664

SOUND DEVICES

Six-Input Field Production Mixer with Integrated Recorder

Description

The 664 Field Production Mixer is the new flagship in Sound Devices' line of portable audio mixers. Building on the foundation of the popular 552 mixer, the intuitive 664 has six inputs channels and four output buses. All inputs and outputs are recordable to both CF and SD cards. This unprecedented amount of I/O connectivity and recording capability makes the 664 perfect for any production application.

Inputs

The 664 has six ultra-low noise, high-dynamic-range analog inputs. These transformer-less preamps accept mic or line-level signals, and include analog peak limiters, high-pass filters, input trim controls, and direct outputs. Input connectors 1 and 6 can be selected to accept AES42 or AES3 digital signals.

Output Flexibility

In complex, multi-camera productions, output flexibility is essential. The 664 can send its main left/right outputs to three cameras simultaneously. Two additional output buses, X1 and X2, appear on balanced TA3 connectors. AES3 digital

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664 Key Features

- Six high-bandwidth, low noise microphone preamplifiers with phantom, limiters, high-pass, pan, and direct outputs per channel
- Four output buses, Left, Right and Aux 1, Aux 2; transformer-balanced for freedom from ground loops; multiple output connectors, including dual multi-pins
- Built-in production recorder, records all inputs and output buses, 10 tracks, 16 tracks with an attached CL-6
- Broadcast WAV recording to dual memory card slots, CF and SD
- Record different track combinations and to each card type
- High-precision, Ambient Recording-based time code generator/reader with auto-recharging of internal TC battery
- Time code compare tool to measure offset from internal and external time code
- Quick, intuitive interface via sunlight readable, transflective LCD menu control
- Main controls on dedicated knobs and switches
- Two AES42/AES3 digital inputs (input connectors 1 and 6)
- AES3 output selection, up to eight channels of AES out (XLR, multi-pin)
- Expanded return monitoring capabilities, with three camera returns
- Dedicated communication circuit (PL)
- Built-in slate microphone and external slate microphone input connector
- Powered by AA-battery x5 or isolated (floating) external DC, 10-18V
- Metalized, gasketed carbon-fiber chassis panels for light weight and durability

CL-6 Input Expander

For applications requiring more inputs, the available CL-6 Expander adds six line-level analog inputs, additional LED output metering and additional recording transport controls. The 664 a with CL-6 has 12 inputs, four output buses for 16 total record tracks. The direct output connectors on the 664 are selectable as inputs with the CL-6 attached.

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INPUT PANEL

OUTPUT PANEL

Specifications

Frequency Response
20 Hz to 50 kHz, ± 0.5 dB

THD + Noise
0.09% max (50 kHz, +18 dBu at line out, fade fully up)

Equivalent Input Noise
-126 dBu (-128 dBV) maximum. (22 Hz - 22 kHz bandwidth, flat filter, trim control fully up)

Inputs
XLR Mic: active-balanced for use with ≤600 ohm mics, 4k ohm actual; 12V or 48V phantom power, 10 mA max
XLR AES: AES3 or AES42 (10 V power), SRC
XLR Line: active-balanced for use with ≤2k ohm outputs, 10k ohm actual
TA3 Line (with CL-6): active-balanced for use with ≤2k ohm outputs, 10k ohm actual
RTN A,B,C (3.5 mm/10-pin): unbalanced stereo for use with ≤2k ohm outputs, 30k ohm actual

Maximum Input Level
XLR Mic: 0 dBu (0.78 Vrms)
XLR Line: +40 dBu (80 Vrms)
RTN A,B,C (3.5 mm/Multi-pin): +24 dBu (12.4 Vrms)

High-Pass Filters
Sweepable 80 Hz to 240 Hz, 12 dB/oct at 80 Hz, 6 dB/octave at 240 Hz

Input Limiters
Individual limiters on both trim and fader stages, +16 dBu threshold, 20:1 limiting ratio, 1 mS attack time, 500 mS release time

Link I/O:
Unbalanced stereo for linking to MixPre, 302, 442, 552, and 664; 2k ohm impedance

Maximum Gain
Mic-In-to-Line-Out: 93 dB
Mic-In-to-Aux-Out, -10 Out: 79 dB
Line-In-to-Line-Out: 39 dB

Output Type
Line: transformer-balanced for use with ≥600 ohm inputs, 100 ohms
-10: transformer-balanced for use with ≥10k ohm inputs, 3.2k ohm
Mic: transformer-balanced for use with ≥600 ohm inputs, 150 ohms
TA3 Mic/Line: active-balanced, pin-2 and 3 driven, for use with ≥3k ohm inputs, 1k ohm
TA3 Direct Outs Mic/Line: active-balanced, pin-2 and 3 driven, use with ≥3k ohm inputs, 1k ohm
Tape Outs (3.5 mm and TA3-type): unbalanced, stereo, use with ≥6k ohm input, 1.8k ohm actual
Headphones (3.5 mm and 1/4"): unbalanced, stereo, use with 8-2k ohm headphones, 50 ohms

Line Output Clipping Level (1% THD)
20 dBu minimum with 10k load

Maximum Output Level
Line: +20 dBu (7.8 Vrms)
-10: +6 dBu (1.5 V rms)
Mic: -20 dBu (0.078 Vrms)
Tape Outs: +6 dBu (1.5 Vrms)

Output Limiters
Affects analog output. Threshold selectable from +4 dBu to +20 dBu, 1 dB steps, 20:1 limiting ratio, 1 mS attack time, 500 mS release time.

Recording Tracks
10 tracks (6 inputs, 4 output buses);
16 tracks (12 inputs, 4 output buses) with CL-6

A/D
24-bit, 114 dB, A-weighted dynamic range typical; 44.1 kHz, 47.952 kHz, 48 kHz, 48.048 kHz SR

Digital Outputs
AES3 transformer-balanced, in pairs; 1-2 XLR-L, 3-4 XLR-R, 5-6, multi-pin 1, 7-8, multi-pin 2, 110 ohm, 2 V p-p, AES and S/PDIF compatible

Recording Storage Type
Secure Digital High Capacity (SDHC), Secure Digital (SD), CompactFlash (CF), FAT32 formatted, will format memory cards on-board, WAV (Broadcast Wave File format) polyphonic

Sample/Timecode Accuracy
± 0.2 ppm (0.5 frames per 24 hours)

Timecode and Sync
Modes Supported: off, Rec Run, Free Run, 24h Run, External
Frame Rates: 23.976, 24, 25, 29.97DF, 29.97ND, 30DF, 30ND
Accuracy: Ambient generator, 0.5 frame in 24 hr
Time Code Input: 20k ohm impedance, 0.3 V - 3.0 V p-p (–17 dBu - +3 dBu)
Time Code Output: 1k ohm impedance, 3.0V p-p (+12 dBu)
Word In/Out: square wave; 10k/75 ohm, 1-5V p-p input; 75 ohm, 3.3V p-p output, at SR

Power
External: isolated 10-18 V on locking 4-pin Hirose connector, pin-4 = (+), pin-1 = (-).
Internal: accepts 5 AA-sized (LR6) batteries, 1.2-1.5 V nominal (NiMH rechargeable compatible).

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

Dimensions and Weight
Dimensions: 5.3 cm x 32 cm x 19.8 cm (H x W x D) 2.1" x 12.6" x 7.8"
Weight: 4 lbs. 12 oz. (unpackaged, without batteries)

Description (continued)

outputs are individually selected to appear on the main XLR and multi-pin output connectors.

Recording

The 664 can record each of its inputs and its four output buses, for 10 record tracks. Recordings are saved to CompactFlash and SD cards. Recordings are either 16- or 24-bit Broadcast WAV files with extensive metadata. All popular production sampling rates are supported. When used with a CL-6 Input Expander, the 664 records 16 tracks, 12 inputs and four output buses.

Integrated Time Code

With the mixer's built-in, rock-steady Ambient time code generator, multiple devices can operate in synchronization. The 664 operates as either a time code master clock or its clock can be jammed from external time code. A helpful time code compare utility shows the difference between internal and external time code.

Ease-of-Use

The 664 was designed with knowledge gained from the industry's top engineers and from Sound Devices' expertise in portable mixers. Because sound engineers operate in fast-paced environments, important controls are on dedicated knobs and switches, while additional features are quickly accessed through the intuitive LCD-based menu control.

Features, nomenclature, and specifications subject to change.