A Better Choice than Tape or Optical Solutions

Introducing MaXLine™ ATA drives from Maxtor—innovative large-capacity disk storage so reliable, so fast and so cost-effective, it leaves traditional near-line tape and optical solutions in the dust.

At prices about the same as tape and optical, but with far greater capacity and faster access times, ATA drives are moving into the near-line corporate storage market at an ever-increasing rate. At 250GB and 300GB, MaXLine ATA drives provide greater storage capacity than regular ATA drives, and they offer the added benefit of ultra-reliability. For near-line and other low-I/O secondary storage applications, they’re rated at better than 1 million hours MTTF.

MaXLine drives aren’t intended to replace SCSI in high-I/O applications, but they are ideal for 24x7-duty situations where the slow access time of optical and tape solutions simply isn’t good enough. Situations where you may not need stored data all the time, but when you do need it, you need it now.

Whether you’re a data center manager, a systems integrator or a white box manufacturer, your customers’ varying storage requirements require flexible and creative solutions. The more you can tailor those solutions to the best balance of performance and cost, the happier everyone will be. Maxtor provides a broad range of storage products—from value desktop drives to the world’s

MaXLine ATA

Industry-leading Capacity, Performance, And Reliability for Near-line Applications

3.5” ATA Drives for 24/7 power-on applications

MaXLine Plus II
- 7200 RPM
- 250GB capacity
- SATA or PATA interface
- Data transfer rates up to 50MB/sec
- ≤9.0 ms seek time
- 150MB/sec max bus speed
- Large 8MB cache buffer

MaXLine II
- 5400 RPM
- 250GB and 300GB capacities
- ATA/133 interface
- Data transfer rates up to 45MB/sec
- ≤10.0ms seek time
- 133MB/sec max bus speed
- 2MB cache buffer

Exceptional Reliability
- 3-year warranty
- Rated to exceed 1 million hours MTTF for near-line and other low-I/O secondary storage applications
- Proven in OEM NAS appliances
- S.M.A.R.T. compliance features

Applications
- Instant archive
- File recovery
- Network attached storage
- Offsite recovery
- Mirroring snapshots
- Email archive
- Transaction logs
- Daily backup
- Partial backup
- Data warehousing
- Data mining
The Choice is Yours

Maxtor offers a choice of storage solutions with MaxLine ATA drives, high-performance SCSI drives, and desktop ATA drives. Each product family offers unique features for different applications.

MaxLine ATA Drives are ideal for demanding, full-time low I/O applications where drive level cost per GB and storage density (GB/cubic inch) are critical parameters.

Applications that require significantly faster access times, higher duty cycles and maximum data reliability are supported by Maxtor’s branded Atlas™ SCSI drives.

For desktop PC and other applications that do not have such rigorous performance and duty cycles, use Fireball™, DiamondMax® and/or DiamondMax Plus ATA products.

Ultra-reliable—a proprietary manufacturing process ensures the reliability of MaxLine II and MaxLine Plus II drives for near-line storage applications. Maxtor stands behind MaxLine drives with a 3-year limited warranty. These drives are already proven as the heart of network attached storage systems from major original equipment manufacturers. And data availability can be further enhanced with RAID configurations.

Big and Fast—available with parallel or serial ATA interfaces, capacities up to 300GB, data transfer rates up to 59MB/sec, and a choice of spin speeds, MaxLine drives are an obvious better choice for many applications that have historically utilized tape or optical media. These 3.5-inch drives are also easy to integrate into existing storage systems, with complementary hardware controller and software solutions available that emulate tape-based near-line libraries.

Active Recall Archiving—the cost of disk-based near-line storage is about the same as that of tape, but consider the value MaxLine drives add by increasing the speed and reliability of data retrieval and restoration. Time is money, and the ability to find archived data quickly, recover it immediately and get back on line, is critical to productivity.

Your customers have to accomplish more with less these days—in less time. MaxLine drives let them do just that.

Best Fit for Many Corporate Applications

A wide variety of users will appreciate the performance, value and reliability of MaxLine drives. With data access and transfer rates vastly superior to current tape and optical technologies, MaxLine drives enable significantly faster data backup and restore functions. They’re the ideal media for many data storage applications, including NAS, data warehousing and data mining, commercial audio and video, and numerous other applications that demand nearly

Backing up data with MaxLine drives can reduce back-up time by up to 500% versus many tape-based systems.
instantaneous access to large amounts of data and numerous files, such as:

- The last 24 hours’ worth of executives’ email
- Legal documents from the past month
- Yesterday’s schedule rotations
- Contracts and purchase orders
- CAD designs
- Geophysical—geological data
- Biomedical—genome data

Other candidates for near-line storage are data that doesn’t require instant transaction access, such as a manufacturer’s market research data. Or large files that are too expensive to store in an online environment, but are accessed too frequently to store offline, such as a publishing company’s photo archives. Users might not need access to this information on a daily basis, but when they do need it, retrieval should be simple and quick. Ease of recall is at least as critical as the information itself.

**From Fast to Very Fast**

Parallel ATA MaxLine products do more—and do it better and faster—than traditional tape-based near-line solutions, with similar reliability. Serial ATA drives provide even higher performance. At 150 MB/sec maximum data transfer rate, they can keep pace with the demands of data-intensive applications.

New and exciting complementary SATA hardware controllers and software on the horizon will enable creative integrators to build and sell entirely new and cost-effective near-line data storage solutions for their customers. MaxLine drives—fully compliant and compatible with a wide variety of existing and emerging parallel and serial ATA software and hardware technologies—will be at the heart of these solutions.

**Competitive Advantage**

Your ability to develop next-generation storage solutions, using MaxLine drives that offer significant competitive advantage to your customers, is limited only by your imagination. To find out more about MaxLine drives, talk to your Maxtor representative, or visit www.maxtor.com today.

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### When Time is of the Essence

<table>
<thead>
<tr>
<th>Time needed to back up a database with one super DLT drive</th>
<th>File size</th>
<th>Maximum transfer rate (MB/sec)</th>
<th>Minimum Time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100GB</td>
<td>11</td>
<td>2.5</td>
</tr>
<tr>
<td>Time needed to back up a database with one MaxLine drive</td>
<td>100GB</td>
<td>44</td>
<td>.63</td>
</tr>
<tr>
<td>Time needed to restore 1TB database with one super DLT library (1 drive, 10 tapes)</td>
<td>1TB</td>
<td>11</td>
<td>25.3</td>
</tr>
<tr>
<td>Time needed to restore 1TB database with one 4-drive 1U box with ATA RAID 1</td>
<td>1TB</td>
<td>90</td>
<td>3.1</td>
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</tbody>
</table>
MaXLine II

Performance Specifications

<table>
<thead>
<tr>
<th>MaXLine II</th>
<th>MaXLine Plus II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotational Speed</td>
<td>5400 RPM</td>
</tr>
<tr>
<td>Buffer (Cache) Size</td>
<td>2MB</td>
</tr>
<tr>
<td>Maximum External Burst Transfer Rate</td>
<td>133MB/sec</td>
</tr>
<tr>
<td>Maximum Sustained Transfer Rate per Single Drive</td>
<td>46MB/sec</td>
</tr>
<tr>
<td>Average Seek (ms)</td>
<td>≤10.0</td>
</tr>
</tbody>
</table>

Drive Configuration

- Discs/Heads (Max): 4/8
- Bytes per Sector/Block: 512
- Logical CHS: 16,383/16/63

Reliability Specifications

- Start/Stop Cycles (min): >50,000
- Component Design Life (min): 5 years
- Data Errors (non-recoverable): <1 per 10E15 bits read
- Annualized Return Rate (ARR): <1.0%
- Warranty Period: 3 Years

MaXLine Plus II

Capacity

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Model number</th>
</tr>
</thead>
<tbody>
<tr>
<td>250GB</td>
<td>5A250J0</td>
</tr>
<tr>
<td>300GB</td>
<td>5A300J0</td>
</tr>
</tbody>
</table>

Power Requirements

<table>
<thead>
<tr>
<th>MaXLine II</th>
<th>MaXLine Plus II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode</td>
<td>5V</td>
</tr>
<tr>
<td>Seek (mA)</td>
<td>593</td>
</tr>
<tr>
<td>Idle (mA)</td>
<td>590</td>
</tr>
<tr>
<td>Standby (mA)</td>
<td>149</td>
</tr>
</tbody>
</table>

Environmental Limits

- Acoustics
  - Idle (sound power: bel): 2.6
  - Performance Seek (sound power: bel): 3.6

- Temperature
  - Operating (°C): 5 to 55
  - Non-operating (°C): -40 to 71

- Shock
  - Operating Mechanical Shock 2msec (G): 60
  - Non-operating Mechanical Shock 2msec (G): 300

- Physical Dimensions
  - Height (max mm): 26.1
  - Width (typical mm): 101.6
  - Length (max mm): 147.0
  - Weight (Max LB/g): 1.34/620

MaXLine II Capacity Model number

- Parallel ATA—ATA/133 2MB Buffer: 250GB, 5A250J0
- 300GB, 5A300J0

MaXLine Plus II Capacity Model number

- PATA 133 8MB Buffer: 250GB, 7Y250P0
- SATA 150 8MB Buffer: 250GB, 7Y250M0

Note: J=BB motor, L=FDB motor