

4K VIDEO SCALER VC-100UHD

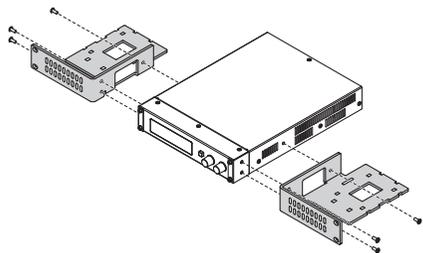


Rack-Mounting

Attaching the rack-mount angles

By attaching the included rack-mount angles to this unit, you can mount it in a rack.

1. Remove the screws from the side panels.
2. Using the screws that you removed, attach the rack-mount angles as shown in the illustration.



NOTE

- Install in a well-ventilated location.
- Do not block the cooling vents located on the unit's side panels.
- Avoid mounting the unit in a sealed-type rack. Warm air within the rack cannot escape and is sucked into the unit, making efficient cooling impossible.
- If the back of the rack cannot be opened, install an exhaust port or ventilation fan at the top back surface of the rack, where warm air collects.
- When using the unit while mounted in a movable case (portable rack), remove the front and rear rack covers so that the front and back of the unit are not obstructed.
- Take care not to pinch your fingers etc. while mounting the unit in a rack.

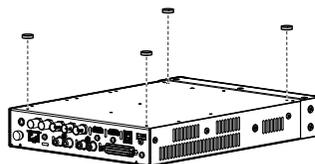


Free-Standing Use

Attaching the rubber feet

If you will be placing this unit on a desk or shelf for use, attach the included rubber feet (4 pcs.). This prevents the unit from slipping or from scratching the surface on which it is placed.

1. Remove the rubber feet from the sheet.
2. Peel the double-sided tape off the rubber feet, and affix the feet so that they cover the four guide holes on the bottom of the unit.



PDF Manual (download from the Web)

Details on operations and menu lists are provided in "Reference Manual" (PDF).

Downloading

1. Access the Roland website.
<https://proav.roland.com/>
2. Move to the product page → click "Support" → download the applicable PDF file.



Before using the unit, ensure that its system program is at the most recent version. For information on available upgrades for the system program, see the Roland website (<https://proav.roland.com/>).

You can check the system program version by pressing the [SETUP] button to access the Setup Menu screen → "Root" "System" → "Information."

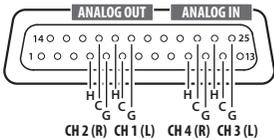
Before using this unit, carefully read "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (the leaflet "USING THE UNIT SAFELY" and the Startup Guide (p. 8)). After reading, keep the document(s) where it will be available for immediate reference.

Panel Descriptions

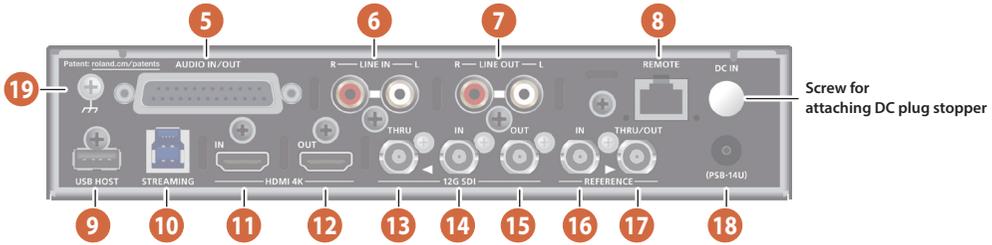
Front Panel



Name	Explanation								
1 Display	This shows various information about the VC-100UHD.								
2 [SETUP] button	<ul style="list-style-type: none"> If you press this when it is unlit, the setup menu screen appears. If you press this when it is lit green, you move from the setup menu screen to the status screen, and the button goes dark. If a lower level of the setup menu screen is shown, this button operates as the [EXIT] button, so that each press of the button returns to the screen of the next higher level. <p>The illuminated color of the button indicates the state of this unit.</p> <table border="1"> <thead> <tr> <th>Indicator</th> <th>Explanation</th> </tr> </thead> <tbody> <tr> <td>Unlit</td> <td>The status screen is shown.</td> </tr> <tr> <td>Lit green</td> <td>The setup menu screen is shown. Alternatively, panel lock is on (display unlit).</td> </tr> <tr> <td>Blink red</td> <td>A problem has occurred with this unit while panel lock is on (display unlit).</td> </tr> </tbody> </table>	Indicator	Explanation	Unlit	The status screen is shown.	Lit green	The setup menu screen is shown. Alternatively, panel lock is on (display unlit).	Blink red	A problem has occurred with this unit while panel lock is on (display unlit).
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3 [PAGE/CURSOR] knob	<p>When the upper right of the screen indicates "ENTER," pressing the [PAGE/CURSOR] knob confirms the edited value. Alternatively, it executes the operation.</p> <table border="1"> <thead> <tr> <th>[SETUP] button</th> <th>Explanation</th> </tr> </thead> <tbody> <tr> <td>Lit green</td> <td>Moves the cursor in the setup menu screen.</td> </tr> <tr> <td>Unlit</td> <td>Switches pages in the status screen.</td> </tr> </tbody> </table>	[SETUP] button	Explanation	Lit green	Moves the cursor in the setup menu screen.	Unlit	Switches pages in the status screen.		
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4 [VALUE] knob	<p>In the status screen or the setup menu screen, use this to enter a value. If you turn the knob while pressing it, the value changes more greatly.</p> <p>➔ "Operating the [VALUE] Knob" (p. 4)</p>								

5 AUDIO IN/OUT connector	<p>This connector provides analog audio signal input/output (two balanced inputs and two balanced outputs). The output signal is the same as the output signal of the LINE OUT jacks.</p> 
6 LINE IN jacks (L, R)	These jacks input audio. Connect them to an audio mixer, CD player, or other audio or video device. CH 1 is L and CH 2 is R.
7 LINE OUT jacks (L, R)	These jacks output audio. Connect them to an audio recorder, amp, or speaker. CH 1 is L and CH 2 is R.
8 REMOTE connector	This allows you to remotely control this unit from a computer using terminal software.
9 USB HOST port	<p>A USB flash drive can be connected to this port. This is used when updating the system program.</p> <p>* While the screen indicates "Processing," never turn off the power or disconnect the USB flash drive.</p>
10 STREAMING port	<p>This is a USB 3.0 B-type port for video/audio output.</p> <p>When you connect it to a USB port of your computer, this device is recognized as a web camera.</p>
11 HDMI 4K IN connector	<p>This connector can input video up to 4K. Connect a video device or computer here.</p> <p>HDMI 2.0b 18 Gbps HDCP 2.2 is supported.</p>

Rear Panel



Name	Explanation
12 HDMI 4K OUT connector	This connector can output video up to 4K. Connect a video recording device or display here. Depending on the setup settings, the signal of the HDMI 4K IN connector can be “thru-output” from here. HDMI 2.0b 18 Gbps HDCP 2.2 is supported.
13 12G-SDI THRU connector	The video that is input from the 12G-SDI IN connector is output without change from this connector. A re-clocker is built in.
14 12G-SDI IN connector	This connector can input video up to 4K. Connect a video camera or similar device here. Input up to 12G-SDI is supported.
15 12G-SDI OUT connector	This connector can output video up to 4K. Connect a video recording device or display here. Output up to 12G-SDI is supported.
16 REFERENCE IN connector	This connector inputs an analog external synchronization signal. Black burst/2-value/3-value synchronization signals are supported.
17 REFERENCE THRU/OUT connector	When this unit is operating with internal synchronization, the internal synchronization signal of the unit is output as black burst. When this unit is operating with external synchronization, the external synchronization input is “thru-output.”
18 DC IN jack	Connect the included AC adaptor to this jack. You can secure the plug of the AC adaptor by attaching the included DC plug stopper. * The DC plug stopper can also be attached to the left side of the unit and used as a cable holder. 
19 Ground terminal	Connect this to an external earth or ground. Connect this if necessary.

* To prevent malfunction and equipment failure, always turn down the volume, and turn off all the units before making any connections.

Turning the Power On/Off

NOTE

This unit does not have a power switch.

We recommend that you use a commercially available power supply control device to control the AC power of this unit.

When powering up	Turn on the power in the order of VC-100UHD → source devices → output devices.
When powering down	Turn off the power in the order of output devices → source devices → VC-100UHD.

English

日本語

Deutsch

Français

Italiano

Español

Português

Basic Operations

Video Processing in the VC-100UHD (Overview)

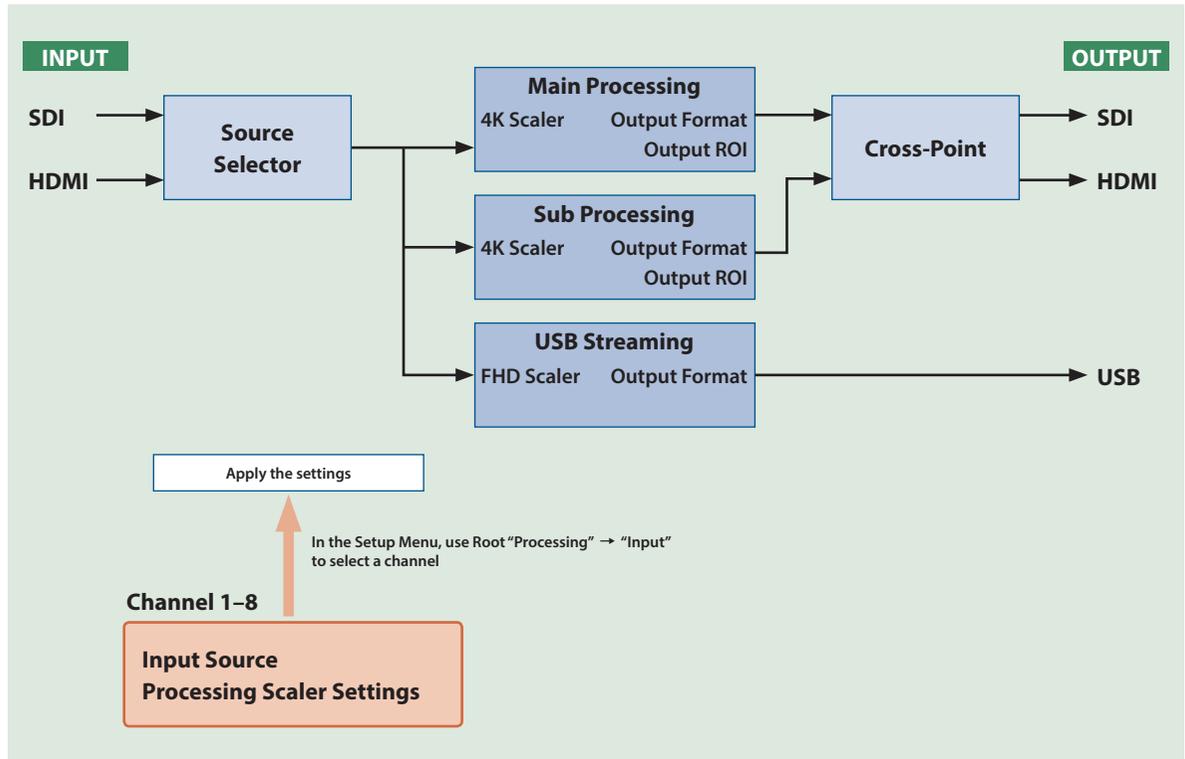
This unit is a scaler equipped with SDI and HDMI inputs and outputs. It can convert between SDI and HDMI, and perform format conversion.

It has three processing systems, MAIN, SUB, and USB, and you can individually specify scaling and output format for each of these.

These processing settings are managed in units called “channels.”

A channel saves the input source selection and the scaler settings for each processing; when you use Setup Menu screen → Root “Processing” → “Input” to select a channel, the settings saved in the channel are applied to the processing.

Each processing differs in functionality such as the effects that are provided. There are also some functions such as the main processing’s rotate function or HDMI thru function that can be obtained by limiting the operation of the sub processing.



Operating the [VALUE] Knob

Although you can change the value more greatly by turning the [VALUE] knob while pressing it, you can use the following functions to edit the value even more efficiently.

- (1) If you turn the [VALUE] knob while pressing it, and then stop turning it but continue to press it, the value changes continuously.
- (2) If you continue pressing the knob and repeat operation (1), the change becomes faster each time you repeat this.
- (3) If you continue pressing the [VALUE] knob and then press the [SETUP] button, the value returns to the original value before editing.
- (4) If you continue pressing the [VALUE] knob and then long-press the [SETUP] button, the value returns to the default value.

Operations in the Status/Setup Menu Screens

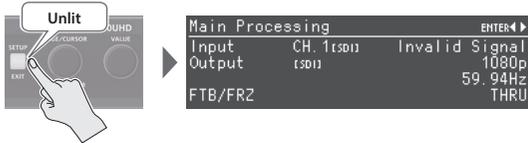
On this unit you'll use the "status screen" or the "setup menu screen" to make various settings.

The status screen is shown when the [SETUP] button is unlit, and the setup menu screen is shown when the button is lit green.

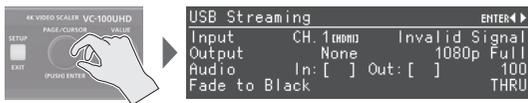
Operations in the Status Screen

1. Press the [SETUP] button to make the button go dark.

The status screen appears.



2. Turn the [PAGE/CURSOR] knob to switch pages.



3. When the upper right of the screen indicates "ENTER," press the [PAGE/CURSOR] knob.



4. Turn the [PAGE/CURSOR] knob to select a parameter.



5. Turn the [VALUE] knob to change the value of the setting.
→ "Operating the [VALUE] Knob"



6. Press the [SETUP] button to complete the change in settings.

Status screen

Here you can check the status of this unit's signals. This also provides shortcuts to frequently-used parameters.

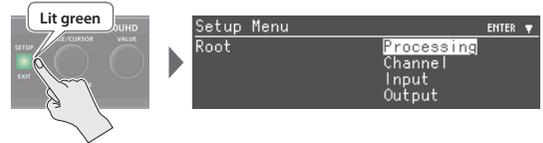
Setup Menu screen

Here you can make operation settings for this unit.

Operations in the Setup Menu Screen

1. Press the [SETUP] button to make the button light green.

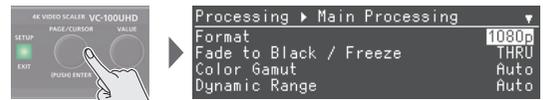
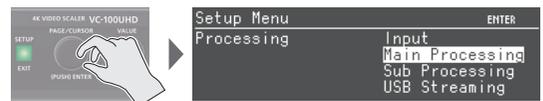
The Root menu screen in the Setup Menu appears.



2. Turn the [PAGE/CURSOR] knob to select a main item in the Root menu, and then press the [PAGE/CURSOR] knob.



3. Turn the [PAGE/CURSOR] knob to select a subsidiary item, and then press the [PAGE/CURSOR] knob.



4. Turn the [PAGE/CURSOR] knob to select a parameter, and then turn the [VALUE] knob to change the value of the setting.
→ "Operating the [VALUE] Knob" (p. 4)



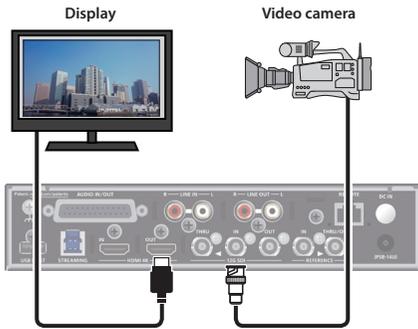
MEMO

- Pressing the [SETUP] button moves you back one level higher.
- When the upper right of the screen indicates "ENTER," press the [PAGE/CURSOR] knob to confirm the value.

Zooming the Video In/Out

Here we explain basic use of this unit.

In this example, we explain how, starting with the settings following factory reset, we can scale the SDI input to 1080p and output it from HDMI.



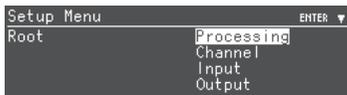
Factory reset

Press the [SETUP] button to access the Setup Menu screen → Root menu “System” → “Factory Reset,” and then press the [PAGE/CURSOR] knob to execute.

Specifying the Output Format

1. Press the [SETUP] button to make the button light green.

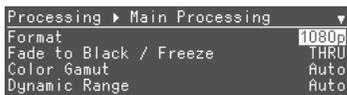
The Root menu screen in the Setup Menu appears.



2. Turn the [PAGE/CURSOR] knob to select the Root menu item “Processing,” and then press the [PAGE/CURSOR] knob.



3. Turn the [PAGE/CURSOR] knob to select “Main Processing,” and then press the [PAGE/CURSOR] knob.



4. Turn the [PAGE/CURSOR] knob to select “Format,” and then turn the [VALUE] knob to specify the output format (1080p in this example).
5. Press the [SETUP] button twice to return to the Root menu screen.

Specifying the Video Input Connector

Here we specify the video input as SDI for channel 1.

1. In the Root menu screen, turn the [PAGE/CURSOR] knob to select “Processing,” and then press the [PAGE/CURSOR] knob.



2. Turn the [PAGE/CURSOR] knob to select “Input,” and then press the [PAGE/CURSOR] knob.



- * With the factory settings, the CH.1 input is SDI. “Source” shows the input jack of the currently selected channel, and “State” shows the status of the input signal. To change the settings, use the Root menu’s “Channel” to select the channel, then → select “Source.”
3. Press the [SETUP] button twice to return to the Root menu screen.

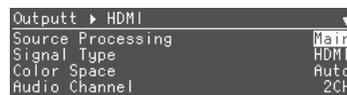
Specifying the Video Output Connector

In order to output the video from HDMI, we specify that the output of the main processing is connected to HDMI.

1. In the Root menu screen, turn the [PAGE/CURSOR] knob to select “Output,” and then press the [PAGE/CURSOR] knob.



2. Turn the [PAGE/CURSOR] knob to select “HDMI,” and then press the [PAGE/CURSOR] knob.



3. Turn the [PAGE/CURSOR] knob to select “Source Processing,” and then turn the [VALUE] knob to select “Main.”
4. Press the [SETUP] button twice to return to the Root menu screen.

Scaling

1. In the Root menu screen, turn the [PAGE/CURSOR] knob to select “Channel,” and then press the [PAGE/CURSOR] knob.



The currently selected channel is shown with square brackets [].

2. Turn the [PAGE/CURSOR] knob to select “CH. 1,” and then press the [PAGE/CURSOR] knob.



3. Turn the [PAGE/CURSOR] knob to select “Scaling,” and then press the [PAGE/CURSOR] knob.



4. Turn the [PAGE/CURSOR] knob to select the following parameters, and then turn the [VALUE] knob to adjust the output video.

Parameter	Explanation	
Scaling Type	Specifies the scaling type.	
Aspect Ratio	When you change Size “Zoom,” the zoom in/out maintains the aspect ratio that you specify here. You can choose whether to use the aspect ratio of the input format (Auto) or the aspect ratio that you specify as Manual.	
Size	Zoom	Adjusts the zoom ratio.
	H	Adjusts the horizontal size.
	V	Adjusts the vertical size.
Position	H	Adjusts the display position in the horizontal direction.
	V	Adjusts the display position in the vertical direction.

MEMO

The same settings can be made in “Pan/Zoom HDMI Output” of the status screen. This is a shortcut to the currently selected channel.

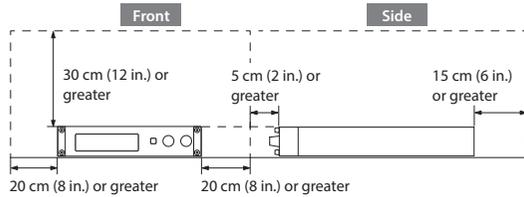
5. Press the [SETUP] button twice to return to the Root menu screen.

USING THE UNIT SAFELY

WARNING

Secure a sufficient amount of space at the setup location

Since this unit normally emits a slight amount of heat, make sure to secure sufficient space around it, as shown below.



Use only the supplied AC adaptor and the correct voltage

Be sure to use only the AC adaptor supplied with the unit. Also, make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.

Use only the supplied power cord

Use only the attached power cord. Also, the supplied power cord must not be used with any other device.

CAUTION

Keep small items out of the reach of children

To prevent accidental ingestion of the parts listed below, always keep them out of the reach of small children.

- Removable Parts
 - Screw for attaching DC plug stopper
 - Screws for attaching rack-mount angles
- Included Parts
 - DC plug stopper, Rubber feet

Handle the ground terminal carefully

If you remove the screw from the ground terminal, be sure to replace it; don't leave it lying around where it could accidentally be swallowed by small children. When refastening the screw, make that it is firmly fastened, so it won't come loose.

Take care not to get burned

The top panel and bottom panel may become hot, so take care to avoid burns.

IMPORTANT NOTES

Power Supply

- Place the AC adaptor so the side with the indicator faces upwards. The indicator will light when you plug the AC adaptor into an AC outlet.
- Depending on the material and temperature of the surface on which you place the unit, its rubber feet may discolor or mar the surface.

Maintenance

- Before sending the unit away for repairs, be sure to make a backup of the data stored within it; or you may prefer to write down the needed information. Although we will do our utmost to preserve the data stored in your unit when we carry out repairs, in some cases, such as when the memory section is physically damaged, restoration of the stored content may be impossible. Roland assumes no liability concerning the restoration of any stored content that has been lost.

Additional Precautions

- Any data stored within the unit can be lost as the result of equipment failure, incorrect operation, etc. To protect yourself against the irretrievable loss of data, try to make a habit of creating regular backups of the data you've stored in the unit.
- Roland assumes no liability concerning the restoration of any stored content that has been lost.
- Never strike or apply strong pressure to the display.
- When disposing of the packing carton or cushioning material in which this unit was packed, you must observe the waste disposal regulations that apply to your locality.
- This unit allows you to switch images at high speed. For some people, viewing such images can cause headache, nausea, or other discomfort. Do not use this unit to create video that might cause these types of health problems. Roland Corporation will accept no responsibility for any such health problems that may occur in yourself or in viewers.
- Do not use connection cables that contain a built-in resistor.
- This document explains the specifications of the product at the time that the document was issued. For the latest information, refer to the Roland website.

Using External Memories

- Please observe the following precautions when handling external memory devices. Also, make sure to carefully observe all the precautions that were supplied with the external memory device.
 - Do not remove the device while reading/writing is in progress.
 - To prevent damage from static electricity, discharge all static electricity from your person before handling the device.

Intellectual Property Right

- It is forbidden by law to make an audio recording, video recording, copy or revision of a third party's copyrighted work (musical work, video work, broadcast, live performance, or other work), whether in whole or in part, and distribute, sell, lease, perform or broadcast it without the permission of the copyright owner.
- Do not use this product for purposes that could infringe on a copyright held by a third party. We assume no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your use of this product.
- This product can be used to record or duplicate audio or visual material without being limited by certain technological copy-protection measures. This is due to the fact that this product is intended to be used for the purpose of producing original music or video material, and is therefore designed so that material that does not infringe copyrights belonging to others (for example, your own original works) can be recorded or duplicated freely.
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