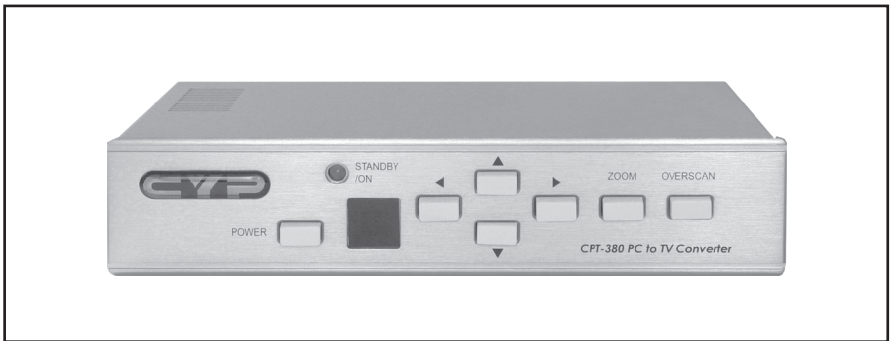


# PC to Video Converter

## Operation Manual



## Applications

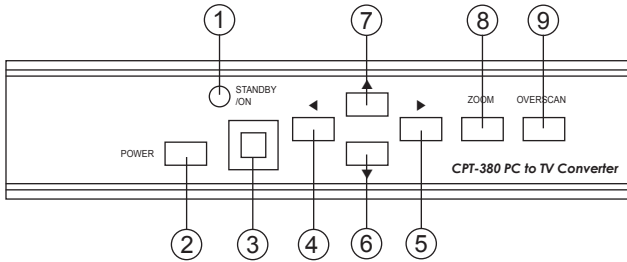
The CPT-380 PC to Video scan converter is designed to convert a variety of computer images, from 640x480 up to 1600x1200, to interlaced NTSC or PAL video. It offers a variety of output formats including composite, S-Video, YUV and RGB. It is ideal for use in applications like video conference, home theater, business presentation, lecturing room or viewing PC image on TV.

## Features

1. Automatically detects and down converts the incoming PC images to NTSC, PAL, RGB or YUV.
2. Support high resolution PC input up to UXGA(1600x1200@60Hz).
3. Output video format is selectable between composite/S-Video, YUV, and RGB through a control button on the remote.
4. Support high input refresh rate up to 140Hz(VGA).
5. Adjustable image scaling.
6. Pan, Position and Zoom.
7. Advance 2-D flicker filter ensures flicker-free picture.
8. Adjustable contrast, brightness, color, sharpness.
9. Last memory.
10. Adjustment and control through RS-232 interface.
11. Useful functions, overscan, freeze, test pattern, magnifier.
12. Remote control.
13. OSD operation display.
14. Wide/Standard screen.

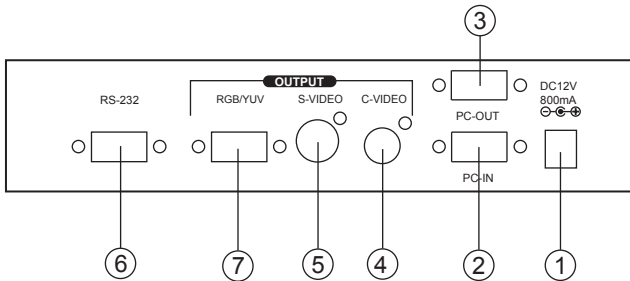
# Operation Controls and Functions

## 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 power ON or Standby.
3. Remote control sensor.
4. ◀ Button: Under zoom mode push the button to adjust the picture leftward.
5. ▶ Button: Under zoom mode push the button to adjust the picture rightward.
6. ▼ Button: Under zoom mode push the button to adjust the picture downward.
7. ▲ Button: Under zoom mode push the button to adjust the picture upward.
8. Zoom button: Push the button to zoom in or zoom out of a picture.
9. Overscan button: Push the button to overscan/underscan the picture.

## Rear Panel

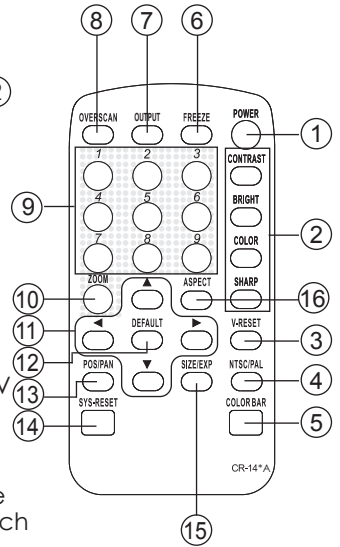


1. DC power supply 12V 800mA.
2. PC input VGA connector.
3. PC loop-through output connector.
4. Composite video out RCA connector.
5. S-video out connector.
6. RS-232 DB-9 connector.
7. RGB or YUV out connector.

# Operation Controls and Functions

## Remote controls and Functions

1. Power: Power ON/Off.
2. Video setting adjustments for picture, contrast, bright, color and sharpness.
3. V-Reset: Press the button to reset picture adjustment ② to factory default value.
4. NTSC/PAL: Press the button to select NTSC or PAL as video output.
5. Color bar pattern ON/Off:  
Press the button to show color bar pattern on the screen. Press again to close color bar.
6. Image freeze ON/Off: Press the button to freeze/unfreeze an image.
7. Output format: Press the button to select your desired output format.  
Press repeatedly to toggle through CV/SV → RGB → YUV
8. Under/Over Scan: Press the button to choose a underscan image 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 of the full screen.
10. Zoom ON/Off: Press the button to zoom in an picture, press again to zoom out.
11. Horizontal/Vertical adjust knob:  
- Adjust the size or position of a image when it is under Zoom, Pan/Position, or Size/EXP mode.  
- Adjust setting value of picture adjustment in ②.
12. Default: Press the button to revert the following parameters to factory preset value:
  - Zoom
  - Position
  - Size
  - Picture adjust
13. Pos/Pan: When a picture is in underscan mode, press the button to do position adjustment. When a picture is in overscan mode, press the button to do pan adjustment.
14. System reset: Press the button to revert all system parameters back to factory preset value.  
The system parameters are default as follows:
  - Overscan
  - NTSC output
  - 4:3 aspect
  - Normal brightness
  - Video settings reset, position/ pan/size /expand reset.
15. Size/EXP: When a picture is in underscan mode, press the button to do size adjustment. When a picture is in overscan mode, press the button to do expand adjustment.
16. Aspect: Press the button to switch between standard 4:3 and widescreen 16:9 aspect ratio.



# RS-232 Software Operation

## \* PC OS: Windows 98/ME/2000/XP

### \* Software installation:

1. Place installation CD on CD-ROM drive.
2. Execute setup.exe on installation CD.
3. OS maybe requires to update some files.

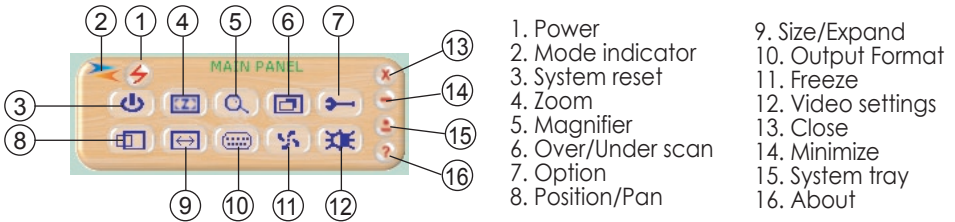
Please re-start PC. After starting PC ready, execute setup. exe again.

4. Click taskbar menu (START)->(Programs)->(CPT-380) to execute software.

### \* If RS-232 or CPT-380 is not ready then software enters virtual mode.

After RS-232 and CPT-380 connection being ready, start the software again and enters real mode.

### \* Main Panel



**1. Power:** Power ON/Off.

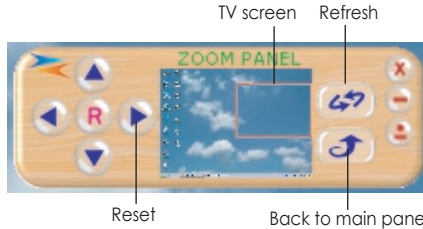
**2. Mode indicator:**

Grey icon: Virtual mode operation.

Colored icon: Real mode operation.

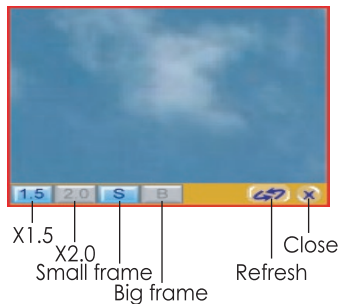
**3. System reset:** Reset CPT-380 unit.

**4. Zoom:** Drag and move (TV-screen) to the place where you want to see.  
If the PC screen image is changed, then click(refresh).



**5. Magnifier:** Drag and move magnifier to the place where you want to see.

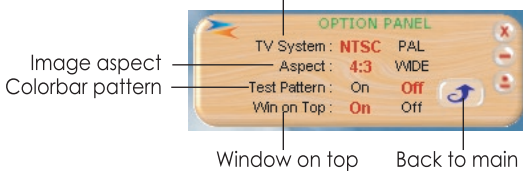
If the screen image is changed, then click(refresh).



# RS-232 Software Operation

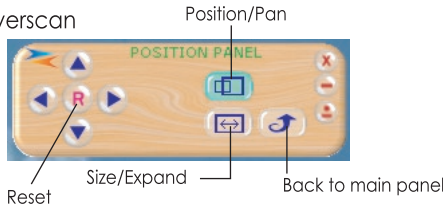
**6. Over/Under scan:** TV overscan adjustments are "pan" and "expand"; underscan adjustments are "position" and "size".

**7. Option:** TV system: NTSC or PAL output  
 Aspect pattern: 4:3 or widescreen.  
 Test pattern: Colorbar test pattern ON/Off.  
 Window ON Top: Application software window always on top ON/Off.  
 Output TV System



## 8/9. Position/Pan and Size/Expand adjustments

Position/Size for underscan  
 Pan/Expand for overscan



**10. Output Format:** Select output format-Press repeatedly to circle through CV/SV → RGB → YUV

**11. Screen freeze:** Still screen.

**12. Video settings:** Contrast, Brightness, Color, Sharpness adjustment.



**13. Close:** Terminate application software.

**14. Minimize:** Shrink application software to window taskbar.

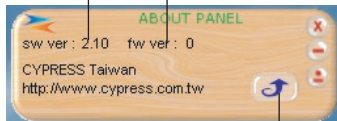
**15. System tray:** Shrink application software to system tray click the icon and return to normal window.



CPT-380 On system tray

**16. About:** Display application software version and firmware version.

Application software version      Firmware version

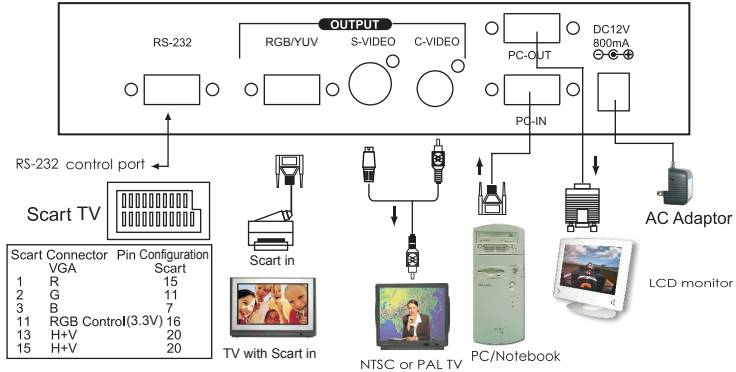


Back to main panel

# Connection and Installation

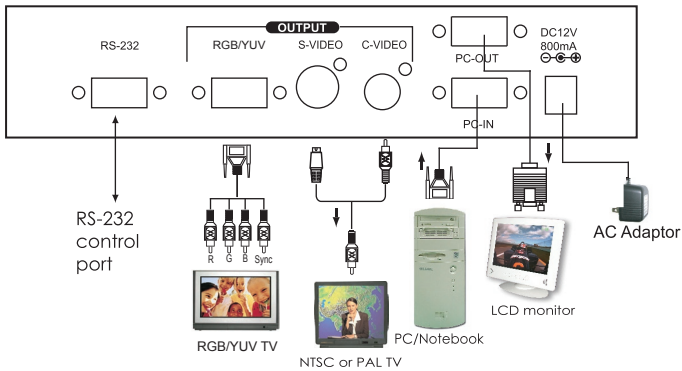
## A. Connecting the RGB output to the scart input of the TV using enclosed VGA to SCART cable.

Select RGB as output mode:



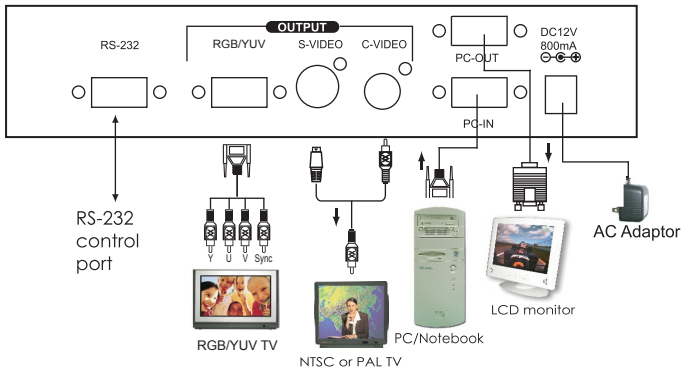
## B. Connecting the RGB out to the TV through enclosed VGA to 4 BNC cable.

Select RGB as output mode:



## C. Connecting the YUV out to the TV through enclosed VGA to 4 BNC cable.

Select YUV as output mode:



## Specifications

**Input terminal:** HD-15 R/G/B/H/V

**Input resolution:**

Common resolution lists:

VGA@60Hz up to 140Hz refresh rate

SVGA@60Hz up to 120Hz refresh rate

XGA@60Hz up to 85Hz refresh rate

SXGA@60Hz refresh rate

UXGA@60Hz refresh rate

**Output terminal:**

Composite video RCA,

S-Video mini-din,

PC-Out (pass through) HD-15,

PC- In HD-15,

RGB/YUV-Out HD-15

**Output system:**

NTSC or PAL TV system

R/G/B/H/V (PC pass through)

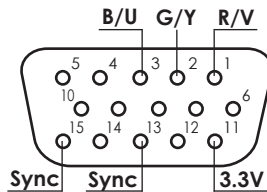
R/G/B/Sync Fh=15 KHz, Fv=50/60Hz

Y/U/V/Sync Fh= 15KHz, Fv=50/60Hz

(Note: For YUV out, (See connection (C)) a separate sync. connection to the display unit is required in order to provide the sync signal to the TV.

The YUV signal it self does not contain sync. signal therefor a separate sync connection to the TV(from Pin 13) is required.

RGB/YUV HD-15 pins definition:



The Sync pin is composite sync(H+V)

**Controls:**

Front panel control, IR remote control, RS-232 control.

**Last memory.**

**Accessories:**

HD-15(male) to HD-15(male) VGA cablex1,

IR remote control x 1

Application software CD x 1

**Power:** DC 12V 800mA center:positive

**Dimensions:** 204(W) x 155(D) x 50(H)mm

**Weight:** 1kg



# CPT-380 RS-232 Remote Control Protocol

\* The connection between CPT-380 and remote controller with RS-232 modem cable.

## Pins definition of modem cable

CPT380			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

\* RS-232 transmission format:  
Baud Rate : 9600 bps  
Data Bit : 8 bits  
Parity : None  
Stop Bit : 1 bit

# CPT-380 RS-232 Remote Control Protocol

\* Command / Response codes of RS-232 transmission:

"The command / response codes are the combination of 3 bytes. the 1st, 2nd byte are text and the 3rd byte is value."

## Remote Controller Command Codes to CPT-380

Code		Comment
'PW'+0 'PW'+1	POWER	power off power on
'NP'+0 'NP'+1	N/P	NTSC output PAL output
'FZ'+0 'FZ'+1	FREEZE	freeze image off freeze image on
'OV'+0 'OV'+1	OVERSCAN	underscan overscan
'ZM'+0 'ZM'+1	ZOOM	zoom off zoom on
'MU'+0 'MU'+1	move UP	move UP button release move UP button press
'MD'+0 'MD'+1	move DOWN	move DOWN button release move DOWN button press
'ML'+0 'ML'+1	move LEFT	move LEFT button release move LEFT button press
'MR'+0 'MR'+1	move RIGHT	move RIGHT button release move RIGHT button press
'SU'+0 'SU'+1	size UP	shorter height image button release shorter height button press
'SD'+0 'SD'+1	size DOWN	higher height image button release higher height image button press
'SL'+0 'SL'+1	size LEFT	narrower width image button release narrower width image button press
'SR'+0 'SR'+1	size RIGHT	wider width image button release wider width image button press
'RS'+0 'RS'+1 'RS'+2 'RS'+3	RESET	system reset reset image location reset image size reset video settings
'TP'+0 'TP'+1	PATTERN	test pattern off test pattern on
'OF'+0 'OF'+1 'OF'+2	Output Format	CV/SV output RGB output YUV output
'AR'+value	zoom AREA	'AR'+1 ~ 'AR'+9 zoom area1 ~ area9
'AS'+0 'AS'+1	ASPECT	aspect is 4:3 aspect is wide screen
'CO'+value	CONTRAST	value = 0 ~ 63
'BR'+value	BRIGHTNESS	value = 0 ~ 255
'SA'+value	SATURATION	value = 0 ~ 63
'FF'+value	FLICKER	value = 0 ~ 21
'VR'+1	VERSION	require CPT-380 unit firmware version retrieve CPT-380 all status
'AL'+1	ALL	retrieve 'PW'+0 only when unit power off 'PW'+1 'NP'+? 'OV'+? 'AS'+? 'ZM'+? 'CO'+? 'BR'+? 'SA'+? 'SH'+? 'FF'+?

## CPT-380 RS-232 Remote Control Protocol

CPT-380 transmits codes to Remote Controller when CPT-380 operating.

Code		Comment
'PW'+0 'PW'+1	POWER	power off power on
'NP'+0 'NP'+1	N/P	NTSC output PAL output
'FZ'+0 'FZ'+1	FREEZE	freeze image off freeze image on
'OV'+0 'OV'+1	OVERSCAN	underscan overscan
'ZM'+0 'ZM'+1	ZOOM	zoom off zoom on
'RS'+0 'RS'+1 'RS'+2 'RS'+3	RESET	system reset reset image location reset image size reset video settings
'TP'+0 'TP'+1	PATTERN	test pattern off test pattern on
'OF'+0 'OF'+1 'OF'+2	Output Format	CV/SV output RGB output YUV output
'AR'+value	zoom AREA	'AR'+1 ~ 'AR'+9 zoom area1 ~ area9
'AS'+0 'AS'+1	ASPECT	aspect is 4:3 aspect is wide screen
'VR'+value	VERSION	CPT-380 firmware version

