

VR-50HD

MULTI-FORMAT AV MIXER

Reference Manual

Roland

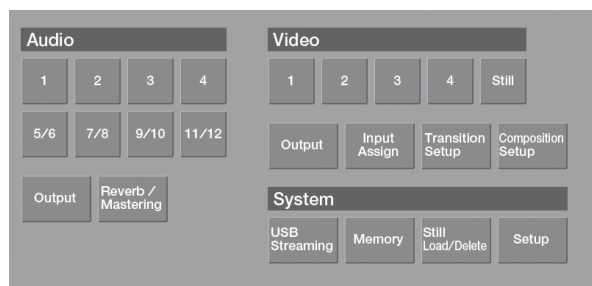
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Menu-Screen Parameter List

Pressing the [MENU] button displays the menu screen. Choose the item whose setting you want to change.



MEMO

- The values in bold are the factory default values of the VR-50HD. Hold down [ENTER] button and press [EXIT] button to make the value return to default. Continuing to hold down these buttons returns related parameters displayed on the same screen to their factory default values.
- You can change a setting value rapidly by holding down the [ENTER] button and turning the [VALUE] knob.
- If the MEMORY screen's "Auto Store" setting (p. 11) is set to ON, the state in effect when you exit the menu screen is automatically saved on the Memory No. 1.

Audio

1-4

Parameter	Value	Explanation
+48 V	OFF , ON	You set this to ON when using a microphone that requires phantom power.
Solo	OFF , ON	When listening to audio through headphones, you can hear just the channels for which this value is set to ON.
Mute	OFF , ON	This mutes the audio on the selected channel.
Gain	0.0 –+72 dB	This adjusts the input gain. You can also use the [GAIN] knobs on the top panel to adjust this.
HPF	OFF , ON	This switches the high-pass filter (75 Hz) on and off.
Level	-INF –0.0–+6.0 dB	This adjusts the level sent to the MAIN bus. You can also use the channel faders on the top panel to adjust this.
Delay	0.0 –500.0 ms	This adjusts the amount of delay for correcting audio that is out of sync with the video (lip-sync).
AUX Send	-INF –0.0–+6.0 dB	This adjusts the level sent to the AUX bus.
AUX Delay	0.0 –500.0 ms	This adjusts the amount of delay for correcting audio and video sent to the AUX bus that are out of sync (lip-sync).
Reverb Send	0 –127	This sets the amount of reverb applied.
Pan	Left, L62–L01, Center , R01–R62, Right	This adjusts the left-right balance of input.

Equalizer

ON/OFF	OFF , ON	This switches the equalizer on and off.
High	-15– 0 –+15 dB	This sets the gain of the high-frequency.
Frequency	700 Hz– 8 kHz –11 kHz	This sets the center of the frequency that will be adjusted by the High.
Mid	-15– 0 –+15 dB	This sets the gain of the middle-frequency.
Frequency	20 Hz– 2.5 kHz –10 kHz	This sets the center of the frequency that will be adjusted by the Mid.
Q	0.5– 1.0 –16.0	This sets the width of the area affected by the equalizer centered at the Mid-Frequency. Higher values will narrow the area.
Low	-15– 0 –+15 dB	This sets the gain of the low-frequency.
Frequency	55 Hz– 110 Hz –800 Hz	This sets the center of the frequency that will be adjusted by the Low.

Gate

ON/OFF	OFF , ON	This switches the gate feature on and off.
Threshold	-50– -48 –0 dB	This sets the sensitivity at which the gate starts to be applied.
Release	30– 500 –5000 ms	This adjusts the time from when the gate begins to function until the noise level reaches "0."

Compressor

ON/OFF	OFF , ON	This switches the compressor on and off.
Threshold	-50– -16 –0 dB	This sets the sensitivity at which the compressor starts to be applied.
Ratio	1.0: 1– INF : 1	This sets the compression ratio at which the audio signal will be compressed.
Attack	0.2– 50 –100 ms	This sets the time from when the input level exceeds the threshold level until the compressor begins operating.
Release	30– 500 –5000 ms	This sets the time from when the input level falls below the threshold level until the compressor stops operating.

Menu-Screen Parameter List

5/6–11/12

Parameter	Value	Explanation
Follow	OFF , ON	This switches the Audio Follow function on or off.
Solo		When listening to audio through headphones, you can hear just the channels for which this value is set to ON.
Mute		This mutes the audio on the selected channel.
Input	LINE , VIDEO	This selects the channel's audio input source. LINE: Analog audio incoming via the LINE jacks on the rear panel is input. VIDEO: Audio embedded in video is input. VIDEO is enabled when SDI or HDMI has been selected for Input Assign.
Level	-INF –0.0–+6.0 dB	This adjusts the level sent to the MAIN bus. You can also use the channel faders on the top panel to adjust this.
Delay	0.0 –500.0 ms	This adjusts the amount of delay for correcting audio that is out of sync with the video (lip-sync).
AUX Send	-INF –0.0–+6.0 dB	This adjusts the level sent to the AUX bus.
AUX Delay	0.0 –500.0 ms	This adjusts the amount of delay for correcting audio and video sent to the AUX bus that are out of sync.
Reverb Send	0 –127	This sets the amount of reverb applied.
Mono	OFF , ON	This sends the left-channel audio to the left and right channels; the right-channel audio is no longer heard.
Equalizer		
ON/OFF	OFF , ON	This switches the equalizer on and off.
High	–15– 0 –+15 dB	This sets the gain of the high-frequency.
Frequency	700 Hz– 8 kHz –11 kHz	This sets the center of the frequency that will be adjusted by the High.
Mid	–15– 0 –+15 dB	This sets the gain of the middle-frequency.
Frequency	20.0 Hz– 2.50 kHz –10.0 kHz	This sets the center of the frequency that will be adjusted by the Mid.
Q	0.5– 1.0 –16.00	This sets the width of the area affected by the equalizer centered at the Mid-Frequency. Higher values will narrow the area.
Low	–15– 0 –+15 dB	This sets the gain of the low-frequency.
Frequency	55 Hz– 110 Hz –800 Hz	This sets the center of the frequency that will be adjusted by the Low.

Output

Parameter	Value	Explanation
MAIN		
Level	-INF –0.0–+6.0 dB	This adjusts the output level of the MAIN bus. You can also use the [MAIN] fader on the top panel to adjust this.
AUX		
Level	-INF –0.0–+6.0 dB	This adjusts the output level of the AUX bus.
Output Bus		
AUDIO MAIN	MAIN , AUX	This selects whether the signals of the PGM bus or the signals of the AUX bus are output via the various output connectors. You select from among SDI PGM–HDMI AUX when audio input from HDMI or SDI has been assigned to channels 5/6–11/12.
AUDIO AUX	MAIN, AUX	
SDI PGM	MAIN , AUX	
SDI AUX	MAIN, AUX	
HDMI PGM	MAIN , AUX	
HDMI AUX	MAIN, AUX	
PHONES	MAIN , AUX	

Reverb/Mastering

Parameter	Value	Explanation
Reverb		
ON/OFF	OFF , ON	This switches reverb on and off.
Level	0 , 127	This sets the amount of reverb applied.
Time	0.1– 1.0 –5.0 sec	This sets the duration of the reverb.
Type	Room , Hall	This selects the type of reverb.
Equalizer		
ON/OFF	OFF , ON	This switches the equalizer on and off.
High	-15– 0 –+15 dB	This adjusts the volume level of the high-frequency.
Frequency	700 Hz– 8.00 kHz –11.0 kHz	This sets the center of the frequency that will be adjusted by the High.
Mid	-15– 0 –+15 dB	This adjusts the volume level of the middle-frequency.
Frequency	20.0 Hz– 2.50 kHz –10.0 kHz	This sets the center of the frequency that will be adjusted by the Mid.
Q	0.5– 1.0 –16.0	This sets the width of the area affected by the equalizer centered at the Mid-Frequency. Higher values will narrow the area.
Low	-15– 0 –+15 dB	This adjusts the volume level of the low-frequency.
Frequency	55– 110 –800 Hz	This sets the center of the frequency that will be adjusted by the Low.
Mastering		
ON/OFF	OFF , ON	This switches mastering on and off.
High	0 –127	This suppresses high-frequency distortion.
Mid		This suppresses middle-frequency distortion.
Low		This suppresses Low-frequency distortion.
NS		This adjusts the degree of application of the noise suppressor.
Enhancer		This adjusts the degree of application of the enhancer.

Video

NOTE

Depending on the input/output format settings, the range of value settings will be altered. Also, some changes to setting values do not alter the video picture.

1-4

Parameter	Value	Explanation
Scaling		
Type	Full, Letterbox, Crop, Dot by Dot, Manual	<p>This selects the scaling type.</p> <p>Full: The input image will be displayed fully on output screen. The aspect ratio will be changed.</p> <p>Letterbox: The entirety of the input image will be displayed on output screen. The aspect ratio will be maintained.</p> <p>Crop: The input image will be displayed fully on the output screen. The aspect ratio will be maintained.</p> <p>Dot by Dot: Scaling will not be executed.</p> <p>Manual: The scaling will be executed depending on the manual settings of Size H and Size V.</p>
Size H	-1920-0-+1920	This sets the horizontal size.
Size V	-1080-0-+1080	This sets the vertical size.
Zoom	10-100-1000%	This sets the zoom ratio.
Position H	-1920-0-+1920	This sets the horizontal position.
Position V	-1080-0-+1080	This sets the vertical position.
Color Correction		
Brightness	-64-0-+63	This adjusts the brightness.
Contrast		This adjusts the contrast.
Saturation		This adjusts the color saturation.
Red		This adjusts the red level.
Green		This adjusts the green level.
Blue		This adjusts the blue level.

Input Assign: HDMI, RGB/Component

Color Space	AUTO, RGB 0-255, RGB 16-235, YCC SD, YCC HD	This selects the color space.
Flicker Filter	OFF, ON	This turns on/off the flicker filter.

Input Assign: RGB/Component

Sampling		
Auto Sampling Execute		Touch this parameter to execute auto sampling setup.
Position H	-1920-0-+1920	This sets the horizontal start position of sampling.
Position V	-1200-0-+1200	This sets the vertical start position of sampling.
Phase	-128-0-+127	This sets the sampling phase.
Frequency		This sets the sampling frequency.


Still

Parameter	Value	Explanation
Scaling		
Still	1–4	This selects the still image assigned to the VIDEO INPUT SELECT [STILL] button.
Position H	-1920–0→+1920	This sets the horizontal position.
Position V	-1080–0→+1080	This sets the vertical position.
Color Correction		
Brightness	-64–0→+63	This adjusts the brightness.
Contrast		This adjusts the contrast.
Saturation		This adjusts the color saturation.
Red		This adjusts the red level.
Green		This adjusts the green level.
Blue		This adjusts the blue level.

Output

Parameter	Value	Explanation
Format	480i 4: 3 (*), 480i 16: 9 (*), 480p 4: 3 (*), 480p 16: 9 (*), 720p, 1080i , 1080p, 1024 x 768, 1280 x 720, 1280 x 800, 1280 x 1024, 1400 x 1050, 1920 x 1080	Touching this parameter displays the Format Select screen. At the Format Select screen, you select the output format. (*): When the System value of Frame Rate (p. 11) is set to 50 Hz, these are 576i 4: 3, 576i 16: 9, 576p 4: 3, and 576p 16: 9.
Scaling		
Zoom	10– 100 –1000%	This sets the zoom ratio.
Size H	-2000– 0 –+2000	This sets the horizontal size.
Size V		This sets the vertical size.
Position H	-1920– 0 –+1920	This sets the horizontal position.
Position V	-1080– 0 –+1080	This sets the vertical position.
Color Correction		
Brightness	-128– 0 –+127	This adjusts the brightness.
Contrast		This adjusts the contrast.
Saturation		This adjusts the color saturation.
Red		This adjusts the red level.
Green		This adjusts the green level.
Blue		This adjusts the blue level.
AUX Bus Source	Input 1–4, Mixer Output	This selects the signal of the AUX bus.
Output Bus: SDI		
PGM	PGM , PVW, AUX	These select the output buses assigned to the respective SDI OUT connectors.
AUX	PGM, PVW , AUX	
Output Bus: HDMI		
PGM	PGM , PVW, AUX	These select the output buses assigned to the respective HDMI OUT connectors.
AUX	PGM, PVW , AUX	
Output Bus: RGB/COMPONENT		
PGM	PGM , AUX	These select the output buses assigned to the respective RGB/COMPONENT OUT connectors.
AUX	PGM, AUX	


Menu-Screen Parameter List

Parameter	Value	Explanation
Cropping		
ON/OFF	OFF, ON	This turns on/off the cropping.
Size H	0, 128 , 1920	This sets the horizontal size.
Size V	0, 64 , 1080	This sets the vertical size.
Orientation		This sets the orientation of cropping.
Signal Type		
3G-SDI Mapping	Level A, Level B	This selects the mapping structure of 3G-SDI output. * Input is determined automatically.
HDMI PGM		
Signal Type	HDMI , DVI-D	This selects the video signal type.
Color Space	RGB 0-255 , RGB 16: 235, YCC 4: 4: 4, YCC 4: 2: 2	This selects the color space.
HDMI AUX		
Signal Type	HDMI , DVI-D	This selects the video signal type.
Color Space	RGB 0-255 , RGB 16: 235, YCC 4: 4: 4, YCC 4: 2: 2	This selects the color space.
HDMI MULTI-VIEW		
Signal Type	HDMI , DVI-D	This selects the video signal type.
Color Space	RGB 0-255 , RGB 16: 235, YCC 4: 4: 4, YCC 4: 2: 2	This selects the color space.

Input Assign

Parameter	Value	Explanation
1	SDI, HDMI, Composite, RGB/Component	You assign video connectors receiving input to channels 1–4.
2		
3	SDI, HDMI	
4		

Transition Setup

Parameter	Value	Explanation
Time	0– 1.0 –4.0 sec	This sets the transition time.
Wipe		
Pattern		This selects the wipe pattern.
Direction	Normal , Reverse, N/R	This selects the wipe direction.
Border		
Red	0– 128 –255	This sets the red level of border color.
Green		This sets the green level of border color.
Blue		This sets the blue level of border color.
Width	0– 63	This sets the border width.

Composition Setup

Parameter	Value	Explanation
Preview	PinP, PinP KEY, STILL KEY	This selects the video composition mode displayed in Preview.
Edit	PinP, PinP KEY, STILL KEY	Touch the screen to select the video composition mode for editing.
Source	---	This displays the Source screen for the video composition mode selected using Edit.
Detail		This displays the detailed setting screen for the video composition mode selected using Edit.
Layer		This displays the Composition Layer screen.

<Source> → PinP Source, PinP/KEY Source screen

Parameter	Value	Explanation
Source	SDI 1–4, ANALOG/HDMI 1, ANALOG/HDMI 2, HDMI 3 , HDMI 4	This selects the connector for inputting the video for video compositing. * When ANALOG/HDMI 1 or ANALOG/HDMI 2 has been selected The same connector as the Input Assign setting (p. 8) is selected from among the input connectors displayed in the lower row.
Edit	---	This displays the detailed settings (Video Input) screen for the selected input connector. It sets the same parameters as for Video 1–4 (p. 6).

<Source> → STILL KEY Source screen

Parameter	Value	Explanation
Source	---	This displays the Video Input Still screen. It sets the same parameters as for Still (p. 7).

<Detail> → PinP, PinP/KEY screen

Parameter	Value	Explanation
ON/OFF	OFF, ON	This turns on/off the PinP.
Size	10– 25 –100%	This sets the size of the inset screen.
Position H	-100– 30 +100%	This sets the horizontal position of the inset screen.
Position V	-100– 25 +100%	This sets the vertical position of the inset screen.

Cropping

Type	Original , 4: 3, 16: 9, Manual	This selects the cropping type of the inset screen. When Manual has been selected, the settings for Manual H and Manual V are used.
Manual H	-2000– 0 +2000	This sets the horizontal cropping width.
Manual V		This sets the vertical cropping width.

View

Zoom	100 –1000%	This sets the zoom ratio.
Position H	-1920– 0 +1920	This sets the horizontal position.
Position V	-1080– 0 +1080	This sets the vertical position.

Border

Red	0– 128 –255	This sets the red level of border color.
Green		This sets the green level of border color.
Blue		This sets the blue level of border color.
Width	0–5– 63	This sets the border width.

PinP/KEY, STILL KEY screen

ON/OFF	OFF, ON	This sets key composition (still-image composition) on/off.
Type	(PinP/KEY) Lumi White, Lumi Black, Chroma Blue , Chroma Green	(STILL KEY) Lumi White, Lumi Black, Chroma Blue , Chroma Green
		This selects the key composition type (extraction color). Lumi White: This uses a brightness threshold to make white transparent when compositing. Lumi Black: This uses a brightness threshold to make black transparent when compositing. Chroma Blue: This uses a color threshold to make blue transparent when compositing. Chroma Green: This uses a color threshold to make green transparent when compositing.

Menu-Screen Parameter List

Parameter	Value	Explanation
Level	0– 32 –255	This sets the amount of extraction.
Gain	0 –255	This sets the amount of edge blur.
Hue		
* This is enabled when Type is set to Chroma Blue or Chroma Green.		
Width	-128– 0 –+127	This adjusts the hue width (range).
Fine		This adjusts the center position for hue.
Saturation		
* This is enabled when Type is set to Chroma Blue or Chroma Green.		
Width	-128– 0 –+127	This adjusts the saturation width (range).
Fine	0 –255	This adjusts the center position for saturation.

<Layer> → Composition Layer screen

Parameter	Value	Explanation
Layer		
PinP	Bottom , Middle, Top	This specifies the sequence of overlaid layers for compositing. Touching the parameter makes the setting for Top. Touching the parameter set as Top makes the layers set as Bottom and Middle change place.
PinP/KEY	Bottom, Middle , Top	
STILL KEY	Bottom, Middle, Top	

System

USB Streaming

Parameter	Value	Explanation
Audio		
Level	-INF –0.0–+12.0 dB	This sets the volume level of the audio output via USB.
Audio Bus	MAIN , AUX	This specifies either the MAIN bus or the AUX bus for the signals output via the USB Streaming port.
Delay	0.0 –500.0 ms	This adjusts the amount of delay for correcting for out-of-sync audio and video in USB output (lip-sync).
Video		
Resolution	480p , 720p, 1080p	This selects the format of the output.
Frame Rate	59.94 Hz , 29.97 Hz	This selects the frame rate.
Video Bus	PGM , AUX	This specifies either the PGM bus or the AUX bus for the signals output via the USB Streaming port.
Status		
Connection	USB 2.0, USB 3.0	This indicates whether the connection is USB 2.0 or USB 3.0.
Dropped Frames	---	This displays the number of unsuccessfully sent frames in the last one-second interval.
Reset		This severs the current USB connection and attempts to establish a new connection to the computer.

Memory

Parameter	Value	Explanation
Recall	---	This calls up the unit's settings.
Store		This saves the unit's settings.
Memory No.	1–8	This selects the number of the memory for recalling or storing settings.
Auto Store	*1 OFF , ON	When this is set to ON, the current state is automatically saved when you quit the menu screen or change screens.
USB Memory		
Load	---	This imports into the unit a file saved on a USB flash drive.
Save		This overwrites the file saved on the USB flash drive.
Save As		This groups together the settings saved at Memory No. 1–8 and the system settings, and saves them on a USB flash drive as a single file.
Format		This formats a USB flash drive.

*1: These are global parameters for the VR-50HD. A single set is stored in the unit.
After the settings have been made, changing the screen automatically saves the values, and the setting are automatically loaded at startup.

Still Load/Delete

Parameter	Value	Explanation
Load	---	This imports into the unit a still image saved on a USB flash drive. * This still image is automatically imported at the next startup.
Delete		This deletes the still image imported into the unit.

Menu-Screen Parameter List

Setup

Parameter	Value	Explanation
HDCP	*1 OFF, ON	This selects whether HDCP is disabled or enabled.
NTSC Setup	*1 0IRE, 7.5IRE	This selects the setup level for NTSC.
Frame Rate	*1 59.94 Hz, 50 Hz	This selects the VR-50HD's system frame rate.
Field Sync	*1 OFF, ON	This synchronizes the input field and output field. Setting this to ON enhances image quality, but delay between input and output increases.
Reference		
Reference	*1 Internal, SDI 1	This selects the VR-50HD's synchronization mode.
Clock Adj.	*1 -1920-0--+1920	This makes the synchronization setting for when Reference is set to SDI 1.
Line Adj.	*1 -1080-0--+1080	This makes the line setting for when Reference is set to SDI 1.
Freeze/User Logo		
Mode	Freeze, User Logo	This specifies the functioning of the [FREEZE/USER LOGO] button. Freeze: Pressing the button freezes video output. User Logo: Pressing the button stops video output and outputs a user logo.
Still	1-4	This selects the user-logo file that is output when Mode is set to User Logo.
Output Fade		
Color	*1 Black, White	This selects the image for the fade destination. Black: Fade to black White: Fade to white
Output Capture		
Still	1-4	This selects the destination for saving a captured output picture.
Execute	- - -	This executes capture of the output picture.
MIDI		
Status	Native, V-LINK, MVC	This selects the MIDI remote control mode. Native: Communicate using standard MIDI mode. V-LINK: Communicate as the V-Link device. MVC: Communicate as the MVC (MIDI Visual Control) device. * The Native setting is enabled at power up. * The setting is not stored in memory.
Channel	*1 1-16	This selects the MIDI channel to be used in standard MIDI mode.
OUT/THRU	*1 OUT, THRU	This selects the operation of the MIDI OUT/THRU connector.
Test Pattern	OFF, 75% Color Bar, 100% Color Bar, Ramp, Step, Hatch, Frame	This selects the test pattern. * The setting is not stored in memory.
Test Tone	OFF, ON	This turns on/off the test tone. * The setting is not stored in memory.
Touch Panel		
Beep	*1 OFF, ON	This turns on/off the audible beep heard when the screen is touched.
Label	- - -	Touching this parameter displays the Label screen. There you can assign each channel a text-string label of your choosing (up to 8 characters).
Version	- - -	This displays the version information for the software. Touching this parameter changes the display to the build number.
Factory Reset		This makes the VR-50HD to return to factory default setting.

*1: These are global parameters for the VR-50HD. A single set is stored in the unit.
After the settings have been made, changing the screen automatically saves the values, and the setting are automatically loaded at startup.

Remote Controlling via MIDI

MIDI Control Modes of the VR-50HD

These are the MIDI control modes for the VR-50HD.

Standard MIDI mode

This is the mode for remote controlling the VR-50HD from an external MIDI device (like a keyboard) or linking 2 units of the VR-50HD.

V-LINK mode

This is the mode for remote controlling VR-50HD from an external V-LINK device.

What is V-LINK

V-LINK is a feature for performing video synchronized to music using MIDI. The V-LINK feature provides a quick and simple way to establish a link with a compatible device.

MVC mode

This is the mode for remote controlling the VR-50HD from an external MVC (MIDI Visual Control) device.

What is MVC (MIDI Visual Control)

MIDI Visual Control is an internationally-used recommended practice that was added to the MIDI specification so that visual expression could be linked with musical performance. Video equipment that is compatible with MIDI Visual Control can be connected to electronic musical instruments via MIDI in order to control video equipment in tandem with a performance.

MIDI Settings for VR-50HD

You can make VR-50HD MIDI settings in the System screen.

The current MIDI mode is displayed at Status.

- Native: Standard MIDI mode
- V-Link: V-LINK mode
- MVC: MVC (MIDI Visual Control) mode

If the VR-50HD receives V-LINK ON or MVC ON message from an external device while it's in standard MIDI mode, the mode switches automatically. Reception of V-LINK OFF or MVC OFF message also switches the mode automatically to standard MIDI mode.

When THRU is selected for THRU/OUT, the received signal coming in from MIDI IN connector will be output from MIDI THRU/OUT connector without any alteration. VR-50HD exclusive messages will not be output.

Using in standard MIDI mode

Set Channel to match the MIDI channel of the connected MIDI device.

Using in V-LINK mode

When you use in V-LINK slave mode, send V-LINK ON message while the VR-50HD is in standard MIDI mode.

The MIDI device ID of the VR-50HD will be 10H.

Using in MVC mode

When you use in MVC slave mode, send MIDI Visual Control ON message while the VR-50HD is in standard MIDI mode.

The MIDI device ID of the VR-50HD will be 00H.

MIDI Implementation

Messages Transmitted and Received in Standard MIDI Mode

● Program Change

PC	Value	Function
CnH	0: 1–7: 8	Memory Recall

● Control Change

CC	CC#	Value	Function
BnH	0CH	0: 1–3: 4, 4: Still	Video Input Select PST
	0DH	0: 1–3: 4, 4: Still	Video Input Select PGM
			* Send only
			* After completion of a transition, this changes to the same value as PST.
	11H	0: 0.0s–40: 4.0s	Transition Time
	12H	0: CUT, 1: MIX, 2: WIPE	Transition Type Switch
	13H	127	Output Fade Switch
	14H	127	User Logo/Freeze Switch
	15H	0–127	Audio Input Level Ch 1
	16H	0–127	Audio Input Level Ch 2
	17H	0–127	Audio Input Level Ch 3
	18H	0–127	Audio Input Level Ch 4
	19H	0–127	Audio Input Level Ch 5/6
	1AH	0–127	Audio Input Level Ch 7/8
	1BH	0–127	Audio Input Level Ch 9/10
	1CH	0–127	Audio Input Level Ch 11/12
	1DH	0–127	Audio Output Level
	40H	127	Composition PinP Switch
	41H	127	Composition PinP/Key Switch
	42H	127	Composition Still Key Switch

Messages Received in V-LINK Mode

● Program Change

Status	2nd Byte
CnH	ppH
n= Ctrl Rx MIDI Ch. number:	0H–FH (Ch. 1–16)
pp= Video Input Channel:	00H–04H (CH1–CH4, Still)

● Note On

Status	2nd Byte	3rd Byte
9nH	kkH	vvH

● Note Off

Status	2nd Byte	3rd Byte
8nH	kkH	vvH
n= Ctrl Rx MIDI Ch. number:	0H–FH (Ch. 1–16)	
kk= note number :	00H–7FH (0–127)	
vv= velocity:	ignored	

* This is valid when the Note Message Enabled is 49 Keys or Assignable.

● Control Change

Status	2nd Byte	3rd Byte
BnH	ccH	vvH
n= Ctrl Rx MIDI Ch. number:	0H–FH (Ch. 1–16)	
cc= Controller number:	00H–7FH (0–127)	
vv= value:	00H–7FH (0–127)	

● Channel Pressure/Aftertouch

Status	2nd Byte
DnH	vvH
n= Ctrl Rx MIDI Ch. number:	0H–FH (Ch. 1–16)
vv= value:	00H–7FH (0–127)

● Pitch Bend Change

Status	2nd Byte	3rd Byte
EnH	llH	mmH
n= Ctrl Rx MIDI Ch. number:	0H–FH (Ch. 1–16)	
ll= ignored		
mm= value:	00H–7FH (0–127)	

● Reset All Controllers

Status	2nd Byte	3rd Byte
BnH	79H	00H
n= Ctrl Rx MIDI Ch. number:		0H–FH (Ch. 1–16)
* Returns to V-LINK default status.		

■ System Exclusive Messages

● Data Set 1 (DT1)

This is the message for actual data transmission. Use this when you want to set data for the device.

<u>Status</u>	<u>Data Byte</u>	<u>Status</u>
F0H	41H, dev, 00H, 51H, 12H, aaH, bbH, ccH, ddH, ..., eeH, sum	F7H
<u>Byte</u>	<u>Explanation</u>	
F0H	Exclusive Status	
41H	ID number (Roland)	
10H	Device ID	
00H	Model ID upper byte (V-LINK message)	
51H	Model ID lower byte (V-LINK message)	
12H	Command ID (DT1)	
aaH	Address upper byte	
bbH	Address	
ccH	Address	
ddH	Data: Actual data. If multiple, transmitted with address order.	
:		
eeH	Data	
sumH	Checksum	
F7H	EOX (End of Exclusive)	

■ Parameter Address Map

* The values in bold are the factory default values.

● System Preference Area

Address	Parameter Name	Sys.Ex. Value	Meaning of Value
10H 00H 00H	V-LINK ON/OFF	00H –01H	00H= Off, 01H= On
10H 00H 01H	Ctrl Rx MIDI Ch. (Clip & Color)	00H –10H	00H= Ch. 1, 0FH= Ch. 16, 10H= Off
10H 00H 03H	Note Message Enabled	00H –02H	00H= OFF, 01H= 49 Keys, 02H= Assignable

● Clip Control Assignment Area

Address	Parameter Name	Sys.Ex. Value	Meaning of Value
10H 10H 02H	Dissolve Time Control Assign MSN	00H –0FH	4 bit MSN + 4 bit LSN= 8 bit data. D0H= Aftertouch E0H= Pitch Bend Change FFH= No assign 01H–1FH, 40H–5FH= Control Change number other values are reserved.

10H 10H 03H	Dissolve Time Ctrl Assign LSN	00H– 05H –0FH
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● Clip Control Preference Area

Address	Parameter Name	Sys.Ex. Value	Meaning of Value
10H 30H 02H	Assignable Note Mode Keyboard Range Lower	00H– 24H –7FH	Note Number
10H 30H 03H	Assignable Note Mode Keyboard Range Upper	00H– 31H –7FH	Note Number

Messages Received in MVC Mode

Program Change

Status	2nd Byte
CnH	ppH
n= MIDI channel number (CCM):	0H–FH (Ch. 1–16)
pp= channel number:	00H–09H (1–10)

Note On

Status	2nd Byte	3rd Byte
9nH	kkH	vvH

Note Off

Status	2nd Byte	3rd Byte
8nH	kkH	vvH
n= MIDI channel number (CCM):	0H–FH (Ch. 1–16)	
kk= note number:	00H–7FH (0–127)	

Control Change

Status	2nd Byte	3rd Byte
BnH	ccH	vvH
n= MIDI channel number (CCM):	0H–FH (Ch. 1–16)	
cc= control number (CC#):	00H–77H (0–119)	
vv= value	00H–7FH (0–127)	

Channel Pressure (Aftertouch)

Status	2nd Byte
DnH	vvH
n= MIDI channel number (CCM):	0H–FH (Ch. 1–16)
vv= channel pressure value:	00H–7FH (0–127)

Pitch Bend Change

Status	2nd Byte	3rd Byte
EnH	llH	mmH
n= MIDI channel number (CCM):	0H–FH (Ch. 1–16)	
ll= ignored		
mm= pitch bend value:	00H–7FH (0–127)	

Channel Mode Message

Status	2nd Byte	3rd Byte
BnH	79H	00H
n= MIDI channel number (CCM):	0H–FH (Ch. 1–16)	

Universal System Exclusive

Status	Data Byte	Status
FOH	7EH Dev OCH 01H { . . }	F7H

MIDI Visual Control “Data Set”

MIDI Visual Control “Data Set” is made of data address, actual data to be transmitted and the checksum.

Byte	Explanation
FOH	System Exclusive Status
7EH	Universal System Exclusive Non Real-time Header
00H	Device ID
0CH	Sub ID#1 (MIDI Visual Control)
01H	Sub ID#2 (MVC command set ID; 01H = Version 1.0)
aaH	address upper
bbH	address middle
ccH	address lower
ddH	data top
:	
eeH	data end
sumH	checksum
F7H	End of System Exclusive (EOX)

MVC Slave Parameter Address Map

* The values in bold are the factory default values.

System Preference Area

Address	Parameter Name	Sys.Ex. Value	Meaning of Value
10H 00H 00H	MIDI Visual Control ON/OFF	00H –01H	00H= Off, 01H= On
10H 00H 01H	CCM (Clip Control Rx MIDI Ch.)	00H –10H	00H= Ch. 1, 0FH= Ch. 16, 10H= Off
10H 00H 03H	NME (Note Message Enabled)	00H –01H	00H= OFF, 01H= Assignable

Clip Control Assignment Area

Address	Parameter Name	Sys.Ex. Value	Meaning of Value
10H 10H 02H	Dissolve Time Ctrl Assign MSN	00H –0FH	4 bit MSN + 4 bit LSN= 8 bit data.
10H 10H 03H	Dissolve Time Ctrl Assign LSN	00H– 05H –0FH	
			D0H= Aftertouch
			E0H= Pitch Bend Change
			FFH= No Assign
			01H–1FH, 40H–5FH= Control Change number
			Other values are reserved.

Clip Control Preference Area

Address	Parameter Name	Sys.Ex. Value	Meaning of Value
10H 30H 02H	Keyboard Range Lower	00H– 24H –7FH	Note Number
10H 30H 03H	Keyboard Range Upper	00H– 54H –7FH	Note Number

Supplementary Material

● Decimal and Hexadecimal Table

(Hexadecimal Numbers are Indicated by 'H')

In MIDI documentation, data values and addresses/sizes of exclusive messages etc. are expressed as hexadecimal values for each 7 bits.

The following table shows how these correspond to decimal numbers.

D	H	D	H	D	H	D	H
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

D: decimal

H: hexadecimal

* Decimal expressions used for MIDI channels, bank select, program change and device ID are 1 greater than the decimal value shown on above table.

● Exclusive message and checksum calculation

Roland exclusive messages (DT1) contain a checksum following the data (after F7), which can be used to check whether the message was received correctly.

The checksum value is derived from the address and data (or size) of the transmitted exclusive message.

○ Calculating the checksum (Hexadecimal numbers are indicated by 'H')

The checksum is a value that produces a lower 7 bits of zero when the address, size, and checksum itself are summed. If the exclusive message to be transmitted has an address of aaH bbH ccH and the data is ddH eeH, the actual calculation would be as follows:

$aaH + bbH + ccH + ddH + eeH = \text{sum}$

$\text{sum} / 128 = \text{quotient} \dots \text{remainder}$

$128 - \text{remainder} = \text{checksum}$

ADDR

The address of the transmitted data. If multiple data is transmitted, this will be the address of the first data. Each data byte has addresses made of 3 bytes and the range is from 10H 00H 00H to 10H 7FH 7FH. Refer to Parameter Address Map for addresses.

DATA

The actual parameter data to be transmitted. When you set multiple parameters that do not include reserved address, you can transmit multiple items in one message. However, if it exceeds 128 bytes, it should be divided in order to make the message smaller than 128 bytes and the interval of transmission must be 20 ms or longer.

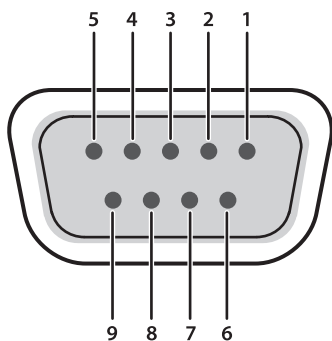
SUM

The SUM is a value that produces a lower 7 bits of zero when the ADDR, DAT, and SUM (checksum) itself are summed.

VR-50HD Command Reference

It is possible to remote control the VR-50HD from an external device using the RS-232C connector.

Specification of the RS-232C Connector



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

Communication method	Synchronous (asynchronous), full-duplex
Communication speed	9600 bps
Parity	none
Data length	8 bit
Stop bit	1 bit
Code set	ASCII
Flow Control	XON/XOFF

Overview of Commands

A command consists of an ASCII code sequence containing "stx," three uppercase letters, and a semicolon (";"). The three letters indicate the command type.

If the command has an argument, a colon (":") is inserted between the command letters and the argument. When multiple arguments occur, they are separated by commas (",").

"stx"

This is the ASCII code signal name (code number 02H (hexadecimal)) and code that signals the command start.

":"

This is the code to separate the command and its argument.

","

This is the code to make VR-50HD recognize the end of a command.

* The codes of stx (02H) & ACK (06H) or Xon (11H) / Xoff (13H) are the control codes.

* If the external device sends multiple commands to the VR-50HD sequentially, it must wait for ACK to be returned before sending the next command.

Commands Received by the VR-50HD

Command	Value	Explanation
PGM	0: 1-3; 4, 4: Still	Video Input Select
TRS	0: CUT, 1: MIX, 2: WIPE	Transition Type Switch
TIM	0: 0.0 s-40: 4.0 s	Transition Time
PIP	0: OFF, 1: ON	Composition PinP
PKY	0: OFF, 1: ON	Composition PinP/KEY
SKY	0: OFF, 1: ON	Composition STILL KEY
FDE	0: OFF, 1: ON	Output Fade
ULF	0: OFF, 1: ON	Freeze/User Logo
LM1	0-127	Audio Input Level CH 1
LM2	0-127	Audio Input Level CH 2
LM3	0-127	Audio Input Level CH 3
LM4	0-127	Audio Input Level CH 4
LS1	0-127	Audio Input Level CH 5/6
LS2	0-127	Audio Input Level CH 7/8
LS3	0-127	Audio Input Level CH 9/10
LS4	0-127	Audio Input Level CH 11/12
LMN	0-127	Audio Main Output Level
MEM	0: 1-7; 8	Memory Recall Number

Commands Transmitted from the VR-50HD

Command	Value	Explanation
ACK	ACK	This is transmitted when the command is properly received.
ERR	stxERR: a	a: 0 (syntax error) The command contains error. a: 5 (out of range error) The command is out of range.
VER	stxVER: VR-50HD, a	a: version This is transmitted when the unit receives VER command. * The version info is ASCII text strings.
XON	XON	Flow control.
XOFF	XOFF	Flow control.