

Installation and Operation Manual

FD70CV-M-C-8

7" Widescreen LCD /Standard Arm





Specifications

| | | FD70CV-M-C-8 |
|---------------------------------|--|---|
| Display | | |
| | Panel Technology | TN, Normally White |
| | Diagonal Screen Size | 7" TFT Color LCD |
| | Native Resolution | 800x480 |
| | Pixel Pitch | 0.1905 x 0.1905 (mm) |
| | Contrast Ratio | Day Mode > 550:1 |
| | Viewing Angle | 80°/80°/80°/80° Typ. (70°/70°/70°/70° minimum) |
| | Display Brightness | Day Mode > 500 nits Night Mode < 5 nits |
| Power | | |
| | Power | 28 V DC @ 0.35 Amps |
| | In-rush Current | 13 Amps Peak 2 Amps@500 μS 0.35 Amps Steady State @ 1ms |
| Environmental Conditions | | |
| | Operating Temperatures | 0° to 60° C |
| | Storage Temperature | -20° to 80° C |
| Dimensions | | |
| | Display Size | 7.00"(W) x 5.53"(H) x 1.39"(D) |
| | LCD Bezel Opening Dimension | 6.03" (W) x 3.63" (H) |
| | Overall Dimensions w/Arm | 10.22"(W) x 9.75"(H) x 1.61"(D) |
| | Weight(with Arm) | 2 lb. 3 oz. |
| | Materials | Aluminum |
| Features | | |
| | PC Video Input | VGA |
| | Supported Input Resolution | Up to 1920 x 1080 (VGA) |
| | Standard Video Input | 2 Composite Video |
| | Composite Video Supported Formats | NTSC, PAL |
| | Screen Control | On Screen Display Menu |
| | Remote control | IR, included |





Connectivity

| PRODUCT | CERTIFICATIONS | | INPUTS | | | | | | OUTPUTS | | | | | | | COMMUNICATION | | | | | | |
|--------------|----------------|--|--------|---------------|------|-------|---------|----------|---------|-----|-------|-----------|------|-------|--------|---------------|--------|-------|---------------|-----|-----------|---|
| | PMA | | VGA | Infrared Port | COMP | AUDIO | SD CARD | USB PORT | SDI | VGA | AUDIO | COMPOSITE | HDMI | DVI-D | SD-SDI | HD-SDI | 3G-SDI | RS232 | RS485 CONTROL | CAN | IR REMOTE | |
| FD70CV-M-C-8 | | | 1 | | 2 | | | | | | | | | | | | | | | | | 1 |





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General Information

The FD70CV-M-C-8 is a high-resolution 7” Widescreen LCD on a pivoting, rotating arm. The LCD features dual backlight modes allowing the user to switch between high bright mode and Green NVG friendly mode using the rocker switch located on the front left corner of the display. The FD70CV-M-C-8 has 2 composite video inputs, and one VGA video input.

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.

Installation Instructions

All cabin equipment, such as the FD70CV-M-C-8, 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.

Power

This is a **28VDC** monitor that requires 0.35 Amps (@28V) of power to operate.

Wiring Suggestions

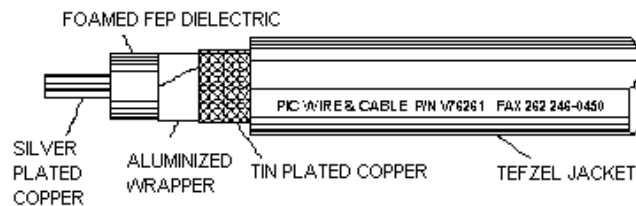
All shields should be grounded to the connector at the source, and floating at the display.

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).

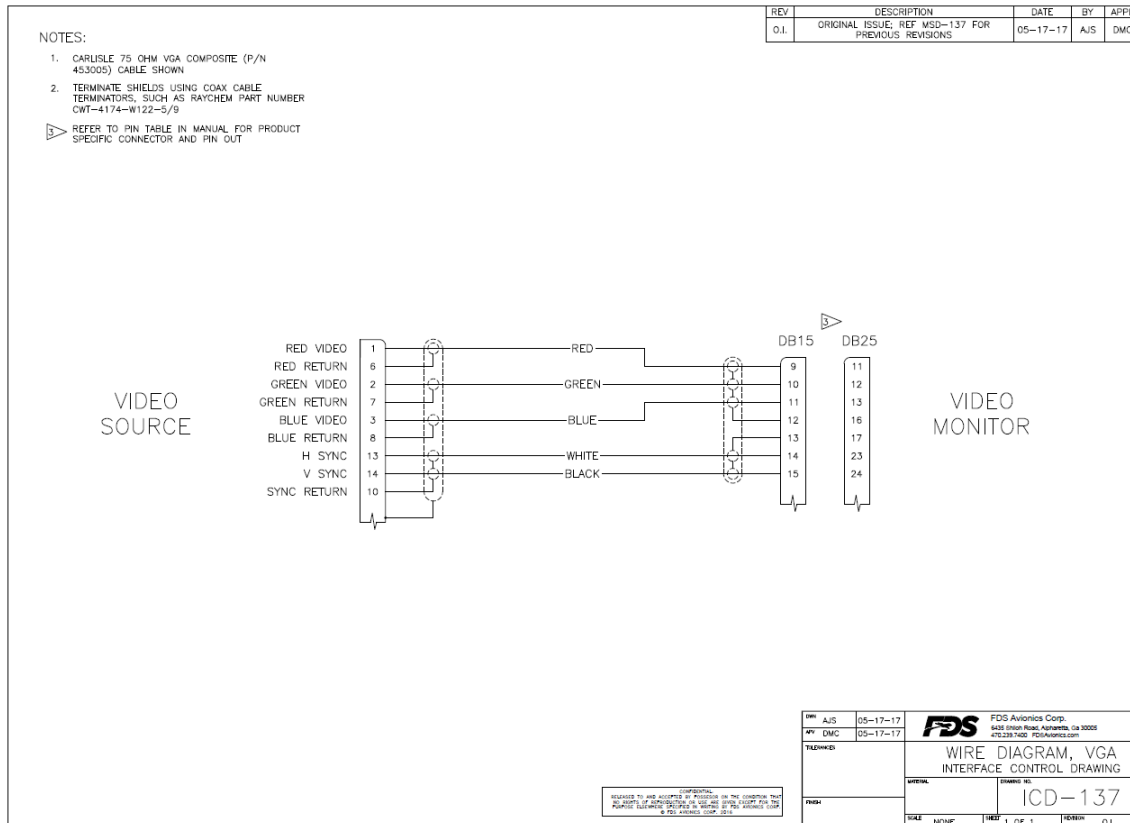


Similar aviation coaxial cable can be used from other vendors, as well.

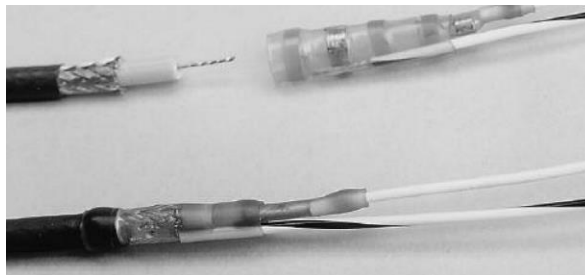
Some aircraft are prone to AC noise - we recommend adding to the composite source a 75 Ohm video isolation transformer such as Deerfield Laboratory, Inc. Part No. 162-1 (www.deerfieldlab.com, (650) 632-4090). In most cases this should be added to the video output of the source.

VGA Wiring

Recommended cable for VGA purpose is Carlisle 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.



Mounting and Base Information

The FD70CV-M-C-8 mates with the FDBASE family of bases. The base is keyed to prevent inadvertent misalignment. FDBASE shown below.



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

The rated current of the equipment and associated voltage drop should be taken into consideration when selecting wire gauge. The following example is based on an install with a 28VDC power system, 1.5-amp equipment load and a total of 50 feet of wire between the circuit breaker, monitor and ground.

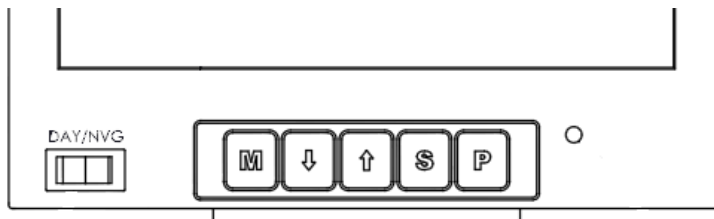
Example: 22awg wire has 16.2 Ohms per 1000 feet, this equates to .81 Ohms for 50 feet. 1.5 Amp of current on .81 Ohms will drop 1.22 Volts.

| Resistance of Wire Type M22759/16-** (** = Gauge) | |
|--|------------|
| Gauge (AWG) | OHMS/1000' |
| 24 | 26.20 |
| 22 | 16.20 |
| 20 | 9.88 |
| 16 | 4.81 |
| 12 | 2.02 |
| 10 | 1.26 |
| 8 | .701 |

Operation Instructions

The FD70CV-M-C-8 is continuously on but can be de-energized by disconnecting power from the system. The user can change the video input using the video source select key (“S”) on the bezel. When power is applied, the display will turn on and search for a valid input on the last known source. If no input is found, the display will enter a standby mode. The rocker switch on the left toggles the unit from Day Mode to Night Mode.

On-Screen Display Controls



| 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 |

Remote Control Buttons

The IR LED, located on the monitor, must be visible to the remote for wireless operation. Refer to button controls on previous page for remote control button functions.



POWER - System On/off

SOURCE - Change functions

MENU – OSD Menu On/Off

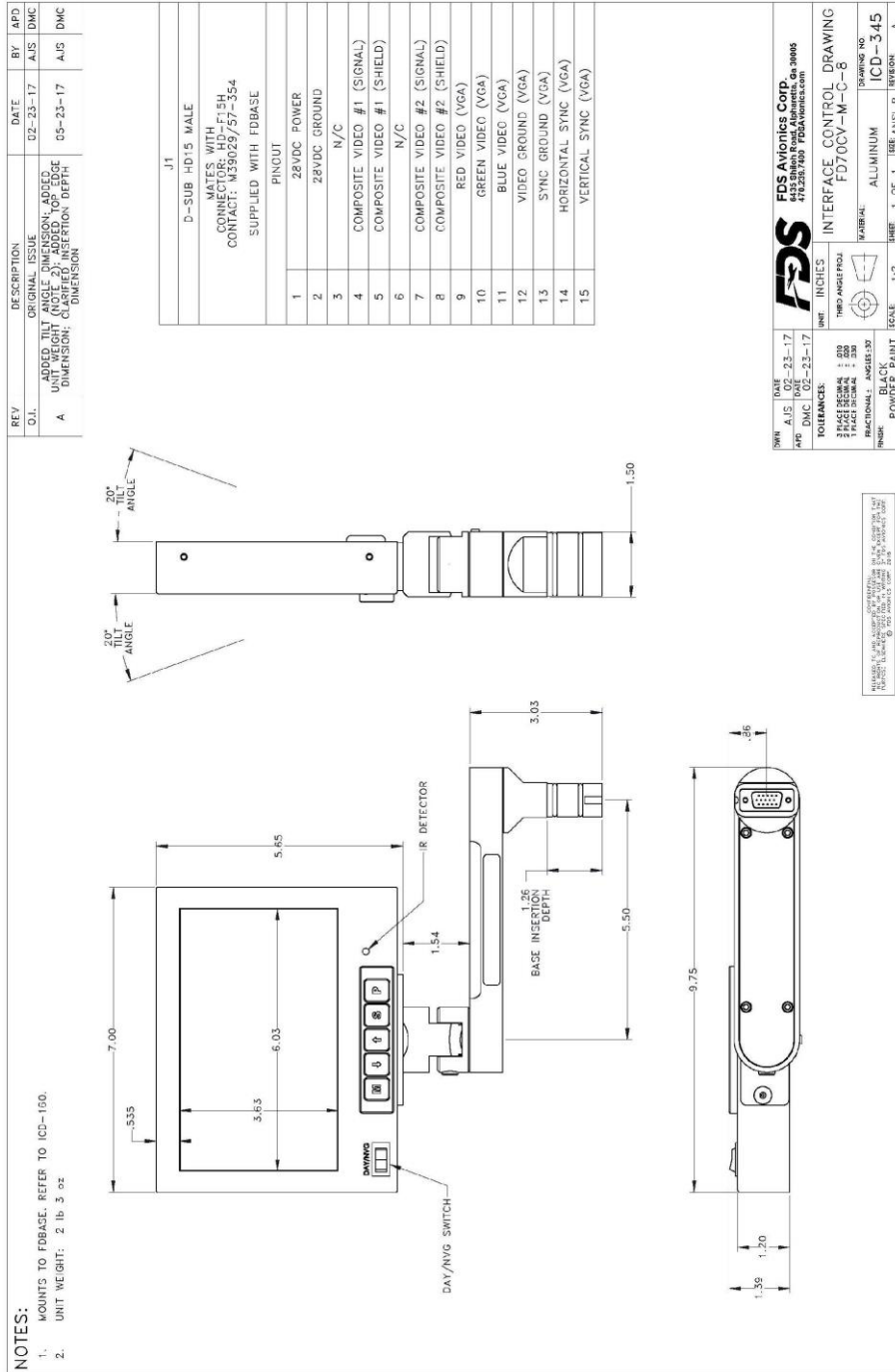
UP/DOWN – Menu Navigation

LEFT/RIGHT – Menu Navigation & Brightness control

* Below keys used for special function.

* Before using the Remote control for the first time, ensure two AAA batteries are installed.

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.

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-8 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.





Log of Revisions

| Rev | Date | Page | Description |
|-----|------------|------|-----------------|
| A | 05/12/2017 | All | Initial Release |

