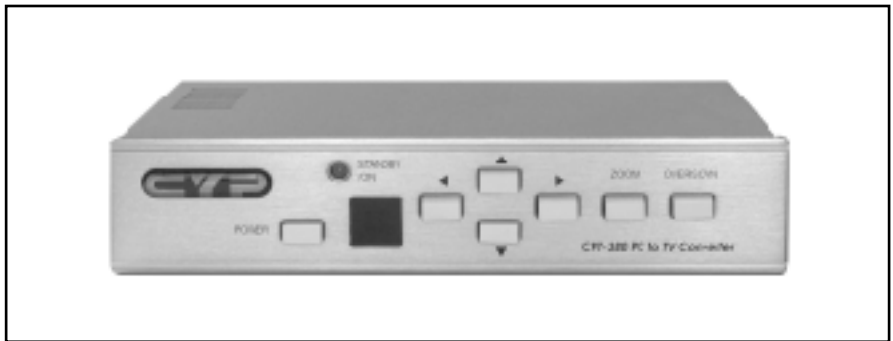


PC to Video Converter

Operation Manual



Applications

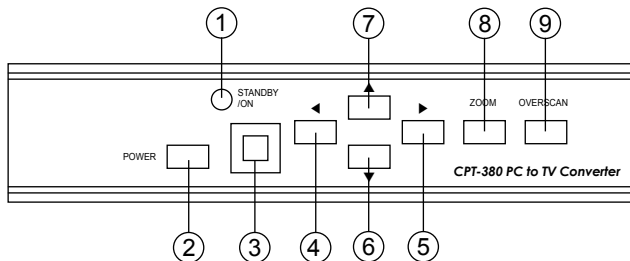
The CPT-380 PC to Video scan converter is designed to convert a variety of computer images, from 640x480 up to 1600x1200, to interlaced NTSC or PAL video. It offers a variety of output formats including composite, S-Video, YUV and RGBS. It is ideal for use in applications like video conference, home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

Features

1. Automatically detects and down converts the incoming PC images to NTSC or PAL.
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.

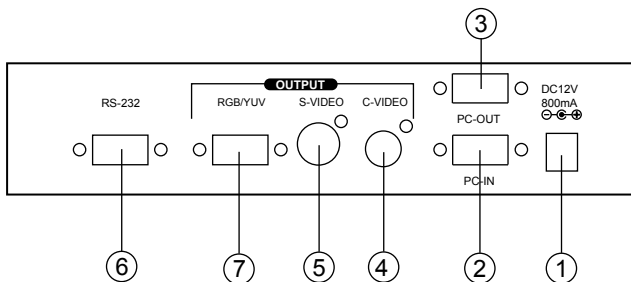
Operation Controls and Functions

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

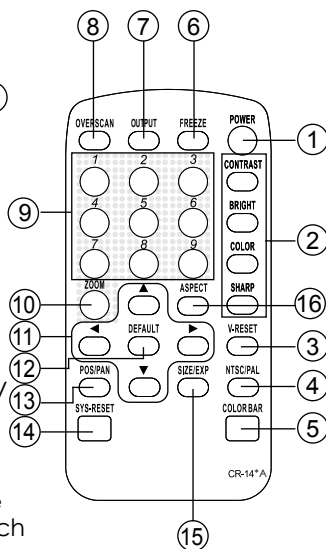


1. DC power supply 12V 800mA.
2. PC input VGA connector.
3. PC loop-through output connector.
4. Composite video out RCA connector.
5. S-video out connector.
6. RS-232 DB-9 connector.
7. RGB or YUV out connector.

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 an 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**

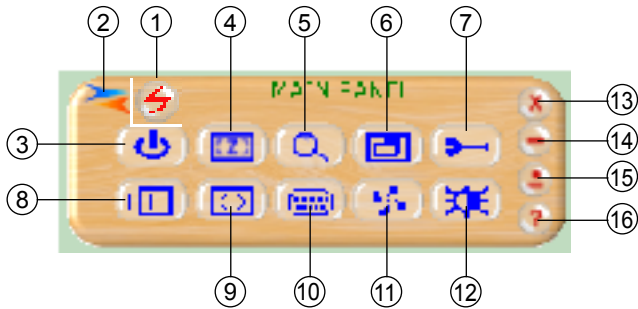
* **Software installation:**

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 | 5. Magnifier | 9. Size/Expand | 13. Close |
| 2. Mode indicator | 6. Over/Under scan | 10. Output Format | 14. Minimize |
| 3. System reset | 7. Option | 11. Freeze | 15. System tray |
| 4. Zoom | 8. Position/Pan | 12. Video settings | 16. About |

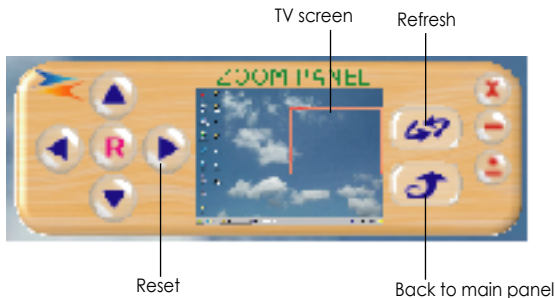
* **Power:** Power ON/Off.

* **Mode indicator:**

- Grey icon: Virtual mode operation.
- Colored icon: Real mode operation.

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

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

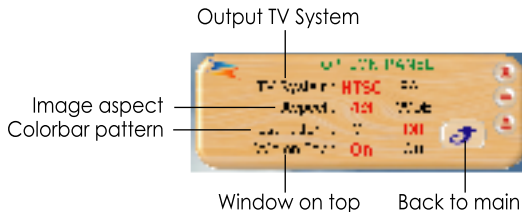


RS-232 Software Operation

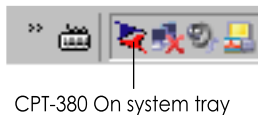
- * **Magnifier:** Drag and move magnifier to the place where you want to see. If the screen image is changed, then click(refresh).



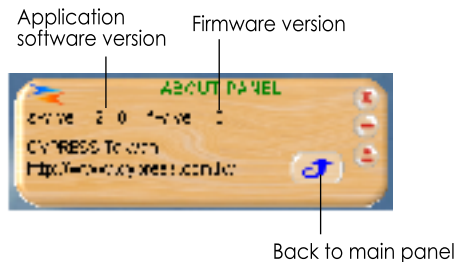
- * **Over/Under scan:** TV overscan adjustments are "pan" and "expand" ; underscan adjustments are "position" and "size".
- * **Option:** TV system: NTSC or PAL output
Aspect pattern: 4:3 or widescreen.
Test pattern: Colorbar test pattern ON/Off.
Window ON Top: Application software window always on top ON/Off.



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



- * **Minimize:** Shrink application software to window taskbar.
- * **About:** Display application software version and firmware version.



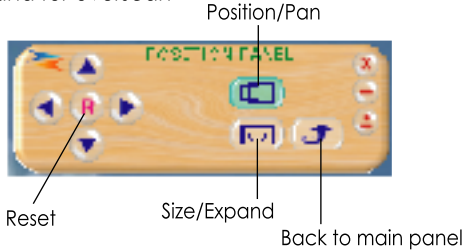
RS-232 Software Operation

* **Close:** Terminate application software.

* **Position/Pan and Size/Expand adjustments**

Position/Size for underscan

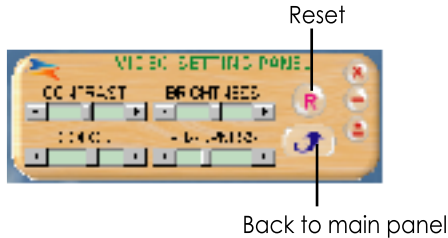
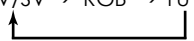
Pan/Expand for overscan



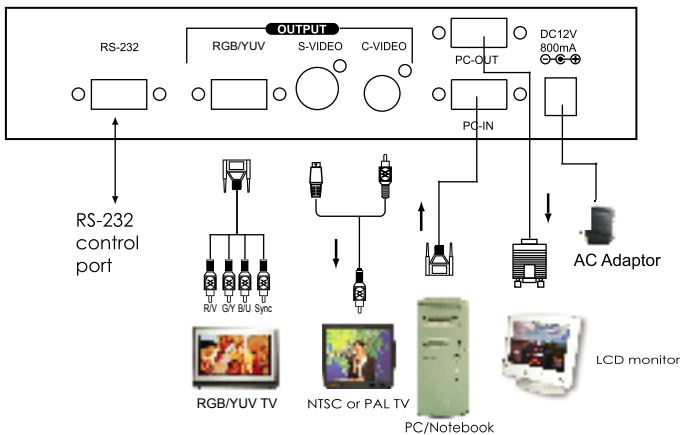
* **Output Format:** Select output format-Press repeatedly to circle through CV/SV → RGB → YUV

* **Screen freeze:** Still screen.

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



Connection and Installation



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:

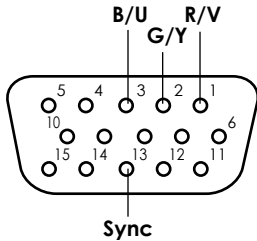
NTSC or PAL TV system

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

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 |
| '0F'+0 '0F'+1□ '0F'+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 retrive CPT-380 all status |
| 'AL'+1 | ALL | retrive '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 |
| '0F'+0 '0F'+1 '0F'+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 |