NEXIS

PGO01

PC to Video Overlay System



Operation Manual

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Version 1.1 August 2011

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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 DD/MM/YY	SUMMARY OF CHANGE
VR0	05/02/13	Preliminary Release
VS1	10/04/13	Updated format/diagrams
VR1	22/04/13	Package Accessories
VR2	02/07/13	Remote Control PC Key Function.

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1. INTRODUCTION

The PC to Video Overlay System is designed to overlay a PC/Graphics signal onto a Video signal or vice versa. It has the added feature of converting a variety of VGA sources to a Video signal. It is ideal for use in applications like video conferencing, home theater, business presentations and lecture hall.

2. APPLICATIONS

- Overlay graphics onto a video signal
- Video titles
- Home theater
- Business presentations
- University lecture hall

3. PACKAGE CONTENTS

- PC to Video Overlay System
- Remote Control (CR-116 with battery)
- 5 V DC Power Adaptor
- 3.5 mm to D-Sub 9-pin Adaptor
- D-Sub 15-pin male to D-Sub 15-pin male cable
- Composite Video cable
- S-Video cable
- Operation Manual

4. SYSTEM REQUIREMENTS

- Source equipment such as PC/Laptop or DVD player with VGA/ Video/S-Video output
- Display TV or monitor with VGA/Video/S-Video inputs
- 3.5mm to D-Sub 9 pin Adaptor (Optional)
- S-Video cable (Optional)
- Video cable (Optional)

5. FEATURES

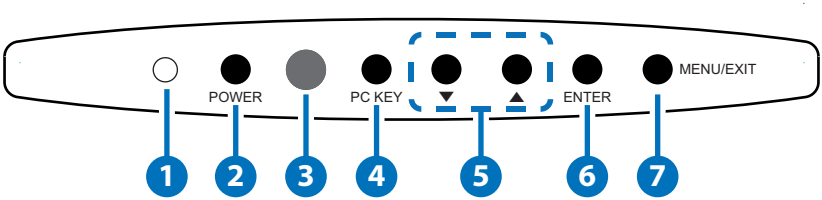
- Superimpose PC text and graphics onto another video signal or superimpose a Video signal onto a VGA source
- Supports VGA to Video conversion
  - VGA: 640×480, 800×600, 1024×768, 1280×1024, 1600×1200
  - Video: NTSC, NTSC4.43, PAL, PAL-M, PAL-N or SECAM
- Supports PC and Video picture adjustment
- Supports Key adjust and PC aspect
- Supports Zoom and Pan functions
- Supports Vertical and Horizontal Overscan/Underscan control
- Automatically supports frame rate conversion from 56 Hz up to 85 Hz
- Cross-platform compatibility for PC or Mac
- Plug-and-Play design, no software driver required
- Simultaneous video outputs
- Can be controlled from the front panel, RS-232 or remote handset

Note:

1. *This system does not support conversion from one video format to another i.e. NTSC to PAL.*
2. *In Overlay mode, it is recommended that the Contrast/Brightness/Color/Hue are kept at default values.*
3. *The PC to Video or Video to PC overlay system is designed to overlay PC video signal or Graphics onto a Video signal or vice versa. Simply select from the Menu: Main Menu→SETUP→OUTPUT-PC KEY/CV KEY.*
4. *Zoom and Pan functions are only supported for VGA signal inputs.*

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



1 POWER LED

The LED will illuminate when the power is on.

2 POWER

Press to power on the system, press again to put the system into standby.

3 IR SENSOR

4 PC KEY

Press this button to display PC screen or the combination of PC and Video/S-Video screen.

5 ▲and▼

Press to navigate the control or setting values in the onscreen menu (OSD).

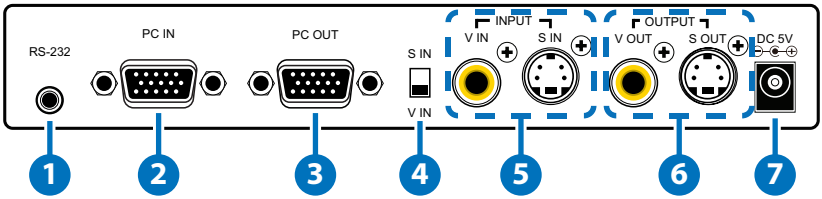
6 ENTER

Press to enter or to confirm a selection.

7 MENU/EXIT

Press to enter the onscreen menu and press again to exit the menu or to return to a previous page.

6.2 Rear Panel



1 RS-232

Connect to the PC or RS-232 control system for RS-232 control with an optional 3.5 mm mini-jack to D-Sub 9-pin adaptor.

2 PC IN

Connect to the source equipment such as a PC or Laptop for PC (VGA) signal input.

3 PC OUT (PASS THROUGH)

Connect to a display (TV/monitor) for PC (VGA) signal output.

4 V-IN and S-IN Switch

Switch between Video or S-Video inputs.

5 VIDEO/S-VIDEO INPUT

Connect the Video/S-Video input to the source equipment such as DVD player or set-top box.

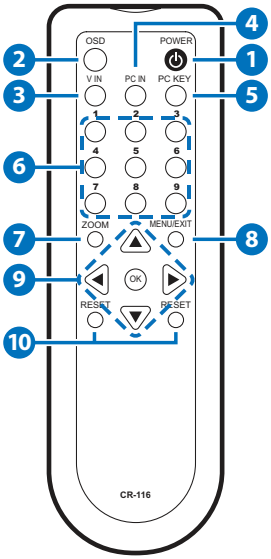
6 VIDEO/S-VIDEO OUTPUT

Connect the Video/S-Video output port to the display.

7 DC 5V

Connect the 5 V DC power supply to the device and plug the adaptor into an AC wall outlet.

6.3 Remote Control



1 POWER

Press to power ON or to put the system into Standby.

2 OSD

Press to turn ON/OFF the OSD (On-screen Menu) on the TV/Monitor display.

3 V IN

Press to select the Video source. The video displayed will depend on the setting of the S/V Input switch.

4 PC IN

Press to select PC input source.

5 PC KEY

Press this button to display a Keyed combination of the PC and Video or S-Video inputs. The video displayed will depend on the setting of the S/V Input switch

6 1 ~ 9

When in PC mode, press a key to zoom the picture to that specific area.

7 ZOOM

Press to turn the ZOOM function ON/OFF (PC Mode Only).

8 MENU/EXIT

Press to enter the onscreen menu mode and press again to exit the menu or return to a previous page.

9 ▲▼◄► and OK

a. Press a key to pan the PC picture to different position according to the direction on that key (up, down left or right).

b. To navigate the Sub-menu.

Press OK to confirm the selection.

10 RESET

Press once to reset all current setting values back to default.

6.4 RS-232 Protocols

OVERLAY PROCESSOR			REMOTE CONTROLLER	
PIN	Definition		PIN	Definition
1	NC		1	NC
2	TXD	→	2	RXD
3	RXD	←	3	TXD
4	NC		4	NC
5	GND		5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 9600bps
Data bit: 8 bits
Parity: None
Stop Bit: 1
Flow Control: None

6.5 RS-232 Commands

COMMAND	DESCRIPTION
[POWER1]	Power on (Normal)
[POWER0]	Power off (Standby)
[KEY0]	Chroma key--Blue
[KEY1]	Chroma key--Green
[KEY2]	Chroma key--Red
[KEY3]	Chroma key--Black
[OUTPUT0]	Output mode--PC
[OUTPUT1]	Output mode--VIDEO
[OUTPUT2]	Output mode--PC KEY
[OUTPUT3]	Output mode--CV KEY
[OUTPUT4]	Output mode--MIXER
[SYSTEM0]	Output video system: NTSC
[SYSTEM1]	Output video system: NTSC4.43
[SYSTEM2]	Output video system: PAL
[SYSTEM3]	Output video system: PALM
[SYSTEM4]	Output video system: PALN
[SYSTEM5]	Output video system: SECAM
[OSD0]	OSD off
[OSD1]	OSD on
[DISPLAY0]	Display off
[DISPLAY1]	Display on
[DISPLAY2]	Display info
[ZOOM0]	PC ZOOM off
[ZOOM1]	PC ZOOM position 1
[ZOOM2]	PC ZOOM position 2

COMMAND	DESCRIPTION
[ZOOM3]	PC ZOOM position 3
[ZOOM4]	PC ZOOM position 4
[ZOOM5]	PC ZOOM position 5
[ZOOM6]	PC ZOOM position 6
[ZOOM7]	PC ZOOM position 7
[ZOOM8]	PC ZOOM position 8
[ZOOM9]	PC ZOOM position 9
[ZOOMC]	PC PAN center
[ZOOML]	PC PAN left
[ZOOMU]	PC PAN up
[ZOOMR]	PC PAN right
[ZOOMD]	PC PAN down
[PANEL0]	Front panel lockout on
[PANEL1]	Front panel lockout off
[CVCONTx]	video Contrast x=0~63
[CVBRIGHTx]	video Brightness x=0~63
[CVCOLORx]	video Color x=0~63
[CVHUEx]	video Tint x=0~63
[CVDETAILx]	video Sharpness x=0~63
[CVRESET]	Video Adjustment Reset [CVCONT58] [CVBRIGHT31] [CVCOLOR31] [CVHUE31] [CVDETAIL10]
[PCCONTx]	PC Contrast x=0~63

COMMAND	DESCRIPTION
[PCBRIGHTx]	PC Brightness x=0~63
[PCCOLORx]	PC Color x=0~63
[PCHUEx]	PC Tint x=0~63
[PCDETAILx]	PC Sharpness x=0~63
[PCRESET]	PC adjustment reset [PCCONT58] [PCBRIGHT31] [PCCOLOR31] [PCHUE31] [PCDETAIL10]
[PCHSIZEx]	PC H Size x=0~63
[PCVSIZEx]	PC V Size x=0~63
[PCHPOSx]	PC H Position x=0~63
[PCVPOSx]	PC V Position x=0~63
[PCPHASEx]	PC Phase x=0~63
[ASPECTRS]	PC aspect reset [PCHSIZE31] [PCVSIZE31] [PCHPOS31] [PCVPOS31] [PCPHASE?]
[KEYPHASEx]	KEY Adjust Phase x=0~63
[KEYLEVELx]	KEY Adjust Level x=0~63
[KEYRESET]	KEY adjustment reset [KEYPHASE31] [KEYLEVEL31]
[RMCODEx]	Remote Code adjustment reset Remote Code x=0~3

COMMAND	DESCRIPTION
[STATUS]	Retrieve video scaler all status [POWER?] [KEY?] [OUTPUT?] [SYSTEM?] [ZOOM?] [OSD?] [DISPLAY?] [PANEL?] [RMCODE?] [PCCONT?] [PCBRIGHT?] [PCCOLOR?] [PCHUE?] [PCDETAIL?] [PCHSIZE?] [PCVSIZE?] [PCHPOS?] [PCVPOS?] [PCPHASE?] [CVCONT?] [CVBRIGHT?] [CVCOLOR?] [CVHUE?] [CVDETAIL?] [KEYPHASE?] [KEYLEVEL?] [ZOOMC?]

Note:

1. *RS-232 commands will not execute unless followed by a carriage return.*
2. *Zoom functions are for the PC input only.*

6.6 OSD Menu

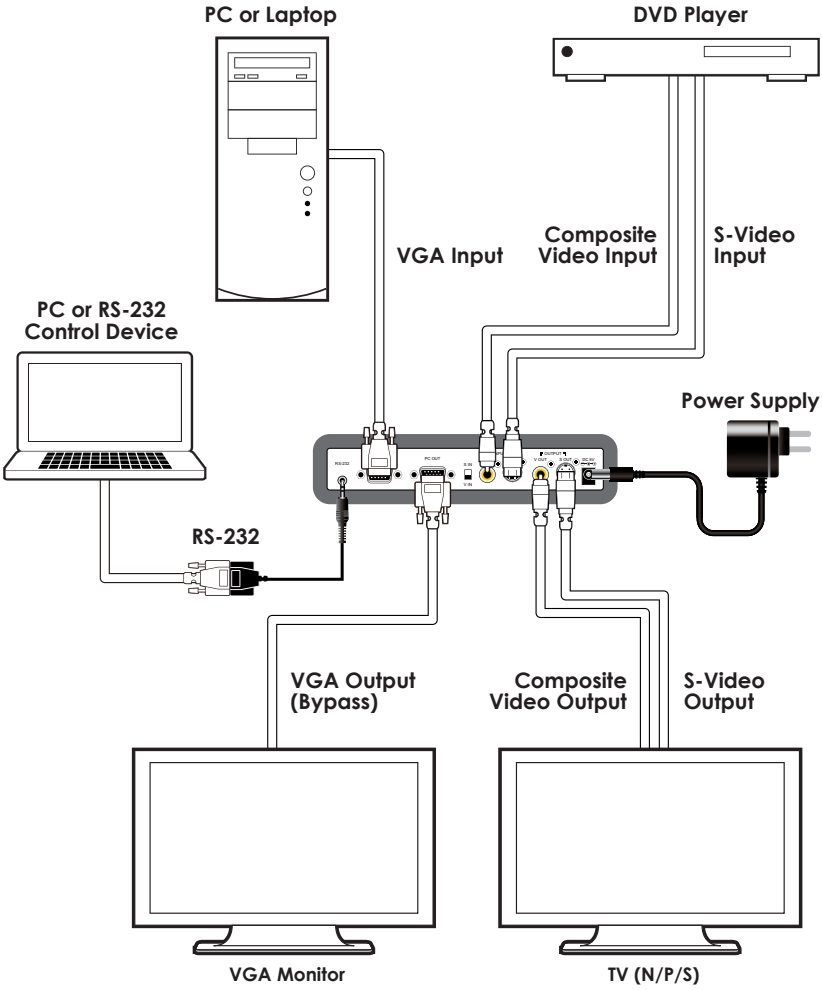
MAIN MENU	SUBMENU	PARAMETER
PC PICTURE	CONTRAST	0~63 (58)
	BRIGHT	0~63 (31)
	COLOR	0~63 (31)
	HUE	0~63 (31)
	DETAIL	0~63 (10)
	RESET	
	EXIT	
PC ASPECT	H SIZE	0~63 (31)
	V SIZE	0~63 (31)
	H POSITION	0~63 (31)
	V POSITION	0~63 (31)
	PHASE	0~63 (31) (Depends on the input resolution)
	RESET	
	EXIT	
CV PICTURE	CONTRAST	0~63 (58)
	BRIGHT	0~63 (31)
	COLOR	0~63 (31)
	HUE	0~63 (31)
	DETAIL	0~63 (10)
	RESET	
	EXIT	
KEY ADJUST	KEY PHASE	0~63 (31)
	KEY LEVEL	0~63 (31)

MAIN MENU	SUBMENU	PARAMETER
KEY ADJUST	CHROMA KEY	RED/BLACK/BLUE/GREEN (Resets will not change this setting)
	RESET	
	EXIT	
SETUP	OUTPUT	PC IN/VIDEO IN/PC KEY/ MIXER
	CV SYSTEM	NTSC/NTSC4.43/PAL/PAL-M/ PAL-N/ SECAM
	PC ZOOM	1~9/OFF
	DISPLAY	INFO/OFF/ON
	REMOTE	0~3
	EXIT	
INFORMATION	PC INPUT	
	CV INPUT	
	OUTPUT	
	VERSION	
	EXIT	
EXIT		

Note:

1. *Resetting the power will turn the output display back to its default setting.*
2. *Key phase/level setting 0~3 will be transparent and will allow the input of a background signal to be visible.*
3. *PC IN will display the PC input source, Video IN will display the Composite Video or S-Video source depending on how the S/V IN switch is set. PC Key will display a combination of the PC source and the selected Video source and Mixer will display a mix of the PC source and the selected Video source dependent on the output mode setting.*

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

S-Video Bandwidth	5.5 MHz
Input Ports	1×VGA, 1×Composite Video (1 Vp-p 75 ohm), 1×S-Video (1 Vp-p 75 ohm)
Output Ports	1×VGA (Pass-through), 1×Composite Video (1 Vp-p 75 ohm), 1×S-Video (1 Vp-p 75 ohm)
Input Format	640×480 up to 85 Hz, 800×600 up to 85 Hz, 1024×768 up to 85 Hz, 1280×1024 up to 85 Hz, 1600×1200 up to 60 Hz NTSC, NTSC4.43, PAL, PAL-M, PAL-N, SECAM
Output Format	NTSC, NTSC4.43, PAL, PAL-M, PAL-N, SECAM
ESD Protection	Human Body model: ±8 kV (air-gap discharge) ±4 kV (contact discharge)
Power Supply	5 V/2.6 A DC (US/EU Standards, CE/FCC/UL certified)
Dimensions	236 mm (W)×123 mm (D)×45 mm (H)
Weight	400 g
Chassis Material	Plastic
Color	Black
Operating Temperature	0 ˚C ~ 40 ˚C / 32 ˚F ~ 104 ˚F
Storage Temperature	−20 ˚C ~ 60 ˚C / −4 ˚F ~ 140 ˚F
Relative Humidity	20 ~ 90 % R H (non-condensing)
Power Consumption	4.6 W

9. ACRONYMS

ACRONYM	COMPLETE TERM
NTSC	National Television System Committee
PAL	Phase Alternating Line
SECAM	Sequential Color with Memory
VGA	Video Graphics Array