JCTION MANUAI

SB-8188LCM 8x8 VGA (RGBHV) HDTV w/ Stereo Analog Audio

Matrix Routing Switcher







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 qualified 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

VGA-Audio Matrix Switcher Series

Thank you for purchasing the SB-8188LCM VGA-AUDIO Matrix 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 this switcher.

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INTRODUCTION

Congratulations on your purchase of one of the most innovative VGA (RGBHV)/Stereo Audio (AR/AL) 8x8 matrix switching products on the market today. The SB-8188LCM is a true Matrix Routing Switcher for VGA(RGBHV)/Stereo Audio(AR/AL) signals. It has (8) individual VGA (RGBHV)/Stereo Audio (AR/AL) inputs with (8) individual VGA (RGBHV) /Stereo Audio(AR/AL) outputs. Because it is a matrix router, any input may be routed to any output; or the same input may be routed to all outputs or any combination. It completely eliminates the need to constantly move around audio and video input cables and output via VGA (RGBHV) cables. The SB-8188LCM is useful for matrix signals from VGA source devices (such as: Personal computers, Set Top Boxes, and Satellite Receivers, etc.) to VGA destination devices over VGA cables to devices (such as: LCD Monitors, VGA Monitors, Plasma LCD TVs, VGA Projectors, etc.). Selection of inputs is made via the front panel push buttons or an infrared remote control or RS-232 control by a computer.

PACKAGE CONTENTS

Check that you have the following components;

- SB-8188LCM Matrix Routing Switcher
- IR Remote Control
- IR Extender receiver (SB-100)
- Rack Mounts
- RS-232 Cable
- RS-232 driver CD (All Windows Operating Systems)
- · Users Guide
- AC/DC Adapter: 12VDC, 2A Universal Type 50/60Hz,100~230 VAC

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.

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FEATURES & SPECIFICATIONS

FEATURES

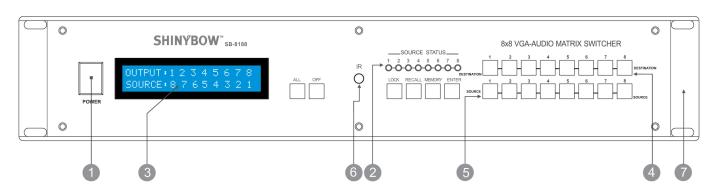
- · Supports 8x inputs VGA+Stereo Audio to 8x VGA+Stereo Audio outputs
- 8x VGA (RGBHV), Stereo Audio(AR/AL) input signals
- 8x VGA (RGBHV), Stereo Audio(AR/AL) output signals to VGA monitor displays
- · Higher Video Bandwidth 450MB each path R,G,B signals
- · Supports HD high definition resolutions XGA, SXGA, UXGA, WSXGA, WUXGA
- · RS-232 serial interface via ethernet control (optional)
- · Compatible with all VGA video monitor devices, Plasma displays and Projectors
- Supports RS-232 serial interface protocol commands list
- RS-232 PC control drive compatible with Win-95/98/2000/xp
- · Various User Interface controls:
 - Attached Window based control software for Desktop or NB control via RS-232 port
 - Manual control from front panel button
 - · IR remote control
- · Supports desktop with ear mount and 19 inch rack mountable type panel
- Power supply DC12Volt, Universal Type Switch 100~230VAC, 50/60Hz

SPECIFICATIONS

- Type of Switcher: (8) In to (8) Out, VGA (RGBHV)-Audio Matrix Switcher
- Input Ports: Group:
 - 1x VGA (RGBHV) via 1x HD-15p VGA female connector
 - 1x Stereo Audio (AR/AL), Via 1x ©3.5mm ear phone female jack
- Output Ports: Group:
 - 1x VGA (RGBHV) via 1x HD-15p VGA female connector
 - 1x Stereo Audio (AR/AL), Via 1x Q3.5mm ear phone female jack
- Video Bandwidth: 2450MHz (-3db), 200mVp-p
- Video Supported: Higher resolution formats HD 1920x1200 (WUXGA)
- Audio Supported: Stereo Audio
- Low All Hostile Crosstalk: -83 db@5MHz
- Controls: IR remote, Select buttons on the front panel & RS-232
- PC RS-232 Control : RS-232 interface serial via DRV on a PC
- Gain Control: 60MHz 0.1 db gain flatness
- Chassis Material: Metal thin=1mm
- Safety Approvals: CE, FCC, VCCI, REACH, Erp, WEEE
- **Dimensions (LxWxH):** 19 x 7.87 x 3.46 in (482x200x88mm)
- Power Supply: DC12V / 2A (consumption 1.6A Max) Use Universal Switch Type 50/60Hz,100~230 VAC
- Shipping Weight: 3.55 Kgs / 5.85 lb

FRONT PANEL

FRONT PANEL



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

2. INPUT STATUS DISPLAY: Input sources 1 to 8 LED illuminates blue to indicate that a video source is present on that input.

3. OUTPUT STATUS DISPLAY: Each Output (destination) Channel shows which input (source) is assigned.

4. DESTINATION SELECT BUTTONS: Separate outputs 1 thru 8 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 will route Input 2 to Output 1,3,5 respectfully.

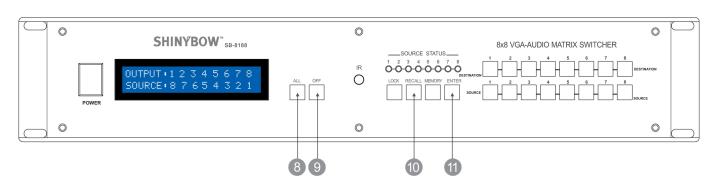
5. SOURCE SELECT BUTTONS: Separate inputs 1 thru 8 select buttons are provided each source selection.

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

7.19 INCH EAR MOUNT PAIR: Converts desktop to 19 inch rack mount. Bracket (part # 2U-440L) INCLUDED. Image shows rack mount bracket attached.

FRONT PANEL

FRONT PANEL



8. FUNCTION KEY - ALL



Disables (mutes) video on all destinations OR Selects the same source to all destinations. *Option 1*

- Press $\underline{\textbf{ALL}}$ followed by $\underline{\textbf{OFF}}$ button. The display will show "0" indicating all destinations have no video selected.

Option 2

- Press ALL followed by Source 1 thru 8. The display will show the Source selected.
- Press **ENTER** The pre-set source selection will be assigned all destinations.

9. FUNCTION KEY - OFF



Disables (mutes) video to selected channels. Either destinations.

- Press **<u>OFF</u>** button followed by any Destination channel.

- Press <u>**1 THRU 8**</u> output destination. The display will show "0" for the selected channel indicating no video selected.

10. FUNCTION KEY - RECALL



The system will show previously stored presets, up to a total of 16. Presets are stored in local memory using Source keys 1 thru 8 or Destination keys 1 thru 8 as the memory preset location.

- Press **<u>RECALL</u>** button.
- Press 1 THRU 8 on either Source or Destination row.
- Press ENTER The pre-set configuration will execute.

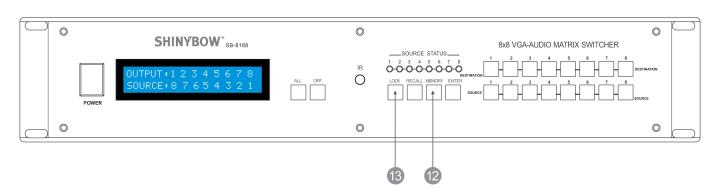
Operation completes.

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

11. FUNCTION KEY - ENTER: Press ENTER to confirm entries.

FRONT PANEL

FRONT PANEL



12. FUNCTION KEY - MEMORY



The system will show stored presets, up to a total of 16.

Presets are stored in local memory using Source keys 1 thru 8 or Destination keys 1 thru 8 as the memory preset location.

- Configure desired matrices.
- Press MEMORY button.
- Press 1 THRU 8 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 pressed within 5 seconds.

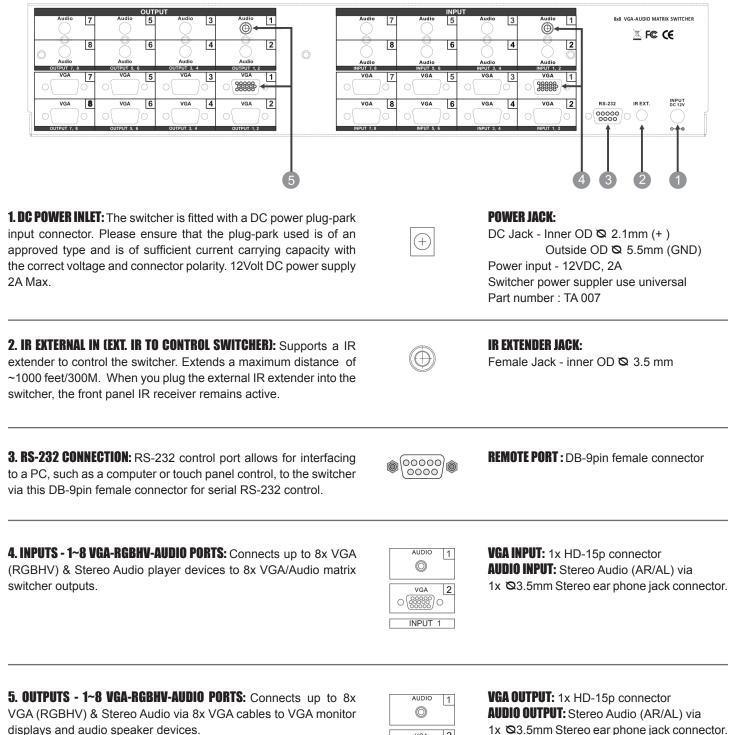
13. FUNCTION KEY - LOCK



- Press and hold **LOCK** button for two seconds lockout the front panel.
- Press and hold **LOCK** button for two seconds to enable the front panel.

BACK PANEL

BACK PANEL



1x 23.5mm Stereo ear phone jack connector.

2

VGA ○(;;;;;;;;;;;))○ OUTPUT 1

REMOTE CONTROL

Before making any connections to the SB-8188LCM. 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 1-8 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 :

1. & 2. SWITCH POWER ON or OFF:

Controller with a power ON and OFF

3. DESTINATION : 1 thru 8 OUTPUT SELECTION:

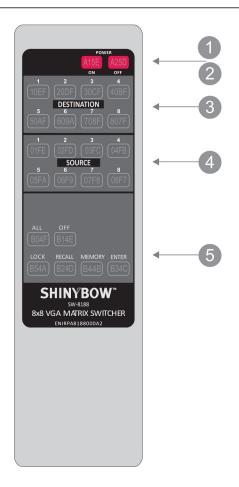
Press the destination button to select the output display channel.

4. SOURCE : 1 thru 8 INPUT SOURCE SELECTION:

Press input 1~8 sources with selection button.

5. FUNCTION KEY: Function selection button

ALL	OFF	RECALL
ENTER	MEMORY	LOCK



IR REMOTE CUSTOM AND DATA CODES (NEC Standard)

HOW TO CONTROL IR CODES

CUSTOM CODE : 35CA

POWER ON:	35CA	A15E
POWER OFF:	35CA	A25D
ALL:	35CA	B04F
OFF:	35CA	B14E
LOCK:	35CA	B54A
RECALL:	35CA	B24D
ENTER:	35CA	B34C
MEMORY:	35CA	B44B

PRESS DESTINATION - # THEN PRESS SOURCE -

DESTINATION #1 :	35CA	10EF	SOURCE #1: 35CA 01FE
DESTINATION #2 :	35CA	20DF	SOURCE #2 : 35CA 02FD
DESTINATION #3 :	35CA	30CF	SOURCE #3 : 35CA 03FC
DESTINATION #4 :	35CA	40BF	SOURCE #4 : 35CA 04FB
DESTINATION #5 :	35CA	50AF	SOURCE #5 : 35CA 05FA
DESTINATION #6 :	35CA	609F	SOURCE #6 : 35CA 06F9
DESTINATION #7 :	35CA	708F	SOURCE #7 : 35CA 07F8
DESTINATION #8 :	35CA	807F	SOURCE #8 : 35CA 08F7

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	35CA	10EF	35CA	01FE
Press Destination # 1 & Source #2	35CA	20DF	35CA	02FD
Press Destination # 1 & Source #3	35CA	30CF	35CA	03FC
Press Destination # 1 & Source #4	35CA	40BF	35CA	04FB
Press Destination # 1 & Source #5	35CA	50AF	35CA	05FA
Press Destination # 1 & Source #6	35CA	609F	35CA	06F9
Press Destination # 1 & Source #7	35CA	708F	35CA	07F8
Press Destination # 1 & Source #8	35CA	807F	35CA	08F7

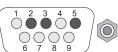
RS-232 SERIAL INTERFACE

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RS-232 SERIAL INTERFACE CONNECT a PC or CONTROL SYSTEM. VERSION COMPATIBLE V2.0

RS-232 SERIAL INTERFACE

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 reference external document extended 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.

IR EXTENDER

1. SB-100 IR 300M Receiver Switcher IR EXT. In Cable (3C) IR Receiver (SB-100) Distance: Max.300M IR PN#: SB-XXXX 🗵 F© (E IR EXT. ir R S - 232 00000 \cap C • IR EXT RS - 232 SB-100 IR Receiver Set Control Switch SB-XXXX 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 IR Receiver (SB-100C) Switcher IR EXT. In Cable (2C) Distance: Max.(2M) IR Receiver cable 6ft (2M) F© (€ IR PN#: SB-XXXX IR EXT. i R S - 232

SB-100C IR Receiver Cable

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

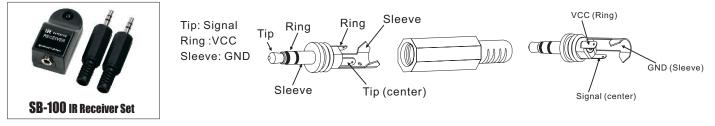
The SB-100C IR Receiver will not function on the port "ALL in" Jack.

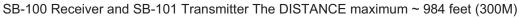
Control Switch SB-XXXX

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

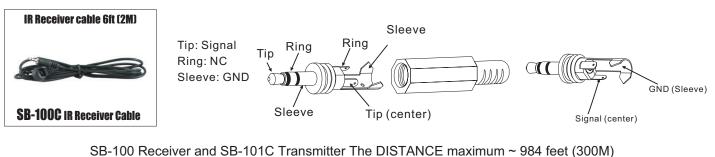
Pin configuration for IR 984 feet (300M) Extender Receiver such as SB-100 compatible

0000



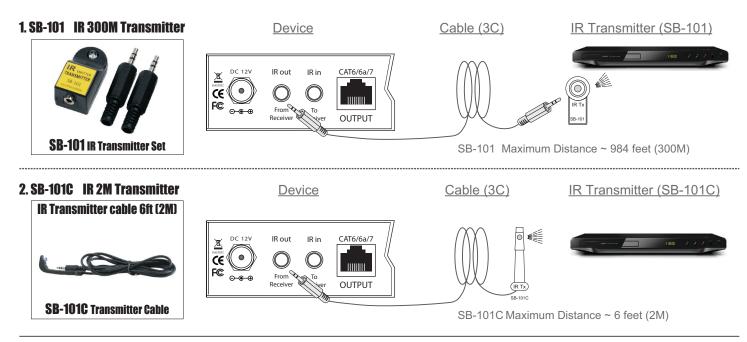


Pin configuration for IR Receiver 6 feet (2M) cable such as SB-100C compatible



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.

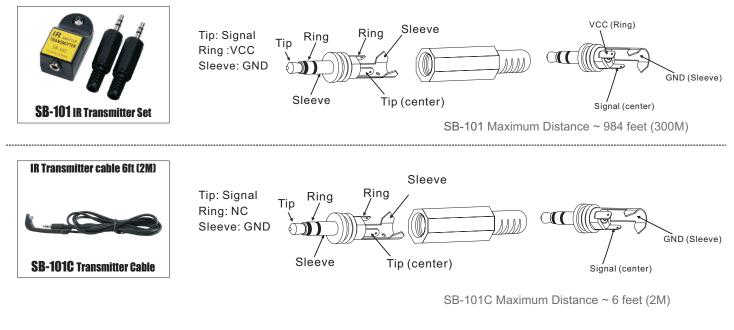
IR EXTENDER



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

PIN CONFIGURATION:

SB-101 and SB-101C Transmitter Pin configuration



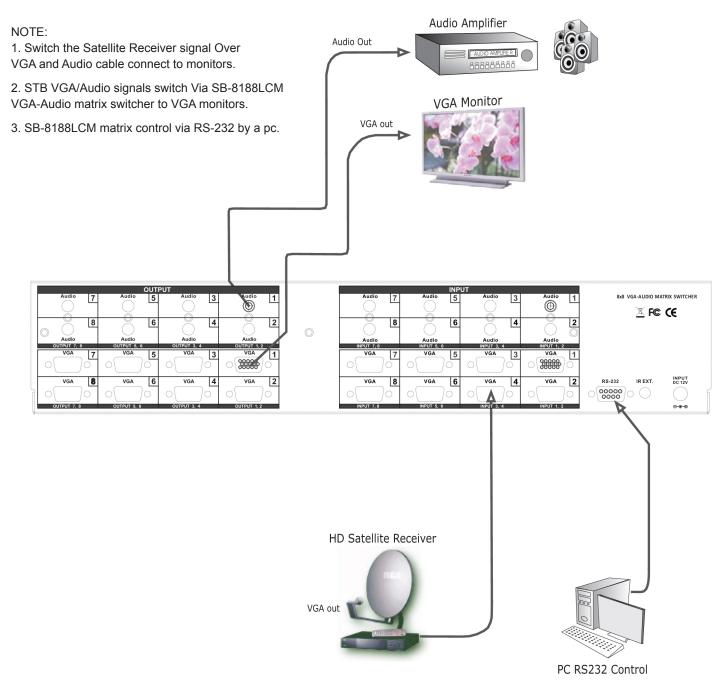
Note: The External IR jack has voltage on the "Ring" portion of a 3-conductor plug. You must use a 3-conductor plug (aka: stereo plug). Using a 2-conductor plug will short out the power supply. Always make connections with the switcher power off.

TYPICAL APPLICATION

INSTALLING DIAGRAM

8X8 VGA-AUDIO MATRIX SWITCHER

Sample connection using 8x8 VGA-AUDIO Matrix Switcher Switch signals to VGA-Audio Monitor Displays via VGA & Audio cable with SB-8188LCM and Audio Amplifier to speakers and signals from Satellite Receiver.



Supports SB-8188LCM output VGA and Stereo Audio via VGA and Stereo Audio cable.

LIMITED WARRANTY

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