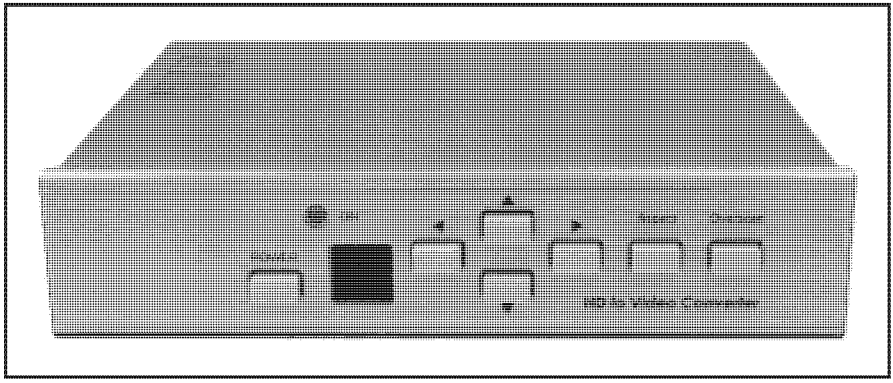
PC/HDTV to Video Scan Converter

Operation Manual



Applications

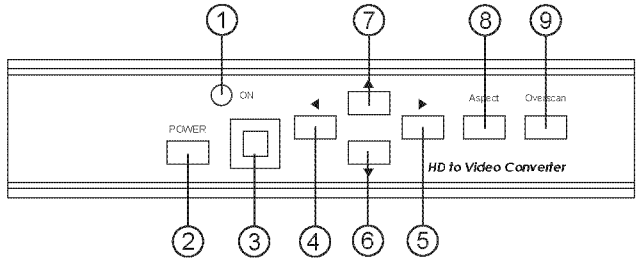
CHD-380 is a high performance and multi-format Video Scan Converter. It is designed to convert not only PC but also HDTV images to interlaced NTSC/PAL and component output. It is ideal for use in applications like video conference, home theater, business presentation, lecturing room or viewing PC/HDTV 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 flicker-free picture.
8. Aspect adjustment for wide-screen HDTV source.
9. Adjustment contrast, brightness, color, sharpness.
10. Last memory.
11. Useful function-overscan, freeze, test pattern, magnifier.
12. Adjustment and control through RS-232 interface.
13. Remote control, OSD operation display.

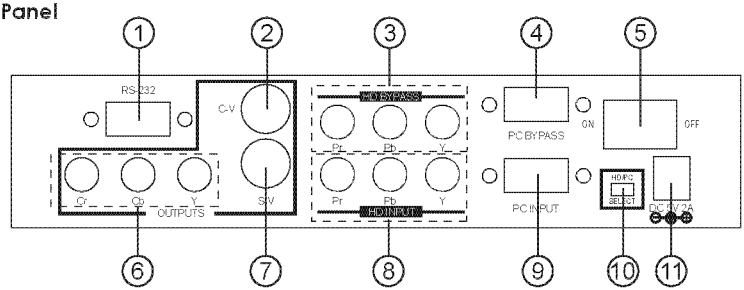
Operation Controls and Functions

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 power ON or Standby.
3. Remote control sensor.
4. ◀ Button: Push the button to adjust the picture leftward under Position,Pan or Zoom mode.
5. ▶ Button: Push the button to adjust the picture rightward under Position,Pan or Zoom mode.
6. ▼ Button: Push the button to adjust the picture downward under Position,Pan or Zoom mode.
7. ▲ Button: Push the button to adjust the picture upward under Position,Pan or Zoom mode.
8. Aspect button: Push the button to select the screen aspect- Full→Pan & Scan→ Letterbox.
9. Overscan button: Push the button to overscan/underscan the picture.

Rear Panel

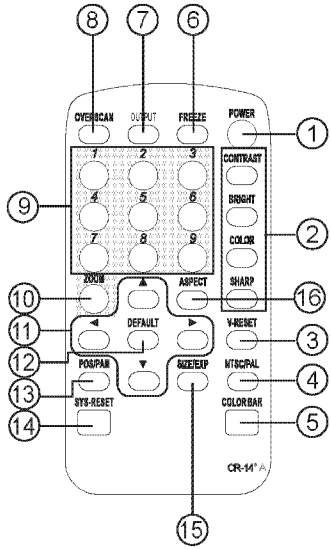


1. RS-232 DB-9 connector.
2. Composite video output connector.
3. HDTV (YPbPr) loop-through output connector.
4. PC Loop-through output connector.
5. Main power ON/OFF switch.
6. YCbCr Component output connector.
7. S-Video output.
8. HDTV (YPbPr) input connector.
9. PC input connector.
10. Input source 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" key on IR-remote to select output format.

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 vaule.
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 fromat.
   Press repeatedly to toggle through CV/SV → YCbCr
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 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
    - 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 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 full, Pan & Scan or letterbox.

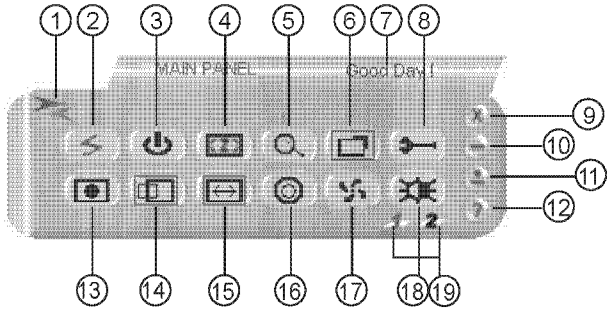
RS-232 Software Operation

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

*** Software installation:**

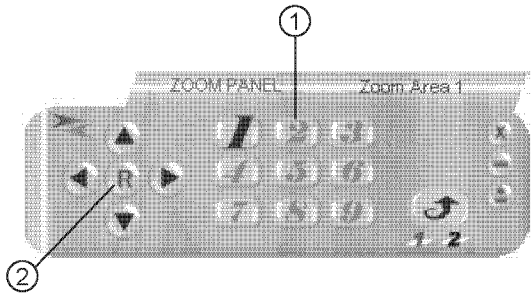
1. Place installation CD on CD-ROM drive.
2. Execute setup.exe on installation CD.
3. OS maybe requires to update some files.
   Please re-start PC. After starting PC ready, execute setup. exe again.
4. Click taskbar menu (START)->(Programs)->(Scan Converter) to execute software.

*** Main Panel**



1. Connection Status
2. Power
3. System reset
4. Zoom
5. Magnifier
6. Over/Under scan
7. Prompt
8. Option
9. Close
10. Minimize
11. System tray
12. About
13. Aspect
14. Pan/Position
15. Expand/Size
16. Output Format
17. Screen freeze
18. Video Settings
19. RS-232 Com Port

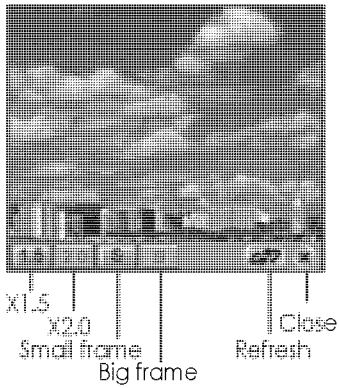
1. **Connection Status:** Grey icon means disconnection to CHD-380 unit.
   Colored icom means connection to CHD-380 unit.
2. **Power: Power on/off**
3. **System reset:** Reset CHD-380 settings to default value.
4. **Zoom:** Turn zoom on.



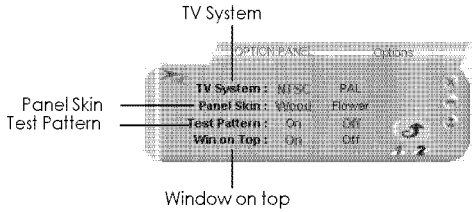
1. Zoom Area: Zoom area selection - 1~9.
2. Reset: Reset to zoom area 1.

RS-232 Software Operation

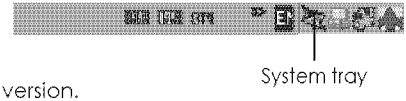
5. **Magnifier:** Turn magnifier on. Only for PC-INPUT.



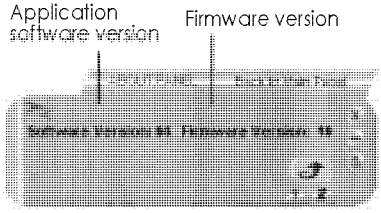
6. **Over/Under scan:** TV overscan adjustments are "pan" and "expand" ; underscan adjustments are "position" and "size".
7. **Prompt:** Operation message.
8. **Option:** Options of TV System, Panel Skin, Test Pattern, Window-top.



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.

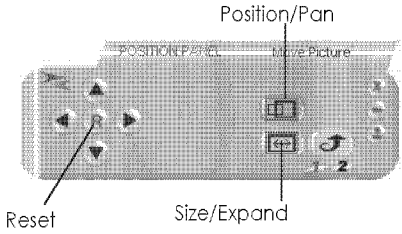


Software Version: Application Software version.
Firmware Version: CHD-380 firmware version.

RS-232 Software Operation

13. Aspect: Select the screen aspect- Full-> Pan & Scan -> Letterbox

14/15. Position/Pan and Size/Expand adjustments



Positio/Pan Adjustments: Position for underscan, Pan adjustment for overscan.
Size/Expand Adjustments: Size for underscan, Expand for overscan.
Reset: Reset settings to default values.

16. Output format: Select output format for C-V/S-V or YCbCr.

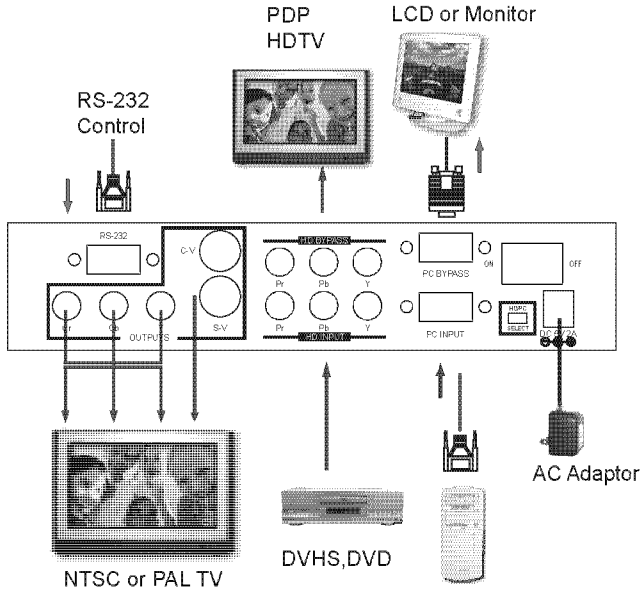
17. Screen freeze: Still screen.

18. Video settings: Brightness/Contrast/Color/Sharpness adjustments.

Reset: Reset settings to default values.

19. RS232 Communination Port: COM1: or COM2:.

Connection and Installation



Specifications

Input terminals:
- PC on HD-15
- HDTV or SDTV on 3 RCA (YPbPr or YCbCr)

Input resolutions:
- **PC resolution list:**
  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
- **HDTV resolution list:**
  480i & 480p @ 60Hz
  576i & 576p @ 50Hz
  720p @ 50 & 60Hz
  1080i @48, 50 & 60Hz

Output terminals:
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 control, IR remote control,
RS-232 control.

Last memory.

Accessories:
HD-15(male) to HD-15(male) VGA cable x 1
Component video 3 RCA to 3 RCA cable x 1
Video cable x 1
S-Video cable x 1
IR remote control x 1
Application software CD x 1

Power: DC 5V/2A, center positive.
Dimensions: 204(W) x 155(D) x 50(H)mm
Weight: 1 Kgs

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

Pins definition of modem cable

CHD-380			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

* 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:
  * Command / Response codes are the combination of 6 bytes.
  * Every command's transmission, scan converter responses the equal codes.
  * Only PWR???, VER??? codes are available while unit is on Power-Off status.
  * Some functions need time to process.
    So you have to wait for "RDY???" code received, then you can do next command.

Code	Ready State	Comment	
PWR000		POWER	power off
PWR001	RDY005		power on
PWR999			Inquire status
NPO000		N/P output	NTSC output
NPO001			PAL output
NPO999			Inquire status
FRZ000		FREEZE	freeze image off
FRZ001			freeze image on
FRZ999			Inquire status
SCN000		SCAN	underscan
SCN001			overscan
SCN999			Inquire status
ZOM000	RDY006	ZOOM	zoom off
ZOM001	RDY006		zoom on
ZOM999			Inquire status
MVU000		Move UP	move UP button release
MVU001			move UP button press
MVD000		Move DOWN	move DOWN button release
MVD001			move DOWN button press
MVL000		Move LEFT	move LEFT button release
MVL001			move LEFT button press
MVR000		Move RIGHT	move RIGHT button release
MVR001			move RIGHT button press
SZU000		Size UP	shorter height image button release
SZU001			shorter height image button press
SZD000		Size DOWN	higher height image button release
SZD001			higher height image button press
SZL000		Size LEFT	narrower width image button release
SZL001			narrower width image button press
SZR000		Size RIGHT	wider width image button release
SZR001			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		Output Format	CV / SV
FMT001			YsUV
FMT999			Inquire status
ARA001~ARA009		Zoom AREA	zoom area1~ area9
ARA999			Inquire status
ASP000		ASPECT	aspect is full-screen
ASP001			aspect is pan&scan
ASP002			aspect is letterbox
ASP999			Inquire status
CON001~CON063		CONTRAST	range = 0 ~ 63
CON999			Inquire status
BRI000~BRI255		BRIGHTNESS	range = 0 ~ 255
BRI999			Inquire status
SAT000~SAT063		SATURATION	range = 0 ~ 63
SAT999			Inquire status
FLK000~FLK021		FLICKER	range = 0 ~ 21
FLK999			Inquire status
VER???		VERSION	unit firmware version response
VER999			inquire unit firmware version