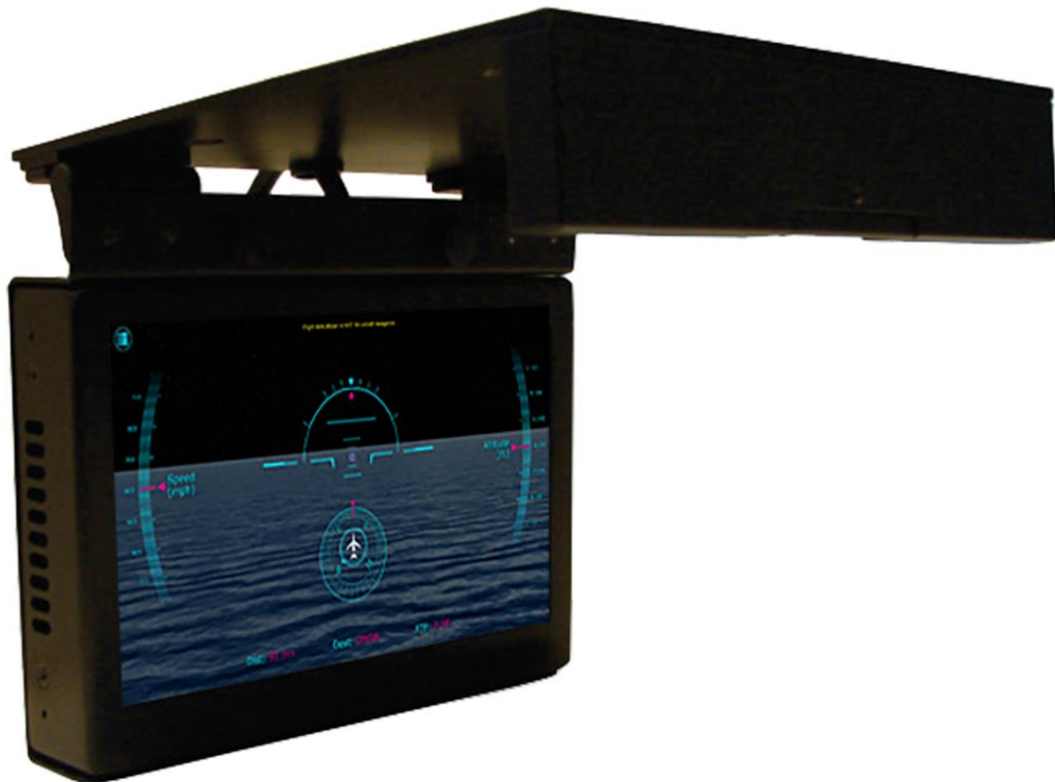




## Installation and Operation Manual

### FD70CMT-M

7" Widescreen LCD and Ceiling Mount





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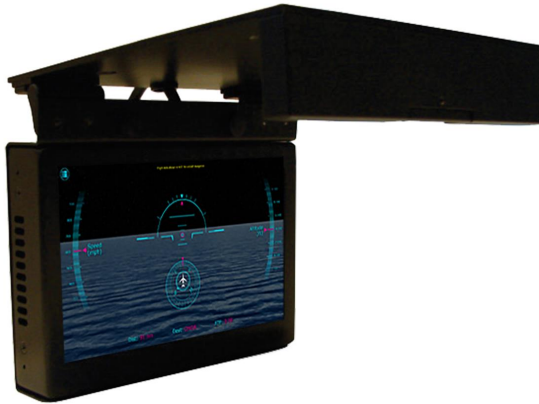
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## General Information

The FD70CMT-M is the latest version of our popular 7" Widescreen LCD and Ceiling Mount, used to deploy our popular 7" Widescreen LCD. The all metal case is designed with a narrow footprint. It is easily mounted to the ceiling or between the Passenger Service Units in the smallest aircraft or helicopter.

## Front View



## Additional Information

The FD70CMT-M features constant torque friction hinges which enable the user to position the LCD at various locations when deployed. This is especially helpful when there may be glare, sunlight, or a bad viewing angle. Repositioning the LCD to a more comfortable viewing position makes this unit popular with all passengers.

## Specifications

<b>Display Type</b>	7" TFT Color LCD
<b>Supported Resolutions</b>	640x480 ~ 1600x1200
<b>Display Brightness</b>	400 cd/m <sup>2</sup>
<b>Contrast Ratio</b>	400:1
<b>Display Dimension</b>	6.80" (W) x 4.75" (H) x 1.20" (D)
<b>Mount Dimension Stowed</b>	7.0" (W) x 8.75" (H) x 1.35" (D)
<b>Mount Type</b>	Articulating Arm
<b>LCD Dimension</b>	5.89" (W) x 3.5" (H)
<b>Weight</b>	2 lbs 1.5 oz.
<b>Viewing Angle</b>	140°/100° (H/V)
<b>Power</b>	12VDC @ 1.0 Amps 28VDC @ .4 Amps
<b>PC Video Input</b>	VGA (Analog RGB 15 pin D-sub)
<b>Standard Video Input</b>	2 Composite Video
<b>Video Type Supported</b>	NTSC, PAL
<b>Screen Control</b>	On-Screen Display Menu
<b>Remote Control</b>	IR, included
<b>Materials</b>	Aluminum
<b>DO-160 Testing</b>	Section 21, Category B

## Installation Instructions

All cabin entertainment equipment, such as the FD70CMT-M, 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 centre. 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 FD70CMT-M, then it would be appropriate to start mounting the base to the frame. The FD70CMT-M is attached to the aircraft with four #8 socket head cap screws. There are four attach points on the ceiling mounting plate.

There is one DB15 connector on a 16" cable coming from the LCD, used for power, VGA and two composite inputs.

## Wiring Suggestions

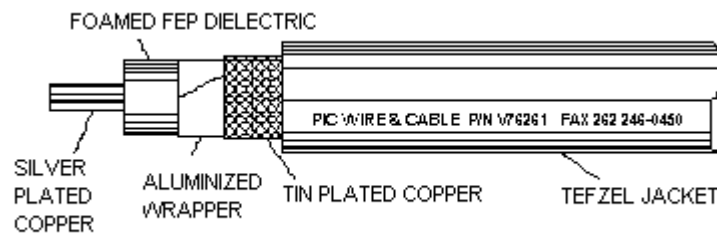
All shields should be grounded to the connector at the source, and floating at the display.

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).

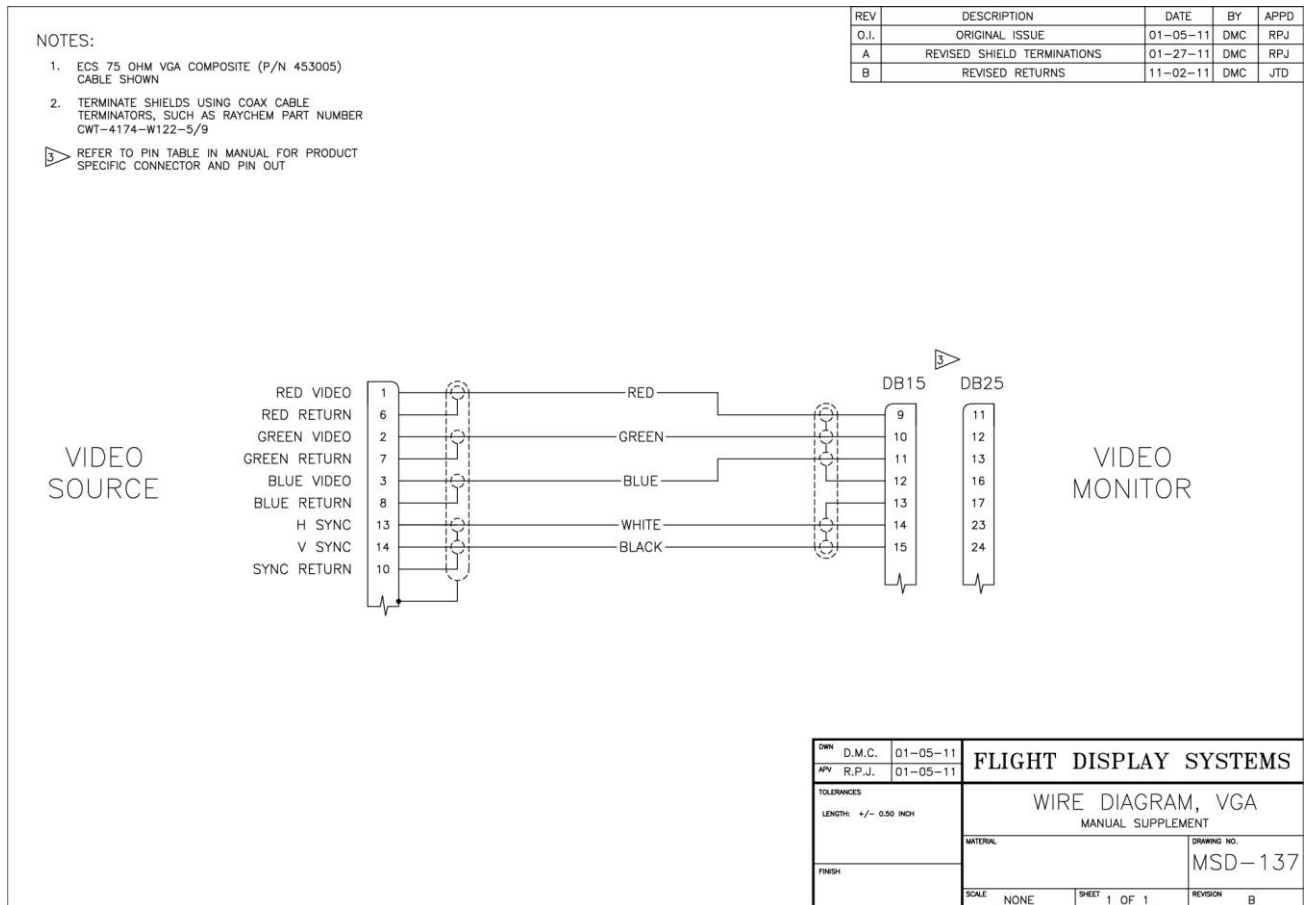


Similar aviation coaxial cable can be used from other vendors, as well.

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](http://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.



The individual wires should be extended with 6" 22awg wires using an environmental splice for the red & green wires, and Raychem caps for the blue, white, and black wires.

## Power and Ground Wiring

22 AWG wire is recommended for Power and Ground applications.

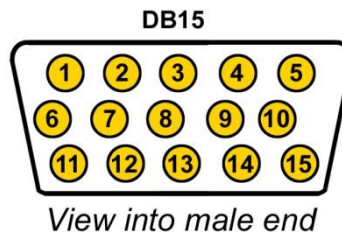
## Power/Video

### Pin out for High Density DB-15 Receptacle

Part Numbers for DB-15 connectors, manufactured by Tyco or Amp.

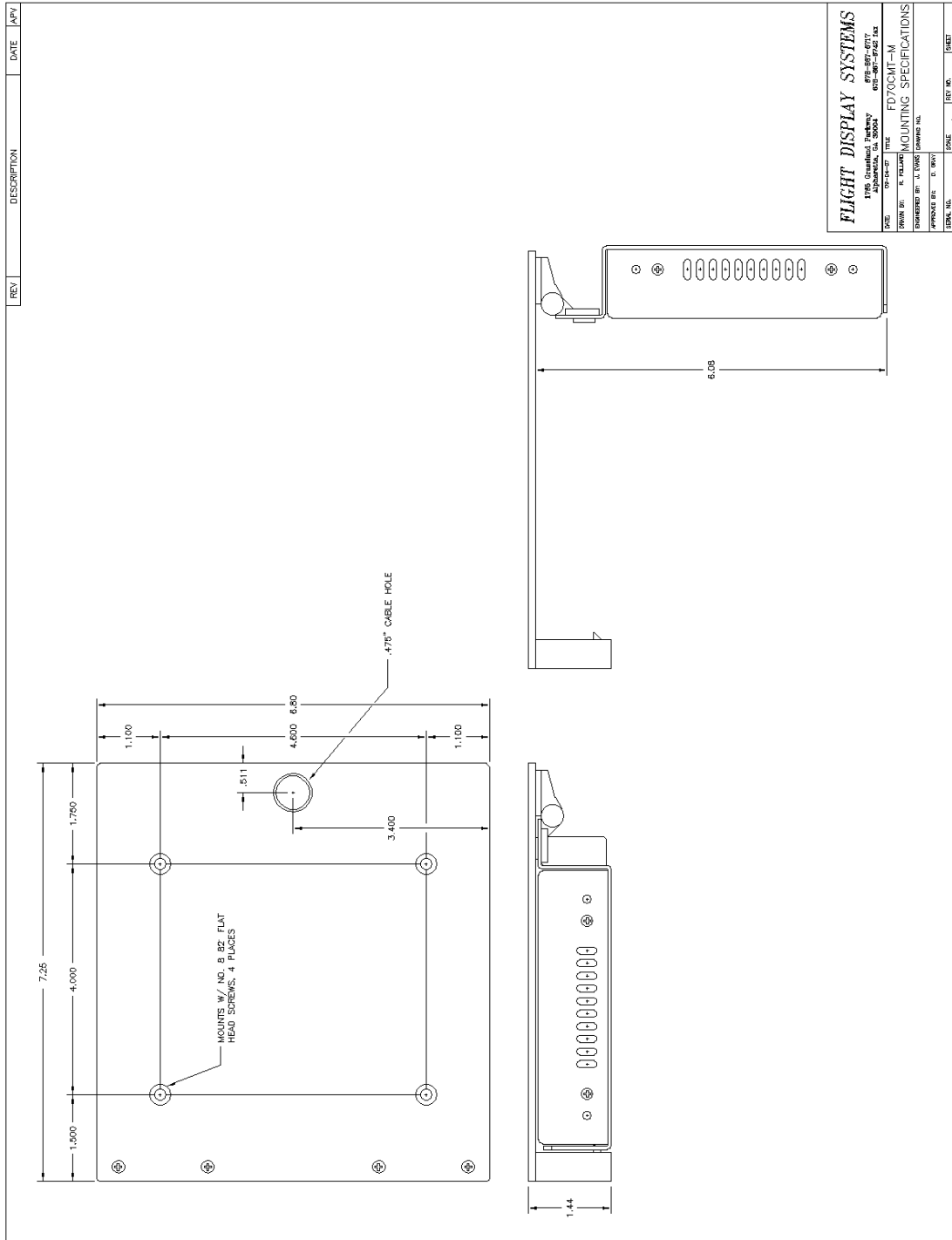
High density, D-sub, 15 contact receptacle (male) P/N 748364-1

HD15M pins P/N M39029/58-360



Pin Number	Description
1	12VDC Power (28VDC for FD70CMT-M (28V))
2	12VDC Ground (28VDC for FD70CMT-M (28V))
3	N/C
4	Composite 1 - Signal
5	Composite 1 - Ground
6	N/C
7	Composite 2 - Signal
8	Composite 2 - Ground
9	Red Video
10	Green Video
11	Blue Video
12	Red Ground
13	Green Ground
14	Horizontal Sync
15	Vertical Sync

# Technical Drawing





## Operation Instructions

The FD70CMT-M is continuously on but can be de-energized by removing power from the entertainment system. No pilot or aircrew action is necessary during flight or ground operation. Passengers can change the video output from the FD70CMT-M using the video source select switch on the LCD monitor, or remotely throughout the cabin with the included IR remote.

## Monitor Control Buttons



BUTTON	FUNCTION	DESCRIPTION
1	POWER	Press to turn the monitor on if currently off. Hold to turn the monitor off.
2	MENU	Press to activate Menu.
3	SOURCE	Press to switch between sources.
4	UP	Press to increase the value of a menu item.
5	DOWN	Press to decrease the value of a menu item.



## 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.

**FDS Avionics Corp.**  
6435 Shiloh Road  
Alpharetta, GA 30005  
Phone: +1 (470) 239-7400  
Fax: +1 (470) 239-7439  
Email: [sales@FDSAvionics.com](mailto:sales@FDSAvionics.com)

For further product information, technical data and sample wiring diagrams, please click on the **Dealers** section of our web site at [www.FDSAvionics.com](http://www.FDSAvionics.com)

## Instructions for Continued Airworthiness

The FD70CMT-M is designed not to require regular general maintenance.



## Limited Warranty

All FDS Avionics Corp. 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	09/04/2007	---	---
B	02/26/2009	2,9	Updated specifications, warranty info
C	11/20/2009	1	Replaced front view photo
D	06/19/2012		Updated cover & format
E	5/15/2017	All	New company, format, warranty, etc.

