Instruction Manual

MODEL : SB-3877

8x2 MultiVideo Matrix Switcher

8x2 MultiVideo Matrix Switcher Series

Thank you for purchasing the SB-3877 MultiVideo Matrix Switcher. You will find this unit easy to install and highly reliable but it is essential that you read this manual throughly before attempting to use 8x2 multivideo switcher.

SAFETY INFORMATION

1. 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.

2. Read all documentation before operating your equipment. Retain all documentation for future reference.

3. Follow all instructions printed on unit chassis for proper operation.

4. Do not spill water or other liquids into or on the unit, or operate the unit while standing in liquid.

5. Make sure power outlets conform to the power requirements listed on the back of the unit.

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. 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.

8. Mains 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.

9. Power down & disconnect unit from mains voltage before making connections.

10. Never hold a power switch in the   ON   position.

11. Do not use the unit near stoves, heat registers, radiators, or other heat Producing devices.

12. 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 matter.

13. Do not remove the cover. Removing the cover will expose you to potentially dangerous voltages. There are no user serviceable parts inside.

14. Do not drive the inputs with a signal level greater than that required to drive equipment to full output.

15. Non-use periods. The power cord of equipment should be unplugged from the outlet when left unused for a long period of time.

16. 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.

IMPORTANT SAFETY INSTRUCTIONS

To insure the best from this product, please read this manual carefully. Keep it in a safe place for future reference.

To reduce the risk of electric shock, do not remove the cover from the unit. No user serviceable parts inside. Refer servicing to qualified personnel.

To reduce the risk of fire, do not expose the unit to rain, water or excessive moisture.

Do not force switched or external connections.

When moving the unit disconnect the serial port connections first then the power cable and finally the interconnecting cables to other devices.

Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Use a clean dry cloth.

Installation of this unit should be in a cool dry place, away from sources of excessive heat, vibration, dust, moisture and cold.

THIS SAFETY INFORMATION IS OF A GENERAL NATURE AND MAY BE SUPERSEDED BY INSTRUCTIONS CONTAINED WITHIN THIS MANUAL

INTRODUCTION AND TABLE OF CONTENTS

The -3877 is a 8:2 Multi-Video Matrix Switcher featuring 8 inputs and pre-emphasized 2 outputs.

> 8 inputs as following :
  2 x Composite Video/S-Video+Audio,
  2 x Component Video+Audio,
  2 x VGA+Audio,
  2 x HDMI

> 2 matrix outputs as following :
  2 x VGA+Audio
  2 x Digital Audio
  2 x HDMI

Automatic input TV standard system detection :
> NTSC 3.58 / NTSC-EIAJ / NTSC 4.43
> PAL / PALM / PAL-N / PAL-COMB-N/PAL-60
> SECAM

This switcher supports full data rates and enabling input HDMI 480p, 720p or 1080i/p formats. PC resolution (1920 x 1200HD) is ideally suitable for high Definition LCD Television, HDTV, Plasma display or Monitor applications.

Control is provided via Front panel buttons with LED readout, IR remote controller, or RS1232.

An RS-232 interface is provided for interfacing with third party control or with the provided Windows program. Control of the SB-3877 from a PC.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,

DO NOT REMOVE COVER (OR BACK),

NO USER SERVICEABLE PARTS INSIDE,

REFER SERVICING TO QUALIFIED SERVICE PERSONAL.

WARNING!

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK
DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

This symbol is intended to alert the user to the presence of uninsulated of uninsulated "dangerous voltage" within the products enclosure that enclosure tha may be of sufficientmagnitude to constitue a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operational and maintenance (serving) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarised) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.
To prevent electric shock, match wide blade of plug to wide slot, fully insert.

FRONT PANEL
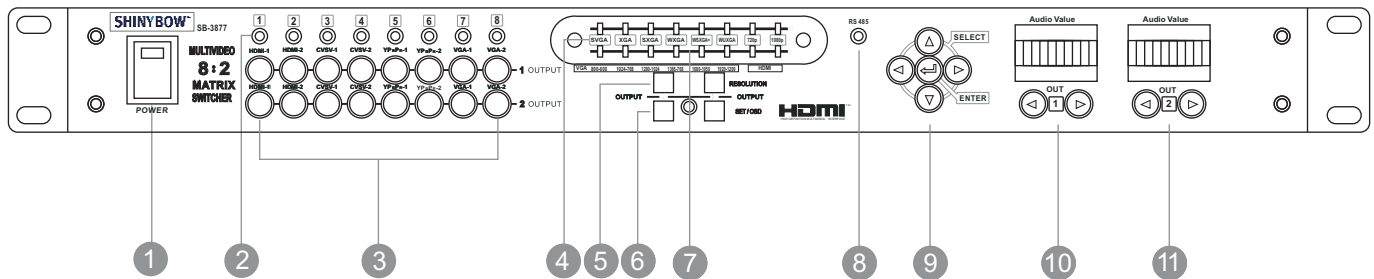
1 POWER ON SWITCH

The power switch turns the unit on and off.
The inbuilts LED will illuminate red to indicate
that the switcher is ON and is receiving power

2 INPUT SOURCES DISPLAY

Input sources 1 to 8 LED illuminate green to
indicates that a video source player is present
on that input

3 SOURCE SELECT BUTTONS

A separate output-1 and 2 source select buttons
are provided for each destination.
Select sources are 1-HDMI, 2-HDMI, 3-CV/SV
4-CVSV, 5-YP $_BP_R$, 6-YP $_BP_R$, 7-VGA, 8-VGA

4 HDMI & VGA RESOLUTIONS DISPLAY

Independent outputs of HDMI & VGA resolution
via LED display. VGA : SVGA(800x600), XGA
(1024x768), SXGA(1280x1024), WXGA(1366x768),
WSXGA+(1680x1050), WUXGA(1920x1200)
HDMI : 720P / 1080P

5 RESOLUTION SELECT BUTTONS

To select separate output resolution per
Output 1 and 2.

6 OSD / SET SETUP BUTTONS

SET : Setup the button 4 resolution selections.
OSD-1 & OSD-2 push selection buttons.

7 IR SENSOR

The IR sensor receives IR commands from the
supplied remote controller.

8 RS 485 LED DISPLAY

RS 485 LED illuminates when RS 485 is present.

9 OSD CONTROL

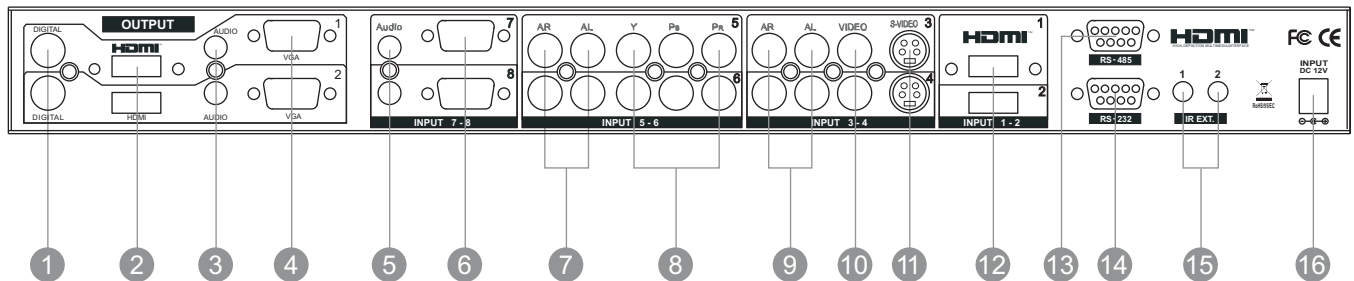Adjust OSD on display via separate two output
screens.

10 OUTPUT AUDIO-1 ADJUST

Adjust output-1 Audio Value via LED display.

11 OUTPUT AUDIO-2 ADJUST

Adjust output-2 Audio Value via LED display.

REAR PANEL

1 DIGITAL AUDIO OUTPUTS

A separate output-1 & output-2 digital audio port via RCA connector is provided for each destination output. The digital audio signals from HDMI input-1 or input-2 only

2 HDMI OUTPUTS

A separate output-1 & 2 HDMI ports with HDCP is provided for each destination output. Convert from CV/SV, YP$_B$P$_R$, VGA & HDMI

3 STEREO AUDIO OUTPUTS

A separate output-1 and 2 stereo audio signals via 2x RCA connectors is provided for each destination output.

4 VGA OUTPUTS

A separate output-1 and 2 VGA (RGBHV) signals via 2x HD-15F female connectors is provided for each destination output. Convert from CV/SV, YP$_B$P$_R$, VGA & HDMI

5 INPUT- 7& 8 AUDIO INPUTS

Input 7 is a stereo audio(AR/AL) with input 7 VGA.
Input 8 is a stereo audio(AR/AL) with input 8 VGA.

6 INPUT 7& 8 VGA INPUTS

Input 7 is a VGA(RGBHV) via HD-15P connector.
Input 8 is a VGA(RGBHV) via HD-15P connector.

7 INPUT 5& 6 AUDIO INPUTS

Input 5 is a stereo audio(AR/AL) with input 5 component
Input 6 is a stereo audio(AR/AL) with input 6 component

8 INPUT 5& 6 COMPONENT VIDEO INPUTS

Input 5 is a Component(YP$_B$P$_R$) via RCA connector.
Input 6 is a Component(YP$_B$P$_R$) via RCA connector.

9 INPUT- 3&4 AUDIO INPUTS

Input 3 is a stereo audio(AR/AL) with input 3 composite or S-Video
Input 4 is a stereo audio(AR/AL) with input 4 composite or S-Video

10 INPUT- 3&4 COMPOSITE INPUTS

Input 3 is a Composite Video via RCA connector.
Input 4 is a Composite video via RCA connector.

11 INPUT- 3&4 S-VIDEO INPUTS

Input 3 is a S-Video(Y/C) via mini-4p connector.
Input 4 is a S-Video(Y/C) via mini-4p connector.

12 INPUT- 1&2 HDMI INPUTS

Input 1 is a HDMI(digital).HDCP compliant.
Input 2 is a HDMI(digital).HDCP compliant.

13 RS 485 CONTROL

RS 485 control port to allow for interfacing to a PC.

14 RS 232 CONTROL

RS 232 control port to allow for interfacing to a PC.

15 IR EXTENDER CONTROL

A separate IR Extender for output-1 and 2.
IR EXT.-1 is for output-1
IR EXT.-2 is for output-2

16 DC POWER INLET

The SB-3877 is fitted with a DC power plug-park input connector. Please ensure that the plug-park used is of an approved type and is of sufficient current carrying capacity with the correct voltage and connector polarity. 12Volt DC power supply 3A Max.
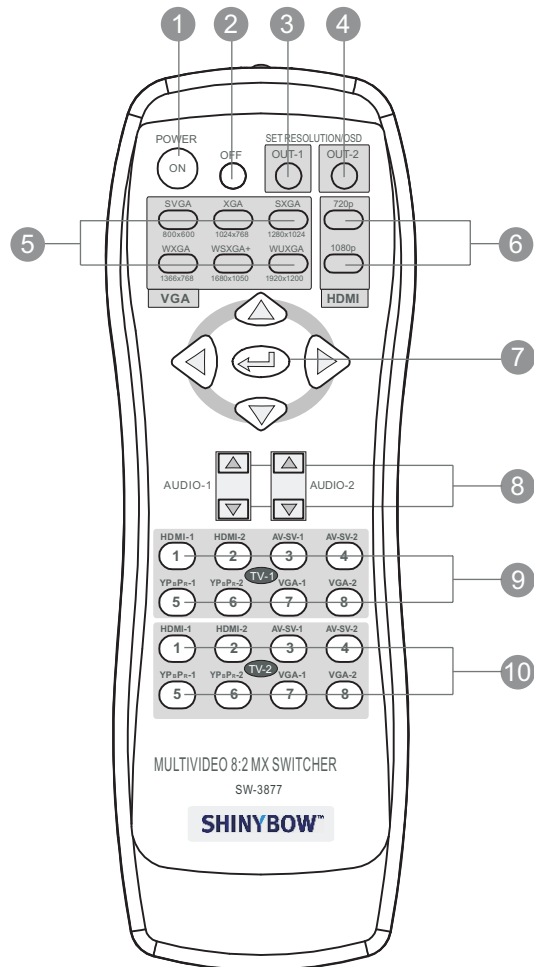
REMOTE CONTROL

Before making any connections to the SB-3877. 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 / RS 485 serial communications port.

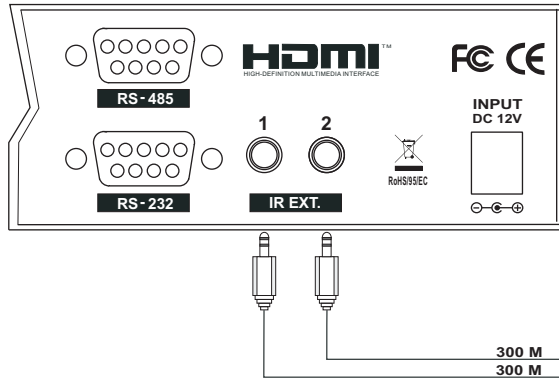> Upon power up the SB-3877 will return to its last used setting before
  Powered down.

REMOTE CONTROL

1 2 SWITCH POWER ON or OFF
Controller with a separate power ON and OFF

3 OUTPUT-1 RESOLUTION SET / OSD
Setup the output-1 resolutions or manual OSD

4 OUTPUT-2 RESOLUTION SET / OSD
Setup the output-2 resolutions or manual OSD

5 SELECT VGA OUTPUT RESOLUTIONS
Select VGA output resolutions as following :
SVGA 800x600, XGA 1024x768, SXGA 1280x1024
WXGA 1366x768, WSXGA+1680x1050, MAX.
WUXGA 1920x1200

6 SELECT HDMI OUTPUT RESOLUTIONS
Select HDMI output resolutions as following :
720P 1080x720, 1080P 1920x1200 MAX.

7 MANUAL OSD
OSD to setup or Adjust output resolutions and color.

8 AUDIO VALUE ADJUSTMENT
OSD to setup or Adjust output resolutions and color.

9 SELECT OUTPUT-1 SOURCES
output-1 for audio-video 1 to 8 source selections

10 SELECT OUTPUT-2 SOURCES
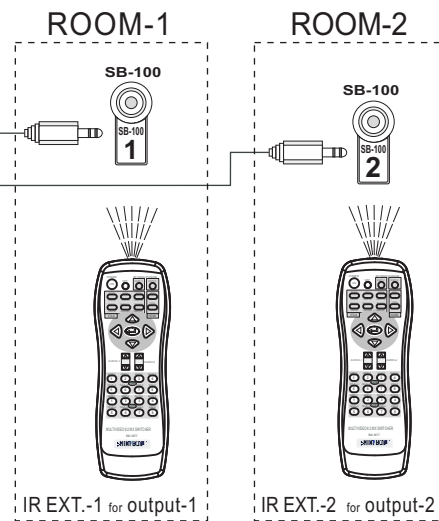Output-2 for audio-video 1 to 8 source selections

MULTIVIDEO 8:2 MX SWITCHER
SW-3877

SHINYBOW™

IR EXTENDER

RS - 485

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

FC CE

1   2

INPUT
DC 12V

RS - 232

IR EXT.

RoHS/95/EC

300 M
300 M

A separate IR Extender for Room-1 and 2.
IR EXT.-1   is for output-1
IR EXT.-2   is for output-2

IR EXTENDER CONTROL

ROOM-1   ROOM-2

SB-100   SB-100

SB-100
1   SB-100
2

IR EXT.-1 for output-1   IR EXT.-2 for output-2

IR EXTENDER PACKAGE :

HOW TO SETUP THE IR EXTENDER COMPONENTS

Step 1

Step 2

Step 3

Cable

VCC

GND

VCC
GND
Signal

Signal   Solder

Signal   GND   Cable

SHINYBOW Module   SB-100

Cable
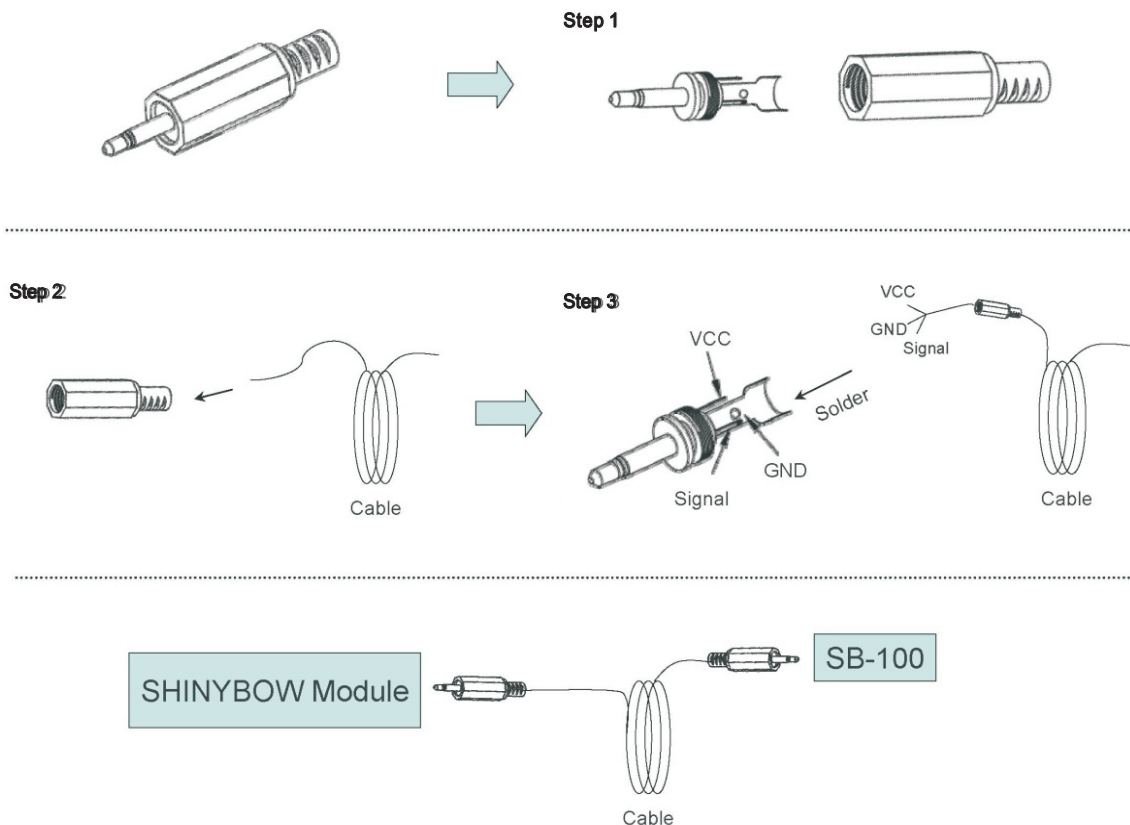
RS-232 & RS-485 SERIAL INTERFACE

RS-232 & RS-485 SERIAL INTERFACE CONNECT a PC or CONTROL SYSTEM
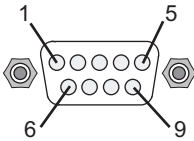
RS-232 SERIAL INTERFACE

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

RS-485 SERIAL INTERFACE

Pin	RS-485	Definition
1	------	Not used
2	A	non-inverting
3	B	inverting
4	------	Not used
5	GND	Ground
6	------	Not used
7	------	Not used
8	------	Not used
9	------	Not used

RS232

The Shinybow 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 recognises a complete command it will perform
the requested action - there is no delimiter character required.

The unit does not send out a message when a value is changed
from the front panel or by IR control. If the unit needs to be
controlled panel in addition to the RS232 control, you would need
to regularly poll the unit status to ensure the control system
accurately reflected the current settings.

COMMANDS

To Switch Inputs to Outputs

SBI0XO0Y   - Where X is Output Number (1-8) and Y is
                   Number (1-2)

Unit will respond with

SBUD0XOY - Where X is Output Number (1-2) and Y is
                   Input Number (1-8)

Example : Send Input 7 to Output 2

SBI07O02   -Send
SBUD07O2   -Rcvd

MORE STUFF FOR SB-3877

☞ Note: Turning the unit System Power Off over RS232 will distinguish the LED display leaving only the Power Switch LED on. The Video and Audio outputs will also mute. While the unit is turned off by RS232 it will continue to accept and act upon switching commands. For example, if the unit is in the off mode (via RS232) and you send a command to switch an input to an output, that route will complete and the video and audio will now appear on that channel only. The front panel LED for that particular output will also show the input selected (for that single output channel only). The remaining LED's will remain off and video and audio outputs muted. The unit will still return status and change messages in response to commands sent while in Power Off state. A hard reset command (SBALLRST) will return the unit to normal operation and also unlock the front panel.

Power Off mode.

SBSYSMOF   - Put system into Standby (Soft Power Off)
SBSYSMON   - Bring unit out of Standby (Soft Power On)

Unit will respond with

SBALOFAK   - Unit is in Standby
SBALONAK   - Unit is no longer in Standby

Example : Put Unit in Standby (Soft Power)

SBSYSMOF   -Send
SBALOFAK   -Rcvd

FRONT PANEL LOCK

☞ Note : Hard resetting the unit will unlock the Front Panel controls.
SBSYSMLK   - When front panel is locked, changes can only be made by RS232

SBSYSMUK   - Front Panel Unlock

Unit will respond with

SBSYSLOK   - Front Panel has been Locked
SBSYSULK   - Front Panel has been Unlocked

Example : Lock Front Panel Buttons

SBSYSMLK   -Send
SBSYSLOK   -Rcvd

UNIT RESET

SBALLRST   - Reset every output to Input 1

Unit will respond with

SBRSTACK   - Unit has reset each Output to Input 1

Example : Reset all outputs to Input 1

SBALLRST   -Send
SBRSTACK   -Rcvd

SHINYBOW WARRANTY

SHINYBOW Technology warrants this product against defects in materials and workman ship for a period of **1 year** from the date of purchase.

Should this product, in SHINYBOW Technology,s opinion, Prove defective within this warranty period, SHINYBOW Technology, at its option, repair this product without charge, to whatever extent it shall deem necessary to restore said product to proper operation condition.

This warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, and abnormal operating condition or non-SHINYBOW Technology authorized modification to the product.

If repairs are necessary under the warranty policy, the original purchaser must return the product to local distributor, freight prepaid.

After repairs are complete, the product will be returned.

REGULATORY COMPLIANCE

The product complies with the relevant standards for CE, FCC and RoHS approval.

The power Adaptor/Supply has been tested for compliance with UL.CSA and CE standards.

TROUBLESHOOTING

If you experience a <no signal> with this switcher or distributor outputs, first make certain that the signal being fed to its inputs is acceptable.

Disconnect the cables from the this switcher or distributor inputs and connect them directly to an appropriate monitoring device, if you do not see or hear a signal the problem may well be he signal source itself. Also check that the AC outlet you have used to power the switcher or distributor is actually providing power as a wall switch often controls an AC outlet.

The second most common problem with this switcher or distributor revolves around the cables, Inspect the cables for loose connectors or cable damage such as crushed cable or cables with cuts or nicks. Replace any cable exhibiting these problem.

You also must use the highest quality cables if you want to achieve the best results. Poor quality cables provide will poor quality signals.

SHINYBOW™USA

MULTIMEDIA AUDIO AND VISUAL

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