers the current value for the computed column to the new table. If you want a computed column in a new table, include each column used in the computed column's expression with a USING clause. If you do not, R:BASE changes the computed column to a regular column containing data.

In a new table, R:BASE does not update the value in a row for an autonumbered column. An autonumbered column becomes a regular column.

You can increase the speed of SUBTRACT by creating an index for a common column in *tblname1*. SUBTRACT does not use an index in *tblname2*. If both tables have multiple common columns, index the common column in *tblname1* that is most distinctive.

Example

The following command creates a new table named *nobonus* by subtracting the common columns in the *salesbonus* table from the *employee* table.

```
SUBTRACT salesbonus FROM employee FORMING nobonus
```

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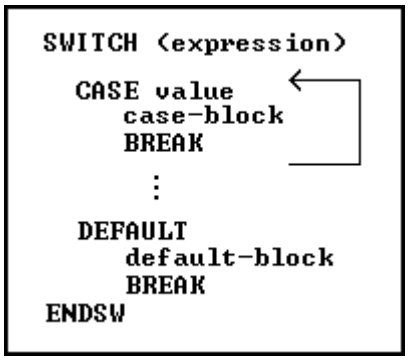
1.19.18 SWITCH/ENDSW

Use the SWITCH...ENDSW command in a program to define a block of possible actions to take depending on the value of an expression.



Options

BREAK
Ends SWITCH processing; use this option within each CASE comparison and in the DEFAULT block.

case-block
Contains one or more commands to execute if the CASE value matches the SWITCH expression.

CASE value
Compares the SWITCH value to another value. If the values match, the commands following CASE are executed; otherwise, the next CASE comparison is checked.

DEFAULT
Provides commands to execute if no CASE comparisons are true.

default-block
Contains one or more commands to execute if no CASE comparisons are true.

(expression)
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

About the SWITCH...ENDSW Command Structure

SWITCH...ENDSW structures are composed of a series of options. The syntax diagram above shows the entire SWITCH...ENDSW structure, including the SWITCH value, CASE blocks, and the DEFAULT block.

The SWITCH Expression

SWITCH defines the expression to be compared. You can have multiple comparisons, so ENDSW defines the end of the comparisons. The SWITCH expression result must be either an INTEGER or a TEXT data type. The SWITCH expression can be a calculation, constant value, or variable. Any length of text can be compared, but only the first 30 characters are checked in each CASE block.

CASE Blocks

A CASE block consists of three parts: the CASE comparison, the commands following each comparison, and the BREAK statement.

CASE comparisons must be the same data type as the SWITCH expression result - either INTEGER or TEXT. A CASE value cannot be an expression, but must be a constant value or a variable. You can have multiple CASE comparisons to run a single set of commands. For an example of how to use multiple comparisons, see "Examples" below.

The commands following a CASE comparison can include any R:BASE command, including a nested SWITCH…ENDSW structure. You can nest as many SWITCH…ENDSW structures as memory allows.

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Use a BREAK statement as the last command in a CASE block to exit from the SWITCH…ENDSW structure. The BREAK command stops R:BASE from checking any additional CASE comparisons.

The DEFAULT Block

You can have only one DEFAULT block for each SWITCH…ENDSW structure. A DEFAULT block provides a set of commands to run if none of the CASE comparisons is valid; make the DEFAULT block the last statement block in a SWITCH...ENDSW structure. If a CASE block follows a DEFAULT block, R:BASE generates a warning.

Example

The following SWITCH...ENDSW structure uses a date entered in a FILLIN command in the expression. The TDWK function calculates day of the week as text from the date stored in *vday*.

```
FILLIN vday USING 'Enter a date: '
SWITCH (TDWK(.vday))
   CASE 'Saturday'
   CASE 'Sunday'
      WRITE 'This is a weekend day.'
      SHOW VARIABLE vday
      BREAK
   DEFAULT
      WRITE 'This is a weekday.'
      SHOW VARIABLE vday
      BREAK
ENDSW
```

If you entered 12/17/94 when prompted for the date, the first CASE comparison would check whether the day of the week is the word *Saturday*. Because the word is *Saturday*, R:BASE would display the message below. The BREAK command prevents R:BASE from processing the rest of the commands in the SWITCH...ENDSW structure.

```
This is a weekend day.
12/17/94
```

If the date entered is not *Saturday* or *Sunday* - for example, 12/22/94 - the information in the DEFAULT block would display the following.

```
This is a weekday.
12/22/94
```

1.20 T

1.20.1 TALLY

Use the TALLY command to count the occurrence of identical values in a column.

Options

colname
Specifies the name of the column from which you want to tally information.

FROM tblview
Specifies the table or view.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

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About the TALLY Command

The TALLY command displays each value and its number of occurrences as a list.

You can also count identical values by choosing **Calculate: Tally** from the Data Browser.

TALLY does not work with a NOTE data type.

To display data without column headings, set HEADINGS off before using the TALLY command. Setting HEADINGS off is useful if you direct output of the TALLY command to a device (printer or file) other than the screen, for example, to a file that you intend to load into another database. The default setting for HEADINGS is on.

Example

The following command lists occurrences of each customer identification number in the *transmaster* table. R:BASE sorts the information in ascending order by *custid*.

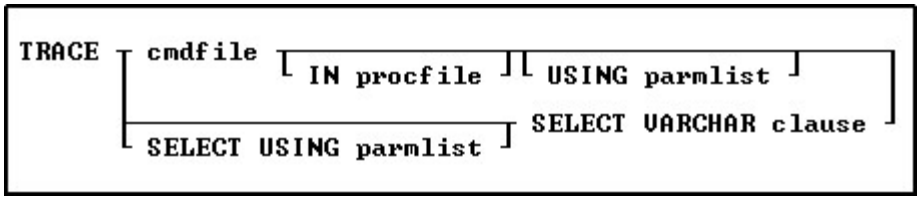
```
TALLY custid FROM transmaster
```

1.20.2 TILE

Use the TILE command to tile the open windows.

1.20.3 TRACE

Use the TRACE command to debug command blocks, command files, or command files requiring passed parameters. [Ctrl] + [Shift] + [F12] will trace the next entry/exit procedure.



Options

cmdfile
Specifies the name of the command file to debug.

On a workstation with multiple drives (local or mapped), especially when the files are on the different drive, it is always the best practice to define a drive letter when copying, deleting, renaming or running files, unless the specified files are located in the working directory. You will not need to specify the drive letter if all of the files are located in the default directory when using the copy, delete, rename or run commands.

IN procfile
Specifies the name of a procedure file. A procedure file is a compiled binary file that contains stored menu, screen, and command blocks. Include a drive and path name if the procedure file is not on the current drive and directory.

SELECT VARCHAR clause
Specifies a column defined with the VARCHAR data type from a table, then you can run the contents. The SELECT clause must limit the data to only one row; otherwise, an error is returned.

USING parmlist
Lists the values the command file will use when it executes. The parameter list can contain up to nine values. The first value in the list is referenced in the executed file as *%1*, the second as *%2*, and so on through *%9*.

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They are treated just like other variables. To reference the contents of these variables, preface the variable name with a dot (.); for example, set *v1* = .%1.

About the TRACE Command

The TRACE command starts the R:BASE interactive debugger. It allows you to go through the command file line-by-line to facilitate debugging the code. The TRACE command must be on a line by itself and not combined with other commands. For TRACE to work correctly with a file encoded by CodeLock, the ASCII file must be present in the current drive and directory, and have the file extension of .APP. If TRACE cannot find the ASCII file, it does not go through the procedure file line-by-line when it runs.

Trace new features (Windows Only):

Immediately after you find error in the R:BASE debugger, you can correct bad syntax using RBEDIT.

To correct an error :

1. You start R:BASE debugger using trace command.
2. A error point is found, R:BASE debugger display a error message and Do you modify this file? message.
3. If you wish modify it at once, you click Yes button. RBEDIT is started and you move the cursor to the error point.
4. You finish to correct error, save the file and exit RBEDIT.
5. If you want to repeat debugging, you restart the R:BASE debugger using trace command.

For more information about the Interactive Debugger, refer to the *Trace.chm* compiled Help in the R:BASE program directiory.

Examples

The following command displays the MYCMDFIL file for debugging in the current directory.

```
TRACE mycmdfil
```

The following command displays a command block for debugging named *mycmdfil* in a procedure file named MYPROCFL.APX.

```
TRACE mycmdfil IN myprocfl.apx
```

The following TRACE command displays the TRACE Debugger for the command syntax with the *CmdData* VARCHAR data field inside the table *IntrnlCmd.*

```
TRACE SELECT CmdData FROM IntrnlCmd WHERE CmdName = 'NewKey'
```

TRACE can also be initiated inside a command file to trace a block of code using the SET TRACE ON operating condition.

1.20.4 TURBO

Use the TURBO command to convert R:BASE RB1-RB4 database files to RX1-RX4 database files.

The TURBO command will convert database files as far back as version 4.5. But, if you need to salvage any DOS forms and reports, you must connect to R:BASE 6.5++ for Windows to convert the forms and reports.

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1.20.5 TYPE

Use the TYPE command to send an ASCII text file to another file, screen, or printer.

Option

filespec
Specifies a file name with a drive and path specification in the form D:\PATHNAME/FILENAME.EXT.

About the TYPE Command

This command is similar to the operating system TYPE command. Unlike the operating system command, the R:BASE command displays a screen of data and prompts you to press any key to continue.

In R:BASE, you can use TYPE to display a file and review its contents. If TYPE is used in an R:BASE command file, it can display any ASCII file.

The SET WIDTH and SET LINES commands affect how TYPE displays data. For example, if you set width to 40 characters and lines to 15, TYPE displays 15 lines of data before the "Press any key to continue" message displays, and wraps each line of data after 40 characters.

Use TYPE to check an ASCII file for "nondisplayable" characters before transferring data from an external source to R:BASE. If your computer displays irrelevant graphic characters, the file contains nondisplayable characters that R:BASE might not be able to read.

To send a file to a printer, enter OUTPUT PRINTER before the TYPE command.

Examples

The following command displays the ASCII file named THISFILE.DAT stored on the current drive and directory.

```
TYPE thisfile.dat
```

The following command displays the ASCII file named MYFILE.DAT stored in the MYDIR directory on drive B:.

```
TYPE b:\mydir/myfile.dat
```

The following command prints the ASCII file named THISFILE stored on drive A:, then returns output to the screen.

```
OUTPUT PRINTER
TYPE a:thisfile
OUTPUT SCREEN
```

1.21 U

1.21.1 UNION

Use the UNION command to combine the columns and rows of two tables into a new table.

Options

FORMING tblname3

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Specifies the name of the new table that is produced.

tblname1
Specifies the name of one of two tables you will combine.

USING collist
Specifies the columns and order of columns that you want to include in the new table. At least one column in the USING clause must exist in both tables. If you do not include the clause, R:BASE makes a new table that includes all columns from both tables.

WITH tblname2
Specifies the name of the second of two tables you will combine.

About the UNION Command

When two tables are added together, R:BASE looks for columns in both tables that have the same name. The values in these common columns are added together and placed in the new table.

If the common columns have more than one match, R:BASE adds a new row for each possible combination. For example, if a table with a column named *empid* has two rows with an identification number of 100, and a second table has three rows with the same identification number, the new table will have six rows-one for each combination.

You can increase the speed of UNION by creating an index for the common column in both tables. If the tables have multiple common columns, index the common column that has the greatest number of unique values.

Combining Various Column Types

When computed columns are common columns, R:BASE compares the current values and changes the computed columns to regular columns in the new table. If you want a computed column in the new table, you should include each column used in the computed column's expression before the computed column.

If you use the UNION command to combine one or more columns that have NOTE data types, R:BASE truncates the columns that have the NOTE data types until the total row length is within the 32,768-character limit.

In a new table, R:BASE does not update the value in a row for an autonumbered column. An autonumber column becomes a regular column.

Creating New Columns

You can also use UNION to add new columns to a table. Define the new columns in a temporary table with the CREATE TABLE command. Then, combine the existing table with the temporary table to form a new table containing all the columns. When the union is complete, use the DROP command to delete the temporary table. The temporary table must have at least one column in common with the existing table.

Examples

The following command creates the *saleshist* table by combining all rows for the *empid*, *empfname*, *emplname*, and *netamount* columns. The s*aleshist* table contains the columns listed in the USING clause in the order given.

```
UNION employee WITH transmaster FORMING saleshist USING +
empid, empfname, emplname, netamount
```

The following command creates the *reporthistory* table by combining all columns and rows from the *employee* and *salesbonus* tables. If a USING clause is not specified,*reporthistory* includes all the columns from the *employee* and *salesbonus* tables, listing the columns from the *employee*table first.

```
UNION employee WITH salesbonus FORMING reporthistory
```

1.21.2 UNLOAD

Use the UNLOAD command to copy the data, structure, or data and structure of a database or table to a specified output device.

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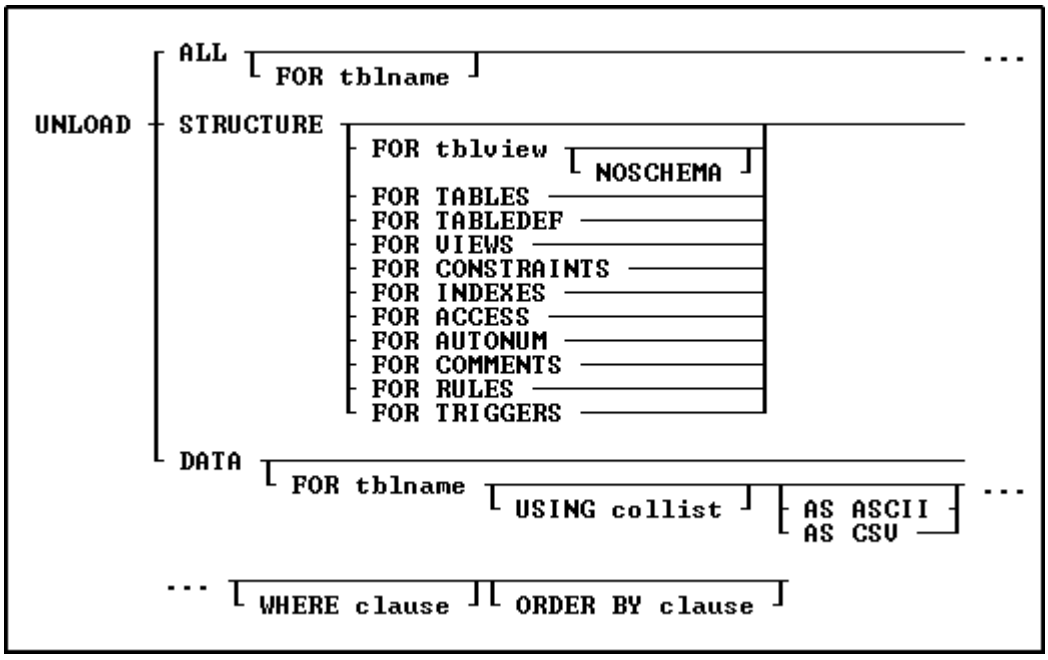

Options

ALL
Unloads both the data and the structure.

AS ASCII
Unloads data in ASCII-delimited format. Use only with the UNLOAD DATA command.

AS CSV
Unloads data in a minimally quoted comma separated format. Each field will be separated by the current DELIMIT character (usually the comma). Fields that contain the current DELIMIT character will be enclosed in the current QUOTES character.

DATA
Unloads just the data.

FOR ACCESS
Unloads all current access rights in the database.

FOR AUTONUM
Unloads the AUTONUM column formula for all autonumbered database columns in the database.

FOR COMMENTS
Unloads all comments assigned to tables, views, and columns in the database.

FOR CONSTRAINTS
Unloads all primary key, foreign key, and unique key relational constraints in the database, based on their order of creation.

FOR INDEXES
Unloads all indexes in the database.

FOR TABLES
Unloads the complete table structure for all tables in the database. The output includes the table definition, relational constraints; based on their order of creation, access rights, autonumbered columns, comments, rules, and triggers.

FOR TABLEDEF
Unloads the table definition structure for all tables in the database. The output contains only the SQL command necessary to create all the tables.

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FOR tblview
Specifies a single table/view to unload the SQL command necessary to create a specific table/view.

FOR TRIGGERS
Unloads all triggers in the database.

FOR RULES
Unloads all rules in the database.

FOR VIEWS
Unloads the SQL command necessary to create all views.

NOSCHEMA
Omits the character settings and CREATE SCHEMA syntax from the beginning of the output.

ORDER BY clause
Sorts rows of data. For more information, see ORDER BY.

STRUCTURE
Unloads just the structure.

STRUCTURE FOR tblview
Unloads the SQL command necessary to create a specific table/view.

tblname
Specifies the table name to unload the data, structure, or both.

USING collist
Specifies the column(s) to use with the command.

WHERE clause
Limits rows of data. For more information, see WHERE.

About the UNLOAD Command

Use UNLOAD to transfer tables or views from one database to another, or to back up a database. You can also use UNLOAD to free up space while using a temporary table.

The UNLOAD ALL and UNLOAD STRUCTURE commands require the database owner's user identifier if the database has had access rights granted with the GRANT command. R:BASE places the owner's user identifier and all the granted access rights in the file created by UNLOAD to ensure that the restored database file continues to be protected. Be sure to protect this file from unauthorized users.

The UNLOAD command creates a file with a .LOB extension for binary large objects, and the originating file that you specify for the data and/or structure. Your originating file can NOT have a .LOB file extension, otherwise, R:BASE will not be able to continue with the UNLOAD process.

Transferring Tables and Views

UNLOAD does not change the data or structure of the original database, and it does not unload computed column values unless you use the AS ASCII or AS CSV option.

You can also unload and transfer the data and structure of a view. To input the data from an unloaded view into a table, create a table to match the view's structure and use the LOAD *tblname* FROM *filespec* command, since views do not contain data. The UNLOAD command is useful when you want to create a file to transfer data to another database as a table.

To be able to reliably load data back into R:BASE from an unloaded file:

- Set null to -0- (the R:BASE default) before unloading data.
- Do not set a special character to the same setting as another special character.
- Precede UNLOAD with an OUTPUT command to direct the data to be unloaded to a file. You can edit the unloaded file with any ASCII text editor.

To transfer unloaded information back into R:BASE, use the RUN, RESTORE, or GATEWAY commands, if transferring only data. For example, you can use the UNLOAD DATA command to unload data, then the RUN

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command to transfer the data to a different database.

If the UNLOAD AS CSV syntax has been used you can use the LOAD AS CSV command to restore the data.

Backing up a Database

R:BASE unloads data in ASCII delimited format: values are separated by the current delimiter and all text strings are enclosed in quotation marks. UNLOAD creates a file containing commands that set special characters, such as commas and quotation marks. The setting of the SET WIDTH command affects the width of data lines in the unloaded file

If the database has columns defined as binary or text large objects, then UNLOAD creates two files, one file containing the R:BASE commands, and a second file (with a .LOB extension) containing the large object data. Both files are needed to transfer the information back into R:BASE. Your originating file can NOT have a .LOB file extension, otherwise, R:BASE will not be able to continue with the UNLOAD process.

Note: The unloaded file cannot span multiple floppy disks.

The UNLOAD STRUCTURE or UNLOAD ALL commands write all the commands necessary to define the database or table, starting with CREATE SCHEMA AUTHORIZATION *dbname* near the beginning of the file. Before you input or restore the data or structure into a different database, you can use a text editor to change the database name in the unloaded file. If you use UNLOAD STRUCTURE, you can copy the table structure after you change the database name in the unloaded file.

Unloading Temporary Tables

Use the UNLOAD *tblname* command to backup individual temporary tables created when STATICDB is set on-which activates a read-only schema mode. When UNLOAD is used to backup temporary tables, it generates a SET STATICDB OFF command to be executed prior to the CREATE SCHEMA command. For more information about the SET STATICDB command, see the "SET STATICDB" entry.

Note: UNLOAD ALL does not back up temporary tables.

Examples

- The following command lines unload only the data from the *product* table to a file named MYFILE.DBS. The data is in ASCII delimited format. The OUTPUT SCREEN command redirects the output back to the screen and closes the file.

```
OUTPUT myfile.dbs
UNLOAD DATA FOR product AS ASCII
OUTPUT SCREEN
```

- In the example below the a file will be created that contains Comma Separated Values with no headings and no page breaks.

```
SET HEADINGS OFF
SET LINES 0
SET WIDTH 200
OUTPUT myfile.csv
UNLOAD DATA FOR Employees AS CSV
OUTPUT SCREEN
```

The commands above might create the file below. Notice that Jane Dough has Quotes surrounding her address. This is because the text contains an embedded comma.

```
Robert,Smith,123 Main St,Denver,CO,Support
Jane,Dough,'98 Folk St, Apt 1',Pittsburgh,PA,Sales
Matt,Follows,14 Arrowhead Ln,Portsmouth,RI,Services
```

- The following command unloads the complete structure for the Contact table within the ConComp sample database.

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```
R>UNLOAD STRUCTURE FOR contact

SET QUOTES=NULL
SET QUOTES='
SET DELIMIT=NULL
SET DELIMIT=','
SET LINEEND=NULL
SET LINEEND='þ'
SET SEMI=NULL
SET SEMI=';'
SET PLUS=NULL
SET PLUS='+'
SET SINGLE=NULL
SET SINGLE='_'
SET MANY=NULL
SET MANY='%'
SET IDQUOTES=NULL
SET IDQUOTES='`'
SET CURRENCY '$' PREF 2 B
DISCONNECT
SET STATICDB OFF
SET ROWLOCKS ON
SET FASTLOCK OFF
CREATE SCHEMA  AUTHOR ConComp  NONE
CREATE TABLE `Contact`  +
(`CustID` INTEGER  ,  +
 `ContFName` TEXT    (10) NOT NULL  +
('Value for column Contfname cannot be NULL.') ,  +
 `ContLName` TEXT    (16) NOT NULL  +
('Value for column Contlname cannot be NULL.') ,  +
 `ContPhone` TEXT    (12) ,  +
 `ContInfo` NOTE     ,  +
 `ContPhoto` LONG VARBIT   )
ALTER TABLE `Contact` ADD FOREIGN KEY +
 ( `CustID` )+
 REFERENCES `Customer`
COMMENT ON `CustID` IN `Contact` IS +
'Customer identification number'
COMMENT ON `ContFName` IN `Contact` IS +
'Customer contact first name'
COMMENT ON `ContLName` IN `Contact` IS +
'Customer contact last name'
COMMENT ON `ContPhone` IN `Contact` IS +
'Customer contact phone number'
COMMENT ON `ContInfo` IN `Contact` IS +
'Customer contact notes'
COMMENT ON `ContPhoto` IN `Contact` IS +
'Customer contact photo'
COMMENT ON TABLE `Contact` IS +
'Customer Contact Information'
```

- The following command unloads the structure for the Contact table within the ConComp sample database, without any database schema at the beginning.

```
R>UNLOAD STRUCTURE FOR contact NOSCHEMA

CREATE TABLE `Contact`  +
(`CustID` INTEGER  ,  +
 `ContFName` TEXT    (10) NOT NULL  +
('Value for column Contfname cannot be NULL.') ,  +
 `ContLName` TEXT    (16) NOT NULL  +
('Value for column Contlname cannot be NULL.') ,  +
 `ContPhone` TEXT    (12) ,  +
 `ContInfo` NOTE     ,  +
 `ContPhoto` LONG VARBIT   )
```

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```
ALTER TABLE `Contact` ADD FOREIGN KEY +
 ( `CustID` )+
 REFERENCES `Customer`
COMMENT ON `CustID` IN `Contact` IS +
'Customer identification number'
COMMENT ON `ContFName` IN `Contact` IS +
'Customer contact first name'
COMMENT ON `ContLName` IN `Contact` IS +
'Customer contact last name'
COMMENT ON `ContPhone` IN `Contact` IS +
'Customer contact phone number'
COMMENT ON `ContInfo` IN `Contact` IS +
'Customer contact notes'
COMMENT ON `ContPhoto` IN `Contact` IS +
'Customer contact photo'
COMMENT ON TABLE `Contact` IS +
'Customer Contact Information'
```

- The following command unloads the indexes for the ConComp sample database.

```
R>UNLOAD STRUCTURE FOR INDEXES

CREATE     INDEX CustState ON `Customer` +
(`CustState` ASC SIZE 2 )
```

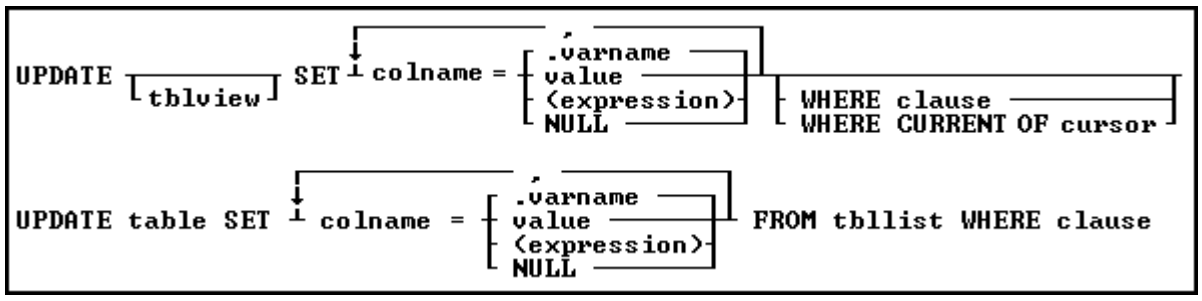
- The following command unloads the rules for the ConComp sample database.

```
R>UNLOAD STRUCTURE FOR RULES

RULES 'Value for onhand cannot be less than minimum.' +
               FOR `ProdLocation` SUCCEEDS  +
               WHERE ProdLocation.Onhand >= 1
```

1.21.3 UPDATE

Use the UPDATE command to change the data in one or more columns in a table or a view.



Options

,
Indicates that this part of the command is repeatable.

(expression)
Determines a value using a text or arithmetic formula. The expression can include other columns from the table, constant values, functions, or system variables such as *#date*, *#time*, and *#pi*.

FROM tbllist
Specifies a list of tables from which data can be retrieved and updated.

NULL
Sets the values in the column equal to null.

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SET colname
Specifies the column to update.

table
Specifies a table.

tblview
Specifies a table or view. If no table or view name is included, columns will be updated in all tables containing the specified columns, according to the conditions of the WHERE clause.

value
Specifies a value to enter in the specified column.

.varname
Specifies a global variable that provides a value for a column.

WHERE clause
Limits rows of data. For more information, see the "WHERE" entry.

WHERE CURRENT OF cursor
Specifies a cursor that refers to a specific row to be affected by the UPDATE command. With this option, you must specify *tblview*.

About the UPDATE Command

This command is useful for adjusting values in columns that require uniform changes.

The UPDATE command only modifies data in columns in one table or view. You can also update a table by referencing values from another table. You can modify a column's value by doing the following:

- Entering a new value for the column as a constant or variable
- Entering an expression that calculates a value for the column
- Entering a null value

Notes:

- Only users that have been granted rights to update the table(s) or column(s) can run the UPDATE command.
- R:BASE complies with defined rules, even for columns not affected by the update. If an update breaks a rule, the update is not processed.
- You cannot use UPDATE with computed or autonumbered columns. To change a computed column value, change the values in the columns to which the computed column refers.
- The UPDATE command will not update data in a multi-table View (a View based on multiple tables), as the data is not editable.
- A View with a GROUP BY parameter is also not editable.

Updating Column Values

You can update a column with a specific value. The value you use must meet the requirements of the column's data type, for example, a numeric column cannot be loaded with a text value.

Use the current delimiter character (the default is a comma) to separate each column and its new value from the next column and value.

Use the following guidelines when modifying data with UPDATE:

- Do not embed commas within entries for CURRENCY, DATE, DATETIME, DOUBLE, INTEGER, NUMERIC, or REAL data types. R:BASE automatically inserts commas and the current currency symbol.
- When values for CURRENCY, DOUBLE, NUMERIC, or REAL or data types are decimal fractions, you must enter the decimal point. When values are whole numbers, R:BASE adds a decimal point for you at the end of the number. R:BASE adds zeros for subunits in whole currency values. For example, using the default currency format, R:BASE loads an entry of 1000 as $1,000.00.
- When values for NOTE or TEXT data types contain commas, you can either enclose the entries within quotes, or use SET DELIMIT to change the default delimiter (comma) to another character.
- When values for NOTE or TEXT data types contain single quotes ('), and you are using the default

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QUOTES character ('), use two single quotes ('') in the text string. For example, 'Walter Finnegan''s order.'

- When values for NOTE or TEXT data types exceed the maximum length of a column, R:BASE truncates the value and adds it to the table. A message is displayed that tells you which row has been truncated.

Using an Expression or Variable

Enclose expressions in parentheses. If you use global variables in an expression, dot the variable (.*varname*). If expressions contain values that have a TEXT data type, enclose the values within quotes. The default QUOTES character is the single quote (').

If you attempt to use a null value in an expression or computed column, the result of the expression is null. However, if you set ZERO to on, R:BASE treats null values as zeros and processes expressions as if the null value were zero.

Using the WHERE Clause

If an UPDATE command includes a table or view name, you do not need to specify a WHERE or WHERE CURRENT OF clause. All rows will be updated.

If you use a WHERE CURRENT OF clause, you must include a table or view name in the command.

If you omit a table or view name, you must use a WHERE clause with the UPDATE command so that you do not change values in more rows than you intended to change. The WHERE clause pinpoints the rows you want to change. If any columns exist in more than one table, all occurrences are changed if the column value meets the WHERE clause conditions. Test the WHERE clause by using the SELECT command before using the clause with UPDATE command. By using a WHERE clause with a SELECT command, you can view the rows you want to change before changing them.

R:BASE takes significantly less time to process a WHERE clause if one of the columns specified in the clause is an indexed column.

Using UPDATE with Transaction Processing

If more than one person at a time executes an UPDATE command and transaction processing is on, R:BASE might not execute the command concurrently. If you hold an UPDATE lock, you can read, modify, or delete any row in a table. R:BASE blocks any additional requests for UPDATE until other SELECT or UPDATE locks are cleared.

Examples

The following command changes values in the *company* and *custphone* columns of the *customer* table for the row where *custid* equals 100.

```
UPDATE customer SET company = 'Quality Computers', +
custphone = '617-341-3762' WHERE custid = 100
```

The following command changes the *invoicetotal* column in the *transmaster* table to the value of the expression (*invoicetotal * .9*) for rows where *transid* is greater than 5000.

```
UPDATE transmaster SET invoicetotal = ( invoicetotal * .9) +
WHERE transid > 5000
```

The following command changes the *listprice* column to the value of the expression (*1.1 * listprice*) for every row in the *prodlocation* table containing an entry in the *listprice* column.

```
UPDATE prodlocation SET listprice = (1.1 * listprice) +
WHERE listprice IS NOT NULL
```

The following command adds to the set of conditions in the above command. The command below extracts all of the selling prices from the *transdetail* table and requires that *listprice* be changed only if it matches a current selling price in the table.

```
UPDATE product SET listprice = (1.1 * listprice) +
WHERE listprice IS NOT NULL AND model = 'CX3000' +
```

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```
AND listprice IN (SELECT price FROM transdetail +
WHERE model = 'CX3000')
```

The following command changes the *onhand* column in the *prodlocation* table (specified by cursor *curs1*) to the value of the expression (*onhand - 100*). The changes are made only in the row currently referenced by the cursor.

```
UPDATE prodlocation SET onhand = (onhand - 100) +
WHERE CURRENT OF curs1
```

The following example shows interactive data updating in an application file. The first line defines the global variable *var1* as an INTEGER data type. The second command line allows you to enter a value for *var1*. The value of *var1* is used in the expression that is assigned to the *onhand*column of the *prodlocation* table. The UPDATE command changes values in *onhand* to the value of the expression (*onhand - .var1*) for all rows containing model numbers that begin with the letter C. The wildcard character % indicates one or more additional characters.

```
SET VARIABLE var1 INTEGER

FILLIN var1 USING 'Enter quantity by which to reduce inventory: '

UPDATE prodlocation SET onhand = (onhand - .var1) +
WHERE model LIKE 'C%'
```

The following command changes the last names of two employees. This command omits the table name, thereby causing a global change to all tables that meet the WHERE clause criteria.

```
UPDATE SET emplname TO 'Smith-Simpson' WHERE +
(empfname = 'Mary' AND emplname = `Simpson') OR +
(empfname = 'John' AND emplname = 'Smith')
```

The following example corrects a problem that can occur with an incorrect date sequence setting. For example, assume that you had the date sequence set to a four-digit year when you entered transactions, and you entered dates with a two-digit year (3/1/93). The dates would be stored as 3/1/0093. And, if you wanted the date to be in the 20th century, you could use the UPDATE command to modify the existing dates to 20th century dates by adding 693,960 to each date, which is the number of days between the beginning of the 1st and 20th centuries.

The SET DATE command makes sure that you are using a four-digit year. The UPDATE command changes all *transdate* values to 20th century dates, where the current value of the column is less than 1/1/1900. The last SET DATE command returns to a two-digit date sequence and format.

```
SET DATE MM/DD/YYYY

UPDATE transmaster SET transdate = (transdate + 693960) +
WHERE transdate < 1/1/1900

SET DATE MM/DD/YY
```

Assume that you wanted to update the *inventory* table with the sum of the units sold from the *orders* table. Because there are many rows in the *orders* table for each part number, you cannot do this directly with the UPDATE command. The CREATE VIEW command creates a view containing the sum of the units sold from the *orders* table. The UPDATE command updates the *inventory* table by extracting the *totalsold* value from the view named *orders_view* for each part number.

```
CREATE VIEW orders_view (partid,totalsold) AS SELECT +
partid, sum(sold) FROM orders GROUP BY partid

UPDATE inventory SET onhand = (T1.onhand - T2.totalsold) +
FROM inventory T1, orders_view T2 +
WHERE T1.partid = T2.partid
```

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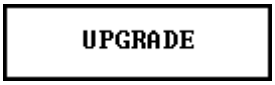
1.21.4 UPGRADE

Creates the R:BASE 7.x required system tables. You must be in single-user mode.



About the UPGRADE command

Use UPGRADE command to create all required system tables for R:BASE 7.x, such as SYS_FORMS3, SYS_LABELS,
SYS_LAYOUTS3, SYS_MERGE and SYS_REPORTS3.

Example: (at the R> prompt)

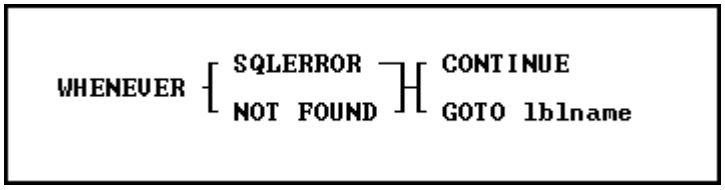
```
DISCONNECT
SET MULTI OFF
CONNECT dbname
UPGRADE
LIST SYS%
DISCONNECT
SET MULTI ON
CONNECT dbname
```

Databases that have already been converted to the 7.x format with above system tables will not need to be converted. However, if you are missing any one of the above system table(s), use UPGRADE command as explained above.

1.22 W

1.22.1 WHENEVER

Use the WHENEVER command in a program to check error conditions and run a set of commands designed to handle the error.



Options

CONTINUE
Turns off error checking by the WHENEVER command.

GOTO lblname
Passes control to the command following the indicated LABEL command.

NOT FOUND
Indicates that no rows were found by the command (*sqlcode*equals 100).

SQLERROR
Indicates that a processing error of any type other than *data-not-found* was detected (*sqlcode* is less than zero).

About the WHENEVER Command

Use WHENEVER to trap errors when R:BASE Structured Query Language (SQL) commands are run. WHENEVER

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traps all SQL commands. For more information about structured query language, see the "Structured Query Language" entry.

R:BASE places the error value of the specific error that occurs in the R:BASE system variable *sqlcode*. You can check the value of *sqlcode* to determine what action to take. The NOT FOUND errors always have the value 100; other errors are the negative of the R:BASE error code number.

Errors in R:BASE commands-not R:BASE SQL commands- do not affect the value of the *sqlcode* error variable. Use an R:BASE error variable to check for R:BASE command errors.

Using the Options

Enter a WHENEVER SQLERROR command at the beginning of a command file or command block to check for any SQL processing error other than *data-not-found* errors. WHENEVER applies only to that command or block. The system error variable *sqlcode* is set to the negative value of an error condition.

Enter a WHENEVER NOT FOUND command at the beginning of a command file or block to check for conditions such as *No rows satisfy the WHERE clause* or *End-of-data encountered*that occur within a program that is running.

The CONTINUE option turns off error checking and negates any previously entered WHENEVER command. That is, if you have entered a WHENEVER NOT FOUND with a GOTO, R:BASE runs the GOTO whenever data is not found. Then, if you enter a WHENEVER NOT FOUND command with a CONTINUE, data-not-found errors do not run the GOTO action. The GOTO action passes control to the specified label. You must have a matching LABEL command in the same command file or block within the procedure file running the WHENEVER command.

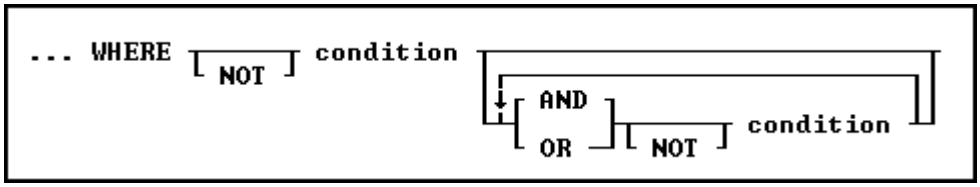
Example

In the following example, the DECLARE CURSOR and OPEN commands set a route to the *transmaster* table when the value of *transid* matches the value in the *vtran* variable. If the FETCH command does not find any rows, then R:BASE passes control to the commands that follow the LABEL command. The section after the LABEL command should contain commands to check the value of the *sqlcode* system variable and then perform some action according to the specific error condition that occurs.

```
WHENEVER NOT FOUND GOTO errors
.
.
.
DECLARE cur1 CURSOR FOR SELECT custid, netamount FROM +
   transmaster WHERE transid = .vtran
OPEN cur1
FETCH cur1 INTO vid, vamount
.
.
.
LABEL errors
*(error handling commands)
```

1.22.2 WHERE

Use a WHERE clause in commands to qualify or restrict the rows affected by a command.



Options

AND
Indicates the following condition must be met along with the preceding condition.

condition

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Identifies requirements to be in the WHERE syntax.

NOT
Reverses the meaning of a connecting operator. AND NOT, for example, indicates that the first condition must be met and the following condition must not be met.

OR
Indicates the following condition can be met instead of the preceding condition.

About the WHERE Clause

In most commands, a WHERE clause follows the syntax diagram above. The JOIN command does not use that syntax diagram because it uses only comparison operators in a WHERE clause to compare two columns.

The two main elements in any WHERE clause are conditions and connecting operators.

We now support "COUNT = LAST" in two different ways. If the entire WHERE clause is "WHERE COUNT = LAST" then R:BASE works like it always has to quickly fetch the last row of the table. The NEW functionality is to have other conditions in the WHERE clause and you want the last row of whatever qualifies.

To make it work this way specify the other conditions and then add "AND COUNT = LAST".

Here is an example:

SELECT * FROM Customer WHERE CustID > 100 AND COUNT = LAST

WHERE Clause Conditions

The following syntax diagram and table show the basic formats for WHERE clause conditions, which can be used alone or together.

Note: Placing NOT before most text operators (such as NULL or BETWEEN) reverses their meaning.

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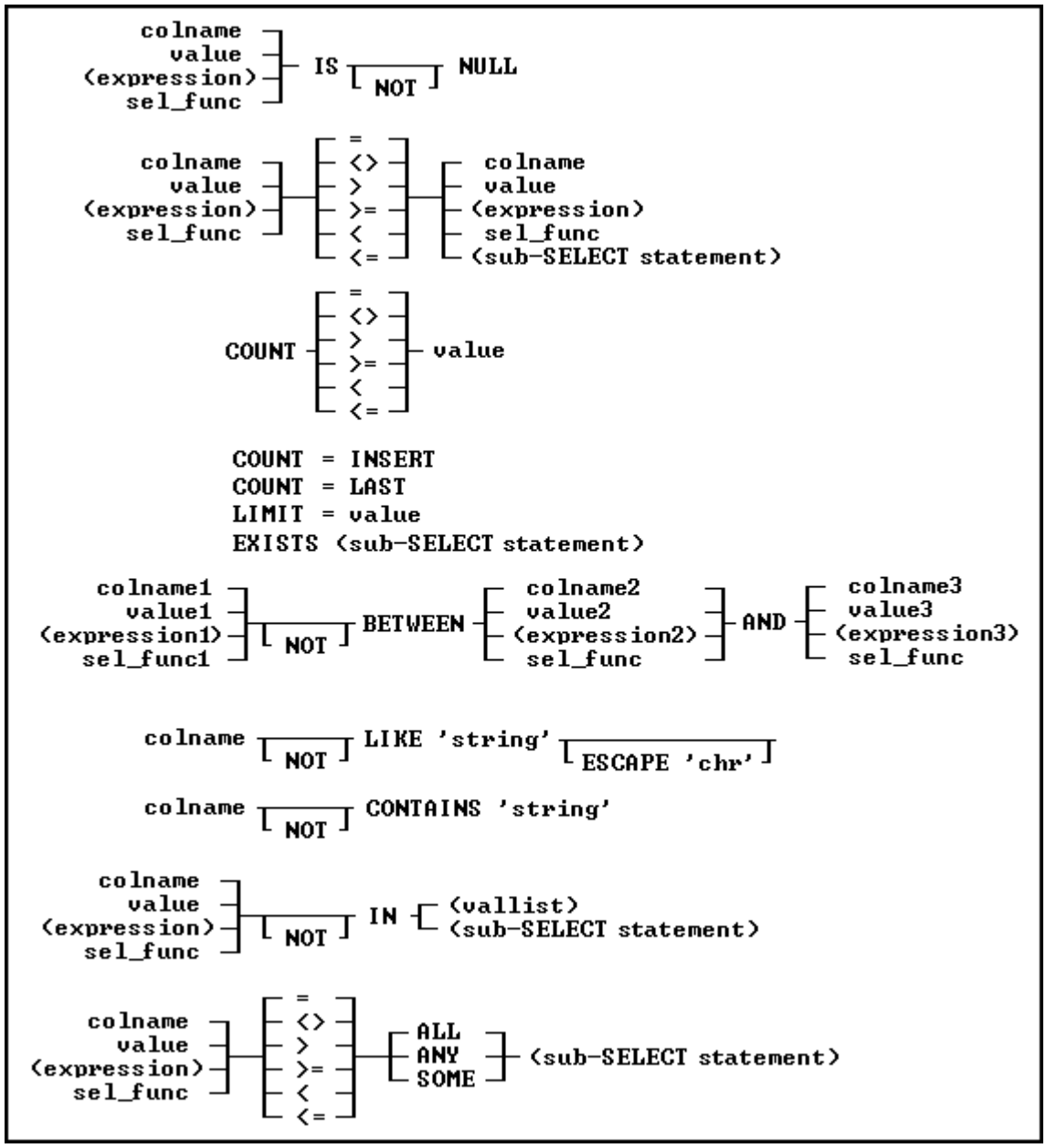

Basic WHERE Clause Conditions

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Condition Syntax	Description
colname op DEFAULT	True if a column value compares correctly with the DEFAULT value for the column. *Op* can be =, <>, >=, >, <=, or <.
colname = USER	True if a column value equals the current user identifier.
item1 IS NULL	True if *item1* has a null value. *Item1* can be a column name, value, or expression. A null value cannot be used in a comparison with an operator.
item1 op item2	True if the relationship between two items is true as defined by an operator. *Item1* can be a column name, value, or expression; *item2* can be a column name, value, expression, or sub-SELECT statement.
COUNT=INSERT	Refers to the last row inserted by the current user, even if it has been modified by another user.
COUNT=LAST	Refers to the last row in a table. COUNT cannot be used with a view.
COUNT *op value*	Refers to a number of rows defined by *op* and *value*.
LIMIT=*value*	Specifies a number of rows affected by a command. A LIMIT condition should be the last condition in a WHERE clause.
EXISTS (sub-SELECT statement)	True if sub-SELECT statement returns one or more rows.
item1 BETWEEN *item2* AND *item3*	True if the value of *item1* is greater than or equal to the value of *item2*, and if the value of *item1* is less than or equal to the value of *item3*.
colname LIKE '*string* '	True if a column value equals the text string. With LIKE, a string can also be a DATE, TIME, or DATETIME value. The text string can contain R:BASE wildcard characters.
colname LIKE '*string* ' ESCAPE '*chr* '	True if a column value equals a text string. If you want to use a wildcard character as a text character in the string, specify the ESCAPE character 1*chr*. In the string, use *chr* in front of the wildcard character.
colname CONTAINS '*string* '	True if a column value contains the text string.
colname SOUNDS '*string* '	True if the soundex value of a column matches the soundex value of the text string.
item1 IN (*vallist*)	True if *item1* is in the value list.
item1 IN (sub-SELECT statement)	True if *item1* is in the rows selected by a sub-SELECT.
item1 op ALL (sub-SELECT statement)	True if the relationship between *item1* and every row returned by a sub-SELECT statement matches an operator.
item1 op ANY(sub-SELECT statement)	True if the relationship between *item1* and at least one value returned by a sub-SELECT statement matches an operator.
item1 op SOME (sub-SELECT statement)	ANY and SOME are equivalent.

Note: When a SELECT statement is part of a WHERE clause, it is called a sub-SELECT clause. A sub-SELECT clause can contain only one column name (not a column list or *), expression, or function. The INTO and ORDER BY clauses in a sub-SELECT are ignored.

You can only use the current wildcard characters to compare a column to a text value when using the LIKE comparison. The default wildcard characters are the percent sign (%), which is used for one or more characters, and the underscore (_), which is used for a single character.

If you compare a column with a value, you can either enter the value or specify a global variable. If you specify a variable, R:BASE compares the column with the current value of the variable.

To significantly reduce processing time for a WHERE clause, use INDEX processing. To use indexes, the following conditions must be met:

- A condition in the WHERE clause compares an indexed column.
- If the WHERE clause contains more than one condition, R:BASE selects the condition that places the greatest restriction on the WHERE clause.
- Conditions are not joined by the OR operator.
- The comparison value is not an expression.

Connecting Operators

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When you use more than one condition in a WHERE clause, the conditions are connected using the connecting operators AND, OR, AND NOT, and OR NOT.

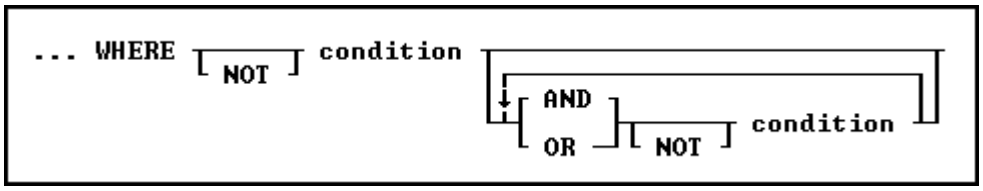
The connecting operator AND requires that both conditions it separates must be satisfied. The connecting operator OR requires that either condition it separates must be satisfied.

The connecting operator AND NOT requires that the preceding condition must be satisfied, and the following condition must not be satisfied. The connecting operator OR NOT requires that either the preceding condition must be satisfied, or any condition except the following condition must be satisfied.

In WHERE clauses with multiple conditions, conditions that are connected by AND or AND NOT are evaluated before those connected by OR or OR NOT. However, you can control the order in which conditions are evaluated by either placing parentheses around conditions or using the SET AND command. If you set AND off, conditions are always evaluated from left to right.

WHERE Builder

When launching the WHERE Clause Builder, the following window will appear:



Examples

The following WHERE clause chooses sales amounts that are less than the value of a variable containing the daily average.

```
... WHERE amount < .dailyave
```

The following WHERE clause specifies the seventh row.

```
... WHERE COUNT = 7
```

The following WHERE clause specifies each row from the *employee*table that contains both the first name *June* and the last name *Wilson*.

```
SELECT * FROM employee WHERE empfname = 'june' AND emplname = 'wilson'
```

The following WHERE clause selects dates in the *actdate* column that are greater than dates in the *begdate* column or are less than dates in the *enddate* column.

```
... WHERE actdate BETWEEN begdate AND enddate
```

The next three WHERE clauses use the following data:

```
empfname emplname
-------- --------
    Mary Jones
    John Smith
   Agnes Smith
    John Brown
```

In both of the following clauses, R:BASE first evaluates the conditions connected by AND, selecting John Smith. Then R:BASE adds any Marys to the list because the connecting operator is OR. The final result includes John Smith and Mary Jones.

```
...WHERE empfname = 'Mary' OR empfname = 'John' +
 AND emplname = 'Smith'

...WHERE empfname = 'Mary' OR (empfname = 'John' +
```

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```
 AND emplname = 'Smith')
```

By moving the parentheses around the conditions connected by OR, you can select only John Smith. In the following WHERE clause, the first name can be either Mary or John, but the last name must be Smith.

```
...WHERE (empfname = 'Mary' OR empfname = 'John') AND +
 emplname = 'Smith'
```

The following example illustrates a sub-SELECT in a WHERE clause. Assume you wanted a list of all sales representatives that had transactions greater than $100,000, and the information for such a list was contained in two tables, *employee* and *transmaster*. The relevant columns in these tables are:

```
employee transmaster
empid  emplname empid    netamount
----- --------- ----- ------------
  102 Wilson      133   $32,400.00
  129 Hernandez   160    $9,500.00
  133 Coffin      129    $6,400.00
  165 Williams    102  $176,000.00
  166 Chou        160  $194,750.00
  167 Watson      129   $34,125.00
  160 Smith       131  $152,250.00
  131 Simpson     102   $87,500.00
  102                   $22,500.00
  102                   $40,500.00
  131                  $108,750.00
  131                   $80,500.00
  129                   $56,250.00
  102                   $57,500.00
  160                  $140,300.00
  129                   $95,500.00
  129                  $155,500.00
  133                   $88,000.00
  131                  $130,500.00
  102                    $3,060.00
  165                    $3,060.00
  167                    $3,830.00
  133                   $12,740.00
  165                   $26,310.00
```

To display a list of employees in the *transmaster* table with a transaction larger than $100,000, enter the following command:

```
SELECT empid, emplname FROM employee WHERE empid IN +
   (SELECT empid FROM transmaster WHERE netamount > 100000)
```

R:BASE displays the following list:

```
    empid emplname
--------- ----------------
      102 Wilson
      129 Hernandez
      131 Simpson
      160 Smith
```

Note: You can use a sub-SELECT in any command that allows a full WHERE clause.

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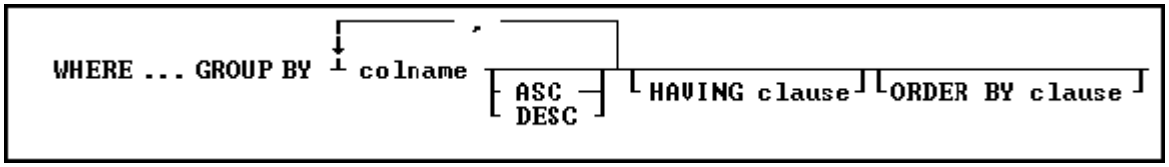
1.22.2.1 GROUP BY

This clause determines which rows of data to include.



Options

,
Indicates that this part of the command is repeatable.

ASC
DESC
Specifies whether to sort a column in ascending or descending order.

colname
Specifies a 1 to 18 character column name. In a command, you can enter *#c*, where *#c* is the column number shown when the columns are listed with the LIST TABLES command. In an SQL command, a column name can be preceded by a table or correlation name and a period (*tblname.colname*).

GROUP BY
Returns a groups of rows as a summary resulting in only unique rows. This option is generally used with SELECT commands.

HAVING clause
Limits the rows affected by the GROUP BY clause.

ORDER BY clause
Sorts rows of data.

About the GROUP BY command

This optional clause groups rows according to the values in one or more columns and sorts the results. GROUP BY consolidates the information from several rows into one row. This results in a table with one row for each value in the named column or columns and one or more values per column.

The columns listed in the GROUP BY clause are related to those listed in the command clause. Any column named in the GROUP BY clause can also be named in the command clause, but any column not named in the GROUP BY clause can be used only in the command clause if the column is used in a SELECT command.

Examples

The SELECT command clause can contain the columns named in the GROUP BY clause, and SELECT functions that refer only to columns not named in the GROUP BY clause. Because the GROUP BY clause processes information resulting from a WHERE clause, you can add a GROUP BY clause to see the sales each employee has made:

```
SELECT empid FROM transmaster WHERE netamount < $100,000 +
GROUP BY empid
```

The following intermediate result table contains columns not named in the command clause because the command clause has not been processed yet (not all the columns fit in the display, however). The first part of the processing is to group the rows by *empid.* Because seven different employees are included, the intermediate result table includes seven rows.

Intermediate Result Table-GROUP BY empid

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transid	custid	empid	netamount
4975, 4980, 5000, 5060, 5045	101, 101, 101, 101, 100	102	$87,500, $22,500, $40,500, $57,500, $3,060
4790, 4865, 5050, 5070	104, 102, 104, 104	129	$6,400, $34,125, $56,250, $95,500
5015	103	131	$80,500
4760, 5080, 5048	100, 100, 103	133	$32,400, $88,000, $12,740
4780	105	160	$9,500
5046, 5049	101, 102	165	$3,060, $26,310
5047	102	167	$3,830

You can include more than one column in a GROUP BY clause. If you group the rows in the above example by *custid* as well as *empid*, the command looks like this:

```
SELECT empid, custid FROM transmaster +
WHERE netamount < $100,000 GROUP BY empid, custid
```

In the following table, rows are now grouped by both *empid* and *custid*, resulting in eleven groups.

Intermediate Result Table-GROUP BY empid and custid

transid	custid	empid	netamount
5045	100	102	$3,060
4975, 4980, 5000, 5060	101	102	$87,500, $22,500, $40,500, $57,500
4865	102	129	$34,125
4790, 5050, 5070	104	129	$64,000, $56,250, $95,500
5015	103	131	$80,500
4760, 5080	100	133	$32,400, $88,000
5048	103	133	$12,740
4780	105	160	$9,500
5046	101	165	$3,060
5049	102	165	$26,310
5047	102	167	$3,830

If one or more of the columns named in the GROUP BY clause contain null values, R:BASE forms a separate group for null values. Review the result of this SELECT command for the *employee* table:

```
SELECT empid, emplname, hiredate, emptitle FROM employee
```

empid	emplname	hiredate	emptitle
102	Wilson	03/18/90	Manager
129	Hernandez	08/28/91	Manager
131	Smith	04/14/92	-0-
133	Coffin	11/26/93	Representative
160	Simpson	01/09/94	-0-
165	Williams	07/05/92	Representative
167	Watson	07/10/92	Representative
166	Chou	07/10/93	Sales Clerk

If you group these rows by the *emptitle* column, which contains null values, you get the following intermediate result table:

Intermediate Result Table-GROUP BY emptitle

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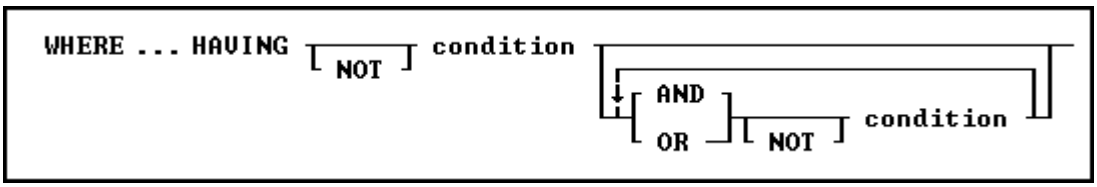
empid	emplname	hiredate	emptitle
102, 129	Wilson, Hernandez	03/18/90, 08/28/91	Manager
133, 165, 167	Coffin, Williams, Watson	11/26/93, 07/05/92, 07/10/92	Representative
166	Chou	07/10/93	Sales Clerk
131, 160	Smith, Simpson	04/14/94, 01/09/94	-0-

1.22.2.2 HAVING

This clause determines which rows of data to include based on the results of a prior GROUP BY clause.



Options

AND
OR
AND indicates two conditions must both be true.
OR indicates either condition must be true.

condition
Specifies a combination of one or more expressions and/or operations that would evaluate to either true or false. See "HAVING Conditions" below.

NOT
Reverses the meaning of an operator or indicates that a condition is not true.

About the HAVING command

The optional HAVING clause selects rows that meet one or more conditions from among the results of the GROUP BY clause. HAVING works the same as a WHERE clause with the following exceptions:

- A WHERE clause modifies the intermediate results of a FROM clause; a HAVING clause modifies the intermediate results of a GROUP BY clause.
- A HAVING clause can include SELECT functions.

HAVING Conditions:

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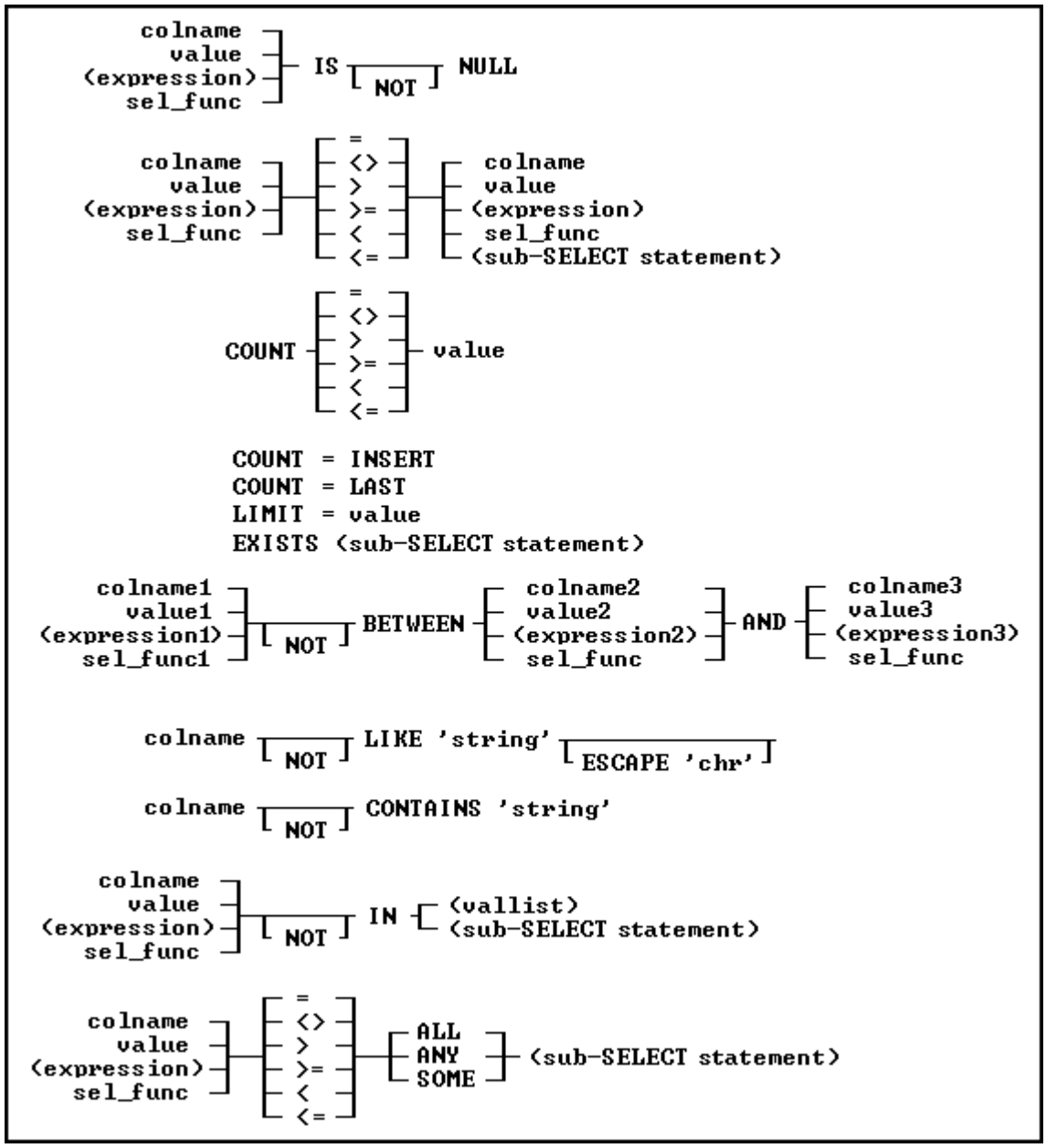

Examples

To display sales information for only those employees who have made more than one sale to the same customer, add a HAVING clause such as the following to one of the examples shown previously in "GROUP BY Clause." When used in a HAVING clause, SELECT functions compute results based on the values grouped in the specified column. In this HAVING clause, COUNT returns the number of values grouped in the *transid* column.

```
SELECT empid, custid FROM transmaster +
WHERE netamount < $100,000 +
GROUP BY empid, custid HAVING COUNT(transid) > 1
```

Intermediate Result Table-HAVING COUNT(transid) > 1

transid	custid	empid	netamount
4975, 4980, 5000, 5060	101	102	$87,500, $22,500, $40,500, $57,500

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```
4790, 5050, 5070          104    129    $6,400, $56,250, $95,500
5080                      100    133    $32,400, $88,000
```

1.22.3 WHILE/ENDWHILE

Use the WHILE...ENDWHILE structure in a program to continuously run a set of commands based on a specified condition.

```
WHILE condlist THEN
   while-block
ENDWHILE
```

Options

condlist
Specifies a list of conditions that identify the requirements to be met.

while-block
Specifies commands to be executed if the WHILE condition is true.

About the WHILE...ENDWHILE Command

A WHILE ... ENDWHILE structure consists of conditions, commands, and an ENDWHILE statement. As long as WHILE conditions are true, R:BASE runs the commands repeatedly.

WHILE Conditions

The basic WHILE conditions are the same as those used in an IF...ENDIF structure and are as follows:

Condition	Description
varname IS NULL	The value of the variable is null.
varname IS NOT NULL	The value of the variable is not null.
varname CONTAINS *'string'*	The variable has a TEXT data type and contains a '*string'* as a substring in the variable value.
varname NOT CONTAINS *'string'*	The variable has a TEXT data type and a *'string'* is not contained as a substring in the variable value.
varname LIKE *'string'*	The variable equals a '*string*.' A *'string'* can contain wildcards.
varname NOT LIKE *'string'*	The variable does not equal the *'string*'. A '*string'* can contain wildcards.
varname BETWEEN *value1* AND *value2*	The value of the variable is greater than or equal to *value1* and less than or equal to *value2*. The variable and the values must be the same data type.
varname NOT BETWEEN *value1* AND *value2*	The value of the variable is less than *value1* or greater than *value2*. The variable and the values must be the same data type.
item1 op *item2*	*Item1* has the specified relationship to *item2. Item1* can be a column name, value, or expression; *item2* can be a column name, value, or expression.

An expression can be substituted for the first variable in each of the condition formats shown above.

You can only use wildcard characters with the LIKE and NOT LIKE operators. For example, *varname* LIKE '*string%.*'

You can combine conditions from the WHILE condition list by using the connecting operators AND, OR, AND NOT, and OR NOT. Be careful when using these conditions in a condition list. Conditions connected by AND are evaluated first, then conditions connected by OR are evaluated. However, you can use parentheses to set the evaluation order.

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WHILE Loop Commands

All WHILE loop commands are retained in memory, so a WHILE loop runs more quickly than a GOTO or LABEL structure. A computer must have enough available memory to read all of the commands in a WHILE loop, or the program terminates abnormally.

R:BASE optimizes commands in a WHILE loop so that it runs more quickly. Use the following guidelines when constructing WHILE loops so they run more quickly.

- Do not clear variables in the WHILE loop. Rather, set those variables to null.
- Do not define variables within the WHILE loop. Only define variables outside of the loop because the values can change within the loop.
- If you issue multiple SET VARIABLE commands on a single command line, then those variables will not be optimized. If you want to increase the speed for that loop, you should put the SET VARIABLE commands on separate lines.

To turn off WHILE loop optimization, set WHILEOPT off.

The ENDWHILE Statement

ENDWHILE indicates the end of the loop. Place an ENDWHILE statement at the end of each WHILE loop. Each time R:BASE reaches the ENDWHILE statement, R:BASE returns to the WHILE command at the top of the loop and checks to see whether the conditions are still true or false. If true, R:BASE again runs the commands between the WHILE and the ENDWHILE. If false, R:BASE runs the command line immediately following the ENDWHILE.

Exiting from a WHILE Loop

To exit from a WHILE loop before the WHILE condition becomes false, use an IF...ENDIF structure to check other conditions, then use BREAK to exit from the WHILE loop. The BREAK command causes the WHILE loop to terminate when the conditions specified in the IF statement become true.

Never use GOTO to exit from a WHILE loop; use BREAK instead. BREAK clears the WHILE loop. When you do not use BREAK or the naturally occurring exit (that is, when the WHILE loop conditions are no longer true) to exit from a WHILE loop, R:BASE continues to read commands into memory. If you have a large command or procedure file, you can run out of memory and your program terminates abnormally.

Example

In the following example, R:BASE runs the commands in the WHILE block and evaluates the *v2* condition in the IF statement. If *v2* is not equal to zero, R:BASE runs the BREAK command and terminates the WHILE loop. R:BASE then runs the commands immediately following the ENDWHILE statement. As long as the WHILE condition (*v1*) is true and the IF condition (*v2*) remains false, the WHILE loop continues processing.

```
SET VARIABLE v1 = 0
WHILE v1 = 0 THEN
   *(while-block commands)
   IF v2 <> 0 THEN
      BREAK
   ENDIF
   *(while-block commands)
ENDWHILE
*(next command outside the while-block
```

1.22.4 WRITE

Use the WRITE command to send a message to an output device or to display a message on R> Prompt screen. In this context, the WRITE command is primarily used with R:BASE for DOS. To display messages in R:BASE for Windows, use the PAUSE command. Another use for the WRITE command is to recreate binary or large ASCII data to a file.

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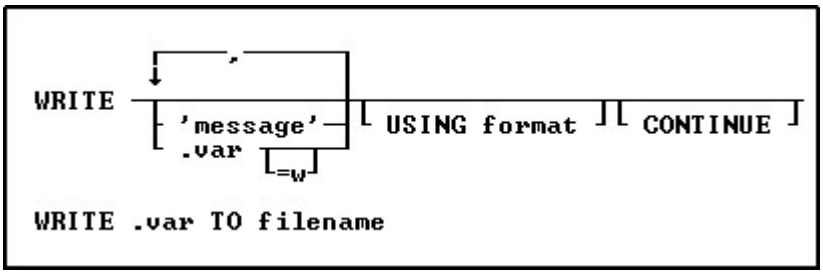

Options

,
Indicates that this part of the command is repeatable.

'message'
Specifies a message to be displayed on the screen.

CONTINUE
Suppresses the carriage return line feed.

filename
The name of the file for writing variable data to a file.

USING format
Specifies a display format for the message or variable.

.var
Specifies a dot variable of any data type, which can be used instead of a message.

=w
Specifies the display width for the variable.

About the WRITE Command

The WRITE command allows concatenation of several items in one command with embedded variables.

The WRITE command displays a message or variable that you place within the current QUOTES character-the default QUOTES character is the single quote ('). The quotes are not displayed when WRITE runs.

After you place binary or large ASCII data into your R:BASE database, the The original file can be recreated at any time using the WRITE command. The data is read from the table into a variable, then the variable is written to a file. This process recreates the file exactly.

If the current output device is not the screen, the AT and screen attributes options do not have any effect unless PAGEMODE is set on. For information about PAGEMODE, see the "PAGEMODE" and "SET PAGEMODE" entries.

To display a message or variable containing line end characters, you must specify a width to write multiple lines.

Symbols for Formatting the Display

You can specify a format for displaying either a message or a variable. When using a display format, you can only display one item, and you must allow enough space between the quotes to properly display the formatted information. For example, if you wanted to center a text message, the format must include the centering symbol ([^]) and the space within which the text will be centered.

The following tables summarize the formatting symbols.

String Modifiers for All Messages

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Use this symbol...	To do the following...
[<]	Left justify the data in the field.
[>]	Right justify the data in the field.
[^]	Center the data in the field.

String Modifiers for Messages with Numbers

Use this symbol...	To do the following...
[-]	Place a negative sign to the right of a negative number.
[CR]	Place "CR" to the right of a positive number.
[DB]	Place "DB" to the right of a negative number.
[()]	Enclose a negative number in parentheses.

Character Modifiers for Text Messages

Character Modifier	If character is a letter	If character is a number	If character is neither
_	uppercase	blank	blank
|	lowercase	blank	blank
%	uppercase	number	character
?	lowercase	number	character

Character Modifiers for Numeric Messages

Character Modifier	If character is a number	If character doesn't fill the specified format
9	number	blank
0	number	0
*	number	* if blank

Examples

The following command automatically concatenates the items and puts a space between them. An ampersand (&) or plus (+) character cannot be used for concatenations.

```
WRITE 'Today's date is',.#DATE
```

The following command displays the contents of the *vmsg* variable.

```
WRITE .vmsg
```

In the following example, *var1* is a numeric data type (CURRENCY, NUMERIC, INTEGER, REAL, SMALLINT, or DOUBLE). If *var1* has a negative value, the number displays with *DB* following it to indicate a debit. The greater than symbol (>) right justifies the output.

```
WRITE .var1 USING '[DB,>]$99,999.99'
```

If the value of *var1* is -$49,999.22, then the above command displays:

```
$49,999.22 DB
```

In the following example, *var2* is a TEXT data type. The contents of *var2* displays in uppercase and is centered in the space defined by the _ characters.

```
WRITE .var2 USING '[^] _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _'
```

If the value of *var2* is *warning*, then the above command displays:

```
WARNING
```

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The following command displays the entire contents of *var3*, wrapping the text after the twelfth character. If SET WRAP is off, only the first 12 characters of text would be displayed.

```
WRITE .var3 = 12
```

The following command writes variable VARCHAR data to a text file:

```
WRITE vVarcharData TO File.txt
```

1.23 Z

1.23.1 ZIP

Use the ZIP command to execute external programs without closing a database or leaving R:BASE. The ZIP command is geared towards the DOS platform. For Windows, you should use LAUNCH.

Options

progname
Specifies the name of the external program to execute.

ROLLOUT
Executes programs that are too large to fit into the memory remaining after starting R:BASE. This option exits from R:BASE saving the current variables and environment before executing the external program. When the external program is exited, R:BASE restarts and the variables and environment are renewed. Under Windows this will also force R:BASE to release all "accumlated" memory that may not otherwise be released.

RETURN
DOS only. Causes R:BASE to return to the line in the application following the line containing the ZIP RETURN command.

C:\COMMAND.COM
DOS only. Starts the DOS COMMAND shell. It is best to specify the path to your COMMAND.COM. In Windows 95 and 98 this should exist in the C:\ directory. On Windows NT this may exist in a different location. On Windows NT you may expirence better results using the CMD.EXE program which is located by default in the C:\WINNT\SYSTEM32 directory.

/C 'batchfile'
Specifies a DOS Batch File to be executed by the command shell.

About ZIP

Zip allows you to call an external program from within R:BASE. ZIP operates slightly differently in DOS R:BASE or Windows R:BASE as noted above. In R:BASE Turbo V-8 if you are running the Windows version of R:BASE you can specify a Windows program to be executed.

In either Windows or DOS you can call a batch file that uses the Windows Command START to launch a Windows program. For example START /WAIT NOTEPAD in a Batch File will start the Notepad Program and wait for Notepad to close before returning control to R:BASE. If you do not use the /WAIT option then as soon as Start had spawned the Notepad program IT would finish and control would pass back to R:BASE. This is simply because R:BASE is only watching START. Use START /? at a Command Prompt to see the other options available.

Example

The following command runs an external program named *SmallEd*. When you exit from *SmallEd*, R:BASE continues at the point where you ran the ZIP command.

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```
ZIP smalled
```

The following command, when run in R:BASE Windows, runs Notepad and specifies that the ABC.TXT file be opened.

```
ZIP Notepad ABC.TXT
```

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