SY-401V

PC/HD to Video Scan Converter

OPERATION MANUAL

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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.

REVISION HISTORY

VERSION NO.	DATE	SUMMARY OF CHANGE
VR0	07/04/11	Preliminary Release
VS1	25/04/12	Updated format/diagrams

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1. INTRODUCTION

The SY-401V PC/HD to Video Scan Converter is designed to down scale PC/Component source to an analogue CVBS (NTSC,PAL) signal. Supporting PC resolution up to WUXGA@60hz, this device is ideal for applications with multiple CCTV cameras, as the scaler enables the user to connect new video sources to older displays. Features such as 3D noise reduction, frame rate conversion, adaptive contrast enhancement, and a On Screen Display (OSD) allow for easy adjustment to maximise the output display.

2. APPLICATIONS

- Security camera display
- Displaying PC signal on a non-VGA CRT display
- Displaying PC signal on a non-VGA LCD display

3. PACKAGE CONTENTS

- PC/HD to Video Scan Converter
- Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

Input source equipment such as PC/component camera (RGBHV/YPbPr) signal with D-Sub 15pin or component adaptor cable and output to TV with CVBS input jack and connection cable.

5. FEATURES

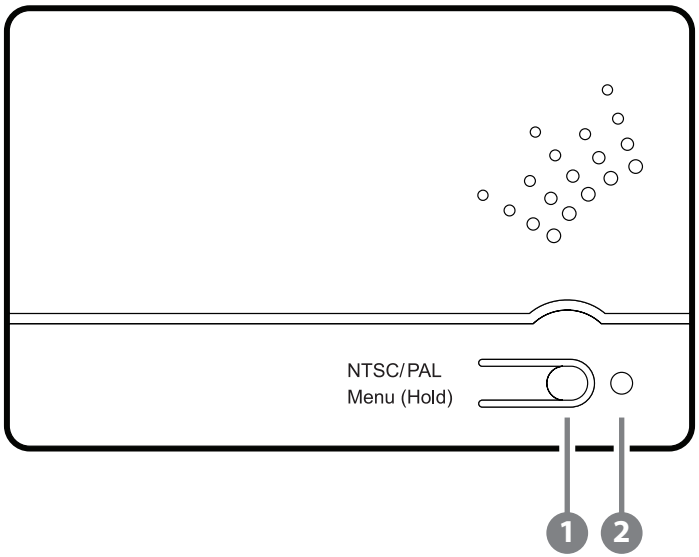
- Converts the video signal from PC/component source to NTSC or PAL signal
- Accepts a wide range of component input resolutions from 480i to 1080p@60 Hz and PC input resolutions from VGA to WUXGA@60RB
- 3D noise reduction in both temporal and spatial domain
- Frame rate conversion
- Adaptive contrast enhancement
- OSD Display
- Overscan and underscan adjustment
- Phase and Aspect adjustment
- No software installation required
- Compact and elegant design

NOTE: the following modes are not supported:

- *Interlace source signal conversion between 50/60Hz*
- *480i and 1080i@60 to PAL frame rate conversion*
- *576i and 1080i@50 to NTSC frame rate conversion*

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Top Panel



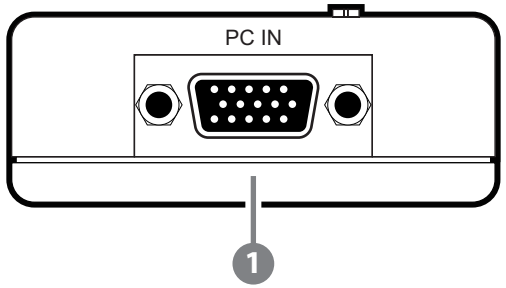
1. **NTSC/PAL MENU** (Hold): Press this button to bring up the On-Screen Display (OSD) which will display the input timing and the output TV format information.

   When the OSD is displayed, press the button again to switch the output TV system from NTSC to PAL and from PAL to NTSC.

   Press this button for 3 seconds the OSD will bring up the selection menu. Press it sequentially to select the required setting.

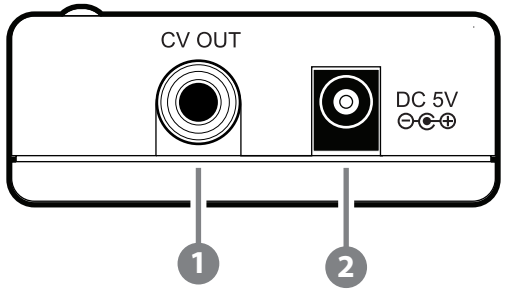
2. **Power LED**: This LED will illuminate in RED when the unit is connected to the power supply.

6.2 Left Panel



1. **PC IN:** Connect to the source equipment such as a PC, laptop or digital camera with D-sub 15pin cable (VGA) or adaptor converter cable (Component).

6.3 Right Panel



1. **CV OUT:** Connect to the output display TV or monitor with RCA cable for display of the converted composite (CVBS) signal.
2. **DV5V:** Plug the 5 V DC power supply included in the package into the unit and connect the adaptor to an AC wall outlet.

6.3 OSD Menu

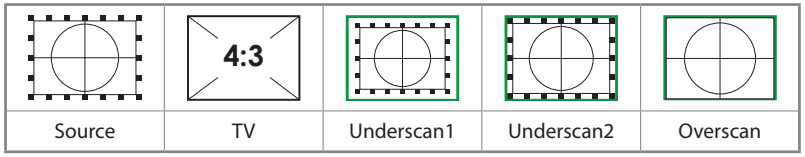
IN	640×480 (Input Timing)
OUT	NTSC (Output TV System)

Press the Menu button once to bring up the OSD and display the input (IN) & Output (OUT) information.

NTSC	
PAL	
Underscan 1	
Underscan 2	
Overscan	
Phase Adj.	0~31
Aspect Adj.	Full Screen
	Letterbox
	Pan & Scan
	Auto TV 4:3
	Auto TV 16:9

Press the Menu button for 3 seconds to bring up the OSD then press it repeatedly to move the OSD cursor to the desired selection. Once the selection is made, if no button is pressed for a few seconds, the display on the OSD will disappear and the display will output the selected display mode.

Below is the example of the scan selection result.



Phase Adjustment: Range is from 0~31 and can be used to compensate for blurry image quality and/or character jiggle.

Aspect Adjustment: There are total of 5 different aspect ratio adjustments: Full Screen, Letterbox, Pan & Scan and Auto TV 4:3 & Auto TV 16:9.

Full Screen: To allow the image to fill the screen of the TV.

Letterbox: To fit a 16:9 formatted video signal on a 4:3 display. Horizontal Black bars will be displayed above and below the image

Pan & Scan: To fit a 4:3 formatted video signal on a 16:9 display. Vertical black bars will be displayed at both sides of the the image.

Auto TV 4:3: The device will detect the input source aspect ratio of 4:3 or 16:9 and make the automatically make the adjustment to 4:3.

Auto TV 16:9: The device will detect the input source aspect ratio of 16:9 or 4:3 and automatically make the adjustment to 16:9.

Blow is the sample chart of the selection result:

Source TV	Aspect Adjust	Full Screen	Letterbox	Pan&Scan	Auto TV 4:3	Auto TV 16:9
4:3	4:3		×	×		×
	16:9		×		×	
16:9	4:3			×		×
	16:9		×	×	×	

6.4 Support Input Timing

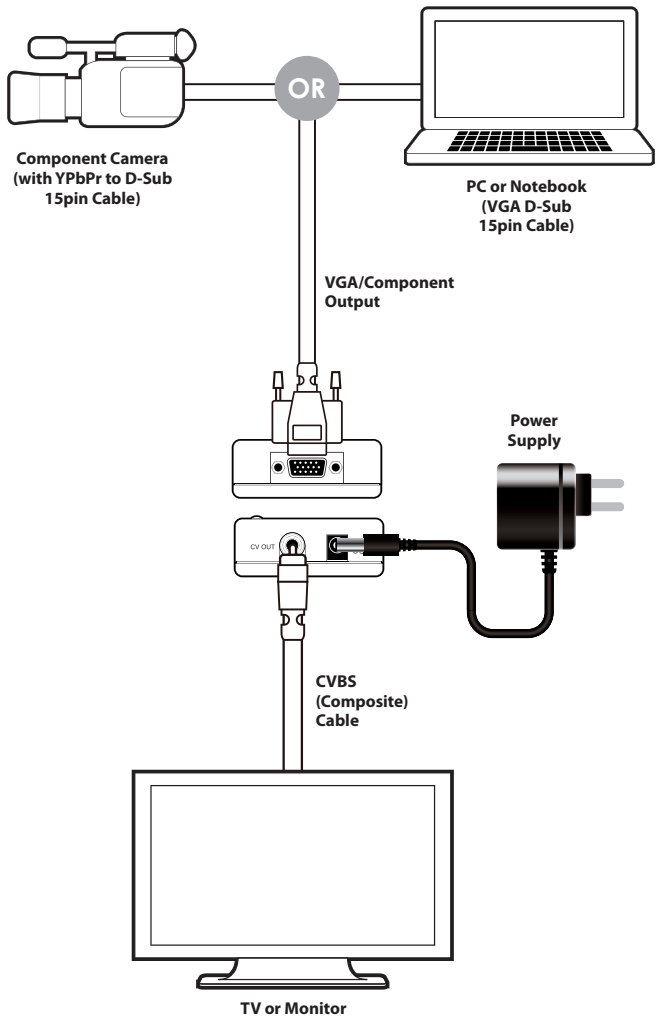
640x480	60,72,75,85	PC Timing
720x400	70	
800x600	56,60,72,75,85	
1024x768	60,70,75,85	
1152x864	70,75,85	
1280x720	59,60	
1280x768	60RB,60	
1280x800	60RB,60	
1280x960	59,60	
1280x1024	59,60	
1366x768	60RB,60	
1440x900	60RB,60	
1600x1200	60	
1680x1050	60RB,60	
1920x1080	59,60	
1920x1200	60RB	
480i	60	HD Timing
480p	60	
576i	50	
576p	50	
720p	50,60	
1080i	50,60	
1080p	50,60	

Note: When the input timing is not supported, the OSD will display "IN Not Support".

NOTE: the following modes are not supported:

- *Interlace source signal conversion between 50/60Hz*
- *480i and 1080i@60 to PAL frame rate conversion*
- *576i and 1080i@50 to NTSC frame rate conversion*

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

Input Port	1×VGA	
Output Port	1×CVBS (Composite Video)	
Output Video	NTSC/PAL	
ESD Protection	Human body model:	±8kV (air-gap discharge) ±6kV (contact discharge)
Power Supply	5V DC/1A linear power adaptor (US/EU standards, CE/FCC/UL certified) or 5V/1.2A switching power adaptor (with universal plug, CE/FCC/UL certified)	
Dimensions	64mm (W)×104mm (D)×26mm (H)	
Weight	120g	
Operating Temperature	0 °C~40 °C/32 °F~104 °F	
Storage Temperature	−20 °C~60 °C/−4 °F~140 °F	
Power Consumption	3W	
Relative Humidity	20~90% RH (non-condensing)	

9. ACRONYMS

ACRONYM	COMPLETE TERM
CAT5e	Category 5 Cable
CAT6	Category 6 cable
CEC	Consumer Electronics Control
DVI	Digital Visual Interface
HDCP	High-bandwidth Digital content protection
HDMI	High Definition Multimedia Interface
IR	Infrared

CIE-Group Ltd, Widdowson Close, Blenheim Industrial Estate, Bulwell,
Nottingham NG6 8WB

Tel: +44 (0)115 977 0075 | Fax: +44 (0)115 977 0081

Email: info@cie-group.com

www.cie-group.com