COTS Rugged Military Grade
2U Rackmount Trifold LCD Monitor

Assembled in the USA
ISO 9001:2008 Certified
ITAR Registered

Our TFX Displays are rugged, military grade, high performance, 2U rackmount LCD panel displays offering three 19-inch TFT LCD displays with per panel resolution of 1280x1024. With exceptional strength, the displays provide expansive working space. The TFX1-192 model is optimal for extreme outdoor environments due to its brightness and ability to operate in widely varied temperatures.

Specifications for our standard products can always be customized to fit your unique application requirements.

In-house Engineering Department
Rapid Prototyping

Contact us today!
858.571.4330 or saleseng@chassisplans.com
www.chassis-plans.com

Features
• Three 19” monitors in a 2U form factor
• Optional high-bright displays
• Audio capability standard

Harsh Environments
Designed to meet or exceed MIL-STD-810G to the below specifications.

ALTIMETRIC
10,000 ft Operational, 30,000 ft Storage
MIL-STD-810, Method 500.5

HIGH TEMPERATURE
50°/70°C Operational, 60°/80°C Storage*
MIL-STD-810, Method 501.5

LOW TEMPERATURE
0°/-20°C Operational, -20°/-30°C Storage*
MIL-STD-810, Method 502.5

HUMIDITY
5-95%, Non-condensing
MIL-STD-810, Method 507.5

BLOWING SAND AND DUST
Procedures I and II
MIL-STD-810, Method 510.5

TRANSPORT VIBRATION
US Highway Truck and Air Transport
MIL-STD-810, Method 514.6

BENCH HANDLING SHOCK
Procedure VI, 20G @ 11ms
MIL-STD-810, Method 516.6

Applications
• Airborne Operations
• Land-based Operations
• Seaborne Operations
• Telemetry
• Diagnostics
• Simulation
• C4ISR
• Communications
• Imaging
• Persistent Surveillance
• UAVs
• Automation
• Severe Environment Operations

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# TFX Panel Specifications

## DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>TFX1-191</th>
<th>TFX1-192</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deployed Dimensions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19” X 3.5” X 24.1”</td>
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## OPTIONAL DISPLAY ENHANCEMENTS

<table>
<thead>
<tr>
<th>Safety Glass</th>
<th>Using smudge-resistant AR coated soda lime float glass, bonded to the LCD panel with optical index matched adhesive</th>
<th>Using smudge-resistant AR coated soda lime float glass panel and ITO coated glass panel (&lt;12.5Ω/sq) grounded via a copper bus bar, bonded to the LCD panel with optical index matched adhesive</th>
</tr>
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<tbody>
<tr>
<td>EMU Protection</td>
<td>Using a laminate of smudge-resistant AR coated soda lime float glass panel and ITO coated glass panel (&lt;12.5Ω/sq) grounded via a copper bus bar, bonded to the LCD panel with optical index matched adhesive</td>
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## KVM SWITCH BOX

This option is available as a separate product.

## ENCLOSURE DETAILS

<table>
<thead>
<tr>
<th>Construction</th>
<th>High-strength 5052-H32 aircraft-grade aluminum. 0.38” solid milled front panel. Stainless self-locking hardware throughout</th>
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<tbody>
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<td>Powdercoating</td>
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</tr>
<tr>
<td>Plating</td>
<td>Chem-Film per MIL-C-5541F, Class 1A</td>
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</tr>
<tr>
<td>Slides</td>
<td>Solid Bearing Slides (Friction Slides), 15.4-inches of travel</td>
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</tr>
<tr>
<td></td>
<td>Lock-out button. Stainless self-locking hardware throughout</td>
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<tr>
<td>Support and Stabilization</td>
<td>Gas strut assisted opening and lock down. Left/right monitor positions adjustable.</td>
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<tr>
<th>SCREEN DIAGONAL (Native 12 VDC with options)</th>
<th>19”</th>
</tr>
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<tbody>
<tr>
<td>WEIGHT (system)</td>
<td>37 lbs</td>
</tr>
<tr>
<td>OPERATING/STORAGE TEMPERATURE*</td>
<td>0°C to 50°C / -20°C to 60°C</td>
</tr>
<tr>
<td>CONTRAST RATIO (typical)</td>
<td>1000:1</td>
</tr>
<tr>
<td>VIEWING ANGLE</td>
<td>80° (L/R/U/D)</td>
</tr>
<tr>
<td>RESPONSE TIME (typical)</td>
<td>5ms</td>
</tr>
<tr>
<td>NATIVE RESOLUTION</td>
<td>1280 x 1024</td>
</tr>
<tr>
<td>BRIGHTNESS</td>
<td>350 cd/m²</td>
</tr>
<tr>
<td>BACKLIGN</td>
<td>LED, edge-lit</td>
</tr>
<tr>
<td>COLORS</td>
<td>16.7M</td>
</tr>
</tbody>
</table>

## Power Details

<table>
<thead>
<tr>
<th>POWER INPUT (native 12 VDC with options)</th>
<th>AC input 85 to 264VAC, 1275/704 28VCD</th>
</tr>
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<tbody>
<tr>
<td>POWER DISSIPATION (typical)</td>
<td>123 Watts</td>
</tr>
<tr>
<td>EXTERIOR POWER JACK (optional)</td>
<td>Yes</td>
</tr>
<tr>
<td>Audio</td>
<td>Yes, includes (2x) water-resistant speakers</td>
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**COTS Rugged Military Grade 2U Rackmount Trifold LCD**

**DIMENSIONS**

- 19” X 3.5” X 24.1” (482.6mm X 88.9mm X 613.2mm)

**Deployed Dimensions**

- 49.9” wide x 19.6” high (from bottom of front panel)

**OPTIONAL DISPLAY ENHANCEMENTS**

- **Safety Glass**
  - Using smudge-resistant AR coated soda lime float glass, bonded to the LCD panel with optical index matched adhesive

- **EMU Protection**
  - Using a laminate of smudge-resistant AR coated soda lime float glass panel and ITO coated glass panel (<12.5Ω/sq) grounded via a copper bus bar, bonded to the LCD panel with optical index matched adhesive

**KVM SWITCH BOX**

This option is available as a separate product.

**ENCLOSURE DETAILS**

- **Construction**
  - High-strength 5052-H32 aircraft-grade aluminum. 0.38” solid milled front panel. Stainless self-locking hardware throughout

- **Powdercoating**
  - Black per MIL-PRF-24712, Type IV, Class 3, Cardinal C214-BK110 polyester semi-gloss, fine texture

- **Plating**
  - Chem-Film per MIL-C-5541F, Class 1A

- **Slides**
  - Solid Bearing Slides (Friction Slides), 15.4-inches of travel
  - Lock-out button. Stainless self-locking hardware throughout
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- **Support and Stabilization**
  - Gas strut assisted opening and lock down. Left/right monitor positions adjustable.

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**MILITARY | INDUSTRIAL | COMMERCIAL**

**MILITARY**

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Controller Specifications

Power Alternative

Chassis Plans’ 2U-5U rackmount computer systems are designed with a removable back plate that allows a 12V power cord to run from the computer’s power supply to a display or keyboard video monitor. This optional feature, the Exterior Power Jack, is available for this monitor.

By running the display with the computer systems’ power supply, this Exterior Power Jack option can provide many benefits:

- Reduction in the number of required cables
- Elimination of additional equipment, i.e., a power brick
- Reduction in total system weight and cost

To enjoy these benefits, power up your new display with a Chassis Plans’ server.

TFX Display Photos

I/O connections are dependent upon the options selected. See specifications for details.
Who We Are

CHASSIS PLANS

• Chassis Plans designs, fabricates and integrates standard and customized high-performance computing platforms and LCD monitors for military, industry, and commercial applications.
• Using COTS components, Chassis Plans provides solutions for customers who need reliable systems that will operate in a variety of harsh conditions and who require revision control and hardware consistency for multi-year programs.
• Chassis Plans is an ITAR Registered and SBA-certified small business that has been operating in Southern California for over a decade.

YOUR CONFIGURATION. ONE PART NUMBER.

• It’s our mission to make your life easier. Our Sales Engineers will help you select the right configuration for your project, making sure the details are analyzed and that the system meets your specifications.
• One part number means easier procurement and less paperwork for you.
• Dedicated Sales and Program Managers.
• Last time buy opportunities for end-of-life components.

FACILITY AND TEST

• All integration work is performed in a state-of-the-art, ESD-controlled facility
• Our facility has 23,000 sqft and has dedicated 12,000 sqft to manufacturing and 3,000 sqft to engineering
• Operate to anti-static standard ANSI/ESD S20.20-2007 and electronics assembly standard IPC-A-610, Revision E-2010

ENGINEERED TO YOUR SPECIFICATIONS

• In-house engineering department
• Design and build of rapid prototypes. Experience with solving difficult customer application problems through knowledge of the industry and custom system design and manufacturing capability
• Our Engineers use Solid Works 3D CAD modeling software for mechanical design and thermal simulation
• Design experience with MIL-STD-167, MIL-STD-461, MIL-STD-810, and MIL-S-901, in addition to FCC, UL, CE, and country specific agency requirements

QUALITY COUNTS

• ISO 9001:2008 Certified
• 100% system inspection before shipment
• All integrated systems undergo a minimum 24-hour system test and burn-in before shipment to the customer
• Assistance with 3rd party verification of system specifications
• 2-year warranty on all integrated systems and LCD monitor products
• Assembled in the USA

Chassis Plans
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TFX-1013