

Installation Guide

SY-MS121

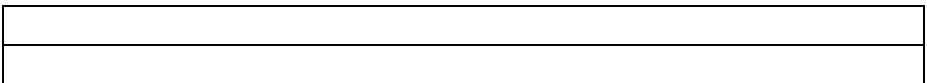
and

SY-MS121-AP

Presentation Switcher

with

Multi-Format Inputs and Outputs



4 HDMI, 4 VGA, 1 Component video, 2 Composite video & 1 S-video inputs –
Simultaneous HDMI, VGA & HDBT outputs

SY-MS121 / SY-MS121-AP

The **SY-MS121** and **SY-MS121-AP** are multi-format switchers with 4 HDMI inputs, 4 VGA inputs and 2 composite video inputs, 1 component video input and 1 S-video input. Each of these inputs are presented to all the output video connectors simultaneously. The resolution of the outputs can be set to one of five resolutions.

Each input type and source can have different resolutions, but the output resolution will always be the one shown by the Resolution LEDs on the front panel. As such the input video signal may be up-scaled or down-scaled as necessary, providing consistent output resolution as required.

This Presentation Switcher is well suited to a wide range of applications in AV industry, Digital Signage and at home; particularly when multiple source resolutions and formats are in use.

Features

- HDMI, VGA, Composite, Component and S-Video inputs
- HDMI, VGA and HDBT outputs
- Parallel switching of audio inputs
- Five selectable output display resolutions (1024 x 768 to 1920 x 1080p)
- Built-in stereo power amplifier (2 x 10W @ 8R)
- Supports 3D and CEC

Connectors and Controls

Front

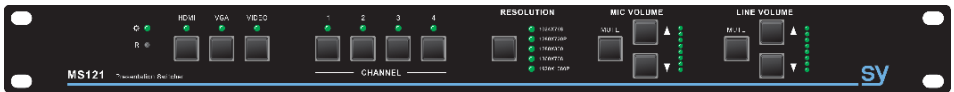


Figure 1 – SY-MS121 Front View



Figure 2 – SY-MS121-AP Front View

Name	Transmitter
Power LED	Power Status LED
IR Sensor	Built-In IR sensor
HDMI Button & LED	Select HDMI input Group
VGA Button & LED	Select VGA input Group
VIDEO Button & LED	Select Composite, Component or S-Video input Group
Channel Buttons & LEDs	Select one of 4 input channel of selected group
Resolution Button & LEDs	Select output resolution
MIC VOLUME and MUTE	Up / Down buttons for MIC level - MUTE button to mute the MIC input
LINE VOLUME and MUTE	Up / Down buttons for LINE level - MUTE button to mute the LINE input

Rear



Figure 3 - SY-MS121 Rear View



Figure 4 - SY-MS121-AP Rear View

Name	Transmitter
Earthing Screw	Use to bond the SY-MS121 to a local earth (ground) point
AUDIO	Phono connectors for stereo line level audio output
HDBT	RJ45 HDBT 70m output – (SY-MS121-AP only)
VGA	VGA video output
HDMI	HDMI output
VGA INPUTS	Four VGA inputs
HDMI INPUTS	Four VGA inputs
AUDIO INPUTS	Four line-level audio inputs, corresponding to the VGA input selection
VIDEO INPUTS	Composite video on inputs one and four, component video (YPbPr) on input two and S-Video on input three
RS232	RS232 control port for the Presentation Switcher
USB	Service only - Firmware updates
ETHERNET	Ethernet control port – (SY-MS121-AP only)
LINE	Balanced line input (line level signals only)
MIC	Balanced microphone input (microphone/signal level only)
SPEAKER	Stereo speaker output – 2 x 10W @ 8R
IEC Mains	Mains AC input (110V to 240V AC, 50 / 60 Hz)

Using the Presentation Switcher

Connect all the available video inputs present in the installation to the appropriate input connectors and, if required, any analogue audio signals to the corresponding audio inputs. Note that the audio inputs in the VIDEO INPUTS section are shared between inputs one and three and also between inputs two and four.

Connect the display devices to the outputs as required or use the HDBT output where the display is too far for a standard cable run for either the HDMI or the VGA outputs. Note that both the SY-HDBT-70P-R and the SY-HDBT-100-R receivers provide only HDMI output.

To select an input, start by pressing the button for the source type, HDMI, VGA or VIDEO, then press the channel button you wish to display from that group.

The MIC and LINE audio inputs are sent to all the audio outputs simultaneously and their levels can be individually controlled from the front panel buttons.

SY-MS121 / SY-MS121-AP

Output Resolutions

The Resolution button sets the output resolution in accordance with the following table. Be sure to check that the display device is capable of using the resolution before selecting it.

Indicated Resolution	Output Parameters
1024 x 768	XGA – 1024 x 768 @ 60 Hz
1280 x 720p	720p – 1280 x 720 @ 60 Hz
1280 x 800	WXGA – 1280 x 800 @ 60 Hz
1360 x 768	WXGA – 1360 x 768 @ 60 Hz
1920 x 1080p	1080p – 1920 x 1080 @ 60 Hz

Input Resolutions

The inputs to the Presentation Switcher must be compliant with any of the following resolutions:

Input Resolution	HDMI In	VGA In	Video In
640 x 480 @ 60 Hz (VGA)	Y	Y	
640 x 480 @ 72 Hz (VGA)	Y	Y	
640 x 480 @ 75 Hz (VGA)	Y		
720 x 400 @ 70 Hz (VGA)		Y	
720 x 480 @ 60 Hz Interlaced (525 lines)			Y
720 x 480 @ 60 Hz Progressive (525 lines)			Y
720 x 576 @ 50 Hz Interlaced (625 lines)			Y
720 x 576 @ 50 Hz Progressive (625 lines)			Y
800 x 600 @ 56 Hz Interlaced	Y		
800 x 600 @ 60 Hz (SVGA)	Y	Y	
800 x 600 @ 72 Hz (SVGA)	Y	Y	
800 x 600 @ 75 Hz (SVGA)	Y	Y	
1024 x 768 @ 60 Hz (XGA)	Y	Y	
1024 x 768 @ 70 Hz (XGA)	Y	Y	
1024 x 768 @ 75 Hz (XGA)	Y	Y	
1280 x 720 @ 60 Hz Interlaced (720i)			Y
1280 x 720 @ 60 Hz Progressive (720p)			Y
1280 x 720 @ 60 Hz (HD/WXGA)		Y	
1280 x 1024 @ 75 Hz (SXGA)	Y	Y	
1360 x 768 @ 60 Hz (WXGA)	Y	Y	
1920 x 540 @ 60 Hz (1080i)	Y		
1920 x 1080 @ 50 Hz (1125 lines, interlaced, 1080i)			Y
1920 x 1080 @ 60 Hz (1125 lines, interlaced, 1080i)	Y		Y
1920 x 1080 @ 50 Hz (1250 lines, interlaced, 1080i)			Y
1920 x 1080 @ 50 Hz (1250 lines, progressive, 1080p)			Y
1920 x 1080 @ 60 Hz (1250 lines, progressive, 1080p)	Y	Y	Y

SY-MS121 / SY-MS121-AP

RS232 Control Commands

The SY-MS121 and SY-MS121-AP Presentation Switcher can also be controlled via RS232 from a programmed push button panel or a computer. The following table lists the more commonly used RS232 commands.

The RS232 data rate is 9600 bps, 8 data bits, 1 stop bit and no parity.

Function	RS232 Command	Response Example
MUTE LINE input	0600%	LINE MUTE On
UnMute LINE input	0601%	LINE MUTE Off
Increase LINE Volume	0602%	LINE Volume: XX
Decrease LINE Volume	0603%	LINE Volume: XX
Set LINE Volume from 00 to 99	01XX%	LINE Volume: XX
Lock the front panel controls	0604%	Panel Locked
Unlock the front panel controls	0605%	Panel UnLocked
Auto-adjust the VGA input	0606%	VGA Adjustment
Auto-adjust the colour temperature	0607%	Color Temp: XX
Set the output resolution to 1360x768 (HD)	0618%	Resolution: HD 1360X768
Set the output resolution to 1280x768 (XGA)	0626%	Resolution: XGA 1280X768
Set the output resolution to 1280x720 (720P)	0627%	Resolution: 720P 1280X720
Set the output resolution to 1280x800 (WXGA)	0628%	Resolution: WXGA 1280X800
Set the output resolution to 1920x1080 (1080P)	0629%	Resolution: 1080P 1920x1080
Select HDMI Input 1	0701%	Source: HDMI 1
Select HDMI Input 2	0702%	Source: HDMI 2
Select HDMI Input 3	0703%	Source: HDMI 3
Select HDMI Input 4	0704%	Source: HDMI 4
Select VGA Input 1	0705%	Source: VGA1
Select VGA Input 2	0706%	Source: VGA2
Select VGA Input 3	0707%	Source: VGA3
Select VGA Input 4	0708%	Source: VGA4
Select AV1 Input	0709%	Source: CVIDEO1
Select YPbPr Input	0710%	Source: YPbPr
Select S-Video Input	0711%	Source: SVIDEO
Select AV2 Input	0712%	Source: CVIDEO2
Mute LINE and MIC	0720%	Mute On
Unmute LINE and MIC	0721%	Mute Off
Mute MIC Input	0722%	MIC Mute On
Unmute MIC Input	0723%	MIC Mute Off
Increase MIC Volume	0724%	MIC Volume: XX
Decrease MIC Volume	0725%	MIC Volume: XX
Set MIC Volume from 00 to 99	08XX%	MIC Volume: XX

Figure 5 – SY-MS121 Configuration Example

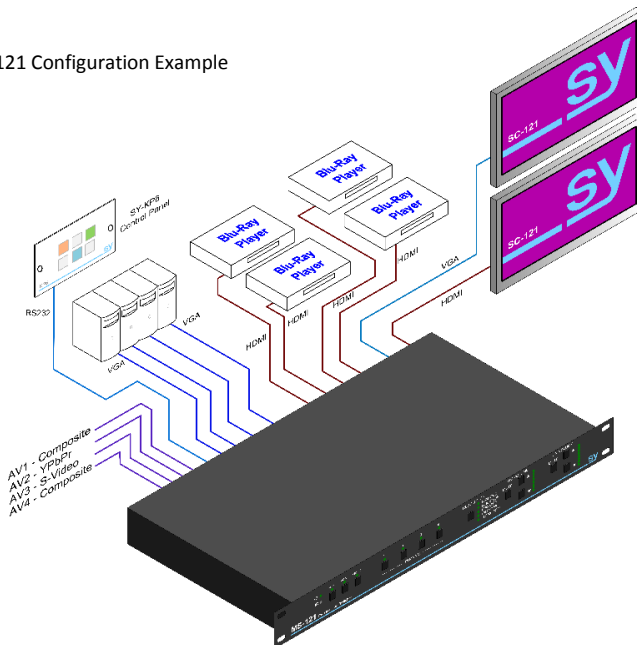
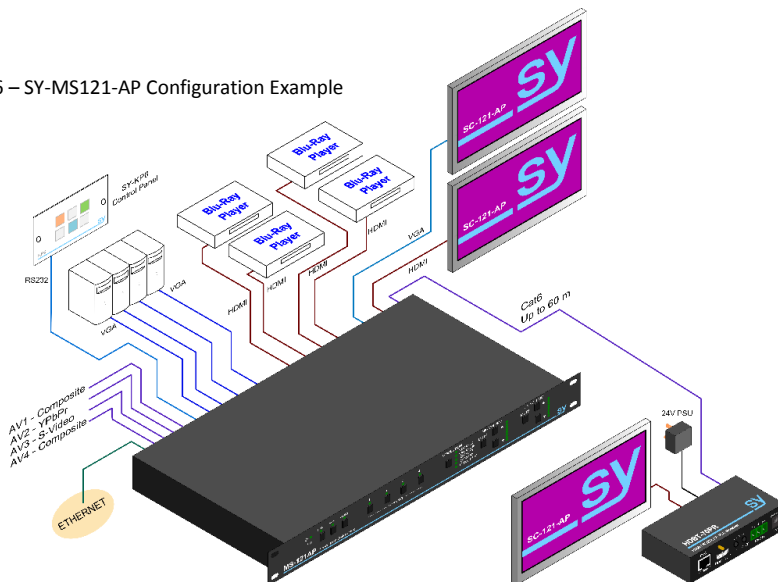


Figure 6 – SY-MS121-AP Configuration Example



SY-MS121 / SY-MS121-AP

Specifications

General

HDMI Resolutions	720i, 720p, 1080i, 1080p – See above for complete details
VGA Resolutions	VGA, SVGA, XGA, SXGA, WXGA – See above for complete details
Analogue Video Resolutions	525 lines, 625 lines, 720i, 720p – See above for complete details
HDMI Standard	HDMI 1.3 with HDCP
HDBT Link Mode	HDBT, synchronous switching
RS232	Supports Tx and Rx only – 9600, 8 data bits, no parity, 1 stop bit
Power Supply	110V to 240V AC, 50 / 60 Hz
Power Consumption	32 W max

Environmental

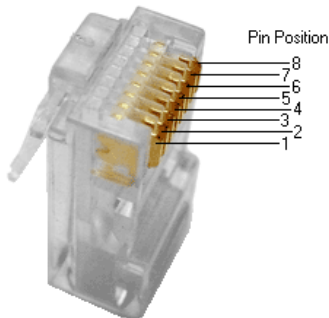
Operating Temperature	0 – 40 °C non condensing
------------------------------	--------------------------

Physical

Dimensions (W x H x D)	483 x 44 x 235 mm (including flanges) – 19 in 1U rack mount
Weight	2.1 kg

RS-45 Wiring

Both connectors must be wired identically.



RJ45 Plug Colour Code (T568B)		Contact Side - Tab is on Back	
8		BROWN	WHITE / BROWN
7		GREEN	WHITE / GREEN
6		BLUE	WHITE / BLUE
5		ORANGE	WHITE / ORANGE
4		BROWN	WHITE / BROWN
3		GREEN	WHITE / GREEN
2		BLUE	WHITE / BLUE
1		ORANGE	WHITE / ORANGE

Figure 7 - RJ45 Wiring

HDBT will not pass through any Ethernet device.

Please do make sure that the Cat6 cable uses 4 pairs of 23AWG solid copper wires. Do not use inferior copper clad cables as these exhibit high resistances.

Safety Instructions

To ensure reliable operation of these products as well as protecting the safety of any person using or handling these devices while powered, please observe the following instructions.

1. Use the power supplies provided. If an alternate supply is required, check Voltage, polarity and that it has sufficient power to supply the device it is connected to.
2. Do not operate this product outside the specified temperature and humidity range given in the above specifications.
3. Ensure there is adequate ventilation, to ensure efficient operation of the equipment.
4. Repair of the equipment should only be carried out by qualified professionals as this product contains sensitive devices that may be damaged by any mistreatment.
5. Only use this product in a dry environment. Do not allow any liquids or harmful chemicals to come into contact with this product.

After Sales Service

1. Should you experience any problems while using these products, firstly refer to the Troubleshooting section in this manual before contacting SY Technical Support.
2. When calling SY Technical Support, the following information should be provided:
 - Product name and model number
 - Product serial number
 - Details of the fault and any conditions under which the fault occurs.
3. These products have a two year standard warranty, beginning from the date of purchase as stated on the sales invoice. Online registration of these products is required to activate the full three year extended warranty. For full details please refer to our Terms and Conditions.
4. SY Product warranty is automatically void under any of the following conditions:
 - The product is already outside of its warranty period
 - Damage to the product due to incorrect usage or storage
 - Damage caused by unauthorised repairs
 - Damage caused by mistreatment of the product
5. Please direct any questions or problems you may have to your local dealer before contacting SY Electronics.