

HS-2

Stereo Audio Recorder



The HS-2 is Tascam's first studio solution for professional stereo recording and playback based on solid-state media. The HS-2 includes all connections required by professionals including RS-232C serial control. Also true to Tascam tradition, audio is high-quality throughout with up to 192 kHz / 24-bit recording formats available.

Audio files are created on secure CompactFlash or SD media in Broadcast WAV format, and since a pair of memory card slots is available, data mirroring is possible. A remote control available as an option allows flash start operation from a separate room over RJ-45 connection.

The HS-2 is the ideal solid-state recorder for professionals, with the instant access, ease-of-use and sound quality recording, broadcast and post production studios demand.

Main Features

- **High-quality stereo audio recorder for professional broadcast and recording applications**
 - **Two operation modes:**
 - Timeline mode: Use the unit like a tape recorder
 - Take mode: Record/play separate audio takes, use playlists and flash start
 - **Ideal replacement for current DAT, MD, MO or other recorders**
 - **Easy to read and operate through TFT colour touch screen interface**
 - **Dual card slot with UDMA support**
 - **Mirroring over two cards**
 - **Uses broadcast wave format (BWF) with mark function**
 - **Sample rates: 44.1/48/88.2/96/176.4/192 kHz at 16/24-bit resolution**
 - **Pre-recording up to 5 seconds (audio is captured before the record button is actually pressed)**
 - **Flash start with optional flash start controller RC-HS20PD or RC-SS20**
 - **Locate marker function (auto/manual)**
 - **Editing functions (divide, combine, erase)**
 - **Projects can be exported in AES31 format**
 - **Auto Cue, Auto Ready, Incremental Play and Repeat**
 - **Playlist function**
 - **Jog/Shuttle function**
 - **2U rack-mount size**
- #### Inputs and Outputs
- **Balanced analogue inputs and outputs (XLR)**
 - **Unbalanced analogue inputs and outputs (RCA)**
 - **AES/EBU input and output**
 - **RS-232C serial control port**
 - **RS-422 serial control port (with optional SY-2 sync extension)**
 - **Parallel control port**
 - **SMPTE Timecode input/output (with optional SY-2 sync extension)**
 - **Word sync input/output (BNC)**
 - **Video sync input (BNC)**
 - **Gigabit Ethernet connection for data transfer or remote control**
 - **Remote connector for optional flash start controller**
 - **USB connector for data exchange with external storage devices**
 - **Computer keyboard (PS/2) connector for easy naming of files and folders**

Specifications

| General | |
|-----------------------|--|
| Recording media | SD card / SDHC card CompactFlash (CF) card |
| File system | FAT32 (4 GB or more) FAT16 (2 GB or less) |
| File format | BWF (Broadcast Wave Format) WAV (Waveform Audio Format) |
| Number of channels | 2 channels |
| Quantization bit rate | 16-bit, 24-bit |
| Sampling frequency | 44.1/48/88.2/96/176.4/192 kHz |

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| Clock reference | INTERNAL, WORD IN, VIDEO IN, DIGITAL IN |
| Time code frame rates | 23.976, 24, 25, 29.97DF, 29.97NDF, 30DF, 30NDF |

Analog audio inputs and outputs

The error for nominal and maximum levels is ± 1 dB for all input and output jacks except the PHONES jack.

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| ANALOG INPUTS L / R (BALANCED) | XLR-3-31 (1: GND, 2: HOT, 3: COLD) |
| Input impedance | 4.3 kOhm |
| Nominal input level | +4 dBu (1.23 Vrms) ± 1 dB (+6 dBu when maximum input level is set to +15 dBu and Digital Ref. Level is set to -9 dB) |
| Maximum input level (selectable) | +15 dBu (4.36 Vrms) +18 dBu (6.16 Vrms) +20 dBu (7.75 Vrms) +22 dBu (9.76 Vrms) +24 dBu (12.3 Vrms) |
| ANALOG INPUTS L / R (UNBALANCED) | RCA pin jack |
| Input impedance | 3.9 kOhm |
| Nominal input level | -10 dBV (0.316 Vrms) ± 1 dB |
| Maximum input level | +6 dBV (2.0 Vrms) ± 1 dB |
| ANALOG OUTPUTS L / R (BALANCED) | XLR-3-32 (1: GND, 2: HOT, 3: COLD) |
| Output impedance | 100 Ohm or less |
| Nominal output level | +4 dBu (1.23 Vrms) ± 1 dB (+6 dBu when Digital Ref. Level is set to -9 dB) |
| Maximum output level (selectable) | +15 dBu (4.36 Vrms) +18 dBu (6.16 Vrms) +20 dBu (7.75 Vrms) +22 dBu (9.76 Vrms) +24 dBu (12.3 Vrms) |
| ANALOG OUTPUTS L / R (UNBALANCED) | RCA pin jack |
| Output impedance | 100 Ohm or less |
| Nominal input level | -10 dBV (0.32 Vrms) ± 1 dB |
| Maximum input level | +6 dBV (2.0 Vrms) ± 1 dB |
| PHONES jack | 6.3-mm stereo jack |
| Maximum output power | 45 mW + 45 mW or more (THD+N 0.1% or less, into 32 Ohm) |

Digital audio inputs and outputs

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| DIGITAL IN (S/PDIF) | RCA pin jack |
| Input signal voltage amplitude | 200 mVpp to 600 mVpp |
| Input impedance | 75 Ohm |
| Format | AES3-2003 / IEC60958-4 (AES/EBU) IEC60958-3 (SPDIF) |
| Supported sampling frequencies | 44.1/48/88.2/96/176.4/192 kHz (Single / Double / Quad) When SRC is ON, the receivable range is 32-192 kHz. |
| DIGITAL IN (AES/EBU) | XLR-3-31 |
| Input signal voltage range | 200 mVpp to 10 Vpp |
| Input impedance | 110 Ohm $\pm 20\%$ |
| Format | AES3-2003/IEC60958-4(AES/EBU) IEC60958-3(SPDIF) |
| Supported sampling frequencies | 44.1/48/88.2/96/176.4/192 kHz (Single/ Double/ Quad) When SRC is ON, the receivable range is 32-192 kHz. |
| DIGITAL OUT (S/PDIF) | RCA pin jack |
| Output voltage | 0.5 Vpp $\pm 20\%$ |
| Input impedance | 75 Ohm |
| Format | IEC60958-3 (SPDIF) |
| Supported sampling frequencies | 44.1/48/88.2/96/176.4/192 kHz (Single/ Double/ Quad) |
| DIGITAL OUT (AES/EBU) | XLR-3-32 |
| Output voltage | 2-5 Vp-p/110 Ohm |
| Output impedance | 110 Ohm $\pm 20\%$ |
| Format | IEC60958-4 (AES3-2003, AES/EBU) |
| Supported sampling frequencies | 44.1/48/88.2/96/176.4/192 kHz (Single/ Double/ Quad) |

Control inputs and outputs

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| RS-422 (attached with Option SY-2 board) | D-sub 9-pin |
| RS-232C | D-sub 9-pin |
| PARALLEL | D-sub 25-pin |
| TIME CODE IN (attached with Option SY-2 board) | BNC connector |
| Signal voltage amplitude | 0.5-5 Vpp |
| Input impedance | 10 kOhm |
| Format | SMPTE 12M-1999 compliant |
| TIME CODE OUT (attached with Option SY-2 board) | BNC connector |
| Signal voltage amplitude | 2 Vpp |
| Output impedance | 600 Ohm |

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| Format | SMPTE 12M-1999 compliant |
| WORD/VIDEO IN | BNC |
| Input voltage | 5 V TTL equivalent (WORD IN) |
| Signal voltage amplitude | 1 Vpp (VIDEO IN) |
| Input impedance | 75 Ohm $\pm 10\%$ |
| Allowable frequency deviation of external synchronization | ± 100 ppm |
| Input frequencies (WORD) | 44.1/48/88.2/96/176.4/192 kHz |
| Input signal (VIDEO) | 24/25/29.97/30 Frame (NTSC/PAL Black burst, HDTV Tri-Level) |
| WORD/VIDEO THRU/OUT | BNC (OUT/THRU switch included (OUT is only for WORD OUT)) |
| Signal voltage amplitude | 5 V TTL equivalent |
| Output impedance | 75 Ohm $\pm 10\%$ |
| Output frequency (WORD) | 44.1/48/88.2/96/176.4/192 kHz |
| Frequency stability | ± 10 ppm or less (Ta = 20° C) |
| ETHERNET | RJ45 |
| Compatibility | 100BASE-TX, 1000BASE-T |
| KEYBOARD | Mini-DIN (PS/2) |
| USB | USB A-type 4-pin |
| Protocol | USB2.0 HIGH SPEED (480 Mbps) compliant |
| REMOTE | RJ45 |
| Supply voltage | 13 V |
| Signal | LVDS serial |
| Transmission contents | LCD display DATA, asynchronous serial transmission control signals, port control signals |

Audio performance

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| Frequency response, ANALOG IN to ANALOG OUT | 20 Hz - 20 kHz ± 0.5 dB (Fs = 44.1/48 kHz, JEITA, recording and playback) 20 Hz - 40 kHz +0.5 dB/-2 dB (Fs = 88.2/96 kHz, JEITA, recording and playback) 20 Hz - 80 kHz +0.5 dB/-5 dB (Fs = 176.4/192 kHz, JEITA, recording and playback) |
| Distortion, ANALOG IN to ANALOG OUT | 0.005% or less (JEITA, recording and playback) |
| S/N ratio, ANALOG IN to ANALOG OUT | 100 dB or more (JEITA, recording and playback) |

Power supply and other specifications

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|---------------------------------|-------------------------|
| Power | AC 100-240 V, 50-60 Hz |
| Power consumption | 22 W |
| External dimensions (W x H x D) | 483 mm x 94 mm x 317 mm |
| Weight | 4.9 kg |
| Operating temperature range | 5-35 °C |

Design and specifications subject to change without notice.

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