

US-20x20

20-Channel USB Audio Interface / Digital Mixer



Continuing our legacy and passion for audio, the US-20x20 (twenty-by-twenty)

“Celesonic” is the flagship of the Tascam line of interfaces. Designed for use in professional recording facilities or project studios, this audio interface supports 192 kHz and utilizes USB 3.0, a leading-edge transmission standard. With added features such as Mic Preamp Mode and Mixer Mode, it becomes a very versatile tool – along with being an interface for multi-channel recording.

Microphone preamplifiers are crucial for highest audio quality. The eight Tascam Ultra-HDDA mic preamps have an equivalent input noise (EIN) of -125 dBu. And 20 dB of headroom on the microphone and line inputs allow to easily handle high SPL transients from percussion and instruments.

Utilizing a high-performance Blackfin processor, the US-20x20 offers an advanced DSP mixer including EQ, compression and reverb effects on each channel. The processor not only excels on the dynamics and effects, but enables multi-channel transmission via USB 3.0 for the studio.

Additional significant features enable the seamless workflow of the professional engineer. Mode switching provides the options of using the US-20x20 as a standalone mic preamp, an audio interface, or as a mixer for sound reinforcement applications.

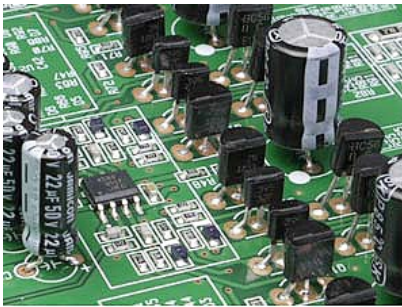
Complete connectivity to various types of audio equipment is achieved by utilizing the analogue inputs and outputs, digital input and output via coaxial and optical connectors, MIDI, and word clock BNC connectors.

The radical eye-catching style and angled industrial design of the US-20x20 make desktop recording a breeze. A rack-mount adapter is also included.

[Read the review on Pro Tools Expert \(11 Feb 2016\)](#)

Details

Ultra-HDDA mic preamps provide pristine audio quality



Our original Ultra-HDDA mic preamps allow you to input high-quality audio from any audio source just by turning a knob. These are the same mic preamps that are in our HS-P82 professional recorders, which are popular in the broadcast and film industry. These versatile preamps can handle both condenser and dynamic mics, and will allow you to enjoy high-quality recording even if you are not an expert. These versatile preamps also feature line-level inputs for keyboards and other equipment.

- Built-in Ultra-HDDA mic preamps have discrete construction that achieve -125 dBu EIN (Equivalent Input Noise)
- Guitars can be directly connected enabling the use of 3rd-party plug-in effects
- Wide dynamic range that can handle the sound pressures of drum recording easily

20 inputs and 20 outputs for versatility in many recording applications



With eight XLR/TRS inputs, two TRS inputs, multi-channel digital inputs via S/PDIF coaxial, and optical digital connectors, a total of 20 simultaneous inputs is possible when operating at 44.1 kHz or 48 kHz. As with the inputs, 20 simultaneous outputs is possible at 44.1 kHz or 48 kHz utilizing the ten TRS outputs, S/PDIF coaxial and optical digital outputs. The optical input/output support S/MUX2 and S/MUX4 - required for high sampling rates. Using two US-20x20 and the optical digital connections, it is possible to configure a 16-microphone recording system.

Note: When operating at 88.2 kHz or 96 kHz, up to 16 inputs and 16 outputs are possible. When operating at 176.4 kHz or 192 kHz, up to 12 inputs and 12 outputs are possible.

- Eight XLR/TRS inputs with +48 V phantom power and two TRS inputs switchable between -10 dB and $+4$ dB
- S/PDIF coaxial input/output enables connection with an external AD/DA converter
- Word input/output enables connection with an external clock generator

Three switchable modes - Interface, Mic Preamp and Mixer



The versatile US-20x20 is an Interface for multitrack recording using a personal computer and DAW, a standalone mic preamp, or a mixer for live performances.

- Mic preamp mode enabling use as a microphone preamplifier for analogue/digital output
- Mixer mode enabling use for PA/SR and use as a keyboard mixer

Advanced DSP mixer paired with a new USB driver

An obstacle with computer-based recording is latency (delayed audio signals). New driver software has been developed to eliminate latency issues and driver setup problems. The built-in mixer utilizes the high-performance Dual Core BlackFin DSP making it possible to offer 4-band EQ and compression on each channel.

Note: When operating at 176.4 kHz or 192 kHz, the effects (EQ, compression, phase and reverb) of the DSP mixer

cannot be used.

- High-resolution recording at up to 192 kHz/24 bit
- USB 3.0 computer connection, a leading-edge transmission standard
- Advanced DSP mixer with 4-band equalizer and compressor on each channel
- Reverb effect for monitoring enhances the performer’s motivation
- Driver software can be installed without connecting the interface



USB 3.0 computer connection, a leading transmission standard



USB 3.0 is used in the US-20x20 for 24-channel transmission at 192 kHz/24-bit. This is not possible with USB 2.0.

Supported USB version

USB 3.0 / USB 2.0

USB 2.0

Operating system

Windows 10

Windows 8, Windows 7, OS X Yosemite (10.10), OS X Mavericks (10.9), OS X Mountain Lion (10.8)

Support for iOS devices and compatibility with many DAW applications



You will not need another audio interface if you decide you want to make music using an iPad or other iOS device. The performance of these interfaces has been tested with major DAWs - you can continue to use them even if you change DAW software. Since these units include MIDI inputs and outputs, they can also be used as MIDI interfaces.

- Connect with an iPad or another iOS device
- Tested with Sonar, Pro Tools, Cubase, Live, Studio One and GarageBand

- MIDI input and output enable connection with keyboards and other MIDI devices

Rackmount adapters and hex keys are included



You can either utilize the brackets for rackmount installations or unscrew the brackets with the hex keys provided when using on a desktop.

Features at a glance

- High-quality Ultra-HDDA (High Definition Discrete Architecture) microphone pre-amps with ultra-low noise (EIN: -125 dBu)
- Recording at up to 192 kHz/24 bit
- Support for Windows and Mac operating systems
- USB 3.0 or USB 2.0 computer connection for 40-channel audio transmission at 44.1/48 kHz or 24-channel audio transmission at 176.4/192 kHz (USB3.0 requires Windows 10 or OS X 10.11.2 or later)
 - 20 inputs/20 outputs available at 44.1/48 kHz/24 bit (10 analogue channels + 2 digital S/PDIF channels + 8 optical channels)
 - 16 inputs/16 outputs available at 88.2/96 kHz/24 bit (10 analogue channels + 2 digital S/PDIF channels + 4 S/MUX optical channels)
 - 12 inputs/12 outputs available at 176.4/192 kHz/24 bit (10 analogue channels + 2 digital S/PDIF channels)
- Three selectable operation modes: audio interface, standalone micpreamp, digital mixer
- DSP mixer with 4-band EQ and compression on each input channel (can be used in Interface/Mixer mode)
- Patch bay allows outputs to be assigned freely (can be used in Interface/Mixer mode)
- DSP mixer settings can be stored in up to 10 scenes
- USB Audio Compliance 2.0 for iPads and other iOS devices
- Reverb effect can be added to the monitored audio
- Low-latency monitoring via the DSP mixer

Inputs and outputs

- Eight XLR/TRS combo jack analogue inputs with switchable phantom power (48 V)
- Inputs 1 and 2 can be used for direct guitar input
- Two TRS (balanced) inputs on rear panel
- Input level range of 56 dB for using dynamic mics
- Ten TRS (balanced) analogue outputs
- TOS LINK optical digital multi-channel input and output (8 channels at 44.1/48 kHz, supporting S/MUX2 and S/MUX4)
- S/PDIF coaxial digital input and output
- BNC word clock input and output
- Two standard TRS headphones outputs with 2 x 70 mW output power
- Separate controls for line and headphones output levels
- MIDI input/output

Other features

- DAW compatibility (ProTools, Cubase, Live, Studio One, Garage Band)
- Rack-mount adapter included
- Dedicated AC adapter included
- Angled industrial design provides excellent usability on a desktop

New features with firmware version 2.0

- Simultaneous playback of ASIO and WDM is now possible by selecting an alternative driver.
- Notification function keeps you updated with the latest information for your product
- Automatic update notification helps you to keep your software and firmware up to date (you can install new updates with the press of a button)

New features with driver version 2.1

- The internal mixer can be bypassed for situations when using an external microphone preamp
- Select whether to allow the signal to be sent from PC to the stereo bus
- In Mic Preamp mode, the US-20x20 can now be used as a D/A converter
- The clock source can be selected without the settings panel when using the US-20x20 standalone

New features with USB driver version 4.0

- With a powerful computer, ultra-short latency times can now be achieved by selecting a buffer size up from four samples
- Optimised display of the software window according to the screen resolution
- Further improved overall stability

Supported Operating Systems

Windows

- Windows 10 (October 2020, Version 20H2)
- Windows 10 (November 2019 Update 1909)
- Windows 10 (May 2019 Update 1903)
- Windows 8.1
- Windows 8
- Windows 7

Mac

- macOS Big Sur (11.0)
- macOS Catalina (10.15)
- macOS Mojave (10.14)
- macOS High Sierra (10.13)
- macOS Sierra (10.12)
- OS X El Capitan (10.11)
- OS X Yosemite (10.10)
- OS X Mavericks (10.9)
- OS X Mountain Lion (10.8)

iOS

- iOS 14 / iPadOS 14
- iOS 13 / iPadOS 13
- iOS 12
- iOS 11
- iOS 10
- iOS 8

Options



SERIES 8p Dyna: 8-Channel Mic Preamp With Analogue Compressor

Related products



US-16x08: USB Audio/MIDI Interface (16 in/8 out)



SERIES 208i: USB Audio/MIDI Interface With DSP Mixer (20 in, 8 out)



SERIES 102i: USB Audio/MIDI Interface With DSP Mixer (10 in, 4 out)



Model 16: 14-Channel Analogue Mixer With 16-Track Digital Recorder

Specifications

General

Sampling frequencies	USB 3.0: 44.1/48/88.2/96/176.4/192 kHz USB 2.0: 44.1/48/88.2/96 kHz
Quantization bit depth	16/24-bit

Analogue inputs

Mic inputs (balanced, IN1–IN8)	XLR-3-31 equivalent (1: GND, 2: HOT, 3: COLD)
Input impedance	2.4 k Ω
Nominal input level (gain knob at MAX)	–68 dBu (0.0003 Vrms)
Nominal input level (gain knob at MIN)	–12 dBu (0.195 Vrms)
Maximum input level	+8 dBu (1.947 Vrms)
Gain range	56 dB
Instrument inputs (unbalanced, IN1–IN2)	6.3mm (1/4") standard TS jacks (Tip: HOT, Sleeve: GND)
Input impedance	1 M Ω or more
Nominal input level (gain knob at MAX)	–68 dBV (0.0004 Vrms)
Nominal input level (gain knob at MIN)	–12 dBV (0.251 Vrms)
Maximum input level	+8 dBV (2.512 Vrms)
Gain range	56 dB
Line inputs (balanced, IN1–IN8)	6.3mm (1/4") standard TRS jacks (Tip: HOT, Ring: COLD, Sleeve: GND)
Input impedance	10 k Ω
Nominal input level (gain knob at MAX)	–52 dBu (0.0019 Vrms)
Nominal input level (gain knob at MIN)	+4 dBu (1.228 Vrms)
Maximum input level	+24 dBu (12.282 Vrms)
Gain range	56 dB
Line inputs (unbalanced, LINE IN 9–10, LEVEL switch set to –10dBV)	6.3mm (1/4") standard TS jacks (Tip: HOT, Sleeve: GND)
Input impedance	10 k Ω
Nominal input level	–10 dBV (0.3162 Vrms)
Maximum input level	+10 dBV (3.162 Vrms)
Line inputs (balanced, LINE IN 9–10, LEVEL switch set to +4dBu)	6.3mm (1/4") standard TRS jacks (Tip: HOT, Ring: COLD, Sleeve: GND)
Input impedance	10 k Ω
Nominal input level	+4 dBu (1.228 Vrms)
Maximum input level	+24 dBu (12.282 Vrms)

Analogue outputs

Line outputs (balanced, LINE OUT 1–10)	6.3mm (1/4") standard TRS jacks (Tip: HOT, Ring: COLD, Sleeve: GND)
Output impedance	100 Ω
Nominal output level	+4 dBu (1.228 Vrms)
Maximum output level	+24 dBu (12.277 Vrms)
Headphones outputs (PHONES 1/2)	6.3mm (1/4") standard stereo jacks
Maximum output power	70mW + 70mW (THD+N 0.1% or less, into 32 Ω load)
Frequency response (Input to PHONES 1/2 output)	
At 44.1 kHz and 48 kHz	20 Hz – 20 kHz, \pm 1.0 dB (JEITA)
At 88.2 kHz and 96 kHz	20 Hz – 40 kHz, \pm 2.0 dB (JEITA)
At 176.4 kHz and 192 kHz	20 Hz – 80 kHz, \pm 5.0 dB (JEITA)

Digital audio inputs and outputs

COAXIAL IN	RCA pin jacks
Signal format	IEC 60958-3 (S/PDIF)
Input impedance	75 Ω
Input level	0.5 Vpp/75 Ω
COAXIAL OUT	RCA pin jacks
Signal formats	IEC 60958-3 (S/PDIF) or IEC 60958-4 (AES/EBU), selectable on the Settings Panel
Output impedance	75 Ω
Output level	0.5 Vpp/75 Ω
OPTICAL (S/MUX) IN/OUT	OPTICAL (JEITA RC-5720C)
Signal format	Multi-channel optical format (supports S/MUX at 88.2 kHz, 96 kHz, 176.4 kHz or 192 kHz)

Other inputs and outputs

USB	USB 3.0 B type
Transfer rate	USB 3.0 Super Speed (5 GBit/s)
MIDI IN	5-pin DIN
Format	standard MIDI
MIDI OUT	5-pin DIN
Format	standard MIDI
WORD IN	BNC (Termination on/off switch included)
Input voltage	2.0Vpp - 5.0Vpp
Input impedance	75 Ω \pm 10 %
Permitted frequency deviation during external synchronization	\pm 100 ppm
WORD OUT	BNC (OUT/THRU switch included)
Output voltage	2.0 Vpp (into 75 Ω load)
Output impedance	75 Ω \pm 10 %
Sampling frequencies	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz

Audio performance

Mic amp EIN (equivalent input noise)	-125 dBu or lower
Frequency response (Input to LINE OUT (BALANCED))	
At 44.1/48 kHz	20 Hz - 20 kHz, \pm 0.5 dB (JEITA)
At 88.2/96 kHz	20 Hz - 40 kHz, \pm 0.5 dB (JEITA)
At 176.4/192 kHz	20 Hz - 80 kHz, \pm 5 dB (JEITA)
S/N ratio	104 dB or higher (MIC/LINE IN to LINE OUT, gain knob at MIN, JEITA)
Distortion	0.004 % or less (MIC/LINE IN to LINE OUT, 1 kHz sine wave, at nominal input level and maximum output level)
Crosstalk	100 dB or more (MIC/LINE IN to LINE OUT, 1 kHz)

Computer system requirements

Important note: Operation of this unit was confirmed using standard computers that meet the above requirements. This does not guarantee operation with all computers that meet the above requirements. Even computers that meet the same system requirements might have processing capabilities that differ according to their settings and other operating conditions

Windows

Computer hardware requirements	Windows computer with a USB 3.0 or USB 2.0 port
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Computer system requirements

CPU/processor speed	2 GHz or faster dual core processor (x86)
Memory	2 GB or more
Screen resolution	1280×800 pixels or more
Mac OS X	
Supported operating system, USB 3.0	OS X El Capitan (10.11.2 or later)
Computer hardware requirements	Mac with a USB 3.0 or USB 2.0 port
CPU/processor speed	2 GHz or faster dual core processor
Memory	2 GB or more
Screen resolution	1280×800 pixels or more
Supported audio drivers	Windows: USB Audio Class 2.0, ASIO 2.0, WDM (MME), MIDI Mac: Core Audio, Core MIDI

Power supply and other specifications

Power supply	DC12V AC adapter (GPE248-120200-Z)
Power consumption	20 W
Dimensions (W × H × D)	445 mm × 59 mm × 222 mm (with standard frame attached) 483 mm × 44 mm × 222 mm (with rack mount adapters attached)
Weight	2.7 kg
Permissible operating temperature range	5–35 °C

Design and specifications subject to change without notice.

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