

V-80HD Direct Streaming Video Switcher Specifications

[Video]

-Video Processing

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

-Number of video channels

8 channels

-Input formats

HDMI IN 1--4

480/59.94i, 480/59.94p, 720/59.94p, 1080/59.94i, 1080/59.94p, 1080/60p, 1080/29.97p, 1080/30p *1

576/50i, 576/50p, 720/50p, 1080/50i, 1080/50p, 1080/25p *2

1080/23.98p, 1080/24p

2160/59.94p, 2160/60p, 2160/29.97p, 2160/30p *1, *3

2160/50p, 2160/25p *2, *3

2160/23.98p, 2160/24p *3

VGA (640 x 480/60 Hz), SVGA (800 x 600/60 Hz), XGA (1024 x 768/60 Hz)

WXGA (1280 x 800/60 Hz), SXGA (1280 x 1024/60 Hz)

FWXGA (1366 x 768/60 Hz), SXGA+ (1400 x 1050/60 Hz)

UXGA (1600 x 1200/60 Hz), WUXGA (1920 x 1200/60 Hz)

* 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

* The input interlaced video signal is converted to progressive video signal by internal processing.

* The input refresh rates of SVGA (800 x 600)--SXGA+ (1400 x 1050) are 75 Hz when the unit's frame rate setting is 50 Hz.

* HDMI IN 1 support Roland FILL+KEY signal

*1 Frame Rate = 59.94 Hz, 60 Hz

*2 Frame Rate = 50 Hz

*3 Only for HDMI IN 3, 4

SDI IN 1--4

720/59.94p *1, *3

720/50p *1, *4

1080/59.94i, 1080/59.94p, 1080/60p, 1080/29.97p, 1080/30p *2, *3

1080/50i, 1080/50p, 1080/25p *2, *4

1080/23.98p, 1080/24p *2

* The input interlaced video signal is converted to progressive video signal by internal processing.

*1 System Format = 720p

*2 System Format = 1080i or 1080p

*3 Frame Rate = 29.97 Hz, 30 Hz, 59.94 Hz, 60 Hz

*4 Frame Rate = 25 Hz, 50 Hz

-Output formats

HDMI OUT 1--3, SDI OUT 1--2:

720/59.94p *1, *4

720/60p *1, *5

720/50p *1, *8

1080/59.94i *2, *4

1080/60i *2, *5

1080/50i *2, *8

1080/59.94p *3, *4

1080/60p *3, *5

1080/29.97p *3, *6

1080/30p *3, *7

1080/50p *3, *8

1080/25p *3, *9

1080/23.98p *3, *10

1080/24p *3, *11

*1 System Format = 720p

*2 System Format = 1080i

*3 System Format = 1080p

*4 Frame Rate = 59.94 Hz

*5 Frame Rate = 60 Hz

*6 Frame Rate = 29.97 Hz

*7 Frame Rate = 30 Hz

*8 Frame Rate = 50 Hz

*9 Frame Rate = 25 Hz

*10 Frame Rate = 23.98 Hz

*11 Frame Rate = 24 Hz

USB STREAM:

1080/59.94p, 720/59.94p, 640 x 480/59.94p *1

1080/60p, 720/60p, 640 x 480/60p *2

1080/29.97p, 720/29.97p, 640 x 480/29.97p *3

1080/30p, 720/30p, 640 x 480/30p *4

1080/50p, 720/50p, 640 x 480/50p *5

1080/25p, 720/25p, 640 x 480/25p *6

1080/23.98p, 720/23.98p, 640 x 480/23.98p *7

1080/24p, 720/24p, 640 x 480/24p *8

* Uncompressed format (YUY2) and Compressed format (Motion JPEG) supported.

*1 Frame Rate(USB Out) = 59.94 Hz

*2 Frame Rate(USB Out) = 60 Hz

*3 Frame Rate(USB Out) = 29.97 Hz

*4 Frame Rate(USB Out) = 30 Hz

*5 Frame Rate(USB Out) = 50 Hz

*6 Frame Rate(USB Out) = 25 Hz

*7 Frame Rate(USB Out) = 23.98 Hz

*8 Frame Rate(USB Out) = 24 Hz

DIRECT STREAM:

720/59.94p *1, *3

720/60p *1, *4

720/29.97p *1, *5

720/30p *1, *6

720/50p *1, *7

720/25p *1, *8

1080/59.94p *2, *3

1080/60p *2, *4

1080/29.97p *2, *5

1080/30p *2, *6

1080/50p *2, *7

1080/25p *2, *8

1080/23.98p *2, *9

1080/24p *2, *10

*1 System Format = 720p

*2 System Format = 1080p

*3 Frame Rate (Stream&Record) = 59.94 Hz

*4 Frame Rate (Stream&Record) = 60 Hz

*5 Frame Rate (Stream&Record) = 29.97 Hz

*6 Frame Rate (Stream&Record) = 30 Hz

*7 Frame Rate (Stream&Record) = 50 Hz

*8 Frame Rate (Stream&Record) = 25 Hz

*9 Frame Rate (Stream&Record) = 23.98 Hz

*10 Frame Rate (Stream&Record) = 24 Hz

-Stream & Record

Audio Video

Protocols: RTMP, RTMPS, SRT (Caller, Listener)

Container: FLV (RTMP, RTMPS), MPEG2-TS (SRT)

Recording File Format: MP4

Codec:

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

AAC-LC, 16 bits, 48 kHz, stereo, target bitrate up to 384 kbps

* When the format of either Stream & Record or Video Player/SRT In exceeds 1080/30p, the Stream & Record and Video Player/SRT In functions cannot be used simultaneously.

* When the sum of the bitrate for Stream & Record and Video Player/SRT In exceeds 20,000 kbps, the Stream & Record and Video Player/SRT In functions cannot be used simultaneously.

Audio

Recording File Format: WAV

Codec:

Linear PCM, 16 bits, 48 kHz, stereo

-Video Player/SRT In

Video Player

File Format: MP4

Codec:

H.264, Average bit rate of 20,000 kbps or less, up to 1080/60p

AAC-LC, 16 bits, 48 kHz, stereo

SRT In

Protocol: SRT (Caller, Listener)

Container: MPEG2-TS

Codec:

H.264, Average bit rate of 20,000 kbps or less, up to 1080/60p

AAC-LC, 16 bits, 48 kHz, stereo

* When the format of either Stream & Record or Video Player/SRT In exceeds 1080/30p, the Stream & Record and Video Player/SRT In functions cannot be used simultaneously.

* When the sum of the bitrate for Stream & Record and Video Player/SRT In exceeds 20,000 kbps, the Stream & Record and Video Player/SRT In functions cannot be used simultaneously.

-Still Image:

Bitmap File (.bmp) Up to 1920 x 1080 pixels, 24-bit color, uncompressed.

PNG File (.png) Up to 1920 x 1080 pixels, 24-bit color

JPEG File (.jpg, .jpeg) Up to 1920 x 1080 pixels, 24-bit color

* It can be stored up to 32 files in the internal memory.

* It can be exported to the SD Card and USB flash drive.

* PNG alpha channel supported.

-Video Effects

Transition: Cut, Mix (Dissolve/FAM/NAM), WIPE (8 types), SPLIT (2 types)

Composition: PinP x 2 (Square, Circle, Diamond), Keyer x 2 (Luminance Key, Chroma Key),

DSK (Luminance Key, Chroma Key, Alpha Key, External Key), Roland FILL+KEY Mode

Other: Multi-View (3 types), Flip horizontal, Flip vertical, Still Image capture, Still Image playback, Output fade (Audio, Video: White or Black), Test pattern output, Stream Delay

[Audio]

-Audio Processing

Sample rate: 24 bits, 48 kHz

-Number of audio channels

28 channels

-Audio Formats

USB STREAM (input/output): Linear PCM, 16 bits, 48 kHz, 2 ch

Bluetooth (input): Linear PCM, 16 bits, 48 kHz, 2 ch

HDMI IN: Linear PCM, 24 bits, 48 kHz, 2 ch

HDMI OUT: Linear PCM, 24 bits, 48 kHz, 8 ch

SDI IN: Linear PCM, 24 bits, 48 kHz, 2 ch (Conforms to SMPTE 299M)

SDI OUT: Linear PCM, 24 bits, 48 kHz, 8 ch (Conforms to SMPTE 299M)

-Audio Player

File format: WAV (Linear PCM, 16 bits, 48 kHz/44.1 kHz, stereo)

* It can be stored up to 64 tracks in the internal memory.

-Audio Effects

Channel Effects: High pass filter, Echo canceller, Anti-feedback, Noise gate, De-esser, Compressor, 4-Band equalizer, Voice changer, Delay, Auto mixing

Master Effects: Reverb, 4-Band equalizer, Compressor/Limiter, Loudness Auto Gain Control, Adaptive Noise Reduction, Low Frequency Cut, 15-Band GEQ, Delay

Other: Output fade, Test tone output

[Common Section]

-Recording Media

SDHC/SDXC card (commercially available)

USB flash drive (commercially available)

* SDXC card is required for video recording.

-Other Functions

Scene Memory (32 types)

Macro Control (100 types)

Sequencer Control (1,000 steps)

Panel lock function

EDID Emulator

Auto Switching

Auto Input Detect

Smart Tally

Remote Camera Control (Up to 8 units)

External Rec Control

Menu language (English, Japanese, Simplified Chinese)

[Connectors]

-Video Input Connectors

HDMI IN 1--4: HDMI type A x 4

* HDCP Supported

* Multi-format Supported

SDI IN 1--4: BNC type x 4

* Conforms to SMPTE 424M (SMPTE 425M-AB), 292M

-Video Output Connectors

HDMI OUT 1--3: HDMI type A x 3

* HDCP Supported

HDMI IN 3--4 THRU: HDMI type A x 2

* HDCP Supported

SDI OUT 1--3: BNC type x 2

* Conforms to SMPTE 424M (SMPTE 425M-AB), 292M

USB STREAM: USB Type-C (R)

-Audio Input Connectors

Analog:

AUDIO IN 1--2: Combo type (XLR, 1/4-inch TRS phone), phantom power DC 48 V (unloaded maximum), 10 mA (maximum load)

AUDIO IN 3/L, 4/R: RCA phono type

Digital:

USB STREAM: USB Type-C (R)

Bluetooth

HDMI IN 1--4: HDMI type A x 4

SDI IN 1--4: BNC type x 4

-Audio Output Connectors

Analog:

AUDIO OUT 1--2: XLR type

PHONES: Stereo 1/4-inch phone type

Digital:

USB STREAM: USB Type-C (R)

Bluetooth

HDMI OUT 1--3: HDMI type A x 3

HDMI IN 3--4 THRU: HDMI type A x 2

SDI OUT 1--2: BNC type x 2

-Other Connectors

USB HOST: USB A type (for USB flash drive, for remote control from USB numeric keypad)

USB STREAM: USB Type-C (R) (for remote control from PC and iPad, Graphics Presenter)

Bluetooth: for remote control from iPad

CTL/EXP 1, 2: 1/4-inch TRS phone type (for remote control from foot switch and expression pedal)

TALLY/GPIO: DB-25 type (Female) (Tally/GPO: 16, GPI: 8)

RS-232: DB-9 type (Male) (for Remote Control)

DIRECT STREAM: RJ45, 1000BASE-T (for Live Streaming, SRT In/Out and Remote Control)

[Audio Input/Output Characteristics]

-Input Level

AUDIO IN 1, 2: -64-- +4 dBu (Maximum: +24 dBu)

AUDIO IN 3/L, 4/R: -10 dBu (Maximum: +10 dBu)

-Input Impedance

AUDIO IN 1, 2: 8.4 k ohms

AUDIO IN 3/L, 4/R: 10 k ohms

-Output Level

AUDIO OUT 1, 2: +4 dBu (Maximum: +24 dBu)

PHONES: 92 mW + 92 mW (32 ohms)

-Output Impedance
AUDIO OUT 1, 2: 600 ohms
PHONES: 33 ohms

[Others]

- Bluetooth
Ver 5.0
Profile Support: A2DP (Audio), GATT (MIDI over Bluetooth Low Energy)
Codec: SBC (Support to the content protection of the SCMS-T method)

-Display
4.3 inches TFT Color LCD: 480 x 272 dots

-Power Supply
AC Adaptor

-Current Draw
2.1 A

-Power Consumption
51 W

-Operation Temperature
+0 to +40 degrees Celsius
+32 to +104 degrees Fahrenheit

-Dimensions
396 (W) x 254 (D) x 103 (H) mm
15-5/8 (W) x 10 (D) x 4-1/16 (H) inches

-Weight (excluding AC adaptor)
3.5 kg
7 lbs 12 oz

-Accessories

Startup Guide

Leaflet "USING THE UNIT SAFELY"

AC adaptor

Power cord

-Options (sold separately)

Footswitch: BOSS FS-5U, FS-6, FS-7

Expression Pedal: EV-5, EV-30, BOSS FV-500L, FV-500H

* $0 \text{ dBu} = 0.775 \text{ Vrms}$

* This product is a Class A digital device under FCC part 15.

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* SRT (Secure Reliable Transport) is an open source video transport protocol and technology stack, developed and pioneered by Haivision.