geratech®

3G SDI 4x4 Switcher / Splitter

POWER
INPUT
SDI OUTPUT

EGE-3SDI-444

3G-SDI 4 by 4 Switcher/Splitter

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

• Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.

• To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.

• Never spill liquid of any kind on or into this product.

• Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.

• Do not attach the power supply cabling to building surfaces.

• Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.

• Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.

• To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	03/01/11	Preliminary Release
VR1	09/02/12	RS-232 Power Command
VR2	17/01/12	RS-232 Power Command
VS3	11/07/12	Updated format/diagrams/SDI standards
VS4	13/07/12	First release
VR5	08/08/12	Add RS-232 Input Command

CONTENTS

1. INTRODUCTION

The EGE-3SDI-444 4 by 4 Switcher/Splitter allows SD-SDI, HD-SDI and EGE-3SDI-444 signals to be switched from up to four SDI sources and split to four simultaneous SDI outputs while ensuring high bit rates of 2.970 Gbit/s to give you high bandwidth signal transmission without signal loss over long distances and can be controlled via IR or RS-232.

2. APPLICATIONS

• Video broadcasting switching display
• Professional video program display
• Film studios program monitoring
• Video program switching display

3. PACKAGE CONTENTS

• EGE-3SDI-444
• Remote Control (CR-101)
• 5 V/2.6 A DC Power Adaptor
• Operation Manual

4. SYSTEM REQUIREMENTS

SDI source inputs (such as broadcast video cameras or recording device) and SDI output displays (such as TVs or monitors).

5. FEATURES

• Switch between four EGE-3SDI-444 input sources and split the output to four EGE-3SDI-444 displays simultaneously
• Operation at 2.970 Gb/s, 2.970/1.001 Gb/s, 1.485 Gb/s, 1.485/1.001 Gb/s and 270 Mb/s
• Supports SMPTE 425M (Level A and Level B), SMPTE 424M, SMPTE 292M, SMPTE 259M-C
• Provides equalized and re-clocked transmission
• Control via RS-232, IR remote control (supplied) and on-panel buttons
• Supports signal input and output distances of up to 300 m for SD signals, 200 m for HD signals and 100 m for 3G signals.

Note: Tested with Belden 1694A Cable. Operating distances may vary if used with cables of different specifications.

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel
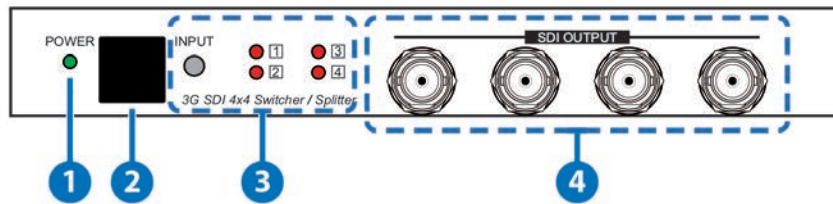
1 Power LED

The LED will illuminate green when the device is connected to a power supply.

2 IR receiver

IR receiver window receives IR commands from the supplied remote control.

3 SDI Input select/Indicator LEDs 1~4

Press the input button repeatedly to cycle through the SDI input sources, the red LED will illuminate to indicate which input source is currently selected. When the device is in 'Standby' mode, press this button to power on the device.

4 SDI OUTPUT

Connect to up to four SDI TVs or monitors for simultaneous display or to second splitter to cascade the SDI signal to multiple displays or devices.

6.2 Rear Panel
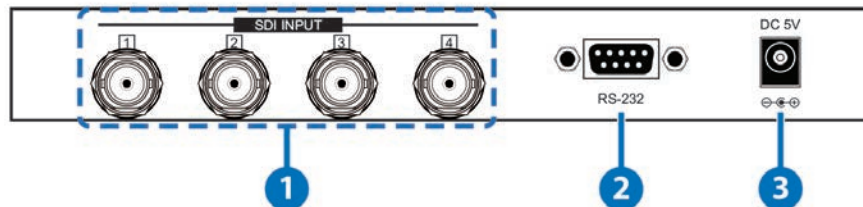
1 SDI INPUT

Connect up to four SDI source devices such as a video camcorders or SDI players. Accepts SD,HD or 3G SDI signals.

2 RS-232

Connect to a PC/laptop or RS-232 enabled device with a D-Sub 9-pin cable to control the unit with RS-232 commands (refer to Section 6.3 'RS-232 Protocols') .
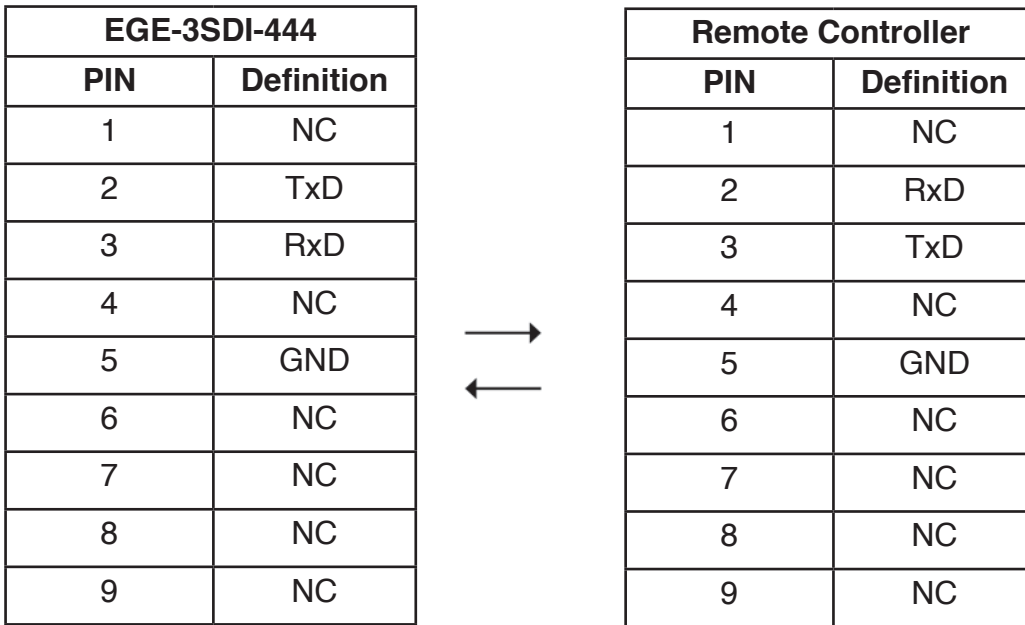
3 DC 5V

Plug the 5V DC power supply into the unit and connect the adaptor to AC wall outlet.

6.3 RS-232 Protocols

6.3.1 Pin Assignment
Pins definition of modem cable

EGE-3SDI-444	
PIN	**Definition**
1	NC
2	TxD
3	RxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Remote Controller	
PIN	**Definition**
1	NC
2	RxD
3	TxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Baud Rate: 19200 bps
Data bit: 8-bits
Parity: None
Stop bit: 1-bit
Flow Control: None

6.3.2 Commands

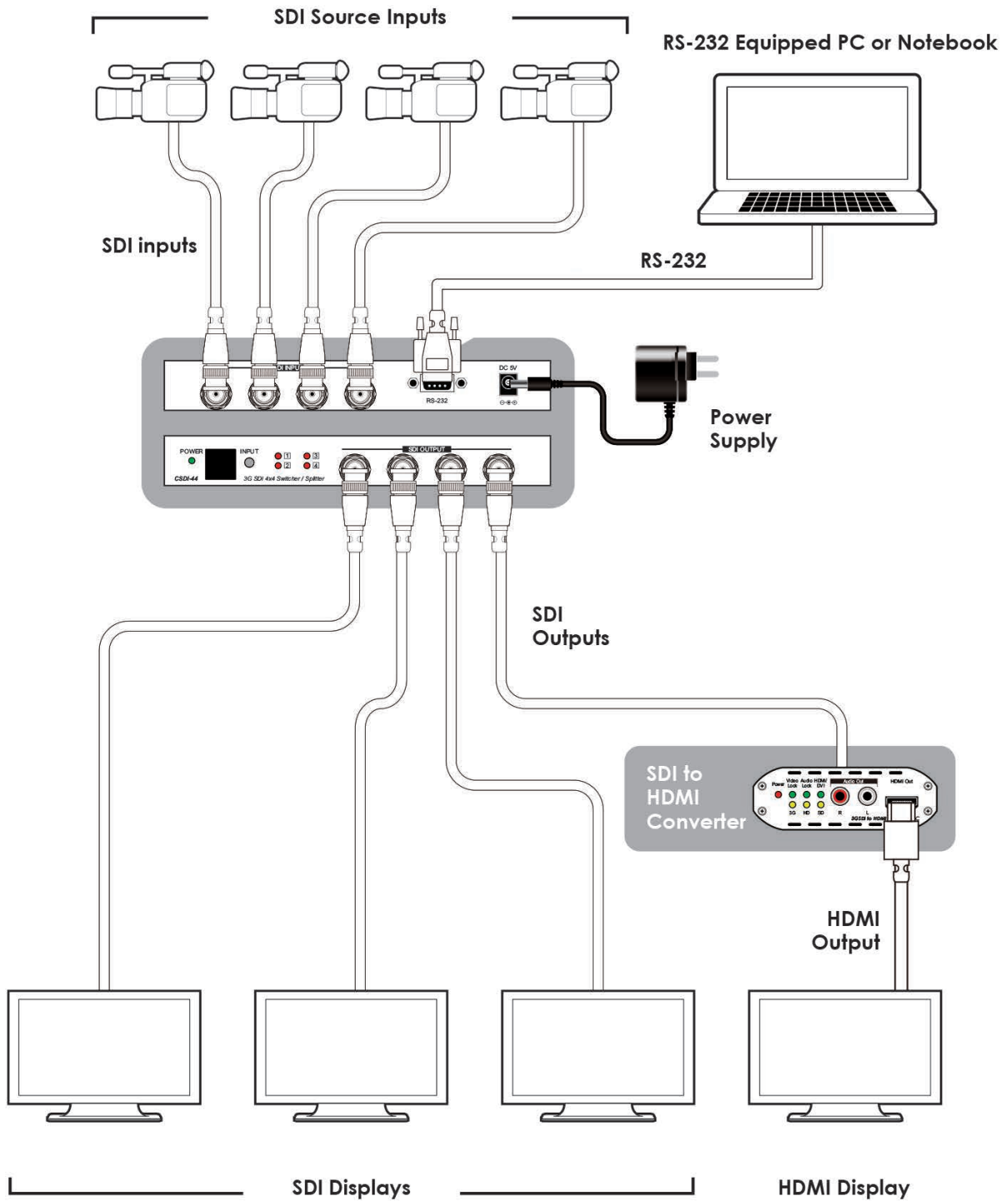| Command	Action
poweroff	Power OFF
poweron	Power ON
input01	Input selection 1
input02	Input selection 2
input03	Input selection 3
input04	Input selection 4
?input	Inquire Current Input selection

Note: *All the RS-232 command will be not executed unless followed with a carriage return. Commands are Case-Sensitive.*

6.4 Remote Control

1 Power

Press the button to turn the unit ON or to standby mode.

2 Direct Input Selector

Press 1, 2, 3 or 4 to select the required input source. When the device is in 'Standby', press any button to turn the device on.

7. CONNECTION DIAGRAM

SDI Source Inputs

RS-232 Equipped PC or Notebook

SDI inputs

RS-232

DC 5V

RS-232

Power
Supply

POWER INPUT 1 3 2 4   SDI OUTPUT

CSDI-44   3G SDI 4x4 Switcher / Splitter

SDI
Outputs

SDI to
HDMI
Converter

HDMI
Output

SDI Displays

HDMI Display
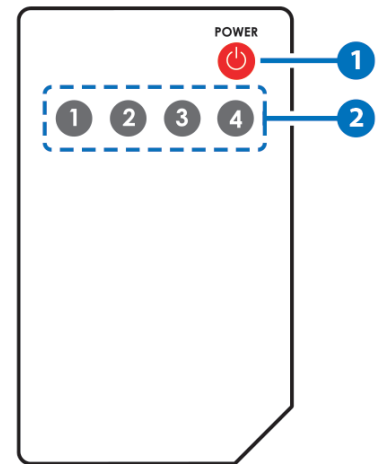
8. SPECIFICATIONS

SMPTE Standard	425M Level A & B, 424M, 292M, 259M-C
SDI Transmission Rates	2.970 Gbit/s and 2.970/1.001 Gbit/s
Input	4×BNC (SD/HD/3G-SDI)
Output	4×BNC (SD/HD/3G-SDI)
SDI Timing Support	SD-SDI: SMPTE 259M-C,270 Mbit/s
	HD-SDI: SMPTE 292M, 1.485 & 1.485/1.001 Gbit/s
	3G-SDI: SMPTE 424M/425M-AB, 2.970 & 2.970/1.001 Gbit/s
Power Supply	5 V DC/2.6 A (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model:
	±8 kV (air-gap discharge)
	±4 kV (contact discharge)
SDI Cable Distance	3G-SDI up to 100 m (BELDEN 1694A)
	HD-SDI up to 200 m (BELDEN 1694A)
	SD-SDI up to 300 m (BELDEN 1694A)
Dimensions	200 mm (W)×138 mm mm(D)×30 mm (H)
Weight	900 g
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0 ˚C~40 ˚C/32 ˚F~104 ˚F
Storage Temperature	−20 ˚C~60 ˚C/−4 ˚F~140 ˚F
Relative Humidity	20~90 % RH (Non-condensing)
Power Consumption	5 W

9. ACRONYMS

ACRONYM	COMPLETE TERM
3G	Bandwidth 2.97Gbit/s ≈ 3G
BNC	Bayonet Neill-Concelman
HDMI	High Definition Multimedia Interface
SDI	Serial Digital Interface