INSTRUCTION MANUAL

SB-5669K

16x16 UHD 4K2K HDMI Matrix Routing Switcher w/ Full EDID Management/Learning



4K|2K CAPABLE

SHINYBOW™ USA

MULTIMEDIA AUDIO AND VISUAL

SAFETY INFORMATION

1. To ensure the best results from this product, please read this manual and all other documentation before operating your equipment. Retain all documentation for future reference.
2. Follow all instructions printed on unit chassis for proper operation.
3. To reduce the risk of fire, do not spill water or other liquids into or on the unit, or operate the unit while standing in liquid.
4. Make sure power outlets conform to the power requirements listed on the back of the unit. Keep unit protected from rain, water and excessive moisture.
5. Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Dust with a clean dry cloth.
6. Do not use the unit if the electrical power cord is frayed or broken. The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
7. Do not force switched or external connections in any way. They should all connect easily, without needing to be forced.
8. Always operate the unit with the AC ground wire connected to the electrical system ground. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.
9. AC voltage must be correct and the same as that printed on the rear of the unit. Damage caused by connection to improper AC voltage is not covered by any warranty.
10. Turn power off and disconnect unit from AC current before making connections.
11. Never hold a power switch in the “ON” position.
12. This unit should be installed in a cool dry place, away from sources of excessive heat, vibration, dust, moisture and cold. Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.
13. Do not block fan intake or exhaust ports. Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, carpet, or completely enclosed rack. If the unit is used in an extremely dusty or smoky environment, the unit should be periodically “blown free” of foreign dust and matter.
14. To reduce the risk of electric shock, do not remove the cover. There are no user serviceable parts inside. Refer all servicing to qualified service personnel. There are no user serviceable parts inside.
15. When moving the unit, disconnect input ports first, then remove the power cable; finally, disconnect the interconnecting cables to other devices.
16. Do not drive the inputs with a signal level greater than that required to drive equipment to full output.
17. The equipment power cord should be unplugged from the outlet when left unused for a long period of time.
18. Save the carton and packing material even if the equipment has arrived in good condition. Should you ever need to ship the unit, use only the original factory packing.
19. Service Information Equipment should be serviced by qualifier service personnel when:
    A. The power supply cord or the plug has been damaged.
    B. Objects have fallen, or liquid has been spilled into the equipment.
    C. The equipment has been exposed to rain
    D. The equipment does not appear to operate normally, or exhibits a marked change in performance
    E. The equipment has been dropped, or the enclosure damaged.

TABLE OF CONTENTS

HDMI Matrix Routing Switcher Series

Thank you for purchasing the SB-5669K16x16 HDMI Matrix Routing Switcher. You will find this unit easy to install and highly reliable but it is essential that you read this manual thoroughly before attempting to use 16x16 HDMI Matrix Routing Switcher.

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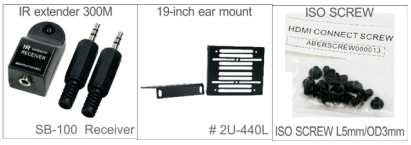
INTRODUCTION

The SB-5669K is professional 16x16 matrix routing switch. Supporting (16) HDMI Inputs and (16) HDMI outputs. The SB-5669K is based on the HDMI standard and supports full resolution HDMI Video with embedded HDCP, RS-232 and Bi-directional IR. all over a single HDMI cable. With a signal bandwidth of 340Mhz, there is no signal degradation. High Definition Digital signals can be selected and distributed to any (16) Inputs to (16) Outputs. The SB-5669K is certified as being fully CEC and HDCP 1.3, HDMI 1.4a, HDMI 4K2K@30Hz, DVI 1.0, 3D formats, Wide frequency range 25MHz ~ 340MHz. Supports UXGA/WUXGA/DVI 1920x1200 resolution to any HD displays. The SB-5669K has 16x HDMI connecter Input and 16xHDMI output, effectively making this an 16 in x 16 out switcher. EDID management can be selected between (7) different modes. Control is provided via Front panel push buttons, IR remote, RS-232 or TCP/IP (not a web-browser). An RS-232 Windows GUI interface is provided for matrix routing control (Windows only).

PACKAGE CONTENTS

Check that you have the following components;

- SB-5669K Matrix Routing Switcher
- IR remote controller (SW-5669)
- 19-inch ear mount bracket (Part # 2U-440L) / ISO Screws
- IR extender SB-100 receiver (300M length)
- CD contents: Manual, Windows GUI, ISP V1.0 Windows driver
- RS-232 Cable 6.50 feet (2M)
- Ethernet V2.0 / RS-232 V2.0 Protocol Instructions
- Users Guide
- Worldwide Universal Power Supply 100~240VAC, AC 50/60Hz, 10A



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.

DISCLAIMERS

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FEATURES & SPECIFICATIONS

FEATURES

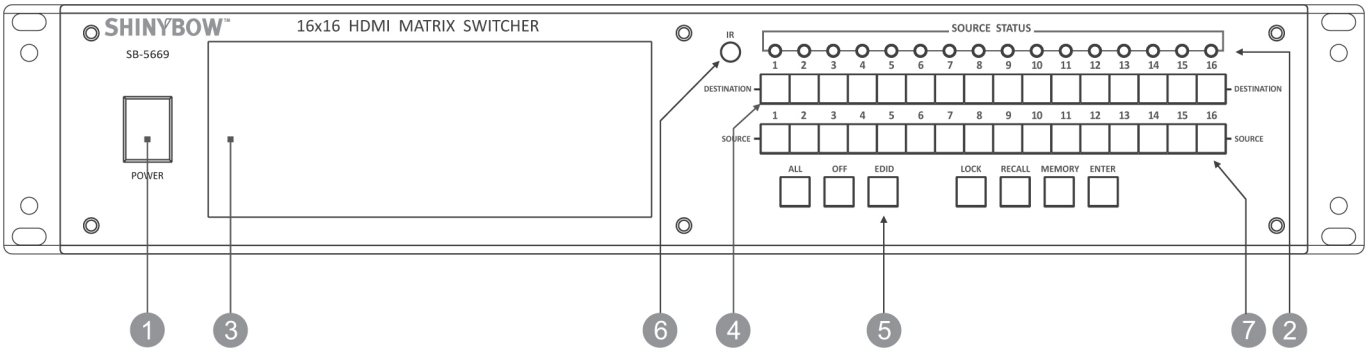
- Enables switching of 16x HDMI digital source devices to 16x HDMI devices
- HDMI digital video w/embedded audio, DVI format and HDCP 2.2 compliant
- (7) function button control and worldwide (7) EDID modes for HDTV 4K2K resolutions
- Link speeds of up to 6.75 Gbps (link clock rate of 340Mb Hz), support HDMI 1.4a 3D formats
- Wide range of HD resolutions from PC DVI XGA to WUXGA 1920x1200 and support HDTV/DTV resolutions 480i/480p, 576i/576p, 720p, 1080i & 1080p, 4K2K(3860x2160)
- Compatible with all HDMI source devices, PC monitors, plasma HD display, HDTV and audio receivers/amplifiers
- Digital Video TMDS formats resolution up to 1080P-60 with deep color 36-bit.
- Digital Audio Support : Dolby TrueHD, Dolby Digital, Dolby Digital Plug/ex, DTS, DTS-HD, DTS-HD Master, DTS-EX, PCM, PCM2, LPCM2
- Various user interface controls:
  - Windows-based GUI control via RS-232 port
  - Front panel push buttons
  - IR wireless remote control
  - Third party RS-232 controller (via simple ASCII)
  - ETHERNET series interface (via pc protocol commands)
- Supports worldwide control functions: ALL/OFF/RECALL/ENTER/MEMORY/EDID/LOCK
- Support EDID modes :
  - Embedded EDID modes : 1. FSS (fast stard speed), 2. H24-3D, 3. H24-3D-M (multi Audio), 4. H36-3D, 5. H36-3D-M (multi Audio), 6. 4K2K-3D PCM 2CH, 7. DVI-D 1920x1200-60Hz
  - External modes : Learning mode (learning destination EDID link to source device)
- Automatic scanning of input & output status and display via LCM front panel
- Supports IR Remote and IR Extender with maximum distance up to ~ 1000’ (300M)
- EDID configuration via internal modes

SPECIFICATIONS

- **Type of HDMI Switcher:** 16x HDMI inputs to 16x HDMI outputs matrix switcher
- **HDMI Support:** HD 1080p@60Hz, 4K2K, H36-bit deep color, 3D (1.4a) formats
- **HDCP Support:** HDCP 2.0 Compliant
- **Video Bandwidth:** Double Data Rates: 340 MHz, total 6.7 Gbps bandwidth
- **Digital Video Support:** Full HD resolution: 480i / 480p / 720p / 1080i / 1080p / 4K2K
- **Digital Audio Support:** Multi Audio Formats 5.1 / 7.1, MAT(MLP), Dolby Digital, Dolby TrueHD, Dolby Digital Plus, DTS, DTS-ES 6.1, DTS-HD, DTS-HD-HRA, DTS-HD Master, (PCM-2CH)
- **Switcher Controls IR remote control**
  - IR external port x 1 (OD 3.5mm ear phone jack)
  - Front panel buttons
  - Ethernet and RS-232 serial interface
- **Source Status:** Automatic scanning of input status and display via LCM panel
- **Function Control Key:** ALL / OFF / RECALL / ENTER / MEMORY / LOCK / EDID
  Infrared Frequency: 38 Khz
- **IR Extend Distance:** SB-100 (1000 feet / 300 meters maximum), SB-100C(2M)
- **HDMI I/O Connector:** HDMI Type A - SMD 19-pin female type
- **Temperature:** Operating Temperature 32°F - 100°F (0 °C - 32°C)
- **Dimensions (LxWxH):** 17.3 x 11.9 x 3.5 in (442x303x88mm)
- **Rack Mount** 2RU High 19 ”rack mount (with rack mount ears) #2U-440L
- **Power Supply** universal / worldwide type 50/60Hz, 110~240 VAC(120W)
- **Unit material** Metal (thin 1mm)
- **Safety Approvals** CE, FCC, RoHS (2002/95/EC), REACH
- **Product Weight** 4 Kgs / 8.82 lb

As product improvements are continuous, specifications are subject to change and without notice.

FRONT PANEL



1. POWER ON SWITCH: The power switch turns the unit on and off. The LCM will illuminate blue to indicate the switcher is ON and receiving power. The switcher will remember the last setting during a power cycle. When power is removed and resorted, the last configuration will be evoked.

2. INPUT STATUS DISPLAY: Input source 1 to 16 LED illuminate white to indicate a video source is present on that input.

3. OUTPUT STATUS DISPLAY: Each output (destination) channel shows which input (source) is assigned via LCM display.

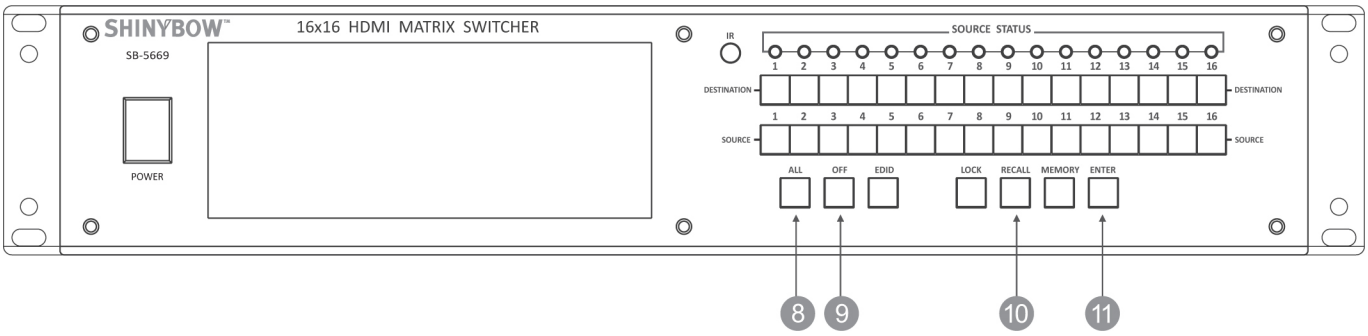
4. DESTINATION SELECT BUTTONS: Separate outputs 1 thru 16 select buttons are provided for each destination assignment. Routing can be Source to Destination or one source to multiple destinations.
Example: Press Destination 1, 3, 5, then press Source 2. The switcher will route Input 2 to Output 1,3,5 respectively.

5. EDID MODE SELECT BUTTONS: Use button #1 and #2 to select the desired EDID mode.

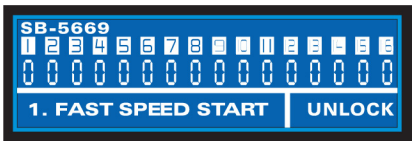
6. IR SENSOR: The IR sensor receives IR commands from the supplied remote controller or third party IR emitter.

7. SOURCE SELECT BUTTONS: Input 1 thru 16 buttons are provided for each source selection.

FRONT PANEL



8. FUNCTION KEY - ALL



Disables (mute) video on all destinations OR assign the same source to all destinations.

Option 1

- Press **ALL** followed by **OFF** button. The display will show ”0” to indicate none of the destinations are assigned a video source.

Option 2

- Press **ALL** followed by Source 1 thru 16. The display will show the source selected.
- Press **ENTER** The pre-set source selection will be assigned all destinations.

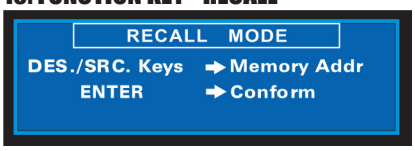
9. FUNCTION KEY - OFF



Disables (mute) video on the selected destinations.

- Press **OFF** button followed by any Destination channel.
- Press 1 thru 16 output destination. The display will show “ 0 “ for the selected channel, indicating no video selected.

10. FUNCTION KEY - RECALL



The system can save up to 16 sets of learning routes, which are stored in local memory using Source buttons 1 thru 16 and Destination buttons 1 thru 16 as the memory preset location.

- Press **RECALL** button.
- Press 1 thru 16 on either Source or Destination row.
- Press **ENTER** The pre-set configuration will execute.

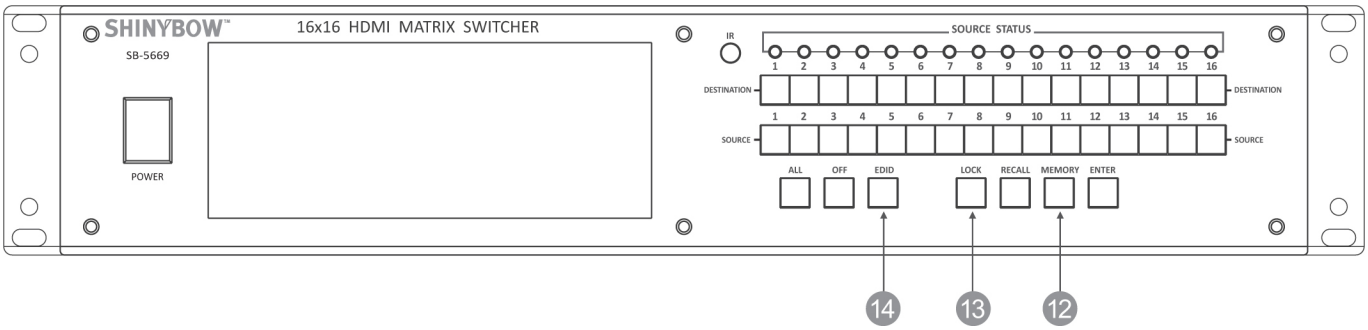
Operation completes.

Note: *Operation will abort if no keys are dressed within 5 seconds.*

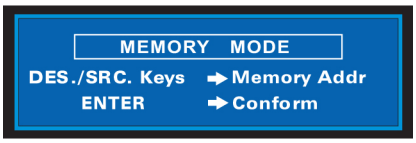
11. FUNCTION KEY - ENTER

Press **ENTER** to confirm entries.

FRONT PANEL



12. FUNCTION KEY - MEMORY



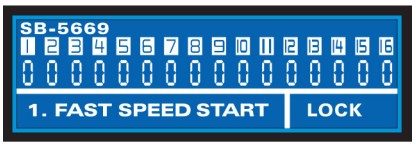
The system can save up to 16 sets of switching routes, which are stored in local memory using Source keys 1 thru 16 or Destination buttons 1 thru 16 as the memory location.

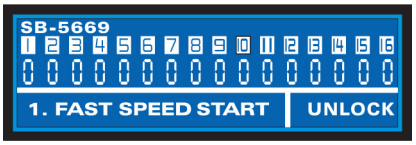
- Configure desired matrices .
- Press **MEMORY** button.
- Press 1 thru 16 on either Source or Destination row.
- Press **ENTER** to ready memory location.
- Or press **MEMORY** again to cancel operation.

Operation completes.

Note: *Operation will abort if no keys are dressed within 5 seconds.*

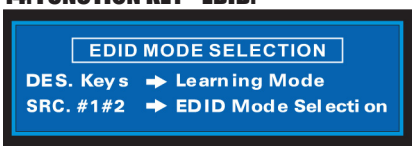
13. FUNCTION KEY - LOCK





- Press and hold **LOCK** button for two seconds lock out the front panel (as shown on the left).
- Press and hold **LOCK** button for two seconds to enable the front panel (as shown on the right).

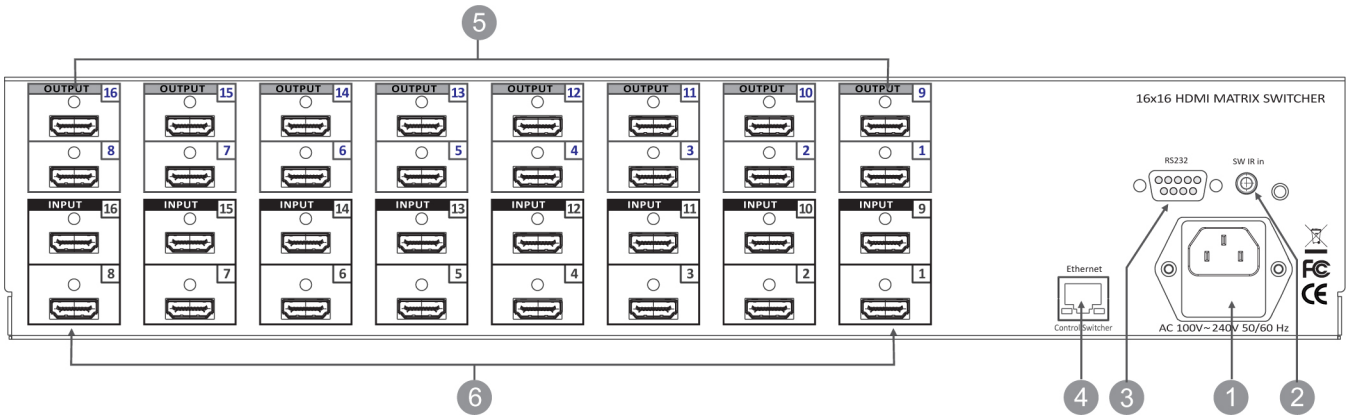
14. FUNCTION KEY - EDID:



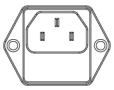
- Press EDID to begin setting up your EDID mode. Use source row buttons #1 and #2 to cycle thru the options. (Go to EDID setup instructions)

BACK PANEL

BACK PANEL



1. DC POWER INLET: The switcher is fitted with a DC power plug input connector. Ensure that the used is of an approved type and is of sufficient current carrying connector capacity with the correct voltage and connector polarity. power supply 100V~240VAC, 50/60Hz.



Power Jack:
DC Jack - Inner OD Ø 2.1 mm (+)
Outside OD Ø 5.5mm (GND)
Power Input: 100-240VAC, 50-60Hz 1.2A

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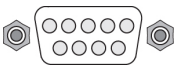
2. IR EXTENDER CONTROL: Supports one of IR Extender. Extends maximum distance 300M / ~1000 feet. When you plug the external IR extender into the switcher, the front panel IR receiver remains active.



IR Extender Jack: Female Jack - inner OD Ø 3.5mm

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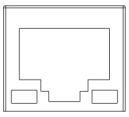
3. RS-232 CONNECTION: RS-232 control port allows interfacing to a PC such as a computer or touch panel control, to the switcher via this DB-9pin female connector for serial RS-232 control.



Remote port: DB-9pin Female connector

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4. ETHERNET CONNECTION: Connects a CAT6/6a/7 category cable to the Ethernet port for control of the switcher from a computer.

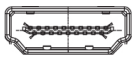


8P8C / RJ 45 connector

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5. HDMI INPUTS 1 ~ 16: Connects a signal link of HDMI direct digital video/audio to this female HDMI connector, which supports HDMI digital video/audio and DVI digital video sources.

HDMI Digital Video/Audio, Connector with fix screw
Input 1 ~ Input 16

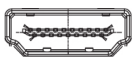


HDMI digital video/audio connector:
HDMI Female connector.
Note: With proper adapters, the switcher can be used with DVI digital video signals, HDCP compliant.

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6. HDMI OUTPUTS 1 ~ 16: Connects a signal link of HDMI direct digital video/audio to this female HDMI connector, which supports HDMI digital video/audio and DVI digital video sources.

HDMI Digital Video/Audio, Connector with fix screw
Output 1 ~ Output 16



HDMI digital video/audio connector:
HDMI Female connector.
Note: With proper adapters, the switcher can be used with DVI digital video signals, HDCP compliant.

REMOTE CONTROL

Before making any connections observe the following:

- Ensure the mains voltage supply matches the label on the supplied plug- Pack (+/- 10%).
- Ensure that the power switch is OFF.
- Ensure that all system grounds (earth) are connected to a common point.
- Avoid powering equipment within a system from multiple power sources that may be separated by large distances.
- Connect all audio video sources and destination equipment.
- Power up all source and destination audio-visual sources.
- For each destination output select the appropriate input source by using the front panel input 1-16 select buttons. The supplied IR remote control. Or through the RS-232 serial communications port.
- Upon power up the switcher will return to its last used setting before Powered down.

REMOTE CONTROL

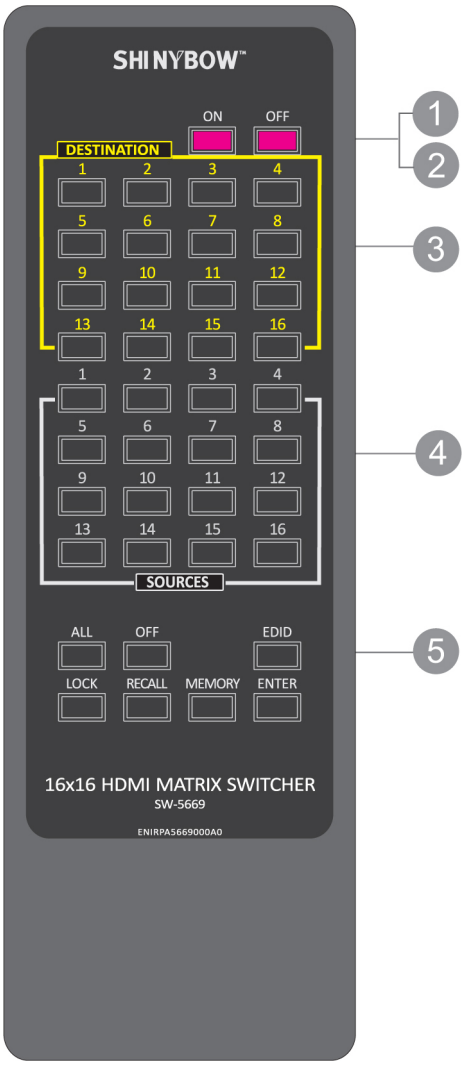
IR REMOTE CONTROL KEY :
IR REMOTE : SW-5669

1. & 2. SWITCH POWER ON or OFF:
Controller with a power ON and OFF

3. DESTINATION : 1 thru 16 OUTPUT SELECTION:
Press the destination button to select the output display channel.

4. SOURCE : 1 thru 16 INPUT SOURCE SELECTION:
Press input 1~16 sources with selection button

5. FUNCTION KEY:
ALL - function selection button
OFF - function selection button
EDID - function selection button
RECALL - function selection button
ENTER - function selection button
MEMORY - function selection button
LOCK - function selection button



REMOTE PROTOCOL COMMANDS

IR REMOTE CUSTOM AND DATA CODES (NEC Standard)

HOW TO SETUP IR CODES :

POWER ON : 32CD A15E
POWER OFF : 32CD A25D
ALL : 32CD B04F
OFF : 32CD B14E
EDID : 32CD B748

CUSTOM CODE : 32CD

LOCK : 32CD B54A
RECALL : 32CD B24D
ENTER : 32CD B34C
MEMORY : 32CD B44B

PRESS TV DESTINATION - # then PRESS SOURCE - #

DESTINATION #1 : 32CD 10EF	SOURCE #1 : 32CD 20DF
DESTINATION #2 : 32CD 11EE	SOURCE #2 : 32CD 21DE
DESTINATION #3 : 32CD 12ED	SOURCE #3 : 32CD 22DD
DESTINATION #4 : 32CD 13EC	SOURCE #4 : 32CD 23DC
DESTINATION #5 : 32CD 14EB	SOURCE #5 : 32CD 24DB
DESTINATION #6 : 32CD 15EA	SOURCE #6 : 32CD 25DA
DESTINATION #7 : 32CD 16E9	SOURCE #7 : 32CD 26D9
DESTINATION #8 : 32CD 17E8	SOURCE #8 : 32CD 27D8
DESTINATION #9 : 32CD 18E7	SOURCE #9 : 32CD 28D7
DESTINATION #10 : 32CD 19E6	SOURCE #10 : 32CD 29D6
DESTINATION #11 : 32CD 1AE5	SOURCE #11 : 32CD 2AD5
DESTINATION #12 : 32CD 1BE4	SOURCE #12 : 32CD 2BD4
DESTINATION #13 : 32CD 1CE3	SOURCE #13 : 32CD 2CD3
DESTINATION #14 : 32CD 1DE2	SOURCE #14 : 32CD 2DD2
DESTINATION #15 : 32CD 1EE1	SOURCE #15 : 32CD 2ED1
DESTINATION #16 : 32CD 1FE0	SOURCE #16 : 32CD 2FD0

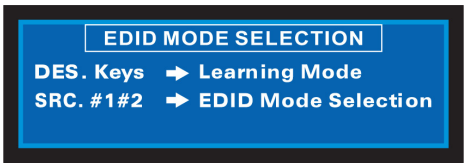
For example;
Select Destination # 1 to show Source #1~8,

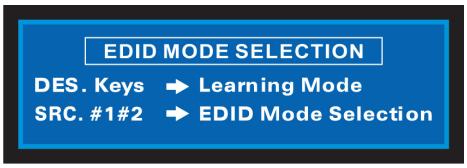
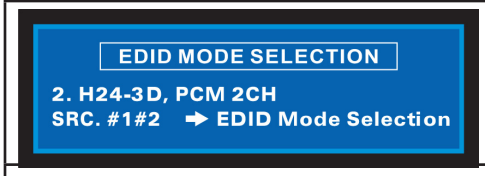
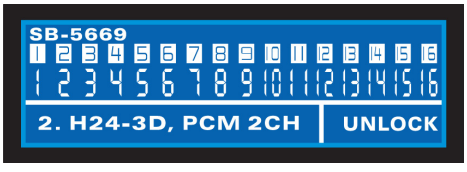
The IR Data Code list when press Destination # then press Source #

Press Destination # 1 & Source #1 32CD 01FE 32CD 20DF
Press Destination # 1 & Source #2 32CD 01FE 32CD 21DE
Press Destination # 1 & Source #3 32CD 01FE 32CD 22DD
Press Destination # 1 & Source #4 32CD 01FE 32CD 23DC

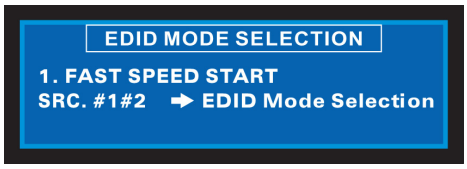
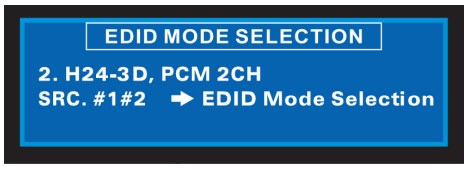
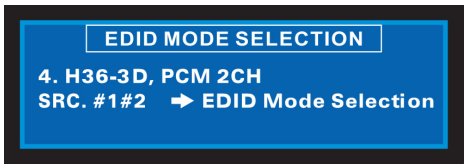
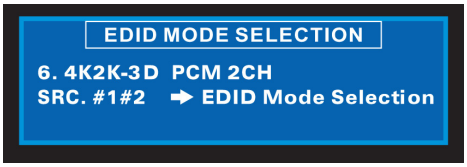
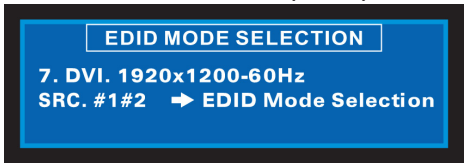
EDID FUNCTION

EDID FUNCTION SETUP

EDID Setup	How to enter and exit
ENTER EXIT **EDID ⟶ EDID** 	**1. ENTER :** After the switcher is powered on, the screen shows the main page. Press EDID to enter the EDID setup page.
	**2. SELECT :** EDID mode selection will show on the top. DES is an abbreviation for destination buttons while SRC for source buttons. Pressing source keys 1 and 2 enable you to cycle thru the 8 EDID modes. Pressing destination buttons will enter learning mode.
	**3. EXIT :** Press EDID again to exit. If exit before ENTER is pressed, the setup will be cancelled. If the right bottom corner of the display shows LOCK, it means the front panel buttons are locked and any button selections are not available.

EDID Setup	How to select an EDID mode
EDID ⟶ SOURCE #1 or #2 ⟶ Enter In the EDID setup page, pressing the source button 1 and 2 will cycle thru the available selections. Pressing source button 1 repeatedly to cycle UP. Pressing source button 2 repeatedly to cycle DOWN. A total of 8 embedded EDID modes are provided for selection. When the desired mode is displayed, press Enter to confirm that selection. The selected EDID mode will be applied to all destination and source devices.	
	**1.** Enter the EDID setup page and press source button 1 or 2 to cycle through the 8 embedded EDID modes.
	**2.** The left shows mode 2 as example. See the line 2. H24-3D, PCM 2 CH. To select the mode, press enter button. To go to next mode, press source 2. To return to previous mode, press source 1.
* Operation will abort if no buttons are pressed within 5 seconds.	
View the current EDID mode	
The lower left shows the currently selected EDID mode. 	The left shows the currently selected mode is mode 2, H24-3D, PCM 2 CH.

EDID FUNCTION

EDID function : 7x Embedded EDID Modes	
Mode 1. FSS (Fast Speed Start) 	Fast Speed Start mode shortens the startup time of the switcher. Selecting this mode does not force the EDID setup to be cancelled. Users may first select one EDID mode from mode 2 to 8, and then select mode 1 for fast speed start.
Mode 2. H24-3D (1080p-24 bits) 	Audio Support: PCM 2CH
Mode 3. H24-3D-M (1080p-24 bits) 	Audio Support: MAT(MLP) 7.1CH, PCM2CH, One Bit Audio 2CH, AC-3 5.1CH, DTS5.1CH, PCM7.1CH, Dolby Digital + 7.1CH, DTS-HD 7.1CH
Mode 4. H36-3D-M (1080p-36 bits) 	Audio Support: PCM 2CH
Mode 5. H36-3D (1080p-36 bits) 	Audio Support: MAT(MLP) 7.1CH, PCM2CH, One Bit Audio 2CH, AC-3 5.1CH, DTS5.1CH, PCM7.1CH, Dolby Digital + 7.1CH, DTS-HD 7.1CH
Mode 6. 4K2K 	Video Support: 4K2K-3D 3860x2160 Audio Support: PCM 2CH
Mode 7. 1920x1200-60Hz (DVI-D) 	DVI Support: DVI-D 1920x1200 60Hz

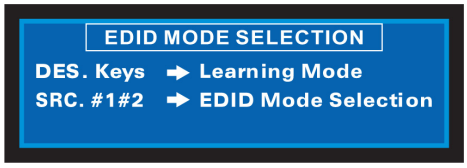
EDID FUNCTION

EDID FUNCTION : LEARNING

Learning EDID	Single Destination to Single Source

EDID ⟶ Destination 1 thru 16 ⟶ Source 1 thru 16 ⟶ Enter

Copy the EDID of a single destination device and pass it to a single source. The source device will output video and audio according to the EDID of the destination.

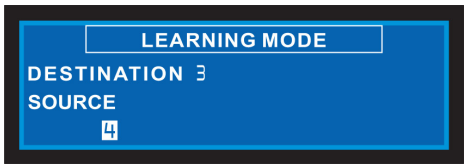


1. Enter EDID setup page.



2. Choose one destination

Example: Select Destination 3



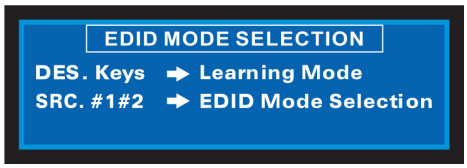
3. Then choose the intended source

Example: Select Source 4

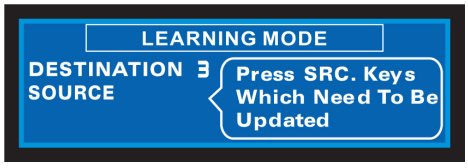
Learning EDID	Single Destination to Multiple / All Sources

EDID ⟶ Destination 1 thru 16 ⟶Source 1 thru 16 ⟶ Enter

Copy the EDID of a single destination device and pass it to multiple sources. The source device will output video and audio according to the EDID of the destination.

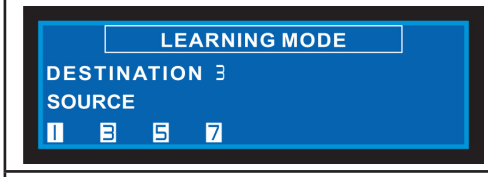


1. Enter EDID setup page.



2. Choose one destination

Example: Select Destination 3



3. Then choose the intended source

Example: Select Source 1, 3, 5, 7.

Users who want all the 16 sources to learn the EDID from a destination, press all the 16 source buttons instead of the ALL button.

EDID FUNCTION

COMPARISON TABLE

	Function	Note
Learning Mode	Let the source device(s) learn the EDID from a single source and output video and audio accordingly.	When a source devices has “learned” the EDID information of a destination device, the switcher will save that EDID into EPROM and the stored EDID cannot be altered. If you want to remove the EDID, set a new learning route for the source.
FSS Mode (Mode 1)	Shorten the startup time of the switcher.	After the desired EDID setup is complete, use FSS mode and the switcher will be faster at startup.
Mode 2 ~ 7	Let all source devices output the specified video and audio formats.	Consult the spec documentation of your devices and select the mode that best suits them.

TROUBLESHOOTING

INITIAL CHECKUP - FOR “NO SIGNAL”:

- **Signal Compatibility** – Make sure the display device accepts HDMI signal and the resolution it is being fed to.
- **Cables** – Check and see if the cables are damaged, crushed, or loosely connected. Replace cables with cuts or nicks. Tighten up each connection to the plug. Cables longer than 15 meters may fail the signal transmission.
- **Functional Connected Devices** – Disconnect the devices from the switcher. Operate the devices in their intended use environment and see if they are fully functional.
- **Adapter** – Use the supplied adapter or an adapter of sufficient current capacity, correct voltage, and connector polarity.
- **AC Wall Outlet** – The AC wall outlet should be installed near the unit and be easily accessible.

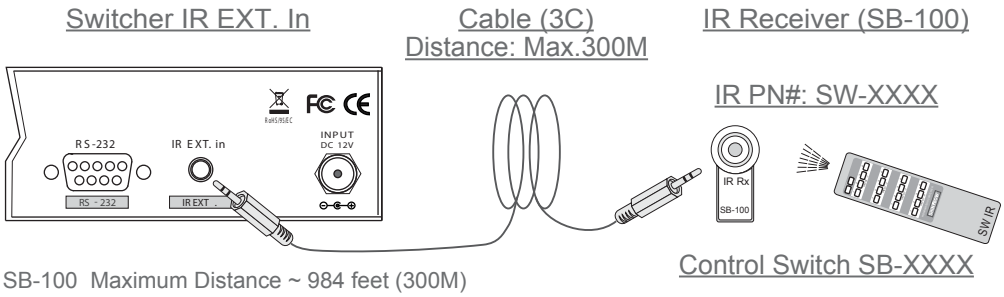
EDID SETUP:

- Inappropriate operation of the switcher may cause signal loss. To let the switcher recapture the EDID information, first, power off the switcher and all the connected devices. Then, power them on and reset the EDID mode.
- Switch back and forth between EDID mode 2 and mode 3 until both video and audio can be smoothly displayed.
- If none of the mode 2 to 7 suits all the connected devices, use mode 8 to let the switcher output the highest common resolution. Please note setting the switcher in mode 8 may result in a compromised resolution.

IR EXTENDER

1. SB-100 IR 300M Receiver



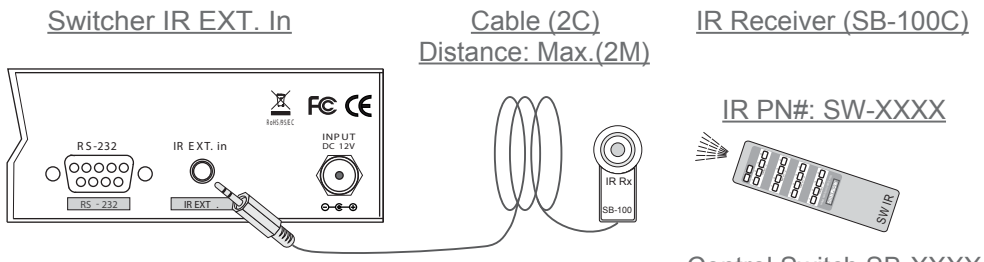


SB-100 Maximum Distance ~ 984 feet (300M)

The SB-100 IR Receiver is required when using the port “ALL in” Jack.

2. SB-100C IR 2M Receiver





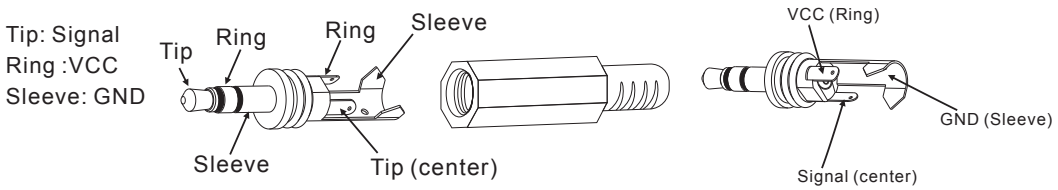
SB-100C Maximum Distance ~ 6 feet (2M)

The SB-100C IR Receiver will not function on the port “ALL in” Jack.

*** *When you plug the External IR extender into the switcher, the front panel IR receiver remains active.* ***

Pin configuration for IR 984 feet (300M) Extender Receiver such as SB-100 compatible

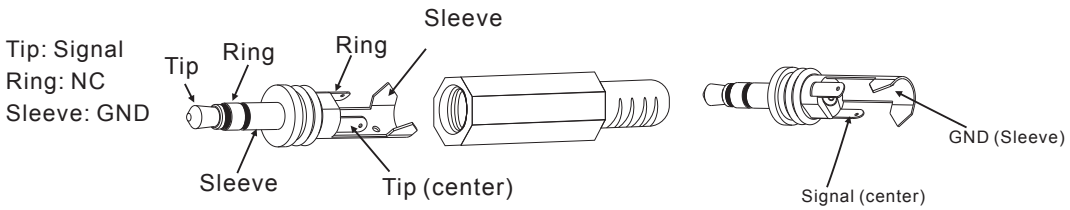




SB-100 Receiver and SB-101 Transmitter The DISTANCE maximum ~ 984 feet (300M)

Pin configuration for IR Receiver 6 feet (2M) cable such as SB-100C compatible





SB-100 Receiver and SB-101C Transmitter The DISTANCE maximum ~ 984 feet (300M)

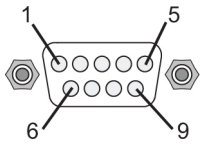
Note: *The External IR jack has voltage on the “Ring” portion of a 3-conductor plug. You must use a 3-conductor plug (aka: stereo plug). Using a 2-conductor plug will short out the power supply. Always make connections with the switcher power off.*

RS-232 SERIAL INTERFACE

RS-232 SERIAL INTERFACE CONNECT a PC or CONTROL SYSTEM. VERSION -2.0 COMPATIBLE

RS-232 SERIAL CONNECT

Pin	RS-232	Definition
1	------	Not used
2	TX	Transmitter
3	RX	Receiver
4	------	Not used
5	GND	Ground
6	------	Not used
7	------	Not used
8	------	Not used
9	------	Not used



For a complete list of commands, please read the RS-232 Protocol Instruction Manual.

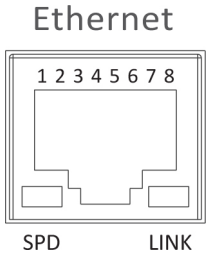
RS-232 PROTOCOL COMMANDS (RS-232 Control driver V2.0.1)
The ShinybowUSA switcher can be controlled via the RS-232 serial control port to allow for interfacing to a PC, or similar third party control system.

The serial communication parameters are 9600 baud, 8 bit, No Parity and 1 stop bit - this is often referred to as 9600 8N1. When the unit recognizes a complete command it will perform the requested action - there is no delimiter character required.

ETHERNET SERIAL INTERFACE CONNECT a PC or CONTROL SYSTEM. VERSION COMPATIBLE V2.0

ETHERNET SERIAL INTERFACE

Pin	Ethernet	Reference
1	TXOP	TX +
2	TXON	TX -
3	RXIP	RX +
4	NC	
5	NC	
6	RXIN	RX -
7	NC	
8	GND	



Note :
Control the switcher
SPD : Speed
LINK : Ethernet link
RJ-45 Female 8P-8 Connector

For a complete list of commands, please reference external document extended Ethernet Protocol Instruction Manual.

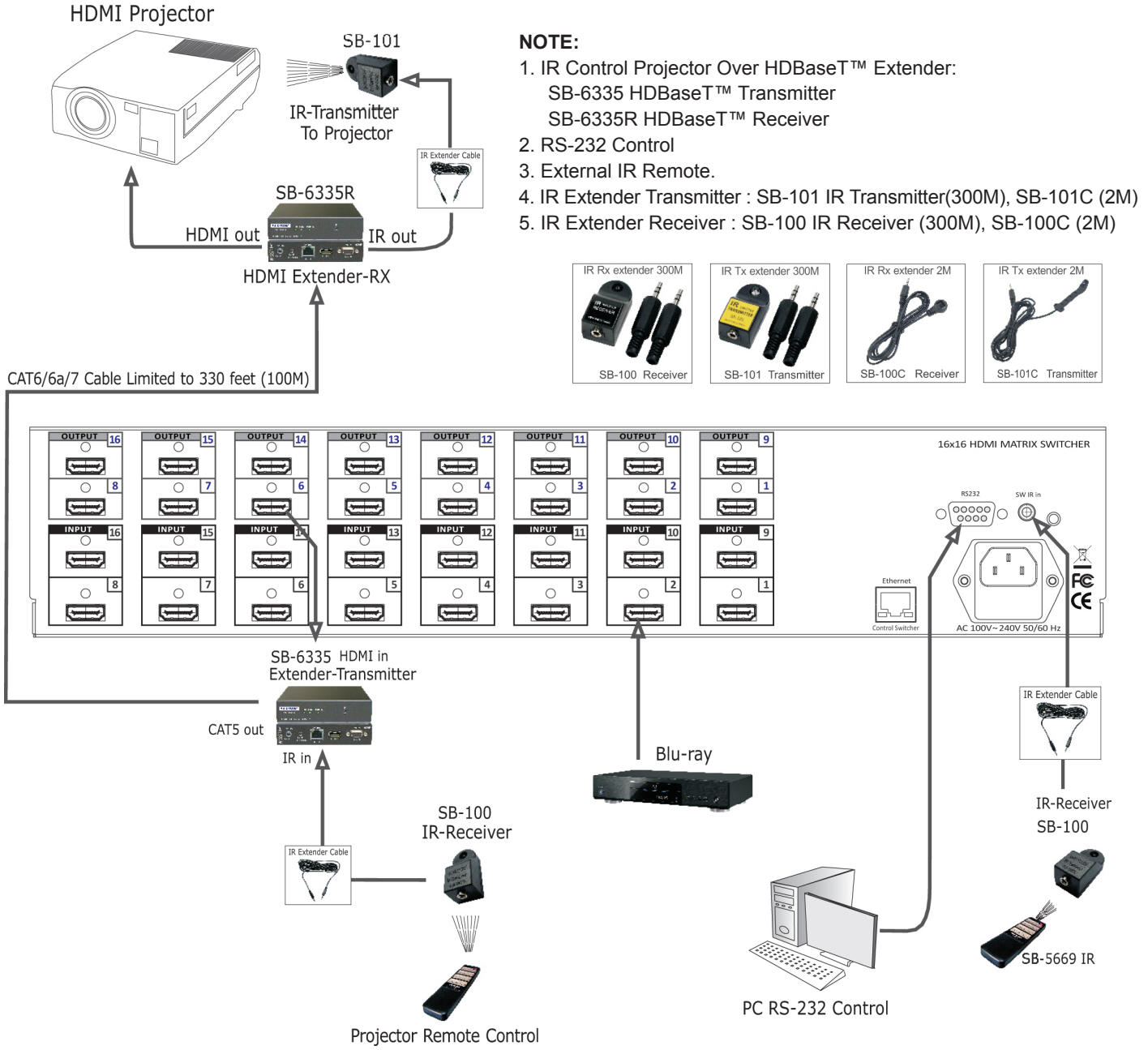
ETHERNET TCP/IP PROTOCOL COMMANDS
(Ethernet / RS-232 Control driver V2.0.1)
The ShinybowUSA switcher can be controlled via the TCP/IP serial control port to allow for interfacing to a PC, or similar third party control system.

The serial communication parameters are 9600 baud, 8 bit, No Parity and 1 stop bit - this is often referred to as 9600 8N1.
When the unit recognizes a complete command it will perform the requested action - there is no delimiter character required.

TYPICAL APPLICATION

INSTALLING DIAGRAM

Sample connection using IR transmitters (SB-101) and IR receiver (SB-100) with SB-6335T & SB-6335R to control a projector.



NOTE:

1. IR Control Projector Over HDBaseT™ Extender:
   SB-6335 HDBaseT™ Transmitter
   SB-6335R HDBaseT™ Receiver
2. RS-232 Control
3. External IR Remote.
4. IR Extender Transmitter : SB-101 IR Transmitter(300M), SB-101C (2M)
5. IR Extender Receiver : SB-100 IR Receiver (300M), SB-100C (2M)

16 HDMI inputs To 16 HDMI outputs Matrix Switcher using IR transmitters (SB-101) and IR receiver (SB-100).

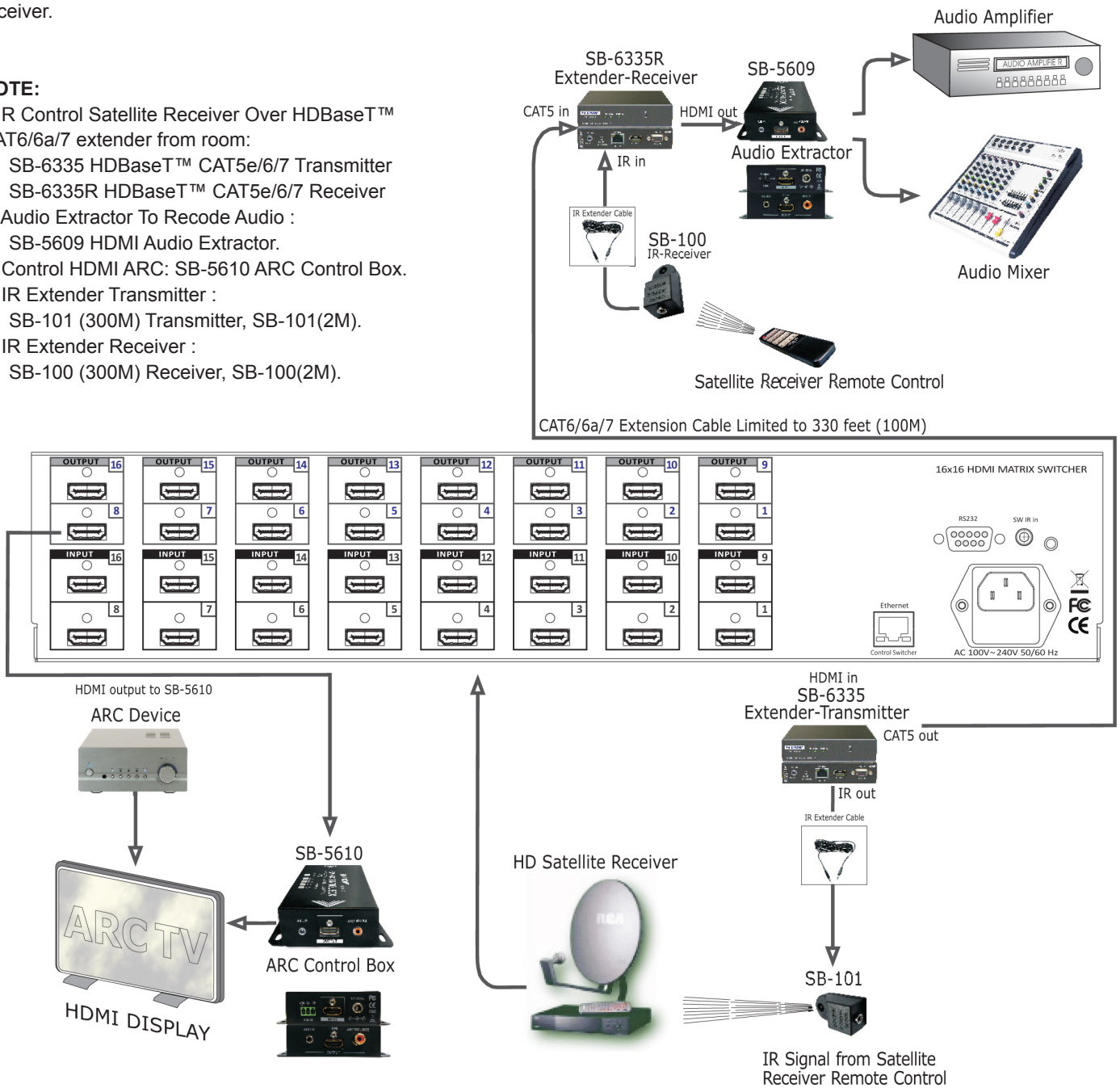
TYPICAL APPLICATION

INSTALLING DIAGRAM

Example connection using IR transmitters (SB-101) and IR receivers (SB-100) with SB-6335T and SB-6335R to control a satellite receiver.

NOTE:

1.IR Control Satellite Receiver Over HDBaseT™ CAT6/6a/7 extender from room:
   SB-6335 HDBaseT™ CAT5e/6/7 Transmitter
   SB-6335R HDBaseT™ CAT5e/6/7 Receiver
2. Audio Extractor To Recode Audio :
   SB-5609 HDMI Audio Extractor.
3. Control HDMI ARC: SB-5610 ARC Control Box.
4. IR Extender Transmitter :
   SB-101 (300M) Transmitter, SB-101(2M).
5. IR Extender Receiver :
   SB-100 (300M) Receiver, SB-100(2M).



16 HDMI inputs To 16 HDMI outputs Matrix Switcher using IR transmitters (SB-101) and IR receiver (SB-100).

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