Installation and Operation Manual

FD70CV-M-C-6

7" Widescreen LCD /Standard Arm

TECHNICAL SUPPORT
470-239-7421 or FDSAvionics.com

Table of Contents

TECHNICAL SUPPORT
470-239-7421 or FDSAvionics.com

FDS

Document Number:
MAN – FD70CV-M-C-6

Rev:
B

Revision Date:
05/05/2017
Page 3 of 13

General Information

The FD70CV-M-C-6 is a special mission high-resolution panel mount 7" Widescreen LCD on a pivoting, rotating arm. The LCD features NVG compatibility which can be switched to day or night mode using the rocker switch conveniently located at the top of the display. The FD70CV-M-C-6 will support 2 Composite video inputs, and VGA connections.

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 LCD.

Front View

TECHNICAL SUPPORT
470-239-7421 or FDSAvionics.com

Specifications

Display Type	7" TFT Color LCD /Standard Arm
Supported Resolutions	640x480 ~ 1024x768
Native Resolution	800x480
Display Brightness	800 cd/ m²
Contrast Ratio	500:1
Dimensions	6.80"(W) x 5.375"(H) x 1.535"(D)
LCD Dimension	6.00"(W) x 3.60"(H)
Weight	1 lb. 8 oz.
Viewing Angle	140°/120°
Power	28VDC @ .5 Amps
Operating Temperature	0-50° C (32-122° F)
PC Video Input	VGA (High Density DB-15 Receptacle (Supplied w/Base))
Standard Video Input	2 Composite Video
Video Type Supported	NTSC, PAL
Screen Control	On-Screen Display Menu
Remote Control	IR, included
Materials	Aluminum
DO-160 Testing	Section 21, Category B

Installation Instructions

All cabin entertainment equipment, such as the FD70CV-M-C-6, 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 **12-28VDC** monitor that requires 0.3 Amps (@28V) to 0.6 Amps (@12V) of power to operate.

TECHNICAL SUPPORT
470-239-7421 or FDSAvionics.com
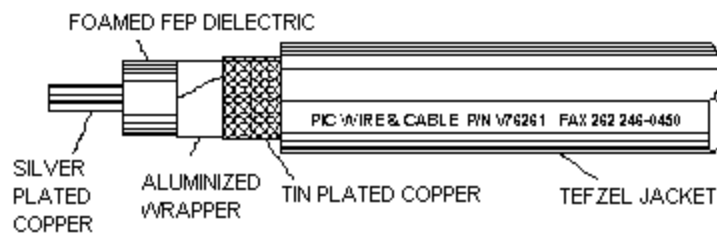
Wiring Suggestions

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.

Composite 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).
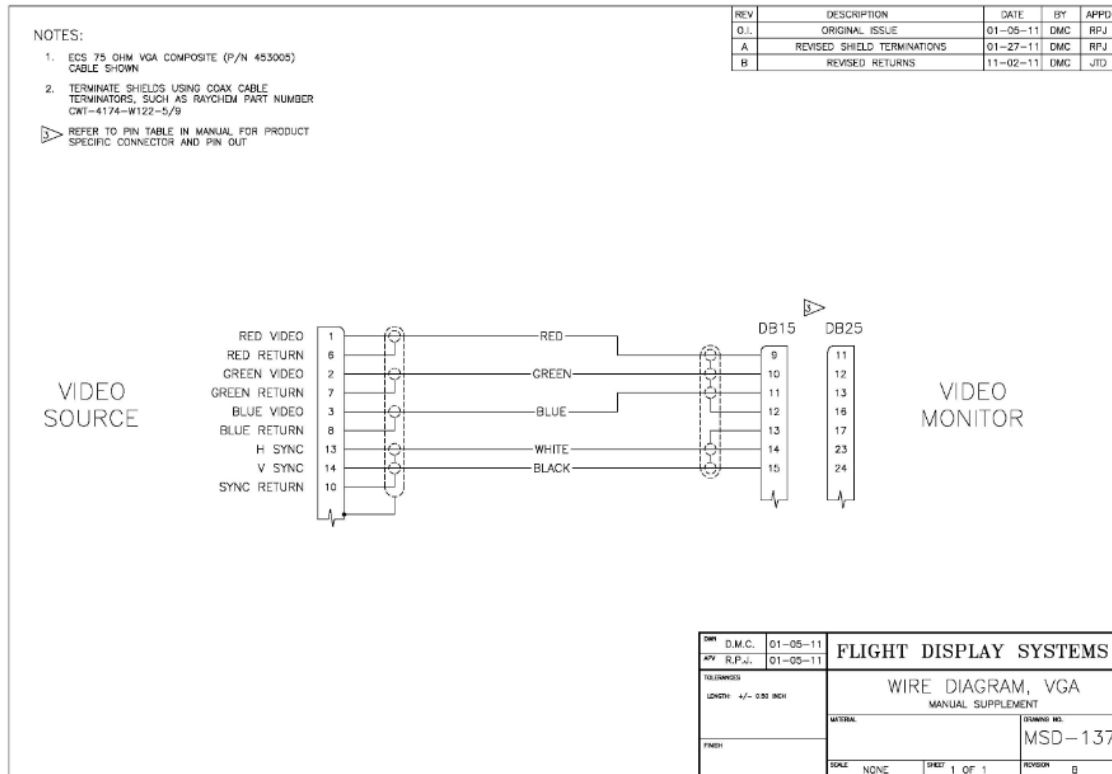

Similar aviation coaxial cable can be used from other vendors, as well.
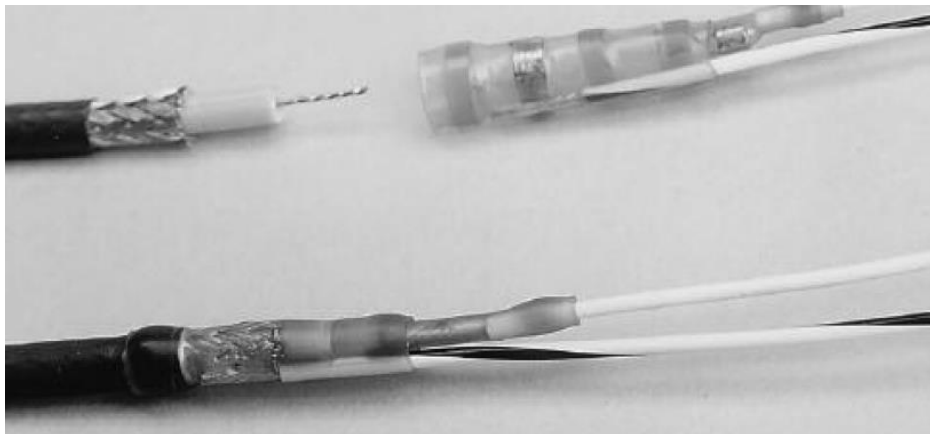
Some aircraft are prone to AC noise - we recommend adding to the composite source a 75 Ohm video isolation transformer such as Deerfield Laboratory, Inc. Part No. 162-1 (www.deerfieldlab.com, (650) 632-4090). In most cases this should be added to the video output of the source.

TECHNICAL SUPPORT
470-239-7421 or FDSAvionics.com

FDS

Document Number:
MAN – FD70CV-M-C-6

Rev:
B

Revision Date:
05/05/2017
Page 6 of 13

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.

Document Number:
MAN – FD70CV-M-C-6

Rev:
B

Revision Date:
05/05/2017
Page 7 of 13

Mounting and Base Information

The FD70CV-M-C-6 mates with a standard FDBASE(left); however, FDS Avionics Corp. has various types of bases that maybe more suitable for your aircraft. Below are examples of the FDBASE and FDBASE-W(right, wall mount):

The connector seats deeply in the mount, the secure High Density DB15 pin and connector can only be connected one direction.
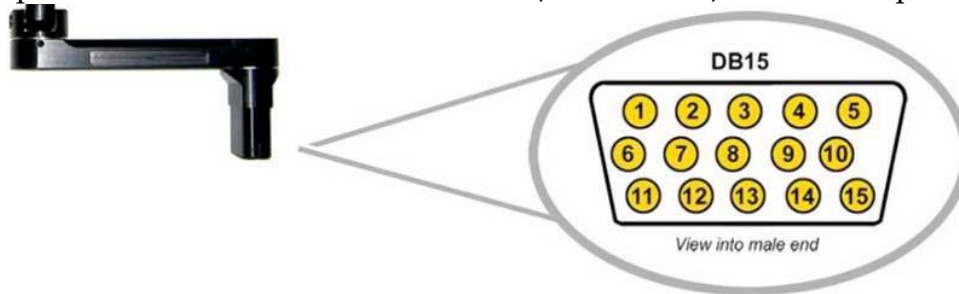
Power and Ground Wiring

22 AWG wire is recommended for Power and Ground applications.

FDS

Document Number:
MAN – FD70CV-M-C-6

Rev:
B

Revision Date:
05/05/2017
Page 8 of 13

Power/Video

Pin out for High Density DB-15 Receptacle (Supplied w/Base)

Connector   P/N: M24308/2-286 or Equivalent
Crimp Contacts   P/N: M39029/57-354 or Equivalent

DB15

View into male end

Pin Number	Description
1	28VDC Power
2	28VDC 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)

TECHNICAL SUPPORT
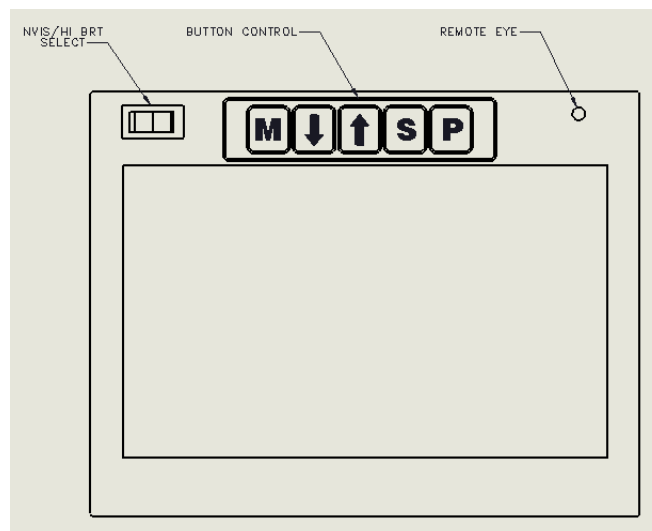470-239-7421 or FDSAvionics.com
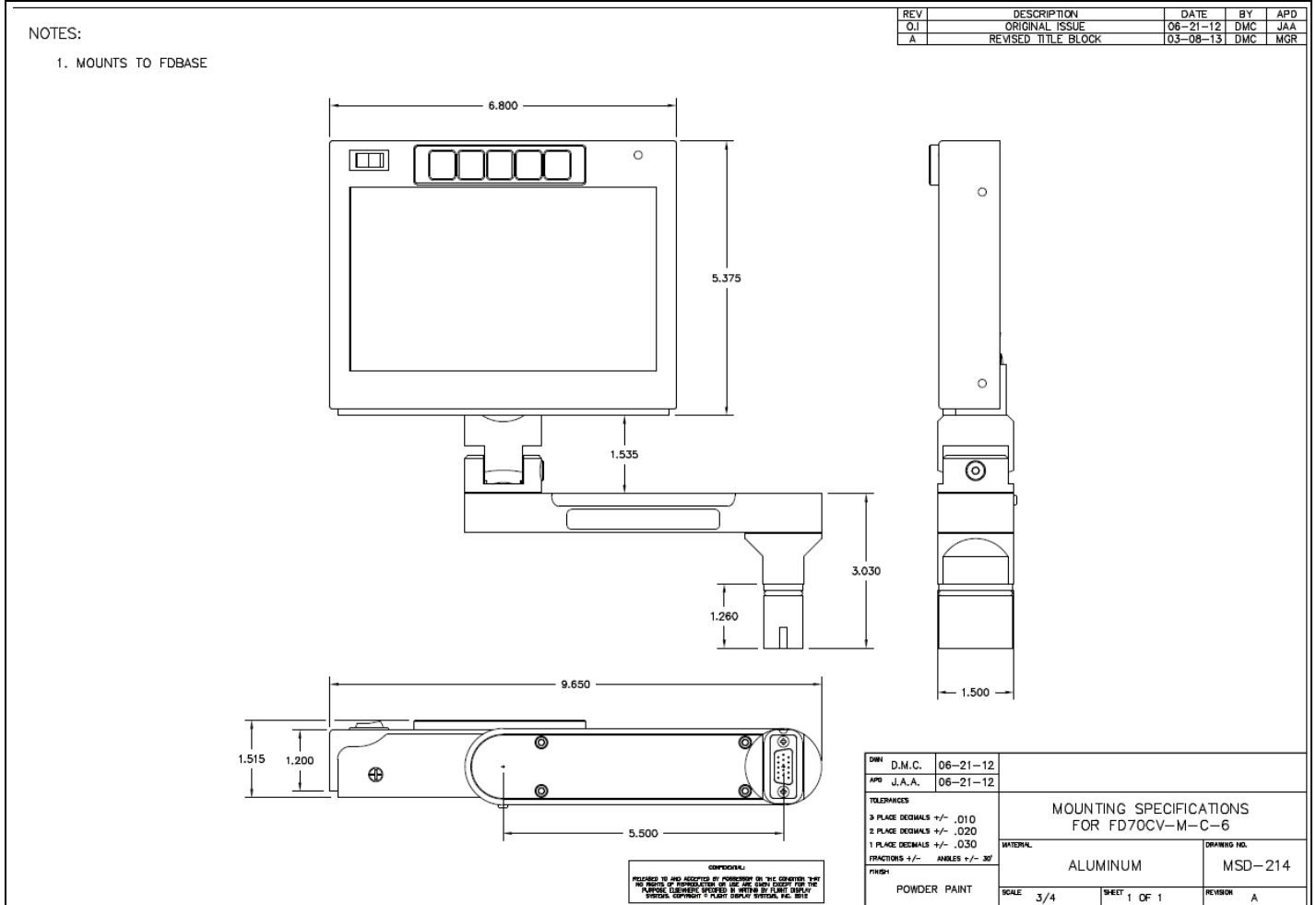
Operation Instructions

The FD70CV-M-C-6 is continuously on but can be de-energized by removing power from the entertainment system. The user can change the video output from the FD70CV-M-C-6 using the video source select switch on the LCD monitor. When power is applied, 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.

Monitor Control Buttons

Button	Function	Description
M	MENU	Opens the menu and escapes out of menus
↓	DOWN	Decreases selected option's value in the menu. Outside of the menu this is a hot button to decrease selected function (backlight, brightness or contrast)
↑	UP	Increases selected option's value and enters menu pages. Outside of the menu this is a hot button to increase selected function (backlight, brightness or contrast)
S	SOURCE	Scroll through video sources. In the menu selects between options and menu pages
P	POWER	Turn unit on or off

Document Number:
MAN – FD70CV-M-C-6

Rev:
B

Revision Date:
05/05/2017
Page 10 of 13

Technical Drawing

NOTES:

1. MOUNTS TO FDBASE

REV	DESCRIPTION	DATE	BY	APD
O.I	ORIGINAL ISSUE	06-21-12	DMC	JAA
A	REVISED TITLE BLOCK	03-08-13	DMC	MGR

6.800
5.375
1.535
3.030
1.260
1.500
9.650
1.515
1.200
5.500

DWN D.M.C. 06-21-12
APD J.A.A. 06-21-12

TOLERANCES
3 PLACE DECIMALS +/- .010
2 PLACE DECIMALS +/- .020
1 PLACE DECIMALS +/- .030
FRACTIONS +/-   ANGLES +/- 30'
FINISH
POWDER PAINT

MOUNTING SPECIFICATIONS
FOR FD70CV-M-C-6

MATERIAL
ALUMINUM

DRAWING NO.
MSD-214

SCALE 3/4   SHEET 1 OF 1   REVISION A

TECHNICAL SUPPORT
470-239-7421 or FDSAvionics.com

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: 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 FD70CV-M-C-6 is designed not to require regular general maintenance.

Limited Warranty

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.

Document Number:
MAN – FD70CV-M-C-6

Rev:
B

**Revision Date:
05/05/2017
Page 13 of 13**

Log of Revisions

Rev	Date	Page	Description
A	06/29/2012		Initial Release
B	05/05/2017	All	Company name, warranty, and format change.

TECHNICAL SUPPORT
470-239-7421 or FDSAvionics.com