

LTS-90 Datasheet

1. Specifications

Basic specifications

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|---------------------------------------|--|
| Temperature | 10°C to 35°C |
| Humidity | 20% to 80% (no condensation) |
| Power | AC 100 V to 240 V \pm 10%, 50/60 Hz |
| Consumption | AC 100 V to 120 V: 130 VA (128 W) AC 220 V to 240 V: 154 VA (127 W) |
| Dimensions | 212 (W) x 116 (H) x 422.5 (D) mm |
| Weight | 8 kg |
| Consumables (at 24-hour operation) | Cooling fan: Replace every 3 years. Power: Replace every 5 years. Battery: Replace every 5 years. (*) Hard disk: Replace every 5 years. |

* Yearly battery replacement is recommended when unit is stored without powering on for long periods

Technical specifications

| | |
|-------------------|--|
| Removable Storage | LTO-8/ LTO-9 (File system: IBM LTFS) |
| Internal Storage | 8TB HDD 20TB HDD (with optional LTS-90HDD20T installed) |
| Interfaces | |
| USB | USB3.0 series A connector x 4 (front x 2, rear x 2) |
| LAN1/2 | 100BASE-TX/1000BASE-T, RJ-45 x 2 |
| To External Drive | Mini-SAS HD(SFF-8644) Connector x 1 To connect to an LTO-EU7/ LTO-EU8, an external LTO-7 drive made by IBM or an auto loader made by IBM. (LTS-TSC optional software is required to connect to an auto loader.) |
| VGA | 15-pin D-Sub (female) x 1 |
| RS-232C | Not used |
| IPMI | Not used |

LTO-8 Basic Performance

| | |
|--------------------|--|
| Cartridge Size | 105 (W) x 22 (H) x 102 (D) mm |
| Capacity | Approx. 12.0 TB (data area: 11711 GB / 10907 GiB) |
| Recording capacity | The followings, values excluding ancillary data and proxy video files, are theoretical. Actual values may differ depending on LTO tape and head conditions. |
| CBR/4:2:2/422P@HL | Approx. 380 hours (50 Mbps, HD) |
| VBR/4:2:0/MP@HL | Approx. 570 hours (35 Mbps, HD) |
| Response | File system information acquisition time: under one minute in typical case. File seek time: within three minutes (This will take more time in some cases.) |

LTO-9 Basic Performance

| | |
|-------------------------------------|--|
| Cartridge Size | 105 (W) x 22 (H) x 102 (D) mm |
| Capacity | Approx. 18.0 TB (data area: 16736 GB / 16344 GiB) |
| Recording capacity | The followings, values excluding ancillary data and proxy video files, are theoretical. Actual values may differ depending on LTO tape and head conditions. |
| MPEG-2 422@HL | Approx. 576 hours (50 Mbps, HD) |
| MPEG-2 MP@HL | Approx. 876 hours (50 Mbps, HD) |
| Response | File system information acquisition time: under one minute in typical case. File body seek time: within three minutes (This will take more time in some cases.) |
| Media Initialization (Optimization) | New LTO-9 tapes require initialization the first time they are inserted; this is a one-time operation and is not required thereafter. It is performed automatically when a tape is inserted. Initialization can be performed on any drive, and the initialized tape can be used without modification on another drive. The average media initialization time is about 40 minutes. Most initializations take less than 60 minutes, but can take up to 2 hours. During initialization, the Single Character Display shows a lower case c and the green LED blinks. |

H.264 file

| | | | |
|-------|---------------------|--------------------|---|
| Video | Resolution Low * | Compression format | H.264 Baseline Profile Level 2.1 |
| | | Resolution | HD: 424 x 240 SD: 320 x 240 (NTSC) 384 x 288 (PAL) |
| | | Frame rate | NTSC family: 29.97fps, PAL family: 25 fps |
| | | Bitrate | 900 kbps |
| | Resolution Normal * | Compression format | H.264 Main Profile Level 3.2 |
| | | Resolution | HD: 1280 x 720 |
| | | Frame rate | NTSC: 29.97 fps, PAL: 25 fps |
| | | Bitrate | 2000 kbps |
| | Resolution High * | Compression format | H.264 High Profile Level 4.0 |
| | | Resolution | HD: 1920 x 1080 |
| | | Frame rate | NTSC: 29.97 fps, PAL: 25 fps |

| | | | |
|-------------|--------------------------------|--|---|
| | | Bitrate | 4000 kbps |
| Audio | Resolution Low * | Compression format | AAC LC |
| | | Number of channels | 2 ch |
| | | Sampling rate | 48 kHz 16 bit |
| | | Bitrate | 96 kbps |
| | Resolution Normal High * | Compression format | AAC LC |
| | | Number of channels | 2 ch |
| | | Sampling rate | 48 kHz 16 bit |
| | | Bitrate | 384 kbps |
| File format | | Container format | MP4 |
| | | Bitrate | Auto-calculated from video and audio bitrates |
| Timecode | | -Added to each frame as the Picture Timing SEI message in H.264 streams. -Timecode can be added to the video content by changing setting. | |

* Changing the resolution requires the corresponding codec option. (LTS-SX, LTS-XAVC or LTS-XAVC-L)

Windows Media File

| | | | |
|-------------|--------------------|--|---|
| Video | Compression format | Windows Media Video V9 | |
| | Resolution | HD: 424 x 240 SD: 320 x 240 (NTSC) 384 x 288 (PAL) | |
| | Frame rate | NTSC family: 29.97 fps, PAL family: 25 fps | |
| | Bitrate | 1,300 kbps | |
| Audio | Compression format | Windows Media Audio V9 | |
| | Number of channels | 2 ch | |
| | Sampling rate | 48 kHz | |
| | Bitrate | 192 kbps | |
| File format | | Container format | WMV (ASF) |
| | | Bitrate | Auto-calculated from video and audio bitrates |
| Timecode | | -Timecode can be added to the video content by changing setting. | |

Options

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|-------------------------|-------------------------------|
| LTR-BWIN ^(*) | LTR Browser (Windows Version) |
| LTR-BMAC ^(*) | LTR Browser (Mac Version) |
| LTS-SX | MPEG-2 (OP-1a) Plugin |
| LTS-PAD | AVC-Intra/DVCPRO Plugin |
| LTS-PRS | ProRes422 Plugin |
| LTS-DNxHD | DNxHD Plugin |
| LTS-XAVC | XAVC Plugin |

| | |
|---|---|
| LTS-XAVC-L | XAVC Long Plugin |
| LTS-AVCHD | AVCHD Plugin |
| LTS-MAM ^(*3) | Media Asset Manager |
| LTS-TSC | LTO Auto-loader Plugin |
| LTS-MGS ^(*2) | LTS Migrator (Windows Version) |
| LTS-10GR ^(*2) | 10GbE option (RJ45 model) |
| LTS-10GS ^(*2) | 10GbE option (SFP+ model) 10GBASE-SR SFP+ Optical Transceiver |
| LTO-EU7/8 ^(*1) | LTO-7/8 external unit |
| LTS-90HDD20T | 20TB HDD Option |
| <p>^(*1) User Manual (PDF) is included in each CD-ROM.</p> <p>^(*2) Download User Manual (PDF) from LTS-90 page on the FOR-A website.</p> <p>^(*3) Download User Manual (PDF) from LTS-MAM page on the FOR-A website.</p> | |

Accessories

AC Cord, LTO Cleaning cartridge, SFP+ optical transceiver (Included only when LTS-10GS is installed), Packing list

2. External Dimensions

(All dimensions in mm.)

