

ROM MJS Utility Guide

In order to manage the underlying hardware, I have created several utilities:

CLRDIR.COM (CP/M 2,3 and MP/M)

CLRDIR is a CP/M utility for effectively formatting the directory sectors of a CP/M disk. CP/M disks are considered "formatted" when all sectors of the disk contain 0xE5.

Having all the directory sectors containing 0xE5 indicates to CP/M that the disk is blank and it can allocate files from the beginning of the directory and data areas.

When you create a CP/M disk using current media, the directory sectors typically contain leftover data that CP/M mistakes for directory entries. This results in "junk" in the directory or can make CP/M think the disk is full.

It is often incorrectly suggested that executing an ERA *.* command will clear these entries. However, ERA only affects the current user space and does not clear the remaining user spaces.

Additionally, CP/M maintains a "High Water Mark" within the directory which helps speed up "logging-in" of disks by reducing directory reads beyond the High water Mark.

To effectively format the directory of a CP/M disk (and release all disk space) you need to write 0xE5 to all directory sectors. CLRDIR will determine the appropriate size and location of the directory sectors and through BIOS calls write 0xE5 to all sectors.

Command format CLRDIR <drive name> where drive name is A: -> P:

MOUNT.COM (CP/M 2,3)

MOUNT.COM is a CP/M utility for manipulating the disk partition table within the Logical disk Manager (LDM)

The mount command associates CP/M disks with physical disk partitions.

Under CP/M 2 and 3 drives C, D, E, and F: are assigned to the logical disk manager (LDM). The LDM allows you to specify where on the physical disk the CP/M disk resides. Typically, this is done in conjunction with the DOS partition table located in the MBR of the disk.

The mount command has several forms:

Usage: MOUNT [-IR] <cp/m drive>: yyy xx ss"

MOUNT -H -> Display help text

MOUNT -> Without parameters will display the current drive mappings

MOUNT x: HSA n -> Assign CP/M drive (C,D,E or F) to physical partition n (1 - 4 supported) on device HSA (first SD disk)

MOUNT -I -> Interactive mode, mount will ask for required parameters

MOUNT -R x: yyy xx ss -> Mount a raw partition where yyy is device, xx starting LBA ss = size, normally 0x800000 (8MB) *see note

Note: Raw mode allows you to specify an LBA on disk as the starting address of the disk area. The disk area must be contiguous. This can be useful if you have a disk image stored on a FAT volume for instance.

DISMOUNT.COM (CP/M 2,3)

DISMOUNT removes the connection between the logical and physical disk volume and renders the CP/M disk in-accessible. Any CP/M access to the logical disk will result in a select error with a message specifying the drive is not mounted.

Command format: DISMOUNT <drive name> where drive name is C: -> F:

PLIST.COM (CP/M 2,3)

PLIST allows you to list the available partitions on a specified disk. This utility accesses the partition table (MBR) of the disk and then lists the partition table entries

Command format: PLIST <device name> where device name is DSA (for Multicom)

WRTBOOT.COM

WRTBOOT is a CP/M utility that allows you to install or update the boot sector of a CP/M disk.

To boot a disk partition the monitor needs to know where the boot program is located on the disk, how many sectors it contains, where to copy it to RAM and what location to start execution.

This information is contained in the boot sector (first sector) of the partition. WRTBOOT allows you to create a boot sector as well as install a boot loader program image.

The boot sector also contains a copy of the logical disk-> partition mapping used by the logical disk manager.

WRTBOOT allows you to update the disk mapping table based on the current in-memory table

HDPART.COM

Usage: HDPART <dev> where <dev> is the disk device you want to partition

HDPART.COM is a CP/M utility that allows you to manage the partition table of a physical disk.

This utility is modelled off the well known FDISK utility used in MSDOS.

With this utility you can:

- . Create and delete partitions
- . Specify the partition type
- . Mark partition as active

Note that HDPART currently only supports primary partitions and thus is limited to 4 partitions per disk.

When a partition is marked as active it is considered the "default" partition by the monitor and can be booted using the b command (without parameters), providing the default drive parameter is set.

FATDSK.COM

FATDSK is a CP/M utility that allow you to access a FAT file system and copy (export) files to a CP/M disk.

FATDSK enables a faster file transfer mechanism from a Windows PC to CP/M rather than using a serial connection and a file transfer program such as Xmodem.

The FAT partition can be on any device accessible by the HAL run-time. Currently one-way (FAT-> CP/M) transfers are supported. FATDSK also provides the ability to list the directory of the FAT volume.

FATDSK automatically supports both FAT16 and FAT32 disk volumes with files stored in the root directory only.

HCDSKTST.COM

HCDSKTST is a CP/M utility that allows you to access a physical disk through the HAL API.

This utility allows you to read, display and write data to a physical disk similar to a disk edit program.