Video to PC/HD Scaler Box

Operation Manual
(1). Introduction
This scaler box is designed to convert Composite and S-Video to a variety of computer and HDTV resolutions. It handles video input from TV systems of NTSC, PAL TV standards. The system has many great features to enhance video performance and is ideal for use in professional large screen presentation.

(2). Features:
1. Motion adaptive 3D Y/C separation comb filter
   (for composite video input)
2. 3D (frame Based) motion adaptive YNR/CNR noise reduction
   (for Y/C video input)
3. Advanced 3D motion adaptive deinterlace
4. Automatic 2 : 2/3 : 2 film mode detection
5. Supports 50Hz to 60Hz frame rate conversion
6. Video quality improvement:
   DCTI (Digital chroma transient improvement), DLTI (Digital luminance transient improvement),
   Black level extension.
7. Average picture level (APL), automatic contrast limiter (ACL) function supported.
8. OSD menu for picture quality adjustment.
9. Built-in 8-bit DAC for RGB or YPbPr output.
10. Front Panel and IR remote control.

(3) This package includes:
1. Video Scaler Unit.
2. DC adaptor
3. VGA Cable-HD 15 to HD 15 x 1
4. HD-15 D-Sub to YPbPr 3-RCA Cable x 1
5. User Manual
6. Remote Control
7. Lithium battery
1. Power button and LED indicator:
Press the button once to power on the unit. Press again to power off. when the unit is powered on, one of the input LEDs will illuminate depending on your last selection of input source before power off. The factory default setting for the input is CV (composite video). The green LED illuminates when composite video is selected. The yellow LED illuminates when S-Video is selected.

2. Input select button:
Press the button to select your desired input source between composite video and S-Video.

3. IR Sensor: Infrareel 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 tick V to your desired parameter. Or after a parameter is selected, Press the button to alter the value of your selected parameter.
This package includes:
1. Video Scaler Unit.
2. DC adaptor
3. VGA Cable-HD 15 to HD 15 x 1
4. HD-15 D-Sub to YPbPr 3-RCA Cable x 1
5. User Manual
6. Remote Control
7. Lithium battery

Features:
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2. 3D( frame Based ) motion adaptive YNR/CNR noise reduction ( for Y/C video input )
3. Advanced 3D motion adaptive deinterlace
4. Automatic 2/3, 2/3 film mode detection
5. Supports 50Hz to 60Hz frame rate conversion
6. Video quality improvement DCTI (Digital chroma transient improvement), DLTI (Digital luminance transient improvement), Black level extension.
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8. OSD menu for picture quality adjustment.
9. Built-in 8-bit DAC for RGB or YPbPr output.
10. Front Panel and IR remote control.

(5). OSD Operation:
After power on the unit, press the menu button to bring up the main menu page as below:
   Main Menu
   ✓ Picture adj.
   Output Setup
   Exit

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

Picture Adjust
When Picture Adjust is selected a sub menu as below comes up.

<table>
<thead>
<tr>
<th></th>
<th>Default</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bright</td>
<td>16</td>
<td>1-31</td>
</tr>
<tr>
<td>✓ Contrast</td>
<td>16</td>
<td>1-31</td>
</tr>
<tr>
<td>Color</td>
<td>16</td>
<td>1-31</td>
</tr>
<tr>
<td>Tint</td>
<td>16</td>
<td>1-31</td>
</tr>
<tr>
<td>Sharp</td>
<td>05</td>
<td>1-19</td>
</tr>
<tr>
<td>Default</td>
<td>OK</td>
<td></td>
</tr>
<tr>
<td>Exit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Vertical rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA</td>
<td>640x480</td>
</tr>
<tr>
<td>SVGA</td>
<td>800x600</td>
</tr>
<tr>
<td>XGA</td>
<td>1024x768</td>
</tr>
<tr>
<td>WXGA</td>
<td>1280x768</td>
</tr>
<tr>
<td>SXGA</td>
<td>1280x1024</td>
</tr>
<tr>
<td>UXGA</td>
<td>1600x1200</td>
</tr>
<tr>
<td>WUXGA</td>
<td>1920x1200</td>
</tr>
<tr>
<td>480p</td>
<td>720x480</td>
</tr>
<tr>
<td>576p</td>
<td>720x576</td>
</tr>
<tr>
<td>720p</td>
<td>1280x720</td>
</tr>
<tr>
<td>Pseudo 1080i</td>
<td>960x540p</td>
</tr>
<tr>
<td>1080p</td>
<td>1920x1080</td>
</tr>
</tbody>
</table>

Note: 1. - The output signal format (VGA~WUXGA) is RGBHV.
       - The output signal format for the 5 HD resolutions (480p~1080p) is YPbPr.
This package includes:
1. Video Scaler Unit.
2. DC adaptor
3. VGA Cable-HD 15 to HD 15 x 1
4. HD-15 D-Sub to YPbPr 3-RCA Cable x 1
5. User Manual
6. Remote Control
7. Lithium battery

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   - DCTI (Digital chroma transient improvement), DLTI (Digital luminance transient improvement), Black level extension.
7. Average picture level (APL), automatic contrast limiter (ACL) function supported.
8. OSD menu for picture quality adjustment.
9. Built-in 8-bit DAC for RGB or YPbPr output.
10. Front Panel and IR remote control.

(6). HD-15 Pin Assignment

1. PC RGB output (VGA~WUXGA)

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Pin No.</th>
<th>Description (PC out)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RED</td>
<td>DB15HD</td>
</tr>
<tr>
<td>2</td>
<td>GREN</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>BLUE</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>GND (DDC-RETURN)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>GND-RED</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>GND-GREEN</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>GND-BLUE</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>N.C</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>GND-SYNC</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>GND</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>DDC-DATA</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>H-SYNC</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>V-SYNC</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>DDC-CLOCK</td>
<td></td>
</tr>
</tbody>
</table>

2. HD YPbPr output (480p~1080p)

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Pin No.</th>
<th>Description (HD out)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pr</td>
<td>DB15HD</td>
</tr>
<tr>
<td>2</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Pb</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>GND (DDC-RETURN)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>GND-Pr</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>GND-Y</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>GND-Pb</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>N.C</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>GND-SYNC</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>GND</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>DDC-DATA</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>H-SYNC</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>V-SYNC</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>DDC-CLOCK</td>
<td></td>
</tr>
</tbody>
</table>

(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~1080p: 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 setting back to factory default value.
7. Exit: To exit OSD.
8. Video: Press the button to select composite video input.
9. SVideo: Press the button to select SVideo input.
(8). Specifications

<table>
<thead>
<tr>
<th>Input Signal Levels</th>
<th>Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm Color@ 0.7 Vp-p, 75 ohm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Format</td>
<td>Analog YPbPr / HDTV, or RGB/PC</td>
</tr>
<tr>
<td>Output Connector</td>
<td>HD 15 Female</td>
</tr>
<tr>
<td>Output Signal</td>
<td>RGB @ 0.7 Vp-p, H&amp;V Sync @ 3 Vp-p, Y @ 1 Vp-p, Pb, Pr! 0.7 Vp-p 75 ohm</td>
</tr>
<tr>
<td>Weight(g)</td>
<td>400</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>125(W) X 123(D) x 30(H)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0°C~40°C</td>
</tr>
<tr>
<td>Silkscreen Color</td>
<td>Process Blue</td>
</tr>
</tbody>
</table>

Output Signal Specifications

<table>
<thead>
<tr>
<th>PC Resolutions</th>
<th>Vert Rate</th>
<th>Format</th>
<th>Scan Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA</td>
<td>640 X 480</td>
<td>60 Hz</td>
<td>RGBHV</td>
</tr>
<tr>
<td>SVGA</td>
<td>800 X600</td>
<td>60 Hz</td>
<td>RGBHV</td>
</tr>
<tr>
<td>XGA</td>
<td>1024X768</td>
<td>60 Hz</td>
<td>RGBHV</td>
</tr>
<tr>
<td>WXGA</td>
<td>1280X768</td>
<td>60 Hz</td>
<td>RGBHV</td>
</tr>
<tr>
<td>SXGA</td>
<td>1280X1024</td>
<td>60 Hz</td>
<td>RGBHV</td>
</tr>
<tr>
<td>UXGA</td>
<td>1600X1200</td>
<td>60 Hz</td>
<td>RGBHV</td>
</tr>
<tr>
<td>WUXGA</td>
<td>1920X1200</td>
<td>60 Hz</td>
<td>RGBHV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HDTV Resolutions</th>
<th>Vert Rate</th>
<th>Format</th>
<th>Scan Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>480p</td>
<td>720 x 480</td>
<td>60 Hz</td>
<td>YPbPr</td>
</tr>
<tr>
<td>576p</td>
<td>720 x 576</td>
<td>50 Hz</td>
<td>YPbPr</td>
</tr>
<tr>
<td>720p</td>
<td>1280 x 720</td>
<td>50/60 Hz</td>
<td>YPbPr</td>
</tr>
<tr>
<td>Pseudo 1080i</td>
<td>960x540p*</td>
<td>50/60 Hz</td>
<td>YPbPr</td>
</tr>
<tr>
<td>1080p</td>
<td>1920x1080</td>
<td>50/60 Hz</td>
<td>YPbPr</td>
</tr>
</tbody>
</table>

* The standard 1080i resolution is 1920 x1080i with sampling rate at 74 MHz. The 1080i output is 960x540p which is half of the standard resolution, therefore may be not be accepted by some of the HDTVs.

Note: For 720p/1080i/1080p output vertical rate depended on input system 50/60 Hz.

(9). Installation

Video to PC or HDTV

VCR, DVD, STB, DVHS → Video, SVideo → Video Scaler Unit → VGA Cable or HDTV output → PC output or HDTV projector, Monitor, or Projectors → LCD, Plasma TV
Introduction

1. Video Scaler Unit.
2. 3D (frame Based) motion adaptive YNR/CNR noise reduction
3. Advanced 3D motion adaptive deinterlace
4. OSD menu for picture quality adjustment.
5. Lithium battery

This scaler box is designed to convert Composite and S-Video to a function supported.

2 film mode detection

Operation Controls and Functions

1. Power button and LED indicator:
   - Press the button once to power on the unit, Press again to power off.

5/6. +/- button:
   - a. Press the button to enter OSD main control menu as shown in the "OSD Operation".

4. Menu/Enter:
   - Press +,- to toggle through a variety of output resolutions as below.
   - Press the "MENU/ENTER" button to enter into output timing select mode.

When Picture Adjust is selected a sub menu as below comes up.

Press the button to select composite video input.

Press the button to move "V" to your desired parameter, then pressing MENU/ENTER to enter into sub-menu of your selected parameter.

Use +,- button to move "V" to your desired parameter, or press to confirm.

Picture adj.

Main Menu

- The output signal format (VGA~WUXGA) is RGBHV.
- The output signal format for the 5 HD resolutions (480p~1080p) is YPbPr.

Note: - The output signal format for your selected parameter will turn red, and you can use +,- to increase/decrease the setting value.

Sharp
Tint
Contrast
Bright

Default Range
16 16 1-31 1-31

1920x1080
720x576
1600x1200
800x600

Vertical rate Resolution
60Hz 50Hz 60Hz 60Hz 50/60 Hz

HDTV Resolutions
1080p Pseudo 1080i 480p

PC Resolutions
WUXGA SXGA XGA SVGA VGA

Output Setup

Power ON/OFF button.

DB15HD
Press to move up/down the cursor (V)
Press to select your desired output resolution.
Press to press to your desired output resolution on the screen.
Press to your desired output resolution.

1 2 3 4 5 6 7 8

Note: For 720p/1080i/1080p output vertical rate depended on input system 50/60 Hz.

Specifications

Output Signal Specifications
- RGB @ 0.7 Vp-p, H&V Sync @ 3 Vp-p, Y @ 1 Vp-p,
- YPbPr
- RGBHV

Input Signal Levels
- 0°C~40°C
- 125(W) x 123(D) x 30(H)
- 1024 X 768
- 640 X 480
- 1920x1080
- 1280 x 720
- 1920x1200
- 1600X1200
- 1280 X 768
- 1024X768
- 640 X 480
- 1920X1200
- 1600X1200
- 1280 X 768
- 1024X768
- 640 X 480
- 1920X1200
- 1600X1200
- 1280 X 768
- 1024X768
- 640 X 480
- 1920X1200
- 1600X1200
- 1280 X 768
- 1024X768
- 640 X 480

DB15HD
Press to move up/down the cursor (V)
Press to reset all setting back to factory default value.
Press to your desired parameter, or press to confirm.

DDC-CLOCK
V-SYNC
H-SYNC
DDC-DATA
GND-SYNC
GND-BLUE
GND-GREEN
GND-RED
GND (DDC-RETURN)
1. Introduction

2. Features:

3. VGA~1080p:

4. Menu/Enter:

5. +/-:

6. Reset:

7. Exit:

8. SVideo:

9. Press the button to select

10. Front Panel and IR remote control.


5. User Manual

4. HD-15 D-Sub to YPbPr 3-RCA Cable x 1

2. DC adaptor

1. Power button and LED indicator:

- The Yellow LED illuminates when S-Video is selected.
- The green LED illuminates when composite video is selected.

When the unit is powered on, one of the input LEDs will illuminate depending on your last selection of input source before power off.

Use a Composite video cable to connect the composite video input.

Press to select your desired input source between composite video and S-Video.

This scaler box is designed to convert Composite and S-Video to an Analog YPbPr / HDTV, or RGB/PC output.

The HD-15 D-Sub connector is shared by PC/RGBHV output and analog YPbPr output.

Use the HD-15 to YPbPr 3 x RCA cable to connect this output to your variety of computer and HDTV resolutions. It handles video input from TV and S-Video.

Supports 50Hz to 60Hz frame rate conversion to enhance video performance and is ideal for use in professional large screen presentation.

Motion adaptive 3D Y/C separation comb filter

Average picture level (APL), automatic contrast limiter (ACL)

The scaler box automatically selects the desired parameter. Or after a parameter is selected, Press the button to alter the desired parameter.

Press the button to enter OSD main control menu as shown in the "OSD Operation".

OSD Operation:

- USE +,- to move the tick (V) to your desired adjust item, Press the Menu/Enter button to confirm your selection.

When Picture Adjust is selected a sub menu as below comes up.

Sharp
- Tint
- Color
- Contrast
- Bright
- Vertical rate

Note: 1. - The output signal format (VGA~WUXGA) is RGBHV.

Output Setup

- Resolution
- Vert Rate
- Scan Type
- Format

PC Resolutions

- Vertical rate
- Resolution

Vert Rate

- WUXGA
- UXGA
- SXGA
- SVGA
- VGA

Resolution

- Timing
- XGA

Timing

- 576p
- 480p
- WUXGA
- UXGA
- SXGA
- SVGA
- VGA

Timing

- 720p
- 576p
- WUXGA
- UXGA
- SXGA
- SVGA
- VGA

Timing

- 50,60Hz
- 60Hz
- 50/60Hz

Input Signal Levels

- Analog YPbPr / HDTV, or RGB/PC
- Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm

Part No.       Pin No.        Description (HD out)

11 10 9 8 7 6 5

DB15HD

Part No.       Pin No.        Description (HD out)

14 13 12 11 10 9 8 7 6 5

DB15HD

Specifications

- Dimensions (mm)
- Input Signal Levels
- Output Signal
- Output Connector

Dimensions (mm)

- RGB @ 0.7 Vp-p, H&V Sync @ 3 Vp-p, Y @ 1 Vp-p,

Output Connector

Analog YPbPr / HDTV, or RGB/PC

Input Signal Levels

Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm

Video to PC or HDTV

VGA Cable

PC output

Projectors

VCR, DVD, STB, DVHS

Output Connector

Analog YPbPr / HDTV, or RGB/PC

Input Signal Levels

Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm

Video to PC or HDTV

VGA Cable

PC output

Projectors

VCR, DVD, STB, DVHS

HD-15 Pin Assignment

1. PC RGB output (VGA~WUXGA) 2. HD YPbPr output (480p~1080p)

4. Menu/Enter:

3. IR Sensor:

Infrareel remote control sensor.

2. DC adaptor

1. Power button and LED indicator:

- The Yellow LED illuminates when S-Video is selected.
- The green LED illuminates when composite video is selected.

When the unit is powered on, one of the input LEDs will illuminate depending on your last selection of input source before power off.

Use a Composite video cable to connect the composite video input.

Press to select your desired input source between composite video and S-Video.

This scaler box is designed to convert Composite and S-Video to an Analog YPbPr / HDTV, or RGB/PC output.

The HD-15 D-Sub connector is shared by PC/RGBHV output and analog YPbPr output.

Use the HD-15 to YPbPr 3 x RCA cable to connect this output to your variety of computer and HDTV resolutions. It handles video input from TV and S-Video.

Supports 50Hz to 60Hz frame rate conversion to enhance video performance and is ideal for use in professional large screen presentation.

Motion adaptive 3D Y/C separation comb filter

Average picture level (APL), automatic contrast limiter (ACL)

The scaler box automatically selects the desired parameter. Or after a parameter is selected, Press the button to alter the desired parameter.

Press the button to enter OSD main control menu as shown in the "OSD Operation".

OSD Operation:

- USE +,- to move the tick (V) to your desired adjust item, Press the Menu/Enter button to confirm your selection.

When Picture Adjust is selected a sub menu as below comes up.

Sharp
- Tint
- Color
- Contrast
- Bright
- Vertical rate

Note: 1. - The output signal format (VGA~WUXGA) is RGBHV.

Output Setup

- Resolution
- Vert Rate
- Scan Type
- Format

PC Resolutions

- Vertical rate
- Resolution

Vert Rate

- WUXGA
- UXGA
- SXGA
- SVGA
- VGA

Resolution

- Timing
- XGA

Timing

- 576p
- 480p
- WUXGA
- UXGA
- SXGA
- SVGA
- VGA

Timing

- 720p
- 576p
- WUXGA
- UXGA
- SXGA
- SVGA
- VGA

Timing

- 50,60Hz
- 60Hz
- 50/60Hz

Input Signal Levels

- Analog YPbPr / HDTV, or RGB/PC
- Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm

Part No.       Pin No.        Description (HD out)

11 10 9 8 7 6 5

DB15HD

Part No.       Pin No.        Description (HD out)

14 13 12 11 10 9 8 7 6 5

DB15HD

Specifications

- Dimensions (mm)
- Input Signal Levels
- Output Signal
- Output Connector

Dimensions (mm)

- RGB @ 0.7 Vp-p, H&V Sync @ 3 Vp-p, Y @ 1 Vp-p,

Output Connector

Analog YPbPr / HDTV, or RGB/PC

Input Signal Levels

Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm

Video to PC or HDTV

VGA Cable

PC output

Projectors

VCR, DVD, STB, DVHS

Output Connector

Analog YPbPr / HDTV, or RGB/PC

Input Signal Levels

Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm

Video to PC or HDTV

VGA Cable

PC output

Projectors

VCR, DVD, STB, DVHS

HD-15 Pin Assignment

1. PC RGB output (VGA~WUXGA) 2. HD YPbPr output (480p~1080p)

4. Menu/Enter:

3. IR Sensor:

Infrareel remote control sensor.