

Features

- True 1/2" tape replacement
- Compact 4 mm DAT media approximately 2" x 3" x .4"
- High capacity: up to 8 GB with a 120 m tape cartridge
- Eliminates inconvenience of multireel backups
- Fast data transfer rates of 366 to 1,556 KB per second
- ANSI X3B5/89-156 standard
- Automatic error recovery
- Read/write verification
- IPC DAT Tape Interface Software 3480 includes:
 - SCSI Tape Driver
 - Tape Handler
 - Operator Tape Control
 - Tape Subhandler for OS
 - Disk-to-Tape Copy program
 - Stand-Alone Loader
 - Automatic Boot Script Builder
 - Universal Bootstrap Loader
- IPC DAT Tape Drives support:
 - 2 to 4 GB (using DDS or DDS-2 format)
 - 2 to 8 GB (using DDS, DDS-DC, or DDS-2 formats)
- Reliable 200,000 hours MTBF
- Write protection switch
- Fillable device for OS and diagnostics
- Compatible with:
 - MAX IV, F.0 and later
 - MAX 32, B.0 and later

IPC

3480 Series DAT Tape Systems

The 3480 Series DAT Tape Systems provide 2 to 8 GB of storage for backup and data transfer for an IPC or RPC system equipped with any 345x SCSI Controller. An IPC DAT Tape System consists of Model 3480 DAT Tape Interface Software and either a 3484 or 3485 DAT Tape Unit.

The DAT tape system uses ANSI X3B5/89-156 standard DDS DAT tape cartridges, commonly called 4 mm DAT tapes. Cartridges measure approximately 2" x 3" x .4", are available in lengths of 60, 90, and 120 meters, include a read/write switch, and permit optical sensing to detect BOT, EOT, and tape thickness. When a tape is loaded, DAT drives sense whether the tape is prerecorded, unrecorded, an audio recording, or a cleaning cartridge.

The 345x SCSI controller overlaps operation with CPU and other I/O activities and utilizes bus master logic for maximum performance, moving data directly to/from memory without using the CPU's DMA controller.

The 3480 interface software includes all software for the IPC plus the tape subhandlers for MAX IV and MAX 32 systems. The software has been tested with all standard utilities and shown to be functionally equivalent to 1/2" tape systems.

Enhanced features allow sets of tape files to be separated with set marks, which can be manip-

ulated much like file marks. An advance-to-end-of-data function simplifies appending to previously recorded data. This support is provided in the form of JM, TMP, and OC directives, plus BIOS calls through extended UFT options.

Each DAT Tape Unit mounts in a half-height bay behind the front panel door in the IPC chassis. Tape cartridges are inserted in a manner similar to a floppy disk. The transport includes an eject button and two LED indicators to inform the operator of tape system operation. Tape transport power is supplied from the internal IPC power supply. Reliability is rated at 200,000 hours mean time between failures, assuming operation with tape loaded for 20% of powered-up time. The mean time for a qualified service technician to diagnose and replace a defective drive averages 0.5 hour.

The Model 3484 DAT Tape Unit, with a single cartridge capacity of 2 to 4 GB (uncompressed), can reduce most backups to one cartridge. It is transparent to all BIOS tape operations under MAX IV and MAX 32 and provides much higher throughput and greater media recording capacity than 1/2" or 1/4" tape drives. It can sustain a data rate of 366 KB/second. The DAT tape system can process variable length data records and can be positioned by skipping records, files, and sets of files bidirectionally. An unloading

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DAT Tape Unit Specifications

<u>Model</u>	<u>3484</u>	<u>3485</u>	
<u>Capacity (GB)</u>			
Native:	90 Meter Tape	2 GB	2 GB
	120 Meter Tape	4 GB	4 GB
Compressed:	90 Meter Tape	N/A	4 GB
	120 Meter Tape	N/A	8 GB
<u>Performance</u>			
Transfer Rate (Sustained)			
Uncompressed (KB/sec)	366	778	
Compressed (KB/sec)	N/A	1556	
Drum Rotational Speed (RPM)	4000	8503	
Search/Rewind (x normal speed)	200 (120 m)	100 (120 m)	
Buffer	1 MB	1 MB	
<u>Reliability/Data Integrity</u>			
MTFB (loaded, 20% duty cycle)	200,000 hr.	200,000 hr.	
Error Rates (data bits)	<1 in 10 ¹⁵	<1 in 10 ¹⁵	
Error Recovery	Read-after-write Reed Solomon 3 level ECC	Read-after write Reed Solomon 3 level ECC	
<u>Power Requirements</u>			
Watts (typical)	6.5 watts	6.5 watts	
<u>Environmental</u>			
Temperature (operating)	41°F to 104°F 5°C to 40°C	41°F to 104°F 5°C to 40°C	
Temperature (storage)	-40°F to 158°F -40°C to 70°C	-40°F to 158°F -40°C to 70°C	
Relative Humidity (noncondensing)	20% to 80%	20% to 80%	
<u>Other Specifications</u>			
Media	DDS & DDS-2	DDS, DDS-2, DDS-DC	
Cartridge	4 mm DAT tape	4 mm DAT tape	
Cartridge Size (hwd)	2.9"x 2.1"x 0.4"	2.9"x 2.1"x 0.4"	
Transport Size (hwd)	1.6"x 5.7"x 5.7"	1.6"x 5.7"x 5.7"	
Each unit includes:	DDS-2 120-meter DAT Tape Cartridge DDS Cleaning Cassette		

function permits the cartridge to be rewound and ejected.

Model 3485 DAT Tape Units support both standard DDS and compressed DDS-DC formats and record at 778 KB per second. Data compression achieves 4 to 8 GB per tape and increases typical transfer rates to 1,556 KB per second. The 3485 recognizes DDS-2 120-meter cartridges and automatically adjusts to the proper format.

Model 3480 DAT Tape Interface Software includes valuable stand-alone software support programs, including disk-to-tape copy (IPCDTC), stand-alone loader (IPCSAL), and bootstrap loaders (UBOOT and BOOT32). A fill operation loads the appropriate bootstrap loader, which automatically loads IPCSAL or other fillable programs, such as fillable diagnostics.

The included copy software provides very high speed copying and verification of data between an IPC disk and tape or between two IPC disks. It can copy and verify data at 30-80 MB/minute between disk and tape and at 100 MB/minute between two disks. The copy software operates concurrently while the IPC is performing MODCOMP I/O.

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