

TASCAM

Product Information

Digital Mixing Console DM-24



The DM-24 is an entirely new designed, powerful and affordable small-format digital recording console with 32 channels. With excellent audio quality, highly flexible routing, extremely powerful built-in automation, built-in professional-quality effects, dynamics processing and parametric EQ, and flawless interaction with the MX-2424 hard disk recorder, the DM-24 is destined to become the centerpiece of great studios around the world.

Masterly Sound Quality. With premium-quality 24-bit A/D and D/A converters and up to 96kHz sampling rates, the DM-24 is designed to take your mixes into the future of recording. Whether you're mixing for standard CD mastering or more advanced applications in surround encoding or DVD authoring, the DM-24's superb audio quality blows away the standards in affordable digital mixing.

New SHARC DSP chips allow 32-bit floating point processing. As a result the DM-24 offers more digital headroom when applying dynamics processing and time based effects and in the end this enhances the overall sound quality. By the way, the DM-24 offers 16 of the best mic preamps that TASCAM has ever made. It also features four custom-designed LED ring encoders on the EQ knobs that can be assigned as aux sends or EQ and Pan – sound and aux level adjustments are so much easier now!

24-bit, 96kHz Performance From Day One. With 96kHz sampling rates, the DM-24 is designed to take your mixes

into the future of recording. Whether you're mixing for standard CD mastering or more advanced applications in surround encoding or DVD authoring, the DM-24's superb audio quality blows away the standards in affordable digital mixing. 96kHz is the standard audio sampling rate for DVD video discs also for the new DVD-A (DVD Audio) discs that are just starting to appear on the market. (Please note that in 96kHz mode the number of channels is halved.)

One Of The Most Powerful Automations Available ... At Any Price. Completely built into the mixer with no external computer or software required, the DM-24 offers the most comprehensive automation capabilities ever designed into a compact digital mixer ... bar none. Up to eight entire mixes can be stored in the DM-24. Once a new mix is opened, the DM-24 automatically goes into its automation mode so that any static changes you make are instantly saved. Plus, you can offload all automation data via MIDI.

Flexible Interfacing. Whether you're working with digital or analog systems, the DM-24's standard interfaces allow easy integration into any studio environment. In addition to its 16 analog inputs with XLR mic and 1/4" line inputs on each channel, it includes 24 channels of TDIF interfacing plus eight channels of ADAT Optical I/O, two stereo AES/EBU and two stereo S/PDIF interfaces. Two option slots are also provided for additional 8-channel analog and digital interface modules.

GPI-Outputs. The "General Purpose Interface" is a simple control interface that sends trigger signals to external equipment like tally devices (e.g. a "RECORDING" sign beneath the control room door) etc.

Full-featured Channels. Each channel of the DM-24 offers a four band fully parametric equalizer, a compressor that can be configured either pre or post EQ. Highly-configurable Noise gates are available in channels 1–16. There is also a digital delay on each channel to compensate for microphone placement and digital converter delays when using external analog equipment. The DM-24 also features 1/4" TRS inserts on each channel, as well as detailed capabilities of routing audio internally throughout the mixer. Extensive outputs and monitoring choices are also provided. All faders are motorized and touch-sensitive

with respect to automation allowing easy and comfortable operation.

Professional Dynamics Processing, EQ and Effects.

You may not ever need to turn to outboard effects processors, equalizers or compressors with the DM-24. With highly-configurable gates, fully-parametric 4-band EQs and compression on each channel, the DM-24 offers everything you need for great mixes built right into the mixer. Each channel also features a custom-designed delay with an innovative circuit design that compensates for fixed latencies within a digital studio.

Also, the effects available on the DM-24 are comparable to the best effects found in professional studios worldwide. It's easy to understand why: TASCAM has teamed up with

TC Electronic and Antares to offer high-quality reverb, mic modeling and speaker modeling for the DM-24. Fully adjustable to your tastes, the DM-24's effects are of high enough quality for primary vocal tracks with the convenience of being an integral part of the mixer itself.

As an affordable mixer with true 96kHz capabilities and full 24-bit performance throughout the signal path, the DM-24 is perfect for interacting with the TASCAM MX-2424 24-Track 24-Bit Hard Disk Recorder. Full transport control, LED ring encoders, hierarchical grouping and smooth 100mm long-throw faders make it an excellent console for any serious studio.

Main Features

- Fully 24-bit, 96kHz compatible from day one
- Flexible 32-channel configuration
- Standard interfaces: 24-channel TDIF I/O, 8-channel ADAT Optical I/O, two stereo AES/EBU, two stereo SPDIF
- 16 analog inputs (XLR mic and 1/4" line) with inserts on every channel
- Advanced microphone preamps
- Powerful built-in automation (no computer required)
- 100mm motorized long-throw faders
- Premium-quality 24-bit A/D and D/A converters
- Two option slots for additional interface modules (including AES/EBU, analog, TDIF or ADAT)
- EQ and Compressor on each channel, high-quality configurable gates on channels 1–16
- 4-band, fully parametric EQ with gain, frequency sweep and Q (bandwidth) on each channel
- Digital delay on each channel to compensate for latency
- Two built-in effects processors with reverb, spatial effects and mic/speaker modeling effects by TC Works™, Antares™ and TASCAM
- 32 bit floating point processing offers more digital headroom when applying dynamics processing and time based effects
- Comprehensive user interface, featuring large LCD screen and LED ring encoders
- Two DM-24s can operate as a single integrated console via cascade mode
- Extensive machine control

Specifications

Analogue input/output terminals

MIC IN 1-16	XLR-3-31, balanced
Nominal impedance	2.2kohm
Input level	-56dBu (TRIM max) to -2dBu (TRIM min)
LINE IN 1-16	1/4-inch TRS jack, balanced
Nominal impedance	10kohm
Input level	-42dBu (TRIM max) to +12dBu (TRIM min)
INSERT 1-16	1/4-inch TRS jack, balanced
Nominal output impedance	100ohm
Nominal output level	-2dBu
Maximum output level	+20dBu
Nominal input impedance	10kohm
Nominal input level	-2dBu
Headroom	16dB
ASSIGNABLE SENDS 1-4	1/4-inch TRS jack, balanced
Nominal impedance	100ohm
Nominal level	-2dBu
Maximum level	+14dBu

ASSIGNABLE RETURNS 1-4	1/4-inch TRS jack, balanced
Nominal impedance	5kohm
Nominal level	-2dBu
Headroom	16dB
2TR IN (L/R)	RCA jack, unbalanced
Nominal impedance	10kohm
Nominal level	-10dBV
Headroom	16dB
STEREO OUTPUT (L/R)	XLR-3-31, balanced
Nominal impedance	100ohm
Nominal level	+4dBu
Maximum level	+20dBu
STEREO INSERT (L/R)	1/4-inch TRS jack, balanced
Nominal output impedance	100ohm
Nominal output level	-2dBu
Maximum output level	+14dBu
Nominal input impedance	10kohm
Nominal input level	-2dBu
Headroom	+22dB
CR MONITOR OUTPUT (L/R)	1/4-inch TRS jack, balanced
Nominal impedance	100ohm
Nominal level	+4dBu
Maximum level	+20dBu
STUDIO MONITOR OUTPUT (L/R)	RCA jack, unbalanced
Nominal impedance	100ohm
Nominal level	-10dBV
Maximum level	+6dBV
PHONES 1-2	1/4-inch stereo phone jack
Max output power	120mW + 120mW in total, 33ohm

Digital input/output terminals

DIGITAL INPUT 1 (built-in switchable Fs converter, connector selectable)

(1) Connector	XLR-3-31 type, balanced
Nominal impedance	110ohm
Format	Conforms to AES3-1992/IEC60958 (auto-detect)
Audio bit length	24 bit
(2) Connector	Coaxial
Nominal impedance	75ohm
Format	Conforms to AES3-1992/IEC60958 (auto-detect)
Audio bit length	24 bit

DIGITAL INPUT 2 (built-in switchable Fs converter, connector selectable)

(1) Connector	XLR-3-31 type, balanced
Nominal impedance	110ohm
Format	Conforms to AES3-1992/IEC60958 (auto-detect)
Audio bit length	24 bit
(2) Connector	Coaxial
Nominal impedance	75ohm
Format	Conforms to AES3-1992/IEC60958 (auto-detect)
Audio bit length	24 bit

DIGITAL OUTPUT 1

(1) Connector	XLR-3-31 type, balanced
Nominal impedance	110ohm
Format	Conforms to AES3-1992/IEC60958 (selectable)
Audio bit length	24 bit
(2) Connector	Coaxial
Nominal impedance	75ohm
Format	Conforms to AES3-1992/IEC60958 (selectable)
Audio bit length	24 bit

DIGITAL OUTPUT 2

(1) Connector	XLR-3-31 type, balanced
Nominal impedance	110ohm
Format	Conforms to AES3-1992/IEC60958 (selectable)
Audio bit length	24 bit
(2) Connector	Coaxial
Nominal impedance	75ohm
Format	Conforms to AES3-1992/IEC60958 (selectable)

Audio bit length	24 bit
TDIF-1 Port 1-3	25-pin D-sub, female
Format	Conforms to TDIF-1 specification
Audio bit length	24 bit
ADAT (IN/OUT)	Lightpipe optical
Format	Conforms to ADAT OPTICAL specifications
Audio bit length	24 bit

Sync and other terminals

WORD SYNC IN	BNC with termination switch
Nominal impedance	75ohm, switchable on/off
Input level	TTL level
WORD SYNC OUT/THRU	BNC
Output level	TTL level
MIDI IN, OUT and THRU/OUT2	5-pin DIN x 3
Format	Conforms to MIDI specification
TIMECODE IN	Coaxial
Format	Conforms to SMPTE specification
DTRS REMOTE OUT	15-pin D-sub, male
Format	Conforms to DTRS SYNC format
RS-422 (for SONY 9-pin)	9-pin D-sub, female
EXT SW	1/4-inch mono jack
METER (for MU-24)	25-pin D-sub, female
Faders	100mm touch-sensitive motor-driven faders x17
Resolution	128 steps
GPI	9-pin D-sub, female

Overall system specifications (fs=48kHz)

Sampling Frequency	
Internal	48 / 44.1kHz , 96 / 88.2kHz (high sampling)
External	within $\pm 6.0\%$ from fs
Signal Delay	<1.5 ms (LINE IN to STEREO OUTPUT)
THD (@ nominal level)	
LINE IN to INSERT SEND, 20Hz - 20kHz	<0.1%
LINE IN to STEREO OUTPUT, 1kHz	<0.01%
Frequency Response (LINE IN to STEREO OUTPUT @ nominal level)	20Hz-20kHz, +0.5/-1.0dB
Noise Level (20Hz - 20kHz, TRIM: max, 150ohm, -60dB)	
MIC IN to INSERT SEND	<-127dBu, typical -128dBu
MIC IN to BUS/AUX OUTPUT	<-73dBu
Crosstalk (@ 1kHz)	
STEREO/BUS/AUX OUTPUTS	>80dB
MONITOR OUTPUTS	>70dB
Displays	
LCD	320 x 240 dots LCD with backlight & contrast control
METER	2 x 12 segment LED

Power Supply and Other Specifications

Voltage requirements	120V AC, 60Hz / 230V AC, 50Hz
Power consumption	82 W
Dimensions (W x H x D)	580mm x 140mm x 592mm
Weight	20.5kg (9.3lbs)

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