Scart/Video to HDMI Scaler Box

Operation Manual

CM-393 Scart to HDMI Scaler
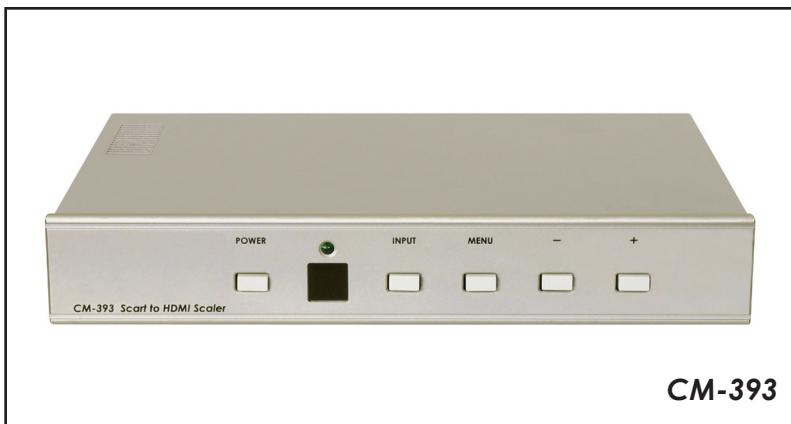
CM-393

(1). Introduction:

Congratulations on your purchase of the Cypress Video Scaler CM-393.
Our professional Video Scaler products have been serving the industry
for many years.
In addition to Video Scalers, Cypress offers a full line of high quality
PC multimedia,Standard Converters, HDMI/DVI Splitters and Switchers
Video Mixer, Time Base Correctors,and Video Processors.
Please visit www.cypress.com.tw to learn more details about these products.
This manual includes operation information on the CM-393 model.
Please read this to become familiar with the CM-393 and keep the manual
for possible reference in the future.
Cypress's CM-393 is designed to scale up scart, Composite and S-Video to
HDMI output.It also accepts two HDMI inputs that can be switched with
scaled-up HDMI and bypassed to the HDMI output. Cypress CM-393 has
many great features to enhance video performance and is ideal for use in
professional large screen presentation.

(2). Features:

1. Scales up 2 scarts, 1 composite, and 1 S-Video to high definition HDMI fromat.
2. Accepts 2 x Scart/ 1 x Composite/ 1x S-Video, each with audio,
   and 2x HDMI inputs.
3. Audio lip-sync(audio delay) ensures perfect synchronization between video
   and audio output.
4. Input video systems- NTSC 3.58/PAL/RGB50Hz/ RGB60Hz auto detection.
5. HDMI output resolution- VGA /SVGA/XGA/WXGA/SXGA/480P/576P/720P/
   540P(pseudo 1080i).
6. 3D(frame Based)motion adaptive YNR/CNR noise reduction (for Y/C video input)
7. Advanced 3D motion adaptive deinterlace
8. Automatic 2：2/3：2 film mode detection
9. Supports 50Hz to 60Hz frame rate conversion
10. Video quality improvement：
    DCT1(Digital chroma transient improve),
    DLT1(Digital luminance transient improve),
    Black level extension.
11. Average picture level (APL), Automatic contrast limiter (ACL)
    function supported.
12. OSD menu for picture quality adjustment- bright/contrast/color/tint/sharp.
13. Built in 8-bit DAC for RGB or YPbPr output.
14. Front Panel and IR remote control.
15. Automatic NTSC/PAL video format detection and switching.

(3) This package includes:

1. Video Scaler Unit.
2. DC adaptor.
3. S-Video cablex1.
4. Audio cable 2 RCA to 3.5mm phone jack x1.
5. 1RCA-1RCA video cable x1.
6. User Manual.
7. Remote Control.
8. Lithium battery.

# *(4). Operation Controls and Functions:*
Front Panel
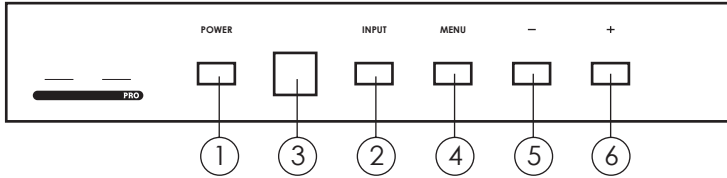
1. Power button and LED indicator:
Press the button once to power on the unit, Press again to power off (Standby). when the unit is powered on, the LED illuminates in green. When the unit is in standby the LED illuminates in RED. To complete power off the unit disconnect the power cable from the power plug on the back of the unit.

2. Input select button:
Press the button repeatedly to select your desired input source by toggling though 6 input sources.

Scart 1 → Scart 2 → composite → S-video → HDMI 1 → HDMI 2
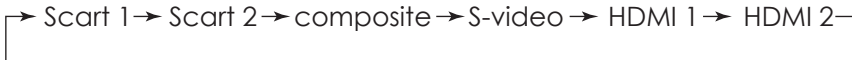
The factory default input setting is scart 1.
The CM-393 has last memory capability to memorize the last input selected before power down and to return to that input when power back on again.
## 3. IR Sensor: Infrared remote control sensor.
4. Menu/Enter: This button serves two purposes.
a. Press the button to enter OSD main control menu as shown in the "OSD Operation".
b. To act as a "enter" key to enter sub menu of your selected item.
5/6. +/- button: Press the button to move up or down the cursor to your
desired parameter. Or after a parameter is selected, Press the button to alter the value of your selected parameter.

Rear Panel
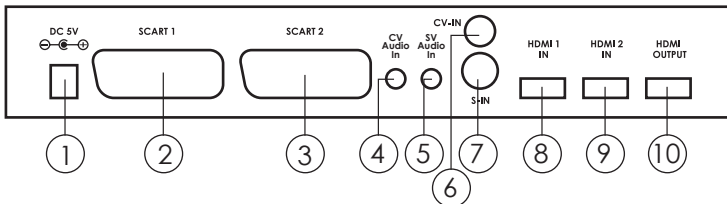
1. DC power jack: 5V 2A DC power input.
2. SCART 1: Use a scart cable to connect the scart output of your source
equipment to this scart input.
The DC voltage on scart pin-16(fast blanking) from the source equipment will decide whether output from source device is RGB Sync or composite.
In case if pin-16 is floating or pull high, the CM-394 will set to RGBS mode. Otherwise it will be set to composite mode. The detection of pin-16 voltage from the source and therefore the signal format is carried out automaticaly on CM-393.
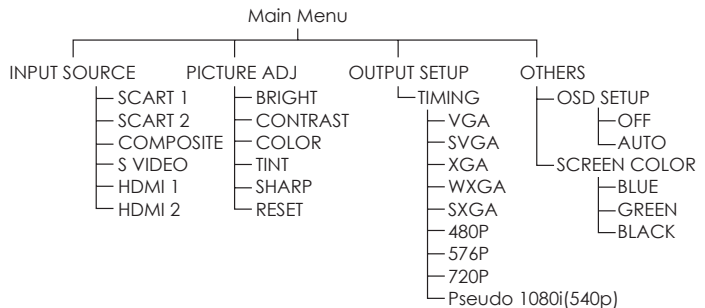## 3. SCART 2: Use a scart cable to connect the scart output of your 2nd scart
source to this scart input of the CM-393.

4. CV Audio in: Stereo audio input associated with composite video in
via 3.5 mm phone jack.
5. SV audio in: Stereo audio in associated with S-Video in via 3.5 mm
phone jack.
6. CV-IN: Use a Composite video cable to connect the composite video
output of the source equipment to this composite video(CV) input
of the scaler.
7. S-Video: Use a S-Video cable to connect the S-Video output of the
source video equipment to this " S-Video" input on the back of the video Scaler.
S-Video provides improved performance over composite video and is
recommended over composite.

8. HDMI (DVI) in 1: Connect this HDMI input connector to the HDMI output
connector of your first HDMI source equipment using certified HDMI cable.
Or connect this HDMI input connector to the DVI output of your DVI source
equipment using DVI cable together with a DVI to HDMI adaptor.
This input when selected is bypassed to the HDMI output.
9. HDMI (DVI) in 2: Connect this HDMI input connector to the HDMI output
connector of your second HDMI source equipment using certified HDMI cable.
Or connect this HDMI input connector to the DVI output of your DVI source
equipment using DVI cable together with a DVI to HDMI adaptor.
This HDMI input when selected is bypassed to the HDMI output.
10. HDMI out: Scaled digital HDMI output. Connect this output to the HDMI or
DVI input of your HD display.

(5). OSD Operation:

After power on the unit , press the Menu button to bring up the main menu
page as below:

Main Menu

	Main Menu
	INPUT SOURCE	PICTURE ADJ	OUTPUT SETUP	OTHERS

Main Menu
√ **Input Source**
Picture adj.
Output Setup
Others
Exit

INPUT SOURCE	PICTURE ADJ	OUTPUT SETUP	OTHERS
SCART 1	BRIGHT	TIMING	OSD SETUP
SCART 2	CONTRAST	VGA	OFF
COMPOSITE	COLOR	SVGA	AUTO
S VIDEO	TINT	XGA	SCREEN COLOR
HDMI 1	SHARP	WXGA	BLUE
HDMI 2	RESET	SXGA	GREEN
		480P	BLACK
		576P	
		720P	
		Pseudo 1080i(540p)	

Use +,- button to move "V" to your desired parameter, then press MENU/ENTER
to enter into sub-menu of your selected parameter.

Input Source:
Select Input Source and press MENU/ENTER to enter into Input Source submenu.
Use +,- button to move "V" to your desired input source. Press MENU to
confirm your selection.

Picture Adjust

When Picture Adjust is selected a sub menu as below appears.

	Default	Range
BRIGHT	32	0-64
√ CONTRAST	32	0-64
COLOR	32	0-64
TINT	16	0-32
SHARP	03	0-8
RESET		
EXIT		

USE +,- to move the tick (V) to your desired adjust item, Press the Menu/Enter to confirm your selection.
At this point, the selected parameter will turn red, and you can use +,- to increase or decrease the value of the parameter.
When adjustment is complete, Press "Menu" to leave the parameter. Move the tick "V" to "Exit", then press menu/enter to exit.

Output Setup

When Output Set up is selected a submenu as below appears:

Output Setup
√ Timing XGA
Exit

Press the " MENU/ENTER" button to enter into output timing select mode.
Press +,- to toggle through a variety of output resolutions as below.
Once your desired resolution is selected. press the Menu/Enter
to enter the resolution. The output picture will be adjusted to your newly selected resolution.

	Resolution	Vertical rate
VGA	640x480	60Hz
SVGA	800x600	60Hz
XGA	1024x768	60Hz
WXGA	1280x768	60Hz
SXGA	1280x1024	60Hz
480p	720x480	60Hz
576p	720x576	50Hz
720p	1280x720	50/60Hz
Pseudo 1080i	960x540p	50/60Hz

Note: 1. All PC output resolution has 60 Hz vertical rate.
   **2. Vertical rate of 480p and 576p output is 60 Hz and 50 Hz respectively.**
   3. The vertical rate of 720p and pseudo 1080i(540p) can be 50 or 60 Hz depending on the vertical rate of their respective video input.
   4. - The output signal format for the 5 PC resolutions (VGA~SVGA) is HDMI RGBHV.
      - The output signal format for the 4 HD resolution (*480p~pseudo1080i) is HDMI YPbPr.
   5. Since CM-393's pseudo 1080i output is actually a 540P resolution (960x540p) it may not be accepted by many HDMI TVs due to its pixel clock is only half the real 1080i.

(6). Scart input pin configuration:

8. Bypass.
9. GND.
10. Bypass.
11. RGB Green input.
12. Bypass.
13. GND.
14. GND.
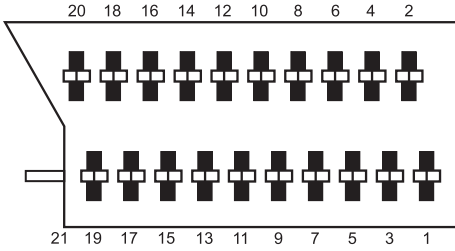
1. Audio output 1, Right channel.
2. Audio input 1, Right channel.
3. Audio output 2, Left channel.
4. GND.
5. GND.
6. Audio input 2, Left channel.
7. RGB Blue input.

15. Chroma or RGB Red input.
16. Bypass (fast blanking).
17. GND.
18. GND.
19. Video output.
20. Video Input.
21. GND/Shield.

(7). Remote Control

1. **Display:** Press the button to display input source and output resolution on the screen.
2. **Power:** Power ON/OFF button.
3. **VGA~Pseudo 1080i:** Press to select your desired output resolution.
4. **Picture:** Press the button to enter picture adjust submenu. Use +,- button to move cursor (V) up/down to your desired parameter, press "Picture" again to confirm.
5. **+/-:** Press to move up/down the cursor (V) to your desired parameter,or press to increase/decrease the setting value.
6. **Reset:** Press to reset all picture setting back to factory default value.
7. **Exit:** To exit OSD.
8. **SCART 1:** Press the button to select scart 1 input.
9. **SCART 2:** Press the button to select scart 2 input.
10. **Composite:** Press the button to select composite video input.
11. **SVideo:** Press the button to select SVideo input.
12. **HDMI 1:** Press the button to select HDMI 1 input.
13. **HDMI 2:** Press the button to select HDMI 2 input.
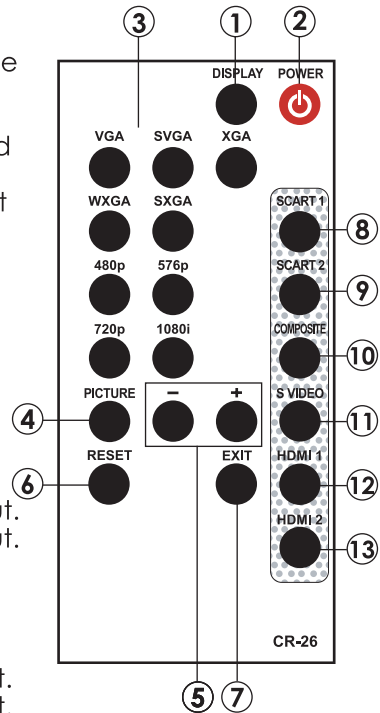
(8). Specifications

Input signal levels	Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm Color@ 0.7 Vp-p, 75 ohm, Scart RGB x 2
Output Fomat	Digital RGB or YPbPr TMDS
Output Connector	HDMI Type-A x 1
Output Singnal	Digital TMDS
Weights	1.5 kgs
Dimensions	277(W) x 183(D) x 49(H) mm

Output Signal Specifications

PC Resolutions		Vert Rate	Format	Scan Type
VGA	640 X 480	60 Hz	RGBHV	Progressive
SVGA	800 X600	60 Hz	RGBHV	progressive
XGA	1024X768	60 Hz	RGBHV	Progressive
WXGA	1360X768	60 Hz	RGBHV	Progressive
SXGA	1280X1024	60 Hz	RGBHV	Progressive
HDTV Resolutions		Vert Rate	Format	Scan Type
480p	720 x 480	60 Hz	YPbPr	Progressive
576p	720 x 576	50 Hz	YPbPr	Progressive
720p	1280 x 720	50/60 Hz	YPbPr	Progressive
Pseudo 1080i	960 x 540p	50/60 Hz	YPbPr	Progressive

(9). Installation

VCR, DVD, STB, DVHS

Scarts, Video, SVideo

PS3

HDMI 1

Sky STB

HDMI 2

HDMI to DVI adaptor

HDMI Cable

or

HDMI Cable

HDMI TV

DVI display