

Model MTR-90III 16 and 24 Channel Mastering Recorder

The MTR-90III is a microprocessor controlled, pinchrollerless multitrack recorder available in 24-channel two-inch, and 16-channel two-inch (pre-wired for 24-channels) versions. Both versions share a transport designed for applications that require quick response and highly accurate tape location abilities, such as audio post for tape and film.

Additionally, electronic inserts and transport ballistics are optimized for post applications, and the machine interfaces easily to virtually all machine controllers and synchronizers. An on-board synchronizer, the EC-101, has been designed to take full advantage of the MTR-90III pinchrollerless transport's tremendous acceleration capabilities and advanced transport design, giving the machine the ability to provide servo-locked *play* in forward and reverse, plus a parking accuracy of typically 0 frames. For convenience, all transport functions, tally-backs, 9600 Hz speed control data, and tach data are available at the rear panel Otari-standard 37 pin connector.

The CB-147 remote session controller features separate record ready and monitor functions, vari-speed control, master switching, cue, and full transport controls. The optional CB-148 and CB-120 autolocators provide precise tape location, storage of tape position recall, and the convenience of an electronic stopwatch. The session controller and either of the autolocators are designed to mount together on a single stand for complete operator control.

All audio electronics are contained on single-card/single-channel plug-in circuit boards. A separate card frame contains transport control electronics. The audio, transport, and power supply components are accessible from the front of the machine through hinged, removable doors. The motor drive amplifiers are accessible from a swing-down, rear panel. Machine side panels remove quickly for easy access, and the deckplate is hinged to provide access from the front of the machine to the transport mechanical assemblies.

MTR-90III New Features:

- 50% faster winding speed for 2400 feet of tape in 82 seconds
- End-of-reel sensing slows tape at end of reel to prevent tape damage
- Swing arms now protected by metal castings
- New VU meters with back-lit face for easy viewing at longer distances
- Otari-standard 37 pin synchronizer connector
- Tape loading error shut-off
- Automatic reel size detection for 7" to 14" reels
- New deckplate and head assembly cover plate design for easier and faster tape threading
- Improved paint finish
- Cooling vents added to electronic bay doors for improved cooling

Standard Features:

- Pinchrollerless PLL capstan, two 1/2HP D.C. reel motors, and integral tape guidance headblock assembly
- Otari's proven microprocessor controlled servo system
- Adjustable record phase compensation
- Transformerless I/O with high current, direct-coupled outputs (isolation transformers optional)
- Spot erase, bidirectional cue, and elapsed time indicators
- Integral splicing block and flip-up flush mounted transportation handles
- Easy access tilting deckplate accommodates up to 14" reels with automatic reel size sensing
- ±20% vari-speed control with ips and percentage readout
- 5 digit real-time indicator utilizing the Otari microprocessor
- Serial I/O interface (RS-232)
- Designed for easy interface to any SMPTE-based video editor, tape machine controller or synchronizer
- Digitally-timed, gapless and seamless punch-ins/outs at all fixed and variable speeds
- Record tally indicators
- Defeatable start/stop mute
- Spare channel of audio electronics
- EC-101 synchronizer-ready mainframe

Options and Standard Accessories:

- CB-148 Auto Locator. Ten memory capacity with one-stroke locate. Shuttle, Auto Rewind, Zero Search, Transport controls and a stopwatch.
- CB-120 Auto Locator. 99 memory capacity with auto punch-in/out and time-code option.
- CB-121. Remote Control for EC-102
- EC-101. Chase Synchronizer module



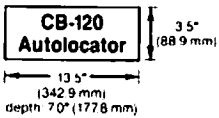
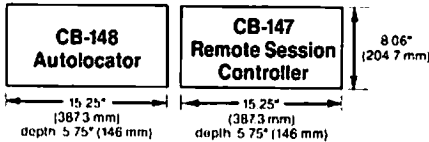
MTR-90III with CB-147 Session controller
and CB-148 Autolocator

- EC-102. External chase-lock Synchronizer
- ZA-52J. Roll-around stand for CB-147 and Locator (ZB-51H U.S. only)
- PB-16KA. Spare channel of audio electronics (includes bias, rec. and repro circuits).
- WBR-1S. A piggyback wideband reproduce processor for high-speed SMPTE/EBU time-code reading. Must be installed onto PB-16KA.
- OS3-039. MTR-90III Operation/Maintenance manual. One provided with each machine.
- ZA-54E. Converts 2" 16-track prewired for 24 Model MTR-90III 16/24 to 2" 24-track
- ZA-53C. Input transformer assembly: 16 or 24-channel
- ZA-53D. Output transformer assembly: 16 or 24-channel
- Heavy duty spares kit
- ZA-52M. Acrylic dust cover for transport. Not for use with 14" reel flanges.
- 2" x 10 1/2" Precision empty reel, NAB hub
- 2" x 14" Precision empty reel, NAB hub
- 2" 24-channel head assembly; ERP with integral guide rollers
- 2" 16-channel head assembly; ERP with integral guide rollers

Available in the following models:

*MTR-90III-8 8 Channel 1"
MTR-90III-16 16 Channel 2"
MTR-90III-16/24 16 Channel 2"
(prewired for 24 channel)
MTR-90III-24 24 Channel 2"

*Special order only



MTR-90III SPECIFICATIONS

TRANSPORT

Tape Width and Tracks:	(25.37 mm) 1", 8 tracks	(50.8 mm) 2", 16 tracks	2", 24 tracks
Heads:	Plug-in head blocks with easy access for independent head azimuth adjustment		
Motors:	9600 Hz PLL capstan motor, microprocessor controlled, 2 servo 1/2 HP DC reel motors		
Reel Size:	Up to 14" NAB (35.6 cm) with reel size auto sensing		
Tape Speeds:	30 ips (76.2 cm/sec)/15 ips (38.1 cm/sec) (high version) 15 ips (38.1 cm/sec)/7.5 ips (19.05 cm/sec) (low version) manufactured to order		
Speed Deviation:	Max. ±0.05% from beginning to end of reel		
Wow and Flutter: (Peak weighted per DIN 45507)	30 ips max. ±0.04%; 15 ips max. ±0.05%; 7.5 ips max. ±0.08%		
Start/Stop Time:	Max. 600 ms at 15 ips (to play speed from stop) Max. 600 ms at 15 ips (from play speed to stop)		
Fast Forward/Rewind Time:	Min. 85 seconds for 2,400 feet (760 m)		
Head Shield Plate:	Motor driven (automatic or manual operation)		
Drive System:	Pinchrollerless direct drive capstan system with ±20% control. Constant tension servo-controlled reel motors		
Pitch Control:	±20% continuous variable control, percentage readout with 0.01% precision		

ELECTRONICS

Line Input:	Active balanced transformerless (optional transformers) 10k Ohm bridging +4 dBu nominal input level		
Line Output:	Active balanced direct coupled (optional transformers) 10 Ohm source impedance +28 dBu maximum output level into 600 Ohm or greater (Min. Load 150 Ohms)		
Equalization:	30 ips AES: 15 and 7.5 ips NAB or IEC switchable		
Operating Level:	250 nWb/m, all measurements made with AMPEX 456 tape at operating level except where specified		
Overall Frequency Response: +2.0, -3 dB at 250 nWb/m	Record/Reproduce 30 ips: 50 Hz-22 kHz (0 vu) 15 ips: 30 Hz-20 kHz (0 vu) 7.5 ips: 30 Hz-16 kHz (-10 vu)		
Signal to Noise Ratio: 3% 3rd Harmonic	24 track	30 ips, AES: min. 72 dB	1040 nWb/m
Distortion to Noise Floor (unweighted)	15 ips, AES: min. 69 dB		
	15 ips, IEC: min. 71 dB		
	8/16 track	30 ips, AES: min. 70 dB	
	15 ips, NAB: min. 67 dB		
	15 ips, IEC: min. 69 dB		
Distortion:	Max. 0.5% third harmonic at 1 kHz at 250 nWb/m		
Crosstalk:	24 track at 1 kHz: min. 55 dB 8/16 track at 1 kHz: min. 57 dB 8/16/24 track from 220 Hz to 16 kHz: min. 43 dB		
Erase Effect:	Min. 75 dB		
Bias Frequency:	257 kHz bias, 86 kHz erase		
Punch-In/Punch-out:	80 msec to stabilization; gapless and noiseless inserts with automatic monitor switching (30 ips)		

PHYSICAL

Power:	AC 100/117/220/240 V ±10% single phase 50/60 Hz
Weight:	Approx. 440 lbs. (200 kg)

Manufactured in Japan by Otari, Inc.

Otari reserves the right to change specifications without notice or obligation.

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