

EL-42SA

HDMI V1.3 4 by 2 Switcher
with Audio

Operation Manual



EL-42SA

• **Safety Precautions**

Please read all instructions before attempting to unpack or 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 module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

• **Revision History**

<i>Version No</i>	<i>Date</i>	<i>Summary of Change</i>
V1	20091116	Preliminary Release

Table of Contents

1. Introduction	1
2. Applications	1
3. Package Contents	1
4. System Requirements	1
5. Features	2
6. Specifications	3
7. Operation Controls and Functions.....	4
7.1 Front Panel	4
7.2 Rear Panel	4
8. Remote Control	5
9. RS-232 Protocols.....	5
9.1 Pin Assignment.....	5
9.2 Commands.....	6
10. Connection and Installation	7
11. Acronyms	8

1. Introduction

HDMI products have been increasing in popularity over the past few years and it is now common for people to have more than one HDMI device in a single place. Our HDMI V1.3 Switcher with audio provides an excellent solution when trying to connect all the devices and sources, and with the included remote control you have the ability to place it anywhere you want to. This device supports an independent R/L input, allowing users to select their desired audio output (either from R/L or HDMI input) with an HDMI input connection. Furthermore, this HDMI V1.3 Switcher supports HDMI 1.3, HDCP 1.1 and DVI 1.0, and can also transfer Deep Color video and bit stream digital audio. The EL-42SA HDMI V1.3 Switcher with Audio, organizing made easy.

2. Applications

- Simultaneously display Multiple sources on two LCD TV's
- Showroom display
- Educational presentation

3. Package Contents

- HDMI V1.3 4 by 2 Switcher
- Operation Manual
- 5V DC Power Supply Adaptor
- Remote Control (CR-76)

4. System Requirements

Input devices and output displays with HDMI cables.

5. Features

- HDMI 1.3, HDCP 1.1 and DVI 1.0 compliant
- Supports digital video formats in Deep Color Mode at up to 36 bits (12bits/color) and new lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio) digital audio
- The HDMI input signal is compensated, clock/phase adjusted, and jitter free, so it becomes a brand new standard HDMI signal
- Has input source LED indicators for each
- Compatible with all HDMI sources and displays
- Supports a wide range of PC and HDTV resolutions from VGA to UXGA and 480i to 1080p
- Supports RS-232 control
- Supports IR remote control and IR extender
- Dolby Digital, DTS digital audio transmission (32-192 kHz Fs sample rate)
- Supports LPCM7.1 channels output from each independent HDMI ports
- HDMI Cable testing showed that with 1080p/8bit resolution the input source can be 15 meters away, and with 1080p/ 12bit resolution the input source can be 10meters away.
- HDMI Cable testing showed that with 1080p/8bit resolution the output source can be 10 meters away, and with 1080p/ 12bit resolution the input source can be 15meters away.
- Simultaneously mix your R/L audio source with HDMI output display with four pairs of R/L audio inputs

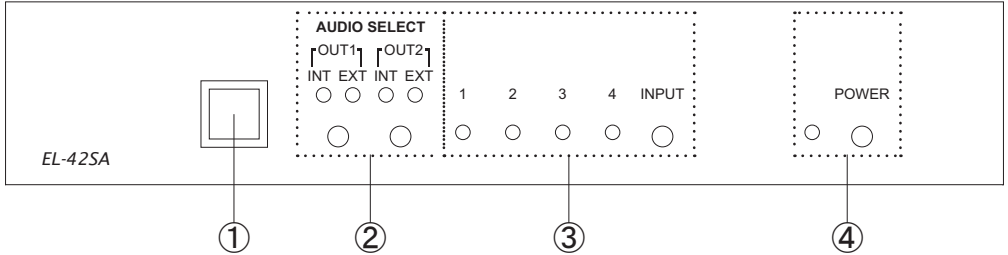
6. Specifications

Frequency Bandwidth	2.25Gbps (single link)
Input Port	4 x HDMI female ports, 4 x R/L ports
Output Port	2 x HDMI female ports
Power Supply	5V DC/5A (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: $\pm 10\text{kV}$ (air-gap discharge) $\pm 6\text{kV}$ (contact discharge)
Dimensions (mm)	241(W) x 115(D) x 48(H)
Weight(g)	860
Chassis Material	Metal
Silkscreen Color	Black
Power Consumption	9W
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 (no condensation)

7. Operation Controls and Functions

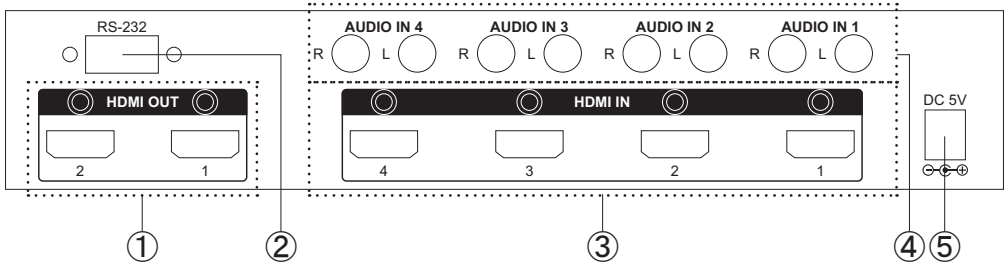
The following sections describe the hardware components of the unit.

7.1 Front Panel



- ① Remote Control Sensor
- ② Audio Select: Allows user to select the desired audio output (either from R/L or HDMI input) with an HDMI input connection.
- ③ HDMI input Select/Indicator: Press the "Input" button sequentially to switch to your desired input (HDMI 1 to HDMI 4), the LED will turn on to indicate which input source is selected.
- ④ POWER Switch/Indicator: Press the "POWER" button to turn the power on or off. The power LED will turn red when the power is turned on, and the LED will not switch on when the power is turned off.

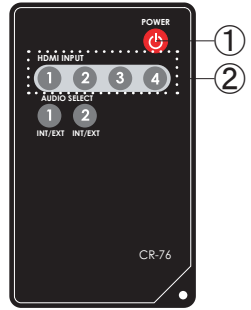
7.2 Rear Panel



- ① HDMI Outputs 1 and 2: Connect each of the output ports to the HDMI display. When more than one output is connected, the HDMI outputs play an identical video signal.
- ② RS-232: 9-pin D-Sub connector for connecting to your PC or other control console for remote control.
- ③ HDMI inputs 1 to 4: Connect each of the input ports to the HDMI or DVI output of your source devices such as DVD/Blu Ray players or set-top-boxes.
- ④ Audio R/L inputs 1 to 4: Connect each of the input R/L input ports to the R/L output of your source device such as DVD/Blu Ray players or set-top-boxes.
- ⑤ Power: Plug the 5V DC power supply into this unit and connect the adaptor to an AC outlet.

8. Remote Control

- ① Power: Press the button to turn the unit on or off.
- ② Direct input selector: Press 1, 2, 3 or 4 to select the desired input source.



9. RS-232 Protocols

9.1 Pin Assignment

The connection between Switcher and remote controller with RS-232 modem cable.

Switcher		→	Remote Controller	
PIN	Definition		PIN	Definition
1	NC		1	NC
2	TxD		2	Rx
3	RxD		3	Tx
4	NC		4	NC
5	GND		5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 9600 bps

Data bit: 8 Bits

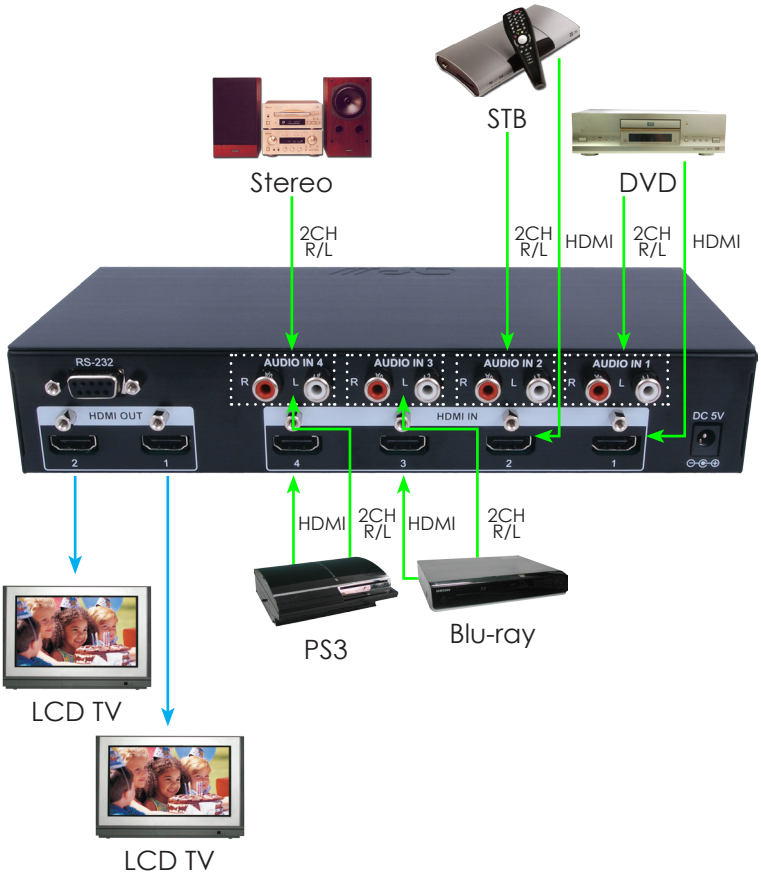
Parity: None

Stop Bit: 1 bit

9.2 Commands

Power 00	Power off
Power 01	Power on
Port 01	HDMI IN 1
Port 02	HDMI IN 2
Port 03	HDMI IN 3
Port 04	HDMI IN 4
AUDSEL 00	HDMI OUT1 audio out by EXT
AUDSEL 01	HDMI OUT 1 audio out by INT
AUDSEL 10	HDMI OUT 2 audio out by EXT
AUDSEL 11	HDMI OUT 2 audio out by INT

10. Connection and Installation





Acronyms

Acronym	Complete Term
DVI	Digital Visual Interface
HDCP	High-bandwidth Digital content protection
HDMI	High-Definition Multimedia Interface

