

TRIMTEK COMPANY  
P. O. BOX 5028  
THOUSAND OAKS, CA 91360

NEW PRODUCTS RELEASE

TRIMTEK Co./Small System Software is offering RSM3, a new system monitor for the Model-I, III and 4 TRS-80's. This is a much enhanced version of our popular RSM-2/20 monitor for the Model-1.

RELOCATABLE SYSTEM MONITOR FOR THE TRS-80 MODELS I, III AND 4

RSM3 is the latest in a series of machine language monitors from TRIMTEK/SMALL SYSTEMS SOFTWARE. RSM11 and RSM-2/20, with their many features and bug-free operation, have become part of the library and the vocabulary of most serious owners of the TRS-80. RSM3 has all of the features developed for the earlier versions, including the ability to dump memory in hex and ASCII, test, search, modify, verify, zero and fill memory, etc. Our symbolic dump command (Z-80 Disassembler) is a featured command, and it is also possible to create your own commands in our User area.

New RSM3 features include an all new video editor for examining and modifying both memory and disk sectors. The Model-4 version uses the 80 character screen mode for enhanced displays. Disk commands can access any of 4 drives, and can read and write both single and double density disks. A new video editor allows insertion of up to 10 breakpoints with register modification and continuation as each break is hit. There are new controls for the video screen which provide split-screen scrolling where only half the screen scrolls, allowing up to 32 lines (48 with the Model 4) to be displayed with some commands. Scroll speed may be adjusted from about 1 to 30 lines per second. Printers operate through either the parallel, RS-232-C, or our own TRS232 printer ports at baud rates from 110 to 9600. Page length control is featured, and RS-232-C handshaking is supported. An image of the screen may be printed at any time. Finally, RSM3 is furnished on a self-booting disk with a relocater that allows creation of over 200 different versions!

RSM3 includes a 24 page detailed instruction manual and is available as follows.

RSM3-I For the Model 1	\$29.95	(With DOUBLE DENSITY Patch, \$39.95)
RSM3-III For the Model III		\$34.95
RSM3-4 For the Model 4		\$39.95

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NEW HARDWARE PRODUCTS FOR THE TRS-80 MODEL-I

Trimtek Co. has developed three new low-cost hardware products for the TRS-80 MODEL-I. With these products you can modify, enhance or even completely remodel your TRS-80 to fit your own personal tastes. These products are L2-SUB, L2-SUB PLUS, and the POOR MAN'S EPROM PROGRAMMER. In conjunction with Small System Software, we are also offering RSM-1P, a special version of their popular RSM monitors specifically designed to work with L2-SUB.

L2-SUB - 14K of EPROM space for the MODEL-I: \$49.95

LEVEL-II Basic and related software is resident on ROM's (Read Only Memory) in the stock MODEL-I computer, and occupies memory space from 0000 through 2FFFF. ROM's, of course, cannot be modified. L2-SUB allows you to replace your LEVEL-II ROM's with 3 EPROM's (not furnished). These three EPROM's (2732's) can be programmed to duplicate your LEVEL-II ROM's, of course, but now it is also possible to modify LEVEL-II Basic to "customize" it to your own needs. For example, it is possible to modify the RESET routine so that the RESET button performs a different function, such as initializing in our RSM monitor instead of Basic. The LET command may also be modified (you don't use LET, do you?) to allow you to perform a different function (we changed LET to RSM to execute RSM-1P). And, if you are so inclined, you can completely replace Basic with any other program that you might desire. A dedicated word processor or other special purpose machine is only one of many possibilities!

But there's more! L2-SUB also provides an extra expansion socket to allow you to use a 2716 EPROM in the "empty" space between memory addresses 3000H and 37DFH. This is the socket that takes our RSM-1P machine language monitor (see below). Or, you can put all those frequently used utilities (printer routines, etc.) into your machine so they will always be available. This is especially convenient if you are using cassette tape, since now a program "glitch" or power failure will not require you to completely reload your system. This feature is worth the price of L2-SUB alone for many users. In fact, you may use your original LEVEL-II ROMs with L2-SUB and still use the extra socket if you don't want to modify LEVEL-II Basic. We also furnish instructions for using this extra space for RAM if you need more memory.

L2-SUB mounts in the TRS-80 in place of the LEVEL-II board presently in your machine. You will need to solder and unsolder a number of connections to make this installation (full instructions included, of course). L2-SUB may also be installed in LEVEL-I machines for upgrading to LEVEL-II, but recent legal decisions indicate that copying ROM firmware violates US copyright laws.

L2-SUB PLUS - Put 8K of EPROM in 2K of space: \$49.95

L2-SUB PLUS is a small board with 4 sockets and a ribbon cable. The ribbon cable plugs into the expansion socket on L2-SUB (see above). You may install up to 4 2716 EPROM's (2K each) into the sockets so you now have 8K of EPROM in addition to the 12K used by Basic. You can use one of these for RSM-1P (see below) and still have 6K for other applications! And, you may also mix RAM and EPROM in 2K increments.

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The expansion socket on L2-SUB occupies the empty space between 3000H and 37DFH, (2016 bytes). L2-SUB PLUS puts 4 separate 2K EPROM's or RAM's in this same space. Of course, only one socket may be active at a given time, thus there must be a means for selecting between sockets. This is done by using an OUT command to output port 50H (80 Decimal). The particular value that is output determines which socket is active. By using a few software tricks, it is possible to call and/or jump back and forth between EPROM's, thus you can make it look like you have 8K of memory in 2K of space!

L2-SUB mounts inside your MODEL-I keyboard housing at the right side just below the area occupied by the keypad (replaces the LEVEL-II board which is probably already there). L2-SUB PLUS also mounts at the right side, but in the similar space above the keypad region, and connects to L2-SUB with a ribbon cable and plug. Several wires must also be soldered to complete the installation. Fully detailed and illustrated instructions are furnished.

POOR MAN'S EPROM PROGRAMMER FOR MODELS 1, III & 4 \$79.95

Finally, an EPROM programmer that most anyone can afford. With this programmer, you can copy ROM's or EPROM's into memory, modify the code as you desire, then program new EPROM's with the modified code. Or you can create all new code with your assembler and place this on EPROM. This is the component that will allow you to make full use of the capabilities of our L2-SUB products.

Our programmer is simple, but elegant. The simplicity is achieved by combining a general purpose I/O device with a 28-pin ZIF (Zero Insertion Force) socket. This architecture allows us to define nearly every pin on the socket under software control. As a result, we can program almost all of the commonly available EPROM's, including 2516's, 2532's, 2564's, 2716's, 2732's, 2764's and even 27128's! Selection of which EPROM is to be programmed is accomplished by selecting from the software menu, and, in some cases, by also changing a single jumper plug (this is necessary to place the high voltage on the correct pin). Further, it is probable that future EPROM's can be handled simply by issuing new software, thus our programmer is unlikely to become obsolete in the future!

The Poor Man's EPROM Programmer plugs into the expansion port on your TRS-80 Md1 I keyboard or Expansion Interface, or the output port of the Md1 III. The programmer itself is controlled completely from input and output ports and does not occupy any memory space. Versions are available for the MODEL-I or MODEL-III/4 TRS-80 (specify which when you order). You will need a small power supply to furnish 9 volts at 300 ma (Radio Shack 273-1650 or 1651 will do nicely). All necessary software is furnished on disk (specify if you want cassette software).

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RSM-1P - An RSM Monitor on EPROM for the TRS-80 MODEL-I: \$34.95

Now you can always have RSM available in your TRS-80 without loading from either tape or disk! Program bomb? Execute RSM-1P and scan memory to see if anything is left. Don't worry about setting aside memory space for your monitor, it fits in an unused location! RSM-1P is furnished on EPROM for use in the Trimtek L2-SUB or any similar accessory that allows a 2716 EPROM to be used at address 3000H. RSM-1P operates with MODEL-I TRS-80's with LEVEL-II Basic, and is not compatible with either LEVEL-I Basic or the MODEL-III.

RSM-1P resembles other RSM monitors, but it has been streamlined to pack as much as possible into the 2016 bytes available when using L2-SUB. As a result, there are only 11 commands, but this includes the important symbolic dump (disassembler). The following table lists all of the commands in RSM-1P:

- D - HEX/ASCII DUMP: Display Hex/ASCII memory equivalent
- E - EDIT: Enter hex values to modify memory locations
- F - FIND 1 BYTE: Find and display single-byte hex codes
- G - GOTO: Go to and execute program at specified address
- I - INPUT: Input data from port and display value in hex
- M - MOVE: Move any block of memory to specified location
- O - OUTPUT: Output hex value to specified output port
- Q - CHECKSUM: Compute checksum of specified memory block
- S - SYMBOLIC DUMP: Display memory in Zilog Z-80 mnemonics
- U - USER: Allows user to write and execute new commands
- Z - ZERO MEMORY: Write zero or any hex code into memory

COMPLETE DOCUMENTATION ACCOMPANIES ALL TRIMTEK/SMALL SYSTEM SOFTWARE PRODUCTS!

VISA & MASTERCARD Accepted

Add \$2.50 S. & H. \$5.00 Foreign Ca. Residents Include 6 1/2% State Tax.

TRIMTEK COMPANY -- (213) 889-8142 - or - BOX 5028 1000 OAKS CA. 91360