

SuperMac Technical Notes

Utility Disk 5.0

There are five system and application value enhancements to your DataFrame: Initializer 2.5, Change ID 1.4, Diskfit™, SuperLaserSpool™, and DiskTimer2.

Initializer 2.5 is the newest version of the formatting utility, designed to make your DataFrame compatible with the entire Macintosh family of computers: Macintosh Plus, Macintosh SE, and Macintosh II.

If you have a DataFrame that was formatted with an older Initializer program, we suggest that you run Initializer 2.5 and select the option to install the latest driver only, particularly if you wish to use a Macintosh SE or Macintosh II. You DO NOT need to INITIALIZE your drive!

DataFrame XP series hard disks are the only drives available that give you complete machine independence. Other hard disks are formatted with different interleaves (a measure of data transfer speed) for a Macintosh Plus, Macintosh SE, or Macintosh II. When you switch from one Macintosh version to another, hard disk performance drops. No so with DataFrame XPs. DataFrame XPs use the fastest possible interleave so they work equally well with the entire line of Macintoshes. This is true machine independence.

Change ID 1.4 is the latest version of the utility to change the SCSI address of your DataFrame. It has some internal improvements and a few minor external improvements that make it easier and even more transparent to use. Refer to the documentation in your "Chaining Drives" folder when you need to change the SCSI ID number.

Diskfit™ is our new backup program. It completely replaces the old SuperBackup™ utility. We recommend that you discard SuperBackup and perform a complete backup with DiskFit. Diskfit is optimized for backing up your DataFrame to floppies although it will work with any volume that appears in the Finder. Files are stored on the floppies in normal Macintosh format and do not require any cryptic restoring to be made usable. Incremental backups are particularly fast and efficient—just insert a disk you have already backed up to. Diskfit has extensive on-line help available to explain all aspects of the program. Those who do not own a DataFrame may obtain DiskFit from their local dealer at a list price of \$74.95.

SuperLaserSpool™ is a very high quality print spooler for all Apple printers (Laserwriter™, Imagewriter™, and Appletalk Imagewriter™). Without a print spooler, you must wait until printing is finished before you can use your Macintosh. With SuperLaserSpool, you get your Macintosh back in seconds. Those who do not own a DataFrame may obtain SuperLaserSpool from their local dealer at a list price of \$149.95.

If you plan to print with the Imagewriter™ only (as opposed to the Appletalk Imagewriter or Laserwriter) we suggest that you use SuperSpool™ because it will print faster.

Information on the use of SuperLaserSpool™ may be found in the desk accessory (included) called "Laser Queue". Click on the "Special" box and then select "Help."

Disktimer II produces numbers which are indicative of a drive's data transfer rate. It was written by Steve Brecher, who has no affiliations with SuperMac.

Results which have been posted on the networks show that the SuperMac drives hold first, second, and third place in data transfer rates among the Mac SCSI drives. The lower the score, the faster the operation is occurring.

The following numbers were taken off of CompuServe:

<u>Drive</u>	<u>Reads</u>	<u>Writes</u>	<u>Access</u>
DataFrame 20 (now)	98	99	69
DataFrame 20XP (Lapine)	52	56	38
DataFrame 40XP	52	51	18
DataFrame 20XP upgrade	52	51	69
DataFrame 20 (old)	147	147	64
GCC FX-20	152	218	36
GCC HyperDrive 10	186	190	n/a
Apple HD 20	872	996	61
Apple HD 20SC	157	157	61

The test results show that the original DataFrame 20 was the fastest drive on the market, and that the regular DataFrame which is currently shipping is second in speed only to the SuperMac XP drives. Note that the data transfer rate on the XP drives is almost twenty times that of the Apple HD20, and three to four times the speed of General Computer's FX-20, and three times faster than an Apple HD 20SC.

Best yet, because of our commitment to upward compatibility, the original drives may be brought up to new performance levels simply by purchasing the XP upgrade kit.

If you examine the results of the DiskTimer tests, you will notice that the XP upgrade does not improve the access time of the drive. This is because the access time is a function of the disks mechanics, and is a parameter which may not be changed.

What to expect from an XP drive:

For those of you who have purchased, or will purchase, an XP upgrade, this section will give a brief description of the benefits of the product. An XP upgrade or XP drive will always improve the level of system performance. The reason is that data is allowed to come off of the drive at much higher speeds than is possible using other Mac SCSI drives. However, a few words on what to expect are appropriate.

First and most important is that the Mac is CPU (Central Processor Unit) bound. What this means is that doubling the data transfer rate to the Mac won't double the speed of the machine. The reason is that in a typical application, data transfer accounts for a small fraction of the time required to open or close an application or document.

To see the maximum improvements in speed, look at programs such as Microsoft's Excel or Works, which have reasonably fast data transfer rates and low processor overhead (when compared to an application like MacWrite). Also, look at operations which require a large amount of disk time, such as running DiskExpress, or copying your DataFrame onto a backup drive or tape drive.

To get an idea of just how much time your Mac spends in CPU operations during a process like opening an application, simply note how much of the time the red LED (Light Emitting Diode) on the front of the DataFrame is illuminated. The times when there is no activity on the LED indicate that the Mac is "thinking", and no disk operations are occurring. The times when the red LED is illuminated mean that there is data being transferred between the machines.