

Installation and Operation Manual

FD102CMT

10.2” Widescreen LCD Ceiling Mount

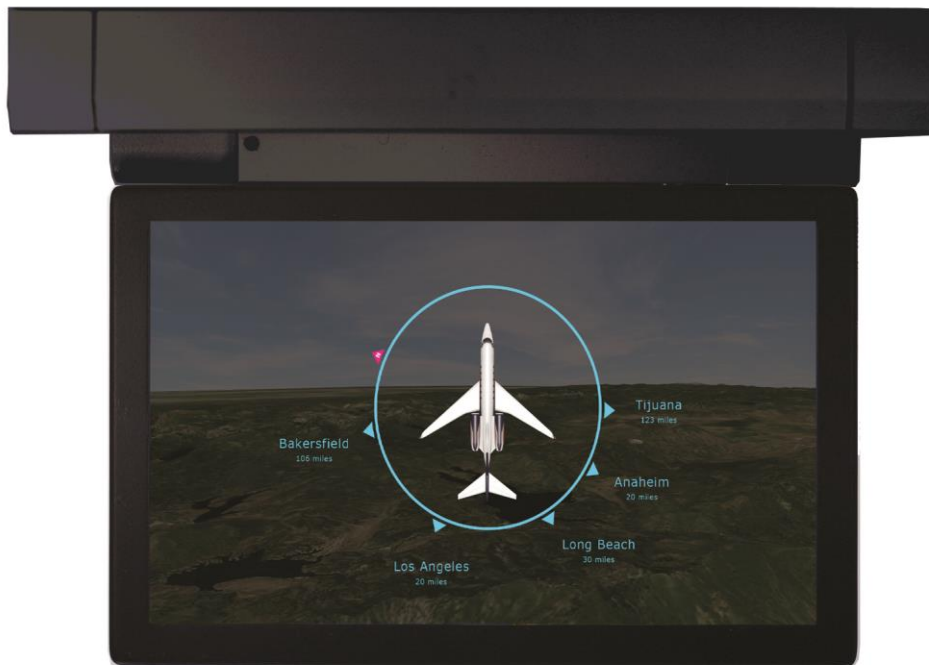




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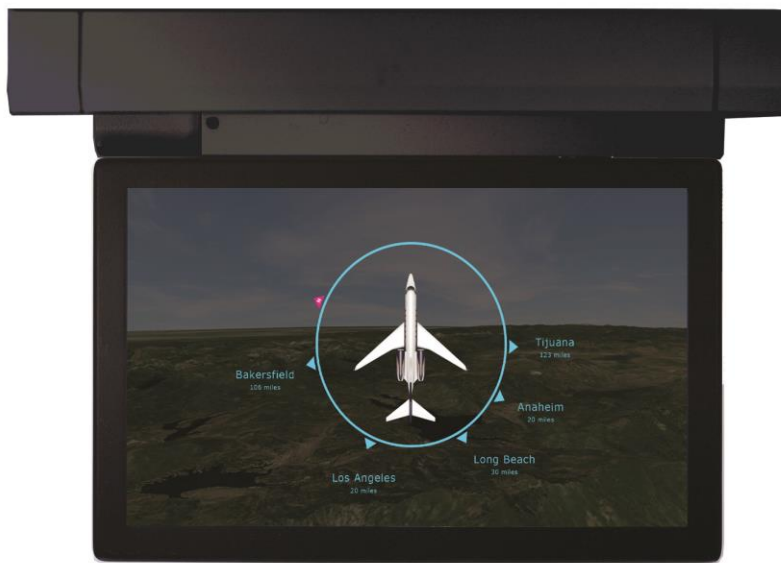
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General Information

The FD102CMT is a 10.2" Widescreen LCD Ceiling Mount, used to deploy our popular 10.2" Widescreen LCD. The FDS Avionics Corp. high resolution 10.2" Widescreen LCD is perfect for cabin video and graphical entertainment.

Front View



Additional Information

The FD102CMT 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. The display can deploy 180° so that it may be pushed away from the latching point in case of emergency egress.

Deployment is via a mechanical latch at the front of the unit. Depressing the latch releases the display and the display is normally placed at a 90 degree angle for viewing. To stow the display the operator would push the display up to the ceiling position where a positive latch occurs.

Specifications

Display Type	10.2" Widescreen TFT Color LCD
Screen Resolution	800x480 / 640x480 ~ 1024x768
Display Brightness	500 cd/m ²
Contrast Ratio	300:1
Display Dimension	9.80" (W) x 6.3" (H) x 1.1" (D)
Mount Dimension	9.80" (W) x 7.74" (H) x 1.27" (D)
LCD Dimension	8.7" (W) x 5.2" (H)
Weight	4 lbs.13.8 oz.
Viewing Angle	120°/90° (H/V)
Power	12VDC @ 2 Amps 28VDC @ .5 Amp
PC Video Input	SVGA (Analog RGB 15 pin D-sub)
Standard Video Input	2 Composite Video
Video Type Supported	NTSC, PAL
Screen Control	On-Screen Display Menu
Remote Control	IR, included
Materials	Aluminium
DO-160 Testing	Section 21, Category B

Installation Instructions

All cabin entertainment equipment, such as the FD102CMT, 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 FD102CMT, then it would be appropriate to start mounting the base to the frame. The FD102CMT is attached to the aircraft with four #10 screws. There are four attach points on the top plate.

There are two connectors on 14" cables coming from the LCD. The DB-9 is used for 12VDC Power. The DB-15 is used for VGA and two composite inputs..

Power

This is a 12VDC monitor that requires 2 Amps of power to operate. This is also available as FD102CMT (28V) which is a 28VDC monitor that requires .5 Amp of power to operate.

Wiring Suggestions

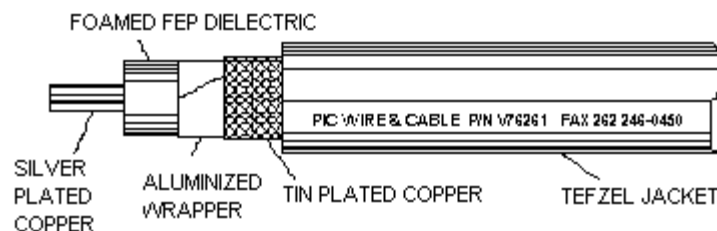
All shields should be grounded to the connector at the source, and floating at the display.

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).

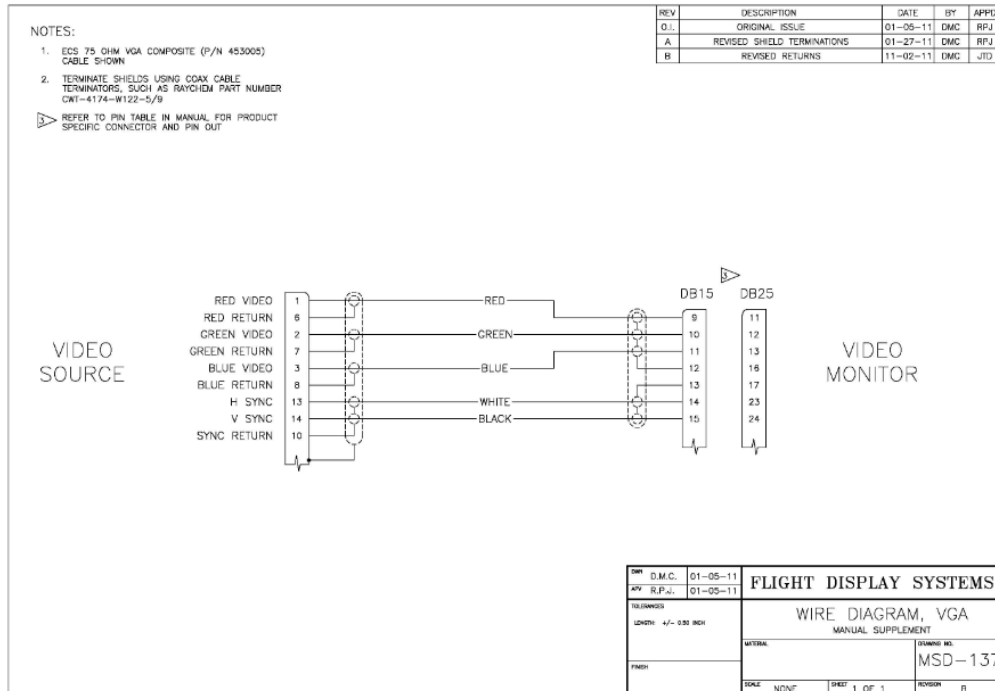


Similar aviation coaxial cable can be used from other vendors, as well.

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.



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

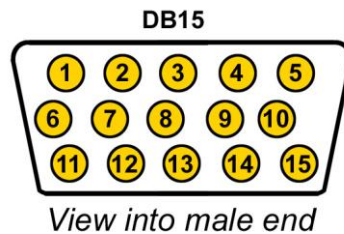
22 AWG wire is recommended for Power and Ground applications.

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 (female)	P/N 748565-1
HD15F pins	P/N M39029/57-354



Pin Number	Description
1	N/C
2	N/C
3	N/C
4	Composite Video #1 - Signal
5	Composite Video #1 - Shield
6	N/C
7	Composite Video #2 - Signal
8	Composite Video #2 - Shield
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)

Pin out for High Density DB-9 Receptacle

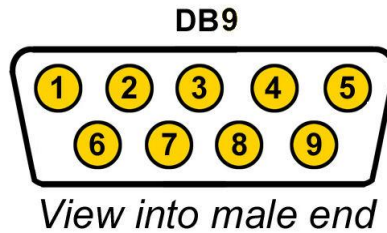
Part Numbers for DB-9 connectors, manufactured by Tyco or Amp.

D-sub, 9 contact receptacle (female)

P/N 205203-1

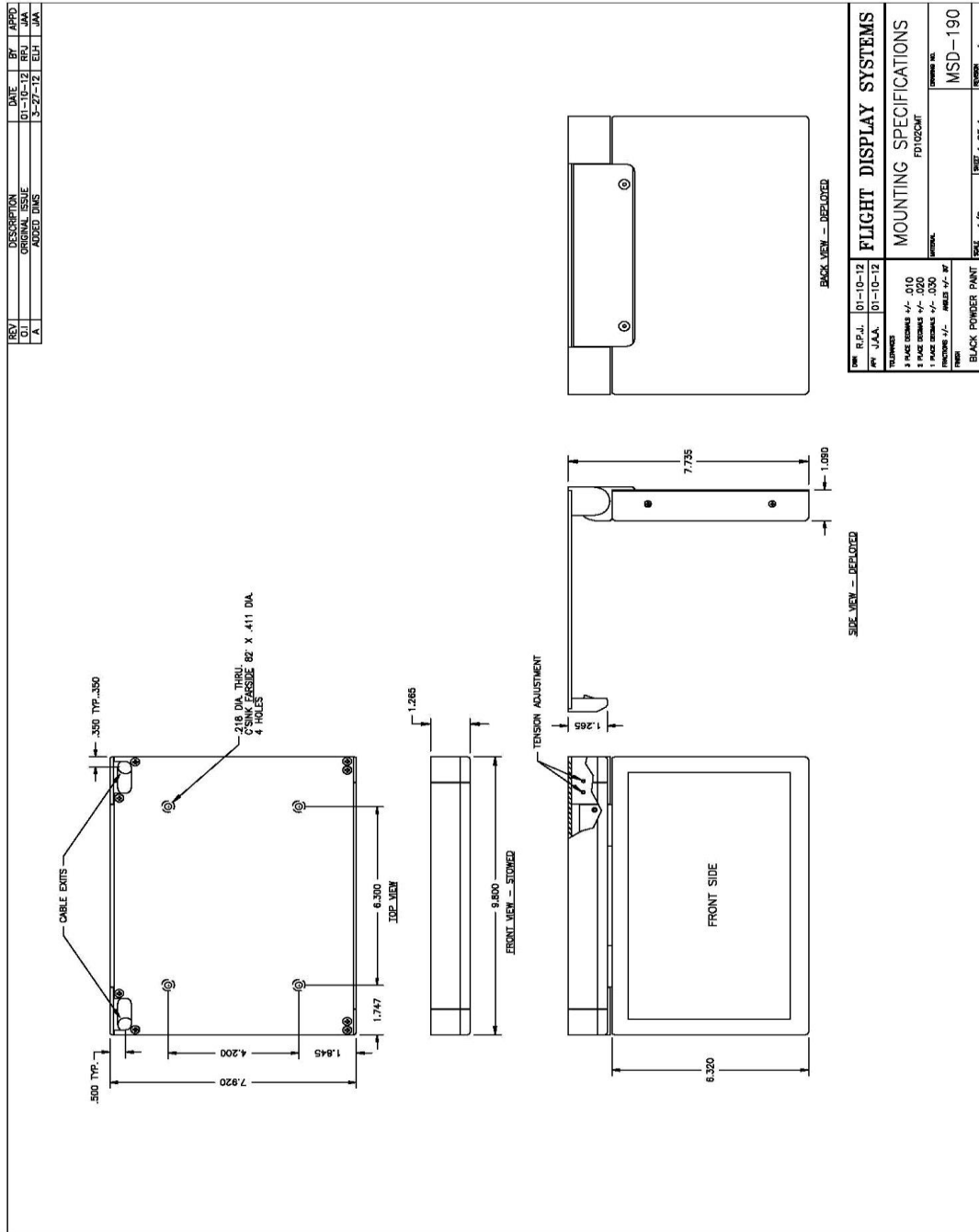
DB9F pins

P/N M39029/63-368



Pin Number	Description
1	12VDC Power (<i>28VDC for FD102CMT (28V)</i>)
2	12VDC Ground (<i>28VDC for FD102CMT (28V)</i>)
3	N/C
4	N/C
5	N/C
6	N/C
7	N/C
8	N/C
9	N/C

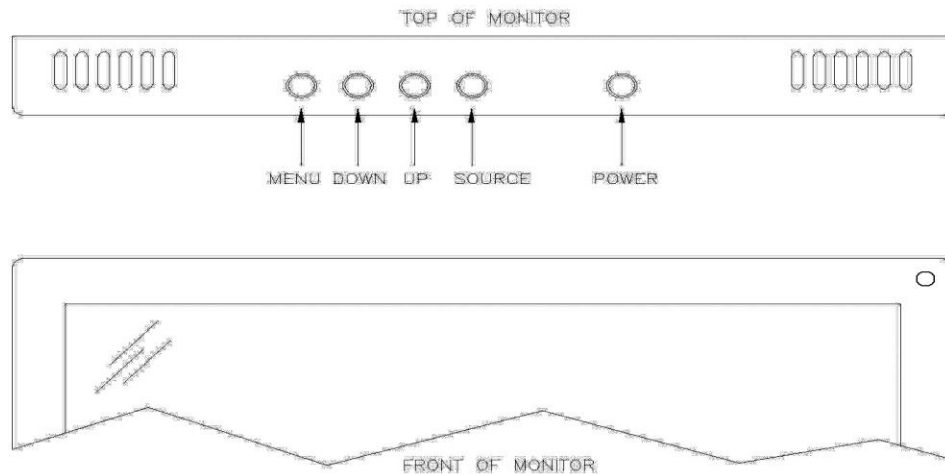
Technical Drawing



Operation Instructions

The FD102CMT 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 FD102CMT using the video source select switch on the LCD monitor, or remotely throughout the cabin with the included IR remote.

Button Controls



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

Remote Control



The remote control included with the FD102CV contains the same functionality available on the display buttons, to include power, source, menu, and directional arrows.



Technical Support

Should you have any questions concerning this product or other FDS Avionics Corp. products, please contact our Product Support representatives at (407) 239-7421.

FDS Avionics Corp.
6435 Shiloh Road
Alpharetta, GA 30005
Phone: +1 (407) 239-7400
Fax: +1 (407) 239-7439
Email: 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

Instructions for Continued Airworthiness

The FD102CMT 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	01/29/2007	---	---
B	03/28/2007	2,3,6	Added info regarding FD102CMT (28V)
C	04/11/2007	6	Changed required amperage to 2 Amps.
D	10/05/2007	1	Changed image, removed color information.
E	02/11/2009	2,11	Updated specs, warranty info
F	12/10/2009	1,7,8	Revised photo, button control, remote control
G	08/02/2012		Updated format and warranty info, revised specs, added non-PMA product box to cover
H	5/15/2017	All	New Format, New Corporate name, New Branding, Warranty,