

Section 12: ROMSquared Features

Conventional BASIC interpreters must reside in RAM, and allow only one user program to be in memory at any time, also in RAM. The Custom I/O version of the XYBASIC interpreter, on the other hand, may reside in either RAM or ROM.

Unlike other BASIC interpreters, XYBASIC allows several user programs to be in memory simultaneously, in either RAM or ROM, and lets you use a simple XYBASIC command to switch between them. The unique features which make this possible allow both the interpreter and the user program to reside in ROM, and therefore are called ROMSquared features.

You can use the ROMSquared features described in this section to execute an application program as soon as you turn on your computer. This allows you to build convenient stand-alone systems with ease. You can debug a program in RAM and then burn it and execute it out of PROM.

Working Space

CP/M and ISIS-II versions of XYBASIC reside in one contiguous segment of RAM. Custom I/O versions reside in one area of memory, either RAM or ROM, and use a separate area of RAM. In any version, the contiguous segment of memory from the first RAM location used by XYBASIC to the location specified in response to the END OF MEMORY prompt during initialization must be RAM, and is used as working space by the interpreter. Any segment of memory not used by XYBASIC may be used to store machine language routines or XYBASIC user programs.

The working space always contains a XYBASIC program (initially, an empty program), and the commands you give normally refer to that program. The commands described in this section allow you to copy programs to and from working space, and to execute programs residing elsewhere in memory, either in RAM or ROM.

MOVE

The command MOVE allows XYBASIC programs to be moved to or from the working space. For example,

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MOVE TO #8000
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copies the current program from working space to memory (RAM) starting at location 8000H. Thus MOVE TO creates a new image of the current program, which might then be burned into PROM.

The internal representation of a XYBASIC program is completely relocatable (position independent); it may be executed from any address. Therefore a PROM programmed with a XYBASIC program may be plugged into any available socket.

XYBASIC checks that the address given in the MOVE TO command does not overlap the interpreter or working space, and that there is sufficient RAM at the specified address to store the program; if not it issues an RO (ROmsq feature) error. The program in the working space is unchanged by