

MEMDISK / DCT - DISK DRIVE IN MEMORY

The MEMDISK/DCT program will allow you to set up an area of memory to simulate a disk drive. This area of memory can then be accessed with any standard disk I/O commands. The SYSTEM Library command is used to install the in memory disk drive as follows:

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|  SYSTEM (DRIVE=n,DRIVER)                                |
|  n = the logical drive number to be used                 |
|  abbr: none                                              |
=====
```

You will then be prompted to enter the DCT driver program. Respond by typing in the name MEMDISK. Before explaining how to enable or disable MEMDISK, a brief description of the simulated disk drive is needed.

MEMDISK organization

The simulated disk drive will consist of a short disk driver program, and the actual memory allocated for the tracks. Each MEMDISK track will consist of 6 granules. The track size is adjustable, with 1 or 2 sectors per granule. Thus a track will take 1.5K or 3K, depending on the number of sectors per granule you select. Track #1 will always contain the directory, regardless of the total number of tracks on the disk. There is no space allocated for a track 0. As a result, that track will always show up as "locked out" in the free space map. The driver program will automatically take care of any system requests to locate the directory track number normally stored in sector 0 of track 0. The user is allowed up to nineteen 1 sector/gran tracks, and up to nine 2 sector/gran tracks.

Using 2 sector/gran tracks will provide 80 directory slots, with 16 of these being reserved for System (/SYS) files. When using 1 sector/gran tracks, the directory space is limited to 32 files, with only 8 of these spots reserved for system (/SYS) files. When using this smaller track size, there are system slots available for only the following /SYS files:

BOOT and DIR

SYS0 and SYS1

SYS6 thru SYS9

You should not attempt to put any of the other system files onto the memory disk if you are using the 1 sector/gran tracks. They may be put into memory with the SYSTEM (SYSRES) feature (LDOS 5.1 only). Also, the file BOOT/SYS is never physically present in the drive.

Enabling MEMDISK

After typing in MEMDISK in response to the driver prompt, you will see the following display:

1 or 2 Sectors/Granule (0=disable) ?

The initial prompt will ask you to select 1 or 2 sectors per granule. Using 1 sector grans will provide the most efficient storage, but will also limit the directory as explained above. After selecting the gran size, you will see the following prompt:

Note: Each track equals x.xK of space.

Number of free tracks l-nn

The space per track will be 1.5K for 1 sector grans, and 3.0K for two sector grans. The maximum number of tracks will be nineteen for a 1 sector/gran disk, and nine for a 2 sector/gran disk. MEMDISK will not allow an allocation which would result in HIGH\$ being below X'8000'. If you enter too many tracks, you will see message "Insufficient Memory". The process will abort, and you will return to the LDOS Ready prompt with no in memory disk drive installed. You can then restart the process, and specify fewer tracks to meet the memory restrictions. If there is enough memory available, the disk drive memory will be "Formatted" and tested. You will see the following display:

Verifying RAM Track nn

Verifying Complete, RAM Good

Directory has been placed on Cylinder 1

Note: Real-Time clock still accurate.

The initialization routine will run a brief memory check on the space allocated to the MEMDISK drive. If the verifying detects a bad memory location, the operation will abort, and the following message will be displayed:

Verify Error at location X'nnnn'

At this point, you should determine the cause of the memory error before attempting to establish the MEMDISK drive again.

NOTE: MEMDISK may be saved with the SYSTEM (SYSGEN) command.

Disabling MEMDISK

Once MEMDISK has been established, it may be temporarily disabled with the SYSTEM (DRIVE=n,DISABLE) command. The memory area will remain untouched. It may later be re-enable with a SYSTEM (DRIVE=n,ENABLE) command. The MEMDISK driver and space allocation may be removed entirely by using the SYSTEM (DRIVE=n,DRIVER) command again. At the initial number of tracks prompt, answer by entering a zero (0). However, this will only work if no other memory below the MEMDISK driver has been protected. High\$ will be moved back to where it was before MEMDISK was established, and the DCT location for the drive will be changed to show a disabled drive. If HIGH\$ is not located directly below MEMDISK, you will see the following message:

Unable to disable MEMDISK, additional high memory used

You should be sure that MEMDISK is the last program executed that uses high memory if you wish to remove it and release the memory at a later time.