

SOFTWARE INSTALLATION

You have been supplied with all needed software to bring your hard disk up and use it, assuming you have the proper operating system you wish to use. You will have received the proper disk format for your distribution media, depending on the system you specified when placing your order. For any supplied format, all files will be present on all disk formats distributed. As development continues on this project, some of this software may be revised and updated. In that event, if you have filled in your software registration cards and returned them, you will receive a free software update along with the necessary documentation changes automatically within a years time for any major problems discovered. After that, you will have to pay a modest charge for any updates.

HDOS SOFTWARE

The HDOS software supplied consists of three files: **DKSASXV3.DVD** is the actual hard disk device driver; **DVDDKGEN.ABS** is the utility for specifying the maximum number of HDOS partitions; and **SASIXUxx.ABS** (where xx = 15 or 33) is an HDOS partition utility, which is identical to its CP/M counterpart - except it is used under HDOS.

It is assumed that you are familiar with the HDOS utilities and commands required to carry out the needed steps. If not, please review and/or study your HDOS manual to become familiar at the very minimum with the following commands and utilities:

INIT	SYSGEN	SET
FLAGS	PIP	MOUNT
DISMOUNT	RENAME	

PREPARATION OF SYSTEM DISK

There are several ways you can INIT and SYSGEN your QUIKSTOR Winchester drive under HDOS. The below procedure is one way. You may follow this, or use another method if you are confident you know what you are doing. If you are not familiar with HDOS its utilities and operations, you would be wise to follow this presented procedure.

(1) **INIT**ialize an HDOS floppy disk with your present SY floppy driver. As this disk is being built, it should as much as possible contain the SYSTEM files from the original Heath distribution disks, and will be hereinafter be referred to as the **SYSTEM FLOPPY DISK**. Although various SYSCMD type modifications and other user installed patches and mods **may** work, they will not be supported. It is strongly suggested that the first time through you use the standard Heath files wherever possible to avoid any possible conflicts. After this, when everything is verified to be working properly and you are familiar with the unit setup, you may want to go back and do this again, only with your patched or SYSCMD files.

(2) Run **SYSGEN**/MIN to create an operating system environment on your **SYSTEM FLOPPY DISK**. When running SYSGEN, be sure your destination disk is your **SYSTEM FLOPPY DISK**. Again, use the Heath distribution files (with exception of the SY: driver perhaps - if you are already using an UltiMeth driver - if not, you **MUST** use the Heath driver: no others will be supported).

(3) Copy the following files (using PIP for multi-drive systems, or ONECOPY for single drive systems) onto the SYSTEM disk from the Heath distribution HDOS disks:

INIT.ABS
ERRORMSG.SYS

SYSGEN.ABS
SET.ABS

FLAGS.ABS

(4) Now BOOT your **SYSTEM FLOPPY DISK** in your SY0: floppy drive. Remember you will have to **type spaces** the first time through to get your system to recognize the console baud rate. Until this is done, the system will have appeared to have died. Subsequent BOOTS will not require this. If you do not want to use the DATE, and have the DATE presented at every boot, you can SET HDOS NODATE. Be certain that the terminal width is set to 255 (SET TT: WIDTH 255). Refer to your HDOS 2.0 manual page 2.45 for more SET options.

(5) The QUIKSTOR distribution disks you received have been distributed to you in the requested format for the drives and controller you are using on your system. Using either PIP (multiple drives) or ONECOPY (single drive system) copy the three files present (SASIXUxx.ABS, DVDDKGEN.ABS and DKSASXV3.DVD) from the QUIKSTOR distribution disk to your **SYSTEM FLOPPY DISK**.

(6) If you do a CAT (or DIR) on your SYSTEM FLOPPY DISK, you will see the file DKSASXV3.DVD present. RENAME this file to DK.DVD, since a valid device driver must have only two letters before the delimiter (period):

RENAME DK.DVD=DKSASXV3.DVD

(7) RESET the computer, and again BOOT off your **SYSTEM FLOPPY DISK**. This time the DK.DVD hard disk device driver will be recognized as a legal driver - all ready to use.

This disk now contains all the needed files to INIT and SYSGEN the hard disk, copy files to and from it, and access it.

DVDDKGEN.ABS

This is the utility used to set the maximum number of partitions (logical drives) you will be using with your DK.DVD device driver. You can have more partitions than that number, but you won't be able to access them. For instance, you might have 8 HDOS partitions, but never need to access more than two at a time. In this case you would DVDDKGEN DK1. You could then boot off the winnie and do a MOUNT SY1:, but could not mount SY2: thru SY7:.

If you run DVDDKGEN (you don't have to, but will then use the full 2K memory for buffering as explained below, since it will default to the maximum number of 7, being eight partitions, or 'logical drives'), it should be run before you INITIALize the winchester with the new DK: driver. The maximum value is 7 (which is how it is set when shipped to you), since you are allowed up to eight devices per driver (example: DK0: to DK7:). Please keep in mind that each unit number requires an additional 256 bytes of RAM, since HDOS allocates 256 bytes of memory for each possible disk drive, up to the maximum specified in the device driver. Thus, if you set this value to 3, you will use up an additional 1K RAM beside the space for the device driver itself. If you set this value to the maximum value of 7, you use up 2K RAM. Therefore, if you choose to use four HDOS partitions as provided on this default, you should set the number to 3. If you only want to end up with only a SY0: and SY1: (from DK0: and DK1:), you should specify 1.

The way to use this utility is as follows: When you have the driver copied on your HDOS **SYSTEM FLOPPY DISK** renamed DK.DVD, (explained in the next section under DKSASXV3.DVD), be sure you also have a copy of DVDDKGEN.ABS on the disk. Now simply type the maximum drive number as follows:

DVDDKGEN DKn:

where 'n' is the maximum number you will want. For our default having SY0: through SY3: (on hard disk, but starts out on your **SYSTEM FLOPPY DISK** as DK0: through DK3:), the maximum number would be 3, thus

DVDDKGEN DK3:

will take care of it. INIT the HDOS partitions with the DK driver (INIT DK0:, INIT DK1:, etc.). That's all there's to it.

Note to advanced users: Keep in mind that with HDOS you can have up to seven active device drivers, each which may reference a maximum of eight units. Suppose you want to have all HDOS on the winchester and no CP/M. You could have, say, 10 HDOS partitions on the hard disk Set up two SY.DVD device drivers. Give one a category number of 4, for instance (see SASIXUxx documentation), and the other a category number of, say 5 for an example. Now you could run DVDDKGEN for each driver.

This will give you two hard device drivers (assuming you have copied two copies and given them the two above names) each being able to access 5 "drives". (Please note that you **must never** access a particular partition with two different drivers as the results could be fatal. You cannot predict where you will end up and what will happen. You could very easily damage your files on a partition). Use some logic to do this, keeping in mind you are simply treating the partitions as 'individual floppy drives'.

You could reduce your cylinder size to 20 for just under 1 meg storage per drive, which would give you a sector cluster size of 16 instead of 20. I will not go into all the details here, I just wanted to show you that it can be done.

SASIXUxx.ABS

SASIXUxx.ABS is a partition program identical to its CP/M counterpart. It allows you to change any and all partitions and parameters under HDOS just like the SASIXUxx.COM did under CP/M. It does not matter whether you use the CP/M or HDOS version, both will achieve the same end result. Again, be certain you back up your unit before using any partitioning utility, this one included.

Now we'll look at the last of the HDOS software, the actual device driver DKSASXV3.DVD.

HDOS SOFTWARE - DKSASXV3.DVD DRIVER

The HDOS software driver you received on your HDOS distribution disk is called DKSASXV3.DVD. This is the driver for under HDOS which will allow you to access the Winchester drive from your system drive, or allow you to SYSGEN and BOOT the Winchester. The driver has been designed to be very fast, compact and efficient. This driver supports several features, including operation at both 2 and 4 MHz CPU speeds and switchable 2/4 MHz CPU's, and support for multiple winchester systems. Your floppy driver, however, may not work at 4MHz. Thus if you want to use 4MHz for all, you'll have to either use a SPEED utility (Trionyx and Kres both provide these) or use DKH17.DVD for the H17/400K drives.

The DKSASXV3 driver is used just like any other standard HDOS independent device driver. If you are not familiar with HDOS device drivers and their operation, please take the time **now** to read your HDOS manual and become familiar with them.

It is assumed that you already have your hard disk unit partitioned. If not, you must partition it, or you will not be able to INITIALize or SYSGEN it.

The first thing you must do is copy the supplied DKSASXV3.DVD driver to your main system disk and rename it to DK.DVD. Depending on your drive configuration, this will have to be done using either PIP (for multiple drive systems) or ONECOPY (for a single drive system). Again, if you are not familiar with these utilities, please take the time **now** to read your HDOS manual and acquaint yourself with their operation. As an example, suppose you have mounted your QUIKSTOR HDOS distribution disk on SY1:. Using PIP do the following:

```
PIP SY0:DK.DVD=SY1:DKSASXV3.DVD
```

Now type BYE and re-BOOT the system to get the DK.DVD recognized.

Use the SET command to check the settable options for the hard disk driver as follows:

SET DK: HELP

You will see the following options:

Port nnnQ	= 170Q/78H	Port Address
Drive n	= 0	Drive Number
Controller n	= 0	Controller Number
Category n	= 4	Partition Category

In most cases you will not need to alter these settings. If you are using port 78H (170Q) for your floppy controller, you will have to change the hard disk controller port to 7CH (174Q).

The drive number sets the driver for the winchester drives on the same controller. If you only have one winchester, this should be 0. If you have a second drive connected to the same Xebec controller, this should be set to a 1.

The controller number sets the driver for the winchester drives on a separate Xebec controller; i.e., daisy chained from the host adapter card. If you only have one winchester, this will always be a 0. If you have two complete winchesters with each having its own Xebec, then the second Xebec must be programmed for the second unit, and the driver must be set to a 1.

The category partition code can be any value from 4 to 7 for supporting multiple driver copies to reference more than one DK: driver (with different names) for those wishing more than the maximum of 8 HDOS partitions.

To change the port, for instance, the standard HDOS SET command is used as follows:

```
SET DK: PORT 174Q
```

That's all that is involved in the SET options. The drive number and controller number should be 0 for a single winchester system, or set for the appropriate second winchester if that is being accessed. The category number must be left as is for this system if one SY: HDOS driver is used for up to 7 HDOS partitions.

Now that the driver is properly set up, you can INITIALize the HDOS hard drive partitions. If you left the partitions as shipped or use the default partitions as supplied, you will have HDOS on four partitions, being 2, 3, 4 and 5, for logical HDOS partitions of SY0:, SY1:, SY2:, and SY3:. Keep in mind, that the driver on your SYSTEM FLOPPY DISK is DK.DVD, but will be SY.DVD: on the hard disk when SYSGENed, since SYSGEN switches the names when SYSGENING a drive (or partition) on the non-SY: disk. Thus, you must INITIALize all these partitions as in this example:

INIT DK0:

As you INITIALize the surfaces you should see the hard disk drive select light come on for a period of time during each INIT. If this does not occur, you have some problems and better check over all your work. In addition you can do a media check while in INIT - this is strongly advised.

Once you have INITIALized your partitions, you may now SYSGEN one or more of the partitions. Assuming you have all the needed files on your SYSTEM disk, type in the following:

SYSGEN/MIN

Respond DK0: (or DK1:, or DK2:, or DK3:) for destination drive and the default of SY0: for the source drive. While SYSGENing is taking place, you should see the hard drive select as the files are being copied over. When the SYSGEN takes place, the DK.DVD (previously DKSASXV3.DVD) hard driver is transferred and renamed as SY.DVD on the hard disk, while your present system SY.DVD driver is copied over and renamed DK.DVD. Thus your floppies will now be accessed from the hard drive as DK.DVD and the hard drive will be accessed as SY:. This is because the system BOOTable drive must always be SY:.

Now all you must do is BOOT your hard disk system. The method of doing this will be different depending on how your default CPU switches are set and the monitor ROM you are using. Consult the monitor ROM documentation to find how to select and BOOT the winchester drive. When you BOOT the winchester drive the first time (BOOT for Z67 to bring up partition table, enter HDOS partition number you wish to BOOT, hit 'BLUE' key), the select light will come on for an instant and the system will appear to have died because it is waiting for "Type Spaces to determine Baud Rate". Simply hit the space bar several times, and the system should BOOT up.

Once BOOTed, you can treat it as any HDOS drive - the only difference is it will be much faster and hold more data. You can now copy (PIP) files from your winchester drive to your floppies and vice versa. Just reference your drives properly as SY: and DK:.

That's all there is to installing and using the DKSASXV3.DVD HDOS device driver.

QUICK CHECK

All **QUIKSTOR QS-15** winchester units shipped have the CP/M QSBIOS files already PIPped onto the first CP/M partition. As the unit arrives it will already be partitioned either according to our 'standard' which is 10 megabytes on 2 CP/M partitions and 5 megabytes on 4 HDOS partitions, or according to what you indicated when placing your order.

All **QUIKSTOR QS-33** winchester units shipped have the CP/M QSBIOS files already PIPped onto the first CP/M partition. As the unit arrives it will already be partitioned either according to our 'standard' which is 24 megabytes on 4 CP/M partitions and 9 megabytes on 8 HDOS partitions, or according to what you indicated when placing your order.

ALL UNITS: The HDOS partitions (if desired) will all have been INITIALized and the first HDOS partition SYSGENed, so you can install the host adapter card in your computer, plug in the system, configure your CPU DIP switch if necessary, install new monitor ROM if required, and BOOT directly off of HDOS. Like the CP/M partition, the first HDOS partition will have all distribution files already PIPped onto it.

Before shipping the entire winchester surface is tested and any bad sectors are locked out if needed. If the bad sectors are excessive (more than 5) the unit is rejected and returned to the factory.

The following shows the default partition assignment unless otherwise specified:

PARTITION #	NAME	START CYL	SIZE CYL	SIZE MEGS	
0	CP/M 0	1	100	5 Megs	
1	CP/M 1	101	100	5 Megs	
2	HDOS 0	201	25	1.2 Megs	QS15
3	HDOS 1	226	25	1.2 Megs	
4	HDOS 2	251	25	1.2 Megs	
5	HDOS 3	276	25	1.2 Megs	

0	CPM0	1	160	8 Megs	
1	CPM1	161	160	8 Megs	
2	CPM2	321	80	4 Megs	
3	CPM3	401	80	4 Megs	
4	HDOS0	481	25	1.2 Megs	QS33
5	HDOS1	506	25	1.2 Megs	
6	HDOS2	531	25	1.2 Megs	
7	HDOS3	556	25	1.2 Megs	
8	HDOS4	581	25	1.2 Megs	
9	HDOS5	606	25	1.2 Megs	
10	HDOS6	631	25	1.2 Megs	

SET-UP & PARTITION: AN INTRODUCTION

This package is the result of considerable effort expended in various phases for an easy to use winchester hardware package for the H8 and H89 H/Z computer system, including hardware interfacing, software interfacing and documentation. The unit can be set up with the Heath HDOS operating system, the Heath CP/M operating system, or both. Both 2 and 4 MHz CPU's are supported by this package. The units are all tested, initialized, and set up at our labs for standard partitions (explained elsewhere) prior to shipping. Ports are set up and all else, so getting your hard disk up the first time should be painless. This will help in you getting up a 'standard' system in a short period of time, and with little effort. You can at any time change the partitions.

WINCHESTER CONCEPTS

Like a floppy, a winchester disk consists of a round surface(s) coated with a magnetic oxide material which can be magnetized. While a floppy drive allows you to insert and remove the media, the winchester is a sealed unit enclosed in a chamber within your hard drive cabinet. The winchester's storage capacity greatly exceeds that of any floppy disks. Most micro-computer operating systems were not designed to access a large amount of disk storage such as that found on a hard disk drive, directly and conveniently. Therefore, it is useful to conceptually divide a large amount of disk storage into smaller portions called 'partitions'. Such partitions are then treated by the operating system as separate disk drives.

It is also useful to place more than one operating system and its associated data on a single hard disk; this may be done by partitioning the hard disk and assigning different partitions to different operating systems. The SASIXUxx partition utility is used to partition a ST-506-compatible hard disk which has been connected to the H/Z H8 or H89 computer via one of several available SASI interface boards, and a Xebec S1410 (or other compatible) hard disk controller.

Thus, the software and data on a 'partition' can be accessed similarly to that stored on a floppy. For most practical purposes, a single winchester partition can be thought of as a floppy disk as far as software storage is concerned.

There are, however, a few differences between the winchester and the floppy. The winchester's rigid platter cannot be removed like a floppy disk can. The winchester is also much faster and more reliable than a floppy. Where the floppy disk is a fixed size (per diskette and controller), the winchester's partitions can be set by the user during the PARTitioning.

You can BOOT off a floppy; you can also BOOT off of any SYSGENed partition on the winchester. When your system is properly set up, you will be able to continue to BOOT off any of your floppy drives, and also any of the winchester partitions - the default device specified by the CPU switch setting. You can assign your SASI HOST ADAPTER card switch setting to boot a 'default' partition, or by setting the switch setting to '15', the BOOT PARTITION menu will always come up (since there is no partition 15, only 0-14) and give you the choice of BOOT partition.

PARTITIONS

To expand on partitions a bit, the most common question asked is exactly what is a partition? Don't let the term scare you. To help clarify this, consider the floppy. When you work with floppy drives, you have 100K, 500K, or perhaps a maximum size of about 1 megabyte. With relatively small sizes such as this, you don't have to worry about size management of files, or too many files to fit on the directory. When you have a winchester of 15 megabytes or so, it's very large compared to a floppy. If you had only one 15 meg winchester partition you could not have more than one operating system. When your directory would become "full" you may still have 13 megs left on the disk, but too bad - as far as the directory is concerned, the disk is full. Want to think about backing up one 15 meg surface?

The partition utility SASIXUxx (HDOS and CP/M versions included), divides the physical winchester disk into up to 15 user partitions or "logical drives" for the selected operating system(s) you have chosen under SASIXUxx. The 15 meg unit, for example, is already set up as follows unless another scheme was specified upon ordering the unit:

PARTITION #	OPERATING SYSTEM	SIZE
0	CP/M-A:	4.8 Megs
1	CP/M-B:	4.8 Megs
2	HDOS-SY0:	1.2 Megs
3	HDOS-SY1:	1.2 Megs
4	HDOS-SY2:	1.2 Megs
5	HDOS-SY3:	1.2 Megs

Besides these logical "drives", you can further have up to 15 USER NUMBERS or User areas under CP/M to further sub-divide the CP/M partitions. User Numbers are very useful to use with a winchester, and it is highly recommended that you make use of them for maximum ease of use. Consult your CP/M manual for additional information on user numbers.

CLUSTER SIZE

Depending on the size of the partitions, there is always a 'minimum size' for a file to occupy, known as a **cluster** under HDOS. A cluster is a group of sectors which is the smallest size available for a file. This value varies depending on the 'disk' size. For instance, on a SS SD 100K disk, the cluster size would be two sectors. On a very large partition, the cluster size may be more than 20 sectors. This means, if you have a one sector file, although it will only occupy one physical sector on the hard drive, the directory logs it off as twenty sectors for instance. If you do, for instance, a CAT SY1:/ALL, you will see the actual disk sectors taken by each file. A CAT SY1:, for instance, will show you the same files, but with their actual file size. When HDOS is assigned to over 50 cylinders for a partition, the CAT command may show an incomplete space remaining. This is because only 4 digits were allocated when HDOS was designed and 5 digits are needed to show the free sectors on a large partition. It's no big deal, but you should be aware of this. Once there are a few files on the disk, the number will drop down below 9999, which will then accurately be displayed. When checking the size on an empty partition, you may see something like 8734, which is really 18734. Some examples of HDOS cluster sizes are listed:

CYLINDER SIZE	APPROX MEGABYTES	CLUSTER SIZE
100	5	76
75	3 3/4	58
50	2 1/2	38
25	1 1/4	20
20	1	16

CP/M also has a limitation of a maximum number of directory entries which depends on the size of the partition, and allows up to 8 megabytes per partition (not true for CP/M+). The HDOS directory depends on the size selected, but at 1.2 Megabytes, the cluster size is 20 sectors. Listed below are cluster sizes and directory sizes for CP/M:

0 to 255K = 1K minimum per file
256K to 2 megabytes = 2K minimum per file
2 megabytes to 8 megabytes = 4K minimum per file

0 to 255K partition = 64 maximum directory entries
256K to 512K partition = 128 maximum directory entries
512K to 2 Megabyte partition = 256 maximum directory entries
2 Megabyte to 8 Megabyte partition = 512 maximum directory entries

To calculate the partition size from the number of allocated cylinders, note the following:

1 cylinder = 6 tracks. Each track holds 8K storage.
Therefore, each cylinder will hold 48K storage.

Thus, for the default CP/M partitions of 100 cylinders, you get 48000K storage, or 4.8 megabytes.

For the default HDOS partitions of 25 cylinders, you get 1200K storage, or 1.2 megabytes.

For a rough estimate, simply assume 20 cylinders is equal to one Megabyte.

To calculate the sector/cluster size of your HDOS partitions, use the following formula:

$((\# \text{ CYLINDERS}) * (\# \text{ HEADS}))/8$

Will give you a value. Take this value, round it up to the next highest even integer value, and that is the number of sectors taken by each cluster, which is the minimum sector size for any file. For example, this unit has 6 heads. The standard HDOS partitions are set up with a size of 25 cylinders. Therefore:

$((25) * (6))/8 = 150/8 = 18.75$, rounded up to 20

Thus as set up, your minimum sectors/HDOS cluster is 20.

Under CP/M, you can easily see your pertinent data as to maximum directory entries and all the pertinent disk STATUS by using the CP/M command:

STAT DSK:

THE PARTITION UTILITY: SASIXUxx

AN INTRODUCTION

The QUIKSTOR partitioning utility, SASIXUxx, where xx is 15 or 33 depending on the winchester unit you have (named SASIXUxx.COM under CP/M and SASIXUxx.ABS under HDOS) was written by Dean Gibson of UltiMeth Corp. It is a very clever menu driven utility which makes partitioning very easy and user friendly. You are allowed to set up a maximum of 15 partitions and define these in any combinations you desire.

Special features were taken into consideration in the programming efforts to make this a very powerful, yet easy to use utility. Some of the special features of SASIXUxx include:

- * User friendly menu-driven utility.
- * Set "standard" partitions for CP/M and HDOS to help the beginner get his system up without much hassle.
- * User definable partitions supporting any combination of up to 15 partitions, each BOOTable if properly set up and SYSGENed.
- * User settable options such as host adapter port.
- * Ability to check controller and drive from the partition utility.
- * Ability to assign an alternate boot track in the event track 0 becomes unreadable.
- * Support of multiple winchesters either by chaining off the Xebec controller or daisy chaining off the computer host adapter.

This utility initializes the BOOT CODE on the hard disk, and writes out the partition table on the hard disk. This information is stored in a 'partition table', along with the hard disk master boot program on the boot track (normally track zero). The partition table contains 15 partition entries numbered 0 to 14; the partition number is only used during booting. Each partition table entry may be either unused (assigned a category code of zero), or used by a particular operating system.

After the boot code is written out, you can access the hard disk from any other system drive both under HDOS and CP/M. Before you use any partition, that partition must be INITIALIZED for HDOS or FORMATTed for CP/M. If you further desire to BOOT off the hard disk, you must also SYSGEN the hard disk partitions you will want to boot from - more on this latter.

Once the partitions are set up, BOOTing the hard disk will cause a menu to come up, allowing you to select which partition, 0 to 15, that you want to BOOT from (Note: the default switches must be set for 15 on the SASI host adapter card in order for the menu to come up and allow you to choose your partition upon each BOOT - refer to the hardware installation section for your system within this manual). When you BOOT the hard disk, the drive selects for a very short time and the BOOT CODE is read into the computer memory. After this point, the system "knows" where each partition is, and what operating system it contains.

Please note, that whenever running the partition utility SASIXUxx, **BE SURE YOU HAVE BACKED UP ANYTHING ON THE HARD DISK YOU MAY WANT TO HAVE SAVED**, as re-partitioning may cause you to loose any and all data on the hard disk unit. This is especially true if you are changing partition sizes. When the software is properly set up, you can use any system disk to load or backup the hard disk. Although the hard disk units are very reliable it is important to back up all data on the disk at frequent intervals so if something goes wrong you can load it back in. Ever lose the data on a 100K disk? Just think of losing 15 or 33 megs! It's rare indeed, but could happen.

We will now take a look at the partition program, SASIXUxx.COM, which runs under CP/M, and explain how to use it. Please note the unit is already set up for the default conditions and partitions as shown on the screen examples. If you leave the drive as shipped to you, you will be all set up and ready to run with the default partitions and parameters. Partitions are already FORMATTed under CP/M and INITIALIZED under HDOS. If you want to use the 'standard' partitions and use the unit as shipped, you can skip the partition program and skip the INIT and FORMATTing. Simply set up the system, SYSGEN, and go.

SASIXUxx.COM PARTITION INSTALLATION including sample SCREENS

Please note that this discussion applies to both the CP/M and HDOS versions of SASIXUxx.

PARTITION PROGRAM SASIXUxx PROLOGUE

As mentioned earlier, the partition program SASIXUxx is the program used to set up and test and partition the QUIKSTOR winchester subsystem and slaves, if they are used. In order to run, the SASIXUxx program requires (in addition to the ST-506-compatible hard disk, XEBEC S1410-compatible hard disk controller, and compatible SASI interface board) a CRT terminal for operation. The proper hard disk with Xebec controller is provided with your Quikstor subsystem. The CRT terminal must recognize either Heath or ANSI-standard "escape sequences". Suitable CRT terminals include the Heath/Zenith H/Z-19 and H/Z-29, and the DEC VT-100. The Heath H-9, the DEC VT-52, and the Lear-Siegler ADM-3A are NOT suitable.

The SASIXUxx program is an interactive program which allows the user to specify how the hard disk is to be partitioned. For a bit of terminology, the information, or data, that the user must specify is grouped into **fields**; the fields are displayed on the CRT. The user uses the cursor control keys on the keyboard to position the cursor at the field into which data is to be entered, and then keys the data directly into the field. Because not all of the fields can be displayed on the CRT at one time, the fields are grouped into amounts that can conveniently be displayed at a time; these groups are called **screens**. There are several screens that can be accessed with SASIXUxx. The following documentation describes, for each screen:

1. How that screen is accessed.
2. The format of that screen.
3. The fields on that screen.
4. How to access other screens.

Information common to several screens is presented with the documentation for the first screen for which the information is applicable.

FIRST SCREEN - SASIXUxx PROGRAM ENTRY

When you first boot your system CP/M disk (to which you have copied from the CP/M QUIKSTOR installation disk the file SASIXUxx.COM to partition your drive), simply invoke the main partition screen by typing:

SASIXUxx (where xx=15 or 33, depending on your drive)

SCREEN #1 (Program entry screen):

The first screen will come up and look similar to this:

```
XEBEC Hard Disk Partitioning Utility - Copyright 1983 UltiMeth Corporation
Function: V$$$$.$$$$/$$[$:$$]
Port: _H Drive: _ Controller: _ Sense/ECC data: @@ @@@@@@ @@
.....
```

```
--- Cursor/Editing Key Functions: ---
Cursor keys: Unshifted: [Shifted:]
<- Prev char(BS) [Prev field]
-> Next char [Next field(CR)]
↑ Up same field [Prev line]
↓ Down same field [Next line(LF)]
HOME First field [Last field]
TAB Alternate begin/end field
Editing keys:
ERASE (to field end) IC Insert char
DEL Clear prev char DC Delete char
```

```
5Check      6Read  7Exit
  cntlr     table  prog
```

This screen is initially accessed when the program SASIXUxx is started. If an exact copy of the above screen is not displayed on the CRT when SASIXUxx is started, then there may be a hardware problem (the CRT terminal may not be ANSI-escape-sequence-compatible). Note that, on the screen documentation for all screens:

1. **Dollar-signs (\$)** shown in the screen documentation will appear on the CRT screen as numbers and letters; such numbers and letters identify the particular version of the SASIXUxx program being used.
2. A string of **periods (.)** shown in the screen documentation will appear on the CRT screen either as blanks or as an informational, warning, or error message.
3. **At-signs (@)** shown in the screen documentation will appear on the CRT screen as various character values; such character values identify status information.
4. **Underscores (_)** shown in the screen documentation are used to show user input fields, which appear on the CRT screen as various character values in "reverse video" (black characters on a bright background). All other text on the screen (except for numbers on the next-to-last line) appears as bright characters on a black background.

Each **user input field** contains either a default value or the last valid value entered for that