# Oracle StorageTek LTO Tape Drives

Today's rapidly changing digital world requires faster capture and access of more data at a lower cost than ever before. Oracle's industry leading enterprise archive and data protection solutions are trusted by the largest customers around the world to respond to this challenge. Oracle's systems couple the well-renowned Oracle StorageTek library automation with the latest StorageTek LTO tape drives to offer the most secure, economical, high-performance solutions for digital archiving and data protection.

## Enterprise Storage Performance and Economics

StorageTek LTO tape drives feature fast data transfer rates and large capacity so you can process more data in less time. The high-speed FC interface further improves data movement, reduces downtime, and speeds recovery. Combined with Oracle StorageTek tape libraries, you can easily and affordably store, manage, and protect your growing data.

Oracle offers StorageTek LTO tape drives in SAS or FC interfaces, in full- and half- height platforms, and as single drives or within an automation environment. You choose the model that makes the most sense for your operating environment, application, capacity, and performance. Oracle's scalable tape automation solutions are designed to accommodate whatever drive and interface you choose.

New with LTO9, is Open Random Access Order (oRAO), which can optimize multiple accesses for a single tape mount. This can provide significant performance gains for digital archives of smaller files, such as in the scientific and high performance computing environments.

## Investment Protection

The latest StorageTek LTO9 and LTO8 tape drives have been fully integrated into Oracle StorageTek libraries, providing investment protection as they can work alongside customer's existing tape drives and media. StorageTek LTO9 support both read and write backward compatibility with LTO8, and StorageTek LTO8 can also read and write LTO7, so you can make the most of your technology investment. Their open format supports a choice of media suppliers. The LTO Compliance Verification Entity, an independent company, verifies interchange across LTO vendors and product generations.

## Key Business Benefits

- Unmatched cost-effective storage for digital archiving and data protection

- Capture and access large amounts of information in less time with very fast streaming performance

- Investment protection with use in existing Oracle hardware and software investments

- Cyber-attack protection with secure, encrypted, offline copies of data

- Application transparent encryption with the industry-leading Oracle Key Manager

- Integration with leading archiving and data protection applications

- Superior Oracle StorageTek enterprise service and support

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## Simplified Management

Oracle's StorageTek LTO tape drives are compatible with leading archive and data protection software and hardware platforms, helping you to stretch you investment. Oracle StorageTek Tape Analytics makes tape easier to use than ever before, offering superior monitoring and alerts, with visibility of your complete environment at your fingertipos. Oracle also offers tape media that is thoroughly tested and supported with Oracle StorageTek's suite of libraries, drives, and software.

## Expert Help, Every Step of the Way

Oracle service professionals help you address storage challenges by delivering integrated services and customized solutions that optimize and manage storage performance over the life of your data. Oracle's recognized, world-class service and customer care give you confidence that your technology investment is protected and that your business will be responsive to change today and well into the future.

With Oracle Advanced Customer Support, you get mission-critical support with a focused support team, proactive guidance to tailor storage systems for optimal performance and increased competitiveness, and preventative monitoring to help you achieve high availability and optimized system performance.

For more information about Oracle Premier Support, Platinum Services, and Oracle Advanced Customer Support, please speak with your Oracle representative or Oracle authorized partner, or visit oracle.com/support or oracle.com/acs.

## ORACLE STORAGETEK LTO TAPE DRIVES

## PERFORMANCE

| | LTO9 Full-Height | LTO9 Half-Height | LTO8 Full-Height | LTO8 Half-Height | LTO7 Full-Height | LTO7 Half-Height |
|---|---|---|---|---|---|---|
| **Tape load and thread to ready** | 17 sec | 17 sec | 15 sec | 15 sec | 15 sec | 15 sec |
| **Average file access time (first file)** | 45 sec | 60 sec | 56 sec | 59 sec | 56 sec | 59 sec |
| **Maximum/ average rewind time** | Not provided / 52 sec | Not provided / 62 sec | 108 sec / 59 sec | 113 sec / 62 sec | 108 sec / 59 sec | 113 sec / 62 sec |
| **Unload time (tape not moved away from BOT)** | 28 sec | 28 sec | 24 sec | 24 sec | 20 sec | 20 sec |
| **Unload time (tape moved away from BOT)** | 247 sec | 275 sec | Not available | Not available | Not available | Not available |
| **Data transfer rate, native (uncompressed)** | 400 MB/sec | 300 MB/sec | 360 MB/sec | 300 MB/sec | 300 MB/sec | 300 MB/sec |

# CAPACITY

|  | LTO9 Full-Height | LTO9 Half-Height | LTO8 Full-Height | LTO8 Half-Height | LTO7 Full-Height | LTO7 Half-Height |
|---|---|---|---|---|---|---|
| Capacity, native (uncompressed) | 18 TB | 18 TB | 12 TB | 12 TB | 6 TB | 6 TB |
| Capacity, native (compressed 2.5:1) | 45 TB | 45 TB | 30 TB | 30 TB | 15 TB | 15 TB |

# AVAILABILITY

|  | LTO9 Full-Height | LTO9 Half-Height | LTO8 Full-Height | LTO8 Half-Height | LTO7 Full-Height | LTO7 Half-Height |
|---|---|---|---|---|---|---|
| Uncorrected bit error rate) | $1\times10^{-19}$ | $1\times10^{-19}$ | $1\times10^{-19}$ | $1\times10^{-19}$ | $1\times10^{-19}$ | $1\times10^{-19}$ |

# COMPATIBILITY

|  | LTO9 Full-Height | LTO9 Half-Height | LTO8 Full-Height | LTO8 Half-Height | LTO7 Full-Height | LTO7 Half-Height |
|---|---|---|---|---|---|---|
| Interfaces | 8 Gb FC (Enterprise) | 8 Gb FC / 6Gb SAS (SL150) | 8 Gb FC | 8 Gb FC, 6 Gb SAS | 8 Gb FC | 8 Gb FC, 6 Gb SAS |
| Read/Write Compatibility | LTO9, LTO8 | LTO9, LTO8 | LTO8, LTO7 | LTO8, LTO7 | LTO7, LTO6, LT05* | LTO7, LTO6, LTO5* |
| Emulation Modes | StorageTek LTO9 | StorageTek LTO9 | StorageTek LTO8 | StorageTek LTO8 | StorageTek LTO7 | StorageTek LTO7 |

*LTO5 media is read-only in LTO7 drives

# MECHANICAL

|  | LTO9 Full-Height | LTO9 Half-Height | LTO8 Full-Height | LTO8 Half-Height | LTO7 Full-Height | LTO7 Half-Height |
|---|---|---|---|---|---|---|
| Dimension (W x H x D) (cm) | 14.83 x 8.48 x 21.05 | FC 14.60 x 14.10 x 22.30 SAS 14.60 x 14.10 x 22.50 | 14.83 x 8.48 x 21.05 | 14.80 x 4.27 x 22.80 | 14.83 x 8.48 x 21.05 | 14.80 x 4.27 x 22.80 |
| Weight | 2.9 kg | 2.9 kg | 2.9 kg | 2.9 kg | 2.9 kg | 2.9 kg |

## ENVIRONMENTAL

| | LTO9 Full-Height | LTO9 Half-Height | LTO8 Full-Height | LTO8 Half-Height | LTO7 Full-Height | LTO7 Half-Height |
|---|---|---|---|---|---|---|
| **Temperature: Allowable Operating** | +15 to +35°C | +15 to +35°C | +10 to +40°C | +10 to +40°C | +10 to +40°C | +10 to +40°C |
| **Temperature: Storage** | -40 to +60°C | -40 to +60°C | -40 to +60°C | -40 to +60°C | -40 to +60°C | -40 to +60°C |
| **Temperature: Recommended Operating** | +15 to +25°C | +15 to +25°C | +20 to +25°C | +20 to +25°C | +20 to +25°C | +20 to +25°C |
| **Relative Humidity: Allowable Operating** | 20% to 80% | 20% to 80% | 20% to 80% | 20% to 80% | 20% to 80% | 20% to 80% |
| **Relative Humidity: Storage** | 10% to 90% | 10% to 90% | 10% to 90% | 10% to 90% | 10% to 90% | 10% to 90% |
| **Relative Humidity: Recommended Operating** | 20% to 50% | 20% to 50% | 40% to 50% | 40% to 50% | 40% to 50% | 40% to 50% |

## POWER AND THERMAL

Varies by library configuration

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