

Installation and Operation Manual

FD70ARM

7" Widescreen LED on Arm





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General Information

The FD70ARM is a 7" Widescreen LED on a pivoting, rotating Arm. Built with retrofit aircraft integration in mind, this display can switch between three video input sources using the buttons on the bezel or the Infrared Remote.

The arm has both a hinge and a pivot point, and it can rotate 180° around the attach point at the base and 180° at the bottom of the center of the LED. This mount will allow the monitor to tilt back away from the passenger up to 15°.

Front View



Additional Information

The FD70ARM is made of all metal components. The milled aluminium arm represents the evolution of several design enhancements for an optimum removable mounting solution.

The 7" Widescreen LED utilizes a state of the art digital video decoding chipset for the analog video input. The three video sources in order of picture quality are VGA (computer graphics, like Moving Maps), and two Composite Video (DVD, Camera or VCR). Both NTSC and PAL formats are auto-detected.

The FD70ARM can also be connected to existing video switchers and can take a composite video input from a selector interface box. In this case, multiple input sources can be selected and displayed on the monitor.

Specifications

Display Type	7" TFT Color LCD (LED backlight)
Aspect Ratio	16:9
Screen Resolution	800x480 pixels
Maximum Supported Resolution	1600x1200 pixels
Brightness	500 cd/m ²
Contrast	400:1
Video Sources	1x VGA, 2x Composite
Composite Video Type Supported	PAL/NTSC
Power Consumption	12V DC @ 0.80 AMPS, 28V DC @ 0.40 AMPS
Monitor Overall Size	7.72" (W) x 4.88" (H) x 1.42" (D)
Viewable Area	6.00" (W) x 3.60" (H)
Enclosure Materials	Plastic/ Aluminum
Weight with Base	2.31 lbs
Certifications	DO-160 Sec. 7 Cat. B, PMA Approved

Installation Instructions

All cabin entertainment equipment, such as the FD70ARM, 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 **28V DC** monitor that requires .4 AMPS of power to operate.

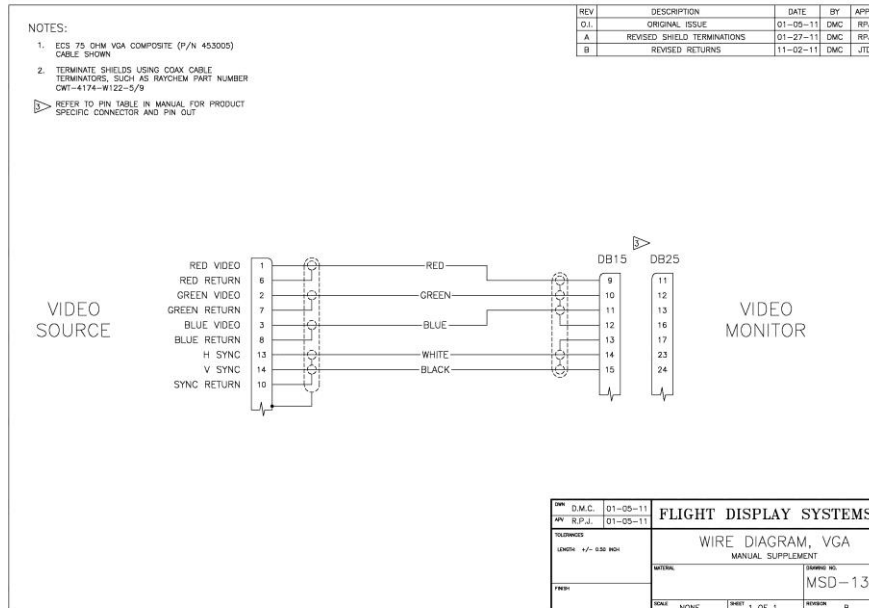
Wiring Suggestions

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.

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 FD70ARM mates with a drink rail mount, FDBASE (left), or a wall mount, FDBASE-W (right).



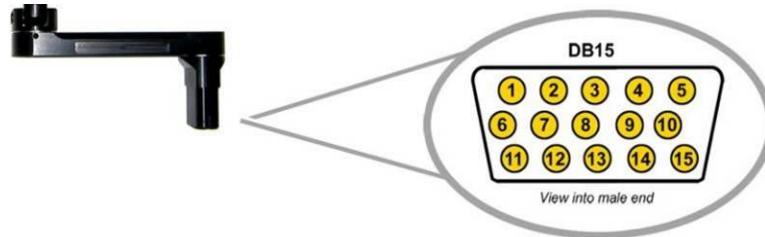
The connector seats deeply in the mount and is held in place by either gravity or a locking pin. The secure High Density DB15 pin and connector can only be connected one direction. The mount is keyed to prevent inadvertent misalignment.

Power and Ground Wiring

22 AWG wire is recommended for Power and Ground applications.

Power/Video

Pin out for (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	28V DC Power
2	28V DC Ground
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)

Operation Instructions


The FD70ARM 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 FD70ARM using the video source select switch on the LED monitor, or remotely throughout the cabin with the included IR remote. Point the IR remote at the top of the LED to make changes.

When applying power, the display will turn on and look for a valid input on the last known source. If no input is found, the display will go to standby mode. Pressing the Input Select button (S) will select a new video input.

Monitor Control Buttons

Located at the bottom of the FD70ARM LED are five buttons and one status LED. Operations are as follows:

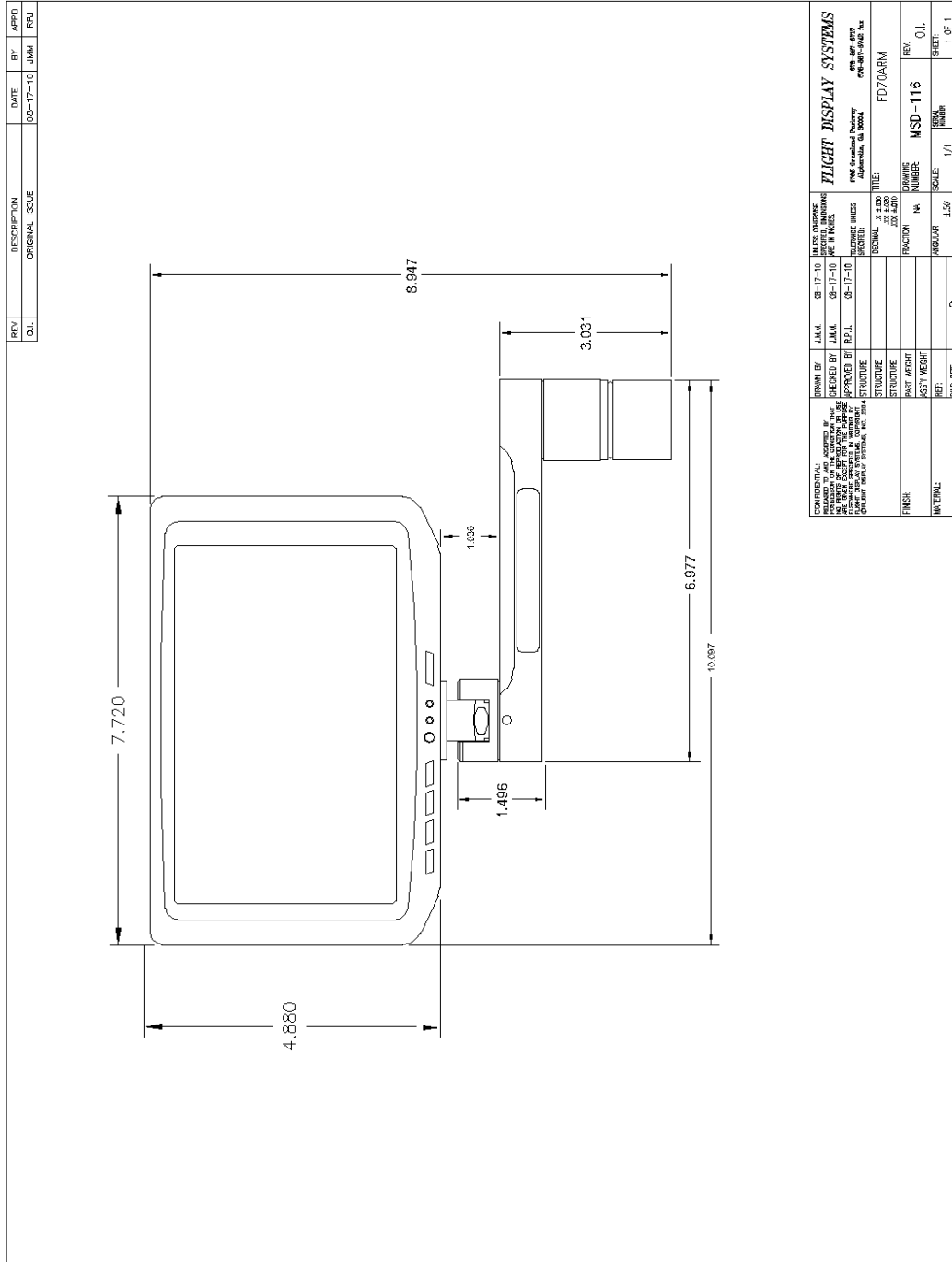
BUTTON	FUNCTION	DESCRIPTION
^	Adjust UP	Incremental adjustment or Menu selection
∨	Adjust DOWN	Incremental adjustment or Menu selection
S	INPUT SELECT	Press and select between VGA, Composite #1 and Composite #2.
M	MENU	Pressing this will activate the Menu.
●	Status Light	Green – on and operating; None – Off or standby
	Light Sensor	Senses level of outside lighting
	POWER	On/Off

Remote Control Buttons

See “Button Controls” above for Remote Control Button functions.



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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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 FD70ARM is designed not to require regular general maintenance.



Warranty Information

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	01/25/2007		Initial Release
B	03/28/2007	2,6,7	Added info regarding FD70ARM (28V)
C	06/28/2007	8	Added remote pictures
D	02/26/2009	2,11	Updated specifications, warranty info
E	07/20/2009	2	Updated FAA/PMA Approval
F	08/17/2010	1,2,4,8,9,13	Added LED monitor, Format Change
G	05/22/2017	All	New Company, Brand, Warranty, Format

