

# RGB - CGA, EGA, HD to VGA Converter ID# 657



Operation Manual

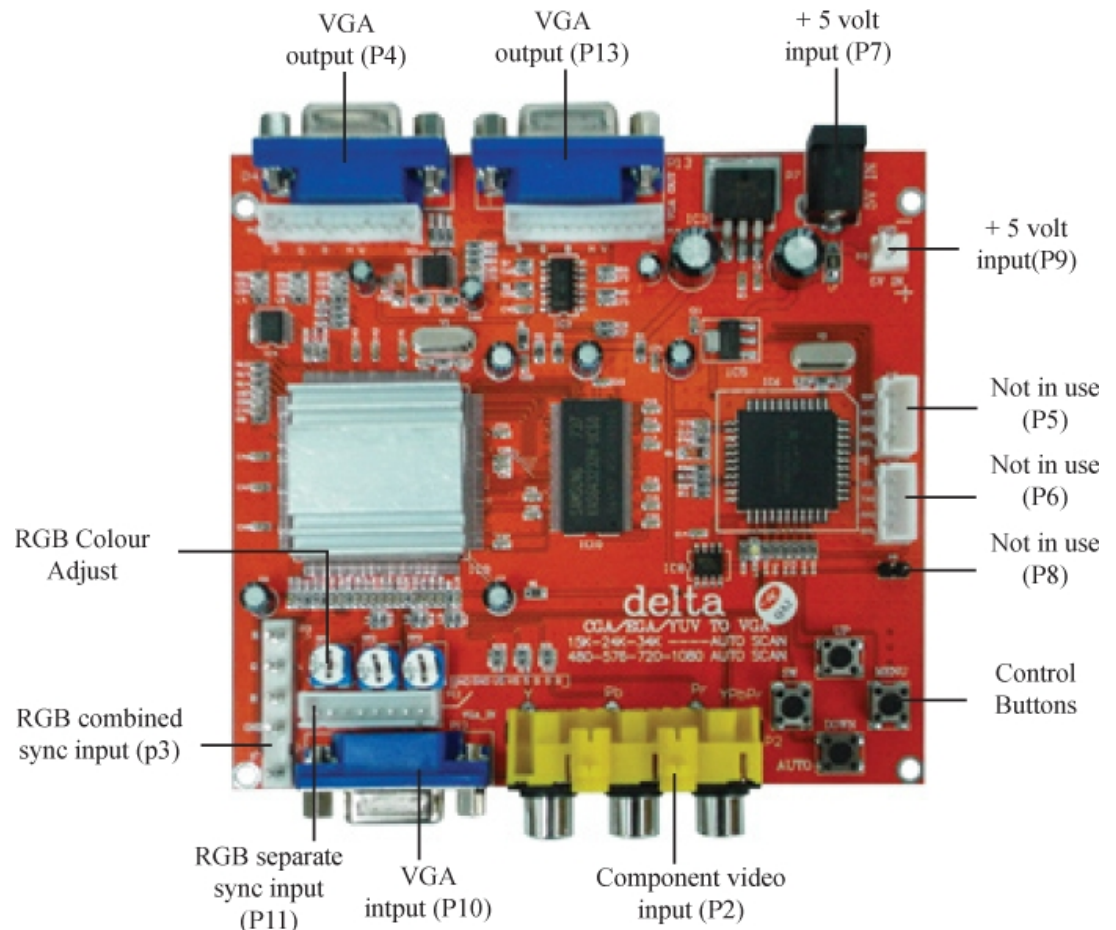
## Introduction

The RGB, CGA, EGA, HD to VGA Converter PCB board is designed for application in Industry and Gaming. Used for the easy upgrade of old monitors to modern display screens. It accepts and converts input signal timings of CGA, EGA, High Definition 480–1080p/i and VGA for output at resolutions of selectable VGA, SVGA, XGA or HDTV. It has a high compatibility with the majority of Video Systems as found in Industrial CNC machinery and Gaming cabinets. The output will support all CRT, LCD and PDP monitors. Now the retro-fit of older, superseded monitors is easy.

## Features

- Supports CGA / EGA / VGA / YCbCr / YPbPr signal inputs
- Supports all VGA monitors (CRT, LCD, PDP)
- Supports Output Resolution control, Position & Size control.
- Digital 24-bit A/D converter for true 16.7-million color conversion.
- English and Chinese On Screen Display menu.
- Input Connection (selectable): RGBS- 5 pin, RGBHV- 8 pin, VGA- 15 pin, Component RGB– 3AV.
- Output Connection: Dual VGA- 15 pin, Dual VGA- 12 pin.
- Supports VGA Output : VGA (640x480), SVGA (800x600), XGA (1024x768), HDTV (1360x768)
- Input Signal Auto Scan: CGA (14.5-16.5KHz) / EGA (23.5-25.5KHz) / VGA (30.5- 32.5KHz)
- Input Signal Auto Scan YCbCr / YPbPr: (480i, 576i, 720i, 1080i, 480p, 576p, 720p, 1080p)

## Connections



\* - To RESET system, press and hold DOWN/AUTO button for 5 SECONDS.  
 \*\* - P5, P6, P8 DO NOT USE. BOARD MALFUNCTION/DAMAGE WILL OCCUR.

Control Buttons	
MENU	Open OSD menu / Enter Parameters.
UP	Up Menu / Increase value.
DOWN/AUTO	Down Menu / Decrease value / Auto Scan / Reset Press this key: auto scan CGA/EGA signal ** this operation is invalid when you open OSD menu**
SW	Select input YPbPr / RGBS / RGBHV-VGA. ** this operation is invalid when you open OSD menu**

**On Screen  
Display**

**GEOMETRY**

- H Position: Increase / Decrease Horizontal Position.
- V Position: Increase / Decrease Vertical Position.
- H Size: Increase / Decrease Horizontal Size.
- V Size: Increase / Decrease Vertical Size.
- Clamp St: Increase / Decrease Black Band
- Clamp Sp: Increase / Decrease Black Band
- Exit

\*\* "Clamp sp" & "Clamp st": Do not adjust this button unless the monitor has black stripe on screen. \*\*

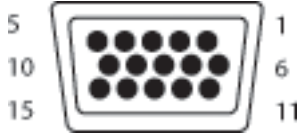
**DISPLAY**

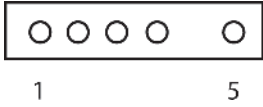
- 640 x 480 VGA out
- 800 x 600 SVGA out
- 1024 x 768 XGA out
- 1360 x 768 HDTV out
- Exit

**LANGUAGE**


- English
- Chinese
- Exit

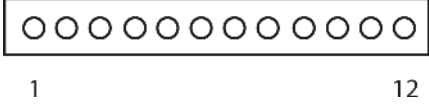
## Connection Pin-outs

VGA Inputs and Outputs (P4, P10, P13)		
		
PIN #	Function	Wire Colour
1	red	N/A
2	green	N/A
3	blue	N/A
4-12	ground	N/A
13	H sync	N/A
14	V sync	N/A
15	N/C	N/A

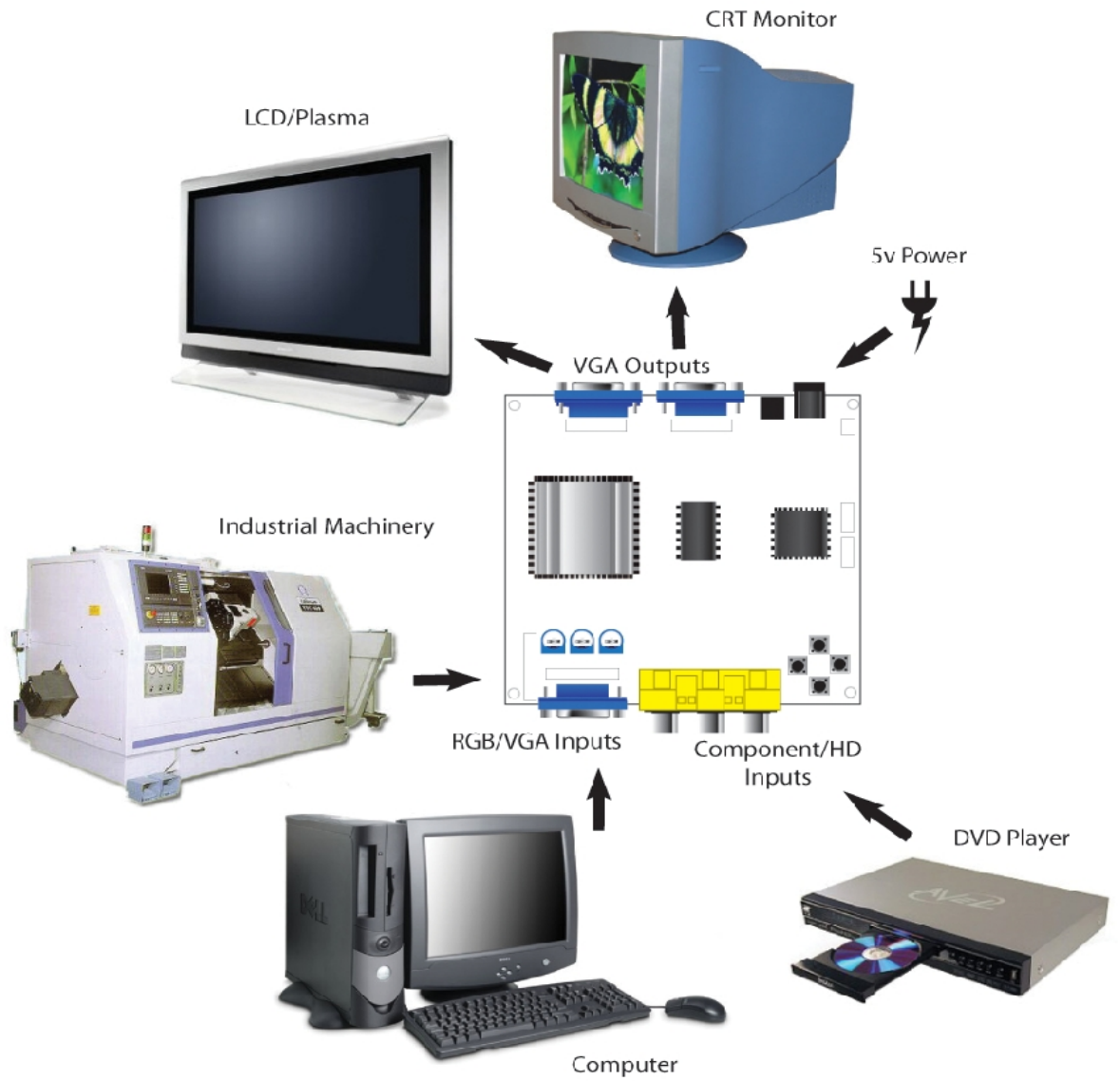
RGBS Input (P3)		
		
PIN #	Function	Wire Colour
1	red	N/A
2	green	N/A
3	blue	N/A
4	ground	N/A
5	H+V sync	N/A

**\*\*\* Note : Due to Differences in Cable Manufacturers, the wire colours may vary from cable to cable.**

RGBHV Input (P11)		
		
PIN #	Function	Wire Colour
1	red	N/A
2	green	N/A
3	blue	N/A
4	shield	N/A
5	H sync	N/A
6	V sync	N/A
7-8	ground	N/A

RGBHV Output (P4, P13)		
		
PIN #	Function	Wire Colour
1	red	N/A
2	ground	N/A
3	green	N/A
4	ground	N/A
5	blue	N/A
6	ground	N/A
7	H sync	N/A
8	V sync	N/A
9	ground	N/A
10-11	N/C	N/A
12	ground	N/A

# Connections and Installation



## Specifications

Functions				Board Location
Power	5 Volts (2amp DC) Positive Centre			P7 or P9
Input signal	CGA/EGA (5 pin)	14.5 - 16.5K	Auto scan	P3 or P11 or P10
		23.5 - 25.5K		
		30.5 - 32.5K		
	RGBHV (8 pin)	30.5 - 32.5K	Auto scan	P10 or P11
	VGA (15 pin)	30.5 - 32.5K	Auto scan	P10 or P11
Output signal	VGA (15 pin)	VGA-640*480, SVGA-800*600 XGA-1024*768, HDTV-1360*768		P4 and P13
		YPbPr	480p,576p,720p,1080p	
	YCbCr	480i,576i,720i,1080i	Auto scan	P2
User control	Input Switch, Image Zoom, Image Position, Output Resolution, RGB gain adjust.			Menu Key RGB VR pots
Dimensions	115 x 105 x 20mm			
Weight	100g			

## Troubleshooting

Problem	Solution
No signal on the monitor	<ul style="list-style-type: none"> <li>- Check input and output cables connected correctly.</li> <li>- Check power is on.</li> </ul>
Display on the monitor is: "No signal"	<ul style="list-style-type: none"> <li>- Press "SW" to switch input port.</li> </ul>
Display on the monitor is: "Input not Supported"	<ul style="list-style-type: none"> <li>- Press "DOWN/AUTO" for 5 seconds and release, system will reset to SVGA (800x600) output.</li> </ul>
Display on the monitor not "Full Screen"	<ul style="list-style-type: none"> <li>- Enter menu and adjust image position and zoom.</li> </ul>
Image "Shake" or "Freeze"	<ul style="list-style-type: none"> <li>- Press "DOWN/AUTO", system auto scans input signal and restores image.</li> </ul>
Have black stripe on screen, or screen loses image after 10-15 minutes.  <i>NB. "sp" value is always greater than "st" value</i>	<ul style="list-style-type: none"> <li>- Adjust "Clamp sp" to 04.</li> <li>- Adjust "Clamp st" to 03. test .</li> <li>- If still no image, adjust "sp", "st" values up by 1 until image remains constant.</li> <li>- Clamp sp is always greater than Clamp st</li> </ul>
Image color not right	<ul style="list-style-type: none"> <li>- Adjust R\G\B Pots (mounted on PCB)</li> </ul>