

24-bit Digital Multitrack Recorder DA-78HR



The TASCAM DA-78HR is the first 24-bit DTRS format 8-track Modular Multitrack Recorder, designed primarily for professional recording studios, project studios and home recording studios where 24-bit high quality digital audio recording is essential. It is an evolution of the TASCAM DA-38 which, for the first time in recording history, offered project studios affordable access to a professional industry-standard recording format.

main features

Selectable 24-bit or 16-bit recording format

24-bit, 128 times over-sampling Delta/Sigma ADC and DAC

Synchronisation for up to 16 DTRS machines (including 16-bit models)

On-board stereo mixdown function

Advanced internal electronic patchbay

Digital direct-track copying within a unit or between 2 units

Auto Punch-I/O with 0.1 frame accuracy

Seamless punch I/O with digital cross-fade

On tape-data memory for set-up information

Shuttle wheel for fast, frame-accurate search

Machine offset to sub-frame or sample rate accuracy

Track delay function

± 6% pitch control

Level meter with adjustable peak-hold and release time

Built-in digital tone oscillator

44.1/48 kHz sampling frequency

A/B head playback error-rate display function

Maximum recording time: 108 minutes with NTSC standard 120 tapes/113 minutes with PAL/SECAM standard 90 tapes — in 24-bit and 16-bit

Time-code I/O with on-board

SMPTE synchroniser

The DA-78HR is however, considerably more than a 24-bit upgrade. A major advance is on-board digital mixing of its 8 tracks to stereo with level and pan control, routed to a dedicated SPDIF I/O. An internal electronic patchbay for both inputs and outputs and an on-tape data memory for set-up information including locate points are highlights of the many operational enhancements. The DA-78HR is backward compatible with all existing DTRS recordings to integrate seamlessly into existing installations.

The DA-78HR provides the best and the certainly the most cost-effective solution for 24-bit digital audio recording. Designed to take digital multitrack recording into the next millennium, the DA-78HR is one of the finest digital multitracks ever.

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Recording format	DTRS/DTRS-HR format, 4-rotary head digital recorder
Tape	Hi-8 MC or MP
Tracking system	ATF (Automatic Track Finding)
Erase system	Overwrite
Maximum recording time	108 minutes with NTSC standard "120" tape
	113 minutes with PAL/SECAM standard "90" tape
Shuttle speed	80 seconds (100 times play speed, using PG 120 tape)
	0.25 to 8 times play speed
Positioning accuracy	within one sample
Number of recording channels	8 plus sub-code area
Sub-code	Set-up information, ABS time and SMPTE timecode
Quantisation	16-bit, 24-bit Linear
Sampling frequency	44.1kHz, 48kHz
Error correction	Double-encoded, Reed-Solomon code
Modulation system	8-10/1-7 (DTRS/DTRS-HR)
Pitch control	±6% (in 0.1% steps)
A/D and D/A converters	24-bit 128 times Delta-Sigma over-sampling
Emphasis	50/15µs (playback only)
Cross-fade time	10 to 200ms (in 10ms steps)
Track delay (switchable samples or ms)	200 to 7,200 samples (in 1 sample steps)
	4 to 150ms (in 1ms Steps)
Sync clock source	Internal, Word In, Coaxial
Offset	ABS synchronisation: ±2 hours (in sub-frame or sample accuracy)
	Timecode synchronisation: ±12 hours (in sub-frame accuracy)

highlights

TDIF-1 digital audio interface	Supports MMC
SPDIF digital audio I/O	D-sub 25-pin balanced
Word Sync IN/OUT/THRU	and RCA unbalanced
MIDI IN/OUT/THRU	analogue audio I/O

AUDIO SPECIFICATIONS

Frequency response	20Hz to 20kHz ±0.5dB
Dynamic range	Better than 104dB (1kHz, input level full-scale -60dB)
Signal-to-noise ratio	Better than 104dB
Total harmonic distortion	Less than 0.004% (1kHz, full-scale)
Channel separation	Better than 90dB (1kHz)

ANALOGUE INPUT/OUTPUT TERMINALS

Analogue inputs (balanced)	D-sub 25-pin
Input impedance	10kΩ
Nominal input level	+4dBu
Analogue inputs (unbalanced)	RCA
Input impedance	50kΩ
Nominal input level	+10dBV
Analogue outputs (balanced)	D-sub 25-pin
Output impedance	300Ω
Nominal output level	+4dBu
Analogue outputs (unbalanced)	RCA
Output impedance	500Ω
Nominal output level	+10dBV

DIGITAL INPUT/OUTPUT AND CONTROL TERMINALS

Digital inputs/outputs	D-sub 25-pin x 1
Format	TDIF-1
Digital inputs/outputs	Coaxial (in x 1/Out x 1)
Format	JIEC60958 TYPE II (SPDIF)
Timecode input	RCA
Input impedance	5kΩ
Input level	0.33Vp-p
Timecode output	RCA
Output impedance	100Ω
Output level	2.0Vp-p
Remote sync in/sync out	D-sub 15-pin (female)
Word sync input	BNC, 75Ω
Word sync output	BNC, 75Ω
Word sync thru	BNC, 75Ω (auto-terminated)
Remote input	DIN 8-pin
Remote punch input/output	14" phone jack

POWER SUPPLY AND OTHER SPECIFICATIONS

Power requirements	AC 120V 60Hz, AC 230V 50Hz
Power consumption	37W
Weight	7.5kg
Dimensions (WxHxD)	482 x 132" x 350mm
	(*152 inc. feet)

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Design and specifications subject to change without notice.