Questions and Answers on ESDI drives from the Ontrack BBS – 8/14/90

QUESTION:

I've got a NEC 5655 with the Ultrastor controller. Hardware = DTK 25MHz, '386 with VGA, DOS 3.3, 2 meg RAM. I boot to DOS, enter SWBIOS, then DM /M. When I finally get to 'Prepare a partition', the small (3 meg C:) first partition with 'system' and volume name, the error message "No record found I/O error Drive 1" shows up, then for each cylinder and head, an additional error message is shown, incremented by a value of one, i.e. "cylinder 1, head 2; cylinder 2, head 3; cylinder 3 head 4, etc.", until the 24 cylinders of first partition are completed. Then the partition is still shown as unprepared. The drive works perfectly otherwise. I have exchanged cables, checked jumpers and switches – no change. Any ideas???

ANSWER:

With the Ultrastor controller, you must low level initialize the drive thru the controller's BIOS using DEBUG, then partition the drive only with DM. When you come into DM use DM/M, then go DIRECTLY to the partitioning menu, create your partitions and prepare them. With an ESDI controller, if you initialize the drive thru the controller's BIOS, it appears as a standard drive from that point on, also you probably will have a 63 sector per track translation mode available to make the drive appear to have less than 1024 cylinder so you don't need to use SWBIOS. If any more questions, leave a message here, or call the Tech Line.

QUESTION:

Am trying to find out if a new version of Disk Manager is available for Imprimis (CDC) Wren VI 630Mb hard drives which is compatible with 3Com 3+ Share. In desperate need. As of now, am initializing with v4.02 and using 3.2 as driver.

ANSWER:

At this time, Disk Manager & 3COM don't work together. We have offered to help them figure out why, but they don't seem interested in making it work. So at this time it doesn't work.

QUESTION:

Our division is running OS/2 V1.2 and plan to install LAN Manager as soon as Microsoft delivers it to us. Our file server is a Micronics 25Mhz 386 with a Maxtor XT–8760E hard disk controlled by a Western Digital WD1007V–SE2 controller. For backup purposes we are using the FAT file system on all our machines, but even though we can format and partition the drive with Ontrack's Disk Manager, OS/2 will only recognize the first partition

(the C: drive only). DOS 4.01 will recognize the entire disk, but will not allow us to create one large partition. As the machine sits now, we have a 430Mb C: drive that both DOS and OS/2 can access, and a 250Mb D: drive that only DOS can see. Any and all information about how to get OS/2 1.2 to see large drives would be greatly appreciated, as OS/2's FDISKPM will only recognize drives as large as about 280Mb.

ANSWER:

At this point, Ontrack doesn't have a product to support OS/2 installations. If you enable the BIOS on the 1007V and initialize the drive thru the controller BIOS, the drive will appear as a standard drive to the system. Unfortunately the drive will still appear as having more than 1024 cylinders, which is a problem for both DOS and OS/2. You will only be able to access this portion of the drive thru a Disk Manager Write/Read partition with SWBIOS. And again, the device driver that mounts this partition is only supported under DOS. There may be a time in the future when we offer a driver that works under OS/2, but at this time we don't, and there are no immediate plans to write one.

QUESTION:

MY DISKMANAGER NETWARE WANTS TO MODIFY ATDISK.OBJ ON LAN–DRV–.001 ADVANCED NETWARE 2.15
NO SUCH FILE ON MY DISK. CAN I GET SOFTWARE TO USE IMPRIMIS 94166–182 ON THE ADVANCED NETWARE 2.15 SYSTEM?

ANSWER:

If your NetWare is revision C or above, you don't have ATDISK.OBJ, you have ISADISK.OBJ. Therefore when Disk Manager asks for ATDISK.OBJ you should press F1 to skip this file and then it will ask you for ISADISK.OBJ. If you have any further questions concerning DMN, you should call our tech support line at (612)937–2121 so we could get more info from you.

QUESTION:

I AM RUNNING A ZEOS 386/20 WITH AN INPRIMIS 94166–182 DRIVE AND AN ADAPTEC ACB–2322B CONTROLLER. I USED YOUR SOFTWARE THAT I PURCHASED FROM ZEOS TO FORMAT THE DRIVE UNDER NOVELL ELS II 2.15 VERSION C. THE SERVER IS RUNNING IN NON DEDICATED MODE. THE NETWORK IS UP BUT I GET A TERRIBLE KEYBOARD DELAY WHICH DOES NOT WORK UNDER DOS. WHEN I DID THE ELSGEN I USED THE STANDARD AT–COMPATABLE RESOURCE WITH THE WESTERN DIGITAL CONTROLLER & INTERUPTS. DO YOU KNOW WHY I HAVE THE DELAY?
DO I HAVE TO CREATE ANOTHER RESOURCE FOR YOUR SOFTWARE TO DO THE GENERATION?

ANSWER:

With this question, you should really call our tech support line so that we could get more info concerning your installation process. In general, with this controller, you need to initialize the drive thru debug, then partition and prepare the partition (scan) thru DMN as a standard drive, then run MODELSII as if you were installing a nonstandard drive (because of a quirk in the Adaptec card), then run ELSGEN. If you followed that procedure, then I guess I don't know why the server keyboard would be that slow. Possibly a conflict between the controller and the BIOS of the server? Also remember that you are running this server non–dedicated, and should expect it to be somewhat slow.

QUESTION:

I am attempting to configure a Club–AT system, with a WD1007V–SE1 controller and an Imprimis (CDC Wren) Model 94186–383H ESDI Drive. I am using DiskManager N v3.04. The problem is that the system frequently hangs during the boot process. The cold boot loaders message appears, but the system does not progress to 'Mounting volume SYS'. This occurs approx 50% of the time. I believe that I have properly used Modsectors per track and Modnet to set things up. (Also, this system has two NICs, SMC Arcnet at IRQ2, address 2E0 and Novell NE2000 at IRQ3, address 300).
Any help would be welcome.

ANSWER:

The fact that you mentioned MODsectors per track & MODNET leads me to believe that you are using 2.0a Advanced NetWare. Are you letting DMN truncate the drive to 255Meg? Are you keeping your volume sizes to 128M or less?
The best way to handle this one is to disable the BIOS & translation on the 1007 and to let DMN do the whole job as a nonstandard drive. Then run MODsectors per track 34, GENOS, then MODNET. Be sure to run DMN/I if you reboot during the process or if COMMAND.COM is reloaded for any reason prior to running INSTALL. When you do run INSTALL, make sure you select option 1 from the menu and then answer Y to the question "initialize?".
If you have further questions, give us a call at (612)937–2121 and we could get more info from you.

QUESTION:

I have two questions. The first: I am formatting an Imprimis 320MB ESDI hard drive (model # 94186–383H) in an AST 386/25 with a Western Digital Hard Drive Controller 1007A–WAH. When we attempt to perform a low level format, we get an error "SWBIOS NOT LOADED". Any advice?

Second question: We have some systems that are running disk intensive operations. We have some that are running with DM and some without. The systems without DM are running 10 times faster than those with DM. Any advice? All units are running the same

320mb Imprimis with the same configuration as above. Is there a slowdown with the >1024 translation, or is there something in DMDRVR.BIN that's slowing disk operations?

ANSWER:

With the 1007A, you have the ability to low level format this drive thru debug using g=c800:5. Initializing the drive thru this method gives you two advantages:
1. initializing the drive thru debug makes the drive appear as a standard drive to your system from that point on.
2. you have a 63 sector per track translation mode available that will make this drive appear as having 600 and some odd cylinders by 16 heads by 63 sectors per track. Using this translation mode makes it unnecessary to use SWBIOS, as Disk Manager then sees the drive as having less than 1024 cylinders.

If you initialize the drive thru debug, using 63sectors per track translation, then go into DM in manual mode and go directly to the partitioning menu and partition the drive only, you won't have to use SWBIOS at all.

As far as a general slowdown, if you follow this method there should be no slowdown using DMDRVR at all. Also, if you use this method of initializing the drive (thru debug), you could just partition the drive with FDISK and keep DM out of the picture if you want.

QUESTION:

I am trying to install a Miniscribe 9380E ESDI drive in an IBM AT using a Data Technology controller card DTC6280. When I use the DM program it gives me a message about the drive not being compatible with the set. My problem is, I have no idea what I should use as a setup drive number. I would appreciate some help.

ANSWER:

With the 6280, you should be low level formatting your drive thru debug (g=c800:5). Your CMOS drive type should be set to type 1, and the parameters of this drive type will be overridden at boot time by the controller itself which will present the true parameters of the drive to the system. You should low level the drive thru debug using Native mode of the controller, then run SWBIOS, then run DM in manual mode (DM/M) and go to the configuration menu. Press S for standard parameters, then press W to write them to the disk. Return to the main menu and then go to the partitioning menu, setup your partitions and prepare them.

QUESTION:

I am trying to reformat a SEAGATE drive (ESDI) model 94166–182 but can not determine its head and cylinder configuration.
Does any one know the details of this one? HELP!

ANSWER:

The 94166–182 has 969 cylinders, 9 heads, and 34–36 sectors per track (depending on how the drive is jumpered). Your best answer though is probably low level formatting the drive thru debug instead of Disk Manager. If you low level the drive thru debug, the controller will automatically know the parameters of the drive, and will make the drive appear as a standard drive to the system from that point on. You would be using Disk Manager for partitioning only in this case.

QUESTION:

WE WOULD LIKE TO GET A CURRENT COPY OF DISKMANAGER TO FORMAT A 330 MEG CDC HARDISK. FOR SOME REASON, WHEN WE COPIED A 70 MEG DRIVE ONTO A 330 MEG DRIVE THE INFORMATION SIZE DOUBLE. FOR EXAMPLE, 67 MEGS OF THE 70 MEG DRIVE WERE FILLED, WHEN WE USED "GETC" A FILE TRANSFER APPLICATION LIKE BROOKLYN BRIDGE OR LAPLINK, THE SPACE OCCUPIED ON THE 330 MEG DRIVE AMOUNTED TO NEARLY 140 MEGS. I NEED DISK MANAGER TO DO A LOW LEVEL FORMAT AND REFORMAT WITH DOS 4.01.

ANSWER:

The reason for this is probably that you have a very large partition on the CDC. With a large partition under 3.x DOS, you increase the cluster size (it's a tradeoff for the large partition size). If you have a 300Meg partition, you have gone to a 32k cluster size. A cluster is your minimum allocation unit, meaning that even if a file is only 10 bytes long, it will take up 32k of disk space. You are correct in thinking that DOS 4.01 will help the problem. In this situation, you should low level format the drive thru debug, using the BIOS on your ESDI controller, and invoke the 63 sector per track translation mode that your controller offers, thus making the drive appear to have about 600 cylinders, 16 heads, and 63 sectors per track.
This gets around DOS's 1024 cylinder limitation. You can then use DOS 4.01's FDISK and FORMAT C:/S commands to do the rest of the job. You really don't need Disk Manager for this situation. If you would still like a current copy of the universal Disk Manager, I'm sure sales would love to sell you one. If you have further questions about the low level format part of this procedure using the controller BIOS, your best bet is to contact the controller manufacturer directly for tech support.

QUESTION:

Using DiskManager N Version 3.1. Installing a Maxtor XT–4170E 150 megs with ACB–2322B Adaptec Controller in a Northgate Elegance 386/20. Trying to install with Advanced NetWare 2.0a. Went through the install, and it booted up fine, but now, 24 hours later, things started with "Checksum in Load file" error on bootup. Have conflicting advice from Northgate re: disabling the BIOS on the card.   They said, to disable, and also to install the drive as a type 41 (appearing in the computer's BIOS) but this has different parameters, heads, sectors, etc. than the drive said. (slightly different, only.)   The weird thing is that the

thing booted up perfectly, and I had restored everything from tape and all was working fine. Ideas here?   Thanks.

ANSWER:

I guess the best thing I could do here is to give you the recommended install procedure for this combination of hardware. With the ACB2322B, you should leave the BIOS enabled, initialize the drive thru debug (g=c800:5), go into the special options menu and select 63 sector per track translation mode, and exit from the debug routine. At this point the machine will reboot and you run DMN in manual mode. Once you're at the main menu make sure the parameters are appearing as standard and that those parameters are approximately 300 cylinders by 16 heads by 63 sectors per track. If that is not the case, you haven't done something correctly within debug. If the parameters are correct, press F6 to create your NetWare partition and then F7 to prepare it. Let DMN get thru 1 pass and then press ESC to terminate the scanning. Exit out of DMN and run MODsectors per track 63, followed by GENOS, followed by MODNET. (You need to run MODNET even though you are installing this as a standard drive because of a quirk of the Adaptec card). You should then proceed with INSTALL and selection option #1 from the install menu. When asked if you wish to initialize this drive answer Y. Also make sure your volume sizes are limited to 128 Meg maximum (you'll have to cut this drive into two volumes). This is a known GO installation procedure for this card with this drive under this version of NetWare. If you still have problems after this procedure, at least we'll know that we are on stable ground and can proceed with troubleshooting from there.

QUESTION:

I have a customer who has ran prepare from a Novell ELS version on a ESDI drive with DiskManager N used on it. The drive is a CDC 94166–182, Novell Advanced NetWare v2.0a, ARCNET. I also believe that they ran vrepair on the drive. Any hope of recovering the data files? Can your program Netutils recover the data files, or can you and what is your turn around time? What are your charges for data recovery?

ANSWER:

You best bet here is to contact our data recovery department directly at (800)872–2599. They could tell you what their turnaround would be and what their rates are. I don't think Netutils would have much of a chance of undoing this much damage.

QUESTION:

Trying to find information on setting up a Microscience 2160 ESDI drive with Ontrack DiskManager N version 3.01 on Sanyo 286.
Always get problem with drive 00: duplicate copies of disk redirection data do not match.
Any reason this should happen in installing NetWare 286 version 2.15?

ANSWER:

You didn't tell me what brand and model of ESDI controller you are using for this install. On a ESDI install this is the single most important piece of information that I need. Without knowing which controller you are using, I can only say that you should PROBABLY be low level formatting (initializing) this drive thru your controller's BIOS using debug, and then invoking it's 63 sector per track mode to make this drive appear to have less than 1024 cylinders. You would then use DMN to partition the drive only as a standard drive. If it's an Adaptec controller, run MODDRVR anyway as if you were installing a nonstandard drive. Using the translation mode will allow you to boot the server directly from the hard disk after it has NetWare on it. If you would leave me another message with the brand and model of controller you are using, I could recommend a specific install procedure. (Or call the tech support line at (612)937–2121).

QUESTION:

the controller I'm using is a DTC6180 with the Microscience 2160 drive with 160 mg.

ANSWER:

With the DTC6180, the recommended install procedure is as follows:
1. Boot with DOS and run debug
2. At the debug prompt enter   g=c800:5   and hit return
3. From the menu that appears on the screen, enter your bad tracks and initialize the drive.
4. Exit the low level formatting program and let the machine reboot.
5. Run DMN/M
6. Once in the DMN program, confirm that the parameters shown in the box on the left side of the screen are STANDARD and those parameters are 1274 cylinder by 7 heads by 34, 35, or 36 sectors per track (depending on how the drive is jumpered).
7. If the parameters are correct, press F6 to create the NetWare partition.
8. Once the partition has been created, press F7 to prepare the partition.
9. Let DMN get thru at least 1 pass of the preparation, then press ESC to terminate the scan.
10. Exit DMN and proceed with a standard netgen (no MODDRVR needed). Be careful not to change the size of the partition from within netgen.
11. You will have to boot the server from a floppy since the drive is over 1024 cylinders. Just boot DOS and run NET$OS (no DMN/I needed).

If you have further questions about this install, leave them for me here on the board or call the tech support line at (612)937–2121.

QUESTION:

My DMN version is 3.01. I am upgrading the store's server with a 94196–766 hard drive from Imprimis. my Novell is 2.15. and controller is a WD1007V–SE2. I set the drive up as 16 * 1024 * 64 sectors in the BIOS. When I use DMN the drive comes out as ~525MB.

is there a way to get the full 660mb plus. the hard drive is not listed in the CDC drive tables.

ANSWER:

With this controller/drive combination, you will need to make sure that the drive is jumpered for 53 sector per track, low level format the drive with the controller's BIOS thru debug enabling alternate sectoring, make sure the parameters are 1630*15*52, and exit debug. You then run DMN /M and make sure the parameters are showing as 1628*15*52 STANDARD. You should then press F6 to create the NetWare partition, and F7 to prepare it. You may then proceed with a standard Netgen. (No MODDRVR or DMN/I needed). When you run Netgen to install NetWare, make sure you select a custom configuration and when Netgen asks you if you wish to change the partition table, answer NO.
After the installation is complete, you must boot this server from a floppy because it's over 1024 cylinders. Again, no DMN /I is needed, just boot from a DOS floppy and run NET$OS.

QUESTION:

What is the most current version of Netutils? I have version 1.2. It will not recognize ESDI drives with more than 1024 cylinders, with or without translation. The program does work, but only up to cylinder 1024. Using WD1007V–SE2, with ROM enabled, 150MB Maxtor. BTW I have used it to recover files from a downed server, tedious because they must be copied one at a time, but is DOES WORK!

ANSWER:

The most current version of Netutils is version 1.2. You are correct in saying that Netutils does not work with drives greater that 1024 cylinders... kind of...
Here's the specific limitations of Netutils at this point:
Netutils is limited to a drive that is CONFIGURED to be 1024 cylinders or less, and 255M or less. In other words, you could have a Miniscribe 3180 that is 1250 cylinder by 7 heads by 35 sectors per track, and if the drive had been initialized thru the controller BIOS and set into 63 sector per track translation mode therefore appearing as 303*16*63, you could use Netutils with no problem. This is because the drive is appearing as having less than 1024 cylinder to the system, and also having a capacity less than 255 Megabytes. (The 3180 is approx. 150Meg).
On the other hand, if you had a Miniscribe 9380, even if you initialized thru the BIOS and used 63sectors per track translation therefore making it appear to have only 637 cylinders by 16 heads by 63 sectors per track (thus getting under the 1024 cylinders limit of Netutils), the drive's capacity would still be greater than 255 Megabytes, and you would have hit the second limitation of Netutils.
Other current limitations of Netutils are:
1. No SCSI or DCB VADD support
2. No work will be done on redirection tables.
3. No support for v2.15 if a MAC VAPP is present.
4. And actually, there are no guarantees on NetWare 2.1x at all. (although most functions actually will work fine under 2.1x, Netutils was written for v2.0a, so nothing

is guaranteed under 2.1x)
Now... The good news is that we are currently working on a new version of Netutils that will not have any of the above limitations, and will have quite a few additional features as well. Projected release date is third quarter 1990. If you have any other questions, leave another message here, or call us on the tech line at (612)937–2121.

QUESTION:

Has anyone come across any problems with installing a Maxtor 8760e 600mb ESDI drive into an IBM PS/2 80 and tried to use DMN to compsurf for NetWare. This drive continues to crash after several weeks of operation, and we haven't found anything physically wrong with it.
The tech specs are as follows:
IBM PS/2 80, WD1007V–MC1 MCA ESDI controller card, DiskManager N v. 3.04 and a Maxtor XT–8760E ESDI 600 MB drive.
Urgent Help Needed.

ANSWER:

DiskManager N v3.04 was not designed to operate on a PS/2. You should upgrade your DiskManager N to v3.10 to do this installation. Once you install this drive with version 3.10 of DiskManager N, I see no reason for problems.
You can upgrade your DMN by contacting our sales department at (800)752–1333.

QUESTION:

I am using ONTRACK to install a new disk on a WD1007 controller and read the instructions in HELP saying I needed to use SWBIOS. SWBIOS is not on my ONTRACK disk. So I called this bulletin board hoping to download it. I can't find it. Is it in the download area? If it is, how can I find it and download it?   THANX

ANSWER:

You didn't leave me the version number of your Disk Manager, but evidently it is an OEM version that doesn't have SWBIOS on it (such as the Seagate versions). Sounds like you should contact sales and purchase the generic version of Disk Manager that has SWBIOS. You also may have the option with your 1007 card to low level format the drive thru debug and use it's 63 sector per track translation mode to make this drive appear as having less than 1024 cylinders, thus preventing the need for SWBIOS at all.

QUESTION:

I am installing a MAXTOR XT–8760E disk (650MB) with a WD controller (I think the controller is a 1007 (?) using Disk Manager to partition the disk into a small DOS partition

and a 640 r/w partition. Everything seemed to be working fine until I attempted to run an application program and got an "Insufficient memory" message. I removed everything but DM from the config.sys and autoexec.bat files, and the available memory is still about 150K less than the 512K installed in this system.

If COMMAND.COM is using about 40–50K, DM appears to be using 100K of memory, which seems unreasonable. I have not been able to get through on the tech support voice line, so I would appreciate your help.

ANSWER:

With that size of partition, you have gone to a 16k sector size, therefore if your BUFFERS statement in your CONFIG.SYS file is: BUFFERS=20, you would be allocating 20*16k or a 320k buffer area. If you don't have a buffer statement in your CONFIG.SYS file at all, it defaults to 8 buffers, resulting in 8*16k or 128k buffer area. The solution is to back down your buffer statement to BUFFERS=1, thus creating a 16k buffer which should be more than sufficient for any application. (When an application program dictates that it needs a BUFFERS=20 in your CONFIG.SYS, the only thing they are really concerned with is that you have a 10k buffer area created. They are ASSUMING that nobody has anything other than a 512 byte sector size.)

QUESTION:

Thanks for the info on the large buffer size. I'll give that a try.

However, another problem has arisen: I was copying a number of files to the disk (D:, the large 630MB partition). At about file number 255 or 256, the system locked up and I had to reboot. I understood that the maximum number of files in a root directory was 512, so I don't know where this 255/256 limitation comes from. But the most bizarre symptom was a file that was created on the disk (named the same as one of the files I was copying) with a length of 0 bytes. I cannot delete or rename that file, even with Norton's WIPEFILE. All attempts result in a "divide Overflow" message!!! Any suggestions??

ANSWER:

You have come across an anomaly with DOS 3.x. When you have a partition greater than 512Meg under DOS 3.x, you will be limited to 256 directory entries in the root directory. You will also be limited to 256 entries in any subdirectory as well, (and I thought subdirectories were dynamic!). The solution is to keep your partitions down to below 512Meg, or to go to DOS 4.01 which doesn't have this problem.

QUESTION:

Hi. Wasn't sure where to put tech supp. question so am leaving it here.
Hardware: DTK 386/25 using CompuAdd Hardcache controller w/Imprimis 94166.
Used controller card software for low level format. Using DM to partition drive. part #1 is DOS (32MB). When preparing part # 2 (64MB) I get a message: "UNCORRECT ECC: . . ."
Question: Does this indicate a defect in addition to what is in the media defect table? If so,

does the prepare process lock out this bad area? When you do a chkdsk and it shows bad sectors, are these bad sectors the ones in the media defect list, or are they ones found while formatting (in addition to the ones in the media defect list.)
Question #2: Do common defragmenting programs like Disk Optimizer and Compress(PC Tools) work on the partitioned drives?

ANSWER:

When Disk Manager finds an Uncorrectable ECC I/O error when preparing a partition, it will mark out the related entries in the FAT table, thus effectively mapping out the bad spot. When CHKDSK shows you the number bytes in bad sectors, it is reading the entries that have been mapped out in the FAT table, which should include all defects in the defect list, plus those found while preparing (formatting) the partition. As for your second question, it depends on the utility you are trying to use. If you have initialized the drive thru your controller BIOS or controller software, the drive should be appearing as a standard drive at this point, so that's not a problem. You do have Disk Manager Write/Read partitions though, and there are programs that don't understand our partitioning method. You will need to contact the software company that makes the optimizer product and ask them specifically if they work OK with Disk Manager partitions.

QUESTION:

Software: DM–N 3.01
Hardware: Everex ESDI controller EV–348
                 Joy Systems 286 with 2 MB RAM, AMI Bios
                 CDC 160 MB ESDI 94166–182 967 cylinders, 36 sectors per track, 9 heads
Network: Advanced NetWare 286 2.0a
Network Boards: Arcnet and NE1000 Ethernet
I have attempted several installs with unsuccessful results. Background: The system has been successfully used as a file server with MFM drives with no problems. The hard drive functions properly under DOS.

Scenario 1: Used the BIOS on the controller to format the drive, then used MODsectors per track 36. Installed two volumes, 120 MB and 33 MB. Since it showed as standard drive on DMN, didn't use MODNET. Error message Abend: Divide Overflow Interrupt

Scenario 2: Changed the drive parameters in DMN to 34 sectors per track per track (to make it a non–standard drive) and carried the changes through GENOS and reinstalling. It seemed almost happy, showing the Mounting Volume SYS and Mounting Volume Vol1 message. However, it hangs at that point.

Scenario 3: Disabled the Bios on the controller and formatted the disk using DMN, MODsectors per track, and MODNET, encountering the same result as Scenario 2.

Scenario 4: Re enabled the BIOS on the controller, formatted once again. Reinstalled once again, except that I used MODNET even though it was a standard drive. Error: Abend: General Protection Interrupt

I believe that in all cases the appropriate sequence was followed. In fact, there have been many more scenarios, some to silly to tell about. I have been unable to get through on your help line, but I am running out of ideas. Please give me some guidance on what to try next. Thanks.

ANSWER:

With the AMI BIOS you will probably have to disable the controller BIOS and initialize this drive as nonstandard thru Disk Manager –N. The only other problem that I see is that I am not familiar with the Everex EV–348 controller. With some ESDI controllers, when you disable the BIOS, you've got no way to disable the translation. Your best bet here is to contact us on the tech support line at (612)937–2121 so we could discuss this further and perhaps figure out a solution. Please be in front of the machine when you call so we can try a few things.

   To: SYSOP
Subj: EVEREX ESDI CONTROLLER

I just wanted to let you know the final outcome on my problem with installing a CDC 160 MB drive with an Everex ESDI controller. I substituted a Western Digital w1007 in its place, making sure that the BIOS was disabled on the board, and ran through the process again with the same lock up problem that I experienced with the Everex. I then looked further and replaced the Arcnet board with another and everything worked. So it had nothing to do with the Everex ESDI controller. So my final conclusion: If one uses an AMI BIOS, then it is best to disable the controller BIOS and use DiskManager–N for the non–standard driver option. Thank you for your help.

QUESTION:

Disk Manager–N Version 3.10
I am attempting to install Novell Advanced NetWare 2.0a on a Maxtor XT4380E Hard Disk (1222 Cylinders 15 Heads 36 sectors per track) with aWD1007V–SE2 controller.
Cylinders reduced by DMN to size limit of NetWare 2.0a.
I have to use a key card eliminator because the customers key card and Novell disk serial numbers do not match.
I have run modsectors per track, genos, modnet, & install. In order.
I boot the system, run DMN/I, then net$os. The server mounts volumes, comes up to the : prompt, and workstations may link.
I down the server. Power off. Repeat the process and after entering the net$os command the floppy appears to access, then becomes quiet but the light stays on. No further action on monitor.
I have repeated this several times on different computers, 286's and 386's. I have found no pattern as to when the system will boot and when it won't. It won't more often than it will.
I have sizable investment in memory, hard disk, and controller which I need to recover from customer. I've been working on this for two weeks. Please Help!.

ANSWER:

It sounds like you are following the correct procedure here, assuming that you first of all have disabled the BIOS and translation on the 1007V by putting a jumper on W3 pins 1&2, and on W1 pins 5&6.

After disabling both the BIOS & translation on the controller, you should run DMN/M, press F3 and select the Maxtor 4380E, let DMN truncate the drive to either 967*15*36, 994*15*35, or 1024*15*34 (all are 255M), press F4 to enter the defect list, F5 to low level initialize the drive, F6 to create the Novell partition, and F7 to prepare the partition.

After at least 1 pass of the preparation, press ESC to terminate the preparation, and exit DMN. Run MODsectors per track with whatever sector per track value you ended up with in the configuration of this drive, followed by GENOS, then MODNET. At this point, run DMN/I just for good measure, and then run INSTALL. Select option number 1 from the install menu and answer Y when prompted to initialize the drive. Proceed with a normal install from here. If you follow this procedure, the server will be using as much of the drive as NetWare 2.0a can handle (255Meg), and you will be able to either boot directly from the hard drive or from a floppy with DMN /I & NET$OS if your key card defeater program dictates.

If the above process doesn't work, then you may have flakey hardware, (the intermittent nature of the problem point that way anyway), or I guess I'd be suspicious of your key card defeater program. If you start from scratch with this procedure and it still doesn't work, then give us a call on the tech support line at (612)937–2121 and maybe we can help you figure it out.

P.S. Make sure you are keeping your volume sizes down to below 128M.

QUESTION:

Novell 386A server WD1007V–SE2 controller CDC 94196–766 drive
I have installed the above combination with help from the voice side. Let me suggest that this combo and other common controller/disk combos be addressed explicitly in the documentation, which I found confusing and contradictory. (However, Tech Support has been there when needed.)
At the moment, I have formatted the CDC through the BIOS, used DiskManager N to prepare the partition, and run NetWare 2.15 as a standard drive.
Recently, the system crashed and I ran VREPAIR, with cylinders above 1024 producing errors and low cylinders being trashed due to truncation of cylinder numbers by VREPAIR. Again, I received post hoc help from Tech Support, but it caused us a highly dissatisfied customer and a near disaster.
What this means, as I understand it from y'all, is that I have no way to check the validity of my server drive. VREPAIR won't work and NETUTILS doesn't support ESDI. Is there another way to prepare the drive that would eliminate this problem? During the initial installation, I had problems trying the non–standard installation with this combo.
Thanks for any help you can give.

ANSWER:

If we were to attempt to include explicit installation procedures for every possible combination of hardware that you could ever try to put together, the manual would be six

inches thick and outdated as soon as it was printed. You were correct in calling tech support with your specific hardware combination questions. That's really the only way we can provide up to date technical information.

Also, our tech support engineers have the basic computer background to help you reason thru an unknown situation if you need to. As far as VREPAIR or NETUTILS goes, neither will support a drive over 1024 cylinders. We are currently working on a new version of NETUTILS that WILL handle greater than 1024 cylinders. It is expected to be released approx. August 1990.

QUESTION:

I recently purchased a Micropolis 1355 ESDI PC PAK which came with your DM software. I have two MFM drives on a Data Technology controller. I would like to install the ESDI controller and drive as drive # 3. Can I do that using DMDRVR and DM software?
The ESDI controller is a WD 1007A–WA2. The CPU is a Micronics 386/25 using PHOENIX BIOS. Any help would be greatly appreciated. Thanks.

ANSWER:

While it is true that both controllers have the ability to be changed to a primary or secondary address, you computer BIOS never scans for a secondary controller at boot time. Therefore the secondary address was a nice idea, but the computer BIOS people have fallen short in their support of it. Disk Manager, unfortunately, can do nothing about the situation. You will have to choose between installing just the MFM drives, or just the ESDI drive. You can't have both.

QUESTION:

Here's the lay of the land:
Got an Adaptec 2322B controller, a Maxtor 8760E 660 Meg disk, and Disk Manager–N. Trying to install NetWare v. 2.15 rev. A with this happy family, and they ain't gettin' along. In your Q&A.TXT I saw explanations of the 2322B with other drives, and that drive with other controllers, but what if you got them all together? I've formatted the disk using the spare–sector approach, thinking maybe the bad block table of NetWare was getting overloaded, but it's no go. Tried using a patch supplied by Adaptec (patched ATDISK.OBJ) and it would at least load NetWare (from the cold–boot loader, no less!) then run for a couple of days, slowly coming to pieces — more and more hot–fix errors, lost files, trashed directories, until it got so bad the whole system would come crashing down. Then we got DM/N and tried using a real McCoy IBM AT, thinking that if it was CPU incompatibility, that at least shouldn't be the case with the AT. But now we get through the format, partitioning, preparation, loading the NetWare system file just fine, but when we try to boot NetWare (from a floppy, after copying the net$os files onto it) it loads everything then dies with ABEND: general protection interrupt running process MUXPRC. MUXPRC? Can't find diddly about that in any of Novell's documents. You guys must have a clue about this combination of hardwares, eh? Should I try a WD controller? I'm ready to try anything! The drive's reformatting now (using the Adaptec BIOS routine) — please give any help

you can.

Gracias, as they say here in Texas. . .

ANSWER:

Procedure for installing a Maxtor 8760E with a ACB 2322B under 2.1x NetWare

First make sure that your 2322B is a 2322B–8 or a 2322B–16. Either one of these numbers means it's a 15Mbit controller. If it's not a –8 or –16, then it's probably the 10Mbit version of this controller and won't be able to handle this drive. (Contact Adaptec Tech Support at (408)945–2550 to identify the card if you don't see a –8 or –16 on it). Because of the high number of sectors per track, alternate sectoring is probably in order here. You can only have up to 64 defects before you go over the 512 bad block limit of NetWare. (Each track consists of 8 blocks on this drive.) Alternate sectoring will swap out the manufacturers bad spots with alternates, thus making the drive appear error free at system level, giving DiskManager N a fresh start and the ability to find up to 512 more bad blocks without overflowing the bad block table.

Other than that, the procedure should be as follows.
1. Set your CMOS drive type to type 1
2. Initialize (low level) the drive & enter bad tracks thru the controller BIOS using DEBUG. (g=c800:5)
3. Enter DiskManager N in manual mode (DMN /M) and confirm that the drive parameters are STANDARD as approx 1630*15*50. If this is not the case, then press F3 for parameter selection, and then press F10 for standard parameters and write the configuration to the disk.
4. Press F6 to create the NetWare partition
5. Press F7 followed by F2 to prepare the partition. (This will run forever, unless you hit ESC after at least one pass).
6. Run MODDRVR even though the drive appears as standard. (I know, it's contradictory, but trust me. It's because of the Adaptec controller.)
7. NETGEN next, making sure you get the ATDISK.OBJ that you modified in the last step linked in.
8. Install NetWare, making sure you do NOT manipulate the partition table in any way from within NETGEN. Select a CUSTOM configuration, and then answer N to the question about changing the size of your NetWare partition. (NETGEN can't understand > 1024 cylinders, so will show a wrapped geometry. Only approx. 600 cylinders).
9. Boot from a DOS floppy and run NET$OS to bring up the server. (Because the drive is > 1024 cylinders).

This is the same basic procedure that you would use with any 50–54 sectors per track drive on a ACB2322B under 2.1x NetWare.

If you follow this procedure, and are still having problems with your install, then it would be time to give us a call on the tech support line at (612)937–2121 so we could talk with you directly.

QUESTION:

Hello! I'm having a problem with the following configuration: DiskManager N, Everex 1800C 12MHz 286, OMTI 8620 ESDI controller, Fujitsu M2246E ~150 meg ESDI disk drive, Advanced NetWare V2.15C. Bios is AMI (c) 1987, Rev F3–21 .....   S286–2098 4/26/89 K8 are some other numbers on the screen during boot.
Problem goes like this: System has problems seeing hard disk when any drive type is in CMOS. DiskManager N works great when CMOS says no hard disks installed. Run DMN, run MODDRVR, do the NetWare thing. When it comes time to install NetWare to hard disk, it says no hard disks installed, probably because CMOS says no hard disks are there. From reading a previous message here, I've got to assume that I must disable the BIOS on the OMTI 8620 controller. (Just a guess.) I've tried it three or four different ways. The closest I ever got was ABEND error resetting at hard disk controller. That was when I had a drive type in CMOS. Can you help???

ANSWER:

According to our information, the OMTI 8620 is NOT a NetWare compatible controller card. You will have to choose a different controller to use if you wish to install NetWare on this machine.

QUESTION:

I have a WD1007V–SE2 ESDI controller and a CDC/Imprimis 94166–182 drive. The Western Digital Tech Support department gave me instructions on how to get this thing going under vanilla DOS 3.3. However, the lady there also told me that I would be able to get "a lot" more capacity from the drive if I used Disk Manager and she recommended that I call you. Will Disk Manager in fact increase the capacity of that drive when attached to the WD1007V–SE2 controller? If it does, I'll be glad to buy your product. Thank you for any help you can provide.

ANSWER:

Disk Manager would not give you any more total capacity from this drive at all. What it COULD do is allow you to have a greater than 32Meg partition under DOS 3.x (you could have a 1 meg C: to boot from, and a 150 Meg drive D:).

QUESTION:

I am using Disk Manager – N in conjunction with a CompuAdd Hardcache card, and an Imprimis 630MB hard disk model 94196–766 in an AST premium 386. Formerly it contained an ESDI card and a Miniscribe 300MB disk(non–standard). I ran the patch to restore the driver to it's original state. I regenerated the network. When I go into the NetWare installation, I get....
Abend: Error resetting the PC/AT hard disk controller.
I called CompuAdd and they recommended formatting the disk at the computer's slowest

speed with all shadow RAM disabled. I tried this to no avail. Also, I am using Novell SFT rev 2.11. Any suggestions?????

ANSWER:

I see that you spoke to tech support a couple of times last week about this matter. The one thing I see that wasn't mentioned in our record of your tech support call was that you will need to run MODDRVR when using this card, even though the card is making the drive appear as a standard drive. (the same method has to be taken with an Adaptec controller). Your complete procedure should be as follows:

1. Initialize the drive thru CompuAdd's low level routine & enter bad tracks. (sector sparing is probably in order here)
2. Enter DiskManager N with the /M switch (DMN /M)
3. The drive should be appearing as STANDARD 1628 * 15 * 53 (approx). If it's not, press F3 then F10 to install the standard parameters, write them to the disk, exit DMN, reboot, re–enter DMN /M, and see if it now shows the drive as STANDARD with the correct parameters.
4. Press F6 and create your NetWare partition
5. Press F7 and prepare that partition
6. Run MODDRVR as if you were installing a non–standard drive, then link in the modified driver with NETGEN.
7. Install NetWare, being very careful not to manipulate the partition table. Select a CUSTOM install, then answer NO when asked if you wish to change the size of your partition.
8. Make a boot floppy to boot the server with. No DMN /I is needed, just boot with DOS and run NET$OS.

If you are still having problems after attempting this procedure, then you may have a faulty controller card. I have led many people thru the above installation procedure with no problems.

QUESTION:

I HAVE A SPERRY AT 286 MOD. 3126–00 NOVELL 286 2.0A.
I AM USING AN ESDI CONTROLLER DATA TECHNOLOGY CORP.#DTC6180. THE HARD DISK IS A FUJITSU 2249E 330MB. I AM ALSO USING ONTRACK DISKMANAGER N V.3.03. I AM ABLE TO SELECT THIS DRIVE EXACTLY AND I ENTER THE BAD BLOCKS. MY PROBLEM OCCURS WHEN I TRY TO PARTITION/INITIALIZE/ VERIFY. ALL HEADS ARE BAD OR ALL SECTORS NOT FOUND OR IT JUST KEEPS MARKING ALL AS BAD. WHAT COULD I BE DOING INCORRECTLY?
I HAD ONTRACK WORKING FINE WITH DISKMANAGER N V.2.41. HOWEVER, I WAS NOT ABLE TO SELECT FUJITSU 2249E LIKE W/V.3.03
W/ 2.41 ALL SEEMED TO WORK FINE AND I DID'NT GET ALL THESE ERRORS LIKE W/ V.3.03. NOVELL WOULD LOAD AFTER USING V.2.41 DMN BUT WHEN BOOTED IT GAVE AN ERROR MSG. WE DECIDED TO GO FROM SCRATCH W/ DISKMANAGER N 3.03, BECAUSE I NEW WE COULD SELECT FUJITSU 2249E EXACTLY.

ANSWER:

With the DTC6180, you'll have to initialize the drive thru debug, then partition & prepare the partition thru DMN as a STANDARD drive and run MODsectors per track with the sector per track value that you ended up with in debug.

QUESTION:

I left a message that was answered 2 days ago, but some new issues have cropped up. First, DMN is V3.04, WD1007V–SE2 controller, Fujitsu M2246E hard disk, Everex/AGI 1800C 286 12MHz. I spoke to your excellent tech support people, but something new came up. Here goes:
Trying to install NetWare 2.15C. First problem: I cannot place a drive type in CMOS without getting a hard disk controller error. Here is the most successful results I have had (this morning): Disable WD1007 BIOS and translation; put in drive type 1, pass up the error message on boot; run the Western Digital utility WDFMT to low–level the drive; run DMN successfully to prepare the drive; actually got NetWare installed; but I cannot reboot the system, either with a drive type in CMOS or not. Spoke to Everex, they say that with the machine and system BIOS I have, they run ESDI drives all the time. (Not sure if with NetWare too). I used this hard disk for a year prior to attempting to use it for NetWare under DOS 4.01 with no problems. Do you or anybody on earth have any idea what is wrong? BIOS revision of system is F3–21A. Thanks for the assistance! PS I'm under a strict time limitation to get this bad boy running!

ANSWER:

With the WD1007 & the Fujitsu 2249, the recommended install procedure would be as follows:
1. Enable both the BIOS & translation on the controller (remove jumpers from both W–3 pins 1&2 and W1 pins 5&6).
2. Set your CMOS to drive type 1
3. Boot with DOS and run debug, at the hyphen prompt type G=CC00:5 after which you will receive a menu on the screen.
4. Select the option from that menu to low level format the drive.
5. Select the option to enter your bad track list, and enter it.
6. Select the option to set drive type and hit the + key until you see an option that has approx 650 cylinders, 16 heads, and 63 sectors/track.
7. Hit return to accept that option.
8. Exit from the low level format routine.
9. Reboot with DOS and make a fresh working copy of DiskManager N.
10. Run DiskManager N in manual mode. (DMN /M)
11. At the main screen of DMN, confirm the drive parameters are STANDARD, and those parameters are about 650*16*63.
12. Press F6 to create a NetWare partition.
13. Press F7 to prepare that partition.
14. After at least 1 pass of the preparation, press ESC to exit testing.
15. Exit DMN
16. Proceed with a completely standard install. (No MODDRVR or DMN/I or any need

to boot from a floppy. The drive appears as a STANDARD drive with less than 1024 cylinders using this method.)

If this method doesn't work, then you can try disabling the BIOS & translation on the controller, and doing the entire job thru DMN as a nonstandard drive. In this case you would have to run MODDRVR for a nonstandard drive, DMN /I every time you rebooted during the process, and you would have to boot the server from a floppy because the drive would be appearing as having greater than 1024 cylinders. But if you have a BIOS that doesn't release control to the controller BIOS at boot time so that it can supply the parameters of the drive to the system, then this second method is your only other alternative.

P.S. Make sure that the drive is jumpered to either 35 or 36 sectors per track. I have heard that there were some Fujitsu drives that came out of the factory jumpered at a different sectors per track value.

QUESTION:

Maybe I typed in the drive type wrong.....its an M2246E and it is 823 * 10, with jumpers selected between 16 and 65 sectors per track, 35 is available

ANSWER:

Sorry about that, you didn't mistype it, I misread it. The procedure would be the same though, except forget about setting the controller to it's 63 sectors per track translation mode, and when you get into Disk Manager after initializing the drive, it should show as STANDARD 821*10*35.

QUESTION:

I finally got the thing working with the help of the Fujitsu tech support people. Anybody who has a Fujitsu M2246E (and maybe other of their drives) there is a jumper on it to select Radial or Daisy operation. Although I had only one drive in the system, I had it set to radial (it worked fine under DOS that way) and it should have been set to Daisy. After that, everything went smooth. I *DID* select 63 sectors per track mode, though. NetWare installed fine, but was there some reason I should not have selected it??

ANSWER:

The 63 sectors per track translation mode would not be necessary with this drive because it is already under 1024 cylinders. That's the only reason the 63 sectors per track translation mode exists; to translate a drive that has for example 1224 cylinders down to approx 600 cylinders by 16 heads by 63 sectors per track for operating systems that don't like a drive greater than 1024 cylinders. If you used the 63sectors per track translation on this drive it would appear as approx 285 cylinders by 16 heads by 63 sectors per track. It's not going to hurt anything, it's just unnecessary.

QUESTION:

Imprimis 94246–383
WD1007A–WA2 ESDI controller
Ontrack 4.02 DM
386–25 clone w/AMI BIOS
using WD BIOS for low level format,
selecting 16*63 option,
using swBIOS and DM, drive will only format to 212mb rather than 383.

ANSWER:

The Imprimis 94246–383 is a 53 sector per track drive. (1747 cylinders by 7 heads by 53 sectors per track). You will have to have a 15 Mbit controller to handle this drive. The WD1007A is a 10Mbit controller, it can't handle the high transfer rate of this drive. What I'm saying is don't even use this drive with this controller at the reduced capacity that you're getting. It's not going to work at all. Replace the controller with a 15Mbit controller and you'll solve both problems.

QUESTION:

I am using DMN v2.43. I am about to add a second CDC 94166–182 ESDI drive to my 286 Advanced NetWare v2.15a network. Intellectually, it seems like a straight forward process. However, my palms keep sweating.
I plan to physically install the 2nd drive and make the appropriate entry into the CMOS via the on–line "setup" facility of the Phoenix BIOS 3.10 Plus. Then I plan to initiate DMN, specify drive #2 and initialize as a non–bootable NetWare disk. After exiting DMN, I will go directly into NETGEN and configure NetWare to recognize the 2nd drive/volume.
Are there gremlins lurking about that I should know about? Any tips for the unweary? Do you recommend talc for the palms?

ANSWER:

You didn't really leave enough info about your system for me to make an appropriate response. What brand and model of ESDI controller are you using? Is the BIOS on the controller presently enabled or disabled? What is your first drive? Was it initialized thru debug or thru COMPSURF or thru DMN? If it was initialized thru DMN, is it installed as STANDARD or NONSTANDARD? If STANDARD, is it using physical or translated parameters? When you say you are planning to "make the appropriate entry into the CMOS via the on–line setup facility", are you referring to a user defined drive type? What kind of machine are you using? Who's BIOS is it running? When you said this was v2.15a NetWare, did you mean v2.15 advanced, or did you mean v2.15 advanced revision A? You'll need to be a lot more specific for me to provide a correct answer to your question. There is one suggestion that I can make though... Back it up first.

QUESTION:

DMN v2.43
WRT my request for information contained in message 55 and your reply contained in message 57, the following additional information is provided:

ESDI Controller: DTC 6280 1:1 HD/FD
Controller BIOS: enabled
First Drive: CDC 94166–182 (969cyl/9hds)
How Initialized: I can't remember, but I think by DMN (Is there a way to tell?)
Std/Non–Std: Non–Standard (the CMOS drive type is set at 1)
Machine: 286AT Clone (ELT–286), 16mz, CHIPS NEAT chipset, 4mb
BIOS: Award 286 Modular BIOS ver. N3.03 NFS
ANW: Novell 286 Advanced NetWare ver. 2.15 rev a
The 2nd ESDI drive is another CDC 94166–182. I could do a low level format using DEBUG or DiskManager N. I would prefer using DiskManager N.

ANSWER:

Thanks for the further info about your system. As for your question about whether the drive was initialized thru DMN or debug, if within the configuration menu of DMN, it says that the disk parameters are REPLACED, it was formatted thru DMN (Not good in this case, I'll explain in a moment). If it says that the disk parameters are STANDARD, then it was formatted thru debug. With this controller you need to leave the BIOS enabled when using NetWare. Whenever the BIOS is enabled, you should be formatting thru debug. If you format thru debug, the drive appears as STANDARD to the system. Also, this version of DMN would not be able to handle a nonstandard drive under 2.15 Rev A. If you actually have 2.15 (no rev letter) then a nonstandard drive would be OK, but 2.15 Rev A needs at least v3.01 DMN. So... taking all of the above into consideration, I would suggest the following procedure:

1. Backup your first drive.
2. Down the server and make the hardware connections for the second drive.
3. Boot the machine and run your setup program, setting your CMOS drive type for the second drive to drive type 1, as you said the first drive was already set to. (This is also another indicator that the first drive was formatted thru debug, and the controller BIOS is doing a parameter replacement at boot time, making this drive appear as a STANDARD drive.)
4. Reboot the machine. (It'll take a while to time–out on the second drive and give you a drive 2 error. This is normal because the drive hasn't been formatted yet.)
5. Run debug. At the hyphen prompt type in G=C800:5 and you should then get a low–level formatting menu on the screen. At this point you will need to select the second drive, low–level format it and enter the bad tracks as per the controller card's instructions.
6. Boot with DOS and run DMN in manual mode. (Just type in DMN.)
7. Go to the configuration menu and make sure both drives are appearing as STANDARD, and with the correct parameters. If they are not, then something didn't go right from within debug. You will have to go back and fix whatever is wrong. Under no circumstance should you attempt to select this drive from within DMN. In doing so, you would be telling DMN that you were doing a nonstandard

install. This step has to be satisfied before proceeding.

8. Return to the Main Menu and then go to the Partitioning Menu. When it asks you "which drive?" tell it drive number 2.
9. Create your NetWare partition on drive number 2.
10. Return to the preparation menu and SCAN the partition that you have just created in the last step.
11. After at least one pass of the scan, exit DMN and proceed to your NETGEN to tell NetWare of the existence of the second drive. At this point, it will appear to NETGEN as though the drive has been COMPSURFed, and you should follow the normal Novell instructions on installing a second drive (except for compsurfing it).

QUESTION:

I have a 150 meg Miniscribe ESDI hard disk w/ a Western Digital Card that I installed with your software... using the Disk Manager, I recently re–initialized my logical drive F:, but am now unable to format it. I am currently using DOS 4.01. Am I screwed, or is there a way to format just this partition (I thought I could before starting this)... Thanks!

ANSWER:

Do you mean that you actually re–initialized (low level formatted) just your third partition on this disk? If so, how was this drive formatted in the first place? Thru debug using the controller BIOS low level format routines, or thru Disk Manager? At what sector per track value? If you can't just come into Disk Manager in manual mode, (DM/M), go to the partitioning menu, answer N to "Modify Partition?" question, select P to prepare a partition, answer N to "all partitions?" question, and select partition #3 and get it prepared (formatted), then you may have messed something up to the point where you'll have to reinitialize the whole drive. Either leave me more detailed information, or call us on the tech support line so we can talk in real–time.

QUESTION:

I will have literally thousands of small files (i.e., less than 1k) on my drive. What would be the best way to format/partition the drive so that there is as little wasted space as possible? I am willing to trade some performance for some capacity.

ANSWER:

A partition greater than 32 Meg will have a larger cluster size. A cluster is your minimum allocation unit of space on the drive. So for example, if you have a 30 Meg partition on the drive, your cluster size is 2k. Therefore, any file on the drive takes up at least 2k. If it's a 3k file, it would take up 4k of space. If, on the other hand, you have a 150 Meg partition on the drive, you would end up with a 16k cluster size. This could leave you with a lot of slack space on the drive. (Each file would take up at least 16k of space.) If you wish to keep your cluster size down to 2k (that's the minimum), then keep your partition sizes between

17 and 32 Meg. (If you go below 17 Meg in size, you'll get a 4k cluster.) The break points are as follows (under DOS 3.x):

1 – 16 Meg = 4k cluster size
16 – 32 Meg = 2k cluster size
32 – 64 Meg = 4k cluster size
64 – 128 Meg = 8k cluster size
128 – 256 Meg = 16k cluster size
256 – 512 Meg = 32k cluster size

Disk Manager also has a /V switch available that gives you some manual control over your cluster sizes. (You can make them smaller than the defaults shown above.) But if you do, beware that there are some programs that won't deal with a nonstandard cluster size; starting with CHKDSK.

QUESTION:

USING DMN VERSION 3.10
PROBLEM: WE HAVE TRIED TO INSTALL 8760E MAXTOR 676MEG DRIVE TO RUN UNDER NOVELL SFT 2.15 RUNNING ON A ARC TURBO 12 AT COMPTER.
WE HAVE DONE THE FOLLOWING:
(1) INITIALIZED THE DRIVE WITH DEBUG – COMPLETED
(2) MAPPED OUT BAD SECTORS
(3) THEN RAN DMN IN MANUAL MODE AND RAN (F6) & (F7)
(4) THEN RAN NOVELL INSTALLATION COMPLETELY
(5) UPON BOOTING UP THE NOVELL NETWORK FROM FLOPPY WE GET THE
     ERROR "NOT ENOUGH MEMORY FOR DISK FAT TABLES"
PLEASE LEAVE MESSAGE AS TO ANY TIPS THAT CAN HELP ME WITH MY PROBLEM

ANSWER:

Sounds like your install procedure was correct, (as long as you didn't modify the partition table in any way with NETGEN). You should be able to boot with a DOS floppy and run NET$OS and have this thing run. One thing you didn't tell me is how much memory you really have. The following is an excerpt from the Novell manual:

NOT ENOUGH MEMORY FOR DISK FAT TABLES.
Occurs on: 86 and 286. This is an Abend error.
Meaning: This error indicates that the file server required more memory to store the File Allocation Tables (FAT) for all mounted disk volumes than was available. NetWare requires 1 kilobyte of memory for each megabyte of mounted disk space for storing the FAT.

Cause: The file server does not have enough dynamic memory available to it or the server is attempting to mount more disk space (volumes) than it can support with the memory that it has. This error could also be generated as a result of a failure in high memory which would cause the file server to think that it has less memory installed.

Solution: Make sure that the file server has plenty of memory available for FAT storage in addition to the memory used by other portions of NetWare. Check that the file server's memory is good. If no problems are found, then add more memory to the file server.

Does your server have as much memory as suggested above? If not, then that's obviously the problem. If it does have more than enough memory, then let me know how much and we can go from there...

QUESTION:

I am installing two Imprimis WREN VI ESDI drives: a model 94196 766 Meg drive and a model 94246–383 383 Meg drive. With the 383 meg drive I am using a WD1007V–SE1 controller; with the 766 Meg drive I am using an Adaptec ACB–2322B–8 controller. Both drives came jumpered for 54 sectors per track.
The Disk Manager shipped with the drives showed the drives as 53 sectors per track devices. I used the WD1007 BIOS to format the 383 meg drive. It was after formatting the drive there were five choices for typing: I selected the last choice, "Special non–translation." Other choices were: No drive present; Non–translation; Translation – 17 sectors per track; and Translation – 63 sectors per track.
I then used DM /M to modify and write the drive configuration for 54 sectors per track. The drive does partition and boot.
I have not yet formatted the 766 Meg drive with the Adaptec controller.

My questions are:
1. Did I use the best procedure?
2. Why are the WREN VI drives listed as 53 sectors per track devices rather than 54?
3. Are there advantages or disadvantages to using the 17 sectors per track or 63 sectors per track translation modes on the controller? My understanding is that if translation mode is used, some Int 13 calls may not work. If so, do I get around this by typing the drive as special non–translation and using dmdrvr.bin?
.
Thanks for you help. I find the topics of translation and INT 13 calls with ESDI drives confusing and will welcome ANY insight.

ANSWER:

First of all, it has been confirmed by Western Digital that the 1007V series will NOT support a 54 sector per track drive at a 1:1 interleave. Therefore I would suggest the following procedure:

1. Jumper the 94246–383 for 53 sectors per track (a jumper on the drive it's self)
2. Low level format the drive thru debug and then enter the bad tracks
3. Select 63 sectors per track translation mode. (I have no knowledge of certain INT13 calls not working under this translation mode, and it makes the drive appear to have less than 1024 cylinders, thus negating the need for SWBIOS which could have a conflict with some programs.)
4. Run DM in manual mode (DM/M) and go DIRECTLY to the partitioning menu. DO NOT even enter into the configuration or initialization menus at all.

5. Create your partitions and prepare them.
6. Alternatively, you could just use your DOS FDISK program to partition the drive, instead of using DM in steps 4 & 5 above.

The ACB2322B–8 & 94196–766 procedure would be a little different. With this drive you will have to use SWBIOS, because even at 63 sectors per track mode, the drive still has greater than 1024 cylinders. The ACB2322B–8 doesn't have a problem with 54sectors per track drives at a 1:1 interleave that I know of, so the procedure should be as follows:

1. Low level format the drive thru debug and enter the bad tracks.
2. Leave it set to physical parameters of 1630 * 15 * 54
3. Boot with DOS and run SWBIOS.
4. Run DM in manual mode and go to the configuration menu.
5. DO NOT select a drive or change CMOS, simply confirm that the parameters of the drive are showing as 1628 * 15 * 54, and then press W to write the configuration information to the disk.
6. Press R to return to the main menu, then press P to go to the partitioning menu.
7. Create your partitions and prepare them. No matter what version of DOS you are using, the only thing that can reside above cylinder 1024 is a write/read partition.

QUESTION:

I have a WELLS AMERICAN AT compatible, DOS 3.1, ONTRAK for IMPRIMIS, a CDC 150MB hard drive, and a WD1007V–SE2 ESDI controller. I've disabled the controller BIOS and Sector translation on the controller card by jumpering pins 1–2 on W3 and pins 5–6 on W1. I'm trying to create a 2MB and a 148MB partition. Everything looks fine when I'm all done, but as I use the system things start falling apart. Yesterday the same cluster got used both for a directory listing and a file (or something like that). I've got version 4.0 of the ONTRAK software. The only thing I don't like about the installation is that the specifications on the drive say there are 36 sectors per track but your software says 34 sectors per track. HELP!!! (3 days!) :–>

ANSWER:

The reason DM says 34 sectors per track and the drive specs say 36 sectors per track, is that 34 will always work, no matter what the drive is jumpered for. If you are certain that the drive is jumpered for 36 sectors per track, then go ahead and tell DM 36 sectors per track instead of 34. As far as the corruption that you are getting, it sounds like an application that you are using may not like anything other than 512 byte sectors. (Your 148 Meg partition under DOS 3.x would have a 4k sector size.) Actually, it could be the DOS itself. You could try using true MS–DOS v3.3 to rule out that possibility. If you are still having problems with corruption on the drive, then you might try an alternative approach (as follows):

1. Re–enable both the BIOS & translation on the controller.
2. Low–level format the drive thru the controller BIOS using debug, and then enter the bad tracks.
3. Run DM in manual mode (DM/M) and go DIRECTLY to the partitioning menu to

create and prepare your partitions.

Using this method, the drive would appear as a STANDARD drive to the system, and could get rid of some potential problems. If you have tried all of the above and are STILL having corruption problems, then try partitioning it with DOS 3.3 or 4.01 alone, without DM and see what happens. If once again the corruption occurs, then you either have a hardware malfunction, or one of your applications just plain doesn't work.

QUESTION:

Computer is IBM PS/2 model 80–111; am trying to install a CDC WREN III DRIVE Model 94166–182 as second system drive: it has Drive Selector Pin #2 enabled. Upon Boot–up receive error code 10491 and computer freezes.
I have Executed IBM PS/2 reference disk (IBM–RD), used its test procedure and IBM–RD recognized 2nd drive as 147 MB ESDI, however, could not complete the tests as it was not properly formatted. After IBM–RD tests computer re–booted and froze again.
I then attached a SPST switch to drive selector pin 2 and disabled it until after new boot–up. Computer worked properly booting on IBM's drive C:. Then enabled 2nd drive and executed ONTRACK Disk Manger (O–DM) – but it did not recognize 2nd drive. Then tried to change CMOS ROM however O–DM said:"BIOS disk drive parameter table unlocatable when setup for No hard disks". (Note that IBM–RD recognized two ESDI hard drives as being present.) I have also disabled disk controller ROM but then O–DM doesn't work on anything at all.
At any rate, even if I could change CMOS ROM, I have no idea of what the "Drive Type Code" for an IBM 115 MB hard drive is anyway...
It seems that there is a conflict between Model 80–111 and Ontrack Disk Manager. I can't boot with new drive enabled and I can't get O–DM to work on it after enabling it or on CMOS ROM. SO how'm I going to do a low–level format on this new drive so I can use it?

ANSWER:

When installing a ESDI drive in a PS/2, CMOS drive tables are not used at all. Your first procedure was correct, except you need to press F1 to get by the 10491 error (even though it doesn't say this on the screen). Quite frankly, you are thinking about this too much! If you simply remove the terminating resister pack from the drive, jumper drive select #2, connect it to the middle of the cable, connect the narrow data cable for drive #2, boot the machine, press F1 at the 14091 error message, run DM, select drive #2, initialize, partition and prepare it, it will work. Messing around with SPST switches (!), CMOS drive types and the reference diskette will only cause you problems. It's not nearly that complicated.

QUESTION:

I am preparing to do an ELSII install over the coming weekend and thought I might contact you prior to head off any problems I may run into. Using DMN with Wren III and Adaptec 2322B controller. I am aware of the need to do a low level format and leaving the BIOS

enabled. What questions might I expect during the low level format with debug and what are the proper responses for this setup. I also know that I still must run MODELSII. If you can think of any other problems I might come across let me know.

ANSWER:

Sounds like you've got the right ideas here. As far as information on specific questions and responses from within the controller BIOS's low–level format routine, you'll need to contact Adaptec at (408)945–2550 and let them support their own product. In general, the procedure is as follows:

1. Leave the controller BIOS enabled.
2. Set CMOS to drive type 1.
3. Boot the machine and run debug.
4. At the hyphen prompt enter G=C800:5
5. Low–level the drive and enter the bad tracks.
6. Select the "special options" menu and enable 63 sectors per track translation.
7. Exit the low–level routine and reboot with DOS.
8. Run DMN in manual mode (DMN/M) and confirm that the drive is appearing as a STANDARD drive with 63 sectors per track. If it isn't, then press F3 followed by F10 to select STANDARD parameters, write them to the disk when asked, exit DMN, reboot, run DMN/M and then the parameters should be showing as STANDARD with 63 sectors per track.
9. Press F6 to create the NetWare partition.
10. Press F7 to prepare the partition. (ESC after at least 1 pass).
11. Exit DMN and run MODELSII anyway as if this were a nonstandard install (because of the Adaptec board).
12. Proceed with your ELSGEN

QUESTION:

Hi, I did the install Sat. but all did not go as I expected. The drive is a Wren model 94216–106 which has 1024 cylinders. You directed me to specify 63 sectors per track translation which I couldn't because the drive did not contain over 1024 cylinders. I continued with the default setting of 36 sectors and was able to initialize and install the drive. However when I was checking out the drive in FCONSOLE I noticed that the HOT FIX table size was 717 with 483 remaining.
I had entered 42 bad block flaws during the initialization. Does 483 remaining blocks for HOT FIX sound right? I'm not sure if I feel comfortable with this install, especially since the client is 75 miles away and I don't need unexpected problems popping up.
Yeah, I know, then why am I playing with networks <grin>.
Let me know what you think. Thanks

ANSWER:

Sorry about the confusion about the 63sectors per track mode. When you say "Wren III", it's kind of like saying "a station wagon". I falsely assumed that the drive was one of the Wren III's with greater than 1024 cylinders. As far as the questions about the hotfix area,

here's what happens:

When you enter a known defect at initialization time, (either thru the controller's low–level routine or thru DMN's flaw map), every sector on that track gets marked as defective in it's own individual sector header, (unless you are using BFI mapping, in which case only one or two sectors get marked as bad per defect). When you prepare the NetWare partition either thru DMN or COMPSURF, and it hits either a sector that is marked as bad in it's header, or one that fails the write/read/compare test, the block that that sector belongs to gets added to the NetWare bad block table on the drive. At NetWare installation time, NetWare reads this bad block table and flags the corresponding entries in the FAT table with a special code (FFFE). The bad block table entries also get entered into the redirect table and alternate blocks in the redirect area get assigned.

From that point on, the bad block table is never looked at again. When NetWare writes to the disk, it first checks the redirect table to see if the block that it wishes to write on has been redirected. If it has, then it instead writes on the block that has been allocated as the alternate. If NetWare encounters an error when trying to write to a block that hasn't been previously redirected, it will place FFFE in the corresponding FAT entry, add that block to the redirect table, and assign an alternate block in the redirect area. Under current versions of NetWare, if this redirect table ever gets completely full, then NetWare will shut off hotfix and revert back to the method of handling errors that it used before the days of hotfix, (just checking the FAT table for the FFFE code, and if found, simply skipping to the next block instead).

The formula for figuring out how many bad blocks you are actually mapping out in a given install is as follows: Number of sectors per track plus 7 (for the possibility of blocks at the beginning and end of each track overlapping onto adjacent tracks) divided by 8 sectors per block (round up the result) equals number of blocks mapped out per flawed track, worst case.

You have a 35sectors per track drive. (35sectors per track+7)/8 = 5.25 (round up to 6). So in your case, each flagged track could take out up to 6 blocks. You have a total of 42 flagged tracks, so 42 * 6 blocks per track = 252 total deallocated blocks (worst case). You said that FCONSOLE stated that you have 717 total redirect entries with 483 remaining. This would mean that you have mapped out 234 blocks as bad (717–483=234). 234 blocks being mapped out is under the worst case number of 252.

So, when all is said and done, having 234 redirect entries used right out of the starting gate makes absolute sense. Sorry about the confusion at first, and I hope this clears up your questions and concerns.

QUESTION:

DMN v2.43
First, thank you for your rather complete installation instructions concerning setting up a 2nd ESDI drive.
I formatted the CDC 94166–182 with the DTC 6280 controller under debug. However upon entering DMN I (contrary to your very clear instructions) selected the non–standard

disk parameters. I completed the DMN scan and partitioning processes and successfully NETGEN'd. Everything seems to be working well.
When I re–enter DMN and select C)onfigure, the screen displays the following:

   Disk Parameters (...) are now REPLACED

   Drive 1 is set up as 967 by 9 by 34 and is actually 967 by 9 by 34
   Drive 2 is set up as 967 by 9 by 34 and is actually 967 by 9 by 34

Obviously I have set up the drives as non–standard. My question is that given that your instructions were very specific to set up the drives as STANDARD and somehow I set them up as NON–STANDARD and everything seems to be running well (very well in fact) what can be (or should be) done at this point? If it works, should I fix it? I look forward to your comments.

ANSWER:

I guess my motto has always been, "If it works, don't fix it".
The fact that your nonstandard parameters are exactly the same as the standard parameters, (both 967 * 9 * 34), is allowing this to work. In the future, if initializing thru the controller BIOS, you should make sure you don't then select non–standard parameters.

QUESTION:

I am attempting to install a Micropolis 338mb model 1558 ESDI into a NEC PowerMate 386/20 with a Western Digital WD–1007 WA2 controller w/ no BIOS. My Disk Manager–N is version 3.10. What steps must I take to install this drive for Novell NetWare ELS Level version 2.12?

ANSWER:

The BIOS-less version of the WD1007A that NEC (and others) use presents a problem. The controller automatically locks into 63sectors per track translation mode when using a drive with greater than 1024 cylinders, but doesn't have a BIOS to inform the system that it is using these parameters. Fortunately, I believe the NEC has a CMOS drive type that supports the translation mode directly with approx 600 cylinders by 16 heads by 63 sectors per track. You will need to set your CMOS drive type to this entry, low–level format the drive with the NEC supplied low–level format utility, then use DMN to create and prepare the NetWare partition only (as a STANDARD drive with the above 63sectors per track parameters). No patches to NetWare would be needed as you are installing a standard drive.

QUESTION:

I am having trouble formatting a 668 MB Imprimis hard drive on a Everex step 25 386 PC with AMI BIOS. The controller is a WD1007–WA2 with translation on. Am using debug for

low level format, with the following parameters, 1630 cyl, 15hd, 35 secs. Low level goes OK. With using DM (4.02) I invoke swBIOS, then choose non standard pars. I change secs from 34 to 35. At partitioning menu 1st partition tests OK (2MB) on the start of 2nd partition (rest of disk space), I get "bad track near start of partition" error message with drive just clicking away. Have tried 34 secs instead of 35 and different size 1st partitions, no change. Any help on the correct way to format this drive would be appreciated.

ANSWER:

Your main problem here is that the WD1007A is a 10 Mbit controller, and the Imprimis 94196–766 drive will require a 15 Mbit controller such as the WD1007V. The 1007A won't handle this drive. The drive has 53 sectors per track, not 34 or 35 as you are trying to set it up as.

QUESTION:

PLEASE REFER TO OUR DM–N QUESTIONAIRE TEXT FOR ENVIRONMENT ETC. WE RECEIVE THE ERROR "INVALID FILE A:ESDI.OBJ" WHEN RUN AGAINST THE FILE THAT CAME WITH THE LATEST 286 ADVANCED NETWARE V. 2.15 ESDI.OBJ 5229 8–30–89 11:06a. WE DO NOT RECEIVE THE ERROR ON OLDER ESDI.OBJ 4994 11–11–88 3:45p WHICH CAME ON ANOTHER 2.15 SYSTEM I INSTALLED LAST DECEMBER. WE ALSO ARE UNCLEAR ON WHAT MIGHT PRODUCE THE ERROR IN THE NOVELL WHEN WE TRY TO SELECT THE DISK DRIVERS. WE DO NOT HAVE A VADD AND DISK–MANAGER N SEEMS TO HAVE ENDED WITHOUT ERROR FOLLOWING THE 10 MINUTE SCAN. WHEN WE DO THE NETGEN AND SELECT DRIVE, WE GET AN ERROR FOLLOWING THE INSERTION OF DSK_DRV_001 THAT STATES: "NO DRIVERS MATCHING "*.DSK" COULD BE FOUND." SEVERITY "THE CURRENT OPERATION CANNOT BE COMPLETED" NETGEN WILL NOT CONTINUE WITHOUT THE SPECIFICATION OF A DISK DRIVER. CAN YOU PLEASE ADVISE ME ON HOW TO PROCEED? I HAVE BEEN INSTALLING NOVELL FOR 5+ YEARS FROM 1.02a UP TO 386 AND HAVE NEVER EXPERIENCED ANYTHING LIKE THE PROBLEM ABOVE. AS A BRIEF OUTLINE THE SYSTEM WAS PREPARED BY SELECTING DRIVE TYPE 1, DEBUG G=C800:5, WD LOW LEVEL FORMAT, DMN PARTITION DEFINITION AND PREPARATION, MODDRVR PRODUCING AN ERROR ON FILE SHIPPED, BUT NOT ON EARLIER ESDI.OBJ FILE. THEN NETGEN. THE ERROR OCCURED THERE.

ANSWER:

By the information in your DMN registration questionnaire, I see that you are installing a Micropolis 1558 with a WD-1007A on a 286 under Advanced NetWare version 2.15D. When you initialize the drive thru debug with this combination of hardware, you have the ability to invoke a 63sectors per track translation mode (so you will be able to boot the server directly from the hard disk instead of a boot floppy), and the drive will appear as a STANDARD drive to the system, (therefore no MODDRVR is needed at all). The procedure should be as follows:

1. Enter DMN in manual mode, (DMN/M).
2. If the parameters appear as STANDARD 6XX * 16 * 63, then goto step 5

3. If not, then exit DMN, run DEBUG, enter G=C800:5, select the 63sectors per track translation mode, and exit.
4. Enter DMN/M and press F3 for parameter selection, then F10 for standard parameters.
5. Press F6 to create the NetWare partition, and F7 to prepare that partition.
6. Exit DMN and proceed with a completely standard, UNPATCHED NetWare installation.

The driver that you mentioned (ESDI.OBJ) is for PS/2 installations ONLY, therefore patching it becomes a moot point. You should be linking in ISADISK.OBJ if you are setting up a 286 based server, and if you follow the above procedure, you won't be running MODDRVR at all.

QUESTION:

HELP. I AM A DEALER WHO WAS INSTALLING A 2ND ESDI MICROPOLIS HD ON A SERVER WITH A SIMILAR DRIVE. NOT IDENTICAL. BOTH MICROPOLIS. FIRST IS FULL HEIGHT MODEL, SECOND IS THE HALF HEIGHT 161 MEG MODEL. WHEN WE RAN THE DM–N THAT CAME WITH THE FIRST MICROPOLIS, AND WHICH WE BELIEVE WE USED TO SET UP THE SERVER LAST YEAR, THE DRIVE TYPE CAME UP WITH THE TRANSLATED SCHEME AND CLAIMED TO BE BAD. WE RERAN DMN IN MANUAL MODE AND SELECTED THE DRIVE FROM THE LIST AND ALL SEEMED TO GO O.K. BUT WHEN WE WENT INTO NETWARE TO PROCEED WITH INSTALLATION WE RECEIVED AN ABEND! THE ABEND IS THAT THE ROM TABLE IS INCOMPATIBLE WITH AN AT TYPE.
MAJOR PROBLEM IS THAT EVEN AFTER DISCONNECTING THE SECOND DRIVE, THE SERVER WILL NO LONGER BOOT BUT RETURNS THE SAME MESSAGE! WE DO NOT KNOW HOW TO GET AROUND THIS OR WHY IT HAPPENED. DID DMN RESET THE BPB WRITTEN ON THE NOVELL 1ST DRIVE? BUT IF SO, HOW DO WE RECOVER THE DRIVE?
THIS IS USING THE DMN SUPPLIED WITH THE MICROPOLIS. IT IS VERSION 2.44 AND WAS USED TO SET UP DRIVE 1 LAST YEAR.

ANSWER:

You stated that you are using v2.44 DMN. This is a scaled down version of DMN that was manufactured for Micropolis and cannot do a nonstandard drive install under 2.1x NetWare, (hence the "invalid ROM parameter table" abend as soon as you selected nonstandard parameters).
The version of DMN also cannot install a drive with greater than 1024 cylinders, so you will have to use the translated mode of the controller if the drive is over 1024 cylinders. The only way to install ESDI drives under this version of DMN is to initialize them thru the controller BIOS using debug in order to make the drives appear as standard and with less than 1024 cylinders. You made the statement, "The drive type came up with the translated scheme and claimed to be bad". Which drive are you speaking of, and what do you mean by "claimed to be bad"? If it was the first drive, and you changed the parameters, it would indeed stop working. The reason you can't go back to just the first drive is that you have now changed the parameters of that drive to nonstandard. If you now go into DMN and

select standard parameters for that drive and then write the configuration to disk, it should come back for you.

In general, there are two basic methods of installing ESDI drives. The first is to leave the BIOS and translation on the controller enabled and to initialize (low level format) the drive thru the controller BIOS using debug. You must use the 63 sectors per track translation mode if the drive has more than 1024 cylinders. You would then use DMN to partition and prepare (scan) the partitions only, (as STANDARD drives). Method number two would be to first of all disable both the BIOS and translation on the controller and install both drives as nonstandard drives with DMN. Using this method, you would have to run the MODDRVR program to modify your NetWare to accept a nonstandard drive. Your version of DMN doesn't have the MODDRVR program, so the second method is out of the question for you.

Installing a second drive under DMN and NetWare is not a problem, if you follow the above rules, and not try to change the parameters of a drive that is already partitioned and running. With this scenario, you should have physically cabled up the second drive, initialized it thru the controller BIOS using debug, (invoking 63sectors per track translation mode if over 1024 cylinders), and then run DMN SETUP5 (to install a second standard drive). Or if you rather, run DMN in manual mode, go DIRECTLY to the partitioning menu for the second drive, and create and scan the partition only.

QUESTION:

I'm a fairly savvy Network administrator who has to bring up a new Novell server with big drives in it. I'm using a PS–2 model 80. I have two Imprimis Wren VI half height ESDI drives, unformatted capacity 383 MB, formatted capacity 330 MB. I have physically installed one of the drives and disconnected the original IBM 80 MB drive but I can't get the PS–2 to boot from a floppy now and I don't know how to proceed. If I can't come up in DOS it doesn't seem that I'll be able to run DM–N. I'm unsure of what drive select position I should use with both drives present. I'd appreciate your holding my hand with as much detail as you can spare the time to present in how I go about physically, electrically and logically bringing these drives up in this @#$%^& MCA machine under NetWare 2.15c. Thanks a million.

ANSWER:

The first problem that you will have is that the IBM ESDI controller is a 10Mbit controller. For the 94246–383, (1747*7*53), you will need a 15Mbit controller, such as the WD1007V–MC1. It's not going to work until you swap out the controller. Beyond that, you should have both drives set for 53sectors per track and set to drive select position 2. The first time that you attempt to boot with DOS after installing these drives, it will take the PS/2 a LOOOOONG time to boot. It will eventually error out with a 10490 or 10491 error, (because the drives haven't been initialized yet). After getting the error, you must press the F1 key to go ahead and boot, (even though it doesn't say that on the screen). It should then boot from your DOS floppy, and you will be able to run DMN to format, partition, and prepare the drives for NetWare. If you get this far and have more questions, feel free to leave them here and I'll do my best to answer them.

QUESTION:

On the MAXSTOR DRIVE THE GEOMETRY IS 1221 * 7 WHICH THE WD1007
(TRANSLATION ENABLED) MAKES 949 * 9. DMN WILL NOT ALLOW FLAW ENTRIES
BEYOND 949 WHICH, IT SEEMS TO ME, MEANS THAT THE FLAW TABLE IS NOT
BEING SET CORRECTLY FOR FACTORY FLAWS. THE ATT 6386 HAS THE DRIVE
TABLE SET TO 949 * 9 ALTHOUGH IT KNOWS ABOUT 1221 * 7 FOR FLAW
PURPOSES.
WHAT SHOULD I DO FOR SETTING FLAWS?
IS THIS A "NON–STANDARD" DRIVE REQUIRING FLOPPY BOOT?
DO I NEED TO RUN ANY OF THE MODxxx ROUTINES ON THE NOVELL SW?
YOU SHOULD BE AWARE THAT THE NOVELL DISK DRIVER SELECTED IS THE ONE
NAMED ISA OR AT COMPATIBLE.

ANSWER:

The AT&T version of the WD1007 doesn't have a BIOS on it. Translation is always
enabled if you are using a drive with greater than 1024 cylinders. For this reason, you
must set your CMOS drive type in the AT&T to the one that directly supports the translated
parameters of this drive. Then enter the bad tracks and initialize the drive thru the AT&T
low level formatting utility (which understands the fact that these are translated
parameters), not DMN. After that, the drive will appear in DMN as a STANDARD drive
with the translated parameters and you will use DMN to create and prepare the NetWare
partition only. You will not be selecting a drive or entering the bad tracks thru DMN.
Following this procedure, you are installing a "standard" drive that appears to the system
as having less than 1024 cylinders, so no patches should be needed and you don't have to
boot from a floppy.

QUESTION:

Your advice is sound. The only remaining problem is that the exact geometry entry is 48 in
the table. This results in an abend in NetWare: Improper ROM table Entry since #48 is
beyond C800. Novell suggested using MODDRVR to remove the test for this bounds
condition in the Novell ISA driver, then using everything standard from that point. I will be
trying their method and yours. Will let you know.

ANSWER:

If you are getting the "Invalid ROM parameter table…" message, then MODDRVR would
take care of that. Let me know what happens.

QUESTION:

We have a new CDC drive that came with Disk Manager v4.02 IMPRIMIS.
We're running an 80386–25c with AMI BIOS and VLSI (not NEAT) chipset and DOS v4.01
– we have three controllers to play with:

    (1) CompuAdd HardCache /4Mb
    (2) Western Digital WD1007V–SE2 with feature F301R SuperBIOS
    (3) DTC 6280–15T.

The HardCache formats out to 504 Mb without Disk Manager. We haven't got the foggiest
idea how to run DM with this board, and if we CAN, we would like to get 630 Mb out of the
big CDC. CompuAdd would probably want to bundle DM with their HardCache's, because
people who buy boards like this are likely to be running GONZO drives.
The WD "translation" scheme calculates out to 504 Mb, too. (we haven't tried it yet). Can
we get full, physical capacity of the big CDC by using DM? How about a little sketch of
that procedure?
The DTC "translation" uses 60 sectors per track and calculates out to 480 Mb (again, we
haven't tried it yet). How 'bout it? Can we get more than 480 Mb out of the drive by using
DM?

ANSWER:

If the CompuAdd card has the ability to pass the physical parameters of this drive to the
system, (1630*15*54 more than likely), then you can install this drive as a standard drive
with DM using SWBIOS for access beyond the 1024 cylinder area. I know the 1007V has
this ability, but you would have to jumper the drive to 53 sectors per track rather than 54
sectors per track (the 1007V can't handle a 54 sectors per track drive at a 1:1 interleave).

In general, whichever card you use, you will need to enable it's BIOS, initialize (low–level
format) the drive thru debug or it's own software utility, and set it into it's physical mode,
(no translation). Then run SWBIOS followed by DM/M and go into the configuration menu.
If the parameters are appearing as STANDARD, 1630*15*54 (or 53), then you've got it.
Just press W to write the parameters to the disk, return to the main menu, go to the
partitioning menu and partition & prepare the drive.

There is one other option with the WD1007V. You could disable both the BIOS and
translation on the card and set it up as a nonstandard drive thru DM (using SWBIOS). You
could either format it at 2:1 interleave with 54 sectors per track, or 1:1 interleave at 53
sectors per track.

As you see, there are lots of ifs, ands, or buts with this type of large drive ESDI installation.
So if this information doesn't do it for you, the best solution would be to call us directly on
the tech support line so we can talk face to face. (You should be in front of your computer
and be ready to experiment when you do this).

QUESTION:

Disk Manager is not reading the Flaw map prepared by the AT&T low level format routine. It reports 0 Flaws on the Surface Analysis screen. Most of the flaws are probably invisible due to alternate track formatting which can not be avoided. There are flaws in the ECC and some where two sectors on a track are bad and it is these that are not being read. AT&T tech support told me that they thought that factory flaw table read by DMN had to be invoked manually. I can not find this screen, if it even exists.
DMN has fixed the problem of ABEND: Improper ROM... by using MODDRVR on the IASDISK.OBJ. This has permitted complete loading of NetWare and checkout. DMN surface test found 7 bad blocks but I would feel more confidant if I could get the flaws to be recognized. Thanks

ANSWER:

The fact that DMN found 7 bad blocks leads me to believe that these are the extra flaws that you were speaking of. Alternate sectoring does map out the known bad sectors and hide them from the system. These will not show up in DMN as flaws, but are effectively mapped out by the controller card. DMN does not read any factory flaw table on the drive. What it does do though, is to perform an extremely intense test on the media. If there were additional bad spots on the disk, DMN would find them. Also, your drive is using a translated geometry. When DMN does find a bad spot, the head and cylinder that it displays will relate to the translated geometry, not the physical geometry, and therefore could be confusing if you are looking to see if specific bad spots have been mapped out. There IS no flaw table either created by the AT&T initialization program, or read by DMN in this procedure. When you enter known flaws at initialization time, the header of each sector that is involved with that flaw is marked with a code that flags that sector as bad. Later, when you try to read that sector, (with any program), it will return a read error. When you prepare a NetWare partition thru DMN, and it gets either a read error, or a write/read/compare test failure, it will add the flaw to an actual flaw table that it builds for NetWare. If you are getting reports of different or more bad blocks on each successive pass of the preparation of the partition thru DMN, this is a sign of an intermittent hardware failure somewhere. Any number of things could be causing it, such as a bad HD, controller, cables, motherboard, or even a flaky power supply.
It is normal for DMN to pick up a few bad blocks on the first or maybe even second pass of the preparation of the NetWare partition, but if you keep getting more and more bad blocks on each pass, you've got a hardware problem of some kind.

QUESTION:

NEED HELP DETERMINING WHY NOVELL'S (VER. 2.15) HOT FIX REDIRECTION TABLE KEEPS GETTING TURNED OFF. WE FORMATTED THE SERVER'S HARD DISK WITH DMN (VER 3.04) AND IT RAN FINE FOR ABOUT 3 MONTHS. BUT LATELY THE HOT FIX REDIRECTION TABLE FEATURE IS GETTING TURNED OFF FREQUENTLY. WE ARE WONDERING IF IT HAS ANYTHING TO DO WITH DMN.

ANSWER:

As far as I know, the only time that the hotfix feature turns itself off, is if the hotfix table gets full. Once it turns itself off, it will stay off, unless you reformat the drive and reinstall NetWare. The only exception to this that I can think of is if you had the situation where you had 511 entries in the table and you hit two errors at once. I think in this case that NetWare may be seeing that it can't make two more entries into the table, (limit is 512), so it turns off hotfix. The next time you boot the server, you've still got the one entry left, so hotfix comes back on until you hit more errors.
This theory is kind of a wild shot in the dark, but the fact remains that the only time hotfix gets turned off is if the table is full. So the next questions is why is the table full. The source of the problem could be either flaky hardware, or an improper installation procedure.
As far as the proper installation procedure goes, you should download the Q&A.EXE file from this BBS, (read bulletin #10 for more info).
Within the Q&A file, you will find the correct procedure for installing this combination of hardware. I think the procedure is for installing v2.0a NetWare, but the hardware initialization method is the same as it would be for v2.15.

QUESTION:

I am currently running 3 partitions with a Maxtor 760MB ESDI drive. DOS partition = 32mb, 2 extended partitions approx. 200MB each, it seems the total I can get is around only 525MB on the 760mb drive. Do you have a product that will allow the remaining 100 or so MB to be accessed. I have set it up with DM and its set for 16 heads, 1023 cyl. and 63 sectors per track. On the wd1007v the BIOS is enabled as is alternate sector functionality. I would like to install Unix SYS. 5.3 on the remaining part of the drive if I could get access to it.

ANSWER:

If you disable the BIOS and Translation (by placing jumpers on W1 pins 5&6, and W3 pins 1&2) you should be able to set this up as a nonstandard drive of 1630x15x53 through DM and get about 633 Meg (663 million) bytes of storage. This of course would rule out alternate sectoring, because the BIOS is disabled. With the BIOS enabled, unless you have the option from within the controller's low–level format routine to set the parameters to 1630*15*52 (one less sectors per track because of alternate sectoring), you won't be able to get the full capacity of this drive. Some versions of the 1007V were able to pass the physical parameters of the drive directly to the system, while it seems that later versions translate and truncate the parameters to 1024x16x63, giving you only 503 Meg (528 million) bytes of storage.

QUESTION:

I've run into several problems while trying to upgrade a Novell network.
I started with a IBM Model 80 with 110 meg drive using an ESDI controller. The operating

system was 2.12 SFT. The planned upgrade included 4Meg on IBM extended memory board, 2.12 to 2.15 SFT, and the addition of a CMS 320Meg Drive, plus a dual async adapter for more printers. After completing the hardware and software installation, I booted the server and the message "ERROR LOADING USER DRIVER" was displayed followed by the machine entering basic. After consulting with our vendor's support staff, I was informed there was a bug in the Novell software that created a conflict on track zero of the hard disk where both the boot information and the memory and fixed disk information is kept. The vendor also said that if the reference diskette was used after the boot track was installed by Novell, that the boot track would be corrupted. He suggested reformatting the hard disk and running the installation in a specific order.
Enter the second problem.
The software sent with the CMS drive will not correctly format the 320 meg drive. The technical support from Ontrack informs me that I need DM–N. Two questions. Will this software allow me to re– enter the manufactures defect list and/or ready the drive to Compsurf specs? Will this software resolve the conflicts with Novell's boot track or is there a conflict? Is there a conflict with 2.15 Advanced NetWare?

ANSWER:

Disk Manager–N would allow you to complete this installation. I am not aware of any basic conflicts, but your vendor may know something about the method CMS uses to format drives in a PS/2 that I don't. What Disk Manager–N would allow you to do is to reformat the second disk and integrate it into the PS/2 as if it were a standard drive to the system. One recommendation though, I would suggest that you plan on backing up the first drive and reinstalling them both with the new NetWare. This is because DMN gives you access to one more head worth of storage on the drive than NetWare alone does. When you are adding a second ESDI drive to an existing first one on a PS/2, it is possible that you could have a conflict because of this. If you backup the first drive (it's silly not to in the first place), reinstall both with DMN, then restore the first one from your backup, everything will work fine.

QUESTION:

I have the following equipment:

a DTK 80286 10 MHz computer with 1 MB on board
a BOCARAM AT with 1.5 MB of extended memory
MICROPOLIS 1355 ESDI drive with 150 MB, 1024 cyl, 8 head 34 sectors per track
WD 1007A–WAH ESDI controller using jumper W3 (BIOS enabled)
Thomas Conrad 16bit turbo ARCNET adapter
Monochrome graphics adapter

I am using ONTRACK Novell version 3.1

My problem is:
I am installing NOVELL version 2.15 Rev. C and after preparing the drive with ONTRACK, setting the computer BIOS to a drive type 1, I load the operating systems without a flaw.
When I reboot to load NOVELL, I get the ONTRACK message and then this error

message:

ABEND: Invalid process ID passed by interrupt procedure to kernel.

So far I have done everything to check the memory, motherboard, controller etc. and I still get the same error message. I even got another similar machine to boot using another disk without a flaw!!!
Do I still need to modify the ISADISK.OBJ with MODDRVR?
Last few attempts I had it modified, and still did not work.... I wonder if it should be unmodified?

ANSWER:

In general, with this combination of equipment, your best bet is to low–level format the drive thru the controller BIOS using debug. Run debug, and at the hyphen prompt type in G=C800:5 and press enter. This should bring up a menu on the screen that allows you to low–level format the drive and enter the bad tracks. After doing this, run DMN/M and the drive should appear on the main menu screen of DMN as being a STANDARD drive with 1022 cylinders, 8 heads, and 35 sectors per track.
At this point, all you do is press F6 to create the NetWare partition, and F7 to prepare that partition for NetWare. Under no circumstance will you select the Micropolis 1355 from the configuration menu. This will be a standard drive installation not a nonstandard installation. Since you are using the Western Digital WD1007A, and are formatting thru the controller BIOS, you won't have to run MODDRVR to patch ISADISK.OBJ. After you prepare the partition, proceed with your Netgen as normal.

An alternate method would be to disable both the BIOS and translation on the WD1007A (by moving the jumper from W3 to W14) and low–level format the drive as a non–standard drive thru Disk Manager–N. In this case you would select the Micropolis 1355 from the configuration menu, enter the bad tracks, low–level format (initialize) the drive, create the partition, and prepare that partition, all through Disk Manager–N.
Using this method, you WOULD have to run MODDRVR prior to running NETGEN, because you are installing a non–standard drive.

Also, another possible cause of the NetWare error message "ABEND – INVALID PROCESS ID PASSED BY INTERRUPT PROCEDURE TO KERNAL" is specifying ISADISK.OBJ twice during Netgen.

QUESTION:

I have a 676 Mb hard disk (Micropolis 1568–15). I need a driver for OS/2 version 1.2 in order to access cylinders past 1024. Are you working on a product???

ANSWER:

At this time we don't have a driver for OS/2, and there have been no formal announcements as to whether or not we will be developing one in the future.

QUESTION:

Recently you answered a question regarding using the maximum capacity of a Maxtor 8760E and the WD1007V–SE2. I appreciated the quick response to the question and the accuracy of the information. You stated that with the BIOS disabled I would not be forced to use their translation.

I could set up this drive as a non–standard drive with DM. But I would lose the alternate sector feature of the controller. I found that with the use of WD's WDFMT utility I could disable the BIOS and still format with an alternate sector per track. So my last question is the following:

If I do these steps listed below will DM be able to handle the partitioning?

1. Disable WD on–board BIOS
2. Set my drive type (soft BIOS entry, type 48,49 to the actual physical parameters, 1632*54*15.
3. Format with WDFMT Utility (low–level). So I can get my alternate sector feature.
4. Invoke DM to simply custom partition the drive.

Do you see any issues with this procedure, all through I am currently running in the translated mode and only using 528MB. I would like to get the 678MB capacity of this drive AND use the alternate sector feature.

ANSWER:

Here are several problems/considerations that I see:

1. The WD1007V–SE2 can not handle a drive with 54 sectors per track at an 1:1 interleave. (This has been confirmed by Western Digital). If you plan on using a 1:1 interleave, you will need to jumper the drive for 53 sectors per track, and enter the corresponding sectors per track value in your user defined drive type. Either that, or low–level format the drive at 54 sectors per track and an interleave of 2:1, if WDFMT gives you that option.
2. If the drive parameters appear as STANDARD and greater than 1024 cylinders, SWBIOS will not automatically be invoked at boot time unless you perform the following procedure. After formatting the drive, run DM/M, go to the configuration menu, press N for nonstandard parameters, and then ESC for standard parameters, followed by W to write the parameters to the disk. This is known as a nonstandard/standard configuration. After doing this, Disk Manager will state (in the config menu) that the drive is setup as 1628*15*53, and is actually 1628*15*53 (both sets of parameters are the same). After doing this, DMDRVR will automatically invoke SWBIOS at boot time.
3. Some BIOS's have their own method of trying to handle a drive greater than 1024 cylinders. If your BIOS is one of these and you set your user defined drive type to 1630 cylinders, the BIOS's method of handling this may interfere with Disk Manager's SWBIOS.

Why, may I ask, is alternate sectoring so important to you? Unless your operating system has a low bad block limit (such as NetWare), then you'd be better off not using alternate sectoring, and in the process would pick up an extra sector per track of storage capacity.

If you are installing DOS, my best/safest recommendation would still have to be to disable the BIOS & translation on the controller and install the 8760E as a nonstandard drive with Disk Manager and forget about alternate sectoring.

QUESTION:

The alternate sectoring is not that important, but does present a very clean looking drive to DOS. The 8760E has approx. 125 bad tracks which are spread throughout the disk. I felt that with this many I would be better off using alternate sectoring, the space savings is not that much considering, I'm forced to install Unix Sys. V root partition 30MB before cyl. 1024. So the DOS piece of this drive is around 384MB anyway. Also I have had issues in the past, especially with Word Perfect when by chance I gets split over a bad sector after being installed on the hard drive. All though I don't know for certain, I would assume the alternate sectoring would increase performance, by what amount is a guess. Seems I will just do it the way you suggested and bag the creative alternatives, who knows what other problems could arise when you have 4 O.S.'s installed and bootable on one hard drive. OS/2 is also in this discussion, Thanks again.

QUESTION:

I will be installing a new ESDI drive on a server this weekend and I wonder if you could give me the steps. The hardware is: Maxtor XT–4380E, WD1007V–SE1, EMPAC 12MHZ 286 with AMI BIOS and 6 megs of RAM.
The LAN is Novell Advanced NetWare 286 V2.12, I just bought Disk Manager–N. I have done many large DOS hard disk installs but this is my first install on Novell. I am taking out a Miniscribe 146 MEG ESDI and its controller. (A tech at WD told me to use the new version of the 1007, that's why I am installing a new controller also.) Should I use the standard drive setup? The BIOS on the controller? Any help and possible caveats would be greatly appreciated. Thanks in advance!

ANSWER:

The procedure for installing a Maxtor XT4380E & WD1007V–SE2 under Advanced NetWare v2.12 is as follows:

1. After physically installing the drive and controller into the machine, boot with DOS and run debug.
2. At the debug prompt, enter g=cc00:5 and hit return.
3. You will get a menu, and from the menu select the option to low–level format the drive.
4. After low–level formatting the drive, select the option to enter the bad tracks.
5. After entering the bad tracks, select the option from the menu that says "SET DRIVE TYPE". After you select this option, you will be given the opportunity to hit the + (plus) key and step through several different drive geometries. When you reach the option with approximately 600 cylinders, 16 heads, and 63 sectors per track, hit return to accept it. This is a translation mode and makes the drive

appear to have less than 1024 cylinders, but a higher number of heads and sectors per track.

6. Exit the debug routine, and let the machine reboot with DOS.
7. Run DMN/M and as soon as you're in, confirm that within the box on the left side of the screen that the drive parameters are appearing as STANDARD and that those parameters are approximately 600 cylinders, by 16 heads, by 63 sectors per track. If this is the case, then so–far, so–good.
8. Select option F6 to create the NetWare partition, followed by option F7 to prepare that partition. After one pass of the preparation, hit ESC to stop the scanning.
9. Proceed with your NetWare installation as normal, except don't run COMPSURF. Using this method, the drive is appearing as STANDARD to the system, and as having approx 600 cylinders * 16 heads * 63 sectors per track. Since the controller is making the drive appear as a STANDARD drive, you don't need to run the modification program MODDRVR, as you would if you were installing a standard drive. Remember that your maximum volume size under 2.12 adv NetWare is 255 Meg. You will have to split this drive into 2 volumes.

QUESTION:

Hi. I'm running an AST 386–33 w/Imprimis 383H at work w/o DM and a MBS 286–16 w/Micropolis 1355 at home. Both are running WD 1007A's.
I'm using DM at home that was shipped with the Micropolis PCpak, and should be registered if you included form w/software.   Let me first say that no problems thus far have been encountered that could be attributed to DM. Until now.   See description in Windows survey. Many late nights on this one. More background: a couple of weeks ago, I started getting "Packed file is corrupt" when trying to invoke COMPRESS from PCTools 5.5 – blew a fresh copy in & no change. Then HOG (pie chart of partition hogs) did the same thing. All of this was on C:. OK, reformat C:, run bare bones & everything was OK, except that I couldn't access the rest of the partitions without DM. Blew the root directory back in w/DM & everything was OK. Great, I said to myself, everything's cool, back to messing w/Windows 3.0. Surprise, surprise – COMPRESS, HOG, and now WOLFPACK won't work. Hey, I can get alternative utilities, but GAMES??
... anyway the discussion over the past few nights was that if it was a virus (despite all the anti–viral stuff I have) got into my system, it has to be attached to DM. This after much messing around reformatting C: and playing about. Never suspected Windows 3.0 until reading a UL of your Bulletin 12. Jeez, I guess I just don't understand how it can mark executables like that. Anyway, I don't need this. And I have a better monitor at home too...
.... Any suggestions as to restoring executables would be MUCH appreciated ... or updated drivers or whatever. Running out of time, will dial back in & browse for a bit.

ANSWER:

We have had other experiences of the message "Packed file is corrupt" come up when executing DM.EXE. This was traced to a bug in the Microsoft C compiler EXEPAK program that we were using. It is basically a load point problem. The work around was to load an additional copy of the command interpreter by typing in COMMAND at the C:> prompt, and then run DM.EXE afterwards. This would effectively shift the load point of DM.EXE in memory, and alleviate the false error message. Your problem is a little different

though... You are not trying to execute DM.EXE, but other programs. It could be the same type of load point problem if these other programs are also packed with EXEPAK. The possibility also exists that these other programs are actually corrupt. What are you using for backup and restoring these files in question? Is this backup/restore program compatible with partitions greater than 32Meg and with a greater than 512 byte logical sector size?

You mentioned two separate machines; one at home using DMDRVR, and one at the office without DMDRVR. Are you having this problem on both machines or just on the one at home? Did these problems not exist before, and start immediately after attempting to install Windows?

Concerning a DMDRVR/Windows conflict; the 1355 has only 1024 cylinders, so SWBIOS is not in the picture, therefore there would be no chance for a SWBIOS/Windows conflict. Even if the drive had greater than 1024 cylinders, and there were a SWBIOS/Windows conflict, it would surface as the machine hanging when trying to execute Windows in 386 enhanced mode, and would have nothing to do with data corruption. The only other conflict you will have is that you won't be able to create a permanent swap file for Windows if DMDRVR.BIN appears in your CONFIG.SYS file.
The swapfile program simply refuses to proceed if it sees our driver. Again, this is simply the inability to do something and in no way has anything to do with data corruption. Doesn't sound like either of these conflicts could be related to your problem.

If you would like to try a newer version of DMDRVR, you should be able to contact our sales department at (800) 752–1333 and upgrade to the most current version, but I don't think it's likely to be the cause of your problems, (since everything used to work OK on your system).

I would suggest that for a test, you strip out everything in your CONFIG.SYS file except DMDRVR, boot cleanly with no AUTOEXEC, and then try to execute fresh copies of the programs in question. If that works, then work backwards to find out where it trips. At that point, try the load point workaround and see if it helps. If you can nail this down a little more, we'd stand a better chance of figuring out what's happening.

QUESTION:

Thanx much for the prompt reply. I guess I wasn't really prepared to leave much of a lucid message last night.
Anyway, in response to your concerns: Only the home machine (286) is acting up. The info on the C compiler bug is interesting, no doubt that may have something to do with the seemingly random nature of this nasty bug. Here's a little quickie. Hard boot the machine from floppy bare bones – no config.sys or autoexec.bat. Programs in question runs just fine. Boot from C: bare bones – everything seems OK except no access to partitions D thru G. Boot from C: with just DMDRVR installed, got "Packed file is corrupt" again. I do not use unreadable or packed proprietary backup software. All backups are kept in ready–to–use form, with duplicates both here at home & at work. Renamed the config.sys, booted bare bone again, & programs work OK. With DMDRVR installed, even overwriting the executables w/fresh copies does nothing, still results in "Packed file..." error, moreover,

it seems to be affecting more executables.

The reason I think Windows 3.0 may be involved somehow is that this whole phenomena started around the time I brought Windows home to learn more about it, and appears to be getting worse.

Anyway, I am satisfied (for now) that the problem seems to be DMDRVR.

Will try the trick of another COMMAND shell, plus blow in a fresh copy of DMDRVER – will try to log back in tomorrow & keep you posted, maybe spend more time browsing thru the BBS.

For now, it's back to dinking around with the 286. Again, thanx for your interest. If you think of anything else regarding this bug, please post.

QUESTION:

The DMDRVR is definitely responsible for executables refusing to run. Whether the controller, Windows 3.0, or whatever is causing it, I can't accept continuing contamination (?!), as more and more EXE files are being marked as "Packed file is corrupt". Perhaps a somewhat nasty synergy between the MS C EXEPAK, DM 4.01, and Windows 386?? Why does it proliferate? I have tried every virus scanner I have access to, and none reports a virus. A combination of the above + hardware? Aaaargh. Listen, what do think about using the 63 sectors per track and FDISK even though the Micropolis 1355 has 1024 cylinders? All references have been for drives > 1024. Any problems? I've done a byte by byte compare on the DMDRVR BIN files and have not found any differences. Recommendations?

ANSWER:

I have taken your concerns to our engineering department manager and he has provided me with the following information about the EXEPAK load point problem that causes the FALSE message "Packed file is corrupt".

1. Your .EXE files are NOT being corrupted or modified in any way. You should be able to prove this by copying them from your hard disk to a floppy and then over to another machine and have them work on that machine.
2. The EXEPAK load point problem is universal. The companies that write the programs that you are having problems with are also evidently using the EXEPAK program. It does NOT have to do with DMDRVR.BIN, Windows, your DOS version or hardware combination specifically, (except possibly your BIOS), but is in fact a LOAD POINT PROBLEM. When you load DMDRVR.BIN, you are shifting the load point of all subsequent programs, the same as if you loaded any other TSR or driver of the same size. You should be able to prove this by booting with a clean system (no CONFIG or AUTOEXEC) and playing with the buffers statement until you recreate the same scenario.
3. We have not yet been able to absolutely pin down or reliably recreate the scenario in which you will have the EXEPAK load point problem. It has been extremely elusive so far. We had a machine that seemed to reliably produce this message in our lab once, until one day it just quit doing it. We have no idea why.
4. Microsoft admits that there is a problem with EXEPAK, but their stance is that EXEPAK is no longer being produced, updated, or supported. There will be no fix

from Microsoft.

5. From what we have seen, the EXEPAK load point problem seems to be linked with the Phoenix BIOS, although Phoenix states that they have no knowledge of the problem.
6. Even if you take out DMDRVR.BIN and use FDISK instead, you will probably have the same problem again eventually, depending on what combination of DOS version, TSRs, and drivers that you use, (all of which of course change the load point of subsequent programs).
7. The best chance you have for combating this problem is to fiddle with your FILES and BUFFERS statements (to change the load point of applications), or perhaps change your DOS or BIOS versions.

QUESTION:

Thanks for taking the time to pursue this slippery phenomena, and especially the well–written recommendations. I should add that I am using Quarterdeck's QRAM on the machine as well (instead of Windows 3.0's HIMEM). Since all this started happening, I have been thinking of updating the Phoenix BIOS to a version that supports user–supplied drive types & the C&T chipset. It's hard to believe that this problem is not more prevalent...   Thanks for your efforts... will have to wrestle with this some more armed with your concise diagnosis of what the probable cause is. ONTRACK has my highest regards. If I come up with a workable solution, will post. Thanks again.

QUESTION:

I have run DMN on my drive CDC 94166–182 and it shows different parameters than when I actually choose the drive in manual mode. The test works fine with the initial parameters but with the CDC parameters chosen DMN reports Track 0 bad disk unusable. When the test and preparation process is complete, and I try to install Novell Advanced NetWare 286 V2.15C I get an abend: Invalid ? sent to Kernel. I believe the problem is with the SMS Omti Controller, in which the drive parameters seem to be hard coded. Also of interest, is the fact that the CMOS must be set to no hard disk in order for the Controller to work. I thought that DMN
would solve this problem and hope that it still might, but I seem to need a little guidance. Also I have no documentation for the controller and would greatly appreciate any information on possibly finding this company SMS/Omti. Thank you.

ANSWER:

According to my information, the OMTI 8620 is not NetWare compatible. You will have to obtain a different controller before you'll be able to run NetWare. DMN can't make a controller NetWare compatible.

QUESTION:

I have DM 4.02 generic. I also have a DTK 386/20, a Maxtor XT–8760 ESDI drive, and a Konan FTL Tentime ESDI controller. My BIOS id Phoenix 386. I can successfully format the drive, but after it makes it bootable and finishes, it won't boot up. I have tried using SWBIOS and even making a special disk table entry with the correct parameters. It simply refuses to boot. I know this drive is good as is the controller and cables. Anything else you might suggest? Thanks.

ANSWER:

I am not familiar with the "Konan FTL Tentime ESDI controller". With an ESDI controller, when in doubt low–level format thru the controller BIOS using debug. Try running debug, and at the hyphen prompt type in g=c800:5 to get to the controller BIOS low–level formatting routine.
(If this doesn't give you a menu to low–level format the drive, then you'll have to call Konan for more explicit help on using their card).
If you can accomplish a low–level format thru the controller BIOS, the drive should appear as a standard drive to the system after that. You would then perform the following procedure. Run SWBIOS, then DM/M. Once inside DM, press C and hit enter for the configuration menu. The parameters should be appearing as STANDARD and drive 1 should show as being actually 1629 * 15 * 53. At this point press W to write these standard parameters to the drive, (don't attempt to select the 8760 from within Disk Manager, we are doing a standard drive install here).
Return to the main menu, and then go to the partitioning menu to create and prepare your partitions. If it still doesn't boot after that, then try a FORMAT C:/S. If you have to do a FORMAT on it, you will then have to copy the CONFIG.SYS file and the DMDRVR.BIN file back on drive C: afterwards. As I said before, this is an unknown controller to me, so if you have further problems with this install, you would be better off calling our tech support line at (612)937–2121 when you are in front of the machine so we could do some experimenting.

QUESTION:

Hi – I'm just now installing this new computer, and it came with your driver. The drive is a Maxtor XT–4170E (157 megs formatted, 1224 cylinders, 8568 tracks, 36 sectors per track), and the controller is the Ultrastor Ultra 12(F) caching ESDI controller (32k). It's all new to me.

I had already run into the invalid media problem, and I found your fix from the bulletin. I just read about the Windows problems in the MSWIN forum on CompuServe – your solution seems acceptable for now.

Anyway, here's some simple questions. 1) Why the limit of 132 megs in a partition (I'm using DOS 4.01)? Why can't I have one 157 meg partition? 2) I put dmdrvr.bin and xBIOS.ovl in a subdirectory, and changed config.sys to find dmdrvr in the subdirectory. Will dmdrvr still be able to find xBIOS.ovl? 3) Is this drive/controller combination using sector translation? I don't pretend to really understand translation, but I know that Spinrite

II says it can't work with translated drives. I suspect it will also have a problem with a caching controller. I haven't tried yet, but do you think I'll be able to run Spinrite II on this machine?

ANSWER:

The 132 Meg limit would appear to be when you bump up against the 1024th cylinder. No DOS partition, under any version of DOS, (that's right, not even 4.01), can go beyond cylinder 1023. End of story.
The only thing that can reside out there is a Disk Manager write/read partition. If you do the low–level format of this drive thru the controller BIOS using debug, (at the debug hyphen prompt type in g=c800:5), you should be able to invoke the controller's translation mode to make this drive appear to have less than 1024 cylinders, but a higher number of heads and sectors per track. This would negate the need for XBIOS.OVL and the VIRTUALHDIRQ=OFF line in your SYSTEM.INI file. You could have the whole drive as drive C:, and wouldn't need to use DMDRVR.BIN at all. If you do leave it as it is, and use DMDRVR & XBIOS, you must leave XBIOS.OVL in the root directory. DMDRVR.BIN won't look for it in a subdirectory. As far as SPINRITE goes, it's my understanding that they don't function correctly on a drive with greater than 1024 cylinders, and if they can't function on a drive with a translating controller either, then it looks like they just can't function on this drive at all. But I don't absolutely know these statements to be facts. You should really ask them about it directly.

QUESTION:

Hi.....I have a Miniscribe #3180E with a DTC6280 ESDI Controller Card from Data Technology. I use (happily so!) your Disk Manager software which was included with my hard drive – Serial #MIN02615326. The hard drive is 156Meg partitioned into 7 drives & I've formatted the drive utilizing the Controller Card's re–mapping feature. At present I have 2 concerns – I'm awaiting delivery of my Windows V3 update & have noted the apparent problems & wondering what problems (if any) I will be faced with.... Secondly, I am going to purchase a 2nd ESDI drive of approximately 170 Meg (this one has to be a 3 1/2") and would like to know if I can use my OEM version of Disk Manager to partition that drive or – is my driver going to have to be updated? My DMDRVR.BIN file is dated 10–6–88. My dealer is presently searching out a drive for me which will probably be a Seagate / Control Data model.
Any help you can provide would be very much appreciated..... I will call back in a few days for a reply. Thanks...

ANSWER:

Since you have used the controller's internal low–level formatting routine and are using translated parameters on the first drive, I would suggest following the same procedure for the second drive when you get it. Since you are using the controller's translating feature, these drives appear to the system as having less than 1024 cylinders. Since the drives appear to have less than 1024 cylinders, SWBIOS is not needed. Therefore, you will not have to place the VIRTUALHDIRQ=OFF line in your SYSTEM.INI file for Windows. If you are using DMDRVR.BIN in your CONFIG.SYS file, Windows will not allow you to create a

permanent swap file. You can use temporary swap files though and they will work just fine. You should not have to upgrade your DM for the second drive, since you will be low–leveling the drive thru the controller BIOS, which makes it appear to the system as a standard drive. You can use DM to partition the drive only, (as a standard drive).

QUESTION:

Hello. I am trying to install Disk Manager V4.03 on a DTK 386 AT (25MHz) system using an MAXTOR ESDI drive having 760Meg capacity. The model number is XT–8760E. I am using a Western Digital WD1007V–SE2 Controller with Translation enabled and MS–DOS 4.01.

The problem is that your listing says that MAXTOR XT8760 is a 650Meg hard drive. The drive I am trying to use is an XT8760E 760Meg drive.
HELP!! I would like to be able to get access to the other 110 meg.
How can I get full use of my drive? Thanks!!

ANSWER:

What you are seeing is the difference between formatted and unformatted capacity. It is common procedure for a drive manufacturer to advertise his drive with an unformatted capacity rating, (because it sounds better). If you are formatting this drive for DOS (which has 512 byte physical sectors), you would in fact only get 632 Meg (663 Million Bytes). This is how to figure out the formatted capacity of a drive:

cylinders * heads * sectors per track * 512 bytes per sector = Tot Bytes

In your case: 1630 * 15 * 53 * 512 = 663475200 bytes (632.7 Megabytes)
(remember that a megabyte is 1024 * 1024 bytes)

Hope this clears up your concerns...

QUESTION:

I have a Compaq Deskpro 386/33 and am trying to install a Maxtor Xt4380E disk drive with your Disk Manager–N (I have already registered via the script). When trying to install this morning I ran into two problems.

When asked to enter the bad–block map (i.e. cylinder/head method) my disk has 151 defects. This puts the number over 512 and therefore the disk is useless. Disk Manager suggests an alternate method using the Offset as well as the cylinder/head information. My defect map lists Head, Cylinder, Byte and Length info. Is the "Byte" information really the offset? The byte numbers range the mid hundreds to almost twenty–one thousand. Not having to much experience with PC hardware I am not sure if this is the case.

With limited time to be able to take down the server (basically 9pm until 7am) I thought I had nothing to lose by trying the head/cylinder/byte method. This got me to the next phase of running the NetWare partition, but also ran into problems. Every single Head/Cylinder in the sequential test failed with a SECTOR NOT FOUND error. Given the explanation in the trouble shooting area of the installation to reinitialize the drive or trash it I am a little concerned.

Am I doomed to buy another $4200 drive or is there a chance that this will work?? Signed, a tired and weary Systems Engineer.

ANSWER:

It looks like you have spoken to someone on our tech support line since you left this message. Their recommendation to you of setting it up as a standard drive of 611*16*63, initializing with the Compaq utility, and only partitioning the drive thru DMN, (as a standard drive), is correct. The reason you have to jump through so many hoops on this one is that the Compaq version of the WD1007A doesn't have a BIOS, but translation is always enabled. Therefore, when using a drive with more than 1024 cylinders, the controller will automatically assume that you will be speaking to it with translated parameters. This works fine if you are using it in a Compaq that has a CMOS entry that supports the translated parameters, and has a utility that understands that these ARE translated parameters, and not physical parameters.

QUESTION:

Last weekend I installed a second ESDI into a Northgate 386–20MHz a year old. It had come with a Miniscribe 3180E and an Adaptec 2322B controller, which says Rev A, but not 8 or 16 (chip stickers are C. 1987). The Miniscribe was initialized (last year) using DEBUG and set up to map at 63 sectors per track, with the drive setup in CMOS as "type 1" a meaningless small type. The board does not have 53–55 sectors per track mapping in it, according to the DEBUG invocation of its special features menu. To make things worse, vendor sent wrong manual (for a WREN IV) with this drive, which I'm unfamiliar with.
The new drive is WREN VI, 94196–766, 16 heads * 1630 cylinders, and I think jumpered for 54 sectors per track, but I had difficulty figuring how to jumper it even for drive 2, don't have any info on jumpering. It came with DM 4.02 for Imprimis with this drive on the tables and a little bit about Adaptec in the horrid on–disk help file. I used SWBIOS and DM/S/M to initialize it, since I could not use DEBUG.
Seemed to initialize OK, partitioned OK, boots (as drive 2) OK, although tak3es rather long to boot up because partition 1 was setup as boot partition (MSDOS 3.3) since the Imprimis will eventually replace the Miniscribe and be re–terminated as the only drive on this system. DM recognizes it as 1630*165*53.
I read up on your ESDI Q&A file & apparently this Adaptec will not handle this particular drive. Has SWBIOS + DM done so correctly, is it safe to use the drive? Can I re–jumper the drive to 63 sectors per track so as to use the drive's BIOS? Should I disable the BIOS (there is a CMOS setting for 16 heads * 1630 cylinders)? Is the drive safe to use as is? What are performance penalties of leaving it as is? If I have to get a new controller, probably will get Western Digital, not Adaptec, anything to watch out for to make sure the WD1007 will handle this drive? I would rather not get new controller if it is OK as is, but

much of your answers seemed to say this Adaptec cannot handle this particular Imprimis. What problems will there be with Windows 3.0 on this drive setup as described? I take it I cannot use a permanent swapfile & must put VIRTUALHDIRQ=OFF in SYSTEM.INI? Drive was purchased for extensive graphic work involving Windows, if it later goes back on network, it will be Artisoft Lantastic (NETBIOS, not Novell). I can't seem to Leave a message, so am leaving as SysOp comment, hope you can make it public when you reply as this helps others. There wasn't much about ESDI & that only small Seagates in the public discussions, so I downloaded everything in your files area, where apparently ESDI is `causing much madness & pain. Did I recall correctly that Ontrack doesn't support SCSI or something like that?

Note: apparent error in my file, Ontrack recognized the drive as 1630*16*53, not 165 heads (giant jukebox).

More info....

I have a new Imprimis 94196–766 ESDI installed with the DM 4.2 that came with the drive. Previous drive is an ESDI Miniscribe 3180. Controller is Adaptec 2322, there is an "A" sticker pasted on the board next to model number. This drive only has 63 sectors per track in its table. The older drive was set up with Ontrack v. 4.0 (DMDRVR.BIN). The current one, since it has 1630 cylinders, can't escape using SWBIOS. It is jumpered for 54 sectors per track, I did not try to change it to 63 so I conceivably could have initialized thru DEBUG as the first drive was. With SWBIOS, it was initialized through DM/S/M, shows up as 1630*15*52. Computer is Northgate 386–20. Anyway, the 2 drives are partitioned etc. OK now.

Drive 1 is partitioned 32 (boot partition), 60, 60. Drive 2 is partitioned 32, 150, 150, 150, 190 which is probably kind of stupid in relation to buffering. Drive "J" is the last drive. The first partition is no longer bootable as everyone suggested this would cause trouble. The DMDRVR.BIN which is on Drive 1 is from the older (version 4.0 general–purpose) DM, although I used 4.2 to set up the new drive.

Right now, it is taking these 2 drives more than 30 seconds – almost infinite time – to boot. This horrid time comes about through frequent need to switch CONFIG.SYS and AUTOEXEC to use windows 3, or 386–max and my normal DOS programs. Is this caused by the old Adaptec controller?

Would it be worthwhile to get a WD1007V–SE2?

Computer is 20MHh Northgate 386 w/4 megs RAM on motherboard, 1 5 1/4" floppy. Windows has been set up on drive "G" (i.e. second partition on the new drive) and seems to work OK, though very slow. I put virtualhdirq=off in its sys.ini file, and also emmexclude=c400–c7fff to disable vidmem problem that was occurring. I did not use SMARTDRV, and did not set up a permanent swap file. The result is it's very slow, loading, loading any other windows, etc.

In yesterday's (July 9) InfoWorld pg 3 "At Deadline" column, there is a story from Microsoft, followup of week previous where they had a news story about problems of Windows 3 and DM. This story has some garbled info from Microsoft about "what to do with DM" as regards large hard drives. It says "more than 1024 cylinder drives are at risk if you are using DOS 3.30 or greater." I called MS's new tech support–for–windows and asked "does that mean if you are using PC DOS 3.1 you are not at risk?" I spoke with someone there who said:

"We have tried a large HD (a Maxtor) with 1664 cylinders using DOS 3.1 and it was OK (presumably with the permanent swap file, because nothing is ever OK with Smartdrv in my experience, only PC Qwik–Cache works without trashing FATS on large drives), but he

said Microsoft guarantees nothing.

Well, I've had problems with 3.3 before and it takes up more memory anyway. I don't have a 3 1/2" drive, but if I did there are device drivers I can use w/3.1, which I would rather use anyway as it is the only DOS I actually trust. Microsoft 3.3 has caused network problems, especially w/Northgate Slimlines which took down a net I was supporting (Lantastic, NETBIOS) when 2 new Slimline VGA stations were added, the problems went away when the Slimlines were set up with IBMPCDOS 3.1 instead of Northgate DOS 3.3.

So my question now about Ontrack + 1630 cyl, 54 sectors per track Imprimis is: would DOS 3.1 make a difference either in the long boot time or in ability to use a cache (Qwik, not Smartdrive) and a permanent disk swap file?

I wish I could post this, in case any users have experience with the Imprimis 94196 using smaller, reliable DOS 3.1 as opposed to later, big buggy DOS's.

I am willing to try an experiment w/my new hard drive, if you have any suggestions as to what I should test to find out if the drive is safe with some Windows speedup when using dos 3.1, I mean I have about a week when I can do this, then the drive has to get to work on a big project that will soon have it full.

ANSWER:

Whew... That was some message you left! Now, where do I start...

If the Adaptec 2322 doesn't have a –8 or a –16 after the model number, it is more than likely a 10 Mbit controller. The Imprimis 94196–766 would require a 15 Mbit controller. My best suggestion is to contact Adaptec tech support directly (at 408–945–2550) in order to absolutely identify this controller, and to find out if it is a 15 Mbit controller or not. If it is not, then DO NOT use it with the big Imprimis. Speed degradation would be the least of your problems in that case.

If you choose to use a WD1007V instead, you will have to physically jumper the drive for 53 sectors per track instead of 54. It has been confirmed through Western Digital that the 1007V is not able to handle a 54 sectors per track drive at a 1:1 interleave. If you jumper the drive to 53sectors per track, it'll work just fine with the 1007V.

The 63 sectors per track translation mode that both controllers offer (it is a function of the controller, not the drive) is not sufficient to make this drive appear to have less than 1024 cylinders (which is the whole point of a translation mode). There would be no point in invoking the 63 sectors per track translation mode with this drive. The only controller that I know of that has a translation mode capable of making this drive appear to have less than 1024 cylinders is the Ultrastor controller. It has a translation mode that would make this drive appear to the system as having 644 cylinders by 64 heads by 32 sectors per track.

In any event, unless you end up with the Ultrastor controller, this drive will end up appearing to the system as having more than 1024 cylinders, thus the need for SWBIOS, the VIRTUALHDIRQ=OFF line in your SYSTEM.INI file, DMDRVR.BIN in your CONFIG.SYS (therefore the inability to create a permanent swap file), and the need to stay away from SMARTDRV.SYS (which doesn't work correctly on drives with greater than 1024 cylinders). Your DOS version has nothing to do with any of these facts. Where the DOS version comes in is if the drive were under 1024 cylinders, but was a nonstandard drive with a head or sector per track mismatch between what it was "setup" as and what it "actually" was, then there would be problems when using SMARTDRV.SYS only if your DOS version were 3.3 or higher. If your drive has over 1024 cylinders, then you've got a

problem with SMARTDRV.SYS, no matter what version of DOS you are using.

Incidentally, Disk Manager does indeed work just fine with SCSI drives.

QUESTION:

We used DMN–N to format a Maxtor XT–8760E drive with an Adaptec 2322B controller. We installed NetWare 2.12 on the system and ran it in an IBM AT 6MHz computer. We later tried to transfer the disk, cables, and controller into a Northgate 386 computer running at 33 MHz. When we tried to boot up the system, we get the message "abend: stack overflow detected by kernel". The configuration runs fine in the AT, though. I'd like to know if anyone is using a similar configuration to ours. If so, I'd like to hear from them.

ANSWER:

The earlier 2322 Adaptec controllers have been known to have timing problems in a fast machine such as yours. 2322 boards with a –8 or –16 after the model # solved some of the problems. I suggest you try slowing the system down to see if it solves your problem. If it does you might want to upgrade to a newer rev D 2322 controller.

QUESTION:

we are trying to integrate a Micropolis ESDI drive into an IBM model 80–111 using a real IBM ESDI controller and an existing real IBM ESDI drive with Disk Manager for PS/2. However, we cannot get the second drive to primary format. Is there an on board formatter on these controllers? We have some information to start format using debug but it is not very clear.
The IBM diagnostics rejects the disk because the error map is in the wrong location. Do you have any suggestions as to how we can get the drive working with Disk Manager PS/2 or any other procedure? Kind regards

ANSWER:

The IBM ESDI controller is a ten megabit transfer rate card and cannot handle a drive with greater than 35 sectors per track. You did not say what the model # of your drive was so I can't comment on whether or not this controller will handle it... also there is no debug routine to low–level format an IBM ESDI other than standard "IBM" for which you use the reference disk to install the drive... The only known utility on the market that can properly command this card and low–level format a nonstandard drive is the Disk Manager PS/2 version for micro channel.

QUESTION:

We are installing a pair of Wren ESDI drives in a PS/2 Model 80 using the Western Digital

WD1007V–MC1 controller. When controller and drives are initially installed in the 80, the system gives a 164 error message and indicates improper C: and D: drives. Seagate has indicated that DMN–3.1 will allow proper installation of these drives. The 3.1 has been ordered for overnight delivery. Would appreciate any guidance on the use of DMN for this purpose (for use with Adv SFT NetWare).

ANSWER:

If the "Wrens'" that you speak of are 54 sector per track drives, you will have to physically jumper them to 53 sectors per track. Other than that, there should be no problem. V3.10 of DMN has the ability to handle ESDI drives correctly in the PS/2. If you have problems with your install, (I don't think you will), then you'll need to fill out the DMN registration form on this BBS and leave a specific question concerning the problems you are having.

QUESTION:

Configuration:
IBM PS/2 Model 80–311 – IBM 300mb ESDI Drive, attempting to add Imprimis WREN VI model 94196–766 drive using Disk Manager–N Version 3.01.

Questions:

1. What selection should we be making on tracks/sectors – currently jumpered for 'undefined'
2. What selection should we be making for drive # – currently 2

Problems:

Cannot get DMN to recognize existence of WREN VI drive. PS/2 powering up with errors – F1 will continue and boot DOS.

Planning to use Novell NetWare 2.15C on this system. This is the first of three identically configured systems. Our vendor provided the WREN VI drives & Ontrack as a bundled set.

ANSWER:

The IBM PS/2 ESDI controller is only a 10Mbit controller. The Imprimis 94196–766 will require a 15Mbit controller. You will need to get a WD1007V–MC1 or equivalent before this will work. Also, v3.01 of DMN was not designed to work on the PS/2. You will need to upgrade your DMN to the micro channel version of DMN, at least v3.10 as well.

QUESTION:

We have a 9380E 330M drive with a 1007 Western Digital Controller. During a Word Perfect Session, the computer locked up and after rebooting we discovered that it would

no longer boot from the C drive and it wouldn't recognize the partitions d, e, f, or g. After performing a few functions with DM and Norton Utilities, we discovered very little.
I wrote a copy of a config.sys and DMDRVR.BIN on a 1.2 meg DOS diskette.
At this point we could access the other partitions, but most of the files we tried to access or run, gave a data error reading drive "x". I eventually got the computer to boot from C:, but we kept having the same problems.
At this point we're not sure what to do. After performing disk tests we found that head 10 on every cylinder has a read defect. So, do you think the drive is configured wrong, controller is bad, hard disk shot, or what? We would appreciate a quick response.
While I'm here, we would also like to inquire as to the cost of the disk recovery service as we think we will probably have to take advantage of it. The last backup was performed in March! Thanks for your time. I look forward to hearing from you.

ANSWER:

If you are getting read errors on head 10, every cylinder, it sounds like you do indeed have a hardware problem of some kind. That problem could be caused by the controller, cables, or hard disk itself. There is really no way to isolate the cause of the problem without doing some swapping out of parts. If you would like to double check the configuration of the drive, call our tech support voice line, we could lead you through that process. (Be in front of the machine when you call). If all else fails, the Data Recovery Department can be reached at (800)872–2599. They can fill you in on the cost of their services.

QUESTION:

I did a quick check of the message base and I see that #188 is just about where I am. You didn't seem to give a solution, just a work around.
I am having problems booting a Novell server.
1) Boot DOS, 2)DEBUG and low level format, 3) DMN /M to set disk parameters, 4) DMN automatic to setup partitions, 5) NETGEN to install Advanced NetWare.

Even attempting to boot from a floppy meets with failure. Actually, the CMOS got screwed up and the hard disk was unavailable until I reset the parameters with v4.0 IMPRIMIS of DM.

Am I reading the manual wrong? It looks pretty straight forward in there, why does this thing refuse to boot under NetWare? This is my first Novell installation but I am a veteran of other networks. Any help would be appreciated.

ANSWER:

The procedure you saw outlined in message number 188 was not a "workaround". It was the correct procedure for working with this particular ESDI controller. An ESDI installation is a non–trivial process to be sure. You need to know the intrinsicalities of the ESDI controller that you are using, and how it is going to react to any given scenario. With an ESDI installation, you can't expect to just slap in any combination of controller and drive, then just type in DMN and expect everybody to be happy. There can be much more to it

than that. What follows is a document that I put together at one time to attempt to explain ESDI installations:

The ESDI interface allows you to chose between two different install methods. Either one of these two methods will work, as long as you pick one method and stick with it all the way through. The two methods are briefly described below and each have their own advantages.
Remember that we are speaking about ESDI interfaces IN GENERAL. There are many different brands and models out there with different features and different requirements, and space doesn't allow us to go into detail about each and every different controller's own little quirks.
(Even if we did try to put together such a document, it would be huge, and outdated as soon as it was written!) If these methods don't work with your particular controller, call our tech support line at (612)937–2121, and we may be able to tell you how to handle that specific controller.

METHOD 1:
The first method is to low level format the drive through the ESDI controller's BIOS using DEBUG and then use Disk Manager to partition the drive only. The advantages of using this route are:

1. When you low level the drive through the controller's BIOS, the drive appears to be a standard drive to your system from that point on. This means that under DOS 4.01 for example, you can have the entire disk as drive C:, (as long as it doesn't have more than 1024 cylinders.) Which brings us to the next benefit…
2. Within the controller's low level program, you usually have the ability to invoke a 63 sector per track translation mode. What this is designed to do is to translate a drive with more that 1024 cylinders to appear to have less that 1024 cylinders, but a higher number of heads and sectors per track (16 heads & 63 sectors per track). The reason for this is that DOS has a 1024 cylinder limitation and cannot access any cylinder above that. Also, NetWare cannot boot directly from a hard disk with more than 1024 cylinders. The translation mode makes the drive APPEAR to the system to have less than 1024 cylinders. Remember that this is a translation of the drive geometry only, you still have the full capacity of the drive available.

The basic procedure for this method is as follows:
1. Boot with DOS
2. Run your SETUP program and set your CMOS drive type to type 1.
3. Run DEBUG
4. At the hyphen prompt enter the entry address of the controller's low level format program. (usually either G=C800:5 or G=CC00:5).
5. From within that program, low level format the drive and enter your defect list.
6. If you are using a drive with more that 1024 cylinders, invoke the translation mode.
7. Exit the low level routine, at which point the machine will reboot.
8. Run DM or DMN in manual mode (with the /M parameter)
9. If running DM, go to the config menu and press W to write the standard parameters to disk.
10. Go to the Partitioning menu, create your partitions and prepare them.
11. If you are using DMN, proceed with your NetWare install.

METHOD 2:
The advantage to this second method is that it is an almost fully automatic install using Disk Manager to do the entire job. However, in some cases, the advantages obtained from the first method outweigh the ease of the second method.

1. First of all and most importantly, DISABLE THE BIOS AND TRANSLATION on your controller board. If you leave them enabled, they will be fighting with DM over what the parameters of the drive are, and no one will win. Be aware that some ESDI controllers have no way to manually disable the translation mode. For example: If you disable the BIOS on the Adaptec 2322, it will automatically go into a translation mode that you have no way of disabling. Controllers such as this will not function correctly using this second method.
2. Boot with DOS.
3. If your drive has over 1024 cylinders and you are using DM, run SWBIOS.
4. Run DM or DMN in automatic mode and let it do the whole job.
5. You will have to keep your DOS boot partition very small because of the sector per track mismatch that you will have with your ESDI drive.
6. If you are using DMN, you will have to run the appropriate modification utility because you are installing this as a nonstandard drive.

Remember, if you use this second method, you are installing a drive that is appearing as nonstandard to your system. The DOS boot partition, (your drive C:), will be limited in size to the standard portion of your disk, (whatever the parameters are for the CMOS drive type that you are set to). Anything above and beyond that area of the drive will have to be a Disk Manager write/read partition.

QUESTION:

We've just replaced an existing file server's Seagate ST4096 mirrored pair drives for a pair of ST4384E drives. The installation went fine, and the server booted normally from the cold boot loader. After we restored the files we had backed up from the original drives, we couldn't boot the server from the cold boot loader any more. Instead, we can boot it by first booting DOS, and then running NET$OS from the diskettes. If we let it try to boot from the loader, the message from the loader appears very briefly, and then we get a screen full of raw data from one of the data files in the system, and the system hangs. We have tried many things, including redoing the low–level format on the drives, and starting the installation over again. Oh, I forgot. The first thing I tried was to re–load just the system files (NET$OS and the cold boot loader) from within NETGEN. Didn't help, same problem. Then I tried re–initializing the drives, redefined volumes, reload the whole system, etc. No help there, either. I finally had to re–do the low–level format on the drives, and do the entire installation procedure from square one. Then I could boot it off of the hard drive. I thought maybe it was just a glitch, and I restored my files again. To my delight (argh!), the problem came back.
So, my client is currently booting from a floppy disk. It's not catastrophic, but I'd sure like to know what's going on. I'm not even certain that your software is at fault, But this is the only installation I've ever had that I couldn't restore files on normally.
Thnx for your help.

ANSWER:

I have a theory as to what may be happening with your install. We have seen this in the lab, and it took us a while to figure out what was going on, but it turned out to be as follows: NetWare's cold boot loaders cannot boot directly from a hard disk with more than 1024 cylinders. What happens is, at boot time the cold boot loaders are presented with a geometry of 1224 cylinders, what the cold boot loaders see at this point (because they don't understand anything over 1024) is a "wrapped" geometry of only the excess of over 1024 cylinders, (in this case about 200 cylinders). NetWare then assumes, (since the geometry is being seen as only 200 cylinders), that it's redirect area must be at about cylinder 190 or so. When the system is clean, (no data on the drive except for NetWare itself), the area around cylinder 190 is blank, so therefore NetWare sees no problems with what it interprets as it's redirect area, and boots up without any error messages. As soon as you put data on the drive though, and the area beyond cylinder 190 gets written on, the next time you boot NetWare it sees "junk" in what it interprets as it's redirect area and the whole thing tips over rather ungracefully, (with garbage on the screen).

The solution for this is to take advantage of the WD1007V's 63 sector per track translation mode. With a WD1007V controller, you have the ability to low–level format the drive thru the controller's BIOS (using debug, g=cc00:5), and invoke a 63 sector per track translation mode.
This translation mode that is provided by the controller will make the drive appear to have a higher number of heads and sectors per track, but a lower number of cylinders, (approx. 635 cylinders * 16 heads * 63 sectors per track in this case). Since the number of cylinders are appearing as being less than 1024, NetWare will be able to boot directly from the hard drive.
In this scenario, you will be using DMN to partition and prepare the drive only, as a STANDARD drive. The procedure for doing this is as follows: After low–leveling the drive, entering the defect list, and setting the 63sectors per track translation mode thru the controller BIOS's low–level routine, run DMN/M (manual mode), confirm that the parameters on the left side of the screen are appearing as STANDARD and that they are approx. 635*16*63. If this is the case, then so far so good. Then all you do is press F6 to create the NetWare partition, and then F7 to prepare the partition. After this, you proceed with your Netgen.
Using this method, you should be able to restore your data onto the drive with no ill effects.

QUESTION:

I'm trying to figure out a way to get the entire 336MB on a Micropolis 1558 recognized in non–translation mode on the ACB–2322B with about a 100MB bootable ISC 386/ix SVR3.2.02. I've got the later AMI BIOS which allows user defined parameters on type 47, but the ISC fdisk still hits the 1024 cyl. limitation, and the ISC install process croaks when I try sector translation. Guess I should call Adaptec and find out about their latest ESDI controller (2322D?). Thanks for your prompt response to previous posting...
(WOOPS – just reread my message – line 8 should read: "100MB bootable partition" – right now I'm booting DOS from a floppy and hitting reset and flipping up the FD latch to boot UNIX from the UNIX partition).

THANKS AGAIN!!

ANSWER:

I need a little more specific information about what it is you are trying to do... What follows are separate parts of your question followed by my initial answers each of your questions. As you see, I am a bit confused. Please elaborate, and I might be able to be of more help.

> "I'm trying to figure out a way to get the entire 336M on a
> Micropolis 1558 recognized in non–translation mode on the ACB–2322B
> with about a 100MB bootable partition."

You can do this. Go into the Adaptec's BIOS with debug (g=c800:5), select "Special options menu" and turn translation off. Then boot with DOS, run SWBIOS, run DM in manual mode (DM/M), press C to go to the config menu, press N to select nonstandard parameters, when it asks you to select your drive press ESC for standard parameters instead. (This is known as a "nonstandard/standard" configuration and insures that SWBIOS will load at boot time.) At this time, the parameters should be appearing as being "setup" as 1222*15*35 and "actually" 1222*15*35.
Press W at the configuration menu to write the parameters to disk, return to the main menu, go to the partitioning menu, create a 100MB DOS partition, and then split the rest of the disk up into one or more Disk Manager write/read partitions (which can reside over cylinder 1024).
Prepare all partitions, and you should be ready to go.

> "I've got the later AMI BIOS which allows user definable parameters
> on type 47, but the ISC fdisk still hits the 1024 cyl. limitation."

It will. That's why Disk Manager and SWBIOS exist. But don't enter values of greater than 1024 cylinders into a user defined drive type, as it will prevent SWBIOS from loading at boot time. SWBIOS assumes that since the parameters are appearing as "STANDARD" the BIOS must know how to handle it by itself. This is not the case in your scenario. You should zero out your user defined drive type, and set your drive type to type 1, and use the low–level routine on the Adaptec to low–level the drive. After this, the BIOS on the Adaptec will make this drive appear as standard to the system without the aid of a user defined drive type. Then follow the above procedure for the rest of the install.

> "The ISC install process croaks when I try sector translation."

What is "ISC" and the "ISC install process"?

> "Right now I'm booting DOS from a floppy and hitting reset and
> flipping up the FD latch to boot UNIX from the UNIX partition)."

Whoa! Wait a second! This is the first time you've mentioned UNIX...
How is it involved?

QUESTION:

I am using a Seagate/CDC/Imprimis 94186–383H (320 meg) hard drive with 1,224 cylinders. I am not currently using Disk Manager on this drive, since CompuAdd's MSDOS 4.01 took care of setting it up as one huge drive C: Am I correct in assuming that I will have no problem with Windows 3, or will the 1,224 cylinders still give me Windows problems?

I *am* using Disk Manager on eleven other computers with large hard drives (DM supplied with each drive). I know a few of them are over 1,024 cylinders, but I'll check the others using your helpful instructions in Bulletin # 12.

Do you know yet whether Ontrack will change Disk Manager to work with Windows 3, or will Microsoft change Windows to work with Disk Manager (and other partitioning products)? Your product is GREAT, and I have very much appreciated it over the years. If I have to make a choice, I'll keep Disk Manager and my large hard drives and ignore Windows… but I hope there will be a solution.

Thanks for providing this BBS. I manage a number of PC's at a State University. I'll check back to keep up to date on your efforts to resolve the Windows compatibility issue. I also Sysop a multiline BBS system. May I put Bulletin 12 and some of your Q&A files on my system for my users?

ANSWER:

If you are indeed getting all 320 meg of this drive as drive C: with DOS 4.01, your controller (you didn't mention which controller you were using) must be doing a translation of the drive geometry. Most ESDI controllers have a 63 sector per track translation mode that will make the drive appear to have a greater number of heads and sectors per track, (16 & 63 respectively), and a lower number of cylinders (about 637 in this case). Using this translation mode, your drive which is actually 1224*15*35 will appear to the system as being 637*16*63. The reason for this translation mode is that DOS has a 1024 cylinder limitation. Using this capability of your ESDI controller gives you the best of all worlds. The main benefits are listed below:

1. When using the controller BIOS to low–level format the drive, (as was done in this case), the controller BIOS makes this drive appear as a "standard" drive to the system. Therefore, you are not setting up a "nonstandard" drive in this case, and have no chance for a head or sector per track mismatch between what the BIOS of the computer thinks it has for a drive, and what Disk Manager thinks it has for a drive. This fact allows you to use the full sector per track value of the drive in the DOS boot partition, (instead of only 17 sectors per track which the BIOS would normally see).

2. The drive appears to the system as having less than 1024 cylinders, while retaining the full capacity of the drive. Because of this fact, you aren't using SWBIOS (or XBIOS) to get beyond cylinder 1023. Therefore, you obviously won't have a conflict between SWBIOS/XBIOS & Windows, (so you don't need the VIRTUALHDIRQ=OFF line in your SYSTEM.INI file in order to run Windows in 386 enhanced mode).

3. The two above facts combined, (the drive appears as "standard" and less than 1024 cylinders), means that DOS can see the whole drive all by itself without the help of Disk Manager. You can have the whole drive as drive C: with DOS 4.01. This means that you don't have to use DMDRVR.BIN, therefore the Windows swapfile program won't object to it's presence and will allow you to create a permanent swapfile for Windows. It also means that SMARTDRV.SYS would be able to function correctly without a chance of it causing data corruption, (or at least not because of these two reasons).

The next version of Disk Manager/XBIOS that is released will be able to function correctly with Windows in 386 enhanced mode without the need for the VIRTUALHDIRQ=OFF line in the SYSTEM.INI file. It is my understanding that Microsoft is in the process of modifying SMARTDRV.SYS to understand nonstandard drives and drives with greater than 1024 cylinders. We also hope that they will modify the swapfile program to allow it to function correctly on a nonstandard drive, (and DMDRVR.BIN is present in the CONFIG.SYS file).

As far as bulletin number 12 goes; Please, by all means place it on your BBS, (and any other BBS you get a chance to). Spread it all over. It is important that anybody who is using Windows sees it.

The Q&A files on the other hand, I would rather you didn't place on your BBS. I ask this because they are not official statements from Ontrack Computer Systems, and should not be presented as such. They are simply reprints from the message base of this BBS. The questions are answered by myself, to the best of my ability and understanding. But, the fact remains that I am a human, (yes there is actually a lowly tech support person at the keyboard writing this), and have been wrong before. (NO!... yes, I'm afraid so...). Also, the Q&A files are constantly changing. When I find a situation in which I have misinterpreted a person's scenario and/or question, or they have not told me the whole story (an amazing percentage of the time), or they have actually told me untruths, or the controller manufacturer has changed it's BIOS and the board no longer works the way I said it does, or Disk Manager changes, or new problems with specific combinations of hardware and software come to light, or my answer was simply wrong for any number of other reasons including ignorance on my part, I try to update the Q&A files to correct my answers. If the Q&A files were being published on other BBS's, they would then be out of my hands and I wouldn't have the chance to update them with this new information.
You are welcome to inform your users that the Q&A files are available on this BBS, and encourage them to call this BBS and download them, but I do ask that you don't post them on other BBS's. Thanks, SysOp.

QUESTION:

I've got a PS/2 Model 80–041 and I'm trying to install a CDC Wren V (94186–383H). So far I've been able to get the machine to recognize that the drive is present (I checked by using the reference disk test programs) but the BIOS and DM seem convinced that the drive has 299 cyl, 64 heads and 32 sec...
This is far from the truth – the drive is configured for 34 sectors per track and has 1224 cyl with 15 heads...

Nothing I do seems to change this...
I even tried to just go blindly ahead and do a low level format but I can't enter in the bad sector table...
Help – what am I doing wrong??????
(So far, Seagate and IBM have only pointed fingers at each other as to the problem – I fear that my ESDI card – the original card that came with the model 80–041 – may be defective... Incidentally: if I swap the Wren V I'm attempting to install with the original 70MB IBM drive, everything works fine... so I'm really not sure if it's the card)
This whole thing really leaves my cheese in wind...

ANSWER:

When installing a 94186–383H on a PS/2, the parameters of 299*64*32 are absolutely correct. The PS/2 uses a 64 head * 32 sectors per track translation for ESDI drives. The ESDI controller is not defective. This is the way it is designed to work, and both IBM and Seagate should have been able to tell you this. If you are using Disk Manager for the PS/2, version p4.0, this install should go without a hitch. It knows that 299*64*32 are translated parameters and the drive is really 1224*15*34, and will allow you to enter the bad track list correctly. If you are using any other version of Disk Manager than version p4.0 (the only one designed for use with the PS/2), it won't work.

QUESTION:

I am having a problem using disk manager (manufactured for Imprimis) to format a 300MB ESDI hard drive in a Compaq 386/25 computer with a Western Digital WD1007A Controller. It seems to format OK once I've set the configuration information correctly; however when I partition it into logical drives C:–L: (10 partitions, approx. 33mb each), it works until I get to K: and half way though K: every sector returns a RECORD NOT FOUND error. It is driving me up a tree so any help would be appreciated.

ANSWER:

Is this the Compaq BIOSless version of the WD1007A, or is it a real WD1007A with a BIOS?

If it is a real WD1007A with a BIOS on it, I would suggest that you enable both the BIOS and translation on the card (W3 on, W14 off), boot DOS, run DEBUG, enter g=c800:5 to run the controller's low–level routine, low–level format the drive, enter the bad tracks, and set the card into it's 63 sector per track translation mode, (all thru the controller's low–level routine accessed thru debug). After the drive has been formatted, you should be able to run Disk Manager in manual mode, (DM/M), and have the drive appear as a standard drive of approx. 600 cylinders by 16 heads by 63 sectors per track. You would then use Disk Manager to partition the drive ONLY. Since you are using the 63sectors per track translation mode of the controller, the drive appears to the system as having less than 1024 cylinders so you won't have to use SWBIOS. If you have Compaq DOS 3.31, make sure you use the /4 switch in Disk Manager, or you can just use the FDISK program instead of Disk Manager since the drive will be appearing as standard to the system and as having less than 1024 cylinders.

If this is the BIOS-less Compaq version of the WD1007A, then you must set your CMOS drive type to the entry of 600*16*63, use the Compaq utility to low–level format the drive, (or use DM with the /7 switch to low–level format), then partition it the same as in the above example, (either thru Disk Manager, (with the /4 switch if you are using Compaq DOS 3.31), or thru FDISK since the drive is appearing as standard).

With either method listed above, if you are using Compaq DOS 3.31 or DOS 4.x, you can have the whole drive as drive C: if you wish.

More explicit instructions for this procedure can be found in the ESDI_Q&A.EXE file, in the files section of this BBS. Download it and take a look.

QUESTION:

I AM INSTALLING THE DISK AS THE SECOND DISK IN THE SYSTEM. THE FIRST DISK IS THE STANDARD IBM ESDI 115 MB DRIVE. THE FIRST ATTEMPT, I USED DISK MANAGER N TO COMPLETELY PREPARE THE NEW DISK. WHEN I SELECT THE NOVELL INSTALL UTILITY IT TELLS ME THERE ARE ONLY 56MB IN THE NOVELL PARTITION. I CALLED ON TRACK AND WAS TOLD TO DO THE FOLLOWING: START DMN, ENTER THE MANUAL MODE, SELECT THE SECOND DRIVE] THEN CTRL F10 TO ERASE ALL 32 SECTORS. THEN TO GO INTO COMPSURF BYPASS FORMAT, SELECT 0 PASS AND LET IT INITIALIZE THE DISK. COMPSURF RECOGNIZES THE DISK, INITIALIZES ALL 14095 THEN STARTS TESTING. I TERMINATED THE TESTING AND STOPPED COMPSURF THEN STARTED THE NOVELL INSTALL UTILITY AGAIN. IT RECOGNIZES ONLY 56MB AS AVAILABLE FOR NETWARE. WHERE DID I SCREW UP?
THANKS WILL CHECK FOR YOU REPLY ON MONDAY.

ANSWER:

Unfortunately, installing a 300+ Meg drive in a PS/2 under NetWare 2.0a is a no–go situation. NetWare 2.0a has a 255 Meg physical drive size limitation. With the PS/2 ESDI controller, you cannot do a "non–standard" install, therefore is no way to truncate the drive to that 255 Meg limitation. If NetWare 2.0a wakes up to find a drive greater than 255 Meg in the system, it will only see the excess of 255 Meg, (56 Meg in this case). This is not going to work, no matter what you do.
You will either need to upgrade your NetWare to a 2.1x version, or get a drive with a total capacity of less than 255 Meg.

QUESTION:

I am running DMDRVR.BIN (V 4.02 I think) on a 9380 Miniscribe ESDI. However, even as fast as the ESDI drive is (with a WD1007A–WA2 controller), I would still like to run a cache program (like either the one with PC–TOOLS V6 or PC–KWIK (which I came to find are one and the same, at least for V 5.5 it was), since I have some large directories and

processing can be slow. Is there any problem with this combination? I have my 320MB drive partitioned as C=32MB, D=250MB and E the rest. How about a list of other disk cache programs that don't work/should not be used with DM!
I eventually want to go to DOS 4.01 to not have to use DM, since due to the large cluster size, I waste a lot of space in directories (currently over 500K on my D: drive).

ANSWER:

The only caching program that we are aware of that works correctly on a drive with greater than 1024 cylinders is "Super PC–Kwik" by Multisoft, (v3.251 or later). Since you have a WD1007A, you have another option though. The WD1007A has a 63 sector per track translation mode that would make this drive appear to the system as being 637 cylinders by 16 heads by 63 sectors per track. If you are using this ability of the card, most any caching program should work. Also, if you are thinking about going to DOS 4.01, using this 63sectors per track mode would allow you to have the whole drive as drive C:, (without the help of our driver).

QUESTION:

HELP! I have just purchased a AMI 386–33MHz motherboard, a DPT cache controller with 4.5 Meg Ram, a Seagate WREN (actually an Imprimis) hard disk with 766Meg unformatted (1632 cyl, 15 heads). It is model 94196–766. I have Disk Manager version 4.03 (says on the package) but the software comes up as version 4.02.
My problem is that I don't seem to access the entire capacity of the drive. (I should get 663.5 Meg formatted....I get around 400 Meg)
My Dealer called you and got some info, I followed it with not much better luck. I also have purchased DOS version 4.01 to see if that helps, again...not really.
I have tried making the LAST partition large so that NO partition starts after cyl 1024...again no luck. DM gives the following message "NO RECORD FOUND I/O ERROR DRIVE 1 CYLINDER xxxx HEAD yy" where xxxx seems to be > 1024, and head is 1–15.

One of my concerns, and reasons for DOS 4.0 was also the cluster size which I would like to keep as small as possible.
After looking at the on–line help for cluster size, I think a partition structure like this makes sense.
  C: 1–2 Megs
  D: 255 Megs
  E: 127 Megs
  F: 33 Megs
  G: 244 Megs – or a bunch of 127 Meg Drives.

Please help me get access to all my drive. I am a software developer and this "down time" is costing me quite a bit.

ANSWER:

According to my information, with the DPT ESDI controllers you are best off low–level formatting the drive through the controller's onboard BIOS using debug, (G=C800:5 more

than likely), or their DPTFMT software.

Once you have accomplished this, you should boot with DOS, run SWBIOS, then DM/M (manual mode). Once in DM, go to the configuration menu and make sure the parameters show as "standard", and are approx 1630*15*54. If this is the case, then so far so good. You next want to W)rite these "standard" parameters to the disk, (don't actually attempt to select the 94196–766 from within DM), then go to the partitioning menu to create and prepare your partitions. Using this method, you should be able to get 644.7 Meg of capacity from this drive.

(1630 cylinders * 15 heads * 54 sectors per track * 512 bytes/sector = 675,993,600 bytes)
(675,993,600 bytes / 1024 / 1024 = 644.7 Megabytes)

Of course every partition that even partially resides above cylinder 1024 will have to be a Disk Manager write/read partition, (even with DOS 4.01).

If you have further problems, it would probably be best for you to call our Tech Support Voice line at (612)937–2121, so we can walk through it with you and make sure each step along the way is working correctly.

Make sure you are in front of the computer and ready to experiment when you call.

QUESTION:

Any problems using Disk Manager with Novell NetWare 386 version 3.0 or version 3.1. I am duplexing two Miniscribes 9380E's as Type 1 in standard BIOS. I plan to use SWBIOS to emulate the correct hard disk types. Any comments on easy installation of the duplexing using disk manager.

ANSWER:

Afraid I've got bad news for you... Disk Manager–N is not compatible with NetWare 386 at this time. Even if it was, SWBIOS would not be involved as it only comes with the Disk Manager DOS version, not the NetWare version. You should be able to initialize these drives with the Compaq low–level format utility, after which they will appear as "standard" drives to the system, and NetWare 386 will be able to see them all by itself.

QUESTION:

We've been through the following steps 4 times and each time after restoring the hard disc...it seems to work for a few hours...and then we get a bad Allocation Table reading on the C: drive. When we go to reboot lo and behold, the boot portion is gone along with command.com and the system.

The following hardware is being used:

Micronics 486–25 Motherboard
Fujitsu M2263E Hard Disc

DTC6280–15TX Controller
MultiSync 3D Monitor
ATI VGA Wonder Card w/ 512K Version 4.1

We are in the process of upgrading over 425 "older" 386 machines that were using these drives along with the CompuAdd Cache Controller card. Due to the size of sectors 1658, we are not able to utilize their controller, because you can not turn their BIOS translation off...which is a prerequisite for DM.

(Would really like to know if there is a cache controller card that would work in it's place though! THANKX!)

The following steps are being made for setup:

1. Run Debug with the G=c800:5 setting {No Problems}
2. Run Debug again and perform the low level format. {No Problems}
3. Enter DM with the following command DM/4/M/C {Sorry..we're running Compaq 3.31 Dos}
4. DM recognizes our drive as it should be: 1658 cylinders, 53 sectors and 15 heads
5. We Proceed to Partition menu and set Partition 1 = 416 MB and Partition 2 = 276 MB {the balance of the drive}
6. We write these changes to disk. Everything A.O.K. thru here...then......
7. We run Prepare and DM goes through and verifies the disk and when it begins formatting and preparing we encounter the following error at the bottom of the screen:

    Verifying Data Area
    No Record Found I/O Error Drive Number 1 Cyl. 99 Head 7

We can let DM finish up its preparation, load our tape backup onto the drive and everything seems to be OK. System boots, can do file copies across the C & D drive etc. but then out of nowhere we get an error returning to the DOS prompt FILE ALLOCATION TABLE {CORRUPT} something to that effect. We try to reboot and naturally the boot sector etc. is gone.

We did in fact have the SMARTDRIVE.SYS in our Config.Sys file all three times when the system crashed.

Would that have caused our problems, or do we have another internal problem {referring to the No Record Found I/O Error we get during DM preparation}?

*Would appreciate your suggestion on another Cache Controller card that would in fact work with these drives and DM.

**What Disk Technician {Spinrite?} would you recommend for use on these systems?

***Is it safe to use Norton's Optimize on this system?

****Is it safe to use PC–CACHE.COM version 6.0 on this system?

If smartdrive.sys is the culprit, would it be possible to have two config.sys files set up, one for Windows enhanced with smartdrive in and without the DMDrvr.Bin and have another without smartdrive but with DMDRVR.BIN to access the data on the D drive? Or will this still corrupt data and allocation tables?

I really appreciate any help you can provide me, as I am receiving the 418 drives and controllers later in the week for installation over the weekend and would like to have "at least one" system up and going before we begin tearing the other systems down!!!!

ANSWER:

In the procedure that you outlined for me, I see that you may have missed one step... When you run DM/4/m/c and go to the configuration menu, you need to press W to write the parameters to the disk, prior to going to the partitioning menu. This is done to insure that XBIOS gets invoked at boot time. Also, SMARTDRV.SYS is DEFINITELY a problem in this situation. Anytime you are using a drive with more than 1024 cylinders, you MUST remove SMARTDRV.SYS from your system. It will cause data corruption similar to what you are seeing. The dual CONFIG.SYS file scenario that you spoke of would work, but it sounds a little messy... Removing SMARTDRV.SYS altogether and using a caching program that can function on a drive with greater than 1024 cylinders, (such as Super PC Kwik), sounds like a better solution to me.

As far as other utilities go, I am not certain that any of the ones that you mentioned will function on a drive with greater than 1024 cylinders. We, (Ontrack), do have one that will function with a drive with greater than 1024 cylinders though. It is called Dosutils, and is available through our sales department (800)752–1333, (or through most any software distributor). It includes a comprehensive set of disk diagnostics, and the "nondestructive" low–level format that it seems you are looking for.

QUESTION:

We have a little situation with a WD1007V–SE1 card and a Seagate ST4383E drive. While we know we may not boot Novell from it, when writing the NetWare partition the system seems to work OK but when we load Novell ANW 2.15 Rev C we get an abend: Improper ROM parameter table for disk controller – the book says run moddrvr on the ATDISK.obj file. OK but this version of ANW has NO atdisk.obj file on the DSK_DRV_001 disk? When we skip to the ISADISK.obj we get an error message saying INVALID file, Program aborted. (who invented this word abort:) so where to now?
If we cannot load Novell onto the drive oops!
We tried the generated Compsurf file which just terminated and returned to DOS.
ANY ideas? Disk Manager Program is Ver3.10, about 3month old.

ANSWER:

With the WD1007, you have the ability to initialize the drive through the controller BIOS and make the drive appear as being "standard" to the system and having less than 1024 cylinders, (so you don't have to patch NetWare at all, and you can boot the server directly

from the HD). The procedure for taking advantage of this ability of the WD1007 is contained in the ESDI_Q&A.EXE file on this BBS. Download it and take a look. Otherwise, if you want to install this as a "nonstandard" drive, you will have to read bulletin #9 on this BBS and follow it's directions for downloading the most current patch files for NetWare. This will cure the "invalid file" message when trying to patch ISADISK.OBJ on your version of NetWare.

QUESTION:

I AM INSTALLING A MAXTOR XT–8760E DRIVE ON MY FILE SERVER. THE SERVER ALREADY HAS 2 155MEG DRIVES, EACH RUNNING OFF SEPARATE NOVELL DISK COPROCESSOR BOARDS. THE COLD BOOT LOADER ACCESSES THE FIRST DRIVE TO BOOT THE SYSTEM. MY QUESTION IS THIS: IF I INSTALL THIS NEW DRIVE AS WORKING VOLUMES STARTING AT THE 3RD DISK POSITION, DO I STILL HAVE TO DO THAT FUNNY BOOT OFF THE FLOPPY THAT'S MENTIONED IN THE DISK MANAGER–N MANUAL???

ANSWER:

I you can actually get this drive addressed and showing up under DMN and Netgen as drive 3, get it partitioned and prepared for NetWare and get volumes defined and initialized on it, (I'm glad you didn't ask me how to actually do that...), then the answer to your question is no.
You won't have to boot from a floppy. Also, the Ultrastor controller has a translation mode that is able to make this drive appear as having less than 1024 cylinders. So even if this were the first drive, you could take advantage of this translation mode and not have to boot from a floppy.

QUESTION:

I HAVE A 320 MB MINISCRIBE ESDI DISK SET UP WITH DISK MANAGER 4.02. WHEN I AM USING THE DRIVE, I OCCASIONALLY GET STRANGE NOISES FROM IT, KIND OF A RRR, RRR, RRR, THUNK! THE DRIVE DOESNT SEEM TO BE WRITING OR RETRIEVING ANY DATA AT THAT TIME. I HAVE CHECKED BOTH THE SURFACE OF THE DISK AND THE CONTROLLER WITH DM DIAGNOSTICS AND CHECKED THE DISK MEDIA WITH NORTON AND PC TOOLS DISKFIX. I REGULARLY COMPRESS THE DISK AND RUN CHKDSK. SO FAR, THERE ARE NO PROBLEMS BESIDES THE NOISE AND THE ACCOMPANYING LAG IN RESPONSE TIMES. I WOULD APPRECIATE ANY INSIGHT INTO THIS PROBLEM. ALSO, WHEN I TRY TO ALLOW CE WRITES IN DM DIAG, IT GIVES ME AN ERROR STATING THAT IT COULD NOT VERIFY THE TRACK. IT ALSO TELLS ME THAT THERE IS A 10.6 MEG DRIVE #2 WHEN THERE SHOULD (I THINK) NOT BE ONE PRESENT. THANKS

ANSWER:

The sound you are hearing from your drive is probably caused by it doing a "retry" on a

sector it is having problems reading. But did I understand you correctly when you said that it sometimes does this when you are not attempting to access the drive at all, (like when it is sitting idle at the DOS prompt)? If so, then should really call Miniscribe tech support to see if they think something else might be wrong with it. As for your questions about DIAG; Did you select "allow CE cylinder writes" and then select "format the CE cylinder" before attempting any write/read test on it? Also, some ESDI controllers protect what we consider to be the CE cylinder from any access at all. The second drive that DIAG shows is a phantom drive.

If you look at that screen again, you will see that the CMOS drive type is set to 0, (no drive installed), but the other parameters shown are those for a 10 meg drive. This is because those are the values that are actually placed in memory when you select drive type 0 (not installed). We probably should have blanked out all other parameters if the drive type was 0, to avoid confusing people, instead of showing what was actually in memory.

QUESTION:

What to do for: INVALID FILE A:ESDI.OBJ
received from MODDRVR on ESDI.OBJ (or any .OBJ file).
My DM–N version is 3.04. 3.10 does the same thing.
My *.OBJ files are from ANW 2.15c.
The goal is to install NetWare on a 760 Meg HD.

Server: Arche Rival 386–SX .
Controller: Ultrastor–12F .
Disk: Maxtor XT–8760E

I've never had this problem before. I've used DM–N five times, but never with this release of ANW. DMN.EXE itself runs fine. Preparing the .OBJ for NETGEN is my next step, tomorrow morning. Tonight is dedicated to LLF thru DMN.
I have not read Q & A on this BBS. If one is specific to this problem please give me the name of this file. If another version is required or an upgrade, please be specific about the version. It might be faster to buy another one than getting the upgrade. As usual, time is priority #1.
Thank you again for this BBS. Keep on the good work.

continued...

I just downloaded ESDI_Q&A.EXE and found a message about INVALID FILE. OK now for ISADISK.OBJ vs ESDI.OBJ. I now make the relation between ISADISK.OBJ, the driver I pick in NETGEN and ESDI drives I use.

Now, about 63 sectors per track translation. With this 760 Meg (675.5 according to DM–N) I am still over 1024 cyl. Should I use translation or not? Is the only drawback of NOT using it that it cannot boot directly from the hard disk (for a smaller drive)?

Also, messages about Ultrastor, always tell to LLF thru the BIOS on the controller. Ultrastor's doc tells it too. But DM–N worked fine on my Maxtor XT–8760E directly out from the box. No LLF was done on it, neither from me or the manufacturer. What is the

real story about this?

continued...

Back to square #1. The INVALID FILE A: ISADISK.OBJ is still stopping the installation. No such thing in ESDI_Q&A.TXT. What's next?

ANSWER:

When using the Ultrastor controller, you shouldn't need to run MODDRVR at all, (if you follow the correct procedure). What I would suggest you do is to low–level format this drive thru the Ultrastor on–board BIOS (run debug, G=C800:5), set it into 64 head * 32 sectors per track translation mode, (not the 16 head by 63 sectors per track mode), exit to DOS, reboot the machine, and then run DMN in manual mode (DMN/M). As soon as you get into DMN, the drive parameters should appear as "standard", a little over 630 cylinders, by 64 heads, by 32 sectors per track. Remember, this is a translation mode, not the physical parameters. Don't worry. Do not attempt to select the Maxtor 8760, (or any other drive), from within DMN! This would really confuse things when using this method. All you need to do at this point is to press F6 to create the partition, and then F7 to prepare it. Once the preparation is complete, run Netgen and install NetWare. Using this method, you don't have to run MODDRVR at all, (which is good, because your version of DMN does not support a "nonstandard" drive under this version of NetWare), and you don't have to boot from a floppy, because the drive appears to the system as having less than 1024 cylinders.

QUESTION:

I have customers who want to use their PS/2 model 80 with other than IBM drives. They want to know what drives disk manager for the PS/2 supports. Also, they are not using DOS 3.3. They are using XENIX. Will disk manager allow them to low level format their drives so the PS/2 can recognize what they are? Thank you for your time.

ANSWER:

Disk Manager for the PS/2 supports over 300 different drives. (Too numerous to list here). In general, even if the drive that you wish to install is not directly supported by Disk Manager, you can manually enter the parameters of the drive into Disk Manager, and it will then support it as well, (which means you can install about any drive). The important thing to know is that the PS/2 is not able to support a MFM drive that has more than 1024 cylinders under any circumstance, (unlike AT style machines). You can install one in it, but the drive will be truncated at 1024 cylinders. On the other hand, ESDI drives with more than 1024 cylinders are no problem, since the IBM ESDI controller will go into a translation mode that makes the drive appear to have more sectors per track and more heads, but less than 1024 cylinders.

We do not have a driver to support a nonstandard drive under XENIX, but since an ESDI drive installed in a PS/2 with Disk Manager will appear as a standard drive to the system, XENIX should have no problems with it. If you are installing a nonstandard MFM drive,

some versions of XENIX (SCO for one…) will allow you to specify the parameters of the drive to it directly at operating system installation time, therefore there should be no need for a driver.

QUESTION:

I have a Micropolis 1355 ESDI drive, a DTC ESDI controller, and the Disk Manager/Disk Manager–N package that came bundled with it. This drive served us well for a year in a Novell server before being replaced with a bigger drive today. It was my plan to install the old drive into my workstation. No such luck. I don't know where I'm going wrong, but DOS steadfastly insists the drive is 17sectors per track and the DMDRVR steadfastly insists it's 34sectors per track. So if the boot partition is readable to DOS in 17sectors per track, once the DMDRVR.BIN is loaded the file system goes away and, of course, COMMAND.COM suddenly can't be found. If the boot partition is set at 34sectors per track, none of the MS–DOS files are findable in the first place.
I hate calling for help so I've spent the last three hours trying various combinations of automatic and manual mode options, sequence of events, and even reading the whole HELP package one topic at a time. Still no luck. Documentation assures me that ESDI is no problem, and that only a certain WDC controller is liable to cause grief. So what is wrong with my procedure and/or equipment?
Again, remember that this drive and controller, in a different AT/386 with essentially the same AMI BIOS, worked for a year in a Novell network server. What the problem is in MS–DOS world, I just don't know. I've also tried DOS 3.3 and 4.01 both.   ...help!!!

ANSWER:

With the DTC 6180/6280, you should be able to enable the BIOS on this controller, (place a jumper on SW1–4), low–level format the drive thru debug (G=C800:5), and make the drive appear as a "standard" drive to the system. This would circumvent the 17/34 sectors per track problem that you are now having, (DOS should see 34 sectors per track also). After you low–level the drive through debug, run Disk Manager in manual mode, (DM/M), and go DIRECTLY to the partitioning menu, (don't even enter the configuration or initialization menus). Create your partitions and prepare them. Or... with DOS 4.01, after initializing thru debug, you can just run FDISK and have the whole thing as drive C:.

QUESTION:

Hardware: Micropolis 1355 PC Pak and DM v1.3
Trying to install ELS I v2.12
In middle of installation I get error:
"Problem with Drive 00: Drive not setup for Hot Fix
Abend: Invalid drive passed to disk process.
I have run DEBUG and tried partitioning the drive with DMN but I don't know if it really writes the partition. Though it says that I am ready to Install NetWare the current partition table says "No Partition". I have also tried running DMN with the BIOS disabled. When I tried this I got basically the same results: it initialized fine, but when I tried to partition it it

said "Ready to install NetWare and No Partition.
Could you help me with the Novell Message? Do I need a special patch for ELS Level I
v2.12?

ANSWER:

The bad news is: The version of DMN that you have is not able to install a "nonstandard"
drive under ELS level 1 v2.12.

The good news is: With the WD1007 controller, you can make this drive appear to the
system as a "standard" drive. If you follow the general instructions in method number 1 of
bulletin number 5 on this BBS, (ESDI considerations), you should be able to complete this
install, (barring actual equipment failure). An overview of this procedure is as follows:
Low–level format, and enter the bad track map through the controller's BIOS using debug,
(g=c800:5). Run DMN in manual mode and go directly to the partitioning menu. Create
your NetWare partition and scan it. (If after you do this, you are not able to go back into
DMN's partitioning menu and show the partition as actually being there, then you have a
hardware problem with either the disk or controller). Then proceed with your NetWare
install as normal. Since the drive is now appearing to the system as a "standard" drive,
there are no patches needed.