

# Specifications

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## FREQUENCY RESPONSE

10 Hz to 80 kHz  $\pm$  0.5 dB (192 kHz sample rate, re 1 kHz)

## THD + NOISE

0.005% max (mic in, 1 kHz, 22 Hz–22 kHz BW, trim at 20, fader at 0, -10 dBu in)

## EQUIVALENT INPUT NOISE

-131 dBV (-129 dBu) max (mic in, A-weighting, 76 dB gain, 150 ohm source impedance)

## PROCESSING ENGINE

Highly extensible, full FPGA-based audio processing, 3 FPGAs  
Six-way ARM multiprocessor system  
64-bit audio processing precision

## INPUTS

Mic/Line inputs: 6 total, all fully featured; 3 on full-size XLR, 3 on TA3  
Mic-level inputs: (XLR, TA3): Class-A, discrete differential long-tail pair, 4k ohm input impedance  
Line-level inputs: (XLR, TA3,): active-balanced, 4k ohm input impedance  
48V phantom: full 10 mA to all 6 inputs simultaneously  
AES3 or AES42 available on XLR input 1  
AES42: +10 V, 250 mA available, mode-1, auto-ASRC  
Aux (3.5 mm): unbalanced 2-channel, 4k ohm input impedance  
Com Rtn (TA3, 3.5mm) balanced, 1-channel, 8k ohm input impedance  
External Slate Mic (TA5): balanced, 8k ohm input impedance, menu-selectable 12 V phantom

## MAXIMUM INPUT LEVEL

Mic: +8 dBu (2.0 Vrms)  
Line: +28 dBu (19.5 Vrms)  
Aux: +18 dBu (6.2 Vrms)  
Com Rtn: +24 dBu (12.3 Vrms)  
External Slate Mic: +12 dBu (3.2 Vrms)

## HIGH-PASS FILTERS

Adjustable 10 Hz to 320 Hz, 18 dB/oct. 1st stage analog (before preamp), 2nd stage digital.

## LIMITERS

Limiters available at all channels, buses, headphones, for all sample rates  
Analog first stage, all subsequent stages digital  
Attack time: 1 ms  
Release time: adjustable, 50 ms to 1000 ms  
Threshold: adjustable, -2 dBFS to -12 dBFS  
Selectable ratio: inf:1, 20:1, 18:1, 16:1, 14:1, 12:1, 10:1

## DELAY

Channel Adjustable 0-50 ms  
Output Adjustable 0-500 ms

## MAXIMUM GAIN

Trim stage (mic input): 76 dB  
Trim stage (line input): 50 dB  
Fader stage: 16 dB  
Bus stage: 16 dB  
Headphone stage: 20 dB  
Mic-to-Line: 108 dB  
Mic-to-Headphone: 112 dB  
TA5 (along with mic input pins) for single connection to headset + mic  
High output, 4 ohm output impedance, 400 mW + 400 mW at each connector, all individually driven  
Compatible with headphones of any impedance

## OUTPUTS

XLR (L, R) active-balanced, 250/3.2k/120 ohms (mic/-10/line)  
TA3 (X1/X2) active-balanced, 250/3.2k/120 ohms (mic/-10/line)  
3.5mm (X3/X4): unbalanced, stereo, 1.8k ohms

## HEADPHONE OUTPUTS

¼", 3.5 mm  
TA5 (along with mic input pins) for single connection to headset + mic  
High output, 4 ohm output impedance, 400 mW + 400 mW at each connector, all individually driven  
Compatible with headphones of any impedance

## MAXIMUM OUTPUT LEVEL

(all into 10k load)  
Line: +20 dBu (7.8 Vrms)  
"-10": +6 dBu (1.5 Vrms)  
Mic: -20 dBu (0.078 Vrms)  
X3/X4 Out: +6 dBu (1.5 Vrms)  
Headphone outputs (¼", TA-5): +14 dBu (4.0 Vrms)

## A/D CONVERTERS

32-bit, 120 dB, A-weighted dynamic range typical  
Sampling rates 44.1 kHz, 47.952 kHz, 48 kHz, 48.048 kHz, 88.2 kHz, 96 kHz, 192 kHz

## DIGITAL OUTPUTS

AES3 transformer-balanced, in pairs; 1-2 (XLR-L), 3-4 (XLR-R), 110 ohm, 2 V p-p, AES and S/PDIF compatible

## RECORDING

Internal 256 GB SSD; two removable SD Cards, 10% over-provisioned for optimum performance  
Selectable bit depth 16 or 24-bit  
Simultaneous recording to internal SSD and the two SD cards  
exFAT formatting  
12 tracks (8 iso channels, 4 buses)  
Broadcast WAV monophonic and polyphonic file format  
64-bit WAV (RF64) monophonic and polyphonic; support for files > 4 G  
AAC 2 track at 48 kHz, selectable bit rate 32, 64, 128, 192, 256 kbps

## AUTOMATIC MIXING

Dugan Automixing for up to 8 channels on left and right mix bus  
MixAssist up to 16-channels on Left and Right bus

## USB

USB-C (USB 3.1 type 1) for file transfer of internal SSD, both SD Cards  
USB-A host for keyboard, external controller, external USB hubs supported for connecting multiple devices

**TIMECODE AND SYNC**

Modes Supported: Off, Rec Run, Free Run, 24h Run, External, including External Auto-Record and Continuous modes.  
Frame Rates: 23.98\*, 24, 25, 29.97 DF, 29.97 ND, 30 DF, 30 ND  
Sample/Timecode Accuracy: 0.1 ppm (0.25 frames per 24 hours)  
Timecode Input: 20k ohm impedance, 0.3 V - 3.0 V p-p (-17 dBu - +3 dBu)  
Timecode Output: 75 ohm impedance, 5 V p-p (+12 dBu)  
Word Clock Input: 10k/75 ohm selectable impedance, 1-5 V p-p input sensitivity  
Word Clock Output: 75 ohm impedance, 5 V p-p output, at SR

**REMOTE CONTROL**

Sound Devices CL-12 Linear Fader Controller  
USB MIDI MCU Control - supported 3rd party fader controllers  
SD-Remote Android app  
USB Keyboard  
External Timecode Record Trigger

**LCD**

320x240, Transflective, excellent sunlight visibility  
Larger touchscreen display available via USB-connected SD-Remote app

**POWER**

External: 10-18 V input on locking TA4 connector, pin-4 = (+), pin-1 = (-)  
Dual rear-mount Sony-style L-mount batteries with chargers  
Current Draw, at 12V no battery charging:  
All mic preamps off: 845 mA  
All mic preamps on: 1.03 A  
All mic preamps on, 192 kHz sample rate, recording to internal SSD and 2 SD Cards: 1.21 A  
Intelligent power-down of unused mic preamps and other internal circuits  
Smart Battery telemetry supported via DC Input

**ENVIRONMENTAL**

Operating: -20° C to 60° C, 0 to 90% relative humidity (non-condensing)  
Storage: -40° C to 85° C

**DIMENSIONS (H X W X D)**

5.1 cm x 22 cm x 17 cm;  
(2.0 in. x 8.7 in. x 6. in)

**WEIGHT**

2.75 lbs (unpackaged, without batteries)  
1.25 kg (unpackaged, without batteries)