

HR HALL RESEARCH



TVB-250 Composite & S-Video To VGA/Component Video Processor

UMA1174 Rev. NC

CUSTOMER
SUPPORT
INFORMATION

Order toll-free in the U.S. 800-959-6439
FREE technical support, Call **714-641-6607** or fax **714-641-6698**
Mail order: **Hall Research**, 1163 Warner Ave. Tustin, CA 92780
Web site: www.hallresearch.com E-mail: info@hallresearch.com

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FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been designed to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are intended to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.



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1. Introduction

1.1 General

The TVB-250 has the ability to scale the analog video signal from both NTSC and PAL Composite and S-Video sources into an analog VGA output with a wide range of HDTV and PC resolutions; up to 1080p.

The TVB-250 has an easy to use OSD menu for configuration, picture setup, system information and other advanced options.

1.2 Features

- 3D motion video adaptive Y/C separation Comb Filter (for composite video input)
- 3D (frame based) motion video adaptive YNR/CNR noise reduction (for S-video input)
- Advanced 3D motion adaptive de-interlace
- Automatic 2:2 and 3:2 film mode detection
- Supports 50/60 Hz frame rate conversion
- Video Quality Improvement:
 - DCTI (Digital Color Transient Improvement)
 - DLTI (Digital Luminance Transient Improvement)
 - Black Level Extension
- APL (Average Picture Level) and ACL (Automatic Contrast Limiter) functions supported
- Provides OSD with contrast, brightness, hue, saturation, sharpness, RGB (color tone) and aspect ratio size
- Built in 8 bit DAC for RGBHV or YPbPr Output
- Easy- to- use push buttons and OSD menu control.
- Automatic NTSC/PAL video format detection and switching

2. Installation

2.1 Connections

Connect the video source to the “CV” (Composite) and/or “SV” (S-VIDEO) INPUT connectors.

Connect the display device to the “OUTPUT” Connector.

Connect the power supply to the DC 5V Connector.

2.2 Connection Block Diagram

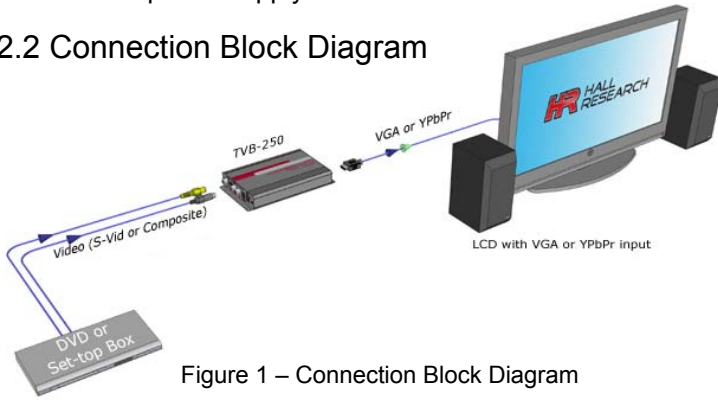
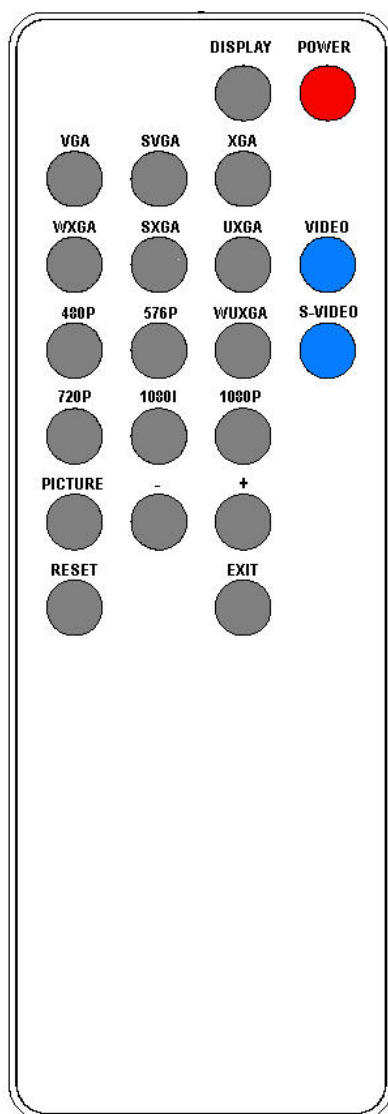


Figure 1 – Connection Block Diagram

2.3 IR Remote Control

The infra-red remote control included with the TVB-250 outputs the following information when the specified IR button is pressed.

Custom Code	
866B	
Hex Code	Key
02	DISPLAY
03	POWER
04	VGA
05	SVGA
06	XGA
08	WXGA
09	SXGA
0A	UXGA
0B	VIDEO
0C	480P
0D	576P
0E	WUXGA
0F	S-VIDEO
10	720P
11	1080I
12	1080P
14	PICTUR E
15	-
16	+
18	RESET
1A	EXIT
Note that even though there is a 1080I button, the unit will not set that resolution as an output	



3. Configuration & Operation

3.1 Input and Output



Figure 2 - Rear



Figure 3 - Front

3.2 Menus and Adjustments

Pressing the Menu button will bring up the OSD menu controls on the screen. Use the up and down arrows to select the desired item, and then press MENU to select and enter into that item's sub menu. Select EXIT from a submenu to go back to the main menu or from the main menu to exit the OSD.

- **PICTURE ADJ**
 - Bright – Adjusts Picture Brightness
 - Range=0-31, Default=16
 - Contrast – Adjusts Picture Contrast
 - Range=0-31, Default=16
 - Color – Adjusts Picture Color
 - Range=0-31, Default=16
 - Tint – Adjusts Picture Tint
 - Range=0-31, Default=16
 - Sharp – Adjusts Picture Sharpness
 - Range=0-19, Default=5
 - Default – Sets parameters back to default
 - Exit the Picture Adj menu

- **Output Setup**
 - **RGBHV**
 - VGA (640x480 60Hz)
 - SVGA (800x600 60Hz)
 - XGA (1024x768 60Hz)
 - WXGA (1280x768 60Hz)
 - SXGA (1280x1024 60Hz)
 - UXGA (1600x1200 60Hz)
 - WUXGA (1920x1200 60Hz)
 - **YPbPr**
 - 480P (720x480 60Hz)
 - 576P (720x576 50Hz)
 - 720P (1280x720 60Hz)
 - 1080P (1920x1080 50/60Hz)

4. Troubleshooting

There are no field serviceable parts or circuits in the device. If you think that the device is malfunctioning (or you have no picture output), please first try to reset to one of the factory default settings. Pressing the “MENU” and “UP ARROW” Buttons simultaneously will set the output resolution to XGA (1024x768 60Hz). Pressing the “MENU” and “DOWN ARROW” Buttons simultaneously will set the output resolution to 480P.

4.1 Contacting Hall Research

If you determine that your TVB-250 is malfunctioning, do not attempt to repair the unit. Contact the Hall Research Technical Support department at 714-641-6607.

Before you do, make a record of the history of the problem.

We will be able to provide more efficient and accurate assistance if you have a complete description.

4.2 Shipping and Packaging

If you need to transport or ship your unit:

- Package it carefully. We recommend that you use the original container.
- Before you ship the units back to Hall Research for repair or return, contact us to get a Return Authorization (RMA) number.

5. Specifications

5.1 General

Input ports	(1) RCA (CV) (1) S-VIDEO
Input Levels	1vPP (CV) 75 Ohm 1vPP (Y) 75 Ohm 1vPP (C) 75 Ohm
Output ports	(1) VGA/YPbPr Output
Output Levels	RGB @ 0.7vPP, H & V @ 3vPP Y@1vPP, Pb & Pr 0.7vPP 75 Ohm
Power Supply	5V/2.6A DC (CE/FCC/UL certified)
Dimensions	4.92" (W) x 4.84" (D) x 1.18" (H) (125mm) x (123mm) x (30mm)
Weight	0.88 Lbs (0.400kg)
Chassis	Aluminum
Operating Temp	32 to 122 DegF (0 to 50 DegC)

5.2 Output Resolutions Available

Output Resolutions Available	
NATIVE	
640x480 (VGA)	60 Hz
800x600 (SVGA)	60 Hz
1024x768 (XGA)	60 Hz
1280x768 (WXGA)	60 Hz
1280x1024 (SXGA)	60 Hz
1600x1200 (UXGA)	60 Hz
1920x1200 (WUXGA)	60 Hz
480P	60 Hz
576P	50 Hz
720P	60 Hz
1080P	50/60 Hz



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