

VIDEO

Video Processing

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

Number of Video Channels

16 channels

Video Input Formats

HDMI IN 1--4, SDI IN 1--8

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 OUTPUT FORMAT = 720p

*2 OUTPUT FORMAT = 1080i or 1080p

*3 FRAME RATE = 59.94 Hz, 60 Hz

*4 FRAME RATE = 50 Hz

HDMI IN 5--8

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

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.

*1 FRAME RATE = 59.94 Hz, 60 Hz

*2 FRAME RATE = 50 Hz

Video Output Formats

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

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 OUTPUT FORMAT = 720p

*2 OUTPUT FORMAT = 1080i

*3 OUTPUT 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

HDMI OUT 3:

1080/59.94p *1

1080/60p *2

1080/29.97p *3

1080/30p *4

1080/50p *5

1080/25p *6

1080/23.98p *7

1080/24p *8

- *1 FRAME RATE = 59.94 Hz
- *2 FRAME RATE = 60 Hz
- *3 FRAME RATE = 29.97 Hz
- *4 FRAME RATE = 30 Hz
- *5 FRAME RATE = 50 Hz
- *6 FRAME RATE = 25 Hz
- *7 FRAME RATE = 23.98 Hz
- *8 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

Still Image:

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

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

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

- * It can be stored up to 16 files in the internal memory.
- * It can be exported in the USB flash drive.
- * PNG alpha channel supported.

Video Effects

Transition: CUT, MIX (DISSOLVE/FAM/NAM), WIPE (8 types), SPLIT (2 types)
Composition: PinP x 4 (SQUARE, CIRCLE, DIAMOND), Keyer x 4 (Luminance Key, Chroma Key), DSK x 2 (Luminance Key, Chroma Key, Alpha Key, External Key)
Others: Multi-View(3 types), Flip horizontal, Flip vertical, Still Image Capture, Still Image Playback, Output fade (Audio, Video: WHITE or BLACK), Test pattern output

AUDIO

Audio Processing

Sample rate: 24 bits, 48 kHz

Number of Audio Channels

40 channels

Audio Formats

USB STREAM (input/output): Linear PCM, 24 bits, 48 kHz, 2 ch

Bluetooth (input): Linear PCM, 24 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 Effects

Channel Effects: High pass filter, Echo canceller, Anti-feedback, Noise gate, De-esser, Compressor, 3-Band equalizer, Voice changer, Delay, Auto mixing

Master Effects: Reverb, 3-Band equalizer, Delay, Multi-band compressor, Limiter

Others: Output fade, Test tone output

COMMON SECTION

Other Functions

Preset Memory (30 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 16 units)
External Rec Control

CONNECTORS

Video Input Connectors

HDMI IN 1--4: HDMI type A x 4
* HDCP Supported

HDMI IN 5--8: HDMI type A x 4
* HDCP Supported
* Multi-format Supported

SDI IN 1--8: BNC type x 8
* Conforms to SMPTE 424M (SMPTE 425M-AB), 292M

Video Output Connectors

HDMI OUT 1--3: HDMI type A x 3
* HDCP Supported

SDI OUT 1--3: BNC type x 3
* Conforms to SMPTE 424M (SMPTE 425M-AB), 292M

USB STREAM: USB Type-C (TM)

Audio Input Connectors

Analog:
AUDIO IN 1--2: Combo type (XLR, 1/4-inch TRS phone),
phantom power DC 48 V (unloaded maximum), 14 mA

(maximum load)
AUDIO IN 3/L, 4/R: RCA phono type

Digital:
USB STREAM: USB Type-C (TM)
Bluetooth
HDMI IN 1--8: HDMI type A x 8
SDI IN 1--8: BNC type x 8

Audio Output Connectors

Analog:
AUDIO OUT: XLR type
AUDIO OUT: RCA phono type
PHONES: Stereo 1/4-inch phone type

Digital:
USB STREAM: USB Type-C (TM)
HDMI OUT 1--3: HDMI type A x 3
SDI OUT 1--3: BNC type x 3

Other Connectors

USB MEMORY: USB A type (for USB flash drive, for remote control from USB Numeric Keypad)
USB STREAM: USB Type-C (TM) (for remote control from PC and iPad)
Bluetooth: for remote control from iPad
CTL/EXP: 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)
LAN CONTROL: RJ45 100BASE-TX (for Remote Control)
Reference IN/THRU: BNC type * Black Burst (Sync to frames), Bi-Level, Tri-Level

AUDIO INPUT/OUTPUT CHARACTERISTICS

Input Level

AUDIO IN 1, 2: -60--+4 dBu (Maximum: +24 dBu)
AUDIO IN 3/L, 4/R: -10 dBu (Maximum: +10 dBu)

Input Impedance

AUDIO IN 1, 2: 9.4 k ohms (ANALOG GAIN $0 < 24$ dBu), 74.4 k ohms (ANALOG GAIN ≥ 24 dBu)
AUDIO IN 3/L, 4/R: 47 k ohms

Output Level

AUDIO OUT (XLR): +4 dBu (Maximum: +24 dBu)
AUDIO OUT (RCA): -10 dBu (Maximum: +10 dBu)
PHONES: 92 mW + 92 mW (32 ohms)

Output Impedance

AUDIO OUT (XLR): 600 ohms
AUDIO OUT (RCA): 1 k ohm
PHONES: 10 ohms

OTHERS

Bluetooth

Ver 4.2
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

2.5 A

Power Consumption

55 W

Operation Temperature

+0 to +40 degrees Celsius
+32 to +104 degrees Fahrenheit

Dimensions

437 (W) x 253 (D) x 103 (H) mm
17-1/4 (W) x 10 (D) x 4-1/16 (H) inches

480 (W) x 253 (D) x 103 (H) mm
18-15/16 (W) x 10 (D) x 4-1/16 (H) inches

* When rack mount angles are fitted.

Weight (excluding AC adaptor)

3.9 kg
8 lbs 10 oz

Accessories

Startup Guide
Leaflet "USING THE UNIT SAFELY"
AC adaptor
Power cord
Rack-mount angle x 2
Rack-mount angle mounting screw x 6

Options (sold separately)

Footswitch: BOSS FS-5U, FS-6, FS-7
Expression Pedal: EV-5, EV-30, BOSS FV-500L, FV-500H

* 0 dBu = 0.775 Vrms

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

All specifications and appearances are subject to change.

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