

EQUIPMENT REPORTS
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the bench at all times. Using standard C cells, battery life is about five hours; this could be increased using alkaline batteries. A red LED pilot light illuminates when the power is on, and blinks when the batteries are low.

The model LCG-397 is quite a versatile little instrument, and extremely portable. It fits easily into a caddy to take along for house calls, setup adjustments and in-home troubleshooting. The panel is well marked. In fact, so well marked that we were able to make it work even though I had cleverly managed to leave the manual behind when I took the instrument to the lab!

The model LCG-397 costs \$299.95, and the model LPS-166A AC adapter is \$7.95. **R-E**

Micro Software Systems
Micro-Set I PET Software

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USERS OF THE PET ARE AWARE OF SEVERAL shortcomings in its ROM-based BASIC language. One of the most significant is the inability to add one program to another. Micro-Set I is a PET-compatible program that combines the capability of linking programs, deleting lines and renumbering program statements.

FORTRAN users are familiar with the concept of a subroutine library from which they can draw upon while developing their programs. Rather than having to create mathematical and other subroutines each time they are needed, users can combine or link previous-

ly developed routines with their new mainline programs. The PET BASIC and its integral operating system lack this ability. In PET BASIC, the LOAD command resets various pointers and overwrites the old program with the new, wiping out any previously loaded program. This prevents one program from loading a second program while retaining the program statements and the data generated by the first program. Micro-Set I solves this problem by allowing you to generate an ASCII-formatted cassette that can be loaded or added later to another program already contained in memory. The program uses some clever methods to achieve this result by digging into the workings of the PET operating system itself.

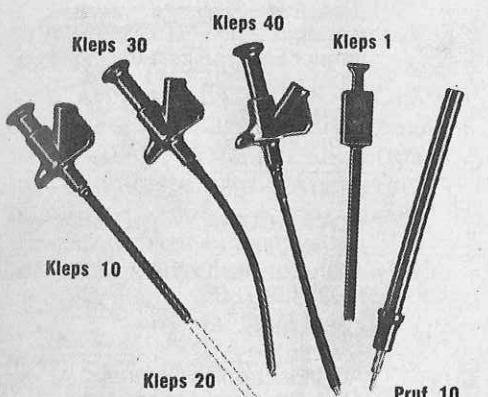
In my sample, unfortunately, this portion of the program did not operate properly. Playing back a Micro-Set I created tape did not affect the already present statements in any way. I took the program apart, drew a couple of flow charts, and uncovered minor inconsistencies in both the portion that creates the tape and the segment that reads it back. I actually tried the program on two different PET's that were purchased about six months apart—with no success. It is possible that some error crept in between the time the program was created and the time it ended up on the tape I received. Incidentally, the tape included three sequential copies of the program which performed identically. No doubt the source of the problem has probably been identified and cleared up by now.

The Micro-Set I command list is as follows: The CREATE TAPE command is used to record a program segment or an entire program onto tape, and the ADD command reads it back and adds it to already existing statements, if any.

The DELETE command takes out lines between specified line number limits. The DELETE command is particularly useful in removing the instruction preamble of Micro-Set I after it has been loaded and read by listing. The program INFO command displays the number of lines in the program, the first and last line numbers, and the number of free bytes remaining. Lastly, the RENUMBER command is probably the second really useful function. Even though at the outset you may have to number your program statements by tens to leave spaces in between adjacent lines for editing, it's not unusual for a few of these gaps to be filled during program development. Without a renumber capability, it is impossible to add a line between sequentially numbered statements without extensive messy editing. The RENUMBER command lets you renumber all lines at selected increments and starting at a desired line number. Program jumps and conditional jumps are not automatically updated, however. If a program statement ends with a GOTO, the target address remains unchanged. Micro-Set I does help by displaying a list of the numbers of the lines to be corrected. As the instructions suggest, it is a good idea to copy this list onto paper since it can only be displayed once. This is not necessary if you are fortunate enough to have a printer connected to your PET.

On execution, the first key command letters are displayed in a novel fashion: The first key command letters are displayed in reverse video. Instructions are included on how to add the Micro-Set I routines to your own program.

Micro-Set I is priced at \$15 per cassette copy produced by Micro Software Systems, Box 1442, Woodbridge, VA 22193. **R-E**



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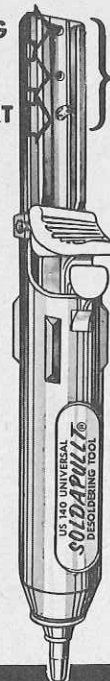
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