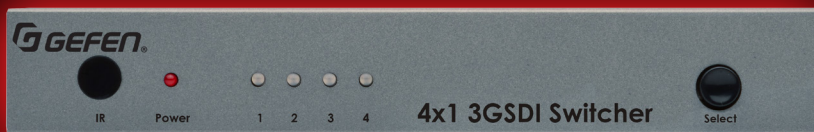




4x1 3GSDI Switcher

EXT-3GSDI-441

User Manual



Release A7

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this unit near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install or place this unit near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the unit.
11. Only use attachments/accessories specified by the manufacturer.
12. To reduce the risk of electric shock and/or damage to this unit, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this unit to rain or moisture.
13. Unplug this unit during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the unit has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the unit, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Batteries that may be included with this unit and/or accessories should never be exposed to open flame or excessive heat. Always dispose of used batteries according to the instructions.

Warranty Information

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.
2. Customers outside the US are responsible for shipping charges to and from Gefen.
3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Support section of the Gefen Web site at www.gefen.com.

Technical Support

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Chatsworth, CA 91311

Product Registration

Register your product here: <http://www.gefen.com/kvm/Registry/Registration.jsp>

- The 4x1 3GSDI Switcher will accept the following formats:
 - ▶ SDI (SMPTE 259M-C, 270 Mbps)
 - ▶ HDSDI (SMPTE 292M, 1.485 Gbps)
 - ▶ 3GSDI (SMPTE 424M / 425M, 2.97 / 3.0 Gbps)

4x1 3GSDI Switcher is a trademark of Gefen, LLC.

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Gefen, LLC reserves the right to make changes in the hardware, packaging, and any accompanying documentation without prior written notice.



This product uses UL or CE listed power supplies.

Features

- Switches between four 3G-SDI sources to a single output device without latency or signal degradation
- Resolutions up to 1080p are supported
- Backwards-compatible with SDI and HD-SDI
- Supports NTSC, PAL, and all HD formats
- Switching is controlled via front panel push button, IR Remote (included), or RS-232 Commands
- Plug-and-Play Installation
- Locking Power Supply

1080P
PROGRESSIVE

Packing List

The 4x1 3GSDI Switcher ships with the items listed below. If any of these items are not present in the box when you first open it, immediately contact your dealer or Gefen.

- 1 x 4x1 3GSDI Switcher
- 1 x 6 ft. DB-9 cable
- 1 x IR Remote Control Unit
- 1 x 5V DC locking power supply
- 1 x Quick-Start Guide

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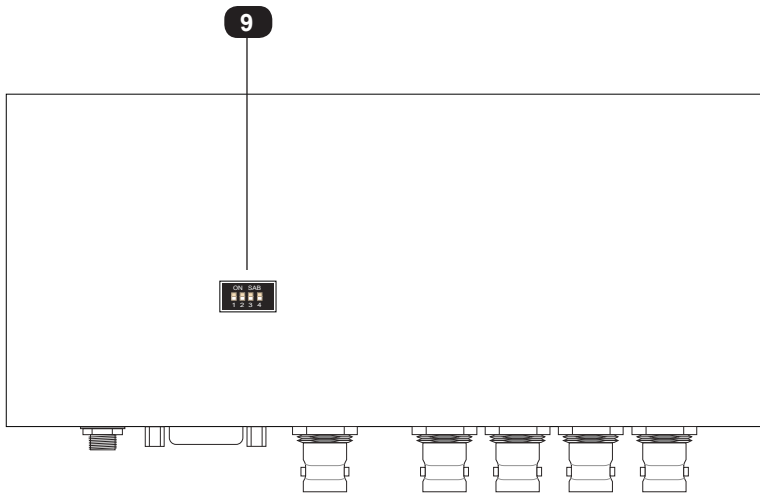
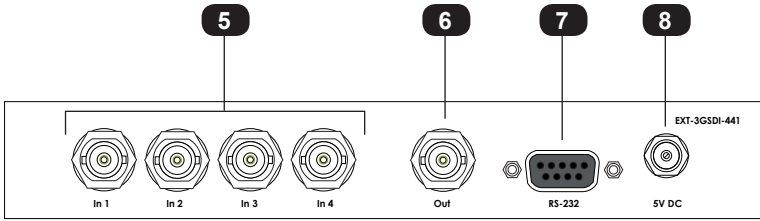
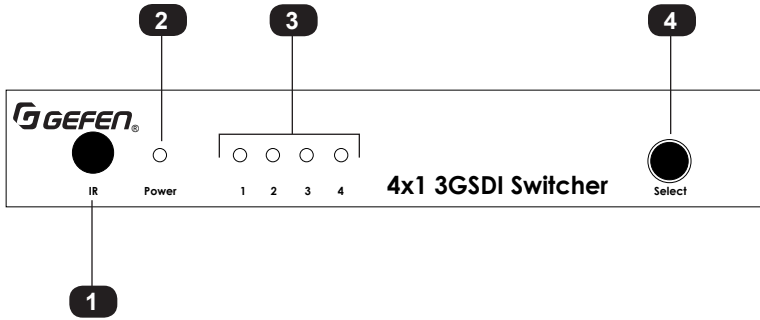
4x1 3GSDI Switcher

1

Getting Started

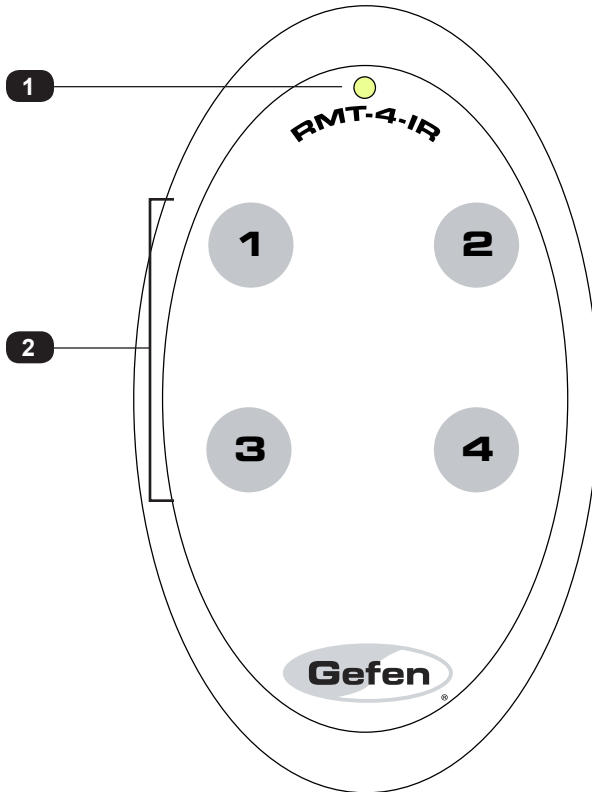
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Front / Rear / Bottom Panel

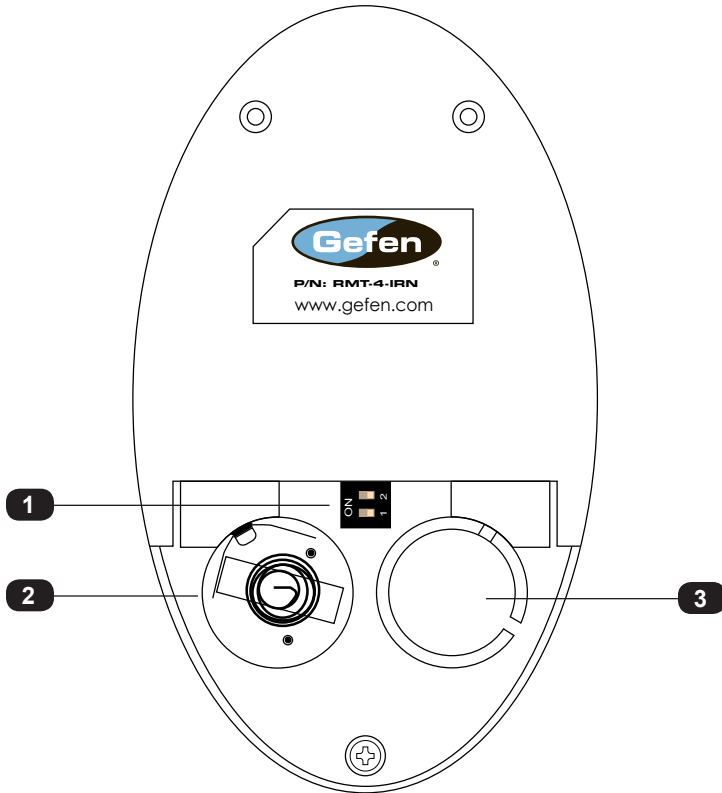


ID	Name	Description
1	IR	Receives signals from the included IR remote control.
2	Power	This LED indicator will glow solid blue when the matrix is powered.
3	Input Indicators (1 - 4)	These LED indicators display the currently selected input. The currently selected input will glow solid blue.
4	Select	Press this button to cycle through each of the input ports.
5	In 1 - In 4	Connect up to four SDI sources to these ports using BNC cables.
6	Out	Connect a BNC cable from this port to the SDI display.
7	RS-232	Connect an RS-232 cable from this port to the automation device.
8	5V DC	Connect the included power supply from this power receptacle to an available electrical outlet.
9	DIP switches	Refer to DIP Switch Configuration (page 12) for information on using these DIP switches.

IR Remote Control



ID	Name	Description
1	Activity indicator	This LED will be activated momentarily each time an input button is pressed.
2	Input buttons	Press these buttons to select an input (1 - 4).



ID	Name	Description
1	DIP switch bank	Use these DIP switches to set the IR channel of the remote. See the next page for more information.
2	Primary battery slot (shown without battery)	Holds the battery for operating the remote. Use only 3V CR2032-type batteries. Make sure that the positive (+) side of the battery is facing up.
3	Alternate battery slot	Allows for the installation of secondary (backup) battery.

Installing the IR Remote Battery

The IR remote control unit ships with two batteries. Only one battery is required for operation. The second battery is a spare.



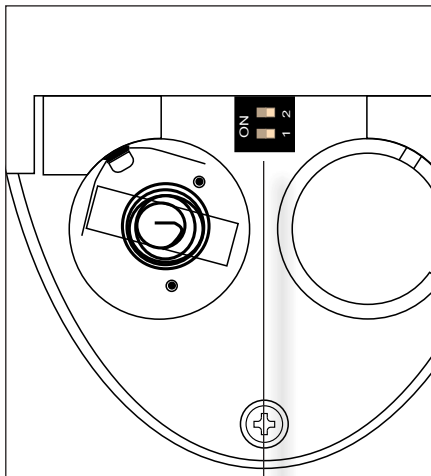
Warning





Use only 3V CR2032-type batteries. Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

1. Remove the back cover the IR Remote Control unit.
2. Insert the included battery into the primary battery slot. The positive (+) side of the battery should be facing up.
3. Replace the back cover.

Setting the IR Remote Channel

In order for the included IR remote control to communicate with the 4x1 3GSDI Switcher, the IR remote control must be set to the same channel as the switcher.



IR Channel	DIP settings
0 (default)	
1	
2	
3	

Connection Instructions

▶ Video

1. Connect a BNC cable from each SDI source to the input ports (**In 1 - In 4**) on the 4x1 3GSDI Switcher.
2. Connect a BNC cable from the SDI display to the **Out** port on the 4x1 3GSDI Switcher.

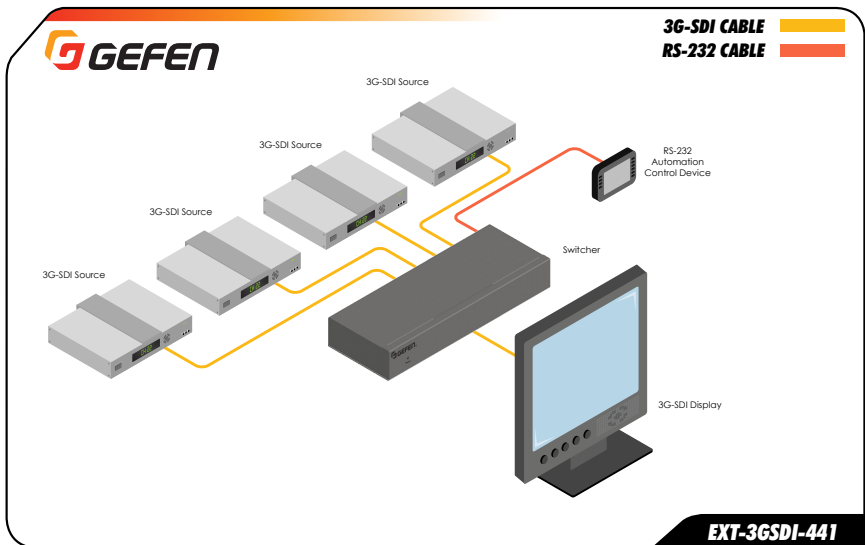
▶ RS-232

3. Connect an RS-232 cable from the **RS-232** port on the matrix to the RS-232 connector on the automation controller.

▶ Power

4. Connect the included power supply to the **5V DC** power receptacle and connect the power cord to an available electrical outlet.

Sample Wiring Diagram

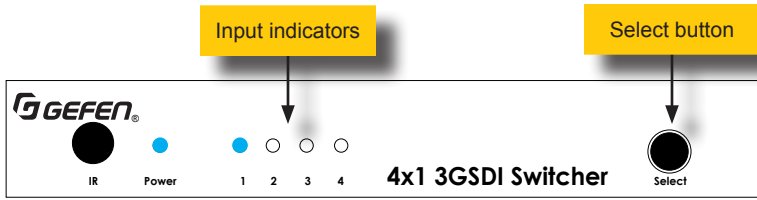


4x1 3GSDI Switcher

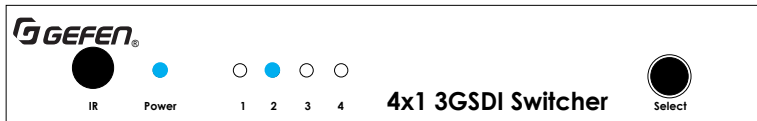
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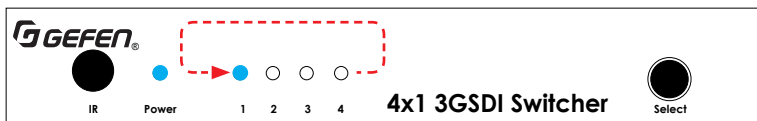
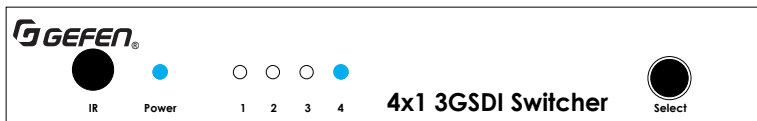
Using the Front Panel



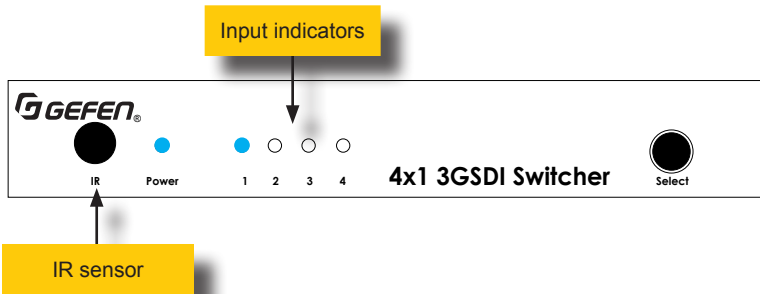
1. Each of the input indicators (1 - 4) on the front panel represents an SDI input (In 1 - In 4) on the rear of the unit. The input indicator, for the currently selected source, will glow solid blue.
2. Press and release the **Select** button on the front panel to advance to the next input.



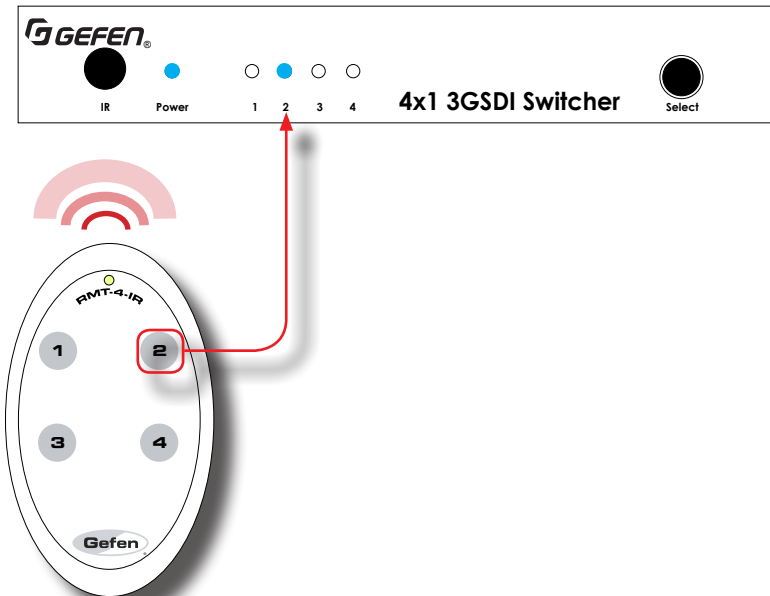
3. Continue to press and release the **Select** button, as desired, to cycle through each input.
4. Once input indicator 4 is illuminated, pressing the **Select** button again will select input 1. Input indicator 1 will now be illuminated.



Using the IR Remote

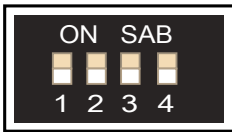
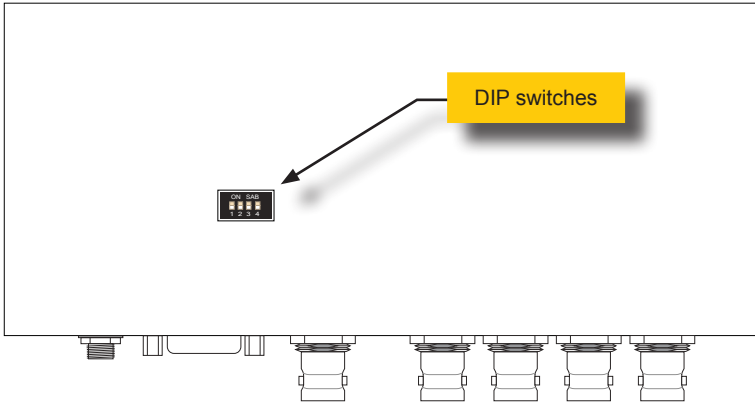


1. Point the IR remote at the IR sensor, located on the front panel of the matrix.
2. Select the desired input (1 - 4) on the IR remote control unit. In the example, below, we will select input 2 by pressing button 2 on the IR remote control unit.
3. The LED for input indicator 2 will glow solid blue.



DIP Switch Configuration


The 4x1 3GSDI Switcher contains a bank of four DIP switches, located on the bottom of the unit. The DIP switch bank is covered by a piece of plastic tape. Remove the tape to expose the DIP switch bank. The follow tables provides a description of each DIP switch setting.




To place a DIP switch in the "ON" position, slide the DIP switch upward, toward the "ON SAB" position. To place a DIP switch in the "OFF" position, slide the DIP switch downward, toward the numbers on the bottom of each DIP switch.

DIP 1	Description
ON	Adds a 100Ω termination on the RS-485 line. This DIP switch setting should only be used when RS-485 is enabled and the switcher is the last device in the chain.
OFF	No termination.

DIP 2	Description
ON	Sets the unit to use the RS-485 serial protocol. To use this protocol, DIP switch 1 must also be set to the ON position.
OFF	Sets the unit to use the RS-232 serial protocol.

 Indicates factory-default settings.

DIP 3	DIP 4	Description
OFF	OFF	Set switcher to IR channel 0
ON	OFF	Set switcher to IR channel 1
OFF	ON	Set switcher to IR channel 2
ON	ON	Set switcher to IR channel 3

 Indicates factory-default settings.



Important

The IR channel assigned to the IR Remote Control must match the IR channel assigned to the 4x1 3GSDI Switcher. The factory-default settings for DIP 3 and DIP 4 are in the OFF position. See [Setting the IR Remote Channel \(page 6\)](#) for setting the IR channel on the IR Remote Control Unit.

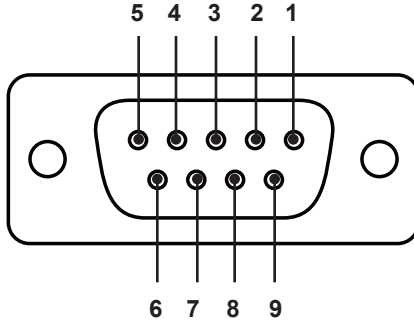
4x1 3GSDI Switcher

3

Advanced Operation

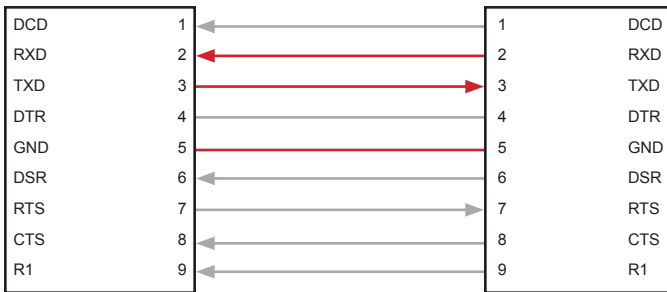
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RS-232 Interface



RS-232 Controller

Switcher



Only TXD, RXD, and GND pins are used.

RS-232 Settings

Description	Setting
Baud rate	19200
Data bits	8
Parity	None
Stop bits	1
Hardware flow control	None



Important

When sending an RS-232 command, a carriage return (0d) and a line feed (0a) must be included at the end of the command.

Command	Description
?	Displays the currently selected input



Displays the currently selected input.

Syntax

?

Parameters

None

Example

?

2

(If input 2 is the currently selected input)

4x1 3GSDI Switcher

4

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Connectors, Controls, and Indicators

Video Input	• 4 x BNC, female
Video Output	• 1 x BNC, female
RS-232	• 1 x DB-9, female
Select Button	• 1 x tact-type
Power Receptacle	• 1 x locking
Power Indicator	• 1 x LED, blue

Operational

Power Supply	• 5V DC
Power Consumption	• 10W maximum
Operating Temperature	• +32 to +104 °F (0 to +40 °C)

Physical

Dimensions (W x H x D)	• 7.5" x 3.5" x 1.6" (191mm x 89mm x 41mm)
Shipping Weight	• 2 lbs (0.9 kg)



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