■Specifications

Video Processing

Processing		4:2:2 (Y:Pb:Pr), 10 bit
Supported Formats	SD	480/59.94i, 576/50i, 480/59.94p, 576/50p
	HD	1080/59.94p, 1080/50p 1080/59.94i, 1080/50i 720/59.94p, 720/50p
	RGB	640 x 480/60Hz, 800 x 600/60Hz, 1024 x 768/60Hz, 1280 x 768/60Hz, 1280 x 1024/60Hz, 1600 x 1200/60Hz, 1920 x 1200/60Hz * Confirms to VESA DMT Ver 1.0 Revision 10 * Reduced blanking to be applied to 1920 x 1200
	STILL	BMP

Input/Output Level and Impedance

Composite	1.0 Vp-p, 75 ohms
S-Video	Luminance Signal : 1.0 Vp-p, 75 ohms Chrominance Signal : 0.286 Vp-p, 75 ohms (NTSC) 0.3 Vp-p, 75 ohms (PAL)
Analog HD/RGB	0.7 Vp-p, 75 ohms (H, V : 5VTTL)

Input Connectors

* Loop thru connectors are equipped for all inputs

Analog SD	S-Video (4 pin mini DIN type) x 1 Composite (BNC type) x 1 * Select one from menu
Analog HD (Component)	Y/Pb/Pr (BNC type) x 2 D-Sub 15 pin type x 2 * Combined use with analog RGB
Analog RGB	R/G/B/H/V (BNC type) x 2 D-Sub 15 pin type x 2 * Combined use with analog HD (Component)
DVI-D	Single Link Type x 2
HD/SD-SDI	BNC type x 8 * Conforms to SMPTE 259M-C, SMPTE 292M

Output Connectors

Analog SD	S-Video (4 pin mini DIN type) x 1 Composite (BNC type) x 1
Analog HD (Component)	Y/Pb/Pr (BNC type) x 1 D-Sub 15 pin type x 1 * D-Sub 15 pin type : combined use with analog RGB
Analog RGB	D-Sub 15 pin type x 1 * Combined use with analog HD (Component)
DVI-D	Single Link Type x 2
HD/SD-SDI	BNC type x 2 * Conforms to SMPTE 259M-C, SMPTE 292M

Other Connectors

TALLY	D-Sub 15 pin type x 3 (200 mA, Open Collector type)
Remote	MIDI (IN, OUT/THRU) RS-422 (D-Sub 9 pin type) x 1
REFERENCE	BNC type (IN, THRU) * Black Burst, Bi-Level, Tri-Level Sync
USB port (host)	A type x 1 for USB memory

Effects

Transition	Mix, FAM, NAM, Wipe (9 patterns)
Composition	PinP, Chroma Key, Luminance Key, Split, DSK
Others	Output Fade, Edge Blending, Multi Screen (Video Wall)

Others

Power Supply	AC117 V, 220 V, 230 V, 240 V (50/60Hz)
Power Consumption	90 W
Dimensions	482 (W) x 319.4 (D) x 206.2 (H) mm 19 (W) x 12-5/8 (D) x 8-1/8 (H) inches
Weight	8.1kg 17 lbs 14 oz
Accessories	Power Cord, Owner's Manual

■Rackmount Setup

■Dimensions

Unit: mm

432

482
465

206.2
6.5
37.8
89
57
310.6
89
37.8
319.4

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by Roland

Roland
Systems Group

V-1600HD
MULTI-FORMAT VIDEO SWITCHER

HD-SDI SD-SDI DVI-D HDMI RGB COMPONENT COMPOSITE S-VIDEO STILL IMAGE
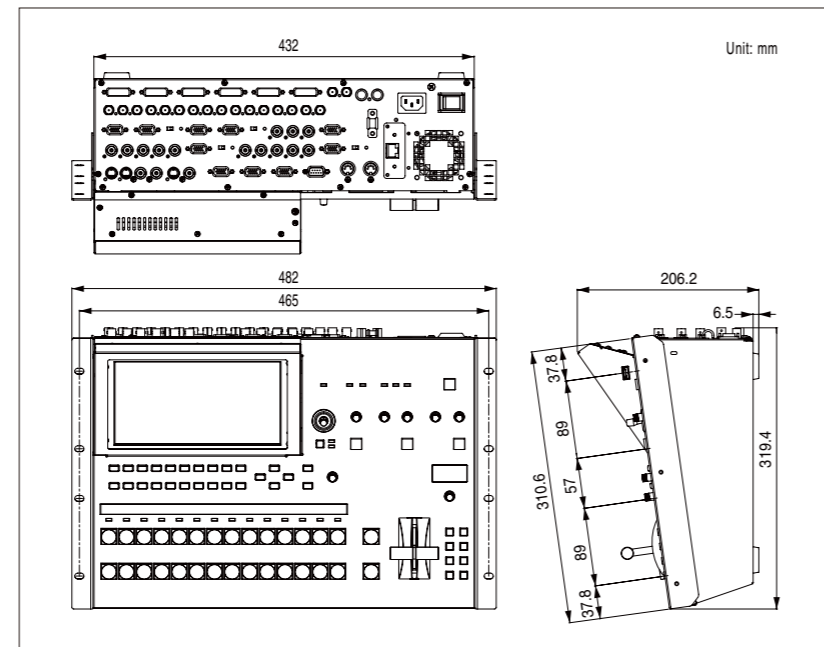
V-LINK Using V-LINK, musicians can "play" video from their electronic instrument when used with EDIROL video products. With V-LINK, musicians have a powerful interface for realtime audio and video integration.

Ensuring high quality while protecting the environment: Roland is ISO9001 and ISO14001 certified
At Roland, several group companies have obtained ISO9001 certification. In addition, in January 1999, Roland also received ISO14001 international environmental management system certification. We're actively seeking ways to maintain harmony with the environment. (ISO=International Standardization Organization: an organization for the promotion of standardization of international units and terms. They provide different categories of certification: ISO9001 Series certification is a product quality certification for products that undergo a certain level of quality control from the design stage to the after service stage; ISO14001 Series certification is for environment-related standards. Each member of the Roland Group is striving to obtain certification.)

≡EDIROL≡
by Roland

Roland
Systems Group

www.rolandsystemsgroup.net

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Printed in Japan. MAY 2010 RAM-20007 GEN

An All-In-One Multi-Channel,
# Multi-Format Live Video Switcher

MULTI FORMAT

The All-in-One Solution for Any Live Event

All-In-One

Built-in Monitor, Scalers and Multi-Format Inputs and Outputs.

MONITOR
FRAME SYNCRONIZER
All-In-One
INPUT SCALER
OUTPUT SCALER

Special **Live** *Session*

Intuitive Operation

DSK, Key Composition, and PinP are controlled using simple operations. 64 Memory banks provide storage and instant recall of setup parameters.
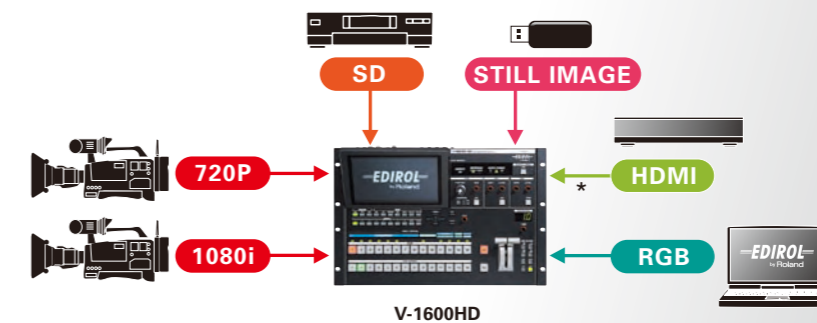
WeeklyNEWS

Background

Key

DSK

Memory Bank
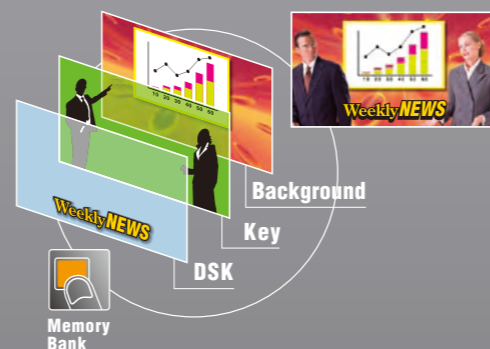
Multi-Format

Multiple input and output formats with no need to purchase extra cards.

MULTI FORMAT

Multiple Video Input Formats

| 8 HD/SD-SDI INPUTS |
| 4 RGB/COMPONENT INPUTS |
| 2 DVI-D/HDMI INPUTS |
| 2 SD INPUTS |

SD   STILL IMAGE

720P   HDMI

1080i   RGB

V-1600HD
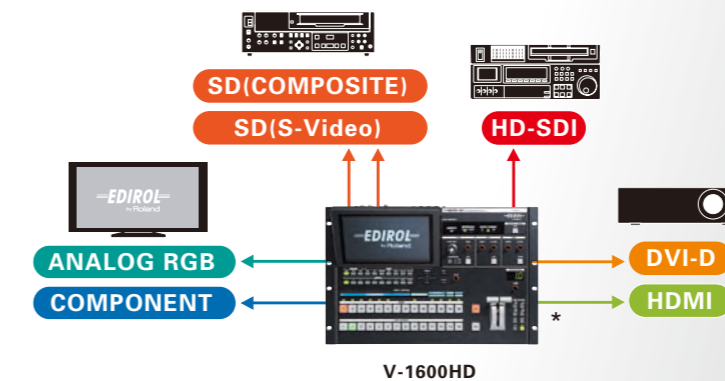
Equipped with HD/SD SDI for professional video equipment as well as DVI-D for directly connecting PC/Mac. Also included is analog RGB, Component, S-Video and Composite.

*DVI-D - HDMI adaptor is needed.

Multiple Video Outputs

| 2 HD/SD-SDI OUTPUTS |
| 2 RGB/COMPONENT OUTPUTS |
| 2 DVI-D/HDMI OUTPUTS |
| 2 SD OUTPUTS |

SD(COMPOSITE)
SD(S-Video)   HD-SDI

ANALOG RGB   DVI-D
COMPONENT   HDMI

V-1600HD

Output digital/analog HD resolution while down-converting at the same time. Display to a primary screen with secondary feed to recording or broadcast. Spread output across two screens including ability to edge-blend.

*DVI-D - HDMI adaptor is needed.

Connect, seamlessly mix and output a variety of video sources such as cameras, VTR's, RGB Computer Sources, Blu-ray/DVD, and high-end SD/HD-SDI video sources. The V-1600HD's all-in-one design combined with professional quality and features makes it the ideal choice for live video production.

V-1600HD
MULTI·FORMAT VIDEO SWITCHER

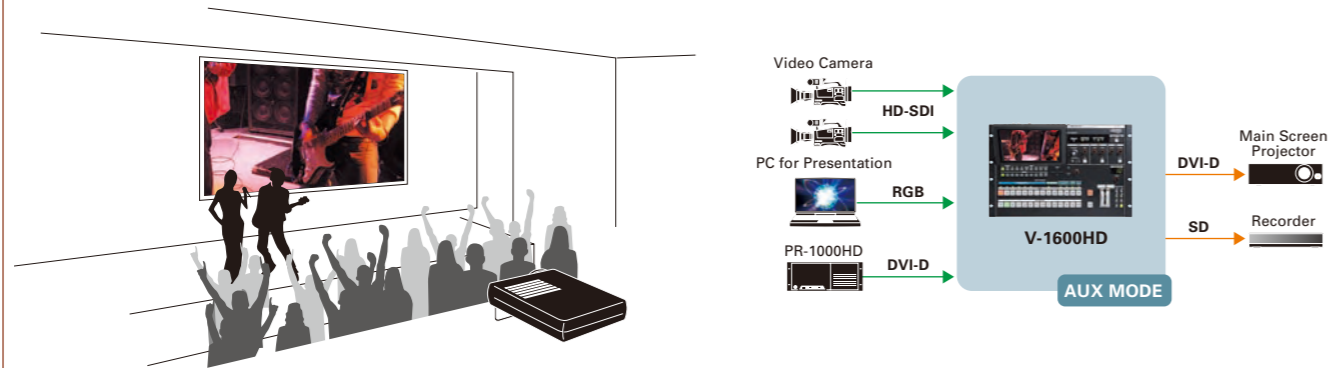| HD-SDI | SD-SDI | DVI-D | HDMI | RGB | COMPONENT | COMPOSITE | S-VIDEO | STILL IMAGE |

V·LINK

Multi-Format Solution for the HD Generation

HD video sources are now a common video format. The need to also mix in other video sources and formats makes the V-1600HD a necessary component for today's live video production.
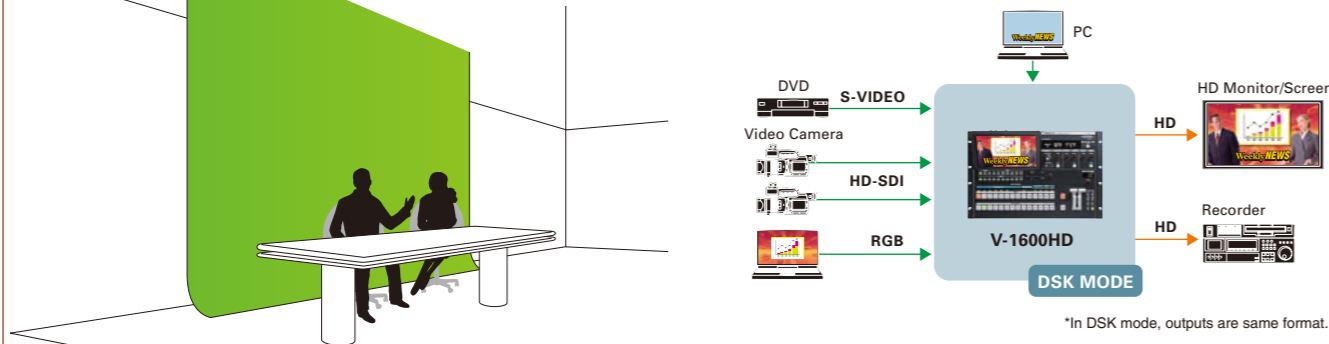
LIVE PRODUCTION

●Event Production

Various video sources can be mixed seamlessly without external video converters.

Video Camera
HD-SDI
PC for Presentation
RGB
PR-1000HD
DVI-D

V-1600HD
AUX MODE

DVI-D → Main Screen Projector
SD → Recorder

●Studio Production

Text/Graphic from a PC/Mac can be composited on background video content. HD output is available for display, recording, or broadcasting and SD output is available for monitoring, live streaming or recording.

PC
DVD — S-VIDEO
Video Camera
HD-SDI
RGB

V-1600HD
DSK MODE

HD → HD Monitor/Screen
HD → Recorder

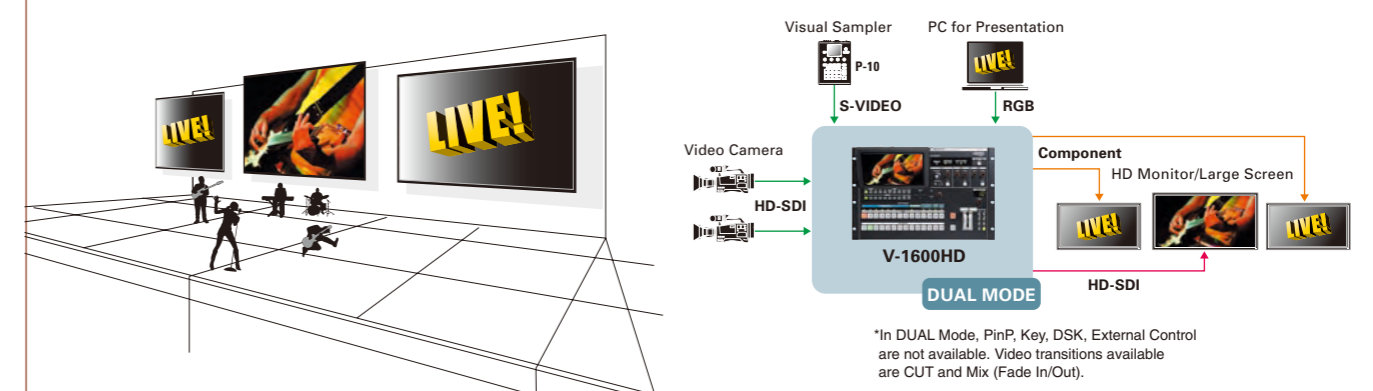*In DSK mode, outputs are same format.

MULTI-ZOOM

Using the thru out connectors, one video input can be daisy-chained to multiple inputs. The scaler for each input can zoom into any position in the video image enabling a virtual multi-camera environment. This gives the appearance that you have additional cameras connected.
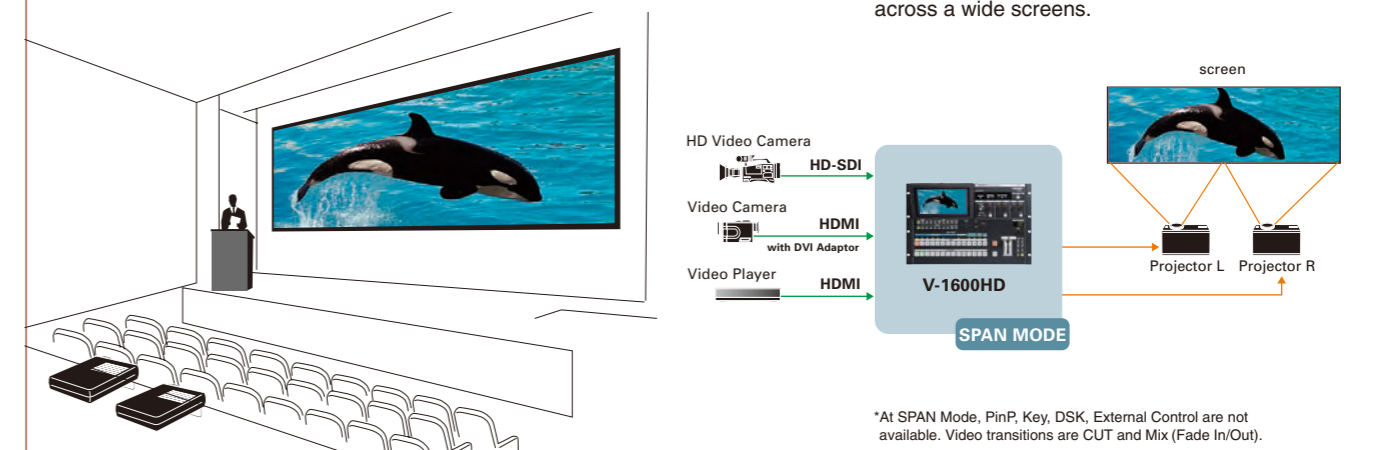
V-1600HD
Video Camera
CH1
Thru Output
CH2
Thru Output
CH3
CH1 CH2 CH3
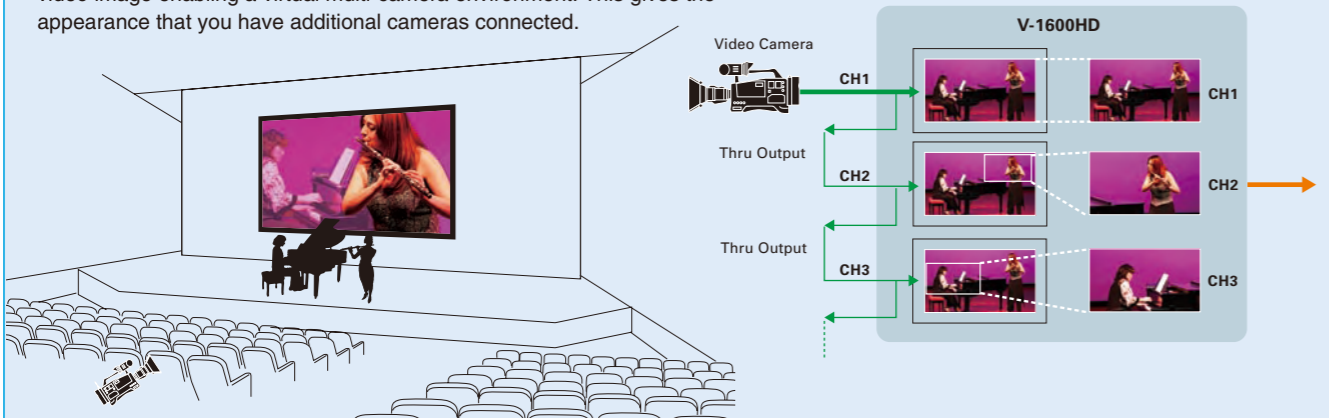
MULTI-SCREEN SOLUTIONS

●Independent Outputs

Two independent outputs enable powerful multi-screen video productions.

Visual Sampler — P-10
S-VIDEO
PC for Presentation
RGB
Video Camera
HD-SDI

V-1600HD
DUAL MODE

Component → HD Monitor/Large Screen
HD-SDI

*In DUAL Mode, PinP, Key, DSK, External Control are not available. Video transitions available are CUT and Mix (Fade In/Out).
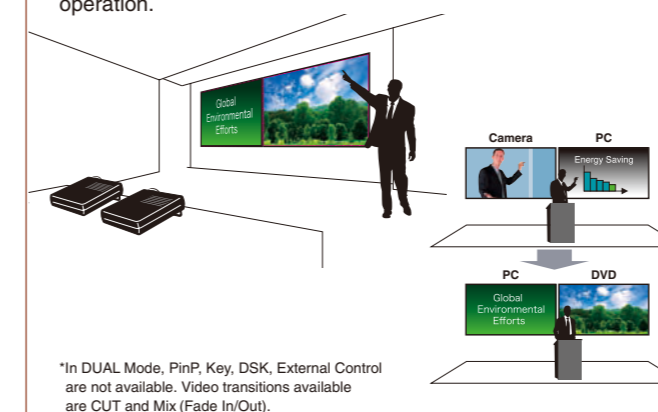
●Multi-Screen With Edge Blending

Displays a single image across two screens. Edge Blending function enables seamless image across a wide screens.

HD Video Camera
HD-SDI
Video Camera
HDMI with DVI Adaptor
Video Player
HDMI

V-1600HD
SPAN MODE

screen
Projector L Projector R

*At SPAN Mode, PinP, Key, DSK, External Control are not available. Video transitions are CUT and Mix (Fade In/Out).
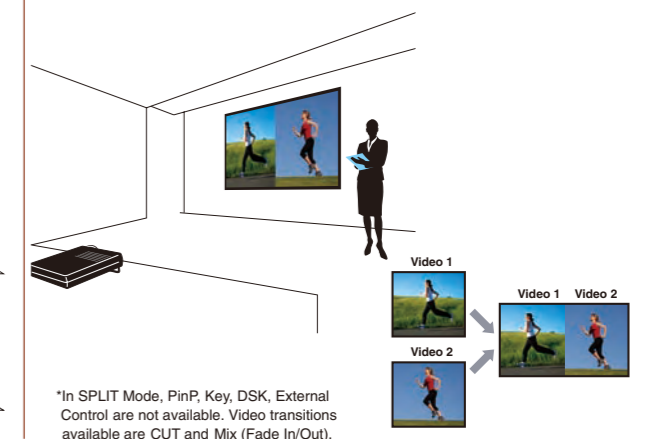
●DUAL Mode

Using the DUAL Mode, two video inputs can be switched individually. Switching the both inputs at same time is also possible. Preview monitoring of each output enables confident operation.

Global Environmental Efforts
Camera   PC
Energy Saving
PC   DVD
Global Environmental Efforts

*In DUAL Mode, PinP, Key, DSK, External Control are not available. Video transitions available are CUT and Mix (Fade In/Out).

●SPLIT Mode

Using SPLIT Mode, two video inputs can be displayed on one display. This is useful for comparing two videos on a single screen.

Video 1
Video 2
Video 1 Video 2

*In SPLIT Mode, PinP, Key, DSK, External Control are not available. Video transitions available are CUT and Mix (Fade In/Out).

Everything You Need in One Unit

High Resolution 8.5 inches LCD Monitor
The built-in high quality monitor provides the ability to preview each video source eliminating the need for external preview monitors. Additionally, menu functions and parameters can be on the built-in screen.

PVW (Preview) BUS enables previewing of the visual effect before PinP composition.

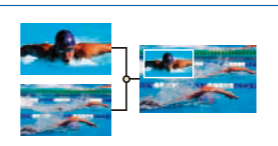Menu setup is available with output monitoring.

3 Monitor Selections
Monitor sources can be selected from PGM (Program), PVM (Preview), and AUX (Auxiliary) bus.

Synchronize using V-LINK
EDIROL video mixers/video presenters and RSS digital audio mixers can be synchronized with the V-1600HD using V-LINK.

Still Images from USB Memory
Up to 1920 x 1200 pixel BMP images can be assigned.

64 (8x8) Memory Presets
Save favorite setups for convenient and instant recall.

Quick Access to Functions
Dedicated setup buttons enable quick and easy setup.

Switchable Inputs
Input format types are switchable on Ch 11-14. The selected format is indicated on the backlit input status indicator.

14 channels of PGM/PST
PGM/PST (Program/Preset) style buttons are similar to those used in broadcast switchers. If signal is present, green color indicator is lit.
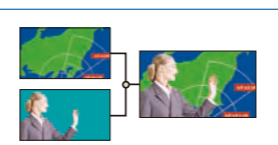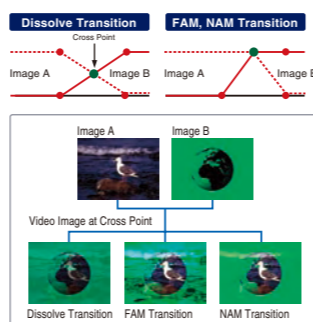
PinP (Picture in Picture)
Two images can be combined in one video image using PinP function.

Key Composition
Enable Chroma/Luminance Key composition, including semi-translucent composition using Linear Key.

DSK (Downstream Keyer)
DSK function is suitable for compositing logos or text. Key source can be confirmed by PVW monitor.

Manual Transition
Equipped with TAKE button and flip flop style T-bar fader.

Various Transition Effects
Includes Dissolves, NAM, and FAM mixing types. 4 types of wipe patterns are also included.

FAM (Full Additive Mix) transition: Images will transition with the luminance level held steady.
NAM (Non-Additive Mix) transition: The two images will be compared, and the pixels that have a higher brightness level will be shown while the images are switched.

Dissolve Transition | FAM, NAM Transition
Cross Point
Image A | Image B | Image A | Image B

Image A | Image B
Video Image at Cross Point
Dissolve Transition | FAM Transition | NAM Transition

MULTI-INPUT

HD/SD-SDI Input x 8
HD-SDI, SD-SDI is recognized automatically. If output setup and aspect ratios are different from input, you can choose letterbox, crop or fill options.
*Embedded audio is not available.

RGB/COMPONENT Input x 4
Four D-Sub 15-pin connectors for analog RGB input, including two switchable component connectors. Also supports RGBHV.

DVI-D/HDMI Input x 2
Four DVI-D inputs are supplied. HDMI* signal can be input using HDMI to DVI adapter.
*Does not supports HDCP and HDMI 1.3 or later. Embedded audio is not available.

SD Input x 2
Composite input (BNC type) and S-Video (Y/C)

* All inputs have individual thru out connectors for flexible system configuration.

MULTI-OUTPUT

SDI Output x 2
Supports HD-SDI or SD-SDI output formats. Output 2 is assignable one signal source from PGM/PVW/AUX.

RGB/COMPONENT Output x 2
PC monitor or Projector can be connected from analog RGB or component connector. An output source is assignable from PGM/PVW/AUX.
*Output format depends on output mode.

DVI-D/HDMI Output x 2
Connect a projector or monitor that supports a digital connection. HDMI output is possible using an HDMI to DVI-D adapter. Output 2 is assignable one signal source from PGM/PVW/AUX.

SD Output x 2
SD video can be output from the AUX bus using built-in scaler. An output source is assignable from PGM/PVW/AUX. *Output format depends on output mode.

CONTROL INTERFACE

■ REFERENCE Input
Reference input is available for synchronizing external equipment.

■ TALLY Output
TALLY signal is provided for camera or external monitors.

■ RS-422 REMOTE Connector
Controllable using RS-422 via computer software.

■ MIDI Connector
Control the V-1600HD via any MIDI device or any V-LINK enabled product.