

Installation and Operation Manual

FD102ARM

10.2” Widescreen LCD on Arm





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General Information

This high resolution 10.2” Widescreen LCD is perfect for cabin video and graphical entertainment. Built with retrofit aircraft integration in mind, this display can switch between three video input sources using an infrared remote or the control buttons on the top of the monitor.

Front View



Additional Information

The articulating arm rotates 180 degrees, tilts forward and aft, and the monitor can turn 180 degrees on the end of the mount.

The FD102ARM can also be connected to existing video switchers and can take a composite video input from a selector interface box. Multiple input sources can be selected and displayed on the monitor.

The FD102ARM cabinet is made of all metal components. DO-160 testing has been completed and is available upon request.

The LCD is protected with a .060” Lexan lens. The purpose of this lens is to prevent scratching of the LCD.

Specifications

| | |
|---|---|
| Display Size | 8.7" (W) x 5.2" (H) |
| Display Type | 10.2" Widescreen TFT Color LCD |
| Display Color | 262,144 Colors |
| Display Dimension | 9.80" (W) x 6.3" (H) x 1.1" (D) |
| Mount Dimension | 7" (W) x 1.8" (H) x 1.5" (D) |
| Screen Resolution | 800x480/640x480~1024x768 |
| Brightness | 500 cd/m ² |
| Weight | 2 lbs 15 oz |
| Power | 12VDC @ 2 Amps 28VDC @ .5 Amps |
| PC & Video Input | SVGA (Analog RGB 15 pin D-sub) 2 Composite |
| Video Input | S-Video, Composite |
| Video Type Supported | NTSC/PAL |
| Screen Control | On Screen Display Menu |
| Remote Control | IR, included |
| Materials | Aluminum |
| Operating Temperature (includes FD102ARM Ver VC5) | 0-50° C (32-122° F) |
| DO-160 Testing | 160F, Sec 8, Category R, Test Curve G |

Installation Instructions

All cabin entertainment equipment, such as the FD102ARM, 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.

It is recommended that you leave approximately ¼ inch of space around the rear of the display to have circulating air.

Power

This is a **12VDC** monitor that requires 2 Amps of power to operate. *This is also available as FD102ARM (28V) which is a 28VDC monitor that requires .5 Amp of power to operate.* The unit turns on automatically upon power application.

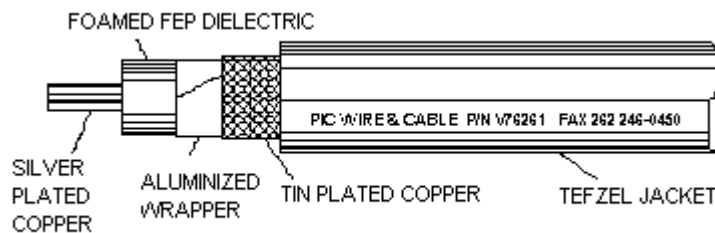
Wiring Suggestions

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).

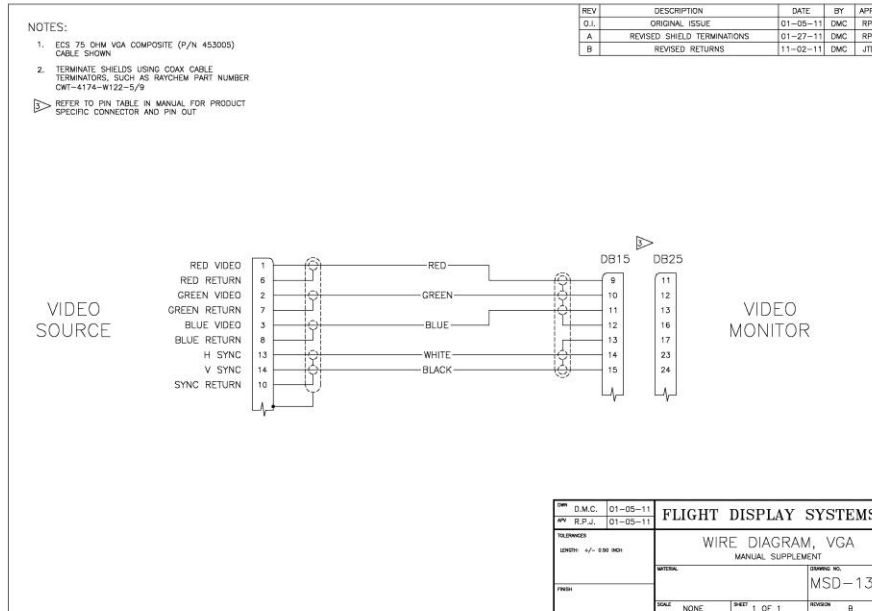


Similar aviation coaxial cable can be used from other vendors, as well.

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.

Mounting and Base Information

The FD102ARM mates with a drink rail mount (*FDBASE, below left*), a wall mount (*FDBASE-W, below right*) or a flush wall mount (*FDBASE-W-FM, not shown*).



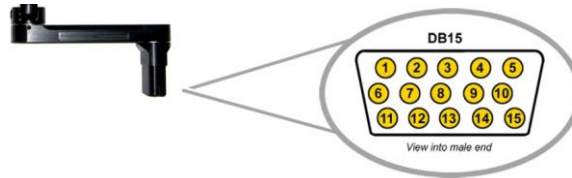
The connector seats deeply in the mount and is held in place by either gravity or a locking pin. The secure High Density DB15 pin and connector can only be connected one direction. The mount is keyed to prevent inadvertent misalignment.

Power and Ground Wiring

22 AWG wire is recommended for Power and Ground applications.

Power/Video

There is one High Density DB-15 inset in the bottom of the arm.



This male DB-15 has Power, Composite Video #1, Composite Video #2 and VGA connections.

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

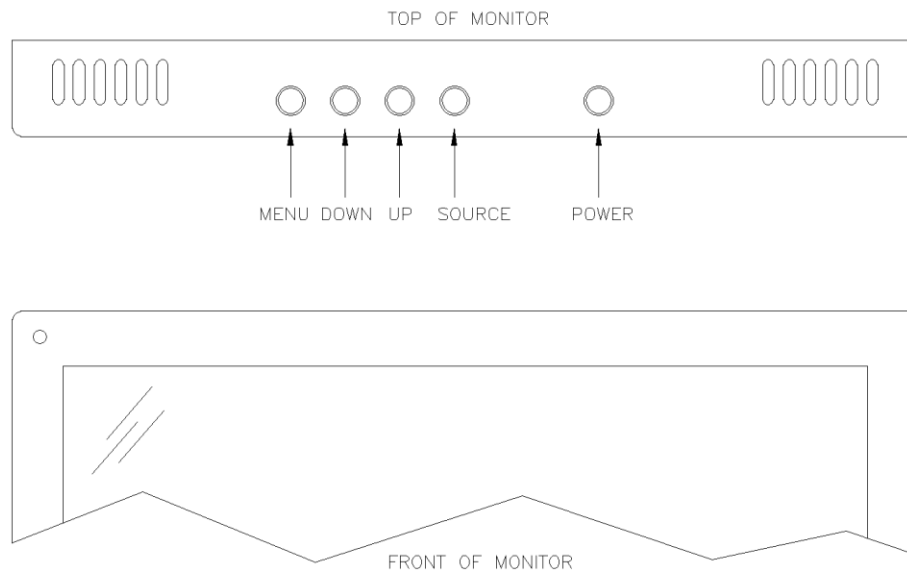
| Pin Number | Description |
|------------|---|
| 1 | 12VDC Power (28VDC for FD102ARM (28V)) |
| 2 | 12VDC Ground (28VDC for FD102ARM (28V)) |
| 3 | N/C |
| 4 | Composite Video #1 - Signal |
| 5 | Composite Video #1 - Shield |
| 6 | N/C |
| 7 | Composite Video #2 - Signal |
| 8 | Composite Video #2 - Shield |
| 9 | Red Video (RGB/VGA) |
| 10 | Green Video (RGB/VGA) |
| 11 | Blue Video (RGB/VGA) |
| 12 | Red Ground (RGB/VGA) |
| 13 | Green Ground (RGB/VGA) |
| 14 | Horizontal Sync (RGB/VGA) |
| 15 | Vertical Sync (RGB/VGA) |

Operation Instructions

The FD102ARM 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.

The passengers will be able to change the video output from the FD102ARM using the video source select switch on the LCD monitor, or remotely throughout the cabin with the included IR remote.

Button Controls



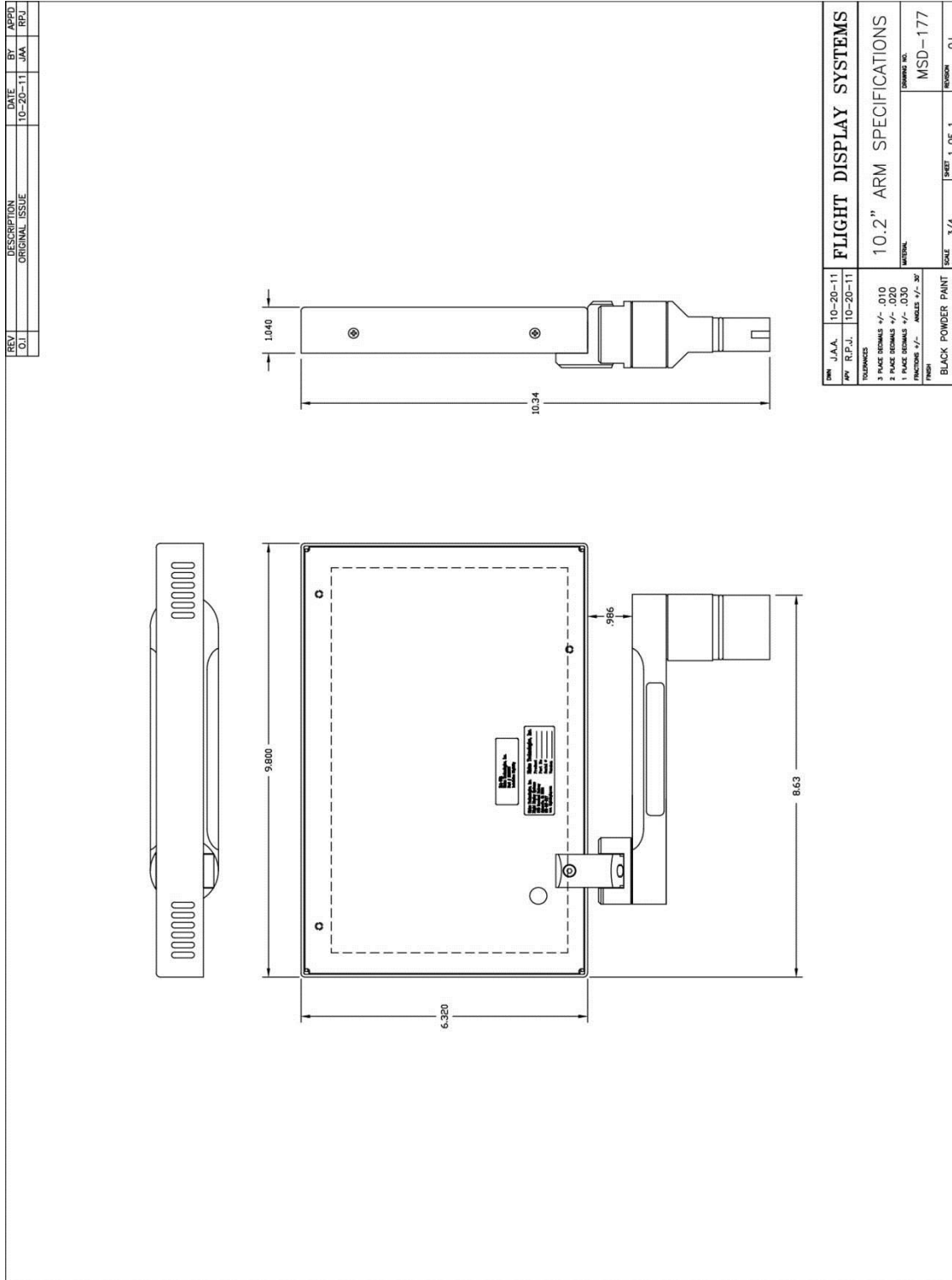
| BUTTON | FUNCTION | DESCRIPTION |
|--------|----------|--|
| 1 | POWER | Press to turn the monitor on if currently off. Hold to turn the monitor off. |
| 2 | SOURCE | Press to switch between sources. |
| 3 | UP | Press to increase the value of a menu item. |
| 4 | DOWN | Press to decrease the value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

Remote Control Buttons



The remote control included with the FD102ARM contains the same functionality available on the display buttons, to include power, source, menu, and directional arrows.

Technical Drawing





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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Alpharetta, GA 30005
Phone: 470-239-7400
Fax: 470-239-7439
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 FD102ARM 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 | 04/11/2007 | N/A 6 | Fixed page numbering. Changed required amperage to 2 Amps. |
| C | 02/13/2009 | 2,11 | Updated specifications, warranty info |
| D | 12/08/2009 | 1,6,7 | Revised Photo, Button Controls, Remote Control |
| E | 10/14/2011 | 5 | Added Operating Temp, New Format, new VGA & Technical Drawing |
| F | 08/24/2012 | | Updated format, warranty and non-PMA info |
| G | 05/22/2017 | All | New Corporate Name, Branding, Format, Warranty |