



USER MANUAL



DV-HSW-41 HDMI 4x1 SWITCHER

PROPRIETARY INFORMATION

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Cautions:

1. FSR logo is a trademark of FSR Inc.
2. HDMI is a trademark of HDMI licensing, LLC.
3. Specification may be changed without any notice in order to improve the function of the product.
4. The design and specification of the product may be change without any prior notice.

UNPACKING

Each DV-HSW-41 HDMI 4x1 SWITCHER package includes the following items;

DV-HSW-41 HDMI 4x1 SWITCHER Unit
5V Power Supply Adapter
IR Remote control unit
User manual

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SAFETY

All the safety and user manual should be read before the appliance is operated.

- The safety and operating instructions should be retained for future reference.
- Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Do not use this equipment near wet place.
- This product should be operated only from the type of power sources indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your local power company. For equipment intended to operate from battery power, or other source, refer to the user manual.
- This equipment may be equipped with a 3 wire grounding-type plug, a plug having a third (grounding) pin. This pin will only fit in to a grounding type power outlet. This is a safety feature. If you are unable to insert the plug in to the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
- Openings on the case are provided for ventilation and to ensure reliable operation of the equipment and to protect it from overheating. The openings should never be blocked.
- Do not use any damaged power cords or plugs, or loosed outlets, this may cause electrical shock or fire.
- Do not put heavy articles such as other equipments on this product.
- Keep it away from liquid, magnetic, inflammable substances.
- It is suggested to perform the product three minutes after the power is on for a precise measurement and analysis.

DESCRIPTION

The DV-HSW-41 HDMI 4x1 SWITCHER allows four digital video and digital audio sources to share one video display. Our unique switch allows easy switching between different digital video and digital audio sources via the remote control unit or with the manual switching button place on the front panel. No more hassles of manually plugging in different HDMI connectors to view different video sources (e.g., DVD, Satellite receiver, computer, TiVo). This high quality product is perfect for home theater systems

ITEM	DESCRIPTION
Model Name	DV-HSW-41 HDMI 4x1 SWITCHER
Input Signal	HDMI Single Link , 4 Port
Output Signal	HDMI (TMDS)Single Link
Resolution	VGA / SVGA / XGA /UXGA, 480i/p , 720i/p , 1080i/p
Receptacle	DC Power Jack, HDMI
HDCP Support	Pass Thru
Power Consumption	DC +5V , 2W Max
Dimension	330x105x30 mm

ENVIRONMENTAL AND RELIABILITY SPECIFICATIONS

Recommended environmental conditions for the operation are temperature range of 10°C~40°C, non-condensing humidity levels of 10%-80%, and altitude ceiling of 9,840 feet (3,000 meters).

Environmental limits for transportation are temperature range of -25°C~60°C, non-condensing humidity levels of 5%~95%, and altitude ceiling of 49,200 feet (15,000 meters).

Environmental limits for storage are established at temperature range of -20°C~45°C, non-condensing humidity levels of 5%~95%, and altitude ceiling of 9,840 feet (3,000 meters).

The DV-HXT-2 extender is expected to function for more than 50,000 hours of use at a 90% confidence level. The device is tested according to the identical standards for testing LCD monitors.

FEATURES

High Quality Picture - No Signal Loss and Digital Noise Free

Our switchers are built to deliver the highest quality picture preserving the native resolutions of the video sources without any signal loss. At the same time, the digital noises that may affect the picture quality will be eliminated. Due to the nature of the digital signals passing through multiple stages, it is important to eliminate the digital noises and boost the signal strength to preserve/enhance the video signal quality.

Signal Amplification for signal reliability and long length signal transmission. Our 5V power adapter supplies adequate power to amplify the video signals from different video sources. This is necessary as the overall length from the video source to the displays is longer when using a switcher (distance from the video source to the switcher + distance from the switcher to the display). In most cases, the overall distance that the HDMI signal will need to travel is over 10ft. Due to the nature of HDMI signals, amplification is necessary to preserve the video quality and reliability. (Without amplification, there may be occasional blackouts or blinking effects). With this amplification feature, cable runs can be increased.

Compact and Practical Design

Our switchers have all of the HDMI ports, power supply jack and RS232 port in the back of the unit allowing it be mounted on any racks or with any other components. In the front, there is a remote control sensor, selector switch, RS232 LED indicators and channel indicators.

Remote Control Unit with Discreet Channel selections

Remote Control Units with discreet channel selection feature are included in all our switchers. The channel buttons on the remote control unit will allow you to change video sources easily and quickly.

RS232 CONTROL

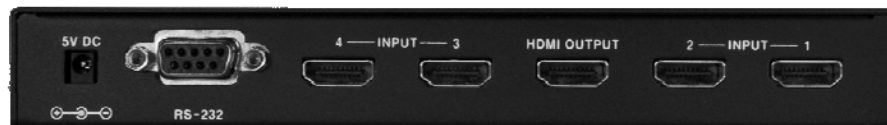
Our switchers also feature RS232 Control. Our switches are capable of being controlled by a remote computer. This is extremely helpful for many applications where you need to automatically switch the video inputs. Example: If you connect a PC to our switcher, you can program it to automatically switch the sources. If you want to display input 1 for 1 hour and then switch to input 2, you can do this with the PC. The RS232 LED indicators in the front will allow you to check the communication between the PC and the switch. Most other products require additional control box for this function.

FRONT PANEL



LED CH1~4	Selected Channel Indication
IR INPUT	IR Remote Sensor Window
SELECT	Manual Channel Select
POWER	Power indicator LED
TX/RX	RS-232 Activity LEDs

BACK PANEL



DC 5V	DC Power 5V Input jack
HDMI IN	CH 1-4 : HDMI Input Connectors
RS-232	DB-9 Com Port For Switch Function Control
HDMI OUT	HDMI Output Connectors

VIDEO CONNECTIONS

Connect your video source's HDMI output port to the DV-HSW-41 HDMI input port using standard HDMI cables(not included). Make sure that all your HDMI sources and the display is turned off before connecting the cables)

Connect your HDMI display's HDMI input port to the DV-HSW-41's HDMI output port. Make sure your HDMI display is turned off before connecting the cables)

Plug the 5V power supply into the DV-HSW-41 power input port.

Plug the 5V wall mount power supply into the wall outlet.

Turn on your display.

Turn on your video sources.

Use your remote control unit to switch channels. Or use the select button on the front panel of the DV-HSW-41 to select channels.

RS232 CONTROL CONNECTIONS

RS232 connection allows the user to interface the DV-HSW-41 with a serial port on a computer or other control device. The computer or other control device may require additional software for various control functions. (Control software not included)

RS232C CONTROL COMMAND

RS232C interface the DV-HSW-41 switcher with a serial port on a control computer or other remote control devices.
Our DV-HSW-41 uses pin #2 and #3 and the assignments are as follows;

Baud Rate : 38,400bps,
Data bits: 8,
Stop bits: 1,
Parity: None,
Flow control: None

Control computer's RS232 pin# 2 is connected to our HDMI switcher's pin#3
Control computer's RS232 pin# 3 is connected to our HDMI switcher's pin#2

The control protocols are as follows;

Channel 1 request is ASCII code 'CON 1<cr>' and the response back to the computer is "OK"
Channel 2 request is ASCII code 'CON 2<cr>' and the response back to the computer is "OK"
Channel 3 request is ASCII code 'CON 3<cr>' and the response back to the computer is "OK"
Channel 4 request is ASCII code 'CON 4<cr>' and the response back to the computer is "OK"

SPECIFICATIONS

Frequency bandwidth:	2.25 Gbps (Single Link)
Supporting Graphic Resolution:	UXGA (1600 X 1200 at up to 75Hz) 1080p (1920 X 1080 at up to 60Hz)
Inputs:	4 HDMI Female
Output:	1 HDMI Female port
Power supply:	DC 5V, 1.2A Adapter included.
Infrared Remote Control:	Included
HDCP:	High-bandwidth Digital Content Protection) Compliant.
Dimensions:	7.5" W x 3.75" D x 1.125" H (190.5 W x 95.25 D x 28.575 H mm)
Shipping weight:	1.6 lbs (.726 kg.)

HDMI CONNECTOR PIN ASSIGNMENT

HDMI Input , Output

Part No.	Pin No.	Description	Remarks
HDMI 19pin	1	TMDS DATA 2P	
	2	TMDS DATA 2 Shield	
	3	TMDS DATA 2M	
	4	TMDS DATA 1P	
	5	TMDS DATA 1 Shield	
	6	TMDS DATA 1M	
	7	TMDS DATA 0P	
	8	TMDS DATA 0 Shield	
	9	TMDS DATA 0M	
	10	TMDS Clock P	
	11	TMDS Clock Shield	
	12	TMDS Clock M	
	13	CEC	Not supported
	14	RESERVED	
	15	DDC Clock	
	16	DDC DATA	
	17	GND	
	18	+5v	
	19	Hot Plug Detect	

TROUBLESHOOTING

Problem	Solution
Switch will not operate	<p>Make sure the 5V power supply is plugged into the back of the unit.</p> <p>Check to see if the power LED light is on.</p>
No picture(or signal) or Poor picture	<p>1.In case your video source is HDCP enabled, make sure your video display(HDTV) is HDCP compliant.</p> <p>2 Image stability is influenced by cable quality and cable length.</p> <p>3.Use high quality HDMI cables.</p> <p>4.If you are using computers, try other refresh rate settings. Most HDTVs have refresh rate of 60Hz and computer's video cards are usually set at higher refresh rate. Try lower refresh rates.</p> <p>5.Makes sure all HDMI connectors are tightly secured to all HDMI ports. Loose screws on the HDMI connectors will results in no or poor picture.</p> <p>6.Turn off all equipments(video source, switch and HDTV) and restart all equipments.</p>
Remote control unit will not operate	<p>Make sure the included batteries are correctly installed.</p> <p>Make sure the 5V power is plugged in the back of the unit.</p> <p>Check to see if the power LED light is on.</p> <p>Try rebooting the switch by unplugging and re-plugging in the AC plug of the 5V power adapter.</p>
Programming Universal Remote Control	<p>Our remote control units use unique codes. To program your own universal remote control, make sure to use "Learn" feature of your universal remote control unit's user manual.</p>

LIMITED WARRANTY

The DV-HSW-41 HDMI 4x1 Switcher is warranted against failures due to defective parts or faulty workmanship for a period of three years after delivery to the original owner. During this period, FSR will make any necessary repairs or replace the unit without charge for parts or labor. Shipping charges to the factory or repair station must be prepaid by the owner, return-shipping charges (via UPS Ground) will be paid by FSR.

This warranty applies only to the original owner and is not transferable. In addition, it does not apply to repairs done by other than the FSR factory or Authorized Repair Stations.

This warranty shall be cancelable by FSR at its sole discretion if the unit has been subjected to physical abuse or has been modified in any way without written authorization from FSR. FSR's liability under this warranty is limited to repair or replacement of the defective unit.

FSR will not be responsible for incidental or consequential damages resulting from the use or misuse of its products. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Warranty claims should be accompanied by a copy of the original purchase invoice showing the purchase date (if a Warranty Registration Card was mailed in at the time of purchase, this is not necessary). Before returning any equipment for repair, please read the important information on service below.

SERVICE

Before returning any equipment for repair, please be sure that it is adequately packed and cushioned against damage in shipment, and that it is insured. We suggest that you save the original packaging and use it to ship the product for servicing. Also, please enclose a note giving your name, address, phone number and a description of the problem.

NOTE: all equipment being returned for repair must have a Return authorization (RMA) Number. To get a RMA Number, please call the FSR Service Department (1-800-332-FSR1). Please display your RMA Number prominently on the front of all packages.

CONTACT INFORMATION

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