

RAVE 99

"99/4A Products to Rave About"

MODEL MX01

RAMDISK SOFTWARE

INSTALLATION AND OPERATING MANUAL



C O P Y R I G H T

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INTRODUCTION

The RAVE 99 MX01 RAMDISK SOFTWARE simulates a real disk drive in backed-up ram memory. This allows for additional disk drives without actual adding a real disk. The speed advantage is another feature with the RAMDISK being about twenty times faster than a real disk drive. The MX01 RAMDISK SOFTWARE works only on the RAVE 99 MX01 Memory Enhancement System with 288k bytes or more. The memory backup system used on the MX01 Memory is ideal for RAMDISK applications because it doesn't require any external power. A RAMDISK may be thought of as a real disk, only implemented in RAM memory. Most of the software today which require access to real disk drives will work with MX01 RAMDISK SOFTWARE. Most programs run significantly faster when used with a RAMDISK if the program makes frequent disk request. Programs such as TI's Assembler run much faster when the source and object files are located on a RAMDISK.

The RAMDISK SOFTWARE allows for up to ten RAMDISKs in memory. These RAMDISKs may have up to 1440 sectors (DSDD) or as little as 3 sectors. Sizes of RAMDISKs may be sized to handle a specific real disk which requires a special volume name to work properly. The SYSTEM PROFILE SCREEN of the RAVE_OS program allows quick and easy tailoring of the RAMDISK to your specific requirements. Additional control of the MX01 card is provided with the SYSTEM PROFILE SCREEN displaying status of how the MX01 card has been configured.

Please be sure to read this manual to avoid problems later on. The MX01 RAMDISK SOFTWARE is powerfull and exciting and is easy to use once the commands and RAMDISK concepts are understood. Please take your time and enjoy this powerfull new addition to your TI system.

Requirements

To use the MX01 RAMDISK SOFTWARE you need:

- a) TI-99/4A console and TV or monitor.
- b) 99/4A Perpherial Expansion System (PEB).
- c) TI compatible Disk controller card
- d) At least one floppy disk drive.
- e) The following Command Module:
Editor/Assembler
- f) MX01 Memory Enhancement System with 288K bytes or more of memory.
- g) MX01 RAVE_OS System Software

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 LOADING the MX01 RAMDISK SOFTWARE

The MX01 RAMDISK Software is normally installed as part of the one time "LOADING" sequence of the RAVE OS Software. Initiallizing of the RAMDISKS must still be performed at this time. Refer to the RAVE OS manual if LOADING of the RAVE OS software has not been performed.

1. RUN RAVE_OS program

Insert RAVE 99 RAMDISK Program Disk into Drive 1. ②
 Using the E/A Cartridge - Option #5, Type "DSK1.RAVE_OS". The program is loaded from disk and run's.

2. INITIALIZE RAMDISKS

Press the SPACE BAR until the "SYSTEM PROFILE SCREEN" is displayed. Check that the user memory selected is correct for your system. User memory is normally set to one. Refer to the RAVE OS manual, section RAMDISK MEMORY AND USER MEMORY for additional information.

Press "9" to configure the RAMDISKS. This causes the system to search for any RAMDISKS that may already exist. When the cursor stops under *RamDisks* type "RAMDISKA" and Enter. The cursor moves to the HEADING "Size". TYPE 1440 (720 for the MX01/288) and Enter. The cursor moves under the HEADING *RamDisks* again. Type in "RAMDISKB" and Enter. The cursor moves the HEADING "Size". Type "360" (175 for the MX01/288) and Enter. The cursor moves back to the HEADING *RamDisks* again. Type "RAMDISKC" and Enter. The cursor moves to the HEADING "Size". Type "119" and Enter. Answer "Y" to the question "Is the data correct?" and Enter. The cursor moves to the first line under the heading "FORMAT". Type "Y" and Enter. The cursor moves down to the next line. Type "Y" and Enter. Again the cursor moves to the next line. Type "Y" and Enter. The display is updated and the Ramdisks have been initialized.

At this point, the RAMDISKS have been created and are blank. The next step loads the RAMDISK software onto the first RAMDISK defined.

3. COPY RAMDISK FILES FROM DISKETTE TO "RAMDISKA".

Press the SPACE BAR until the first RAVE OS system screen is displayed. Press "C" to go to the E/A Cartridge. Using option 5, Type "DSK1.MG" to load the disk manager.

Using DM1000 3.5, the next six steps will Copy the "RAMDISK" Program disk (in DSK1) to the FIRST ram disk, DSK3. Select FILE UTITLIES from the main menu of DM1000, Type "1".

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4. Select Option 1: Type "1".
 5. Select Drive 1: Type "1".
 6. Type "C" until all files have a "C" in front of them. If the message "Execute File Command (Y/N)?" is not displayed at the bottom of the screen, type "C" until it is.
 7. Type "Y" to Execute the File Commands.
 8. Type "3" for the Drive Number.
 9. Answer "N" to Initialize Diskette? Wait for copying to complete.
 10. Reset the computer, then select TI BASIC.
 11. Type "CALL RAVE_OS" to get the MAIN SYSTEM screen.
 12. Press the SPACE BAR until the SYSTEM PROFILE SCREEN is displayed, see figure #3. Press "2" to enable the AUTO POWER-UP feature of the system. Press 7 to select the 1st and 2nd RAMDISK drive numbers. Press 5 to enable the "Cartridge Space Memory".

The MX01 RAMDISK SOFTWARE is now loaded.

 RamDisk Drive Assignments

At the bottom of the System Profile Screen, the last two lines display the Drive #'s assigned to the FIRST RAMDISK and SECOND RAMDISK; see below:

```

                                     7  DN
                                     |
                                     v
1st RamDisk Drive # 3 Name RAMDISKA <-----9  RAMDSK
2nd RamDisk Drive # 4 Name RAMDISKB

```

Up to 10 RAMDISKs may be defined for the MX01 card with two drive numbers assignable. The FIRST RAMDISK defined is considered the 1st RAMDISK and always has a Drive # associated with it. The rest of the RAMDISKs share the 2nd Drive #. This explained in detail in the TOGGLE DISK section.

To change the Drive # selection, press "7". The cursor shall move to the First Drive # and is highlighted with reverse video. After entering the First Drive # the cursor is moved to the Second Drive # and is also highlighted with reverse video. After entering the second drive #, a check is made to be sure the two numbers are different. If not, the cursor moves back to the First Drive # and the process repeats itself. When the operation is complete, the cursor is removed. This operation is also available as SYSTEM CALL "DN" described later.

The current RAMDISK names for both the 1st and 2nd RAMDISK drive numbers are displayed on these two lines. The first RAMDISK name will always be on the line with the 1st Drive number. The second RAMDISK name will display the current RAMDISK name. This may be changed using the TOGGLE DISK command.

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RamDisks-Names, Sizes, and Formatting

This part of the System Profile Screen provides the utilities for creating and formatting RAMDISKS. Up to 10 RAMDISKS may exist on the MX01 Memory Enhancement System with total sectors as small as 3 and up to 1440. The area used to define and display RAMDISKS is shown below.

Ramdisks	Size	
=====	====	
RAMDISKA	1440	<-----9 RAMDSK
RAMDISKB	360	
RAMDISKC	119	

Room available here
to define up to 7
more RAMDISKS.

The first column of this display shows the RAMDISK NAMES that were typed in when Naming and Sizing of the RAMDISKS was selected. The second column shows the sizes, in sectors, of each of the RAMDISKS.

To define a RAMDISK, press 9 to start. The Cursor moves under the *RamDisks* heading which is where the RAMDISK NAME is to be typed. The NAME may be up to 10 characters long without spaces. Press "ENTER" to accept the Name. The cursor moves under the *Size* heading. A default value is display. Press "ENTER" to accept the default or type the number of sectors desired, then "ENTER". The total number of sectors available is displayed at the bottom of the screen. Repeat the above process until all of the sectors have been used. At this point, the prompt "IS THIS DATA CORRECT?". Press "N" to go back and make corrections. Press "Y" to accept.

The program now prompts to see if formatting is required. A default value is selected based on information in the system. If "Y" is shown, the system could not find the RAMDISK so it must be formatted before it may be used. If "N" is defaulted, the system has found the RAMDISK and its associated files. TYPING "Y" when the default is "N" will DELETE any file that may have been on that RAMDISK. Answer "Y" or "N" for all of the RAMDISKS defined.

NOTE! The RAMDISK Names may be changed after they have been defined. Answer NO to the "FORMAT" prompt and the existing files will be saved and the RAMDISK name changed. This method of changing volume names is quite easy but care must be used not to reformat the RAMDISK.

After the last "FORMAT" prompt is answered, the creating of the RAMDISKS is complete. Press the SPACE BAR once to advance to PROGRAM MENU SCREEN 1. Press 1 to perform a Show Directory of the RAMDISKS just created. Enter 3 for the Drive # and the display shows RAMDISKA and its sectors. Press FCTN-8 to look at the 2nd RAMDISK. Enter 4 for the Drive # and the display shows RAMDISKB and its sectors. The new section describes how to view RAMDISKC data.

Toggle Disk

There are two Drive # available for RAMDISK usage. One is always available for the first RAMDISK defined. The system was designed this way so that programs could be quickly found on a default RAMDISK. The 2nd Drive # is shared by RAMDISKs defined as 2 through 10. The 2nd defined RAMDISK is initially assigned the second Drive #. This allows direct access to that RAMDISK. The rest of the RAMDISKs(3-10) may still be accessed if it via their Volume name. To allow another of the RAMDISKs to have direct access, the TD command is used. This command takes the next available RAMDISK name and assigns it the 2nd Drive #. When no more RAMDISKs in the list exist, the list is started over, starting with the second defined RAMDISK. In this example, RAMDISKB.

The Toggle Disk command is available on all screens by pressing "T". It is also available on the System Profile Screen by pressing 3.

2nd RamDisk Drive # 4 Name RAMDISKB <-----3 TD

The System Profile Screen displays the NAME of the current RAMDISK at the bottom of the screen. Watching this location while a "T" is being pressed shows the cycling of RAMDISK names through the 2nd Drive #.

Press "T" until RAMDISKC is displayed as the second Drive #. Now do a Show Directory to see its data.

128KOS

RAVE 99 modified version of MYARCS XBII is loaded from BASIC using the SYSTEM CALL "CALL 128KOS". This may now be executed from all of the screens by pressing "X". It is also available from the System Profile Screen by pressing "6", see FIGURE 3. This program is an option for the MX01 card and is sold separate by RAVE 99. The "X" command is ignored if this program is not available.

RAMDISKs Usage with Multiple MX01 cards

The MX01 Memory Enhancement System was designed to allow expansion without a lot of difficulty. Adding additional MX01 cards allows the RAMDISK SOFTWARE to expand so that it appears that only additional sectors have been added. This means that RAMDISKs may span across MX01 cards without any special setup required. Also, only 1 CRU address is used for multiple cards saving the other CRU addresses for other TI cards. The System Profile Screen looks the same except for the amount of memory now in the system.

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 CALL SUBPROGRAMS

 CALL DN.X(Y) - Change Ramdisk drive number.

The X and Y MUST BE A SINGLE DIGIT FROM 1 TO 8.

X is the current ramdisk drive # "Y" is the NEW RAMDISK DRIVE number for X.

EXAMPLE: If after loading the RAM OPERATING SYSTEM, the RAMDISKS were assigned DRIVE #'s 3 and 4. You would like them to be DRIVE #'s 2 and 3. Type the following:

CALL DN.3(2) This changes drive 3 to 2.

CALL DN.4(3) This changes drive 4 to 3.

 CALL TD - TOGGLE RAMDISKS

This call toggles the next ramdisk on the card into the second ramdisk dirve number. Now this RAMDISK may be by drive number instead of only by VOLUME name.

EXAMPLE: Three RAMDISKS exist on the MX01 card, "RAMDISKA", "RAMDISKB" and "RAMDISKC". "RAMDISKA" is assigned drive #1 and "RAMDISKB" is assigned drive #3. At this time, "RAMDISKC" is invisible except by volume. To access it by drive #, it must be first "TOGGLED" into the second RAMDISK drive position. This is done by typing the following:

CALL TD This makes "RAMDISKC" now

accessable by drive number. "RAMDISKB" is now invisible except by volume name.(ie DSK.RAMDISKB.XYZ)

 CALL CO / CF - CARTRIDGE RAM ON/OFF

The CALL CO turns on the CATRIDGE ram. CALL CF turns it OFF.

 CALL AO / AF - POWER-UP ON/OFF.

The CALL AO allows the system to AUTO-BOOT at power-up. The CALL AF disables this feature.

 CALL RAVE_OS - RUNS "RAVE_OS" program.

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Using A Horizon Ramdisk with the MX01 RAMDISK SOFTWARE

To use both the MX01 card and RAMDISK SOFTWARE with the HORIZON Ramdisk, the following steps must be followed.

1. The MX01 card must be the first card in the system with the CRU address of >1000. Check to be sure it is setup this way.
2. The HORIZON card should be setup for CRU address >1400 or some other address not being used in the system.
3. Using the ORIGINAL HORIZON RAMDISK "SYSTEM MASTER VER 04" disk, follow the programs instructions and load the HORIZON DSR in CRU address >1400 or whichever one selected. Set the HORIZON DRIVE # to one of the higher numbers such as 7,8, or 9. This drive number will remain value until this program is rerun. Changing this value from BASIC will no longer work as the command will be interpreted as a command for the MX01 card. Exit this program.
4. At this point the HORIZON card should be available as the DRIVE # just selected. The screens available in the MX01 RAMDISK SOFTWARE allows access to this drive number.

USING a DIGIT 80 Column Card with the MX01 RAMDISK SOFTWARE

Modifications to the RAMDISK software have been made to allow for operation of this card. No special setup is required as the modifications check for a 80 column card internally.

Most software tested for the 80 column card seems to work but some problems still remain because of incompatibility between the 80 column card and the TI-99/4A. In general these problems are typically minor and fall in the category of nuisance.

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THREE-MONTH LIMITED WARRANTY

This RAVE 99 MX01 RAMDISK SOFTWARE Warranty Extends To The Original Consumer Purchaser of the Accessory.

WARRANTY DURATION

This MX01 RAMDISK SOFTWARE is Warranted for a period of three(3) months from the date of the original purchase by the consumer.

WARRANTY COVERAGE

This MX01 RAMDISK SOFTWARE is Warranted against defective materials or workmanship. THIS WARRANTY IS VOID IF THE ACCESSORY HAS BEEN DAMAGED BY ACCIDENT, UNREASONABLE USE, NEGLIGENCE, IMPROPER SERVICE OR OTHER CAUSES NOT ARISING OUT OF DEFECTS IN MATERIALS OR WORKMANSHIP.

WARRANTY DISCLAIMERS

ANY IMPLIED WARRANTIES ARISING OUT OF THIS SALE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE ABOVE THREE-MONTH PERIOD. RAVE 99 SHALL NOT BE LIABLE FOR LOSS OF USE OF THE SOFTWARE OR OTHER INCIDENTAL OR CONSEQUENTIAL COSTS, EXPENSES, OR DAMAGES INCURRED BY THE CONSUMER OR ANY OTHER USER.

Some states do not allow the exclusion or limitation of implied warranties or consequential damages, so the limitations or exclusions may not apply to you in these states.

LEGAL REMEDIES

This warranty gives you specific legal rights, and you may have other rights that vary from state to state.

WARRANTY PERFORMANCE

During the above three month period, your MX01 RAMDISK SOFTWARE diskette will be replaced with a new diskette of the same or equivalent model(at RAVE 99's option) when the diskette is returned by prepaid shipment to RAVE 99 at the address below. Other than the postage requirement, no charge will made for replacement of in-warranty units.

REPLACEMENT AFTER WARRANTY

After the 90 day Warranty has expired you may return any original defective diskette, along with a check for \$5.00 to cover the shipping and diskette cost, and we will replace it.

SHIP TO :

RAVE 99 CO.
112 RAMBLING ROAD
VERNON, CT. 06066