USING THE EconoVGA 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.

FIXED & MULTI SCAN EXERCISER

Burn-in is the process of cycling through various patterns and frequencies to exercise the monitors circuits over a period of time. Most monitor problems will show up within the first 15-minutes of operation.

PINCUSHION

On computer screens, lines that should be straight don't always appear that way. Lines that look bowed or curved are evidence of a pincushion error. Such problems are common at the right and left edges of a displayed image, resulting in a screen that appears to be bowed inward at the centers. Better monitors include controls to help compensate for this error.

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.
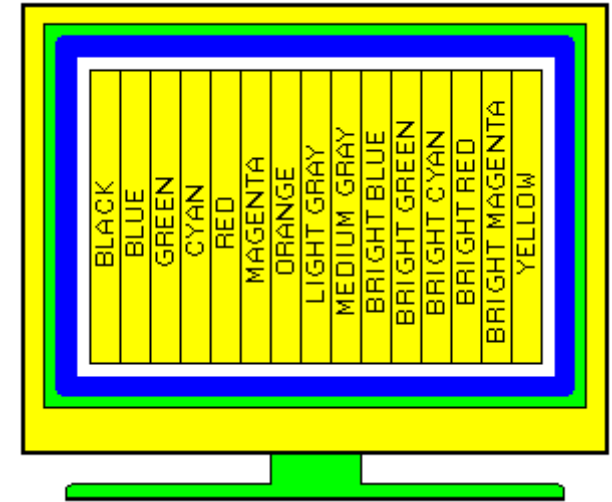
BLANK RASTER

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.

EconoVGA Multi-Res

BLACK BLUE GREEN CYAN RED MAGENTA ORANGE LIGHT GRAY MEDIUM GRAY BRIGHT BLUE BRIGHT GREEN BRIGHT CYAN BRIGHT RED BRIGHT MAGENTA YELLOW

Operation Manual

EconoVGA
Computer Monitor Tester & Exerciser

EconoVGA MONITOR TESTER & EXERCISER

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.
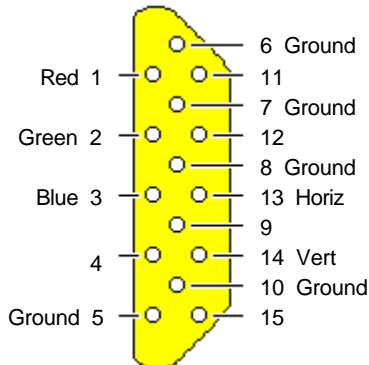
Move jumper to the right for always power-on.

GENERAL

The EconoVGA 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.

CONNECTOR PINOUT

* Some low cost monitors do not have a proper H/V ground signal on pin 10. This may cause the EconoVGA to not power up correctly when connected.

In this case, move the jumper to the always power-on position.

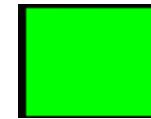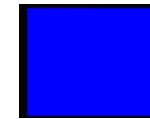| Pin	Signal
6	Ground
Red 1	
11	
7	Ground
Green 2	
12	
8	Ground
Blue 3	
13	Horiz
9	
4	
14	Vert
10	Ground
Ground 5	
15	

SUPPORTED RESOLUTIONS

Video Mode	Pixels x Lines	Horizontal Freq	Vertical Freq
VGA (1)	640 x 480	31 KHz	60 Hz
VGA (2)	720 x 400	31 KHz	70 Hz
SVGA (1)	800 x 600	35 KHz	56 Hz
SVGA (2)	800 x 600	37 KHz	60 Hz
XGA	1024 x 768	48 KHz	60 Hz
VESA	1280 x 1024	64 KHz	60 Hz

Pattern 1
VGA (1)
640 x 480
Red Screen

Pattern 2
VGA (1)
640 x 480
Green Screen

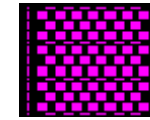**Pattern 3**
VGA (1)
640 x 480
Blue Screen

Pattern 4
VGA (1)
640 x 480
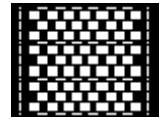Black Screen
(Blank Raster)

Pattern 5
VGA (1)
640 x 480
White Screen

Pattern 6
VGA (1)
640 x 480
White Border
Black Screen

Pattern 7
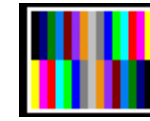VGA (2)
720 x 400
Magenta
Squares & Lines

Pattern 8
VGA (2)
720 x 400
White
Squares & Lines

Pattern 9
VGA (1)
640 x 480
Color Bars

Pattern 10
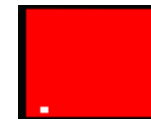SVGA (1)
800 x 600
NTSC Style
Color Bars

Pattern 11
SVGA (2)
800 x 600
Split Screen
Color Bars

Pattern 12
XGA
1024 x 768
Gray, White &
Black

Pattern 13
VESA
1280 x 1024
Color Bars
Focus Lines

Pattern 14
Fixed Scan
Exerciser

Sequences 1
through 9 every
4 seconds.

Pattern 15
Multi Scan
Exerciser

Sequences 1
through 13 every
4 seconds.

Pattern 16
Multi/Power
Exerciser

Sequences 1
through 13 every
16 seconds.

Video/Sync off
for 30 seconds,
white screen for
30 seconds then
repeats 1 to 13.