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HDSETUP HELP UTILITY

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If you are unfamiliar with disk partitioning programs, you should review all the information in this file before using HDSETUP to partition your drive.

If you are more experienced, you may cursor to the appropriate section to find the information that you need or the answer to your question.

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Section 1: USING FUNCTION KEYS

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Function keys are used to perform various operations with HDSETUP.

When HDSETUP is in a mode where a certain function key does not apply, the associated operation is enclosed in parenthesis. For example, "F2 (Chg Drive)" would display on a system with only one hard disk installed.

NOTE: The "Memory Data" and "Disk Data" status indicators show whether the disk partition structure data is just changed in memory or actually changed on (written to) the disk. This allows the user to see that no changes are physically made to the disk's partition structure until they exit HDSETUP and answer "Y" to the "SAVE? Y/N" prompt.

F1 - brings up information on how to use HDSETUP, including what the function keys and other editing keys do. You are viewing this file now.

F2 - when two hard drives exist, F2 will toggle between them.

If you have more than one physical hard disk in your computer, this option lets you change to the next hard disk for defining its partition structure. The "Drive 1 of 2" display will change to "Drive 2 of 2" and vice versa.

F3 - adds a Primary partition.

Only one Primary partition can exist per physical hard drive. Therefore, F3 will only be active (not shown in parenthesis) when no partitions exist, i.e. one gap entry covering all of the cylinders on the drive will be displayed.

NOTE: The Primary partition takes up one of four available slots in the master boot record partition table.

F4 - adds an Extended partition.

This will only be active after there is a Primary partition, when there are still available cylinders to make a new addition, and when the highest drive letter in use has not reached "Z".

NOTE: Since Extended partition are allocated in a chain more can exist than there are free slots for in the master boot record partition table. All Extended partitions combined (up through drive letter "Z") only take up one of four available slots in the master boot record partition table.

Since they are chained, all Extended partitions must be in a group in the partition table, i.e. no other types of partitions can exist in between any Extended partitions.

F5 - adds a Secondary partition.

This will only be active after there is a Primary partition, when there are still available cylinders to make a new addition, when the highest drive letter in use has not reached "Z", and when there is still a free slot available within the master boot record partition table.

NOTE: Each Secondary partition takes up one of four available slots in the master boot record partition table.

IMPORTANT: Do NOT use Secondary partitions in a PC-MOS only system. Use a Primary partition and (if desired) one or more Extended partitions. Secondary partitions should ONLY be used as the MOS boot partition on a dual boot system running BOTH PC-MOS AND MS-DOS!

The following chart shows the typical disk partition structures for a PC-MOS only system and dual boot PC-MOS/MS-DOS systems. It also shows the maximum number of Extended partitions that could be created in each case:

Partition Type:	PC-MOS only:	Dual Boot MOS & DOS:
Primary	1	1
Secondary	0	1
Extended	23 (max)	22 (max)

NOTE: All Extended partitions will be assigned drive letters alphabetically BEFORE any Secondary partitions are assigned letters. This is required to maintain compatibility with DOS.

F6 - toggles the boot status of the currently selected partition to Y or N. This only applies to the Primary partition and any Secondary partitions.

Only Primary and Secondary partitions can be bootable, not Extended partitions. If there is more than one bootable partition, a number will also appear after the "Y", e.g. "Y 1" or "Y 2". This indicates the boot partition number. (NOTE: Due to the support of Extended partitions AND Secondary partitions, there is not a 1:1 correspondence between the drive letter and the boot partition number. That is why the number is assigned and displayed for you.)

If you designate only one active bootable disk, MOS automatically boots from that disk. If you designate more than one bootable disk, each time you boot your computer a prompt appears asking which partition you want

to boot from. You must then make a selection, e.g. press 1, or 2, or 3, etc. as indicated by the HDSETUP display. If an entry is not made, your computer will not boot.

F7 - deletes the currently selected partition.

This option is only active when an existing partition is selected. (This option must be used to delete any MOS Large partitions made by PC-MOS 4.10 or earlier, since they can't be edited. Note that MOS Large Primary partitions can be converted using the F10 key conversion utility.)

F8 - not used.

F9 - deletes ALL partitions on the present hard drive!

F10 - converts MOS Large Primary partitions to DOS Large Primary partitions.

This utility will convert existing MOS Large Primary partitions (made by PC-MOS 4.10 or earlier) into DOS Large Primary partitions so that they can be used with PC-MOS 5.X, DOS 4.X and 5.X.

IMPORTANT: Only MOS Large Primary partitions can be converted to DOS Large Primary partitions!

If any MOS Large Secondary partitions exist, they must be dealt with first. Any data on them should be backed up and the partitions deleted. Then DOS Large Extended partitions should be created to replace them, and the data restored to these new partitions.

Once this is done, any existing MOS Large Primary partitions can be converted to DOS Large Primary partitions with the F10 option.

ESC - exits to the operating system. You will be given the opportunity to save your changes to disk. Answering "Y" to the "SAVE? Y/N" prompt will cause HDSETUP to write the new disk partitioning structure to the hard disk(s).

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Section 2: PARTITION TYPES

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HDSETUP is used to assign your available hard disk space to one or more logical disks or "partitions".

HDSETUP can partition hard disks with 1024 or less cylinders. Very large hard disks may have more than 1024 cylinders. (HDSETUP can only partition hard drives with greater than 1024 cylinders if sector translation is supported by the drive's BIOS.)

The following are the possible entries in the partition "Type" column:

SML-p a small Primary partition (small means 32MB or less)
SML-e a small Extended partition
SML-s a small Secondary partition

MLG-p a MOS large Primary partition (large is greater than 32MB)
MLG-s a MOS large Secondary partition

DLG-p a DOS large Primary partition
DLG-e a DOS large Extended partition
DLG-s a DOS large Secondary partition

OTH   a non-DOS/non-MOS partition (e.g. OS/2, UNIX, etc.)

NOTE: All versions of PC-MOS can create and read SML type partitions. However, PC-MOS 5.X will only create and read DLG type partitions, not MLG type partitions. (This was done to gain compatibility with DOS 4.X and 5.X large partition structures.) PC-MOS 4.10 and below will NOT read these new DLG type partitions. Therefore, users with PC-MOS 4.10 and earlier installations with existing MLG type partitions must deal with them first. Any MOS Large Secondary partitions must be backed up, deleted with HDSETUP, replaced with newly created DOS Large Extended partitions, and the data restored. Any MOS Large Primary partitions can be non-destructively converted to DOS Large primary partitions by using the HDSETUP F10 - MLG to DLG conversion utility.

IMPORTANT:

A Primary partition is required. It must be created before any other type of partition can be added. Extended and Secondary partitions can then be added.

In a PC-MOS only system do NOT use Secondary partitions. Use a Primary partition and (if desired) one or more Extended partitions.

Secondary partitions should ONLY be used on a dual boot system running BOTH PC-MOS AND MS-DOS! A Secondary partition is required in such a system to provide a bootable partition for PC-MOS. The Primary partition (C:) in such a system must be the DOS bootable partition.

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Section 3: CREATING PARTITIONS

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HDSETUP is used to assign your available hard disk space to one or more logical disks or "partitions".

HDSETUP can partition hard disks with 1024 or less cylinders. Very large hard disks may have more than 1024 cylinders. (HDSETUP can only partition hard drives with greater than 1024 cylinders if sector translation is supported by the drive's BIOS.)

The F3, F4 and F5 keys are used to create partitions on your hard disk.

You can enter values for the size of the partitions in either Megabytes or Cylinders. Enter the size you want using the 0 through 9 keys. The backspace key deletes one digit at a time to the left so you can make a new entry.

Use the up and down arrows to scroll through the partition list. Use the left and right arrows to select whether you want to make your entry in the Megs or Cylds column.

NOTE: When a value is entered in the Megs column, the largest amount of cylinders is used which still satisfy the Megs value. Due to the fact that Megs values must be rounded when the corresponding cylinders value actually produces a fractional portion, the arithmetic applied to the Megs value may seem incorrect at times. For example, if a 40 Megabyte partition is currently selected, and a 42 Megabyte gap follows it, the largest possible size might be reported as 83 Meg. This is unavoidable and a consistent treatment is made in the rounding. The cylinder numbers will always be correct.

Gaps in the cylinder allocation (if any) are displayed along with the actual partition entries. You can't edit the size of a gap.

When a partition has a neighboring gap on at least one side, you can increase its allocation. This will be indicated by the "Maximum size:" display line. (If there are no neighboring gaps, the line will display the existing size of the selected partition.)

If you increase a partition's size and it is surrounded by gaps on both sides, a prompt will appear to ask if you want to add to the beginning of the partition by pulling cylinders from the preceding gap, or to add to the end by pulling cylinders from the following gap.

If surrounded on both sides and if the increase will use up all of both a preceding and following gap, no prompt appears.

If surrounded on both sides and if the new larger amount would use up one of the gaps and part of the other, the prompt will still appear. You must select which gap you want to be used first. For example, when increasing a partition by 100 cylinders, where it is preceded by an 80 cylinder gap and followed by a 60 cylinder gap, if you answer with "b" to the "add to beginning/end? (b/n)" prompt, all of the 80 cylinders of the preceding gap will be used and then 20 out of the 60 in the following gap will be used.

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Section 4: DELETING (or RESIZING) PARTITIONS

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To delete a partition, select it and press the F7 key. You can also delete a partition by entering "0" in either the Megs or Cylds column for the partition.

When you DELETE A PARTITION. ALL DATA ON THE PARTITION WILL BE DESTROYED! A verification prompt will appear asking you if you really intend to do that. (The Primary partition can only be deleted when it is the only partition.)

IMPORTANT: Decreasing a partition's size (but not to 0) WILL DELETE ALL THE DATA IN THAT PARTITION, just as if you had deleted the partition entirely! Therefore, first backup any data you want to keep. Resized partitions MUST BE REFORMATTED! You can then restore your data to the resized partition.

If you decrease a partition's size (but not to 0) you must tell HDSETUP what

to do with the free cylinders. A prompt will appear asking if you want the subtraction to be done from the beginning or end of the partition. Answering "b" will create a new preceding gap or enlarge a pre-existing one. Answering "e" will do the same with a following gap.

The one exception to this is when the allocation for the Primary partition is reduced. HDSETUP will always make the subtraction from the end, creating or enlarging a following gap. (Having a gap before the Primary partition is not allowed.)

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