



## LTO-5 Video Archiving Recorder

# LTR-100HS [MPEG-2 model]



FOR-A's LTR-100HS is a video archiving recorder with the latest storage standard drive built in, LTO-5 (Linear Tape Open). With its over-whelming 1.5 TB of recording capacity and LTFs portable file system, the LTR-100HS can be used as material/program exchange media server. Using high quality MPEG-2 codec with HD-SDI input/output and MXF wrapper/un-wrapper, the MXF files on LTO-5 tape can be used easily by other NLE systems. The LTR-100HS enables you to build handy video "archive at ingest" solutions.

### Re-Define the Video Archive Workflow

- Supporting any stage of Ingest – Delivery – Archive – Reuse cycle
- Bridging between baseband domain and filebase domain

### Record on LTO Tape as an MXF File in Real-time

- Just push [■(Rec)]+[▶(Play)] to ingest your video material
- Create Proxy files while ingesting simultaneously

### Locate and Play an MXF File on LTO Tape without Waiting

- Jog and Shuttle operations are available for cached part

### Open Technologies for Long Term Archiving

- MPEG-2, MXF OP-1a, LTO and LTFs: Open architectures

### Using LTO Tape as a Digital Program Package Carrier

- LTFs: A file system enables R/W files by PC as an ordinary external storage

### File I/O Enables Seamless Filebase Workflow

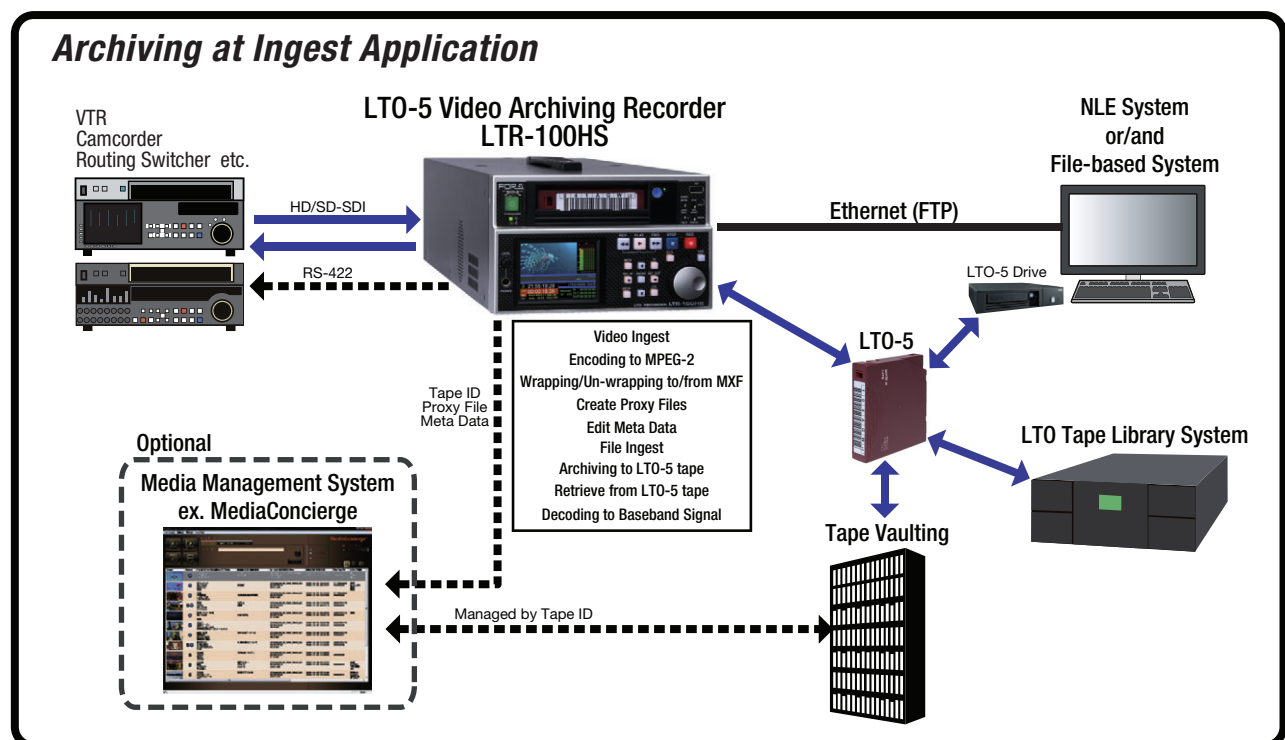
- Working as an FTP server for filebase I/O

### Space Saving Compact Chassis

- All-in one: All functions include the half-rack width 3 U height

### Extensibility for Variety of Systems

- RS-422 (9-pin) for external VTR control
- Gigabit Ethernet interface for filebase I/O
- USB2.0 for a barcode reader or PC keyboard



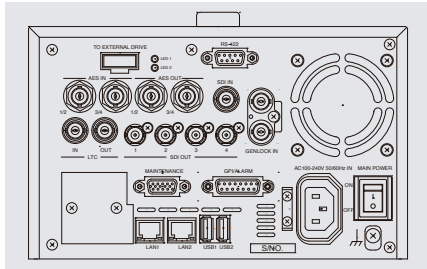
## Specifications

Video Formats	HD: 1080/59.94i, 1080/50i, 720/59.94p, 720/50p (select at menu)   SD: 525/60, 625/50 (select at menu)	
Removable Storage Device	LTO-5 (File system: IBM LTF5)	
Supported MXF Format	OP-1a (SMPTE RDD-9) HD: MPEG-2 Long GOP -50 Mbps (CBR/4:2:2/422P@HL) Audio: 24-bit, 8 ch -35 Mbps (VBR/4:2:0/MP@HL) Audio: 16-bit, 4 ch -25 Mbps (CBR/4:2:0/MP@H14) Audio: 16-bit, 4 ch -18 Mbps (VBR/4:2:0/MP@HL) Audio: 16-bit, 4 ch SD MPEG-2 1GOP (I-frame only) -50/40/30 Mbps (4:2:2/422P @ML) Audio: 16-bit, 8 ch	
Video Input	HD-SDI: 1.5 Gbps, 75Ω BNC x 1   SD-SDI: 270 Mbps, 75Ω BNC x 1	
Genlock Input	BB: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p or Tri-level sync: 0.6 Vp-p, 75Ω BNC x 1, loop-through (Terminate with 75Ω terminator, if unused)   BB: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p, 75Ω BNC x 1, loop-through (Terminate with 75Ω terminator, if unused)	
Video Output	HD-SDI: 1.5 Gbps, 75Ω BNC x 4 (Output 3 and 4 support timecode display)   SD-SDI: 270 Mbps, 75Ω BNC x 4 (Output 3 and 4 support timecode display)	
Audio Input	The maximum number of output channels varies by MXF format and bitrate.	
Embedded	Max. 8 ch (4 stereo pairs) (Group 1 and 2) 48 kHz, synchronous only	
AES/EBU	1.0Vp-p, unbalanced, 75Ω BNC x 2 (2 stereo pairs), 16/20/24-bit, 48 kHz   1.0Vp-p, unbalanced, 75Ω BNC x 2 (2 stereo pairs), 16/20-bit, 48 kHz	
Audio Output	The maximum number of output channels varies by MXF format and bitrate.	
Embedded	Max. 8 ch (4 stereo pairs) (Group 1 and 2) 48 kHz, synchronous only	
AES/EBU	1.0Vp-p, unbalanced, 75Ω BNC x 2 (2 stereo pairs), 16/20/24-bit, 48 kHz   1.0Vp-p, unbalanced, 75Ω BNC x 2 (2 stereo pairs), 16/20-bit, 48 kHz	
Time Code Input	Embedded: Ancillary timecode, LTC: 1.0 Vp-p, unbalanced, 75Ω BNC x 1	
Time Code Output	Embedded: Ancillary timecode, LTC: 1.0 Vp-p, unbalanced, 75Ω BNC x 1	
Recording Time	Minimum / file: 1 second, Maximum / file: 24 hours	
Internal Storage	2 TB HDD	
Interfaces	RS-422: 9-pin D-sub (female) x 1 (inch screws) (for external VTR control on encoding) USB: USB 2.0 Series A connector x 3 (front x 1, rear x 2) (for keyboard and barcode scanner) LAN1/2: 100BASE-TX/1000BASE-T, RJ-45 x 2 To External Drive: Mini-SAS x 1 (for External drive. Optional software is necessary. This is planned in the future.) GP/ALARM: 15-pin D-sub (female) x 1, ALARM: Power, Fan alarm (relay contact) / GPI: 3-input/3-output (contact input, open collector output) MAINTENANCE: 15-pin mini D-sub (female) (VGA) x 1 (maintenance only)	
Temperature / Humidity	10°C to 40°C / 20% to 80% (no condensation)	
Power / Consumption	100 V AC to 240 V AC ±10%, 50/60 Hz / 150 VA (145 W) at 100 V AC to 120 V AC, 132 VA (120 W) at 220 V AC to 240 V AC	
Dimensions / Weight	212 (W) x 130 (H) x 533.5 (D) mm EIA 3 RU half size / 10 kg	
Consumables (if used 24 hours a day at room temperature)	Cooling fan: Replace every 3 years. Power: Replace every 5 years. Battery: Replace every 5 years. Hard disk drive: Replace every 5 years.	
Accessories	Operation manual, AC Cord, Control software (Installed)	
Options	USB keyboard, USB barcode scanner, LTO cleaning tape, 1 year warranty	

## LTO-5 Basic Performance

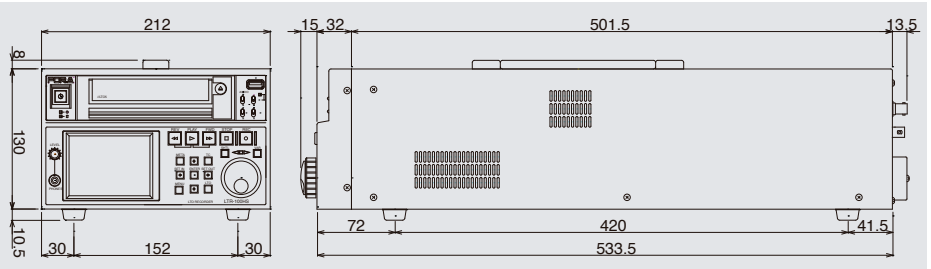
Cartridge Size	105 (W) x 22 (H) x 102 (D) mm
Capacity	Approx. 1.5 TB (data area: 1425 GB / 1327 GiB)
Recording capacity	(without ancillary data other than timecode) MPEG-2 422P@HL: Approx. 52 hours (50 Mbps, HD) MPEG-2 MP@HL: Approx. 82 hours (35 Mbps, HD) MPEG-2 422P@ML: Approx. 50 hours (50 Mbps, SD)
Response	File system information acquisition time: under one minute in typical case, File body seek time: within three minutes

## Rear Panel



LTO is a trademark of HP, IBM and Quantum.

## External Dimensions



## FOR-A COMPANY LIMITED

Head Office : 3-8-1 Ebisu, Shibuya-ku, Tokyo 150-0013, Japan

FOR-A Corporation of America Corporate Office : 11155 Knott Ave., Suite G&H, Cypress, CA 90630, USA

FOR-A Corporation of America East Coast Office : 2 Executive Drive, Suite 670, Fort Lee Executive Park, Fort Lee NJ 07024, USA

FOR-A Corporation of America Distribution & Service Center : 2400 N.E. Waldo Road, Gainesville, FL 32609, USA

FOR-A Corporation of America Miami Office : 5200 Blue lagoon Drive, Suite 760, Miami, FL 33126, USA

FOR-A Corporation of Canada : 346A Queen Street West, Toronto, Ontario M5V 2A2, CANADA

FOR-A UK Limited : UNIT C71, Barwell Business Park, Leatherhead Road, Chessington Surrey, KT9 2NY, UK

FOR-A Italia S.r.l. : Via Volturmo, 37, 20047, Brughiero MB, ITALY

FOR-A Corporation of Korea : Rm. 1007 InnoPlex, 13 Yangpyeong-dong 3-ga, Yeongdeungpo-gu, Seoul 150-103, KOREA

FOR-A China Limited : 708B Huateng Building, No. 302, 3 District, Jinsong, Chaoyang, Beijing 100021, CHINA

ISO 9001 and 14001 certified (Sakura R&D)

Homepage: <http://www.for-a.com/>

Tel : +81 (0)3-3446-3936 Fax : +81 (0)3-3446-1470

Tel: +1 714-894-3311 Fax: +1 714-894-5399

Tel: +1 201-944-1120 Fax: +1 201-944-1132

Tel: +1 352-371-1505 Fax: +1 352-378-5320

Tel: +1-305-931-1700 Fax: +1-305-264-7890

Tel: +1 416-977-0343 Fax: +1 416-977-0657

Tel: +44 (0)20-8391-7979 Fax: +44 (0)20-8391-7978

Tel: +39 039-881-086/103 Fax: +39 039-878-140

Tel: +82 (0)2-2637-0761 Fax: +82 (0)2-2637-0760

Tel: +86-(0)10-8721-6023 Fax: +86-(0)10-8721-6033