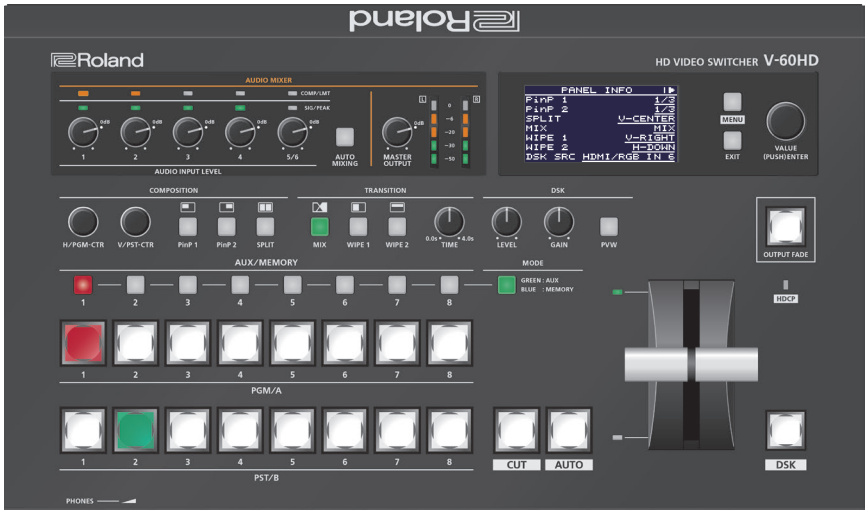
HD VIDEO SWITCHER

V-60HD

Reference Manual

Version 2.0 and later



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Menu List

Pressing the [MENU] button makes the menu appear on the built-in display and on the monitor connected to the MULTI-VIEW connector.

Built-in display (Menu)

Multi-view monitor (OSD menu)

MEMO

- By turning the [VALUE] knob while pressing it, you can change the value more greatly.
- Pressing and holding the [VALUE] knob returns the current menu item you're setting to its default value.

1: VIDEO INPUT

Menu item	Value (bold text: default value)	Explanation
SDI IN 1–4		
INPUT STATUS	(ENTER)	This displays information about the incoming video (video format, size, etc.).
H FLIP	**OFF**, ON	Setting this to "ON" flips the output video horizontally.
BRIGHTNESS	-64–**0**–63	This adjusts the brightness.
CONTRAST	-64–**0**–63	This adjusts the contrast.
SATURATION	-64–**0**–63	This adjusts the saturation.
HDMI IN 5		
INPUT STATUS	(ENTER)	This displays information about the incoming video (video format, size, presence or absence of an HDCP signal, etc.).
FLICKER FILTER	**OFF**, ON	Setting this to "ON" reduces flicker.
ZOOM	10.0–**100.0**–1000.0% (*1)	This adjusts the zoom ratio.
SCALING TYPE	**FULL**, LETTERBOX, CROP, DOT BY DOT, MANUAL	This sets the scaling type. FULL: This always displays the picture expanded to full screen, irrespective of the aspect ratio of the input video. LETTERBOX: This enlarges or reduces the incoming video to a full-screen view while keeping the aspect ratio unchanged. CROP: This enlarges or reduces the incoming video so that the output picture has no blank margins while keeping the aspect ratio unchanged. Video extending beyond the borders is cut off. DOT BY DOT: This performs no scaling. MANUAL: Scale according to the "MANUAL SIZE H" and "MANUAL SIZE V" settings below.
MANUAL SIZE H	-2000–**0**–2000 (*1) (*2)	This adjusts the horizontal size.
MANUAL SIZE V	-2000–**0**–2000 (*1) (*2)	This adjusts the vertical size.
POSITION H	-1920–**0**–1920 (*1)	This adjusts the display position in the horizontal direction.
POSITION V	-1200–**0**–1200 (*1)	This adjusts the display position in the vertical direction.
H FLIP	**OFF**, ON	Setting this to "ON" flips the output video horizontally.
BRIGHTNESS	-64–**0**–63	This adjusts the brightness.
CONTRAST	-64–**0**–63	This adjusts the contrast.
SATURATION	-64–**0**–63	This adjusts the saturation.
RED	-64–**0**–63	This adjusts the red level.
GREEN	-64–**0**–63	This adjusts the green level.
BLUE	-64–**0**–63	This adjusts the blue level.
EDID	**INTERNAL**, 800 x 600, 1024 x 768, 1200 x 800, 1366 x 768, 1280 x 1024, 1400 x 1050, 1600 x 1200, 1920 x 1200, 720p, 1080i, 1080p	This sets the input format (EDID) for the HDMI IN 5 connector.

(*1) The range of this value varies according to conditions such as the input/output format. The values listed above are the minimum and maximum values.
(*2) This is available when "SCALING TYPE" is set to "MANUAL."

Menu item	**Value** (bold text: default value)	Explanation
HDMI/RGB IN 6 (*3)		
INPUT STATUS	(ENTER)	This displays information about the incoming video (video format, size, presence or absence of an HDCP signal, etc.).
INPUT 6 ASSIGN	**HDMI**, RGB/COMPONENT	This sets the input connector assigned to channel 6.
AUTO SAMPLING	(EXEC) (*4)	This automatically adjusts the image quality. * Depending on the video, adjusting the image quality might not be possible.
FLICKER FILTER	**OFF**, ON	Setting this to "ON" reduces flicker.
ZOOM	10.0–**100.0**–1000.0% (*5)	This adjusts the zoom ratio.
SCALING TYPE	**FULL**, LETTERBOX, CROP, DOT BY DOT, MANUAL	This sets the scaling type. FULL: This always displays the picture expanded to full screen, irrespective of the aspect ratio of the input video. LETTERBOX: This enlarges or reduces the incoming video to a full-screen view while keeping the aspect ratio unchanged. CROP: This enlarges or reduces the incoming video so that the output picture has no blank margins while keeping the aspect ratio unchanged. Video extending beyond the borders is cut off. DOT BY DOT: This performs no scaling. MANUAL: Scale according to the "MANUAL SIZE H" and "MANUAL SIZE V" settings below.
MANUAL SIZE H	-2000–**0**–2000 (*5) (*6)	This adjusts the horizontal size.
MANUAL SIZE V	-2000–**0**–2000 (*5) (*6)	This adjusts the vertical size.
POSITION H	-1920–**0**–1920 (*5)	This adjusts the display position in the horizontal direction.
POSITION V	-1200–**0**–1200 (*5)	This adjusts the display position in the vertical direction.
H FLIP	**OFF**, ON	Setting this to "ON" flips the output video horizontally.
BRIGHTNESS	-64–**0**–63	This adjusts the brightness.
CONTRAST	-64–**0**–63	This adjusts the contrast.
SATURATION	-64–**0**–63	This adjusts the saturation.
RED	-64–**0**–63	This adjusts the red level.
GREEN	-64–**0**–63	This adjusts the green level.
BLUE	-64–**0**–63	This adjusts the blue level.
FREQUENCY	-128–**0**–127 (*4)	This adjusts the input frequency.
PHASE	-128–**0**–127 (*4)	This adjusts the phase.
EDID	**INTERNAL**, 800 x 600, 1024 x 768, 1200 x 800, 1366 x 768, 1280 x 1024, 1400 x 1050, 1600 x 1200, 1920 x 1200, 720p (*7), 1080i (*7), 1080p (*7)	This sets the input format (EDID) of the HDMI IN 6 connector or RGB/COMPONENT IN 6 connector.
STILL/BKG IN 7/8		
INPUT 7 ASSIGN	**STILL IMAGE 1**, STILL IMAGE 2, BACKGROUND	This assigns a still image or monochrome picture (background color) to channel 7. STILL IMAGE 1–2: This selects the memory where a still image is saved and assigns the image. A "✻" symbol is displayed for memory where a still image is already saved. BACKGROUND: This assigns a monochrome picture (background color).
INPUT 8 ASSIGN	STILL IMAGE 1, **STILL IMAGE 2**, BACKGROUND	This assigns a still image or monochrome picture (background color) to channel 8. STILL IMAGE 1–2: This selects the memory where a still image is saved and assigns the image. A "✻" symbol is displayed for memory where a still image is already saved. BACKGROUND: This assigns a monochrome picture (background color).
BACKGROUND COLOR	**BLACK,** WHITE, GRAY, RED, GREEN, BLUE, YELLOW	This sets the background color. * The background-color setting is shared by channels 7 and 8.

(*3) The settings on the HDMI/RGB IN 6 menu change in tandem with the assignment made using "INPUT 6 ASSIGN." You can make separate individual settings for the respective menu items for the HDMI IN 6 connector and the RGB/COMPONENT IN 6 connector.

(*4) This is effective when "INPUT 6 ASSIGN" is set to "RGB/COMPONENT."

(*5) The range of this value varies according to conditions such as the input/output format. The values listed above are the minimum and maximum values.

(*6) This is available when "SCALING TYPE" is set to "MANUAL."

(*7) Only when "INPUT 6 ASSIGN" is set to "HDMI."

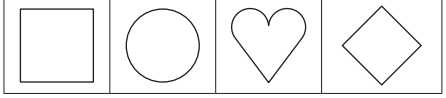
2: VIDEO OUTPUT

Menu item	**Value** (bold text: default value)	Explanation
SDI OUT 1, 2		
OUTPUT STATUS	—	This displays the video format. * When "HDCP" (p. 15) is set to "ON," "HDCP MASKED" is displayed and no video is output from the SDI OUT connectors.
OUTPUT ASSIGN	PGM, PVW, AUX The default values are as follows. SDI OUT 1: PGM SDI OUT 2: PVW	This sets the output bus assigned to the SDI OUT connectors.
3G-SDI MAPPING	LEVEL-A, **LEVEL-B**	This sets the mapping structure for 3G-SDI output.
H FLIP	**OFF**, ON	Setting this to "ON" flips the output video horizontally.
BRIGHTNESS	-64–**0**–63	This adjusts the brightness.
CONTRAST	-64–**0**–63	This adjusts the contrast.
SATURATION	-64–**0**–63	This adjusts the saturation.
HDMI OUT 1, 2		
OUTPUT STATUS	—	This displays information about the output video (video format and presence or absence of an HDCP signal). When no connection is in effect, "NOT CONNECTED" is displayed.
OUTPUT ASSIGN	PGM, PVW, AUX The default values are as follows. HDMI OUT 1: PGM HDMI OUT 2: PVW	This sets the output bus assigned to the HDMI OUT connectors.
COLOR SPACE	**YCC**, RGB (0–255), RGB (16–235)	This sets the color space.
DVI-D/HDMI SIGNAL	DVI-D, **HDMI**	This sets the output mode for HDMI output.
H FLIP	**OFF**, ON	Setting this to "ON" flips the output video horizontally.
BRIGHTNESS	-64–**0**–63	This adjusts the brightness.
CONTRAST	-64–**0**–63	This adjusts the contrast.
SATURATION	-64–**0**–63	This adjusts the saturation.
RED	-64–**0**–63	This adjusts the red level.
GREEN	-64–**0**–63	This adjusts the green level.
BLUE	-64–**0**–63	This adjusts the blue level.
HDMI MULTI-VIEW		
OUTPUT STATUS	(1080/59.94p, 1080/50p)	This displays information about the output video (video format and presence or absence of an HDCP signal). When no connection is in effect, "NOT CONNECTED" is displayed. * The output format at the MULTI-VIEW connector is fixed at "1080p" and cannot be changed.
COLOR SPACE	**YCC**, RGB (0–255), RGB (16–235)	This sets the color space.
DVI-D/HDMI SIGNAL	DVI-D, **HDMI**	This sets the output mode for HDMI output.
BRIGHTNESS	-64–**0**–63	This adjusts the brightness.
CONTRAST	-64–**0**–63	This adjusts the contrast.
SATURATION	-64–**0**–63	This adjusts the saturation.
RED	-64–**0**–63	This adjusts the red level.
GREEN	-64–**0**–63	This adjusts the green level.
BLUE	-64–**0**–63	This adjusts the blue level.

3: TRANSITION

Menu item	**Value** (bold text: default value)	Explanation
TIME	0.0–**1.0**–4.0 sec	This sets the video transition time.
MIX TYPE	**MIX**, FAM, NAM	This specifies the transition pattern assigned to the [MIX] button.
WIPE 1 TYPE	H-DOWN, H-UP, V-RIGHT, V-LEFT, H-IN, H-OUT, V-IN, V-OUT, R-DOWN, L-DOWN, R-UP, L-UP, BLOCK, V-GRID, H-GRID, H-DOWN s, H-UP s, V-RIGHT s, V-LEFT s, H-IN s, H-OUT s, V-IN s, V-OUT s, R-DOWN s, L-DOWN s, R-UP s, L-UP s, BLOCK s, V-GRID s, H-GRID s	This specifies the wipe pattern assigned to the [WIPE 1] button. * Setting values indicated with "s" are soft edge wipe patterns.
WIPE 2 TYPE	The default values are as follows. WIPE 1 TYPE: V-RIGHT WIPE 2 TYPE: H-DOWN	This specifies the wipe pattern assigned to the [WIPE 2] button. * Setting values indicated with "s" are soft edge wipe patterns.

4: COMPOSITION

Menu item	Value (bold text: default value)	Explanation
PinP 1–2		
These make settings such as the position and size of the inset screen for the individual [PinP 1] and [PinP 2] buttons.		
SIZE	1/4, **1/3**, 1/2	This sets the size of the inset screen. The horizontal width (and vertical height) of the inset screen are set to 1/2, 1/3, or 1/4 the size values of the background video.
POSITION H	-45.0–45.0% (*8) (*9) The default values are as follows. PinP 1: –25.0 PinP 2: 25.0	This adjusts the horizontal display position of the inset screen.
POSITION V	-40.0– **-25.0**–40.0% (*8) (*9)	This adjusts the vertical display position of the inset screen.
BORDER COLOR	BLACK, **WHITE**, GRAY, RED, GREEN, BLUE, YELLOW, SOFT EDGE	This sets the color of the border for the inset screen. Setting this to "SOFT EDGE" blurs the edge.
BORDER WIDTH	0–**1**–15	This adjusts the width of the border for the inset screen.
SHAPE	**SQUARE**, CIRCLE, HEART, DIAMOND	This specifies the shape of the inset screen. SQUARE / CIRCLE / HEART / DIAMOND 
ASPECT	**16:9**, 1:1	This sets the aspect ratio of the inset screen.
CROPPING H	-128–**0** (*10)	This adjusts the frame size in the horizontal direction.
CROPPING V	-128–**0** (*10)	This adjusts the frame size in the vertical direction.
VIEW POSION H	-50.0–**0.0**–50.0% (*11)	This adjusts the display position of the video within the inset screen in the horizontal direction.
VIEW POSION V	-50.0–**0.0**–50.0% (*11)	This adjusts the display position of the video within the inset screen in the vertical direction.
SPLIT		
PATTERN	**V-CENTER**, H-CENTER, V-STRETCH, H-STRETCH	This sets the split composition pattern assigned to the [SPLIT] button. **V-CENTER**: This vertically crops the center section of the video. **H-CENTER**: This horizontally crops the center section of the video. **V-STRETCH**: This stretches the video vertically. **H-STRETCH**: This stretches the video horizontally.
PGM-CENTER	-25.0–**0.0**–25.0% (*12)	This is applied when "PATTERN" is set to "V-CENTER" or "H-CENTER." • When at V-CENTER This horizontally adjusts the display position of the video placed on the left side. • When at H-CENTER This vertically adjusts the display position of the video placed above.
PST-CENTER	-25.0–**0.0**–25.0% (*12)	This is applied when "PATTERN" is set to "V-CENTER" or "H-CENTER." • When at V-CENTER This horizontally adjusts the display position of the video placed on the right side. • When at H-CENTER This vertically adjusts the display position of the video placed below.
CENTER POSITION	-50.0–**0.0**–50.0% (*13)	You can change the size of the two videos by shifting the boundary line.

(*8) The range of this value varies according to conditions such as the input/output format. The values listed above are the minimum and maximum values.

(*9) When PinP compositing is turned on, the [H/PGM-CTR] and [V/PST-CTR] knobs respectively function as shortcuts for "POSITION H" and "POSITION V." Note, however, that adjusting to a decimal-fraction value is not possible when using the [H/PGM-CTR] and [V/PST-CTR] knobs.

(*10) When PinP compositing is turned on, holding down a cross-point button of the PST/B bus and turning the [H/PGM-CTR] knob acts as a shortcut for "CROPPING H." In the same way, holding down a cross-point button of the PST/B bus and turning the [V/PST-CTR] knob acts as a shortcut for "CROPPING V."

(*11) When PinP compositing is turned on, holding down a cross-point button of the PST/A bus and turning the [H/PGM-CTR] knob acts as a shortcut for "VIEW POSITION H." In the same way, holding down a cross-point button of the PST/A bus and turning the [V/PST-CTR] knob acts as a shortcut for "VIEW POSITION V."

(*12) When split compositing is turned on, the [H/PGM-CTR] and [V/PST-CTR] knobs respectively function as shortcuts for "PGM/CENTER" and "PST/CENTER." Note, however, that adjusting to a decimal-fraction value is not possible when using the [H/PGM-CTR] and [V/PST-CTR] knobs.

(*13) When split compositing is on, holding down a cross-point button of the PST/B bus and turning the [H/PGM-CTR] knob or [V/PST-CTR] knob acts as a shortcut for "CENTER POSITION." Note, however, that adjusting to a decimal-fraction value is not possible when using the [H/PGM-CTR] and [V/PST-CTR] knobs.

5: DSK

Menu item	Value (bold text: default value)	Explanation
DSK SOURCE CH	SDI IN 1–4, HDMI IN 5, **HDMI/RGB IN 6**, STILL/BKG IN 7, STILL/BKG IN 8	During DSK compositing, this specifies the channel of the overlaid logo or image. Setting this to "STILL/BKG IN 7" or "STILL/BKG IN 8" performs DSK composition using a still image saved in the unit.
KEY TYPE	LUMINANCE-WHITE, LUMINANCE-BLACK, CHROMA-GREEN, **CHROMA-BLUE**	This specifies the key type (extraction color) used during DSK composition. LUMINANCE-WHITE: This uses a brightness threshold to make white transparent. LUMINANCE-BLACK: This uses a brightness threshold to make black transparent. CHROMA-GREEN: This uses a color threshold to make green transparent. CHROMA-BLUE: This uses a color threshold to make blue transparent.
KEY LEVEL	0–**64**–255	This adjusts the degree of extraction (transparency) for the key.
KEY GAIN	**0**–255	This adjusts the degree of edge blur (semi-transmissive region) for the key.
MIX LEVEL	0–**255**	This adjusts the key's overall density (output level).
HUE WIDTH	-128–**0**–127 (*14)	This adjusts the hue width for the key color.
HUE FINE	-128–**0**–127 (*14)	This adjusts the center position of the hue for the key color.
SATURATION WIDTH	-128–**0**–127 (*14)	This adjusts the saturation width for the key color.
SATURATION FINE	**0**–255 (*14)	This adjusts the center position of saturation for the key color.
PGM OUT	**OFF**, ON	This sets DSK composition on or off. When this is turned on, the results of DSK composition are sent to final output. * When the menu is used to turn on DSK composition, the video is composited immediately, regardless of the length of time set for video transitions.
PVW OUT	**OFF**, ON	Setting this to "ON" makes the DSK compositing results the preview output. * The [PVW] button functions as a shortcut for "PVW OUT."

(*14) This is applied when "KEY TYPE" is set to "CHROMA-GREEN" or "CHROMA-BLUE."

6: AUDIO INPUT

Menu item	Value (bold text: default value)	Explanation
AUDIO IN 1–4		
HEAD AMP GAIN	**0**–64dB	This adjusts head amp gain. Head amp gain adjusts analog audio.
DIGITAL GAIN	-42.0–**0.0**–42.0dB	This adjusts digital gain. Digital gain adjusts digital audio internally converted from analog to digital in the V-60HD.
INPUT LEVEL	**-INF**–10.0dB	This adjusts the volume level of input audio.
INPUT MUTE	**OFF**, ON	This sets the Mute feature on or off. Input audio for which this is set to "ON" is silenced.
PHANTOM +48V	**OFF**, ON	This sets phantom power on or off. When this is set to "ON," phantom power is supplied via the AUDIO IN jacks.
PAN	LEFT–**CENTER**–RIGHT	This adjusts the sound position (pan).
HPF 75Hz	**OFF**, ON	This sets the high-pass filter on or off. Effect This cuts off unneeded low-band audio. The cutoff frequency is 75 Hz.
DELAY	**0.0**–12.0frame	This adjusts the delay time for input audio. Effect This outputs audio with a delay.
GATE	**OFF**, ON	This sets gate on or off. Effect This mutes audio that is below a specified level.
THRESHOLD	-80.0– **-50.0**–0.0dB	This sets the level used as the threshold for removing audio. Audio below the level set here is removed.
RELEASE	30–**860**–5000ms	This adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
COMP/LMT	**OFF**, ON	This sets the compressor on or off. Effect This compresses audio that exceeds a specified level.
THRESHOLD	-60.0– **-30.0**–0.0dB	This sets the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
RATIO	1.00:1, 1.12:1, 1.25:1, 1.40:1, 1.60:1, 1.80:1, 2.00:1, 2.50:1, 3.20:1, 4.00:1, **5.60:1**, 8.00:1, 16.0:1, INF:1	This species the degree of compression applied to the audio. The state in which no compression is applied is defined as "1."
ATTACK	0.2–**1**–100ms	This sets the time until compression starts when audio exceeding the threshold is input.
RELEASE	30–**380**–5000ms	This adjusts the length of time until compression ends after audio falls below the threshold.
AUTO GAIN	OFF, **ON**	This switches the auto makeup gain feature on and off. When this is set to "ON," the final output volume level after applying the compressor is automatically adjusted according to the "THRESHOLD" and "RATIO" settings. The total of the "MAKEUP GAIN" setting value described below and the value calculated by auto makeup gain becomes the final output volume level (up to +34 dB).
MAKEUP GAIN	-40–**0.0**–40dB	This adjusts the final output volume level after applying the compressor.
EQ Hi	-15.0–**0.0**–15.0dB	This boosts or attenuates the high band.
EQ Hi FREQ	1.00–**10.0**–20.0kHz	This adjusts the center frequency when changing the tone quality in the high band.
EQ Mid	-15.0–**0.0**–15.0dB	This boosts or attenuates the middle band.
EQ Mid FREQ	20.0Hz–**500Hz**–20.0kHz	This adjusts the center frequency when changing the tone quality in the middle band.
EQ Mid Q	0.5–**1.0**–16.0	This adjusts the width of the frequency band when boosting or attenuating the middle band.
EQ Lo	-15.0–**0.0**–15.0dB	This boosts or attenuates the low band.
EQ Lo FREQ	20.0–**100**–500Hz	This adjusts the center frequency when changing the tone quality in the low band.
SOLO	**OFF**, ON	This turns the solo function on/off. Only the input audio for which this is "ON" is monitored through the headphones.

Menu item	Value (bold text: default value)	Explanation
AUDIO IN 5/6		
DIGITAL GAIN	-42.0–**0.0**–42.0dB	This adjusts digital gain.
INPUT LEVEL	**-INF**–10.0dB	This adjusts the volume level of input audio.
INPUT MUTE	**OFF**, ON	This sets the Mute feature on or off. Input audio for which this is set to "ON" is silenced.
HPF 75Hz	**OFF**, ON	This sets the high-pass filter on or off. Effect This cuts off unneeded low-band audio. The cutoff frequency is 75 Hz.
DELAY	**0.0**–12.0frame	This adjusts the delay time for input audio. Effect This outputs audio with a delay.
GATE	**OFF**, ON	This sets gate on or off. Effect This mutes audio that is below a specified level.
THRESHOLD	-80.0– **-50.0**–0.0dB	This sets the level used as the threshold for removing audio. Audio below the level set here is removed.
RELEASE	30–**860**–5000ms	This adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
COMP/LMT	**OFF**, ON	This sets the compressor on or off. Effect This compresses audio that exceeds a specified level.
THRESHOLD	-60.0– **-30.0**–0.0dB	This sets the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
RATIO	1.00:1, 1.12:1, 1.25:1, 1.40:1, 1.60:1, 1.80:1, 2.00:1, 2.50:1, 3.20:1, 4.00:1, **5.60:1**, 8.00:1, 16.0:1, INF:1	This species the degree of compression applied to the audio. The state in which no compression is applied is defined as "1."
ATTACK	0.2–**1**–100ms	This sets the time until compression starts when audio exceeding the threshold is input.
RELEASE	30–**380**–5000ms	This adjusts the length of time until compression ends after audio falls below the threshold.
AUTO GAIN	OFF, **ON**	This switches the auto makeup gain feature on and off. When this is set to "ON," the final output volume level after applying the compressor is automatically adjusted according to the "THRESHOLD" and "RATIO" settings. The total of the "MAKEUP GAIN" setting value described below and the value calculated by auto makeup gain becomes the final output volume level (up to +34 dB).
MAKEUP GAIN	-40–**0.0**–40dB	This adjusts the final output volume level after applying the compressor.
EQ Hi	-15.0–**0.0**–15.0dB	This boosts or attenuates the high band.
EQ Hi FREQ	1.00–**10.0**–20.0kHz	This adjusts the center frequency when changing the tone quality in the high band.
EQ Mid	-15.0–**0.0**–15.0dB	This boosts or attenuates the middle band.
EQ Mid FREQ	20.0Hz–**500Hz**–20.0kHz	This adjusts the center frequency when changing the tone quality in the middle band.
EQ Mid Q	0.5–**1.0**–16.0	This adjusts the width of the frequency band when boosting or attenuating the middle band.
EQ Lo	-15.0–**0.0**–15.0dB	This boosts or attenuates the low band.
EQ Lo FREQ	20.0–**100**–500Hz	This adjusts the center frequency when changing the tone quality in the low band.
SOLO	**OFF**, ON	This turns the solo function on/off. Only the input audio for which this is "ON" is monitored through the headphones.

Menu item	Value (bold text: default value)	Explanation
SDI IN 1–4, HDMI IN 5, HDMI IN 6		
DIGITAL GAIN	-42.0–**0.0**–42.0dB	This adjusts digital gain.
INPUT LEVEL	-INF–**0.0**–10.0dB	This adjusts the volume level of SDI or HDMI audio.
INPUT MUTE	**OFF**, ON	This sets the Mute feature on or off. SDI or HDMI audio for which this is set to "ON" is silenced.
HPF 75Hz	**OFF**, ON	This sets the high-pass filter on or off. Effect This cuts off unneeded low-band audio. The cutoff frequency is 75 Hz.
DELAY	**0.0**–12.0frame	This adjusts the delay time for SDI or HDMI audio. Effect This outputs audio with a delay.
GATE	**OFF**, ON	This sets gate on or off. Effect This mutes audio that is below a specified level.
THRESHOLD	-80.0– **-50.0**–0.0dB	This sets the level used as the threshold for removing audio. Audio below the level set here is removed.
RELEASE	30–**860**–5000ms	This adjusts the length of time until the audio is fully attenuated after audio falls below the threshold.
COMP/LMT	**OFF**, ON	This sets the compressor on or off. Effect This compresses audio that exceeds a specified level.
THRESHOLD	-60.0– **-30.0**–0.0dB	This sets the level used as the threshold at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
RATIO	1.00:1, 1.12:1, 1.25:1, 1.40:1, 1.60:1, 1.80:1, 2.00:1, 2.50:1, 3.20:1, 4.00:1, **5.60:1**, 8.00:1, 16.0:1, INF:1	This species the degree of compression applied to the audio. The state in which no compression is applied is defined as "1."
ATTACK	0.2–**1**–100ms	This sets the time until compression starts when audio exceeding the threshold is input.
RELEASE	30–**380**–5000ms	This adjusts the length of time until compression ends after audio falls below the threshold.
AUTO GAIN	OFF, **ON**	This switches the auto makeup gain feature on and off. When this is set to "ON," the final output volume level after applying the compressor is automatically adjusted according to the "THRESHOLD" and "RATIO" settings. The total of the "MAKEUP GAIN" setting value described below and the value calculated by auto makeup gain becomes the final output volume level (up to +34 dB).
MAKEUP GAIN	-40–**0.0**–40dB	This adjusts the final output volume level after applying the compressor.
EQ Hi	-15.0–**0.0**–15.0dB	This boosts or attenuates the high band.
EQ Hi FREQ	1.00–**10.0**–20.0kHz	This adjusts the center frequency when changing the tone quality in the high band.
EQ Mid	-15.0–**0.0**–15.0dB	This boosts or attenuates the middle band.
EQ Mid FREQ	20.0Hz–**500Hz**–20.0kHz	This adjusts the center frequency when changing the tone quality in the middle band.
EQ Mid Q	0.5–**1.0**–16.0	This adjusts the width of the frequency band when boosting or attenuating the middle band.
EQ Lo	-15.0–**0.0**–15.0dB	This boosts or attenuates the low band.
EQ Lo FREQ	20.0–**100**–500Hz	This adjusts the center frequency when changing the tone quality in the low band.
SOLO	**OFF**, ON	This turns the solo function on/off. Only the input audio for which this is "ON" is monitored through the headphones.

7: AUDIO OUTPUT

Menu item	Value (bold text: default value)	Explanation
OUTPUT ASSIGN		
AUDIO OUT (XLR)	**MASTER OUTPUT**, AUX	This specifies the audio bus assigned to the AUDIO OUT connectors (XLR). MASTER OUT: This groups together all input audio and outputs it (master out). AUX: This outputs only the audio on the AUX bus.
AUDIO OUT (RCA)	**MASTER OUTPUT**, AUX	This specifies the audio bus assigned to the AUDIO OUT connectors (RCA). MASTER OUT: This groups together all input audio and outputs it (master out). AUX: This outputs only the audio on the AUX bus.
PHONES OUT	**MASTER OUTPUT**, AUX	This specifies the audio bus assigned to the PHONES jack. MASTER OUT: This groups together all input audio and outputs it (master out). AUX: This outputs only the audio on the AUX bus.
MASTER OUTPUT		
OUTPUT LEVEL	**-INF**–10.0dB	This adjusts the volume level for master out.
OUTPUT MUTE	**OFF**, ON	This sets the Mute feature on or off. Setting this to "ON" mutes master out.
EQ Hi	-15.0–**0.0**–15.0dB	This boosts or attenuates the high band.
EQ Hi FREQ	1.00–**10.0**–20.0kHz	This adjusts the center frequency when changing the tone quality in the high band.
EQ Mid	-15.0–**0.0**–15.0dB	This boosts or attenuates the middle band.
EQ Mid FREQ	20.0Hz–**500Hz**–20.0kHz	This adjusts the center frequency when changing the tone quality in the middle band.
EQ Mid Q	0.5–**1.0**–16.0	This adjusts the width of the frequency band when boosting or attenuating the middle band.
EQ Lo	-15.0–**0.0**–15.0dB	This boosts or attenuates the low band.
EQ Lo FREQ	20.0–**100**–500Hz	This adjusts the center frequency when changing the tone quality in the low band.
MULTI BAND COMP	**OFF**, ON	This switches the multi-band compressor on and off. Effect This applies separate compressors in individual frequency bands.
Hi THRESHOLD	-40.0– **-20.0**–0.0dB	These set the individual levels that become the thresholds for the high, midrange, and low bands at which the compressor is applied. Compression is applied to audio that exceeds the threshold.
Mid THRESHOLD	-40.0– **-16.0**–0.0dB	
Lo THRESHOLD	-40.0– **-20.0**–0.0dB	
Hi RATIO	1.00:1, 1.12:1, 1.25:1, 1.40:1, 1.60:1, 1.80:1, 2.00:1, 2.50:1, 3.20:1, 4.00:1, 5.60:1, 8.00:1, 16.0:1, INF:1 The default values are as follows. Hi RATIO: 3.20:1 Mid RATIO: 2.50:1 Lo RATIO: 3.20:1	These set the amount of compression applied in the high, midrange, and low bands. The state in which no compression is applied is defined as "1."
Mid RATIO		
Lo RATIO		
LIMITER	**OFF**, ON	This sets the limiter on or off. Effect This limits the output volume so that is does not exceed the set level.
THRESHOLD	-40.0– **-6.0**–0.0dB	This sets the level that becomes the threshold at which the limiter is applied. Compression is applied to audio that exceeds the threshold. The volume level of audio that is output is limited so as to stay to below the threshold.
AUX		
AUX LEVEL	-INF–**0.0**–10.0dB	This adjusts the volume level of audio on the AUX bus.
AUX MUTE	**OFF**, ON	This sets the Mute feature on or off. Setting this to "ON" mutes the AUX-bus audio.
LIMITER	**OFF**, ON	This sets the limiter on or off. Effect This limits the output volume so that is does not exceed the set level.
THRESHOLD	-40.0– **-6.0**–0.0dB	This sets the level that becomes the threshold at which the limiter is applied. Compression is applied to audio that exceeds the threshold. The volume level of audio that is output is limited so as to stay to below the threshold.

8: AUDIO FOLLOW

Menu item	Value (bold text: default value)	Explanation
SDI IN 1–4 **HDMI IN 5, 6**	**OFF**, ON	This switches the Audio Follow feature on or off. Video channels for which this is set to "ON" are automatically muted when video on another channel is output.
AUDIO IN 1–5/6	**OFF**, SDI IN 1–4, HDMI IN 5, HDMI/RGB IN 6, STILL/BKG IN 7, STILL/BKG IN 8	This sets the video channel to interlink with input audio using Audio Follow. Audio from AUDIO IN 1–5/6 is muted out for video channels other than what you specified. When this is set to "OFF," no video channels using Audio Follow are assigned.

9: AUDIO EMBEDDED

Menu item	Value (bold text: default value)	Explanation
AUDIO IN 1–5/6	**OFF**, DRY, WET	This specifies the type of input audio sent to the SDI embedded-audio channels (3–8). OFF: No audio is sent. DRY: This sends the source audio with no effects applied. WET: This sends the effect-applied audio. The audio shown below is assigned to the respective channels of SDI embedded audio.
SDI OUT 1 AUDIO	**CH1–2**, CH1–8	This specifies the embedded-audio channel that is output via the SDI OUT 1 connector.
SDI OUT 2 AUDIO	**CH1–2**, CH1–8	This specifies the embedded-audio channel that is output via the SDI OUT 2 connector.

SDI embedded-audio channel number	Assigned audio
Channel 1	Master out (L) or AUX bus (L)
Channel 2	Master out (R) or AUX bus (R)
Channel 3	AUDIO IN 1
Channel 4	AUDIO IN 2
Channel 5	AUDIO IN 3
Channel 6	AUDIO IN 4
Channel 7	AUDIO IN 5 (L)
Channel 8	AUDIO IN 6 (R)

10: AUDIO AUTO MIXING

Menu item	Value (bold text: default value)	Explanation
AUTO MIXING	**OFF**, ON	This switches the Auto Mixing feature on or off.
AUDIO IN 1–5/6 **SDI IN 1–4** **HDMI 5, 6**	**OFF**, ON	This specifies whether Auto Mixing is applied (ON) or not applied (OFF).
WEIGHT	0–**100%**	This sets the priority for volume-level distribution.

11: PRESET MEMORY

Menu item	Value (bold text: default value)	Explanation
LOAD (*15)	**MEMORY 1**–8	This selects the preset memory to load. Pressing the [VALUE] knob lets you load the preset memory.
SAVE (*15)	**MEMORY 1**–8	This selects a preset memory for saving settings. Pressing the [VALUE] knob lets you save the settings to the preset memory. * The state of the [OUTPUT FADE] button and [PHONES] knob are not saved to any preset memory. The [OUTPUT FADE] button is always dark at startup. * The state of the [MODE] button and the settings shown below are saved as global settings for the unit. They are not saved to preset memories. **Category** / **Setting items saved in the unit** **RS-232/GPI**, **LAN CONTROL**: All menu items **SYSTEM**: All setting items except "TEST PATTERN" and "TEST TONE" * "TEST PATTERN" and "TEST TONE" are always set to "OFF" at startup.
DELETE	**MEMORY 1**–8	This selects a preset memory to delete. Pressing the [VALUE] knob lets you delete the preset memory.
START UP	**LAST MEMORY**, MEMORY 1–8	This specifies the settings loaded at startup. LAST MEMORY: This restores the state that was in effect immediately before the power was turned off (Last Memory feature). The current settings (Last Memory values) are saved every 4 seconds, and when you exit a menu. MEMORY 1–8: These recall the settings at the selected memory number.
MEMORY PROTECT	**OFF**, ON	When this is set to "ON," the preset memories are protected, and settings cannot be saved to them.
MEMORY LOAD FADE	OFF, **ON**	If this is "ON," fade-to-black is applied when you recall a preset memory. If this is "OFF," fade-to-black is not applied when you recall a preset memory. However, the screen might be disordered depending on the values of the settings that are recalled.

(*15) When the [MODE] button is lighted in blue, the AUX/MEMORY buttons function as shortcuts for saving to and loading preset memories.

12: RS-232/GPI

Menu item	Value (bold text: default value)	Explanation
RS-232	OFF, **ON**	Setting this to "ON" makes it possible to send and receive RS-232 commands.
BAUDRATE	9600, **38400**	This sets the communication speed (bps) of the RS-232 connector.
PANEL INFORMATION	**OFF**, ON	When this is set to "ON," the RS-232 command QPL (7: ALL) is always transmitted, such as when the channel is switched or when the PGM/A bus and PST/B bus are switched (p. 23).
GPI 1–8 TYPE	**N/A**, PGM CH SEL 1–8, PST CH SEL 1–8, MEMORY LOAD 1–8, DSK SRC SEL 1–8, MUTE AUDIO IN 1–5/6, MUTE SDI IN 1–4, MUTE HDMI IN 5–6, SOLO AUDIO IN 1–5/6, SOLO SDI IN 1–4, SOLO HDMI IN 5–6	This sets the function assigned to the GPI channel. N/A: No function is assigned. PGM CH SEL: This switches the final output video. PST CH SEL: This switches the preset video (the video to be output next). MEMORY LOAD: This loads a preset memory. DSK SRC SEL: During DSK compositing, this switches the channel of the overlaid logo or image. MUTE AUDIO IN, MUTE SDI IN, MUTE HDMI IN: This turns the INPUT MUTE function on/off. SOLO AUDIO IN, SOLO SDI IN, SOLO HDMI IN: This turns the INPUT SOLO function on/off. * When a control signal is input from an external source, the assigned function is executed. The GPI trigger is fixed at the trailing edge (low: ON). For details, refer to "Inputting a Control Signal" (p. 19).

13: CAMERA CONTROL

Here you can make remote camera settings.

* The items CAMERA IP ADDRESS and following can be edited if PROTOCOL is not set to "OFF."

Menu item	Value (bold text: default value)	Explanation
CAMERA ID	**CAMERA 1**–6	Specifies the ID used to distinguish the cameras.
PROTOCOL	**OFF**, JVC	Specifies the protocol.
CAMERA IP ADDRESS	CAMERA 1: **192.168.2.101** CAMERA 2: **192.168.2.102** CAMERA 3: **192.168.2.103** CAMERA 4 :**192.168.2.104** CAMERA 5: **192.168.2.105** CAMERA 6: **192.168.2.106**	Specifies the IP address that is assigned to the camera.
LOGIN NAME	(ENTER)	Specifies the user name that is assigned to the camera.
PASSWORD	(ENTER)	Specifies the password that is assigned to the camera.
PAN	LEFT, **RIGHT**	While you hold down the [VALUE] button, the camera points toward the left or right as specified here.
TILT	DOWN, **UP**	When you hold down the [VALUE] button, the camera points upward or downward as specified here.
PAN/TILT SPEED	1–**12**–24	Adjusts the speed at which the direction changes.
ZOOM	**WIDE(FAST)**, WIDE(SLOW), TELE(SLOW), TELE(FAST)	While you hold down the [VALUE] button, the camera zooms-out (WIDE) or zooms-in (TELE). This setting also makes the zoom faster or slower.
FOCUS	**FAR**, NEAR	Specifies whether holding down the [VALUE] button moves the focal point farther away or closer.
AUTO FOCUS	**OFF**, ON	If this is "ON," the focal point is set automatically.
EXPOSURE	**AUTO**, MANUAL	Specifies whether exposure is adjusted automatically or manually.
TALLY CH	**CH1**–CH6	Specifies the channel to which the camera's tally is linked. Set this to the channel that is inputting the video from the camera.
CAMERA PRESET RECALL	**PRESET 1**–PRESET 8	Recalls camera settings.
ALL CAMERA RECALL	**OFF**, ON	If this is "ON" and you execute "CAMERA PRESET RECALL," each camera's saved settings are recalled in a single operation. Example: If you press the AUX/MEMORY [1] button, PRESET 1 is recalled for CAMERA 1–6 in a single operation.
CAMERA PRESET STORE	**PRESET 1**–PRESET 8	Saves the camera settings.

14: LAN CONTROL

Menu item	Value (bold text: default value)	Explanation
CONFIGURE	MANUALLY, **USING DHCP**	This sets whether the IP address and subnet mask are obtained automatically (USING DHCP) or set manually (MANUALLY).
IP ADDRESS	**192.168.2.254** (*16)	This sets the IP address.
SUBNET MASK	**255.255.255.0** (*16)	This sets the subnet mask.
INFORMATION	(ENTER)	The LAN INFORMATION screen appears.

Indication	Explanation
STATUS	This displays the connection status.
IP ADDRESS	This displays the IP address.
SUBNET MASK	This displays the subnet mask.
MAC ADDRESS	This displays the MAC address.
(QR code) (*17)	This displays the URL of the IP address as a QR code.

(*16) This is available when "CONFIGURE" is set to "MANUALLY."

(*17) QR Code is a registered trademark of DENSO WAVE INCORPORATED in Japan and in other countries.

15: USB MEMORY

Menu item	Value (bold text: default value)	Explanation
LOAD PRESET	(ENTER)	The USB LOAD screen appears. This loads a settings file (.V06) that is on the USB flash drive into the unit.
SAVE PRESET	(ENTER)	The USB SAVE screen appears. This saves settings, overwriting the selected settings file (.V06) on the USB flash drive.
SAVE AS PRESET	(ENTER)	The USB SAVE AS screen appears. This newly saves the unit's settings to the USB flash drive as a single file (.V06). * Any still images that have been imported into the unit are not saved in the file.
LOAD STILL IMAGE	**STILL IMAGE 1**, STILL IMAGE 2	When you are importing a still image that is on a USB flash drive, this specifies the memory to use as the destination for saving the image on the unit. Pressing the [VALUE] knob lets you import the still image. * A "✻" symbol is displayed for memory where a still image is already saved. **File format of the still images that can be loaded** **Format**: Bitmap (.bmp), 24-bit color, uncompressed **Resolution**: In conformity with system format **File name**: No more than 8 single-byte alphanumeric characters * Be sure to append the ".bmp" file extension.
FORMAT	(EXEC)	This formats the USB flash drive.

16: CAPTURE IMAGE

Menu item	Value (bold text: default value)	Explanation
CAPTURE SOURCE	**SDI IN 1**–4, HDMI IN 5, HDMI/RGB IN 6	This specifies the input video to use for still-image capture.
TARGET STORAGE NO	**STILL IMAGE 1**, STILL IMAGE 2	This selects the memory to use as the destination for saving the captured still image. * A "✻" symbol is displayed for memory where a still image is already saved.
CAPTURE EXECUTE	(EXEC)	This captures a still image.

17: SYSTEM

<table>
<tr><th>Menu item</th><th>Value (bold text: default value)</th><th>Explanation</th></tr>
<tr><td>HDCP</td><td>OFF, ON</td><td>This specifies whether HDCP is enabled (ON) or disabled (OFF). When set to “ON,” copyright-protected (HDCP) video can be input. HDCP is also added to the video that is output.
* When “HDCP” is set to “ON,” no video is output via the SDI OUT connectors.</td></tr>
<tr><td>FRAME RATE</td><td>59.94Hz, 50Hz</td><td>This sets the frame rate.</td></tr>
<tr><td>SYSTEM FORMAT</td><td>720p, 1080i, 1080p</td><td>This specifies the system format for the V-60HD. The input and output formats of the respective connectors are determined according to the system format, as shown in the table below.
<table>
<tr><th rowspan="2">System format</th><th>Input format</th><th>Output format</th></tr>
<tr><th>SDI IN 1–4 connectors</th><th>SDI OUT 1 and 2 connectors
HDMI OUT 1 and 2 connectors</th></tr>
<tr><td>1080p</td><td>1080p, 1080i</td><td>1080p</td></tr>
<tr><td>1080i</td><td>1080p, 1080i</td><td>1080i</td></tr>
<tr><td>720p</td><td>720p</td><td>720p</td></tr>
</table>
• The input format of the HDMI IN 5 connector is set independently by the “EDID” value for “HDMI IN 5” (p. 3), regardless of the system format.
• The input format of the HDMI IN 6 connector or RGB/COMPONENT IN 6 connector is set independently by the “EDID” value for “HDMI/RGB IN 6” (p. 4), regardless of the system format.
• The output format at the MULTI-VIEW connector is fixed at “1080p” and cannot be changed.</td></tr>
<tr><td>PANEL OPERATION</td><td>PGM/PST, A/B</td><td>This sets the operation mode for video transitions.</td></tr>
<tr><td>PANEL LOCK</td><td>(ENTER)</td><td>Pressing the [VALUE] knob displays the PANEL LOCK menu items shown below.
These specify whether panel lock is applied (ON) or not applied (OFF) for each individual button and knob.
<table>
<tr><th>Menu item</th><th>Value</th><th>Explanation</th></tr>
<tr><td>ALL SW & VOLUME</td><td>OFF, ON</td><td>All buttons and knobs</td></tr>
<tr><td>MENU SW + EXIT SW</td><td>OFF, ON</td><td>[MENU] and [EXIT] buttons</td></tr>
<tr><td>VALUE ENCODER</td><td>OFF, ON</td><td>[VALUE] knob</td></tr>
<tr><td>PGM/A 1–8 SW</td><td>OFF, ON</td><td>PGM/A bus cross-point [1]–[8] buttons</td></tr>
<tr><td>PST/B 1–8 SW</td><td>OFF, ON</td><td>PST/B bus cross-point [1]–[8] buttons</td></tr>
<tr><td>AUX/MEMORY 1–8 SW</td><td>OFF, ON</td><td>AUX/MEMORY buttons (All)</td></tr>
<tr><td>MODE SW</td><td>OFF, ON</td><td>[MODE] button</td></tr>
<tr><td>CUT SW + AUTO SW</td><td>OFF, ON</td><td>[CUT] and [AUTO] buttons</td></tr>
<tr><td>VIDEO FADER</td><td>OFF, ON</td><td>Video fader</td></tr>
<tr><td>OUTPUT FADE SW</td><td>OFF, ON</td><td>[OUTPUT FADE] button</td></tr>
<tr><td>DSK ON/OFF SW</td><td>OFF, ON</td><td>[DSK] button</td></tr>
<tr><td>COMPOSITION BLOCK</td><td>OFF, ON</td><td>[H/PGM-CTR] and [V/PST-CTR] knobs
[PinP 1], [PinP 2], and [SPLIT] buttons</td></tr>
<tr><td>TRANSITION BLOCK</td><td>OFF, ON</td><td>[MIX], [WIPE 1], and [WIPE 2] buttons
[TIME] knob</td></tr>
<tr><td>DSK BLOCK</td><td>OFF, ON</td><td>[LEVEL] and [GAIN] knobs
[PVW] button</td></tr>
<tr><td>AUDIO IN 1–6 VOLUME</td><td>OFF, ON</td><td>AUDIO INPUT LEVEL knobs (All)</td></tr>
<tr><td>AUTO MIXING SW</td><td>OFF, ON</td><td>[AUTO MIXING] button</td></tr>
<tr><td>MASTER OUTPUT VOLUME</td><td>OFF, ON</td><td>[MASTER OUTPUT] knob</td></tr>
</table>
• Press and hold the [EXIT] button and the [MENU] button at the same time (for 3 seconds or longer) to turn on panel lock. Buttons and knobs for which panel lock is applied (ON) are locked.</td></tr>
<tr><td>OUTPUT FADE TYPE</td><td>VIDEO, VIDEO&AUDIO</td><td>This specifies the operation when the [OUTPUT FADE] button is pressed.
VIDEO: Fade-ins and fade-outs are applied only to video.
VIDEO&AUDIO: Fade-ins and fade-outs are applied simultaneously to video and audio.</td></tr>
<tr><td>LCD BACKLIGHT</td><td>OFF, ON</td><td>This illuminates (ON) or darkens (OFF) the backlight for the built-in display.</td></tr>
<tr><td>LCD CONTRAST</td><td>0–10–20</td><td>This adjusts the contrast for the built-in display.</td></tr>
<tr><td>LED DIMMER</td><td>0–7</td><td>This adjusts the brightness of the LEDs.
* When this is set to “0,” the LEDs are not completely dark.</td></tr>
<tr><td>MULTI-VIEW LABEL</td><td>OFF, ON</td><td>When this is set to “ON,” labels are displayed on the multi-view monitor.</td></tr>
<tr><td>MULTI-VIEW TALLY</td><td>OFF, ON</td><td>When this is set to “ON,” a tally border is displayed on the multi-view monitor. An AUX symbol is also displayed for the video channel selected as the video on the AUX bus.</td></tr>
<tr><td>AUDIO LEVEL METER</td><td>OFF, ON</td><td>When this is set to “ON,” an audio level meter is displayed on the multi-view monitor. An A.F symbol is also displayed for video channels for which Audio Follow is turned on.</td></tr>
</table>

Menu List

Menu item	**Value** (bold text: default value)	Explanation
AUTO SCAN	**OFF**, ON	This sets the Auto Scan function on or off. When this is set to "ON," channels 1 through 6 are switched automatically.
SCAN TIME	(ENTER)	When the Auto Scan function is on, this sets the video display interval.
SCAN SEQUENCE	**NORMAL**, RANDOM	When this is set to "NORMAL," switching occurs in numerical order as IN1, IN2, IN3. When this is set to "RANDOM," switching occurs randomly regardless of the numerical order.
ON SCREEN MENU	OFF, **UPPER LEFT**, UPPER RIGHT, LOWER LEFT, LOWER RIGHT	This specifies the location of the OSD menu displayed on the multi-view monitor. When this is set to "OFF," the OSD menu is always hidden.
AUTO OFF	OFF, **ON**	This sets the Auto Off function on or off. The power to the V-60HD turns off automatically when all of the following states persist for 240 minutes. • No operation performed on the V-60HD • No audio or video input • No equipment is connected to the HDMI OUT connectors
DELETE STILL IMAGE	**STILL IMAGE 1**, STILL IMAGE 2	This selects the memory whose still image is to be deleted. Pressing the [VALUE] knob lets you delete the still image. * A "✻" symbol is displayed for memory where a still image is already saved.
MULTI-VIEW LAYOUT	**PVW.PGM**, PGM.PVW	When this is set to "PGM.PVW," the multi-view monitor display is switched so that the PVW section is shown at the right and the PGM section is shown at the left.
MULTI-VIEW LABLE EDIT	**IN1 SDI**, IN2 SDI, IN3 SDI, IN4 SDI, IN5 HDMI, IN6 HDMI, IN6 RGB	This lets you edit the label names for IN1 through IN6 that are shown for the channel section of the multi-view monitor display.
AUX LINKED PGM	**OFF**, ON	When this is set to "ON," the same video as PGM is output to the AUX bus.
TEST PATTERN	**OFF**, 75% COLOR BAR, 100% COLOR BAR, RAMP, STEP, HATCH	This specifies the test pattern.
TEST TONE	**OFF**, -20dB@1kHz, -10dB@1kHz, 0dB@1kHz	This specifies the test tone.
VIDEO FADER CALIBRATE	(ENTER)	This calibrates the video fader.
FACTORY RESET	(EXEC)	This returns the unit to its factory defaults.
VERSION	—	This displays the version of the system program.

Remotely Controlling a Remote Camera

Preparations

Choose [MENU] button → "CAMERA CONTROL," and make the following settings.

Register the Camera Settings

You can register six cameras. Register the settings of the first camera in "CAMERA ID" [CAMERA 1], the second camera in [CAMERA 2], the third camera in [CAMERA 3], etc.

1. **Select "CAMERA ID," and use the [VALUE] knob to specify the camera that you're registering.**
2. **Press the [VALUE] knob to confirm the settings.**
3. **Select "PROTOCOL," and use the [VALUE] knob to specify the protocol that's appropriate for the camera that you're using.**
4. **Press the [VALUE] knob to confirm the settings.**
5. **Select "CAMERA IP ADDRESS," and use the [VALUE] knob to specify the IP address that's assigned to the camera.**
6. **Press the [VALUE] knob to confirm the settings.**
7. **If a login name and password have been specified for the password, specify the "LOGIN NAME" and "PASSWORD."**
8. **Repeat steps 1 through 7 for each of your cameras.**

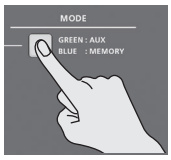
Registering Camera Movements

For each camera you can register eight movements.

1. **Select a "CAMERA ID," and use the [VALUE] knob to select the camera for which you want to register a movement.**
2. **Press the [VALUE] knob to confirm the settings.**
3. **In "PAN," select "TALLY CH" and use the [VALUE] knob to specify the camera movement.**
   For details on each item, refer to "13: CAMERA CONTROL" (p. 13).
4. **Select "CAMERA PRESET STORE," and select the number in which you want to save the settings.**
   You can save eight different settings in PRESET 1 through 8.
5. **Use the [VALUE] knob to select "YES," and then press the [VALUE] knob.**
   The camera movement is registered.
6. **Repeat steps 1 through 5 for each of your cameras.**

Changing the Camera's Operating Mode

1. **Long-press the [MODE] button so that it is illuminated in light blue.**



The unit's display indicates "CAMERA PRESET" and "CAMERA ID," and it enters camera operation mode.

MEMO

If you set [MENU] button → "CAMERA CONTROL" → "ALL CAMERA RECALL" to "ON," the display indicates "ALL CAMERAS" instead of "CAMERA ID."

Changing the Camera to Operate

1. Turn the [VALUE] knob.

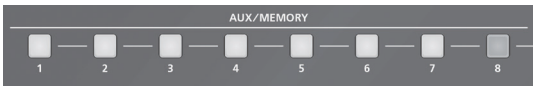
In the unit's display, the "CAMERA ID" changes.

MEMO

If you set [MENU] button → "CAMERA CONTROL" → "ALL CAMERA RECALL" to "ON," turning the [VALUE] knob will not change this.

Recalling a Registered Camera Movement

1. Press one of the AUX/MEMORY [1]–[8] buttons.



The PRESET 1–8 that you specified ahead of time are assigned to the AUX/MEMORY [1]–[8] buttons respectively.

MEMO

If you set [MENU] button → "CAMERA CONTROL" → "ALL CAMERA RECALL" to "ON," and press an AUX/MEMORY [1]–[8] button, the movement of not just one camera but the registered settings of all cameras are recalled in a single operation.

Exiting Camera Operating Mode

1. Press the [MODE] button to make it light green or blue.

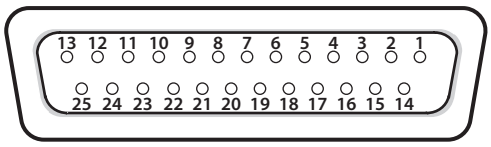
Control Using the TALLY/GPI Connector

You can operate the V-60HD remotely from an external device by inputting a GPI control signal via the TALLY/GPI connector.

And you can output a tally signal from the TALLY/GPI connector.

Specification of the TALLY/GPI Connector

Pin layout



DB-25 type (female)

Tally output

Trigger method	Open collector
Maximum input	12 V/200 mA

Control input

Trigger method	No-voltage contact (make-contact) triggering
Contact capacity	DC 24 V 0.1 A or higher
Input method	Photocoupler

Pin assignments

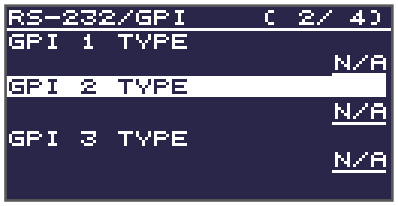
Pin No.	Function	Pin No.	Function
1	TALLY 1 PGM	14	N.C.
2	TALLY 1 PST	15	N.C.
3	TALLY 2 PGM	16	N.C.
4	TALLY 2 PST	17	GND
5	TALLY 3 PGM	18	GPI 1
6	TALLY 3 PST	19	GPI 2
7	TALLY 4 PGM	20	GPI 3
8	TALLY 4 PST	21	GPI 4
9	TALLY 5 PGM	22	GPI 5
10	TALLY 5 PST	23	GPI 6
11	TALLY 6 PGM	24	GPI 7
12	TALLY 6 PST	25	GPI 8
13	N.C.		

* Never connect anything to an N.C. pin.

Inputting a Control Signal

To operate the V-60HD remotely using control-signal input, you first assign the function to a GPI channel (1 through 8).

1. Select the [MENU] button → "RS-232/GPI" → "GPI 1 TYPE" through "GPI 8 TYPE."



2. Use the [VALUE] knob to specify the function to assign to the GPI channel (1 through 8).

Value	Explanation
N/A	No function is assigned.
PGM CH SEL 1–8	This switches the final output video.
PST CH SEL 1–8	This switches the preset video (the video to be output next).
MEMORY LOAD 1–8	This loads a preset memory.
DSK SRC SEL 1–8	During DSK compositing, this switches the channel of the overlaid logo or image.

3. Press the [VALUE] knob to apply the setting.

4. Press the [MENU] button to quit the menu.

When a control signal is input from an external source, the assigned function is executed. The GPI trigger is fixed at the trailing edge (low: ON).

Outputting a Tally Signal

A tally signal is output from the connector pin corresponding to the video channel being output, also including video composition and transition effects.

LAN/RS-232 Command Reference

V-60HD support two types of remote-interface communication: LAN and RS-232.

Using the CONTROL port (LAN) or RS-232 connector to send specific commands to the V-60HD from a controlling device lets you operate the V-60HD remotely.

LAN Interface

This uses the CONTROL port on the V-60HD.

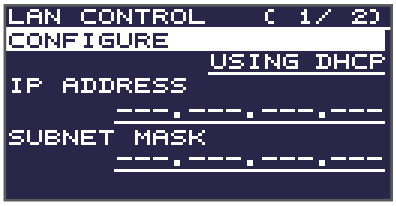
You use Telnet to operate the V-60HD remotely over a LAN (TCP/IP protocol).

Communication standards

Port	CONTROL port (LAN)
Protocol	TCP
Port number	8023

Setting the IP address of the V-60HD

1. **Select the [MENU] button → "LAN CONTROL."**
2. **Select a menu item, then use the [VALUE] knob to set the IP address.**



Menu item	Explanation
CONFIGURE	This sets whether the IP address and subnet mask are obtained automatically (USING DHCP) or set manually (MANUALLY).
IP ADDRESS	This sets the IP address when "CONFIGURE" is set to "MANUALLY." Set this in accordance with the connected network.
SUBNET MASK	This sets the subnet mask when "CONFIGURE" is set to "MANUALLY." Set this in accordance with the connected network.

3. **Press the [VALUE] knob to apply the setting.**
4. **Press the [MENU] button to quit the menu.**

Verifying the LAN information

1. **Select the [MENU] button → "LAN CONTROL" → "INFORMATION."**
2. **With the cursor positioned at "ENTER," press the [VALUE] knob.**

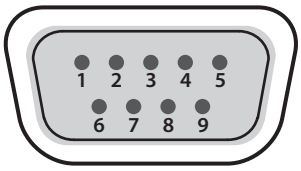
   You can check and verify the following information.

Indication	Explanation
STATUS	This displays the connection status.
IP ADDRESS	This displays the IP address.
SUBNET MASK	This displays the subnet mask.
MAC ADDRESS	This displays the MAC address.

3. **Press the [MENU] button to quit the menu.**

RS-232 Interface

RS-232 connector pin layout



DB-9 type (male)

Pin assignments

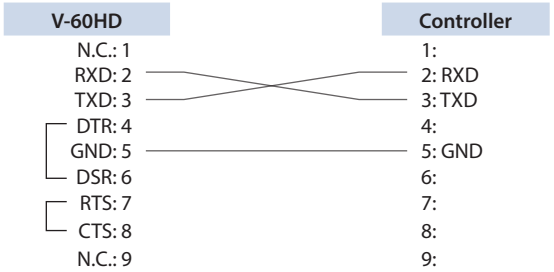
Pin No.	Signal
1	N.C.
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	N.C.

Communication standards

Communication method	Synchronous (asynchronous), full-duplex
Communication speed	9,600 bps/38,400 bps
Parity	none
Data length	8 bits
Stop bit	1 bit
Code set	ASCII
Flow control	XON/XOFF

Cable wiring diagram

Use an RS-232 crossover cable to connect the V-60HD and the controller (an RS-232-compatible computer or other device).



(Crossover connection)

* The connections between 4 and 6 and between 7 and 8 are inside the V-60HD.

Command Format

Commands are formatted using the configuration shown below. Commands are all in ASCII code.

stx	Command code	:	Parameter	,	Parameter	;

stx	ASCII code "02H" is a control code indicating the start of a command. "H" indicates that it is a hexadecimal value.
Command code	This specifies the command type (3 letters of the alphabet).
Parameter	This is appended to a command that requires one or more parameter. The command and the parameter portion are separated by a " : " (colon). When there are multiple parameters, they are each separated by " , " (comma) characters.
;	This is the code that the V-60HD recognizes as the end of a command.

* The codes of stx (02H), ACK (06H), and XON (11H)/ XOFF (13H) are the control codes.

List of Commands

* When sending a sequence of commands to the V-60HD from a controller, after each one, be sure to verify that an "ACK" response is returned before sending the next command.

Video-related operations

Item	Sent command	Response command	Parameter
Select channel for final video output	stxPGM:a;	ACK	a: 0 (SDI IN 1), 1 (SDI IN 2), 2 (SDI IN 3), 3 (SDI IN 4), 4 (HDMI IN 5), 5 (HDMI/RGB IN 6), 6 (STILL/BKG IN 7), 7 (STILL/BKG IN 8)
Select channel for preset video	stxPST:a;	ACK	a: 0 (SDI IN 1), 1 (SDI IN 2), 2 (SDI IN 3), 3 (SDI IN 4), 4 (HDMI IN 5), 5 (HDMI/RGB IN 6), 6 (STILL/BKG IN 7), 7 (STILL/BKG IN 8)
Select channel to send to AUX bus	stxAUX:a;	ACK	a: 0 (SDI IN 1), 1 (SDI IN 2), 2 (SDI IN 3), 3 (SDI IN 4), 4 (HDMI IN 5), 5 (HDMI/RGB IN 6), 6 (STILL/BKG IN 7), 7 (STILL/BKG IN 8)
Select transition effect	stxTRS:a;	ACK	a: 0 (MIX), 1 (WIPE 1), 2 (WIPE 2)
Set video transition time	stxTIM:a;	ACK	a: 0 (0.0 sec)–40 (4.0 sec)
Press the [CUT] button	stxCUT;	ACK	
Press the [AUTO] button	stxATO;	ACK	
Press the [PinP 1] button	stxP1S;	ACK	
Press the [PinP 2] button	stxP2S;	ACK	
Press the [SPLIT] button	stxSPT;	ACK	
Press the [DSK] button	stxDSK;	ACK	
Press the DSK [PVW] button	stxDVW;	ACK	
Press the DSK [AUTO MIXING] button	stxATM;	ACK	
Press the DSK [OUTPUT FADE] button	stxFDE;	ACK	
Adjust display position of inset screen assigned to the [PinP 1] button	stxPP1:a,b;	ACK	a: -450–450 Horizontal position b: -400–400 Vertical position
Adjust display position of inset screen assigned to the [PinP 2] button	stxPP2:a,b;	ACK	a: -450–450 Horizontal position b: -400–400 Vertical position
During split composition, adjust the display position of the video	stxSPT:a,b;	ACK	**When the split composition pattern is "V-CENTER"** This adjusts the display position in the horizontal direction. a: -250–250 final output video (video on the left) b: -250–250 preset video (video on the right) **When the split composition pattern is "H-CENTER"** This adjusts the display position in the vertical direction. a: -250–250 final output video (upper video) b: -250–250 preset video (lower video)
During DSK composition, set the channel of the overlaid logo or image	stxDSS:a;	ACK	a: 0 (SDI IN 1), 1 (SDI IN 2), 2 (SDI IN 3), 3 (SDI IN 4), 4 (HDMI IN 5), 5 (HDMI/RGB IN 6), 6 (STILL/BKG IN 7), 7 (STILL/BKG IN 8)
Adjust the key level (amount of extraction) for DSK composition	stxKYL:a;	ACK	a: 0–255
Adjust the key gain (semi-transmissive region) for DSK composition	stxKYG:a;	ACK	a: 0–255
Select input connector for channel 6	stxIPS:a;	ACK	a: 0 (HDMI), 1 (RGB/COMPONENT)
Set the output bus to assign to the SDI OUT 1 connector	stxOS1:a;	ACK	a: 0 (PGM), 1 (PVW), 2 (AUX)
Set the output bus to assign to the SDI OUT 2 connector	stxOS2:a;	ACK	a: 0 (PGM), 1 (PVW), 2 (AUX)
Set the output bus to assign to the HDMI OUT 1 connector	stxOH1:a;	ACK	a: 0 (PGM), 1 (PVW), 2 (AUX)
Set the output bus to assign to the HDMI OUT 2 connector	stxOH2:a;	ACK	a: 0 (PGM), 1 (PVW), 2 (AUX)

Audio-related operations

Item	Sent command	Response command	Parameter
Adjust volume level of input audio	stxIAL:a,b;	ACK	a: 0 (AUDIO IN 1), 1 (AUDIO IN 2), 2 (AUDIO IN 3), 3 (AUDIO IN 4), 4 (AUDIO IN 5/6), 5 (SDI IN 1), 6 (SDI IN 2), 7 (SDI IN 3), 8 (SDI IN 4), 9 (HDMI IN 5), 10 (HDMI IN 6) b: -801 (-INF), -800 (-80.0 dB)–0 (0.0 dB)–100 (10.0 dB)
Adjust volume level for master out	stxOAL:a;	ACK	a: -801 (-INF), -800 (-80.0 dB)–0 (0.0 dB)–100 (10.0 dB)
Adjust volume level for AUX-bus audio	stxOAX:a;	ACK	a: -801 (-INF), -800 (-80.0 dB)–0 (0.0 dB)–100 (10.0 dB)
Adjust delay time of input audio	stxADT:a,b;	ACK	a: 0 (AUDIO IN 1), 1 (AUDIO IN 2), 2 (AUDIO IN 3), 3 (AUDIO IN 4), 4 (AUDIO IN 5/6) b: 0 (0.0 fps)–120 (12.0 fps)
Acquire information on volume level	stxQAL:a;	stxQAL:b; ACK	**Sent command parameters** a: 0 (AUDIO IN 1), 1 (AUDIO IN 2), 2 (AUDIO IN 3), 3 (AUDIO IN 4), 4 (AUDIO IN 5/6), 5 (SDI IN 1), 6 (SDI IN 2), 7 (SDI IN 3), 8 (SDI IN 4), 9 (HDMI IN 5), 10 (HDMI IN 6), 11 (MASTER OUT), 12 (AUX), 12 (ALL) **Response command parameters** When a=0, b: -801–100 AUDIO IN 1 volume level When a=1, b: -801–100 AUDIO IN 2 volume level When a=2, b: -801–100 AUDIO IN 3 volume level When a=3, b: -801–100 AUDIO IN 4 volume level When a=4, b: -801–100 AUDIO IN 5/6 volume level When a=5, b: -801–100 SDI IN 1 volume level When a=6, b: -801–100 SDI IN 2 volume level When a=7, b: -801–100 SDI IN 3 volume level When a=8, b: -801–100 SDI IN 4 volume level When a=9, b: -801–100 HDMI IN 1 volume level When a=10, b: -801–100 HDMI IN 2 volume level When a=11, b: -801–100 AUX-bus audio volume level When a=12, b: -801–100 MASTER OUT volume level When a=13, sends all volume levels. Example: stxQAL:100,80,70,60,50,40,30,20,100,80,70,60,50;
Specify the mute function for input audio	stxIAM:a;	ACK	a: 0(AUDIO IN 1), 1(AUDIO IN 2), 2(AUDIO IN 3), 3(AUDIO IN 4), 4(AUDIO IN 5/6) 5(SDI 1), 6(SDI 2), 7(SDI 3), 8(SDI 4), 9(HDMI 5), 10(HDMI 6)
Specify the solo function for input audio	stxIAS:a;	ACK	a: 0(AUDIO IN 1), 1(AUDIO IN 2), 2(AUDIO IN 3), 3(AUDIO IN 4), 4(AUDIO IN 5/6) 5(SDI 1), 6(SDI 2), 7(SDI 3), 8(SDI 4), 9(HDMI 5), 10(HDMI 6)

System-related operations

Item	Sent command	Response command	Parameter
Set HDCP on/off	stxHCP:a;	ACK	a: 0 (OFF), 1 (ON)
Call up preset memory	stxMEM:a;	ACK	a: 0 (1), 1 (2), 2 (3), 3 (4), 4 (5), 5 (6), 6 (7), 7 (8)
Acquire status of operation-panel buttons	stxQPL:a;	stxQPL:b; ACK	**Sent command parameters** a: 0 (PGM), 1 (PST), 2 (AUX), 3 (PinP/SPLIT), 4 (DSK), 5 (OUTPUT FADE), 6 (Video fade level), 7 (ALL), **Response command parameters** When a=0, b: 0 (CH 1)–7 (CH 8) Status of the PGM/A bus cross-point buttons When a=1, b: 0 (CH 1)–7 (CH 8) Status of the PST/B bus cross-point buttons When a=2, b: 0 (CH 1)–7 (CH 8) Status of the AUX/MEMORY buttons (AUX bus selection) When a=3, b: 0 (Off) [PinP 1], [PinP 2], and [SPLIT] buttons are all off 1 (On) [PinP 1] button is on 2 (On) [PinP 2] button is on 3 (On) [SPLIT] button is on When a=4, b: 0 (Off), 1 (On) [DSK] button on/off When a=5, b: 0 (Off), 1 (On) [OUTPUT FADE] button status (unlit/lit) When a=6, b: 0–2047 When a=7, sends all information described above. Example: stxQAL:stxQPL:0,1,0,1,1,0;
Acquire cross-point status	stxTLY;	stxTLY:a,b,..,h; ACK	a–h: 0 (Dark), 1 (Red), 2 (Green) Returns the cross-point status of channels 1–8. Example: TLY:1, 2, 0, 0, 0, 0, 0, 0;
Acquire status of V-60HD	stxACS;	ACK	
Version information	stxVER;	stxVER:V-60HD,a;	a: Version * The version info is ASCII text strings.
Flow control	XON		
Flow control	XOFF		

Commands spontaneously sent from the V-60HD

Item	Sent command	Response command	Parameter
Error detected		stxERR:a;	a: 0 (syntax error) The received command contains an error. 4 (invalid) This has no effect because it is controlled by another setting. 5 (out of range error) An argument of the received command is out of range.
Flow control		XON	
Flow control		XOFF	