

## USING THE EconoXGA TESTER

- 1) Connect the tester to the monitor or projector cable, the red LED should be on.
- 2) Allow the monitor or projector to warm up for a few minutes.
- 3) Press the selector button and observe the displayed patterns.  
(The last selected pattern will be remembered at the next power-up.)

Symptoms can usually be identified by the displayed pattern. If the pattern appears normal, then the problem may be in the computer or program, such as a defective video board or an incorrect video driver. A pattern that rolls up or down on the display screen signifies a vertical problem. A scrambled pattern that tears sideways may be a horizontal problem, or the monitor may not be compatible with the scan frequency. Missing or incorrect colors identify a video problem.

## WHAT TO LOOK FOR

### CONVERGENCE

The three separate electron guns in a color monitor must be perfectly aligned in order to generate crisp white lines without colored halos at the edges. Convergence describes the monitor's ability to produce images that lack halos across all parts of the screen. Poor convergence (or misconvergence) creates the effect of a poor 3D picture near the corners and edges of the screen, where the electron beams must bend the most to hit their intended paths.

### LINEARITY

Linearity refers to a monitor's ability to display shapes such as squares or circles in various places without any stretching or distortion. Poor linearity causes onscreen objects to look flattened or squished.

### BLANK RASTER

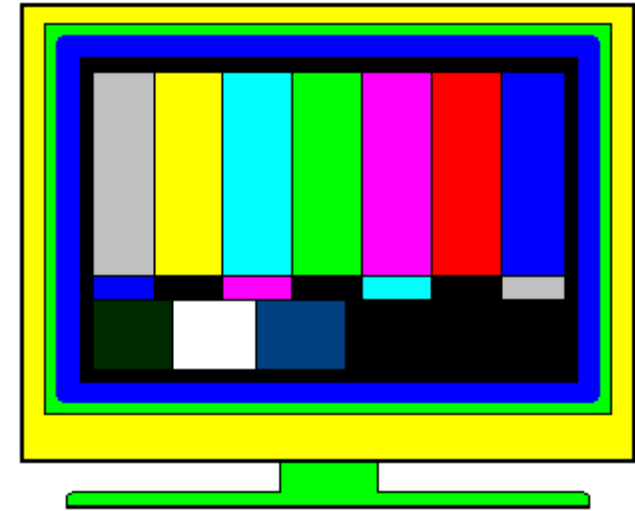
A black screen should produce no visible image, however, a background raster may be seen. If it is very noticeable, then adjust the brightness control until it just disappears.

### COLOR BALANCE

A monitor uses three electron guns (one each for red, green and blue) to excite the phosphors that make up the pixels in an image. Color balance refers to the relative strength of the signal from each of the three guns. If the blue gun is turned up higher than the other two then you will see a bluish tint on the screen. Most monitors provide color adjustment controls which allow you to adjust the relative strength of the three electron guns to correct the problem.

Technicians will generally "eye-ball" the yellow and magenta bars for color balance. The yellow should be a lemon yellow without orange or green. And the magenta should not be red or purple.

EconoXGA 1024 x 768



## Operation Manual

## EconoXGA XGA Monitor & Projector Tester



**Data Sync Engineering**  
P.O. Box 539, Footbridge Lane, Building 3  
Blairstown, New Jersey 07825

TEL: (908) 362-6299  
FAX: (908) 362-5889  
<http://www.datasynceng.com>

# EconoXGA MONITOR & PROJECTOR TESTER

Power Indicator

Pattern Selector

**Battery Powered**  
Operates from a standard  
9-Volt battery.

To Monitor

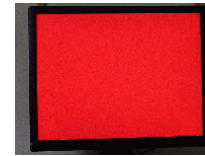
Power On Option

Remove or move jumper to  
the left for power-on when  
connected to the cable.

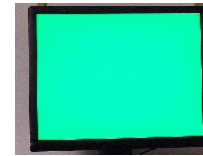
Move jumper to the right  
for always power-on.

## GENERAL

The EconoXGA tester, measuring 2.60" x 1.25" x 1.40", was designed for on-site testing and image alignment of computer monitors and video projectors without the need of a computer.



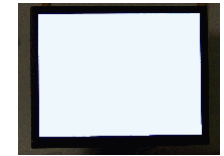
Red Screen



Green Screen



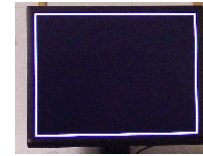
Blue Screen



White Screen



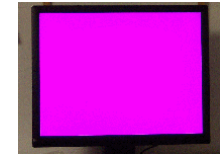
Black Screen  
(Blank Raster)



White Border  
Black Screen



Cyan Screen  
(blue & green)



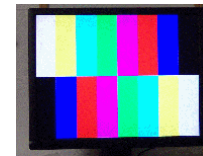
Magenta Screen  
(blue & red)



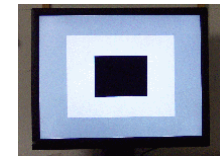
Yellow Screen  
(red & green)



NTSC Style  
Color Bars

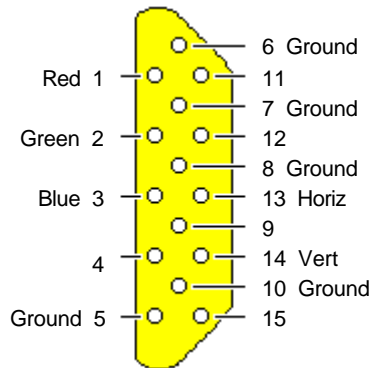


Split Screen  
Color Bars



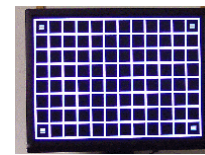
Gray, White &  
Black Box

## EconoXGA CONNECTOR PINOUT



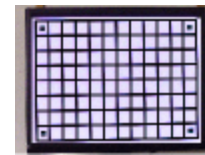
## EconoXGA VIDEO OUTPUT TIMING

Type	Pixels x Lines	H Freq (KHz)	V Freq (Hz)
XGA / VESA48K	1024 x 768	48.4	60.0



Next 5 Patterns use a White Grid / Focus Corners

- On a ...
- 1) Black background screen
  - 2) Red background screen
  - 3) Green background screen
  - 4) Blue background screen
  - 5) Gray background screen



Next 5 Patterns use a Black Grid / Focus Corners

- On a ...
- 1) White background screen
  - 2) Cyan background screen
  - 3) Magenta background screen
  - 4) Yellow background screen
  - 5) Gray background screen



Last Pattern is mixed Color Squares / White Grid