

Installation and Operation Manual

FD151CMT

15.1” LCD and Ceiling Mount





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General Information

The FD151CMT is a 15.1" LCD and Ceiling Mount. The high resolution LCD is perfect for cabin video and graphical entertainment, and has features that allow installation in the smallest of mounting areas with the minimum of interface equipment.

Front View



Additional Information

The FD151CMT is very rugged with the mounting structure and the internal pivot parts manufactured from milled aluminium. The ceiling mounting frame is mounted in the aircraft where it will provide optimum viewing enjoyment by the passengers, resulting in a smooth shape that houses the LCD and blends into the cabin headliner.

Deployment is via a mechanical latch at the front of the unit. Sliding the latch releases the. To stow the display the operator would push the display up to the ceiling position where a positive latch occurs.

Specifications

Supported Resolution	XGA 1024x768
Display Brightness	400 cd/m ²
Display Dimensions	14.14"(W) x 11.95"(H) x 1.1"(D)
Mount Dimensions – STOWED	15.87"(W) x 15.87"(H) x 1.88" (D)
Mount Dimensions – DEPLOYED	15.87"(W) x 15.87"(H) x 13.90" (D)
LCD Dimension	11.89"(W) x 8.89"(H)
Weight	14.74lbs.
Power	28VDC @ 1.5 Amps
PC Video Input	VGA (High Density DB-15 Connector)
Video Input	2 Composite
Video Type Supported	NTSC/PAL
Screen Control	On-Screen Display Menu
Remote Control	IR, included
Case Materials	Aluminum
Mount Type	Piston Hinge Ceiling

Installation Instructions

All cabin entertainment equipment, such as the FD151CMT, should be installed on a non-essential bus and have a dedicated circuit breaker. It is a requirement that a switch be installed in the cockpit so that the pilot can de-energize the entertainment system should it become necessary.

The order in which you proceed is up to the installation center. We suggest that you first look at the mounting plate prior to installing the LCD to make sure you have the proper room and conditions in the aircraft to mount the display to the ceiling. Most aircraft have a significant curvature in the headliner and it will probably be necessary to modify the headliner to mount to a structure that will hold this mount.

Once it has been determined that you have sufficient room and mounting locations for the FD151CMT, then it would be appropriate to start mounting the base to the frame. The FD151CMT is attached to the aircraft with eight #10 screws. There are eight attach points on the top plate.

There is one DB-15 male connector on a 12" cable coming from the LCD, used for power, VGA, and two composite inputs.

Power

This is a **28VDC** monitor that requires 1.5 Amps to operate.

requirements to install the product in compliance with industry standards and safety.

Wiring Suggestions

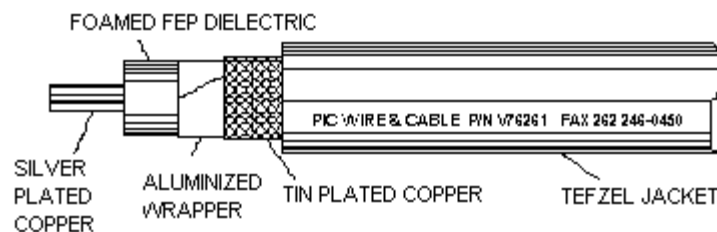
All shields should be grounded to the connector at the source, and floating at the display.

Avoid routing video wiring parallel to:

- AC wiring
- Strobe wiring
- DC motor supply cables
- Inverter cabling
- Or any other potential noise source

S-Video/Composite and Audio Wiring

Recommended cable for s-video/composite and audio purposes is PIC 75 Ohm Coax, P/N V76261. This is a lightweight, flexible, and low signal loss cable which meets FAA flammability requirements of FAR 23.1359(d), FAR 25.853(a) and FAR 25.869(a)(4).

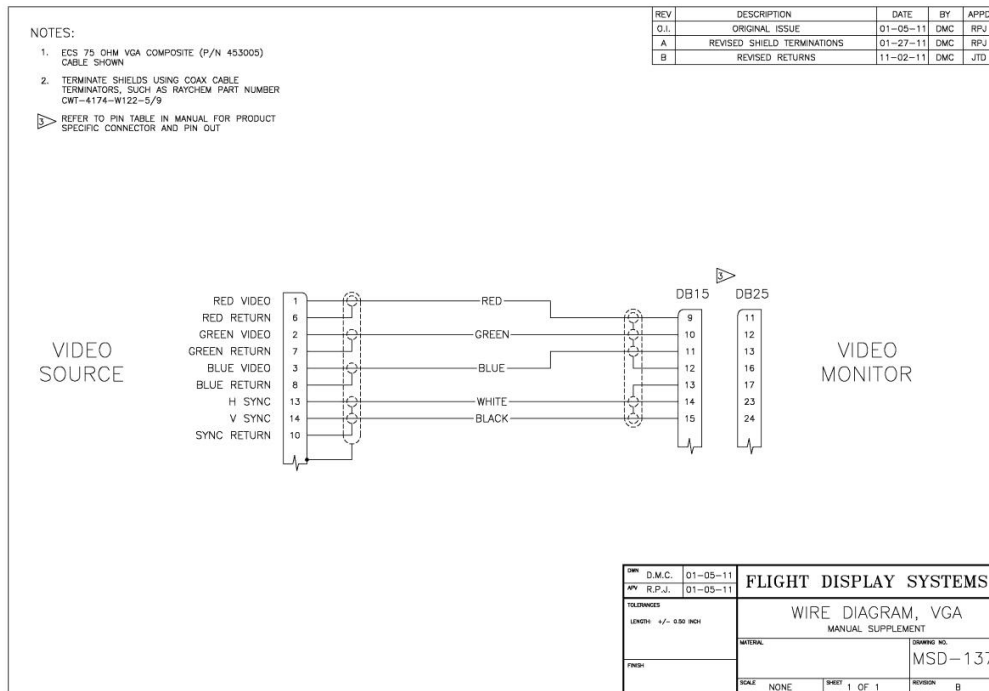


Similar aviation coaxial cable can be used from other vendors, as well.

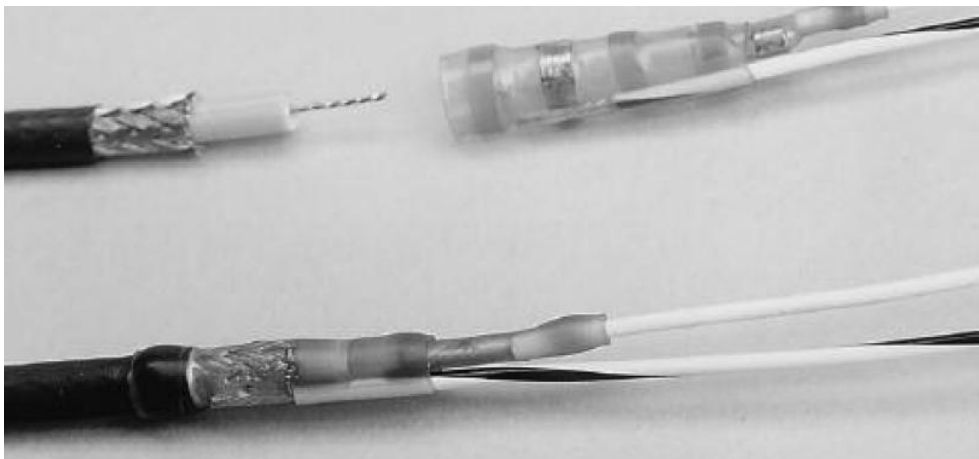
Some aircraft are prone to AC noise - we recommend adding to the composite source a 75 Ohm video isolation transformer such as Deerfield Laboratory, Inc. Part No. 162-1 (www.deerfieldlab.com, (650) 632-4090). In most cases this should be added to the video output of the source.

VGA Wiring

Recommended cable for VGA purpose is ECS P/N 453005. This is a single shielded cable containing 5 separate coaxial cables, color-coded to match the functions of the wires.



We recommend coax cables be terminated using solder sleeve coaxial cable terminators such as Raychem Part Number CWT-4174-W122-5/9.



Power and Ground Wiring

This is a 28VDC monitor that requires 1.5 amps of power to operate. To operate properly this monitor requires an input voltage of 18-29VDC.

The rated current of the equipment and associated voltage drop should be taken into consideration when selecting wire gauge. The following example is based on an install with a 28VDC power system and a total of 50 feet of wire between the circuit breaker, monitor and ground.

Example: 22awg wire has 16.2 Ohms per 1000 feet, this equates to .81 Ohms for 50 feet. 1.5 Amps of current on .81 Ohms will drop 1.22 Volts.

Resistance of Wire Type M22759/16-** (** = Gauge)	
Gauge (AWG)	OHMS/1000'
24	26.20
22	16.20
20	9.88
16	4.81
12	2.02
10	1.26
8	.701

Also, use short heavy gauge wire and a clean tight connection for ground.

It is the installer's responsibility to understand the product's requirements to install the product in compliance with industry standards and safety.

Power/Video

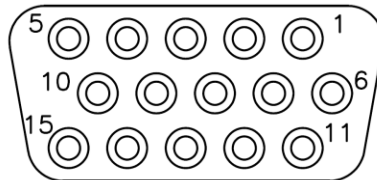
Pin out for High Density DB-15 Receptacle

Connector

P/N: M24308/2-286 or Equivalent

Crimp Contacts

P/N: M39029/57-354 or Equivalent

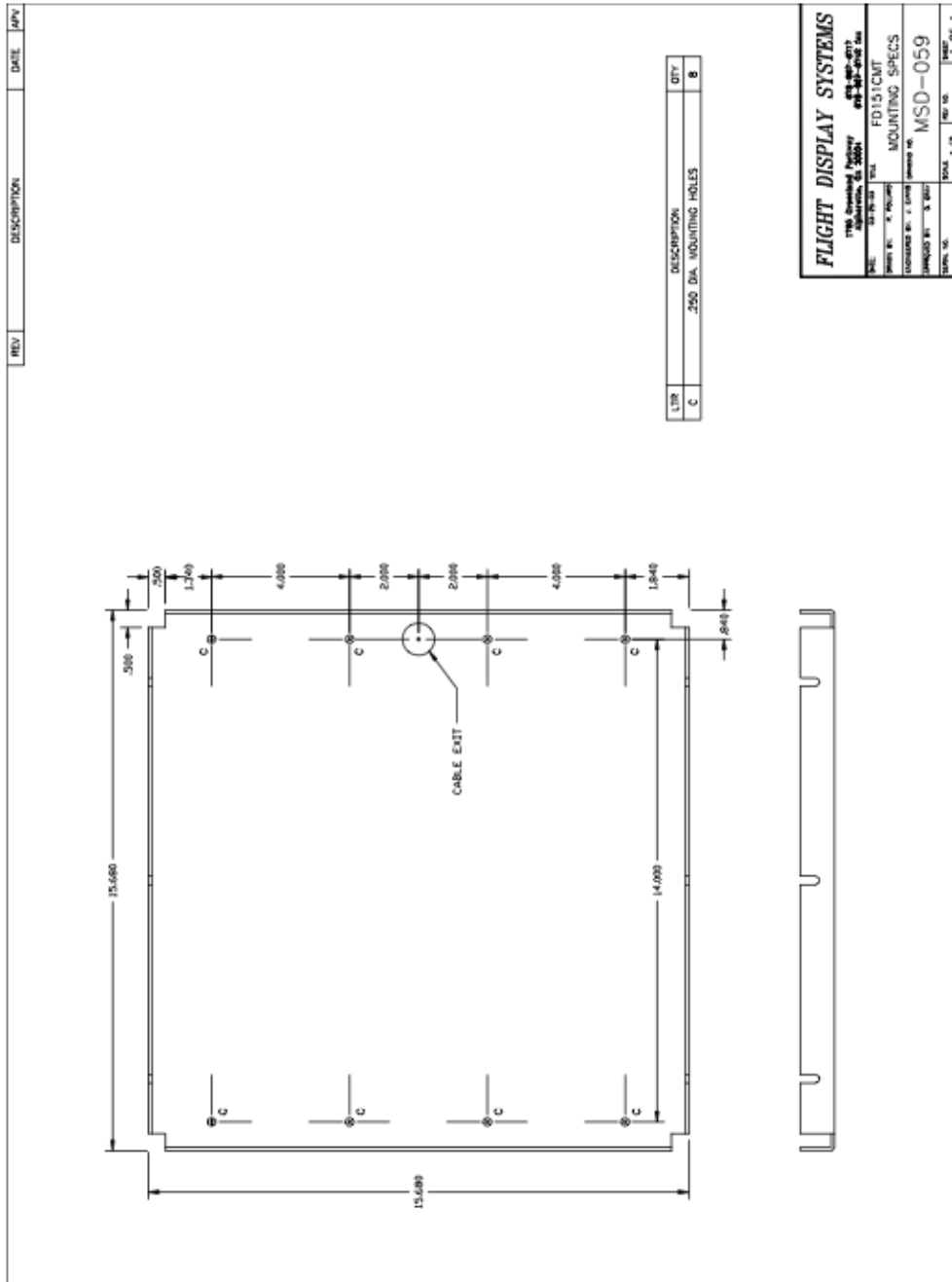


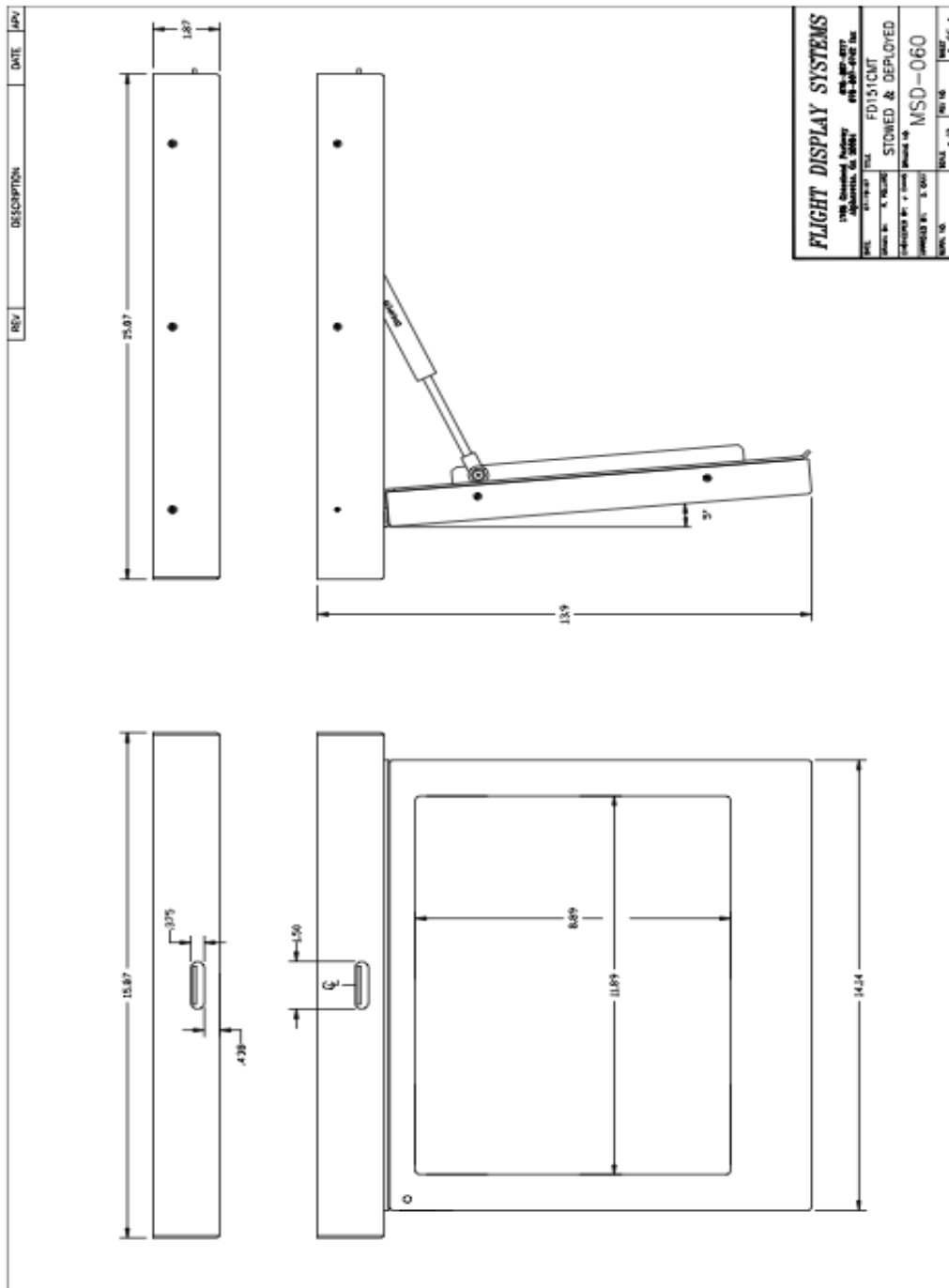
MATING FACE

Pin Number	Description
1	28VDC Power
2	28VDC Ground
3	Composite Video 1 - Signal
4	Composite Video 1 - Shield
5	Composite Video 2 - Signal
6	Composite Video 2 - Shield
7	N/C
8	N/C
9	Red Video (Pin 1 on Standard VGA)
10	Green Video (Pin 2 on Standard VGA)
11	Blue Video (Pin 3 on Standard VGA)
12	Red Ground (Pin 6 on Standard VGA)
13	Green Ground (Pin 7 on Standard VGA)
14	Horizontal Sync (Pin 13 on Standard VGA)
15	Vertical Sync (Pin 14 on Standard VGA)



Technical Drawing





Operation Instructions

The FD151CMT automatically turns on when deployed and off when stowed. No pilot or aircrew action is necessary during flight or ground operation. Passengers can change the video output from the FD151CMT remotely throughout the cabin with the included IR remote.

Power





Technical Support

Should you have any questions concerning this product or other FDS Avionics Corp. products, please contact our Product Support representatives at (470) 239-7421.

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For further product information, technical data and sample wiring diagrams, please click on the **Dealers** section of our web site at www.FDSAvionics.com

Instructions for Continued Airworthiness

The FD151CMT is designed not to require regular general maintenance.





Warranty Information

All FDS Avionics Corp. (FDS) products are warranted to be free from material or manufacturing defects for a period of 24 months from the date of shipment for General Aviation customers or 12 months from the date of shipment for Government/Special Mission customers. Any material or repair workmanship for in warranty repair service will be specifically warranted for 90 days or the remainder of the original warranty period, whichever is longer. If the original warranty period has expired, the 90 day repair warranty is limited to the material and workmanship specific to the repair activity completed.

The following conditions are exclusions to warranty coverage:

1. Labor costs associated with installation, removal or reinstallation of any product.
2. Damage to or malfunction caused by any unauthorized alteration made to the product.
3. Resolving signal quality issues caused by externally generated noise introduced by aircraft electrical systems or other components connected to any FDS product.
4. Any malfunction caused by improper installation or connection to aircraft wiring, industry standard cabin management/ inflight entertainment systems, or third party commercial equipment not specifically identified as compatible with FDS products.
5. Any malfunction caused by installation that does not conform to precautions associated with operating environments listed in the operating manual or consistent with industry best practices such as; high temperature, adequate ventilation, high humidity, high dust, or power surges.
6. Cosmetic damage or damage to internal components caused by installation or removal, failure to follow installation or operating instructions, or any neglect or misuse of the product.
7. Any product that is returned for service with a broken tamper evident seal, indicating tampering or improper handling of the product by an unauthorized person. Violation of product tamper evident seals or modification of factory installed serial and PMA labels voids any warranty, either expressed or implied.

The FDS technical support team is available to provide distance troubleshooting support during business hours (8:00am to 5:00pm EST) Monday through Friday at (470) 239-7421.

Many repair requests can be resolved through distance support and may not require return of merchandise to the factory. If a product must be returned to the factory for repair, an RMA number will be issued as directed by the technical support team and communicated by the repair coordinator.

Upon request by the customer, FDS may send a service technician onsite to repair any non-PMA products. The travel expenses incurred to include transportation, lodging and meals along with the technician's hourly rate shall be payable by the customer in accordance with FDS' applicable rates and procedures.

FDS Avionics Corp. will, upon receipt of returned merchandise, remanufacture or replace the unit at our discretion and return the product by Ground Return Shipping. Express return shipment will be the responsibility of the sender.

This warranty is not transferable.

Any implied warranties expire at the express limited warranty expiration date. FDS shall not be held liable for any indirect, special, punitive, incidental or consequential damages.

Some states do not allow limitation on the length of an implied warranty. In such states, the exclusions or limitations of this limited warranty may not apply.





Log of Revisions

Rev	Date	Page	Description
A	01/25/2007	---	---
B	04/10/2009	2,9	Updated specifications, warranty info
C	05/18/2009	4,5,6,10	Updated S-Video/Composite info, Power & Ground Wiring, Pinout info, Assembly Drawing replaced
D	08/24/2012		Updated format, warranty and non-PMA info
E	05/15/2017	ALL	New corporate name, Warranty, S-video, New Format

