

# **CGA to VGA Video Converter (LCD suitable) ID#452**



**Operation Manual**

## Introduction

The ID#452 video converter is suitable for use with game boards from a broad range of manufactures, including AMCOE, ASTRO and DYNA. The device has a menu system for adjusting all parameters, including built-in presets for popular board types.

## Features

- LCD and CRT compatible
- High quality image
- Full On-screen Display (OSD) menu system
- Auto power-on
- Settings retained in memory when power is removed
- Easy connection

## Connecting the converter

The device requires only 3 connections (see fig.1) :

- DC power (power lead included)
- Video Input - CGA (9-pin D-sub connector lead included)
- Video Output – VGA

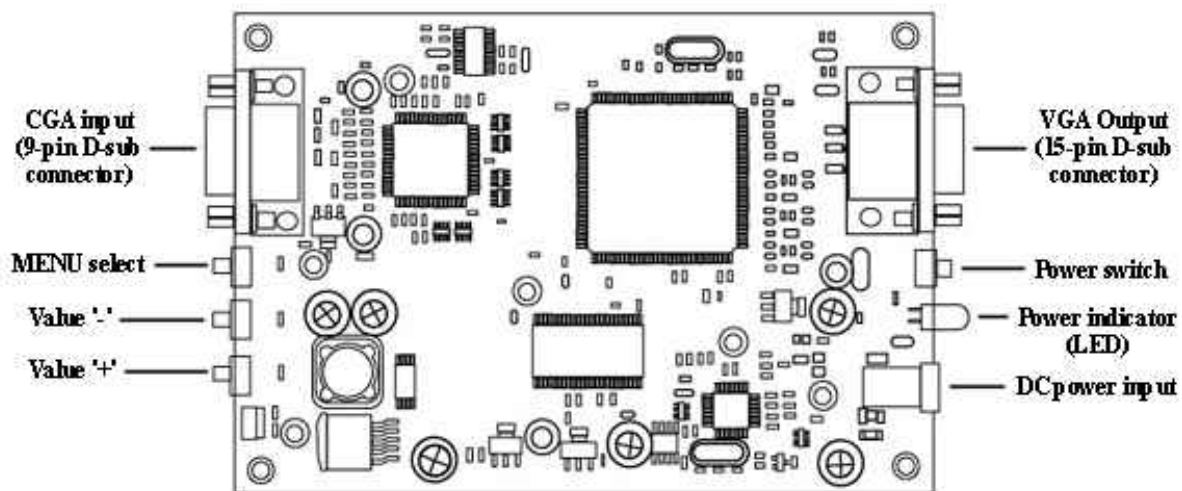


Fig. 1 – Converter connections

## Power

The converter requires a DC power supply of between 6 and 12 volts.

Power can be connected using the supplied power lead, or from an external source (for example a 'plug-pack' style power supply).

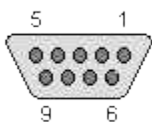
If using the supplied lead make sure the wire labeled '+' is connected to the supply positive

If using a separate power supply unit, make sure that the voltage is set correctly (between 6 and 12 volts) and that the polarity of the DC connector is set to '*Positive Tip*' (the inside of the connector is at the selected Positive voltage and outside of the connector is Ground or Negative).

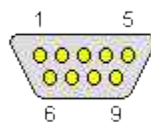
Note : Failure to set the correct power supply polarity and voltage can damage the converter.

## Input

The CGA input can be connected using the supplied 9-pin D-sub to 9-wire lead, or with a standard 9-pin D-sub connector to 9-pin D-sub connector video lead (CGA lead - not supplied).



CGA 9-pin D-sub connector (female)



CGA 9-pin D-sub connector (male)

Pin	Name	Description
1	GND	Ground
2		Not used
3	R	Red
4	G	Green
5	B	Blue
6		Not used
7		Not used
8	SYNC	Sync Signal (Combined Horizontal and Vertical)
9		Not used

If using the supplied CGA input lead, the signal wires are coloured as follows :

Input Signal	Wire colour
Video Red	Red
Video Green	Yellow
Video Blue	Green
Video Sync (H+V) (see Note <sup>2</sup> )	Orange
Ground	Brown

Note <sup>1</sup> : The remaining wires are not used with this converter.

Note <sup>2</sup> : The converter is compatible only with boards that have a combined sync output.

## Output

The output can be connected to either a CRT or LCD display using a standard VGA cable.

## Operation

### Switching the converter on

Once power is supplied to the converter, it will automatically switch on. The unit can then be switched off or on by pressing the power button near the output socket (see fig. 1). Operation is indicated by the 'Power On' LED (see fig. 1).

(On-Screen-Display)  
Menu System

The ID#452 converter has a full On Screen Display (OSD) menu system, allowing the adjustment of all converter settings.



Fig 2. - OSD Menu

Setting	Value Range	Description
BRIGHTNESS	0 - 100	Image brightness
CONTRAST	0 - 100	Image contrast
COLOR	0 - 100	Image colour level
HUE	0 - 100	Image colour hue
VPIC-CUTOFF	0 - 100	Image right hand edge cut-off
WIDTH	0 - 100	Image width
HEIGHT	0 - 100	Image height
H-POS	0 - 100	Image horizontal position
V-POS	0 - 100	Image vertical position
HPIC-CUTOFF	0 - 100	Image bottom edge cut-off
RESOLUTION	640x480, 800x600, 1024x768	Output resolution
MODE	See below	Manufacturer presets

Settings are adjusted using the 3 push-buttons at the end of the converter (see fig. 1)

Pressing the ‘MENU’ button once opens the OSD menu. Pressing this button while the Menu is open selects the next parameter in the Menu. If no button is pressed for approximately 10 seconds the OSD Menu closes and the full video signal is again displayed.

## Adjusting the converter

The remaining 2 buttons are used to increment and decrement the settings of each parameter (the left button is ‘-’, right button is ‘+’).

The converter can be adjusted to suit most brands and types of game boards. For the quickest and easiest set-up, we recommend adjusting the parameters in the following order.

Firstly, set the game board type / brand using the MODE parameter in the OSD Menu. This is achieved by pressing the MENU button repeatedly until MODE is highlighted. Adjust the mode using the + and – buttons to select the type / brand of game board that you are using. If your board is not listed, select the MODE that is most compatible with your board. This should be fairly easily achieved by simply trying each setting – usually one MODE will be significantly better than the others for a given game board.

The available modes are :

AMCOE  
AMCOE 2  
ASTRO  
DYNA  
OTHER  
MODE 6

MODE 6 has been included as a ‘fix-it’ mode, allowing the correct display of most non-standard game signals.

Generally, the MODE is set to match the brand of the game board that is connected to the input of the converter. Due however to variations in specifications of individual game boards, you may sometimes encounter exceptions to this (for example a DYNA board that displays best when set to ‘OTHER’ mode, or an AMCOE board that operates best using ‘MODE 6’). An example of an image problems that may require the selection of a different Mode is image distortion or ‘tearing’. If, however, the image looks good except for size, positioning or noise on the right hand or bottom edges of the picture, proceed to the next step.

Now set the image position (using the H-POS and V-POS parameters), aligning the top left corner of the image with the top left corner of the monitor.

Next, set VPIC CUTOFF and HPIC CUTOFF to 75. This adjusts the bottom and right hand side cut-off points to beyond the edge of the display so that the whole image may be viewed. Again, due to variations in specifications of game boards, this setting may initially have to be set to a high value than 75.

Now, adjust the Width and Height settings so that the full image is displayed on the monitor. You may have to re-adjust H-PIC cutoff and V-PIC cutoff to achieve this.

Setting the image position and size sometimes requires a combination of adjusting the converter's settings *and* the settings on the monitor. Get the size and position as close as possible using the converter's settings first, and then adjust (or 'Auto Adjust') the monitor if necessary.

The H-PIC CUTOFF and V-PIC CUTOFF parameters can now be fine-tuned to remove any noise from the right hand side and bottom of the image.

Next set the BRIGHTNESS, CONTRAST, COLOR and HUE parameters for the best image.

Once these settings have been made, the converter will 'remember' them, even if the power is removed from the device.

## Specifications

<b>Supply voltage</b>	6 – 9 volts DC (positive tip)
<b>Supply current</b>	320 mA (typical)
<b>Input</b>	CGA via 9-pin D-sub connector
<b>Output</b>	VGA via 15-pin D-sub connector (LCD and CRT compatible)
<b>Controls</b>	Power on/off (with indicator LED) Menu select Menu parameter decrement ('-') Menu parameter increment ('+')
<b>Menu parameters</b>	Brightness (0-100) Contrast (0-100) Colour (0-100) Hue (0-100) Image Width (0-100) Image Height (0-100) Horizontal Position (0-100) Vertical Position (0-100) Horizontal image cut-off (0-100) Vertical image cut-off (0-100) Resolution (640x480, 800x600, 1024x768) Mode (AMCOE, AMCOE 2, ASTRO, DYNA, OTHER, MODE 6)