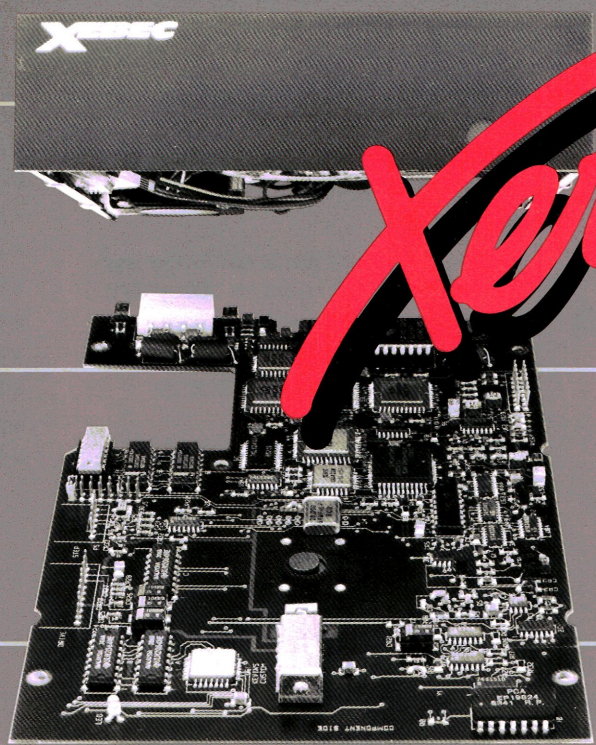


10/87

The "Owl" Intelligent Winchester Disk Drive Subsystem. From Xebec.

A 10-Megabyte 5¼-Inch Mass Storage Device With Embedded Controller.



Xero D.

This intelligent 5¼-inch half-height Winchester disk drive subsystem incorporates Xebec's industry-standard S1410A controller onto the drive electronics board, providing direct SASI interface from the drive. Combining standard cell LSI and surface mount technologies, the 5¼ x 8-inch intelligence card provides reduced power requirements, reduced space requirements, and reduced costs to system integrators by cutting evaluation, compatibility and test engineering time to a minimum. The new Xebec intelligent disk subsystem perfectly matches drive and controller for highly reliable performance. All features of the S1410A controller—the most popular controller in the industry—are included with the new compact subsystem package, including automatic seek and verification, programmable sector interleave, and built-in data separation optimized for high read/write accuracy. The performance, rela-

bility, maintainability and innovative technology demonstrated by the Owl—especially when combined with its low cost as compared to separate disk/controller subsystems—make it ideal for single-user, add-on or add-in personal computer mass storage.

The Xebec "Xero D" signature that appears on this page is the quality mark of the company. It identifies zero defect quality as the motivating standard of every employee, every department and every program within Xebec. The continuing commitment to research and development as well as the multi-million dollar investment in the automation of its design and manufacturing facilities, helped earn Xebec its position as the world's leading supplier of disk controllers for personal and business computers.

XEBEC
The Quality Investment

Specifications

Host Interface

- Maximum host transfer rate of 625 KB
- Interfaces to all popular SASI host adaptors
- Xebec S1410-compatible

Internal Drive Specifications

- Maximum drive transfer rate of 5 Mbits/s internal
- 306 cylinders
- 4 heads
- Oxide media
- Automatic write precompensation
- Landing zone on track 351

Performance

- Formatted Capacity: 10 MB
- Average Access: 78 ms (including settling)
- Positioning Time: 16.4 ms track to track
- Average Latency: 8.37 ms

Environmental Range

- Temperature: 0° C to 50° C
- Relative Humidity: 10% to 90% (without condensation)
- Altitude: Up to 6000 ft (1828 m)

Drive Dimensions

- Height: 1.63 in
- Width: 5.75 in
- Depth: 8.0 in

DC Power Requirements

- +5 VDC @ 1.2 A typical, 1.25 A maximum
- +12 VDC @ 0.75 A typical, 3.5 A maximum (startup)

Features

Operational

- Industry-standard SASI host bus, affording speedy integration into most popular microcomputers
- Integrated design—no external controller required
- High-level command set reducing host overhead
- Extended drive diagnostic capability
- Automatic seek and position verification
- Programmable sector interleave
- Alternate track defect skipping
- Jumper-selectable SASI bus address
- Pluggable SASI bus terminator
- Programmable 256-byte or 512-byte sectors
- Multi-sector data transfer with automatic head and cylinder switch
- Automatically parks heads at cylinder 351 on power down

Reliability

- Low parts count yields extremely high MTBF of 15,000 hours for subsystem
- Integrated design results in very short MTTR of 30 minutes
- Extensive internal diagnostics for accurate maintenance
- Real-time fault detection and fault recovery for fail-safe operation
- Data reliability assured through 32-bit ECC on both header and data fields
- Programmable ECC capability up to 11 bits
- Less than 1×10^{12} hard bit errors, internal

Technology

- Patent-pending architecture allows the use of standard MDS/MPU technology
- Multi-sourced, standard process, standard-cell LSI, which minimizes risk, parts count and power consumption
- Utilizes surface-mount technology

Packaging

- Integrated design allows for reduced space requirements

Power

- Uses a single power source

Command Set

- Test Drive Ready
- Recalibrate
- Request Sense Status
- Format Drive
- Check Track Format
- Format Track
- Format Bad Track
- Read
- Write
- Seek
- Mode Select
- Read ECC Burst Error Length
- Format Alternate Track
- Write Sector Buffer
- Read Sector Buffer
- RAM Diagnostics
- Drive Diagnostics
- Controller Internal Diagnostics
- Read Long
- Write Long
- Read Verify
- Retry Statistics

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