RTI

VSS-51

VSS-51 HDBaseT Presentation Scaler Switcher Kit

Reference Guide

Product Contents

- 1x VSW-51 Video Switcher
- 2x Mounting Ears for Switcher
- 4x Mounting Screws for Switcher
- 4x Plastic Cushions for Switcher
- 1x VGA to YPbPr Converting Cable
- 2x 3-pole Terminal Blocks
- 1x 5-pole Terminal Block
- 1x Power Adaptor (24V DC 2.71A)
- 1x Power Cord
- 1x Reference Guide

- 1x VSW-51R HDBaseT Receiver
- 2x Mounting Ears for Receiver
- 4x Mounting Screws for Receiver
- 4x Plastic Cushions for Receiver
- 1x RS-232 Cable

Safety Suggestions

Read and Follow Instructions. Read all safety and operating instructions before operating the unit.
Retain Instructions. Keep the safety and operating instructions for future reference.
Heed Warnings. Adhere to all warnings on the unit and in the operating instructions.
Heat. Keep the unit away from heat sources such as radiators, heat registers, stoves, etc., including amplifiers that produce heat.
Power Sources. Connect the unit only to a power supply of the type described in the operating instructions, or as marked on the unit.
Power Cord Protection. Route power supply cords so that they are not likely to be walked on or pinched by items placed on or against them, paying particular attention to the cord plugs at power receptacles and at the point at which they exit from the unit.
Water and Moisture. Do not use the unit near water—for example, near a sink, in a wet basement, near a swimming pool, near an open window, etc.
Object and Liquid Entry. Do not allow objects to fall or liquids to be spilled into the enclosure through openings.
Servicing. Do not attempt any service beyond that described in the operating instructions. Refer all other service needs to qualified service personnel.
Damage Requiring Service. The unit should be serviced by qualified service personnel when:

- The power supply cord or the plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit does not appear to operate normally or exhibits a marked change in performance.
- The unit has been dropped or the enclosure has been damaged.

Cleaning

To clean this product, lightly dampen a lint-free cloth with plain water or a mild detergent and wipe the outer surfaces.

NOTE: Do not use harsh chemicals as damage to the unit may occur.

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation.

Industry Canada Compliance Statement

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation.

Cet appareil est conforme avec Industrie Canada exempts de licence standard RSS (s).
Son fonctionnement est soumis aux deux conditions suivantes:
1. Ce dispositif ne peut causer des interférences nuisibles.
2. Cet appareil doit accepter toute interférence reçue y compris des interférences qui peuvent provoquer un fonctionnement indésirable.

DECLARATION OF CONFORMITY (DOC)
The Declaration of Conformity for this product can be found on the RTI website at: www.rticorp.com/declaration

Contacting RTI

For news about the latest updates, new product information, and new accessories, please visit our web site at: **www.rticorp.com**

For general information, you can contact RTI at:
Remote Technologies Incorporated
5775 12th Ave. E Suite 180
Shakopee, MN 55379
Tel. (952) 253-3100
Fax (952) 253-3131
info@rticorp.com

Service & Support

If you are encountering any problems or have a question about your RTI product, please contact RTI Technical Support for assistance (see the Contacting RTI section of this guide for contact details).
RTI provides technical support by telephone or e-mail. For the highest quality service, please have the following information ready:

- Your Name
- Company Name
- Telephone Number
- E-mail Address
- Product model and serial number (if applicable)

If you are having a problem with hardware, please note the equipment in your system, a description of the problem, and any troubleshooting you have already tried.
Please do not return products to RTI without return authorization.

Limited Warranty

RTI warrants new products for a period of three (3) years (excluding consumables such as rechargeable batteries which are warrantied for one (1) year) from the date of purchase by the original purchaser (end user) directly from RTI / Pro Control (herein referred to as "RTI"), or an authorized RTI dealer.
Warranty claims may be initiated by an authorized RTI dealer using the original dated sales receipt or other proof of warranty coverage. In the absence of the receipt of purchase from the original dealer, RTI will provide warranty coverage extension of six (6) months from the date code of the product. Note: RTI warranty is limited to the provisions set forth in this policy and does not preclude any other warranties offered by third parties who are solely responsible for those other warranties.

Except as specified below, this warranty covers defects in product material and workmanship. The following are not covered by the warranty:
- Product purchased via unauthorized sellers or internet sites will not be serviced-regardless of purchase date.
- Damages caused by accident, misuse, abuse, neglect or acts of God.
- Cosmetic damage, including, but not limited to, scratches, dents and normal wear and tear.
- Failure to follow instructions contained in the Product Installation Guide.
- Damages due to products used in an application or environment other than that for which it was intended, improper installation procedures or adverse environmental factors such as incorrect line voltages, improper wiring, or insufficient ventilation.
- Repair or attempted repair by anyone other than RTI and Pro Control or authorized service partners.
- Failure to perform recommended periodic maintenance.
- Causes other than product defects, including lack of skill, competence or experience of user.
- Damage due to shipment of this product (claims must be made to the carrier).
- Altered unit or altered serial number: defaced, modified or removed.

RTI is also not liable for:
- Damages caused by its products or for failure of its products to perform, including any labor costs, lost profits, lost savings, incidental damages, or consequential damages.
- Damages based upon inconvenience, loss of use of the product, loss of time, interrupted operation, commercial loss, any claim made by a third party or made on behalf of a third party.
- Loss of, or damage to, data, computer systems or computer programs.

RTI's liability for any defective product is limited to repair or replacement of the product, at the sole discretion of RTI.
In cases where the warranty policy conflicts with local laws, the local laws will be adopted.

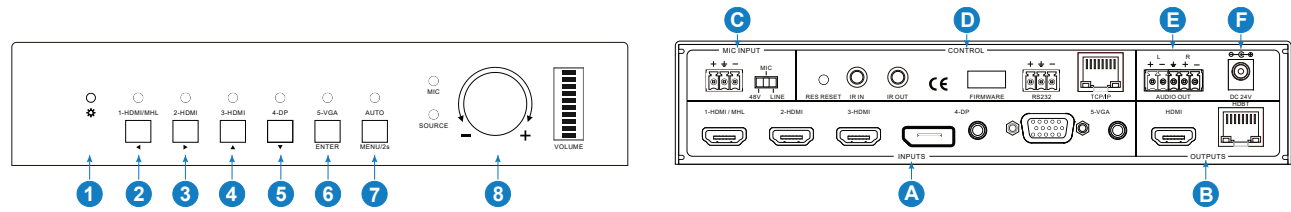### VSS-51 5x1 HDBaseT Presentation Scaler Switcher Kit

Made up of the VSW-51 5x1 presentation scaler switcher and the VSW-51R HDBaseT receiver, the VSS-51 Presentation Scaler Switcher Kit is the perfect AV solution in conference rooms, classrooms and lecture halls. The VSW-51 combines seamless switching with advanced scaling to provide excellent picture quality regardless of the source. The compact switcher comes with five video inputs, including three HDMI, one display port and one VGA port. Video is output through an HDMI port and a mirrored HDBaseT port for delivery of HD video to an additional display via the included VSW-51R HDBaseT receiver. A Mic input is also available with support for condenser and dynamic microphones, and line level audio.

The VSS-51 provides superior quality and reliability as well as these features:

- Compliant with HDMI1.4 and HDCP2.2.
- Supports CEC, with commands to enable/disable this function.
- Supports video source auto-switching function.
- Supports IR and RS-232 pass-through control.
- Output resolutions selectable to assure preferred output,including 1920x1200, 1920x1080, 1600x1200, 1600x900, 1360x768, 1280x800, 1280x720, 1024x768.
- VGA video input supports C-video, YPbPr and VGA.
- 48V phantom power to support condenser microphone.
- MIC port supports balanced/unbalanced signals with noise suppression.
- 3-level MIC input, supports condenser microphone, dynamic microphone and wireless microphone.
- Controllable via buttons, RS-232 and GUI.
- Powerful OSD menu control.
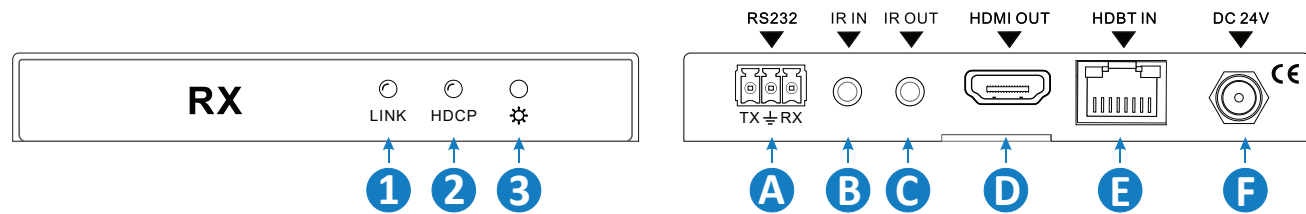- Type-A USB port for software upgrade.

Installation & Operation

VSW-51 FRONT AND REAR PANEL DESCRIPTION

No.	Name	Function
1	Power LED Indicator	Turns green when power is on, or it turns red when in standby mode.
2	1-HDMI/MHL	1-HDMI/MHL input selector and activity LED / Left Key for On Screen Display control (OSD).
3	2-HDMI	2-HDMI input selector and activity LED / Right Key for OSD control.
4	3-HDMI	3-HDMI input selector and activity LED / Up Key for OSD control.
5	4-DP	Display Port input selector and activity LED / Down Key for OSD control.
6	5-VGA	VGA input selector and activity LED / Enter Key for OSD control.
7	AUTO	Auto-switching selector and activity LED • Press this to enter/exit auto-switching mode/OSD menu button. • Hold this button down for 3 seconds to enter On Screen Display menu (OSD). **NOTE:** When you set the VGA input port to C-Video or YPbPr in Manual-switching mode, the system will not be able to enter auto-switching mode.
8	Volume Adjustor	Volume knob for variable audio control - Push knob in to toggle between 'Mic' and 'Source' control.
A	INPUTS	• Video input ports: 1 HDMI/MHL, 2 HDMI inputs, 1 Display Port and 1 VGA. • Audio input ports: 1 Display Port external audio input and 1 VGA auxiliary audio input.
B	OUTPUTS	• HDMI output: HDMI video output port. • HDBaseT output: Supports PoH. Connect to the VSW-51R or a compatible HDBaseT receiver to transmit A/V, IR and RS-232 control.
C	MIC INPUT	• Mic audio port connects to microphone. • Dial switch: Switches between 3 different modes; 48V for condenser mics, MIC mode for dynamic mics and LINE mode for line level audio.
D	CONTROL	• RES RESET: Press this to reset output resolution to 720p or to activate HDMI and HDBT outputs if they have been turned off. • IR IN: Connect to control system or IR receiver (with carrier wave only) to receive IR signal to control far-end device which was connected to HDBaseT Receiver via HDBaseT output port. • IR OUT: Connect to IR emitter to control local source devices from remote. • FIRMWARE: Type-A USB port for updating firmware. • RS-232: Serial port, connect a control system for control of the VSW-51. • TCP/IP: Ethernet port, connect to LAN for control of the VSW-51 via control system or PC.
E	AUDIO OUTPUT	Stereo balanced L/R audio output.
F	DC 24V	Locking power port, connect to 24VDC power adapter.

VSW-51R FRONT PANEL DESCRIPTION
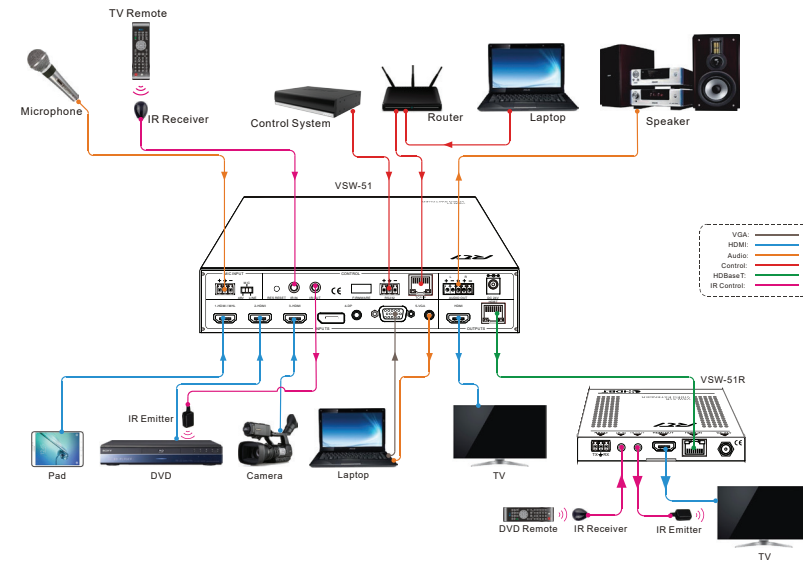

No.	Name	Function
1	LINK LED Indicator	Turns blue when the VSW-51 switcher and the VSW-51R receiver are connected successfully.
2	HDCP LED Indicator	• Turns blue when the HDMI signal is transmitted with HDCP. • Blinks blue when the HDMI signal is transmitted without HDCP. • Turns off when there is no HDMI signal (no picture).
3	Power LED Indicator	Turns red when power on.

VSW-51R REAR PANEL DESCRIPTION

No.	Name	Function
A	RS-232	3-pole captive screw connector for RS-232 pass-through control. It can be connected with control system (Use a 3-pole captive to 9 pin female D connector) , or connected with the device which needs to be controlled.
B	IR IN	3.5mm jack for connection to a control system IR output or IR receiver to collect IR signal. Works with VSW-51 IR OUT.
C	IR OUT	3.5mm jack for connection to an IR emitter for control of external device. Works with VSW-51 IR IN port.
D	HDMI OUT	Type A female HDMI output port to connect HDMI display.
E	HDBT IN	RJ45 HDBaseT input port to connect to the HDBaseT output port of the VSW-51 switcher by CATx cable.
F	DC 24V	Power port to connect the 24V DC power adapter.

CONNECTION DIAGRAM

BUTTON CONTROL

Front panel buttons can be used for switching operations and volume adjusting.
• Press **1-HDMI/MHL**, **2-HDMI**, **3-HDMI**, **4-DP**, **5-VGA** on front panel to select the corresponding input source.
• Press **AUTO** to enter in auto-switching mode.
Press Volume Knob to choose MIC/Source audio needed to be adjusted, the corresponding LED will turn blue and keep on.
• Adjusting the Volume Knob in clockwise direction to increase sound volume.
• Adjusting the Volume Knob in anti-clockwise direction to decrease sound volume.

RS-232 CONTROL

To control the VSW-51 using serial communication from a control system, wire the RS-232 output of the control system to the VSW-51 RS-232 connector. Baud rate: 9600, Data bit: 8, Stop bit: 1, Parity bit: none

OSD MENU CONTROL

The switcher provides a powerful OSD operation menu, containing 3 parts: Optional settings, image settings, and system setting etc.
There are two ways to enter OSD menu:
• Press and hold the button **MENU/2s** on front panel 2 seconds or more.
• Send command on RS-232 Control Software.
Operation:
• Press direction buttons on front panel to switch between menu options and menu pages.
• Press **ENTER** on front panel to confirm the selection.

TCP/IP CONTROL

To control the VSW-51 using TCP/IP protocol from an RTI control system or the web GUI, wire the Ethernet port of VSW-51 TCP/IP connector to the LAN, set to the same network segment.
• Default IP: 192.168.0.178
• Subnet Mast: 255.255.255.0
• Gateway: 192.168.0.1
• Serial Port: 4001
NOTE: IP and gateway settings can be changed as needed, but the Serial Port (4001) can not be changed.
• Type the IP address h*ttp://192.168.0.178* into the browser address bar to access the web-based GUI interface.
• Type in the default username: *user* and password: *user*

INSTALLATION

Please visit the RTI dealer portal (www.rticorp.com/dealer) for additional instructions and specifications.
NOTE: Features and specifications subject to change without notice.