

T-Drive™ III LCD Tester

Tester for your high resolution/high refresh rate LCDs, offering up to 12 bit per color, programmable power, EDID functions, and more.



T-Drive III shown with optional LVDS output

T-Drive III LCD Tester

T-Drive III supports up to 12 bit per color in a number of video interfaces including:

- DisplayPort 1.4 (12 bit per color),
- eDP 1.4 (12 bit per color),
- Quad LVDS (10 bit per color), and
- HDMI 2.0 (8 bit per color)

The tester generates a high pixel clock frequency, programmable power, and backlight driver control. T- Drive III provides PWM control, EDID functions and more.

Enhanced Pattern Generation

T- Drive III generates many enhanced test patterns and supports real-time adjustments for color, intensity, position and size. Custom patterns may be downloaded and stored in the tester for display on your LCD.

Hardware Configurability

T-Drive III has four video output card slots. This gives you the ability to populate the tester with the needed outputs. The standard tester comes with one eDP/DisplayPort output card. To achieve higher resolutions or refresh rates, simply install a second output card into one of the open slots. For example, to test a 4Kx2K eDP panel at 120 Hz, two eDP/DisplayPort output cards are needed.

Each T-Drive III Includes

- * T-Drive III base unit
- * One eDP 1.4/DisplayPort 1.4 output card
- * Storage for 100 custom test patterns
- * Handheld keypad
- * USB Cable
- * Companion software with user's manual

Options

- * LVDS output card
- * HDMI 2.0 output card
- * DisplayPort Alt mode output card (with USB type C connector)
- * Additional eDP/DisplayPort output card
- * Windows DLL for remote control

Standard Features

- * Programmable raster timing and programmable power for LCD and accompanying backlight driver, encapsulated in user-defined profiles
- * eDP/DisplayPort output up to 4Kx2K at 60 Hz, 8 bit per color
- * EDID read/write/compare
- * Power sequencing
- * Real-time adjustments of test patterns
- * Custom pattern download and display
- * Power consumption measurements
- * Backlight driver control
- * User-defined pattern lists and auto pattern sequencing

Generated Test Patterns

- * Full Screen Color
- * Horizontal Line
- * Static Rectangle
- * Checkerboard
- * 4 Color Horizontal Wedge
- * Horizontal Gray Scale
- * Tunnel
- * Response Time Animation
- * Blink
- * Color Bar
- * Vertical Line
- * Moving Rectangle
- * Border
- * 4 Color Vertical Wedge
- * Vertical Gray Scale
- * Movable Crosshair
- * Flicker

Applications

- * LCD Screening and Repair
- * Video Latency Measurement
- * Incoming Inspection
- * Automated Optical Test
- * R&D
- * QA/QC

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Specifications

Video Output	1 card	2 cards	3 cards	4 cards
eDP/DisplayPort	Standard	Optional	Optional	Optional
Bits per Pixel	12 bit per color	12 bit per color	12 bit per color	12 bit per color
Lanes	Up to 4	Up to 8	Up to 12	Up to 16
Rate (per Lane)**	1.6, 2.7, or 5.4 Gbit/sec	1.6, 2.7, or 5.4 Gbit/sec	1.6, 2.7, or 5.4 Gbit/sec	1.6, 2.7, or 5.4 Gbit/sec
Clock Frequency (effective)	Up to 660M pixels/sec for 4 lanes	Up to 1320M pixels/sec for 8 lanes	Up to 1980M pixels/sec for 12 lanes	Up to 2640M pixels/sec for 16 lanes
Resolution (for 8 bit/color)	Up to 4Kx2K at 60Hz Up to 2560x2048 at 120Hz Up to 1920x1200 at 240Hz	Up to 8Kx2K at 60Hz Up to 4Kx2K at 120Hz Up to 2560x2048 at 240Hz	Up to 12Kx2K at 60Hz Up to 5Kx3K at 120Hz Up to 3200x2400 at 240Hz	Up to 8Kx4K at 60Hz Up to 8Kx2K at 120Hz Up to 4Kx2K at 240Hz
Encoding	RGB 4:4:4 supported Call for other encoding	RGB 4:4:4 supported Call for other encoding	RGB 4:4:4 supported Call for other encoding	RGB 4:4:4 supported Call for other encoding
LVDS	Optional	Optional	Optional	Optional
Bits per Pixel	10 bit per color	10 bit per color	10 bit per color	10 bit per color
Pixel per Clock	1, 2, or 4	8	12	16
Clock Frequency	Up to 540M pixels/sec for 4 pixels/clock	Up to 1080M pixels/sec	Up to 1620M pixels/sec	Up to 2160M pixels/sec
Resolution (for 8 bit/color)	Up to 3200x2400 at 60Hz Up to 2560x1440 at 120Hz Up to 1600x1200 at 240Hz	Up to 5120x2880 at 60Hz Up to 3200x2400 at 120Hz Up to 2560x1440 at 240Hz	Up to 5120x4096 at 60Hz Up to 4096x2400 at 120Hz Up to 2560x2048 at 240Hz	Up to 6400x4800 at 60Hz Up to 5120x2880 at 120Hz Up to 3200x2400 at 240Hz
HDMI	Optional	Optional	Optional	Optional
Bits per Pixel*	8 bit per color	8 bit per color	8 bit per color	8 bit per color
Clock Frequency	25 to 600M pixels/sec	50 to 1200M pixels/sec	75 to 1800M pixels/sec	100 to 2400M pixels/sec
Resolution	Up to 4Kx2K at 60Hz Up to 2560x1600 at 120Hz Up to 1920x1080 at 240Hz	Up to 8Kx2K at 60Hz Up to 4Kx2K at 120Hz Up to 2560x2048 at 240Hz	Up to 12Kx2K at 60Hz Up to 5Kx3K at 120Hz Up to 3200x2400 at 240Hz	Up to 8Kx4K at 60Hz Up to 8Kx2K at 120Hz Up to 4Kx2K at 240Hz
Encoding	RGB 4:4:4 supported Call for other encoding	RGB 4:4:4 supported Call for other encoding	RGB 4:4:4 supported Call for other encoding	RGB 4:4:4 supported Call for other encoding
DP Alt mode (USB type C)	Optional	Optional	Optional	Optional
Bits per Pixel	12 bit per color	12 bit per color	12 bit per color	12 bit per color
Lanes	Up to 4	Up to 8	Up to 12	Up to 16
Rate (per Lane)**	1.6, 2.7, 5.4 or 8.1Gbit/sec	1.6, 2.7, 5.4 or 8.1Gbit/sec	1.6, 2.7, 5.4 or 8.1Gbit/sec	1.6, 2.7, 5.4 or 8.1Gbit/sec
Clock Frequency (effective)	Up to 990M pixels/sec for 4 lanes	Up to 1980M pixels/sec for 8 lanes	Up to 2970M pixels/sec for 12 lanes	Up to 3960M pixels/sec for 16 lanes
Resolution (for 8 bit/color)	Up to 5Kx3K at 60Hz Up to 4Kx2K at 120Hz Up to 2560x1600 at 240Hz	Up to 8Kx4K at 60Hz Up to 5Kx3K at 120Hz Up to 4Kx2K at 240Hz	Up to 12Kx4K at 60Hz Up to 5Kx4K at 120Hz Up to 4Kx2400 at 240Hz	Up to 8Kx8K at 60Hz Up to 8Kx4K at 120Hz Up to 5Kx3K at 240Hz
Encoding	RGB 4:4:4 supported Call for other encoding	RGB 4:4:4 supported Call for other encoding	RGB 4:4:4 supported Call for other encoding	RGB 4:4:4 supported Call for other encoding

* Call for 12 bit per color

** Intermediate lane rates supported for eDP 1.4

Specifications (continued)

Power Generation, Switching and Sequencing	Specification
Power Supplies 1 and 3	2.5 to 24 VDC, up to 3 A
Power Supply 2	9 to 24 VDC, up to 6A
Power Supply Accuracy	Greater of 150mV and +/-3%
Total Deliverable Power	Up to 150 W
Switching Time	<1 msec (typical)
Power Sequence Delay	From 1 to 10,000 msec, 1 msec increment
Measurement Accuracy	+/-60mV, +/-60mA
Measurement Precision	0.01V, 0.01A
Control Interfaces	Specification
B/L Driver Control	PWM, PWM+I2C
Discretres	12 Out, 1.8-5V VCCIO
Storage Capacity	Specification
Pattern List	16 lists of up to 32 patterns
Timing Profile	500
Bitmap	100 images, at 4Kx2K
System	Specification
Dimensions	5.75" H x 10.5" L x 9.75" D
Weight	6 lbs
Tester Control	USB 2.0
Power	90 to 264VAC, 200 W max, Auto Select Frequency from 47-63 Hz

Test Patterns	Specification
Standard Test Patterns	<ul style="list-style-type: none"> • Full Screen Color • Pixel Horizontal or Vertical Line • Movable Crosshair • 4 Color Horizontal or Vertical Wedge • Horizontal or Vertical Gray Scale • Static or Moving Rectangle • Checkerboard • Border • Response Time Animation • Color Bars • Tunnel • Flicker • Blink (Trigger out signal active)
Additional Features	Specification
Pattern Features	<ul style="list-style-type: none"> • Movable crosshair overlay • Moving Bitmap • Blinking rectangle overlay - Remote I/F only
EDID	EDID read/write/compare (EDID ver 1.4)
Support and Warranty	Specification
Warranty	1 Year Limited Warranty
Technical Support	Phone and Email Support Available

Tooling Services Available

To get your LCD connected to T-Drive III quickly and easily, ask about our tooling service.

Contact Us to Get Started

Call or email us for additional product information and pricing. We will work with you one-on-one to deliver an LCD tester that meets your unique requirements!

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