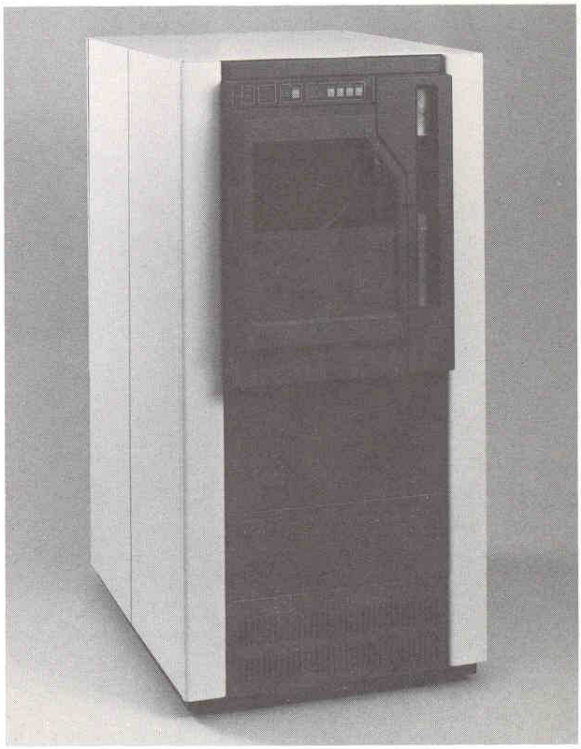
Product Bulletin

PRIME

Model 4590 GCR Magnetic Tape Subsystem™

Features

- Economical tape subsystem intended for high capacity disk backup, archiving and data interchange applications
- High reliability and serviceability for low maintenance and ownership costs
- Three ANSI-standard densities: 6250, 1600 and 800 bits per inch (bpi), manually or software selectable
- Full start/stop capability at all densities
- Intelligent Burst Mode controller
- High-speed rewind
- Built-in diagnostics for operators, service personnel, and automatic self-test
- Automatic tape threading and loading
- Supports up to four drives per controller
- Uses standard half-inch tape reels: 6, 7, 8.5 or 10.5 inches in diameter
- Operates with any 50 Series™ system under the PRIMOS® operating system



Description

The Model 4590 Magnetic Tape Subsystem provides Prime users with a premium tape drive, at the reduced cost made possible by advances in Group Coded Recording (GCR) technology. It occupies less space and consumes about one quarter the power of earlier, similar subsystems and weighs less than half as much. The 4590 has higher reliability and additional features; however, it costs substantially less to purchase and maintain than earlier models.

System Features

In GCR format, the 4590 records and reads data at 6250 bpi, making it ideal for archival storage or backup of high-capacity Winchester disks. Since it reads and writes at the ANSI standard densities of 800 and 1600 bpi, it also provides optimum data interchange capability. Unlike many of the lighter-duty streaming drives offered in its class, the 4590 is a heavy-duty device that easily handles the demands of sustained start/stop operation.

Vacuum columns provide gentle tape handling, enhancing media integrity and durability. A self-adjusting monitor system compensates for fluctuations in power, operating altitude, and even day-to-day variations in barometric pressure.

The 4590 is easy to operate; threading and loading of 10.5-inch reels is completely automatic. The only additional requirement for smaller reels is that the leader first be placed in the thread chute.

Reliability and Maintainability

Fundamental design characteristics of the Model 4590 reduce the costs of maintenance and ownership. Very Large-Scale Integration (VLSI) has been used to place more performance in the 4590's two-circuit-card formatter than in older formatters comprising nineteen cards; with fewer connections, its reliability increases. As a start/stop drive, its electromechanical components are selected for high duty cycle and life-span. These and many other design features give the drive a Mean Time Between Failures (MTBF) specification of 6,000 hours, superior to any other unit in its price/performance category.

Normal cleaning by the operator is the only periodic maintenance that the 4590 requires. Four onboard microprocessors monitor operational functions and make all necessary adjustments, eliminating the need for Preventive Maintenance calls.

At each power-up cycle, the 4590 executes a set of diagnostic routines and indicates its condition with a three-digit code display. If a problem exists, an error code flashes to alert the operator to the condition. A numeric keypad on the face of the drive allows the operator to perform basic diagnostics. Service personnel can access a second level of special diagnostic routines through codes. This powerful feature expedites fault isolation and dramatically reduces downtime.

Configuration

The 4590 Magnetic Tape Subsystem, with Burst Mode Tape Controller, can be configured with any 50 Series system. A maximum of four tape drives (one Master and three Slave units) can be configured with each controller, unlike other subsystems in its class, which support only one drive per controller.

It is fully supported by the PRIMOS operating system, and all PRIMOS software operations associated with other Prime tape products are compatible with the 4590.

Cabinet space is available below the tape drive, for the installation of other Prime® devices such as disk, tape and communications, for flexibility in configuration.

Specifications

Performance

Tracks:	9	
Densities (ANSI Standard):	6250 bpi GCR 1600 bpi PE 800 bpi NRZI	
Tape Speed:	50 ips	
Maximum Data Transfer Rate (KB/second):	312 KB @ 6250 bpi 80 KB @ 1600 bpi 50 KB @ 800 bpi	
Rewind Speed:	250 ips	
Rewind Time (Nominal), 2400' reel:	2 minutes	
Access Time, ms. (Nominal)	WRITE	READ
GCR:	3.0	3.4
PE/NRZI:	3.0	5.0
Auto-Thread/Auto-Load:	Standard	
Recording Medium:	Magnetic Tape, 0.5 inch wide, ANSI X3.40-1982, on 6", 7", 8.5", or 10.5" diameter open reel	
Density Select:	Manual or Software	
Vacuum Tape Cleaner:	Standard	
Maximum Expansion:	4 drives per controller	
Reliability and Serviceability:		
Mean Time Between Failures (MTBF):	6000 hours	
Mean Time To Repair (MTTR):	30 minutes	

Environmental

	OPERATING	STORAGE
Temperature, excluding media:	40° to 110° F (5° to 43° C)	-50° to 160° F (-45° to 70° C)
Relative Humidity, non-condensing:	30 to 80%	5 to 95%
Altitude:	0 to 8000 ft. (0 to 2440 m.)	0 to 50000 ft. (0 to 15250 m.)
Acoustic Noise:	NC 55	

Physical

Mounting:	Standard EIA RETMA rack
Height:	24.5" (62.25 cm)
Width:	19" (48.25 cm)
Depth:	15" (38.1 cm)
Weight:	115 lbs. (52.25 kg)

Electrical

Universal Power Supply:	Standard
Voltage:	115 or 230 VAC (+10%, -15%)
Frequency:	50 or 60 Hz
Service, Maximum:	6 amp. @ 115 VAC
Power Consumption, Nominal:	440 watts

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