

PC/HDTV to Video Scan Converter **ID# 326**



Operation Manual

Introduction

This unit is a high performance and multi-format video scan converter. It is designed to convert not only PC but also HDTV images to interlace NTSC/PAL and component output. It is ideal for use in video conferences, home theater, business presentations or viewing PC/HDTV images on TV.

Features

1. Switch on the back to select PC or HDTV input and down converters to NTSC or PAL, component output.
2. Supports high resolution PC input up to UXGA (1600 x 1200@60Hz) and HDTV input up to 1080i @ 60Hz.
3. Output video format is selectable between composite/S-video and component (YCbCr).
4. Supports high input refresh rate up to 140Hz (VGA).
5. Additional HD-15 and 3-RCA connectors for looping through PC and HDTV input signal.
6. Adjustable image scaling: Pan, Position and Zoom.
7. Advanced 2-D flicker filter ensures a flicker-free picture.
8. Aspect adjustment for wide-screen HDTV source.
9. Adjustment contrast, brightness, colour and sharpness.
10. Last memory.
11. Useful functions- overscan, freeze, test pattern and magnifier.
12. Adjustment and control through RS-232 interface.
13. Remote control, OSD operation display.

Operation Controls and Functions

Front Panel



1. **Standby/On Indicator:** The indicator illuminates in red when it is in “standby”

mode, illuminates in green when it is in “On” mode.

2. Power Button: Push the button to turn the power “On” or “Standby”.

3. Remote Control Sensor

4. Left Button: Push the button in order to adjust the picture leftward under position, pan or zoom mode.

5. Right Button: Push the button in order to adjust the picture rightward under position, pan or zoom mode.

6. Down Button: Push the button in order to adjust the picture downward under position, pan or zoom mode.

7. Up Button: Push the button in order to adjust the picture upward under the position, pan or zoom mode.

8. Aspect Button: Push the button in order to select the screen aspect- Full-Pan and Scan-Letterbox.

9. Overscan Button: Push the button in order to overscan/underscan the picture.

Rear Panel



1. RS-232 DB-9 connector: This is the RS-232 port for connection to the users PC.

2. Video Output port: This is the Composite Video output connector.

3. HDTV (YPbPr) port: This is the HDTV loop-through output connector.

4. PC output port: This is the PC loop-through output connector.

5. On/Off switch: This is the main power button that switches the unit On or Off.

6. YCbCr component output port: This is the YCbCr component output connector.

7. S-Video output port: This is the S-Video output connector.

8. HDTV (YPbPr) input port: This is the HDTV input connector.

9. PC input port: This is the PC input connector.

10. Input source select switch: Set the switch to select HDTV or PC input.

11. DC Power Supply: 5V 2A.

Note: Output video format is selectable between Composite/S-Video and Component (YCbCr), press “Output” or IR remote to select output format.

Remote Control and Functions

- 1. Power:** Power On/Off button.
- 2. Video setting adjustments:** This is the setting adjustment for picture brightness, contrast, colour and sharpness.
- 3. V-Reset:** Press the button in order to reset the picture adjustment to the factory default value.
- 4. NTSC/PAL:** Press the button in order to select NTSC or PAL as video output.
- 5. Colour bar/pattern On/Off:** Press the button to show colour bar pattern on the screen. Press again to close colour bar.
- 6. Image freeze On/Off:** Press the button in order to freeze or unfreeze the image.
- 7. Output Format:** Press the button in order to select your desired output format. Press repeatedly to toggle through CV/SV- YCbCr.
- 8. Under/Over Scan:** Press the button to choose a underscan or overscan image.
- 9. 9-blocks selection (zoom):** Under zoom mode press one of the buttons to select its corresponding sub-area which is 1/9 of the full-screen.
- 10. Zoom On/Off:** Press the button to zoom in a picture, press again to zoom out.
- 11. Horizontal/Vertical adjustment knob:** Adjust the size or position of an image when it is under zoom, pan/position or size/EXP mode. Also use this button to adjust the setting value of the picture adjustment of 2.
- 12. Default:** Press the button to revert the following parameters to their factory preset values: zoom, position, size and picture adjust.
- 13. Position/Pan:** When a picture is in underscan mode, press the button in order to adjust the position of the picture. When a picture is in overscan mode, press the button to adjust the pan mode.
- 14. System Reset:** Press the button to revert all system parameters back to factory preset values. The system parameters that are in their factory default values include:
 - Overscan.
 - NTSC output.
 - Full aspect.
 - Video settings- reset, position/pan, size/expand reset.
 - CV/SV output
- 15. Size/EXP:** When a picture is in underscan mode, press the button in order to adjust the size. When a picture is in overscan mode, press the button in order to adjust the expand mode.
- 16. Aspect:** Press the button in order to switch between full, pan and scan or letterbox.

RS-232 Software Operation

- PC/OS: Windows 98/ME/2000/XP.
- Software installation:
- Place the installation CD in the CD-Rom Drive.
- Execute setup.exe on installation CD.
- OS maybe requires updating some files. Please re-start the PC. After re-starting the PC, execute setup.exe again.
- Click the taskbar menu (Start) - (Programs) - (Scan Converter) to execute software.

RS-232 Software Operation- Main Panel

- 1. Connection Status:** Grey icon indicates disconnection to the unit. The coloured icon indicates connection to the unit.
- 2. Power:** Power On/Off.
- 3. System Reset:** Reset the units settings to the default values.
- 4. Zoom:** Turn the zoom on.
- 5. Magnifier:** Turn the magnifier on. Only for PC-input.
- 6. Over/Under Scan:** TV overscan adjustments are pan and expand; underscan adjustments are position and size.
- 7. Prompt:** Operation message.
- 8. Option:** Options of TV system, Panel skin, Test pattern, Window-Top.
- 9. Close:** Terminate application software.
- 10. Minimize:** Shrink application software to window taskbar.
- 11. System Tray:** Shrink application software to system tray. Click the icon and return to normal window.
- 12. About:** Display software version.
 - Software version:* Application software version.
 - Firmware version:* The unit's firmware version.
- 13. Aspect:** Select the screen aspect- Full- Pan and Scan- Letterbox.
- 14. Position/Pan Adjustment:** Position for Underscan, Pan adjustment for Overscan.
- 15. Size Expand Adjustment:** Size for Underscan and Expand for Overscan. Reset button is to reset the settings to their default values.
- 16. Output Format:** Select output format for CV/SV or YCbCr.
- 17. Screen Freeze:** Still screen.
- 18. Video Settings:** Brightness, contrast, colour and sharpness adjustments.
- 19. RS-232 Communications port:** COM1: or COM2:.

Connection and Installation

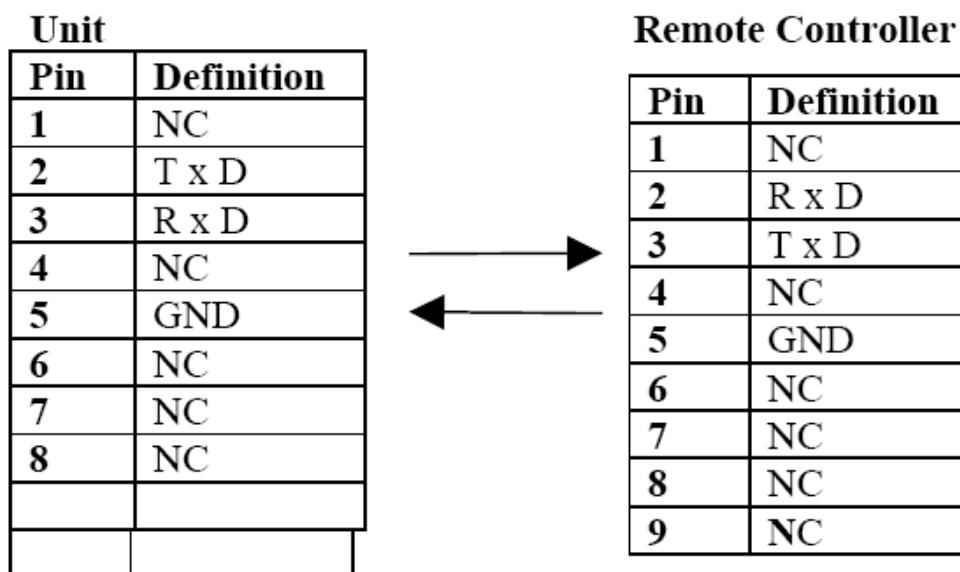
- Connect the YCbCr, S-Video or Composite Video output port to your NTSC or PAL TV.
- Connect the RS-232 connection cable to the RS-232 port.
- Connect the HD Bypass (YPbPr) port to your PDP HDTV.
- Connect the HD Input port to your DVHS or DVD player.
- Connect your PC to the PC input port.
- Connect the PC bypass port to your LCD or monitor.
- Connect the AC adapter to the power supply port.

Specifications

Input Terminals	<ul style="list-style-type: none">- PC on HD-15- HDTV or SDTV on 3RCA (YPbPr or YCbCr).
PC Resolution List	<ul style="list-style-type: none">- VGA @ 60Hz up to 140Hz refresh rate.- SVGA @ 60Hz up to 120Hz refresh rate.- XGA @ 60Hz up to 85 Hz refresh rate.- SXGA @ 60Hz refresh rate.- UXGA @60Hz refresh rate.
HDTV Resolution List	<ul style="list-style-type: none">- 480i and 480p @ 60 Hz.- 576i and 576p @ 50 Hz.- 720p @ 50 and 60 Hz.- 1080i @ 48, 50 and 60 Hz.
Output Terminals	<ul style="list-style-type: none">- Composite Video on RCA.- S-Video on mini-din.- Component on 3RCA (YCbCr).- PC pass-through on HD-15.- HDTV pass-through on 3 RCA (YPbPr/YCbCr).
Output System	NTSC or PAL interlaced video. YCbCr Component.
Controls	Front panel controls, IR remote control, RS-232 control.
Power	DC 5V/2A, center positive.
Dimensions	204 (W) x 155 (D) x 50 (H) mm.

RS-232 Remote Control Protocol

Pins Definition of Modem Cable



RS-232 transmission format:

- Baud Rate: 9600 Bps.
- Data Bit: 8 bits.
- Parity: None.
- Stop bit: 1 bit.
- **Command/Response codes of RS-232 transmission**
- Commands/Response Codes are the combination of 6 bytes.
- Every command's transmission, scan converter responses the equal codes.
- Only PWR???, VER??? are available while the unit is in Power-Off status.
- Some functions need time to process, so you have to wait for "RYD???" code received, then you can do the next command.

Code	Ready State	Comment	
PWR000	RDY005	POWER	Power off
PWR001			Power on
PWR999			Inquire status
NPO000 NPO001 NPO999		N/P output	NTSC output PAL output Inquire status
FRZ000 FRZ001 FRZ999		FREEZE	Freeze image off Freeze image on Inquire status
SCN000 SCN001 SCN999		SCAN	Underscan Overscan Inquire status
ZOM000	RDY006	ZOOM	Zoom off
ZOM001	RDY006		Zoom on
ZOM999			Inquire status
MVU000		MOVE UP	Button release
MVU001			Button press
MVD000		MOVE DOWN	Button release
MVD001			Button press
MVL000		MOVE LEFT	Button release
MVL001			Button press
MVR000		MOVE RIGHT	Button release
MVR001			Button press
SZU000		SIZE UP	Shorter height image button release
SZU001		SIZE UP	Shorter height image button press
SZD000		SIZE DOWN	Higher height image button release
SZD001		SIZE DOWN	Higher height image button press
SZL000		SIZE LEFT	Narrower width image button release
SZL001		SIZE LEFT	Narrower width image button release
SZR000		SIZE RIGHT	Wider width image button release
SZR001		SIZE RIGHT	Wider width image button press
RST000	RDY000	RESET	System reset
RST001			Reset image position
RST002			Reset image size
RST003	RDY003		Reset video settings
PAT000	RDY007	PATTERN	Test pattern off
PAT001			Test pattern on
PAT999			Inquire status
FMT000 FMT001 FMT999		OUTPUT FORMAT	CV/SV YsUV Inquire status
ARA001~ARA009 ARA999		ZOOM AREA	Zoom area 1~9 Inquire status
ASP000 ASP001 ASP002 ASP999		ASPECT	Aspect is full screen Aspect is pan & scan Aspect is letterbox Inquire status
CON001~CON063 CON999		CONTRAST	Range=0~63 Inquire status
BRI000~BRI255 BRI999		BRIGHTNESS	Range=0~255 Inquire status
SAT000~SAT063 SAT999		SATURATION	Range= 0~63 Inquire status
FLK000~FLK021 FLK999		FLICKER	Range= 0~21 Inquire status
VER???		VERSION	Unit firmware version response
VER999		VERSION	Inquire unit firmware version