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Roland SR-20HD

Direct Streaming AV Mixer





The Complete All-In-One Switching and Streaming Solution

Powerful, portable, and simple to operate, the SR-20HD Direct Streaming AV Mixer makes it easy to manage the modern livestreaming requirements of your business or organization. No computer is required, and everything needed to switch and stream is integrated into a single unit that anyone can use with minimal training.

When consistency, dependability, and network security are top priorities, the SR-20HD delivers professional results every time.



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FEATURES

- All-in-one enterprise solution for direct livestreaming without a computer
- Built-in encoders for transmitting two simultaneous livestreams up to 1080p/60 FPS
- Adaptive Bitrate function reduces freezing and dropouts due to bandwidth issues
 - Safety Delay function to keep accidental moments from being broadcast
 - Scene function for executing multiple tasks with a single touch
- Record streams directly to an SDXC card for archiving, editing, and distribution
 - Ease your workflow with Video Auto Switching and Auto Mixing functions
 - Play sound effects, still images, and video sources from an SDXC card
 - LCD monitor for checking video I/O and delivery status in real time
 - Three video inputs: two HDMI and one USB video class
 - Two HDMI outputs: Main and Preview
- High-quality audio mixer with eight input channels for mics and line-level devices

Built for Success

The SR-20HD is designed to make everyone successful with livestream operation and management, regardless of experience. It combines an easy-to-use video switcher, audio mixer, preview screen, recorder/player, and streaming encoder in one unit, simplifying the process and reducing points of failure.





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Plug In and Stream

Using the two HDMI inputs, you can connect common video sources such as cameras, smartphones, tablets, and computers running presentation software. In addition, a wide range of audio inputs are available for mics, music players, electronic musical instruments, and more.

Once everything is plugged in, simply connect to your network router and begin livestreaming with team members, clients, or students on Facebook, YouTube Live, Twitch, or by RTMP to your CDN.





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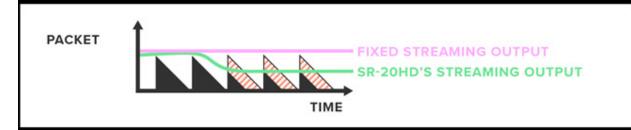
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Secure and Reliable Operation

Packed with advanced Roland A/V technologies, the SR-20HD reduces the need for technical support and experienced staff members.

Automatic functions run in the background to eliminate dropped streams and help protect your organization from broadcasting inappropriate content. And since all streaming tasks are handled within the SR-20HD, there's no risk of malware and other issues that come with computer-based streaming on your enterprise network.





Adaptive Bitrate

The SR-20HD's unique Adaptive Bitrate function monitors the quality of the network connection and automatically adjusts the streaming rate to reduce interruptions due to bandwidth issues.



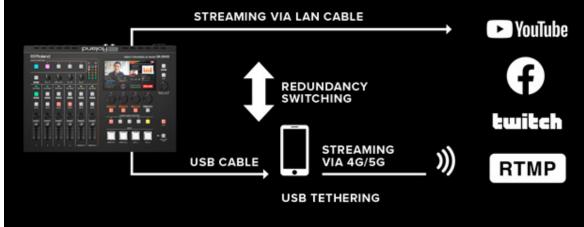
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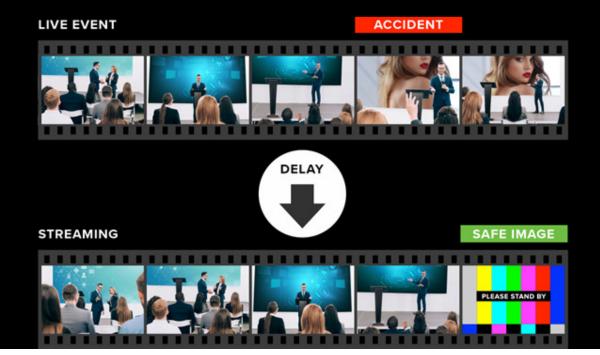
Mobile Phone Tethering

A mobile phone with a 4G or 5G data plan can be used as the primary streaming connection or a redundant backup. Should anything happen to your main hardwired network connection, the SR-20HD will automatically switch to the tethered mobile phone over USB.



Safety Delay

With the SR-20HD, you can confidently stream unscripted events and prevent offensive content from being broadcast to your audience. The Safety Delay function buffers up to 60 seconds of video and audio, allowing you to switch to a still image or mute the sound if anything goes wrong.





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Dual Streaming Destinations

Encode and broadcast livestreams to two independent channels on the same platform to reach a wider audience or create a backup for archiving or later distribution.



Panel Lock prevents users from accidentally changing settings that could disrupt a broadcast. You can disable access to a wide range of hardware controls and menu parameters on an individual basis, leaving only the essential functions needed for the livestream.

Simplified Recording and Playback

The SR-20HD's onboard recorder lets you capture H.264 MP4 video* to an SDXC card for later editing or uploading to YouTube or enterprise intranets. In addition, stereo WAV audio can be captured independently for podcasts and other audio-driven media. It's also possible to access media stored on the SDXC card to bring higher production values to your presentations.**

*The recording bitrate is the same as the livestream encoding bitrate.

**SDXC video playback is only available when streaming in Standard mode.





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Advanced Audio Control

The SR-20HD covers the divergent audio needs of single presenters, conference panels, and even music performances. Inputs for up to four professional XLR microphones, line-level signals, and a headset mic provide multiple ways to connect all common analog sources. You can also mix in digital audio from HDMI and USB sources, plus audio from videos and music files stored on an SDXC card.

Make quick volume adjustments for individual sources using the dedicated faders and knobs. And go

Make quick volume adjustments for individual sources using the dedicated faders and knobs. And go deeper with EQ and dynamics processing via the preview display and F1–F4 encoders. You also have five user-assignable function buttons to speed up your workflow, providing quick access to Auto Mixing, audio/video playback, F1–F4 functions, and more.



Scenes

With Scenes in the SR-20HD, it's easy to bring pro production values to your livestreams by executing complex switching functions all at once. Set up and store five preset arrangements of layered sources and display them in customizable inset windows. Then use the dedicated Scene buttons to switch between them and keep the audience engaged during the broadcast.





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Automated Switching and Mixing

With a variety of powerful tools, you can automate video switching and audio mixing tasks to ease your workload. This is particularly helpful when you're also a presenter, allowing you to stay focused on delivering your message to the audience.



Video Auto Switching

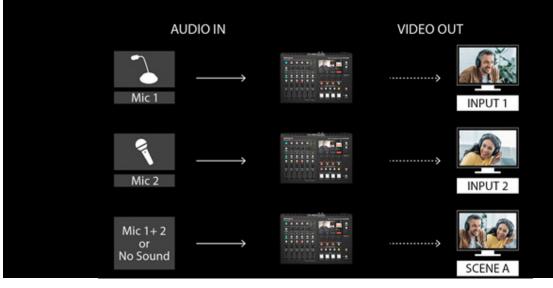
Change video input sources at predetermined time intervals to make your presentation more dynamic.

Auto Mixing

The Auto Mixing function ensures that the mix between your connected microphones remains balanced.

Follow the Source

The SR-20HD makes it simple to broadcast with multiple presenters. With the Audio Follows Video function, the corresponding audio automatically follows when you switch to a different video source. Conversely, the Video Follows Audio function switches video based on who's currently speaking.





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Hi-Res Streaming for Live Action

The SR-20HD's Standard mode supports 1080p resolution at 30 FPS, which provides excellent quality for most livestreaming applications. If you're broadcasting live sports or other events with quick movement, you can select High Quality mode to increase the frame rate to 60 FPS and reduce motion blur.

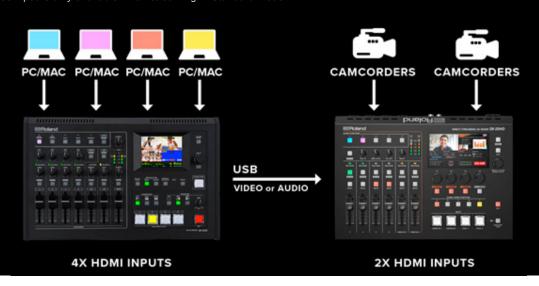
Note: The SR-20HD's USB video input and SDXC card functions are disabled in High Quality mode.

		High Quality Mode	Standard Mode
Streaming / Recording Format		1080p59.94/50 1080p29.27/25 720p59.94/50 720p29.97/25	1080p29.27/25 720p59.94/50 720p29.97/25
Target Video Bitrate		Up to 20,000 kbps	Up to 10,000 kbps
Live Streaming x 2 + Recording		√	√
Input Source	HDMI x 2	V	V
	Video Player	-	√ Max 1080p29.97 Up to 10,000 kbps
	USB (UVC or UAC)	-	√ Max 720p29.97

Input Expansion

If you ever need to connect more sources, you can expand your possibilities with a VR-4HD, or UVC-01. These Roland A/V products allow you to send high-quality, uncompressed video or audio to the SR-20HD's USB video input.*

*USB video input is only available when streaming in Standard mode.





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Specifications

VIDEO

Video Processing

4:2:2 (Y/Pb/Pr), 8-bit.

Input Formats

720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p SVGA (800 x 600/60Hz), XGA (1024 x 768/60Hz), WXGA (1280 x 800/60Hz), FWXGA (1366 x 768/60Hz), SXGA (1280 x 1024/60Hz), SXGA+ (1400 x 1050/60Hz), UXGA (1600 x 1200/60Hz), Full HD (1920 x 1080/60Hz), WUXGA (1920 x 1200/60Hz)

- * The refresh rate is the maximum value of each resolution.
- * Conforms to CEA-861-E, VESA DMT Version 1.0 Revision 11.
- * 1920 x 1200/60 Hz: Reduced blanking

Output Formats

HDMI OUT MAIN, PVW connectors:

1080/59.94p, 1080/50p

* The video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz).

Stream and Video Recorder Formats

File Format: MP4

Codec: H.264, target bitrate up to 20,000 kbps

AAC LC 48kHz 16bit Stereo, target bitrate up to 384k bps

Video Player

File Format: MP4 (H.264, AAC), Average bit rate of 10,000 kbps or less, Maximum 1080p29.97

USB Video or Audio

USB Video: Maximum 720p29.97, Uncompressed (YUY2)

USB Audio: Linear PCM, 16 bit/48 kHz, stereo

- * You can use either USB video or USB audio.
- * The USB VIDEO IN Mode can be selected at the SYSTEM menu (Video Only or Audio Only).
- * The USB STREAM output of the following Roland products can be used with the SR-20HD: VR-4HD, UVC-01

Still Image

PNG File (.png), Maximum 1920 x 1080 pixels, 24-bit color JPEG File (.jpg .jpeg), Maximum 1920 x 1080 pixels, 24-bit color

Video Effects

Scene: Picture in Picture, Split, Picture by Picture

Transition: Black fade, Mix fade

Key Composition: Luminance key, Chroma key Other: Output fade, Test pattern output, Stream Delay



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AUDIO Audio Processing 24 bits/48 kHz Audio Formats HDMI IN/OUT connectors: Linear PCM, 24 bit/48 kHz, stereo Audio Effects Delay, High Pass Filter, Gate, Compressor, Equalizer, Limiter, Test tone output Audio Player File format: WAV (Linear PCM, 16 bits, 48 kHz/44.1 kHz, stereo) **COMMON SECTION** Recording Media SDHC/SDXC card (sold separately) = SDXC card is required for video recording. Other Functions Panel lock function EDID emulator **CONNECTORS** Input Connectors HDMI IN 1--2 connectors: HDMI type A (Multi-format supported) AUDIO IN 1--4 jacks: Combo type XLR type: balanced, phantom power (DC 48 V, 10 mA), (1 GND, 2 HOT, 3 COLD) 1/4-inch TRS phone: balanced **Output Connectors** HDMI OUT MAIN, PVW connectors: HDMI type A LINE OUT jack: RCA phono type PHONES jack: Stereo miniature phone type Input/Output Connector HEADSET jack: Stereo miniature phone type (3.5 mm, 1/8-inch, TRRS 4-pole, CTIA)

USB VIDEO IN port: USB A (USB 3.0) USB CONTOL port: USB A (USB 2.0) LAN (DIRECT STREAM) port: RJ-45, 1000BASE-T DC IN jack

Other Connectors



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AUDIO INPUT/OUTPUT CHARACTERISTICS Nominal Input Level AUDIO IN 1--4 jacks: -52 to +4 dBu (Maximum Input level: +24 dBu) LINE IN jack: -10 dBu (Maximum Input level: +10 dBu) Input Impedance AUDIO IN 1--4 jacks (XLR type, with phantom power): 5 k ohms AUDIO IN 1--4 jacks (XLR type, without phantom power): 7 k ohms AUDIO IN 1--4 jacks (TRS 1/4-inch phono type): 7 k ohms LINE IN jack: 18 k ohms Nominal Output Level AUDIO OUT jack: -10 dBu (Maximum Output level: +10 dBu) PHONES jack: 72 mW + 72 mW (32 ohms) **Output Impedance** AUDIO OUT jack: 1 k ohm **OTHERS** Display 4.3 inches TFT color LCD: 480 x 272 dots **Power Supply** AC adaptor **Current Draw** 3.5 A **Power Consumption** 42 W Operation Temperature +0 to +40 degrees Celsius +32 to +104 degrees Fahrenheit **Dimensions** 300 (W) x 215 (D) x 86 (H) mm 11-13/16 (W) x 8-1/2 (D) x 3-7/16 (H) inches Weight (excluding AC adaptor) 2.4 kg 5 lbs 5 oz

Accessories: Startup Guide, Leaflet "USING THE UNIT SAFELY", AC adaptor, Power cord