702T

SOUND DEVICES

Portable, High-Resolution Audio Recorder with Time Code

2-TRACK | FIREWIRE | COMPACTFLASH | TIMECODE

Description

The two-channel 702T is a powerful two-track file-based digital audio recorder with time code. The super-compact device records and plays back to convenient, removable CompactFlash cards, making field recording simple and fast. It reads and writes uncompressed PCM audio at 16 or 24 bits at sampling rates from 32 kHz to 192 kHz. Lossless compression using FLAC is supported, as well as MP2/MP3 compress formats at 64 kb/s to 320 kb/s. The time code implementation makes the 702T perfect for any dual-system video or film production application.

The 702T implements a no-compromise audio path that includes Sound Devices' next generation microphone preamplifiers. Designed specifically for high bandwidth, high bit rate digital recording, these preamps set a new standard for frequency response linearity,

Description continued on next page

702T Key Features

- Two-channels of Sound Devices next generation microphone preamps with phantom, limiters, and high-pass filters
- Records to convenient, removable CompactFlash storage or external FireWire drives
- Full-function, ultra-stable Ambient time code functionality, tuneable to <0.2 PPM accuracy with all relevant TC rates
- AES3 (XLR) or AES3id (unbalanced AES on BNC) digital inputs and AES3id outputs
- Programmable, sunlight-viewable LED level metering
- 24-bit or 16-bit (with or without dither) and sampling at 32 kHz to 192 kHz
- WAV format, mono or poly files, uncompressed PCM audio
- MP2/MP3 compressed recording and playback, FLAC lossless compression recording and playback file playback
- FireWire (IEEE-1394) port for high-speed data transfer to Mac and Windows computers
- 6-pin modular C. Link serial input and output for unit linking and control and expansion using the CL-1
- Powered by removable Li-ion rechargeable camcorder batteries
- 10–18 VDC external power input powers and charges Li-ion battery
- Aluminum & stainless-steel chassis for exceptional durability and light weight
- Designed for the same operational environmental extremes as Sound Devices field mixers

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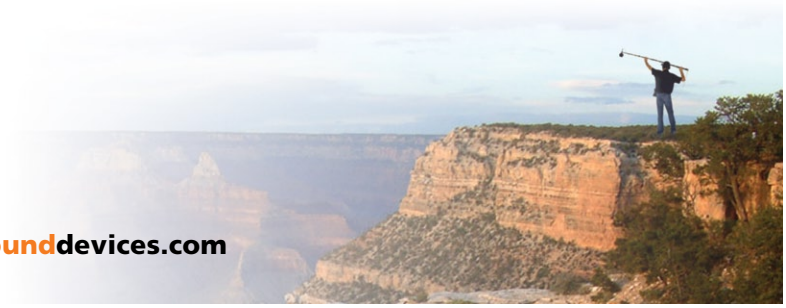

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[Back Panel]

[Input Panel]

[Output Panel]

Specifications

Sampling Frequency:
- Internal: 32, 44.1, 47.95, 48, 48.048, 88.2, 96, 96.096, 176.4, 192 kHz; external: 32–200 kHz via word clock input

Internal Data Path and Processing:
- 32 bit, 192 dB dynamic range

A/D, D/A Converters:
- 24 bit, 192 kHz sample rate maximum

A/D Dynamic Range:
- 114 dB, A-weighted bandwidth
- 110 dB, 20 Hz – 22 kHz bandwidth

D/A Dynamic Range:
- 112 dB, A-weighted bandwidth
- 108 dB, 20 Hz–22 kHz bandwidth

Frequency Res. Mic or Line:
- 10 Hz–40 kHz, +0.1, -0.5 (gain controls centered, Fs 96 kHz)

Equivalent Input Noise:
- Mic: -133 dBu max (-135 dBV), 50 ohm source, A-weighted filter
- Mic: -131 dBu max (-133 dBV) max, 50 ohm source, 20 Hz–20 kHz BW flat filter, gain fully up
- Mic: -130 dBu max (-132 dBV), 150 ohm source, A-weighted filter
- Mic: -128 dBu max (-130 dBV), 150 ohm source, 20 Hz–20 kHz BW flat filter, gain fully up

THD + Noise:
- Mic: 0.004% max (1 kHz, 22 Hz–22 kHz BW, gain control down, -15 dBu input); line: 0.004% max (1 kHz, 22 Hz–22 kHz BW, gain control down, +16 dBu input)

Gain: (input dBu to -20 dBFS)
- Mic (normal gain mode): 25 to 70 dB; mic (low gain mode): 10 to 55 dB; line: -6 to 18 dB, 0.1 dB increments

Input Clipping Level:
- Mic input: -5 dBu minimum (normal gain mode, gain control fully down); mic input: +10 dBu minimum (low gain mode, gain control fully down); line input: +26 dBu minimum (gain control fully down)

High-Pass Filters:
- 40, 80, 160, 240 Hz @ 12/18/24 dB/oct (all menu selectable)

Mic Powering: (each XLR selectable)
- 48-volt phantom through 6.8k resistors, 10 mA per mic available, menu-selected per channel in mic or line level positions

Mic Input Limiters:
- Analog (pre-A/D converter), dual-stage optocoupler and FET, -4 dBFS threshold, 20:1 limiting ratio, 5 mS attack time, 200 mS release time

Analog Line Output Clipping Level:
- +24 dBu minimum, 10k ohm load
- Attenuation & Resolution 0 to 40 dB, 1 dB increments

I/O – Digital:
- AES3-id 75 ohm, 0.5 V p-p, S/PDIF compatible with RCA adapter

Digital Storage:
- Compact Flash CF type I, II, and + (microdrive) compatible, FAT32 formatted, 2 TB maximum

File Types:
- WAV or BWF, mono or polyphonic; MP3 @ 64, 96, 128, 240, or 320 kb/s stereo; utilities: format, speed test, and repair utility for internal HD and CF

Data Transfer/Control:
- FireWire peripheral-mode,IEEE-1394a compliant
- 6-pin FireWire, Windows 2000,/XP,/Vista, Mac OS X only: C. Link 6-pin modular input and output, RS-232 machine control, word clock, time code transfer, CL-1 connectivity

Metering:
- 38-segment (2 x 19), sunlight-viewable, selectable peak, VU, or peak (with or without peak hold) with VU ballistics, variable brightness

Time Code:
- Modes supported: free run, record run, 24 hour run, continuous jam; frame rates 23.976, 24, 25, 29.97DF, 29.97ND, 30DF, 30ND; accuracy <0.2 ppm, when tuned with Ambient Master Controller; holds TC clock for 2 hours after main battery removal (AA time code battery installed); retains time-of-day

Powering:
- Operating cell, removable 7.2 V (nominal) Sony M- or L-type Li-on, operational from 6 – 8 V; time code battery, 1.2 V AA nickel metal-hydride; power supply (external) 10–18 V, 1 A minimum, via locking 4-pin Hirose connector, use Hirose #HR10-7P-4P (DigiKey# HR100-ND) for locking mating DC connector; pin-4 = (+), pin-1 = (-) or pin-3 = (+) and pin-2=(-).

Environmental:
- Operation and storage: ambient temperature 5–55° C,
- Relative humidity (non-condensing) <80%

Other:
- LCD Display 202 x 32 pixel, extended temperature, backlit display; tone oscillator 100 Hz–10 kHz, variable output, assigned to tracks or outputs (menu-selectable)

Dimensions and Weight:
- 45 mm x 209 mm x 125 mm (H x W x D)
- 1.8” x 8.2” x 4.9”
- mass unpackaged: 1.0 kg, (2.1 lbs) without battery

Description Continued

low distortion performance, and low noise.

No other recorder on the market matches its size or feature set. In addition, its learning curve is quite short—powerful does not mean complicated. While the 702T is a very capable recorder by itself, it truly excels when used in conjunction with an outboard audio mixer such as Sound Devices’ own 442 or 302.

Discover more about Sound Devices products at **www.soundDevices.com**

Features, nomenclature, and specifications subject to change.