

Disk Drive Address Modification PROM Installation and Operation Sheet

What You Should Know

A computer's BIOS (Basic Input Output Services) is designed to provide a standard interface so programs can run on computers which have different hardware. The PCjr is 100% BIOS level compatible with the PC and as long as PC software uses the available BIOS there are no problems using any feature of your PCjr. Unfortunately, some programs bypass BIOS and directly address the PCjr's hardware. When this happens hardware differences become apparent. These programs are known as "ill-behaved" and are not desirable because they often become incompatible with future add on products and future versions of DOS. Ill-behaved software was common in the early days of IBM PC programming.

Programs that use only BIOS routines will operate on a PCjr exactly like they would on a PC when running the program. These higher quality programs are known as "well-behaved" and are preferable. It is now common practice for software companies to write well behaved programs since compatibility with future hardware and software is recognized to be very important.

One PCjr hardware I/O address that is different from the rest of the PC family is the address of the Diskette Drive Controller. The PCjr's Diskette Drive Controller uses hardware I/O addresses F0h through F7h, the IBM PC and compatibles use I/O addresses 3F0h through 3F7h. This difference is never a problem when you run well-behaved programs, however if an "ill-behaved" program attempts to address the Diskette Drive Controller directly at 3F0h through 3F7h a problem occurs. When this happens on a PCjr, no Diskette Drive Controller is found and therefore the program is unable to access the PCjr's disk drive.

The Disk Drive Address Modification PROM will allow the PCjr's Diskette Drive Controller's address to appear at both locations, where the PC's Diskette Drive Controller is found and where the PCjr's Diskette Drive Controller is already found. The PROM does not change the usual address of the PCjr's Diskette Drive Controller so your PCjr will remain 100% PCjr compatible. This means with the PROM installed well-behaved software will still work since BIOS still finds the Diskette Drive Controller in the usual location which has been unchanged, and ill-behaved programs will be able to use most of the Diskette Drive Controller's features when they attempt to directly access the Disk Drive Controller at the I/O address used by other computers.

Installation

To install the Disk Drive Address Modification PROM you must remove all second, third, or hard disk drive systems attached to the top of the PCjr. All you will need to do is reverse the installation procedure illustrated in the installation manual that came with your particular add on product(s). Then you must remove the bottom diskette drive from the PCjr. To do this, all you have to do is pull up forcefully on the back edge of the disk drive shelf, near the fan. Once the back edge of the drive shelf is unplugged, the front edge automatically unhooks. With the drive removed, you should now have access to the system board below it. On the system board you will find a 20 pin PROM (see attached diagram 17/17 component ZM52) next to the pair of chips labeled 1504036 and 1504037. The PROM will be in a socket and will have a notch in one end of the chip. Make note of where the notch is located and gently pry the 20 pin PROM from the socket below it, being careful not to mistakenly pry the socket from the system board. Insert the Disk Drive Address PROM into the empty socket exactly as the original PROM was installed. Reassemble the entire computer and power on. If you have made a mistake installing the Disk Drive Address PROM, you will see a white screen with a loud hum coming from the PCjr Color Display's speaker. If this is the case, recheck the installation of the PROM by removing it completely, inspecting it and reinserting it.

Using the Diskette Drive Address PROM

To use the Disk Drive Address Modification PROM, you do not use your PCjr any differently than before. Once installed, the Disk Drive Address Modification is always enabled, but it will be used only by programs that expect to find the Diskette Drive Controller at 3F0h through 3F7h.

