



EVERYTHING VIDEO FOR AIRBORNE SURVEILLANCE

## TMD-270-02 High Definition, Widescreen Mission Display [270mm 10.6" diagonal]

Tracer Aviation's TMD-270-02 is one in a new generation of HD widescreen mission displays designed specifically to maximise picture quality & resolution from high-definition video camera systems.

Using the latest video processing technologies, and pixel-for-pixel resolution LCD, our displays deliver outstanding images during live video surveillance. A multitude of standard features and options make the TMD series of displays the perfect choice in high quality airborne mission systems.

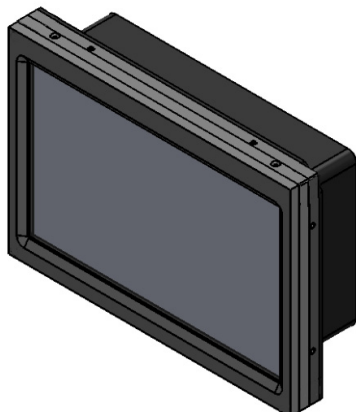
Our 10.6" display is typically used in spaces where our larger HD display cannot be fitted (such as aircraft cockpits) due to space constraints or used as a supplementary display.

Technical description:

A Colour Active Matrix Liquid Crystal Display system composed of a 270mm diagonal (10.6") TFT-LCD panel, a LED driver circuit, and a high-brightness LED backlight system. The screen driver supports the FHD (1920(H) x 1080(V)) screen and 16.7M colours (RGB 6-bits + HiFRC data). The display driver supports a variety of input signal formats from base-band analogue Standard Definition (SD) signals to DVI/HDMI and HD-SDI high-definition digital formats.

A fine point touch screen provides the human machine interface (HMI) that may be operated with gloves, a finger or a pointer. An optional quad input window generator may be fitted to allow the simultaneous display of four HD-SDI feeds.

Designed to be rugged, the unit is constructed from machined-from-solid certified aerospace structural aluminium built to AS9100 Rev C standards. Internal circuit boards are conformally coated where required. The unit is lip sealed and drip proof. The front screen is sealed to the bezel to prevent the ingress of dust and other contaminants. The external surfaces are sealed against the effects of contaminants such as oils and hydraulic fluids. Military style connectors are used for all power and signal connections to the outside world.



### PRODUCT FEATURES

1920(H) x 1080(V) High-Definition inputs scaled to 1280 x 768

15:9 aspect ratio

Outstanding quality video images

High-brightness & high-contrast display

Multiple video inputs to cater for HD and SD video

VGA & computer inputs

Touchscreen overlay with multi-touch capability

Designed for use in extreme temperatures and harsh environments

Optional HD quad screen generator with instant switching to full screen

Compact & lightweight design

Interfaces with leading moving map & augmented reality systems

Optional NVG compatibility via dual-light-mode LED technology

Plug & play control compatibility with all Tracer Aviation mission equipment including HD and SD video recorders and video distribution systems.

### TRACER AVIATION LTD

World Headquarters  
P.O. Box 962  
Cambridge  
CB22 5UJ  
United Kingdom

Tel: 020 7099 0891

#### International Customers:

Tel: +44 20 7099 0891

Email: [info@traceraviation.com](mailto:info@traceraviation.com)

Web: [www.traceraviation.com](http://www.traceraviation.com)



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TMD-270-02 DISPLAY (CONTINUED)

Description	Specifications
Screen Diagonal	~2790mm [10.6"]
Active Area	231mm x 138mm
Pixels H x V	1280 x 768
Pixel Pitch	0.18075mm (per one triad) x 0.18075mm
Pixel Arrangement	R.G.B. Vertical Stripe
White Luminance	1,000 cd/m <sup>2</sup> (Day) 50 cd/m <sup>2</sup> (Night)
Contrast Ratio	600 : 1 (Typical)
Viewing Angle (CR=10)	85° left/right 85° up/down
Luminance Uniformity (5 point)	30%
Optical Response Time (typical)	37 ms Rising, 40 ms Falling 12 ms Rising + Falling
NTSC colour Gamut	~72%
Power	28VDC 60W max (option dependant)
Dimensions	260mm x 181mm x 77mm (max) plus connectors

**Standard features:**

High-brightness backlight with full range dimming spectrum.  
 Touch screen overlay - enables full control of any Tracer Aviation video recorder as well as switching of video inputs, brightness, contrast and other settings of the display. The touch screen can also be used for control of other equipment such as moving maps & mission computers.  
 Multiple video/VGA inputs in many standard formats.

**Options:**

**NVG dual backlighting:** Using the latest design in dual daylight/NVG backlighting technology, the display provides full colour brightness in daylight operations and can switch to a independent light source for night time NVG operations where perfect dimming control and full colour rendition are available to the user. When ordered with the NVG option the unit can be switched to NVG mode by either an operator or by an external aircraft operated Day/Night or Normal/NVG master switch.

**Quad screen:** This option enables up to four individual video inputs to be displayed simultaneously and allows the operator to switch instantly to any input in full screen mode simply by touching the desired image. The quad image is also made available as an output.

**Smart Display (embedded PC):** This option provides a fully rugged computer sealed behind the display and offering a multitude of functions including embedded mapping, augmented reality, radar and in-display APP's (applications) such as display of landing sites, official landing plates etc. This option increases the overall depth of the display on this unit.

**TRACER AVIATION PRODUCTS**

**HD widescreen mission displays**

- 7" (180mm)
- 10.6" (270mm)
- 15.6" (395mm)
- 17.3" (440mm)
- 21.5" (540mm)

**HD airborne video recorders**

- Single channel video recorder
- Multi-channel video recorder
- Data recorders
- Combined HD/SD recorders
- RGB/VGA recorders
- NATO standard KLV transport stream function

**HD video distribution systems**

- Single input to multiple outputs
- Complex routing and switching solutions

**Integrated mission solutions**

- Moving map touch screen integration
- Augmented reality integration
- Full control of video recorders
- Microwave datalink control interface
- Mission computer control

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## Video/Signal Connectivity (quad option unit)

Inputs			
Composite (x2)	NTSC /PAL/SECAM (Interlaced)		
Y/C (x2)	NTSC /PAL/SECAM (Interlaced)		
RGsB (x2) (Sync on Green)	RGsB Standard 60Hz and 50Hz interlaced YCbCr or YPbPr Options STANAG 3350 B/C		
RGBHV (x1)	Graphics format Standards Vertical Refresh 60Hz at WUXGA,(1920x1200) UXGA (1600x1200) Vertical Refresh 75Hz at SXGA, (1400x1050) WXGA, (1440x900) XGA, (1024x768) SVGA (800x600) VGA (640x480) Automatic detection of: Digital Separate Sync; Composite Sync and Sync On Green. ADC clock maximum 195 MHz		
DVI/HDMI (x1)	Vertical Refresh 60Hz at WUXGA Vertical Refresh 75Hz at SXGA, WXGA, XGA, SVGA, VGA DVI differential input clock maximum 165MHz		
HD-SDI (x4)	Input cable equaliser on each input Video formats supported (26): SMPTE 292M SMPTE 259M-C SMPTE 424M (Level A) SMPTE 424M (Level B)		
SMPTE 424M (3G) 2.967Gbit/s	1080p50 (4:2:2)	1080p60 (4:2:2) 1080p59.94 (4:2:2)	
SMPTE 296M (HD) 1.435Gbit/s	720p50 (4:2:2) 720p25 (4:2:2)	720p60 (4:2:2) 720p59.94 (4:2:2) 720p30 (4:2:2) 720p29.97 (4:2:2)	720p24 (4:2:2) [720p23.98(4:2:2) not supported]
SMPTE 274M (HD) 1.435Gbit/s	1080i50 (4:2:2) 1080i25 (4:2:2) 1080p25 (4:2:2) 1080psf25 (4:2:2)	1080i60 (4:2:2) 1080i59.94 (4:2:2) 1080i30 (4:2:2) 1080i29.97 (4:2:2) 1080p30 (4:2:2) 1080p29.97 (4:2:2) 1080psf30 (4:2:2)	1080p24 (4:2:2) 1080p23.98 (4:2:2) 1080psf24 (4:2:2) 1080psf23.98 (4:2:2)
SMPTE 292M (SD) 270Mbit/s	576i50 - PAL		480i59.94 - NTSC
Output			
HD-SDI (1x) (additional options available)	Follows input format		