

# PROMDISK-Chip™

## NAND FLASH VERSION

### DISK EMULATOR CHIP USER MANUAL

#### PROMDISK-CHIP DISK EMULATOR

The PROMDISK-Chip is a high performance solid state disk emulator designed to plug into a standard 32-pin Flash EPROM socket (refer to figure 1) in the BIOS extension address space of a PC compatible computer. The PROMDISK-Chip uses state-of-the-art *NAND* Flash technology, and is available in 4MB, 8MB, or 16MB capacities while occupying only 4K-bytes of address space in the BIOS extension area of memory. It comes complete with the Datalight ROM-DOS version 6.22 disk operating system, and can be configured as a bootable fixed disk drive for true *DISKLESS* operation. The PROMDISK-Chip includes an internal BIOS extension ROM which contains the Datalight CardTrick® VBF integrated Flash File System which together with ROM-DOS allow the PROMDISK-Chip to operate as a non-volatile Read/Write disk drive. This means that you can list directories, copy files, and read and write the Flash memory on the PROMDISK-Chip using standard DOS interrupts and commands. The paragraphs that follow describe how to use the PROMDISK-Chip.

#### USING ROM-DOS AND OTHER DISK OPERATING SYSTEMS

The PROMDISK-Chip has been preconfigured at the factory with the latest version of the Datalight ROM-DOS version 6.22 disk operating system. If the operating system is accidentally erased from the PROMDISK-Chip it may be restored using the DOS SYS command supplied with your operating system. A current copy of the ROM-DOS operating system and utilities is supplied on the PROMDISK/ROM-DOS software utilities diskette .

To change the operating system version or type you should simply use the equivalent DOS SYS command to transfer the operating system.

#### INSTALLING THE PROMDISK-CHIP

When installing or removing the PROMDISK-Chip, be sure to first touch a grounded surface to discharge any static electricity from your body. Use the following procedure to install the PROMDISK-Chip:

1. Align pin one (square pad) on the PROMDISK-Chip with pin one of socket.
2. Push the PROMDISK-Chip into the socket carefully until it is fully seated.
3. Check to make sure the PROMDISK-Chip is installed securely, and there are no bent pins.

**CAUTION: The PROMDISK-Chip will be permanently damaged if installed incorrectly!**

4. Set drive C in the CMOS setup to "Not Installed". If you have a physical hard drive installed as drive C, the PROMDISK-Chip will automatically install as drive D.
5. Reboot the computer. ROM-DOS will boot to the C: prompt.

To remove the PROMDISK-Chip, insert a small screwdriver between the PROMDISK-Chip and the socket and gently pry around the edge until the PROMDISK-Chip is released from the socket.

#### CONFIGURING PROMDISK-CHIP AS THE FIRST DRIVE

The PROMDISK-Chip can be configured as the first logical drive, or the last (default) logical drive in the system. When the PROMDISK-Chip is configured as the first drive, PROMDISK-Chip will install as drive C and the first fixed drive in CMOS will be assigned drive D. When PROMDISK-Chip is configured as the last drive it installs as drive D when there is a fixed disk drive setup in the CMOS; otherwise, if there are no fixed disk drives in CMOS, PROMDISK-Chip installs as drive C. The PROMDISK-Chip is shipped from the factory configured as the last drive.

To configure PROMDISK-Chip as the first fixed disk drive follow the steps below:

1. Boot the system and check to see that PROMDISK-Chip installed as drive D.
2. Locate the program PDC3BIOS.EXE and PDC3FRST.IMG.
3. At the DOS prompt type: `pdc3bios pdc3frst.img D000` (where D000 is the address segment of PROMDISK-Chip)
4. After the PROMDISK-Chip is successfully programmed, re-boot the system.
5. PROMDISK-Chip is now drive C and the fixed disk drive should be drive D.

To configure the PROMDISK-Chip back to the last drive repeat steps 1-5 above substituting the file **pdc3last.img** in step 3.

## USING PROMDISK-CHIP WITH AMPRO CM2 CPU BOARDS

MCSI has qualified the PROMDISK-Chip for use on the AMPRO CM2-386SX and CM2-486DXI CPU boards. To use the PROMDISK-Chip on the CM2 type AMPRO CPU boards the following steps must be followed:

1. Be sure to configure the BYTE-WIDE socket on the CPU board for a 27C010 EPROM.
2. In the CMOS setup, configure socket S0 to: **64K@D0000**, and set the default boot source to: **Floppy Drive**.
3. Set the remaining CMOS drives in accordance with your actual system requirements.
4. Disable extended BIOS option.

If physical drives are installed, the system will boot on drive A if a disk is installed, or on drive C. If no drive C is installed the system will boot from PROMDISK-Chip drive C.

Note: Some versions of AMPRO CPU boards require a special PROMDISK driver which does not install at scan time. If the above procedure fails to boot, the PROMDISK driver image must be reprogrammed as follows:

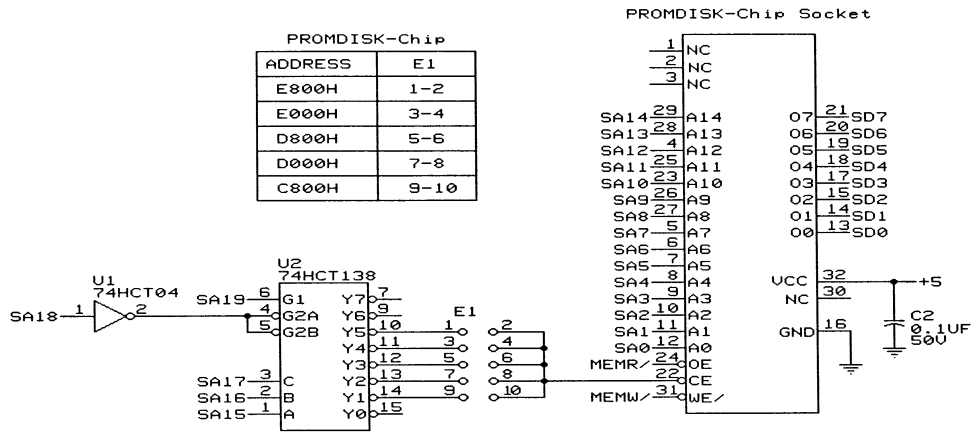
1. Boot the system.
2. Locate the program PDC3BIOS.EXE and PDC3LAMP.IMG.
3. At the DOS prompt type: `pdc3bios pdc3lamp.img D000` (where D000 is the address segment of PROMDISK-Chip)
4. After the PROMDISK-Chip is successfully programmed, re-boot the system.

## PROMDISK LOW LEVEL FORMAT

The Flash memory contained on the PROMDISK-Chip board was initialized with the Datalight CardTrick low level format at the factory. During normal operation the Flash memory should never require reformatting unless there is a serious hardware or software malfunction. In the event it has been determined that the low level format is corrupted, proceed as follows:

1. At the DOS prompt, run the PROMDISK-Chip low level format utility PDCFMT.EXE located on the PROMDISK/ROM-DOS software utilities diskette in the PDCHIP3 subdirectory.
2. Install a bootable floppy diskette in drive A and boot the system.
3. At the DOS prompt type `SYS C:` to transfer a bootable copy of DOS to PROMDISK-Chip.
4. Remove the floppy diskette from drive A: and reboot the system from PROMDISK-Chip.

CAUTION: Do Not use the DOS Fdisk utilities on the PROMDISK-Chip.



PROMDISK-Chip Design Example  
Figure 1