The Ultimate ROM II
Installation Guide and Quick Reference
For the Tandy 100, 102, 200
and the
NEC PC-8201 and PC-8300

Contents

Chapter 1

The Ultimate ROM II

The Ultimate ROM II combines these programs on one chip:

T-Word The word processor and text formatter that improves on the text-editing capabilities of your computer and produces professional-looking documents with ease and considerable flexibility.

Idea! The outline processor with capabilities that let you organize anything from simple lists to complex documents.

T-base The database management system that lets you determine the kinds of files you want to set up, the kinds of reports you want to produce, the data to be shared between files, the calculations to be performed.

ROM-View 80 The display-enhancement that allows you to view 50% more characters per line–up to 80 characters on a line with scrolling (not included on the Tandy 200 version)

TS-DOS On the Tandy 100/102 and the NEC (PC-8201 or PC-8300), allows you to print and preview documents directly from the Tandy Portable Disk Drive; in the Tandy 200, also allows such operations as saving the entire contents of RAM to disk and accessing the disk with BASIC.

Once you have installed the Ultimate ROM II, you will have added programs that would have occupied 32K of memory if stored in the RAM of your laptop computer.

Chapter 2

Installing and Initializing the Ultimate ROM II

2.1 Installing the Chip

Follow these steps to install the Ultimate ROM II chip in your computer.

NOTE: Handle your ROM II chip with care. Do not touch the contact pins, and leave the label in place: by removing it, you may destroy the programs.

1. Exit any application on your computer and return to the main system menu.

2. Make sure that the main system menu shows at least two empty slots for new files and 500 bytes free. Delete files if necessary.

3. Turn the computer *off*.

4. Turn the computer bottom side up, so that the type on the labels on the bottom of the computer is right-side-up.

5. Locate the ROM module expansion cover and gently remove the cover.

    Tandy 100: The ROM module expansion compartment is located at the bottom center of the Tandy 100.

    Tandy 102: The ROM module expansion compartment is located near the lower right corner of the Tandy 102.

    Tandy 200: The ROM module expansion compartment is the one at the lower right corner of the Tandy 200.

    NEC: The ROM expansion compartment is located at the bottom of the NEC. (Remove the three screws.)

6. Locate the receptacle into which you will place the Ultimate ROM II chip.

   Tandy 100: The receptacle is the lower of the two in the compartment.

   Tandy 102: The receptacle is on the far right side of the compartment.

   Tandy 200: The receptacle is the one on the left side of the compartment.

   NEC: The receptacle, labeled *ROM 1*, is the second one from the left side of the compartment.

7. Insert the Ultimate ROM II chip.

   Tandy 100/102/200: Hold the Ultimate ROM II chip label side up, so that the type on the label is right side up. Evenly and steadily press the chip into the receptacle. The top of the chip should be flush with the top of the receptacle.

   > **Note:** The Tandy 100, 102 and 200 versions of the Ultimate ROM II are *not* interchangeable. Installing a Tandy 100 or 102 version in a Tandy 200, or vice versa, will cold start the computer and destroy all data in RAM.

   NEC: Hold the Ultimate ROM II chip so that the notch on the chip is toward you. Align the pins with the receptacle and gently but firmly press the chip into the receptacle. Make sure all the pins are inserted.

8. Replace the cover, turn the machine over, and turn the computer on. If the main system menu reappears on your computer, the Ultimate ROM II chip is properly seated, and you are ready to initialize it.

   > **Note:** *If the screen is blank,* **immediately** *turn the computer off, return to the ROM module expansion compartment, and repeat the entire installation process.*

2.2   Initializing the Programs

Once your Ultimate ROM II chip is properly installed, you must initialize it before you can begin using its programs.

1. Turn your computer on and remain in the main system menu.

2. With the cursor over **BASIC**, press *enter*.

3. Type the command appropriate for your computer and press *enter*.

   On the Tandy 100 or 102: CALL 63013,1

   On the Tandy 200: CALL 61167,2

   On the NEC: POKE 63911,1: EXEC 62394

   > **Note:** If your computer has more than one memory bank or if you have a memory expansion device, you must perform this step for each of the banks in which you want to make these programs available.

4. As soon as you perform the previous step, you are in the Ultimate ROM II menu, where you can select the program you want.

Chapter 3

Using Programs on the Ultimate ROM II

Once the Ultimate ROM II chip is correctly installed and initialized in your computer, you see the Ultimate ROM II menu of programs.

3.1   Selecting Programs

To select a program, press **enter** after placing the cursor over the appropriate filename:

T-Word for T-Word

IDEA! for IDEA!

T-base for the data entry and retrieval component of T-base

TB-RPT for the report-printing component of T-base

TS-DOS for TS-DOS

View80 for ROM-View 80

BASIC for the BASIC program built into your computer

TEXT for the TEXT program built into your computer

TELCOM for the TELCOM program built into your computer

Note: the **TS-DOS** file name appears in the Ultimate ROM II in all versions – whether for the Tandy 100, 102 or 200, or the NEC. This option is not usable, however, without the TS-DOS disk, included with the Tandy 200 version of the Ultimate ROM II and available separately for the Tandy 100 and 102 and the NEC.

3.2   Instructions for Using the Programs

For instructions on using T-Word, IDEA!, and T-base, consult the manuals for those programs.

For instructions on starting TS-DOS and ROM-View 80, see Chapter 4 of this guide.

For instructions on using BASIC, TEXT, and TELCOM while in the Ultimate ROM II, see Chapter 5 of this guide.

3.3   Entering and Leaving the Ultimate ROM II

It is through the menu shown on Chapter 3 that you enter and leave the Ultimate ROM II. Notice the **Menu** prompt in the lower right corner.

- To leave the Ultimate ROM II menu and return to the main system menu, press *f8* on the Tandy 100/102/200; *shift f5* on the NEC. Once back in the main system menu, you will see this prompt: **UR-2**.

- To enter the Ultimate ROM II from the main system menu, place the cursor over **UR-2** and press *enter*. You are then in the menu of the Ultimate ROM II, where you can select any of its programs.

Chapter 4

Starting TS-DOS and ROM-View 80

Of all the programs on the Ultimate ROM II chip, only TS-DOS and ROM-View 80 function outside of the chip; they function in the high memory of your computer.

To operate these programs, therefore, you must clear from high memory any other machine-language program you may have there. Both TS-DOS and ROM-View 80 give you the chance to do this by pressing a single key.

- Start in the Ultimate ROM II menu, place the cursor over **TS-DOS** or **View80** and press *enter*. If there is another machine-language program in high memory, you will see this question on your screen:
  Change HIMEM?
  Press **Y** to remove the other program from high memory and put either TS-DOS or ROM-View 80 in its place. If you press any other key, you will keep the other program in high memory, but you won't be able to use either TS-DOS or ROM-View 80.

- *Note:* You cannot operate TS-DOS and ROM-View 80 at the same time. You must select one or the other. Selecting one while the other is activated will turn the other off.

If you have no other machine-language program in high memory, the **Change HIMEM?** question will not arise.

For further instructions on use of TS-DOS, see the TS-DOS manual.

For further instructions on use of ROM-View 80, see either the ROM-View 80 manual or the T-Word manual.

Chapter 5

Using TEXT, BASIC, and TELCOM with the Ultimate ROM II

For your convenience, the Ultimate ROM II has been designed so that you can select TEXT, BASIC, or TELCOM from the Ultimate ROM II menu, without having to exit to the main system menu. But remember that if you select TEXT, BASIC, or TELCOM from your main system menu, ROM-View 80 is not then available.

5.1 TEXT

Once you enter TEXT from the Ultimate ROM II menu, you see a menu of all your document files – without the .DO extensions that appear in the main susyem menu.

While in this menu, you can use function keys to create new files, edit or kill existing files, and return to the Ultimate ROM II menu. There are prompts on the screen to indicate the keys to press. A table of these prompts and function keys appears on Table 5.1.

To leave a file selected in this menu, press F8 in the Tandy 100/102/200; Shift-F5 on the NEC. You are returned to this menu.

5.2 BASIC

Once you enter BASIC from the Ultimate ROM II menu, you see a menu of all your BASIC files – without the .BA extension with which they appear in the main system menu.

While in this menu, place the cursor over the filename of the program you want to run and press ENTER. You can also use function keys to begin entering BASIC commands, to kill a .BA file, and

Table 5.1: Function Key Options in TEXT

Prompt	Tandy	NEC	Function
New	f1	f1	Creates a new file. Type a new filename and press ENTER to begin typing the file.
Kill	f2	f2	Prepares to kill the file marked by the cursor in the file selection screen. Then press Y to kill the file, any other key to leave it intact.
Edit	f4	f4	Takes you directly into the file marked by the cursor.
UR-2	f8	f5 or shift-f5	Exits TEXT and returns you to the Ultimate ROM II menu.

Table 5.2: Function Key Options in BASIC

Prompt	Tandy	NEC	Function
New	f1	f1	Takes you to the BASIC program of your computer, where you can enter new BASIC commands.
Kill	f2	f2	Prepares to kill the file marked by the cursor in the file-selection screen. Then press Y to kill the file, any other key to leave it intact.
UR-2	f8	f5 or shift-f5	Exits BASIC and returns you to the Ultimate ROM II menu.

to return to the Ultimate ROM II menu. A table of function keys and the prompts for these keys appears on Table 5.2.

5.3   TELCOM

Once you enter TELCOM from the Ultimate ROM II menu, everything including the function keys options is the same as though you had entered TELCOM from the usual route – the main system menu.

When you exit TELCOM, you are returned to the main system menu.

Chapter 6

Memory Necessary to Operate the Programs

Though the Ultimate ROM II programs do not reside in RAM, they do require a small amount of RAM to operate.

At a maximum, allow 1K to operate T-Word, 3-4K to operate IDEA! or ROM-View 80, and 4-5K to operate TS-DOS or either component of T-base.

The T-base manual provides formulas for more exact determinations of the memory required to operate the two components. These formulas take into account the kinds of T-base files that have been created. Refer to the formulas on pages **??** of the T-base manual, and add 1,000 bytes when you make your calculations.

Chapter 7

Removing the Ultimate ROM II from Your Computer

Once you have installed and initialized the Ultimate ROM II, you are not committed to having its programs in your computer forever. Because the UR-2 file, which contains the programs, takes up only about 80 bytes of your computers memory, it is unlikely you will want to remove it except to replace the Ultimate ROM II chip with another.

Before removing the Ultimate ROM II chip, you must first remove the programs by killing the UR-2 file.

7.1   Removing the Programs

To delete the UR-2 file – and the Ultimate ROM II programs with it – begin in the main system menu of your computer.

1. In the main system menu, place the cursor over BASIC and press Enter.

2. Type "KILL UR-2" and press Enter.

3. Then to return to the main system menu, press F8 on the Tandy 100/102/200, Shift-F5 on the NEC.

Programs removed in this way can be restored only by initializing the chip again. See Section 2.2 of this guide for help.

To remove the CONFIG.DO file, follow the steps above, substituting CONFIG.DO for UR-2.

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7.2   Removing the Chip

Once you have killed the UR-2 file, turn the computer *off*, remove the cover from the ROM expansion compartment, and *gently* pry the chip free.

7.3   Replacing the Chip

Each time you replace the Ultimate ROM II chip in your computer, you must follow the installation and initializing steps outlined beginning on Chapter 2 of this guide.

Failure to re-initialize and re-install the chip each time you replace it in your computer may cause your computer to cold start and lose all the contents of its memory.

Chapter 8

Modifying the Programs

As explained in the program manuals, you can make certain modifications to IDEA!, T-base, and T-Word that will customize the programs to your particular needs. With IDEA! and T-base, for example, you can change the program to utilize all of the lines of an external monitor. With T-Word, you can customize certain print commands to your printer.

8.1   The CONFIG.DO File

The means by which you modify the programs is the CONFIG.DO file.

On some versions of the Ultimate ROM II, the CONFIG.DO file is included on the chip. On others it is included on the 3.5 inch disk.

If included on the chip, the CONFIG.DO file will appear on your main system screen once you have installed and initialized the chip.

If included on the disk, this file may be loaded onto your computer by TS-DOS or entered in the TEXT Program of your computer. For instructions on loading a file from disk, see **??** in the TS-DOS manual. For instructions on creating the file in TEXT, see Chapter 9 of this guide.

You need not have this file in your computer to operate any of the programs. With T-Word, however, certain of the print commands will not work unless you have CONFIG.DO in your computer in a form suited to your printer.

The modifications for T-Word are fully explained on page **??** of the T-Word manual. Those for IDEA! and T-base are explained below.

Once you modify the CONFIG.DO file, you must keep the altered file in your computer so that the modifications will take effect as you use the programs. Any changes you make will remain in effect as long as the CONFIG.DO file remains in your computer. Should you delete the file and later restore it to your computer from disk, you will have to make the modifications again.

To modify any of the programs, place the cursor in the main system menu over CONFIG.DO and press Enter. When you are through, save the modifications and return to the main system menu. Press F8 on the Tandy 100/102/200 and Shift-F5 on the NEC.

For more information about the changes that can be made, see page **??** of the IDEA! manual and page **??** of the T-base manual.

8.2   Modifying IDEA! and T-base at Once

There are three modifications you can make to the CONFIG.DO file that affect the operation of both IDEA! and T-base. With these changes you can increase string space, add or delete line feeds, and provide for use of an external monitor. (To add or delete line feeds with T-Word, see page **??** of the T-Word manual.)

To increase string space for IDEA! and T-base, alter the first line of the CONFIG.DO file:
From: CLEAR, 1500 To: Clear, 1750

Increase the number by increments of 250 as suggested in the manuals.

Tandy 100/102/200: To add a line feed at the end of each line (in case your printer has printed everything on one line), alter this line to change both IDEA! and T-base:
From: CR$,N To: CR$,Y [in uppercase]

NEC: To delete a line feel at the end of each line (in case the printer has placed too much space between lines), alter this line:
From: CR$,Y To: CR$,N [in uppercase]

To use all 25 lines of a video monitor, alter this line:
Tandy 100/102/200: From: SS,8 To: SS,25
Tandy 200: From: SS,16 To: SS,25
NEC: From: SS,8 To: SS,25

8.3   Modifying IDEA!

To send IDEA! files to a destination other than a parallel printer, alter this line:
From: D$,LPT: To: D$,COM:58N2E (for a serial printer)
To: D$,LCD: (for your computer display)

To change the left margin, alter the line:
From: ML,8 To: ML,n where n represents the new column setting for the left margin.

To change the right margin, alter this line:
From: MR,73 To: MR,n where n represents the new column setting for the right margin.

To change the page length setting, alter this line:
From: PL,54 To: PL,n where n represents the number of lines printed on each page.

To cause the printer to pause between each page, alter this line:
From: PM,12 To: PM,0
To modify top and bottom margins, type a number other than zero.

8.4 The CONFIG.DO file

```
CLEAR,1500
CR$,N
SS,8
-* IDEA! *-
D$,LPT:
ML,8
MR,73
PL,54
PM,12
-* T-WORD *-
^P
10,75,6,6,66,N,1,0,N,N,1,N,1,99,1
^F
10/27,80
12/27,77
15/15
^B0/27,69/27,70
^D0/27,71/27,72
^E0/27,77/27,80
^G0/27,112,1/27,112,0
^K0/15/18
^S0/27,83,0/27,84
^T0/27,83,1/27,84
^U0/27,45,1/27,45,0
^W0/14/20
^Y0/27,52/27,53
```

Chapter 9

Creating the CONFIG.DO file

You have no need for the CONFIG.DO file unless you want to modify T-Word, IDEA!, or T-base or, with T-Word, want to use the printer-specific commands for boldface, underlining, and other text-formatting effects.

On some versions of the Ultimate ROM II, the CONFIG.DO file is loaded into your computer along with the programs. On other versions, it is contained on the 3.5 inch disk. If you prefer to enter the file instead of loading it from disk, follow these steps:

1. Install and initialize the Ultimate ROM II.

2. In the main system menu of your computer, place the cursor over TEXT and press Enter.

3. In response to the question "File to edit?", type CONFIG.DO and press Enter.

4. Type the file printed on Section 8.4. When through, press F8 on the Tandy 100/102/200, Shift-F5 on the NEC.

Note: There are several commands in the CONFIG.DO file that appear with the ^ symbol: ^P, ^F, ^B, and so on. To enter these commands, hold down Ctrl key and press P and then the command character: P, F, B, and so on.

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Chapter 10

Reference Guides

10.1   T-Word Reference Guide

10.2   IDEA! Reference Guide

10.3   T-base Reference Guide

Table 10.1: Print Menu Options

Left margin	[L]eft
Right margin	[R]ight
Top margin	[T]op
Bottom margin	[B]ottom
Page length	[P]g len
Justification yes/no	[J]ustify
Line spacing	[S]pacing
Font (pitch)	[F]ont
Line feeds yes/no	[A]dd LF
Pause printer	[W]ait Pgs
Number of first page in file	[N]um Start
Automatic page numbering yes/no	[Q]uick Num
First page to be printed	[1]st print
Last page to be printed	[E]nd print
Copies to be printed	[C]opies

Table 10.2: Print Commands – Universal

Center text	`^C`
Enter headers	`^H...^H`
Enter footers	`^F...^F`
Change left margin	`^L`
Change right margin	`^R`
Hanging indentation	`^X...^X`
Alter page numebrs	`^N0-^N250`
Page break	`^P`
Conditional paging	`^V1-^V250`
Alter line spacing	`^A1-^A250`
Justification on/off	`^O...^O`

Table 10.3: Print Commands – Printer Specific

Boldface	`^B...^B`
Double strike	`^D...^D`
Elite type	`^E...^E`
Proportional spacing	`^G...^G`
Condensed print	`^K...^K`
Subscripts	`^S...^S`
Superscripts	`^T...^T`
Underlining	`^U...^U`
Wide type	`^W...^W`
Italics	`^Y...^Y`

Table 10.4: Merge Commands

Print current date	`^Q^D`
Print current time	`^Q^T`
Merge block	`^Q`
Merge from data file	`^Q1-^Q99`
Merge entire file from RAM	`^Q[file]`
Merge entire file from disk	`^Q[0:file]`
Chain print files from RAM	`^Q[file1]^Q[file2]`
Chain print files from disk	`^Q[0:file1]^Q[0:file2]`

Table 10.5: Word processing enhancements

Insert/Overwrite	ctrl-O
Search and replace	ctrl-L
Byte and word count	ctrl-J

Keys to press	Functions performed
Enter	Expand/Compress: As Expand, reveals subideas under idea marked by cursor. As compress, hodes those subideas.
/	Quick select: In outline mode, selects/deselects the idea marked bu the cursor. For use with Copy and Move.
? (shift-/)	Quick copy: In outline mode, copies selected idea, placing it just ahead of idea marked by cursor.
> (shift-.)	Quick move: In outline mode, moves selected area, placing it just ahead of idea marked by cursor.
Tab or right arrow	In outline mode, expands idea marked by the cursor and moves to the first subidea.
Bksp or left arrow	In outline mode, moves from subidea to "home" idea and compresses the idea.
Space	Preview: Expands outline, revealing all levels. Used with cursor controll keys, lets you move quickly through outline and locate an idea. Press Space or Esc to leave preview mode and return to outline at idea at top line of screen.
Shift-down arrow	Page down: In outline or preview mode, moves down one page at a time.
Shift-up arrow	Page up: In outline or preview mode, moves up one page at a time.
Ctrl-up arrow	Home: In outline mode, returned to the "home" idea of a subidea if outline is expanded, to top of outline if compressed. In preview mode, returns to top of outline.
Ctrl-down arrow	End: In outline mode, moves to end of list of subideas if outline is expanded, to end of outline if outline is compressed. In preview mode, moves to end of outline.
Esc	Exit: Exits preview and any function key option and returns you to the Outline mode (press twice while in notes). In outline, use to exit IDEA!

Table 10.6: Screen Definition Descriptors - Primary

Text	T
Integer	I
Dollar and two-place decimal	S
Floating decimal	F
Date	D
User-defined	U

Table 10.7: Screen Definition Descriptors - Secondary

Borrowed	B
Borrowed and stored	BS
Calculated	C
Calculated and stored	CS
Mandatory	M

Table 10.8: Report Definition Commands

Database name	DB,xxxx
Sort	SO,FIELD2,FIELD3,etc.
Sort and resort	SR,FIELD2,FIELD3,etc.
Page length	PL,nn
Page width	PW,nn
Redirected output	OUT,FILE (or REPORT or SDF),destination:
Heading	HE,Report Heading
Column position	CO,nn,nn,nn,etc.
Column label	CL,LABEL1,LABEL2,etc.
Source of detail data item	DE,FIELD3,FIELD2,etc.
Subtotal	ST,BREAKFIELD,FIELD2,FIELD3,etc.
Grand total	GT,FIELD1,FIELD2,etc.
Forced page break	FP,BREAKFIELD

Table 10.9: Numeric Expressions

Addition	+
Subtraction	-
Multiplication	*
Division	/
Integer division	\
Modulus arithmetic	MOD
Parentheses	()
Exponetiation	^

Table 10.10: Relational Expressions

Less than	<
Greater than	>
Equal to	=
Not equal to	<> or ><
Less than or equal to	=< or <=
Greater than or equal to	=> or >=

Table 10.11: Numeric Functions

Return absolute value	ABS
Get ASCII code	ASC
Compute arctangent	ATN
Convert to double-precision	CDBL
Convert to integer	CINT
Compute cosine	COS
Convert to single-precision	CSNG
Compute natural exponent	EXP
Truncate to whoe number	FIX
Search a string for a substring	INSTR
Convert to integer	INT
Compute length of string	LEN
Compute natural logarithm	LOG
Retuirn pseudo-random number	RND
Return algabraic sign	SGN
Compute trigonmetric sine	SIN
Compute square root	SQR
Compute tangent	TAN
Convert string to numeric	VAL

Table 10.12: String Functions

Return ASCII character	CHR$
Return system date 'MM/DD/YY'	DATE$
Return system day of week	DAY$
Return left portion of string	LEFT$
Return middle portion of string	MID$
Return right portion of string	RIGHT$
Return a string of spaces	SPACE$
Convert numeric to string type	STR$
Return string of characters	STRING$
Return system time 'HH:MM:SS'	TIME$
Used for concatenation of strings	+