



## Installation and Operation Manual

# FD171CV VER TS

17.1” Widescreen Touchscreen LCD





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## General Information

The FD171CV VER TS is a 17.1" Widescreen Touchscreen LCD which has features that allow installation in the smallest of mounting areas with the minimum of interface equipment. The FD171 VER TS has a capacitive touchscreen that uses RS-232 to interface with the equipment it controls.

## Front View



## Additional Information

The FD171CV VER TS utilizes a state of the art digital video decoding chipset for the analog VGA video input.

The FD171CV VER TS can also be connected to existing video switchers and receive video inputs from a selector interface box.

The FD171CV VER TS is made of all metal components.

## Specifications

Display Type	17.1 TFT Color LCD
Display Color	16.7 Million Colors
Pixel Pitch	0.291 mm x 0.291 mm
Screen Resolution	1280 x 768
Brightness	450 cd/m <sup>2</sup>
Dimensions	16.25 (W) x 11.00" (H) x 1086" (D)
Display Size	14.65" (W) x 8.81" (H)
Weight	7.6 lbs.
Power	28 VDC @ 1.5 AMPS
PC & Video Input	One High Density DB-15 Connector
Video Type Supported	VGA
Screen Control	On Screen Display Menu, Touch Screen
Remote Control	IR
Materials	Aluminum
DO-160E Testing	In Progress

## Installation Instructions

All non-flight essential equipment, such as the FD171CV VER TS, 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 display should it become necessary.

There are eight 8-32 UNC mounting holes located on the sides and back of the display. Four holes are located at the four corners of the back and four holes are located two on each side of the bezel. It is sufficient to mount the display by four attach points.

**Mounting against the bulkhead or on a bracket:** The unit can be mounted internal, external, or partially internal to the bulkhead. It is recommended that at least a ¼ inch of space around the rear, top and bottom of the display for the internal exhaust fan to be able to circulate air through the unit. When mounting from inside the bulkhead it is possible to have only the LCD visible to the cabin. The unit will come on automatically upon power application.

## Power

This is a 28VDC monitor that requires 1.5 AMPS of power to operate.

## Wiring Suggestions

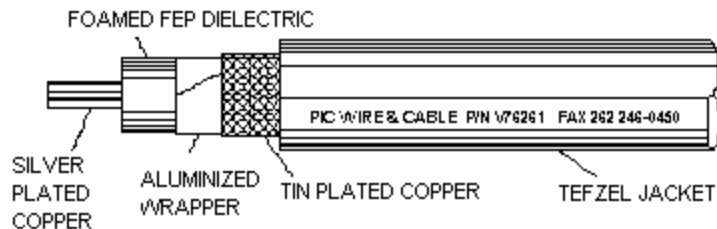
All shields should be grounded to the connector at the source, and floating at the display.

Avoid routing video wiring parallel to:

- AC wiring
- Strobe wiring
- DC motor supply cables
- Inverter cabling
- Or any other potential noise source.

## 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).

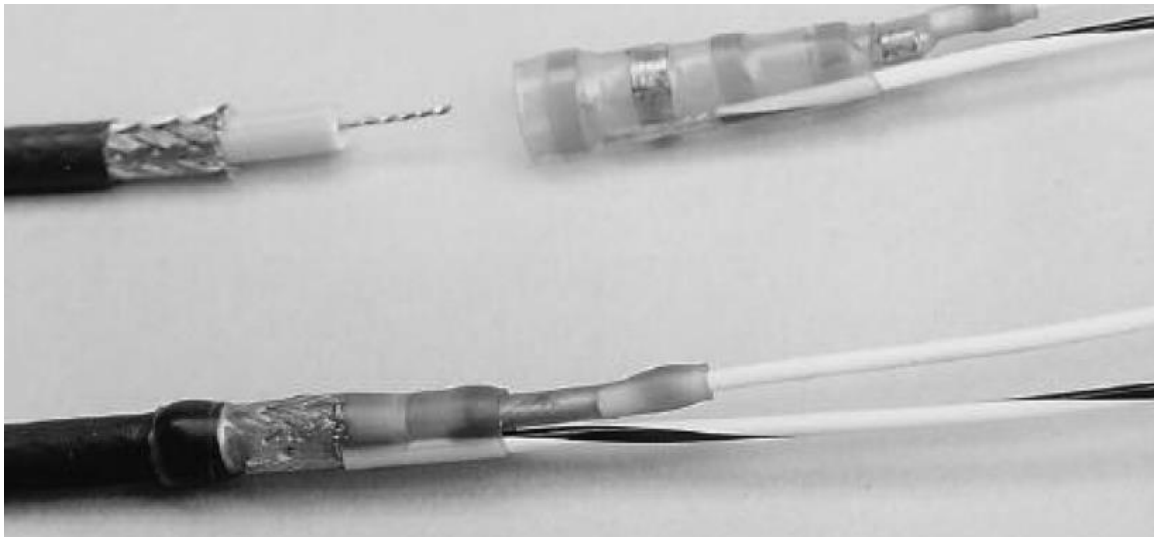


Similar aviation coaxial cable can be used from other vendors, as well. Some aircraft are prone to AC noise - we recommend adding to the composite source a 75Ohm video isolation transformer such as Deerfield Laboratory, Inc. Part No. 162-1 ([www.deerfieldlab.com](http://www.deerfieldlab.com), (650) 632-4090). 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.

Coax cables should be terminated using solder sleeve coaxial cable terminators, Raychem P/N: CWT-4174-W122-5/9



## Power and Ground Wiring

This is a 28VDC monitor that requires 1.5 amp of power to operate. To operate properly this monitor requires an input voltage of 18-29VDC.

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 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 Amps 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

Also, use short heavy gauge wire and a clean tight connection for ground.

It is the installer's responsibility to understand the product's requirements to install the product in compliance with industry standards and safety.

## Power/Video

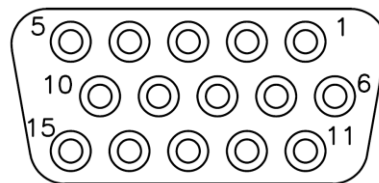
### Pin out for P1 (High Density DB-15 Receptacle)

Connector

P/N: M24308/2-286 or Equivalent

Crimp Contacts

P/N: M39029/57-354 or Equivalent



MATING FACE

Pin Number	Description
1	28V DC Power
2	28V DC Ground
3	5V DC Power (Touch Screen)
4	5V DC Ground (Touch Screen)
5	RX
6	TX
7	GND
8	Blue Ground (Pin 8 on Standard VGA)
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)



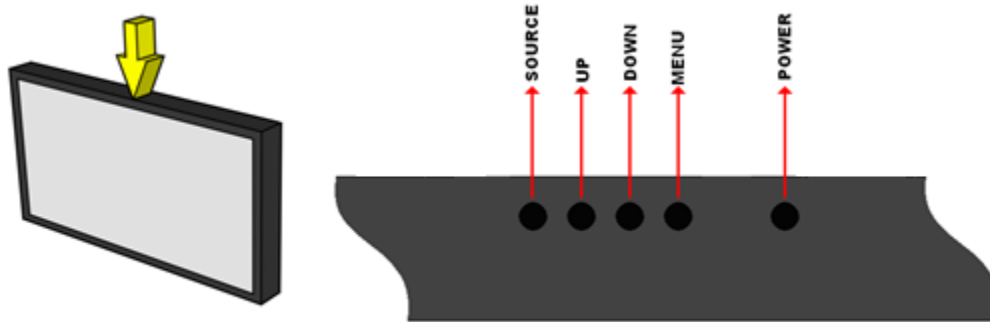
## Operation Instructions

The FD171CV VER TS is continuously on but can be de-energized by removing power from the unit at the circuit breaker panel or by cycling the power on/off bezel button on the top of the display. No pilot or aircrew action is necessary during flight or ground operation.

When applying 28VDC 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.

## Button Controls

There are 5 buttons located on the top center. Their functions are shown below:



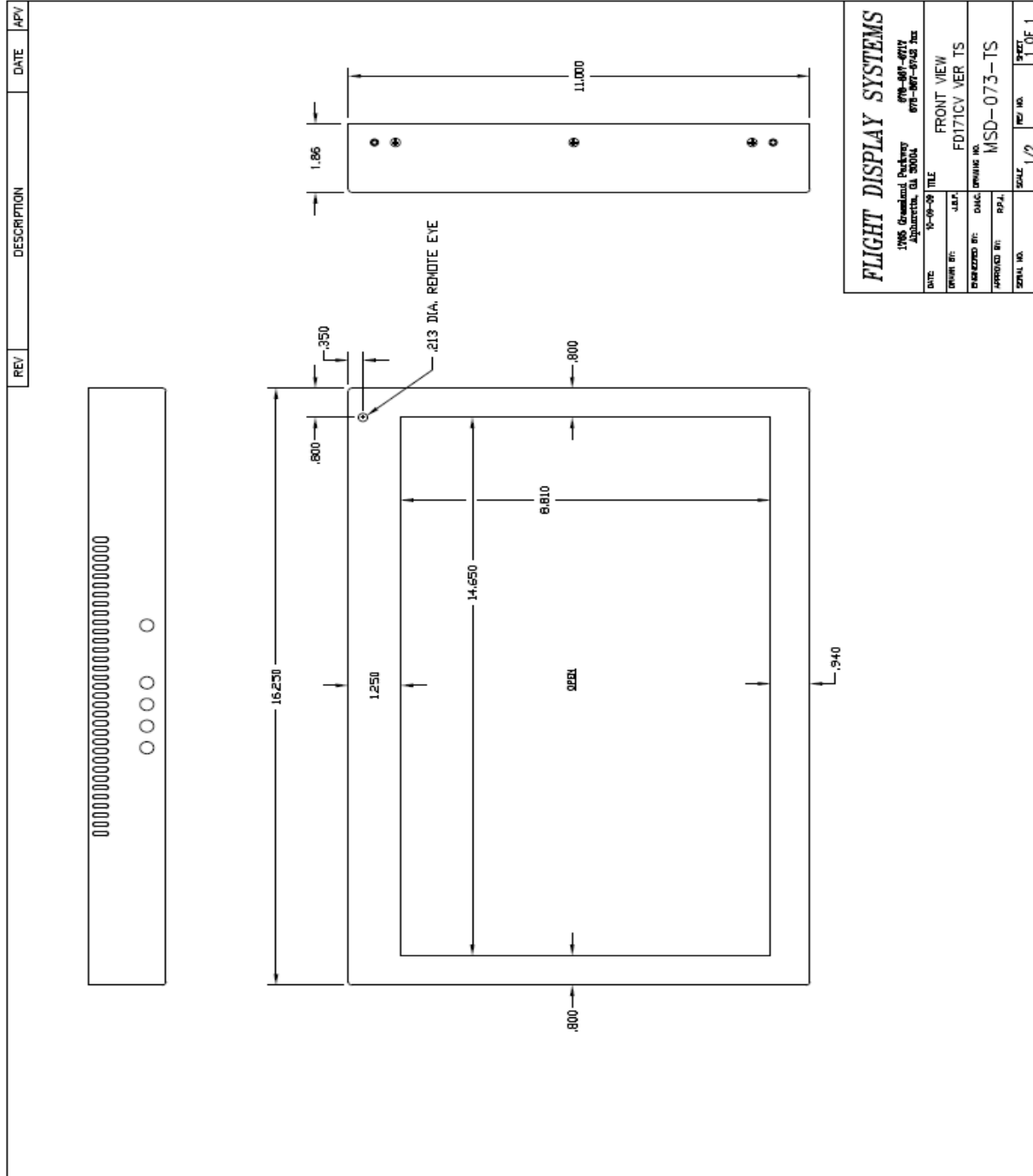
BUTTON	DESCRIPTION
POWER	Toggles the power ON or OFF. Also, wakes the display up from SLEEP mode.
MENU	Opens the MENU.
DOWN	Moves to the next selection in the menu.
UP	Moves to the previous selection in the menu.
SOURCE	Switches between sources coming into the display.

## Remote Control



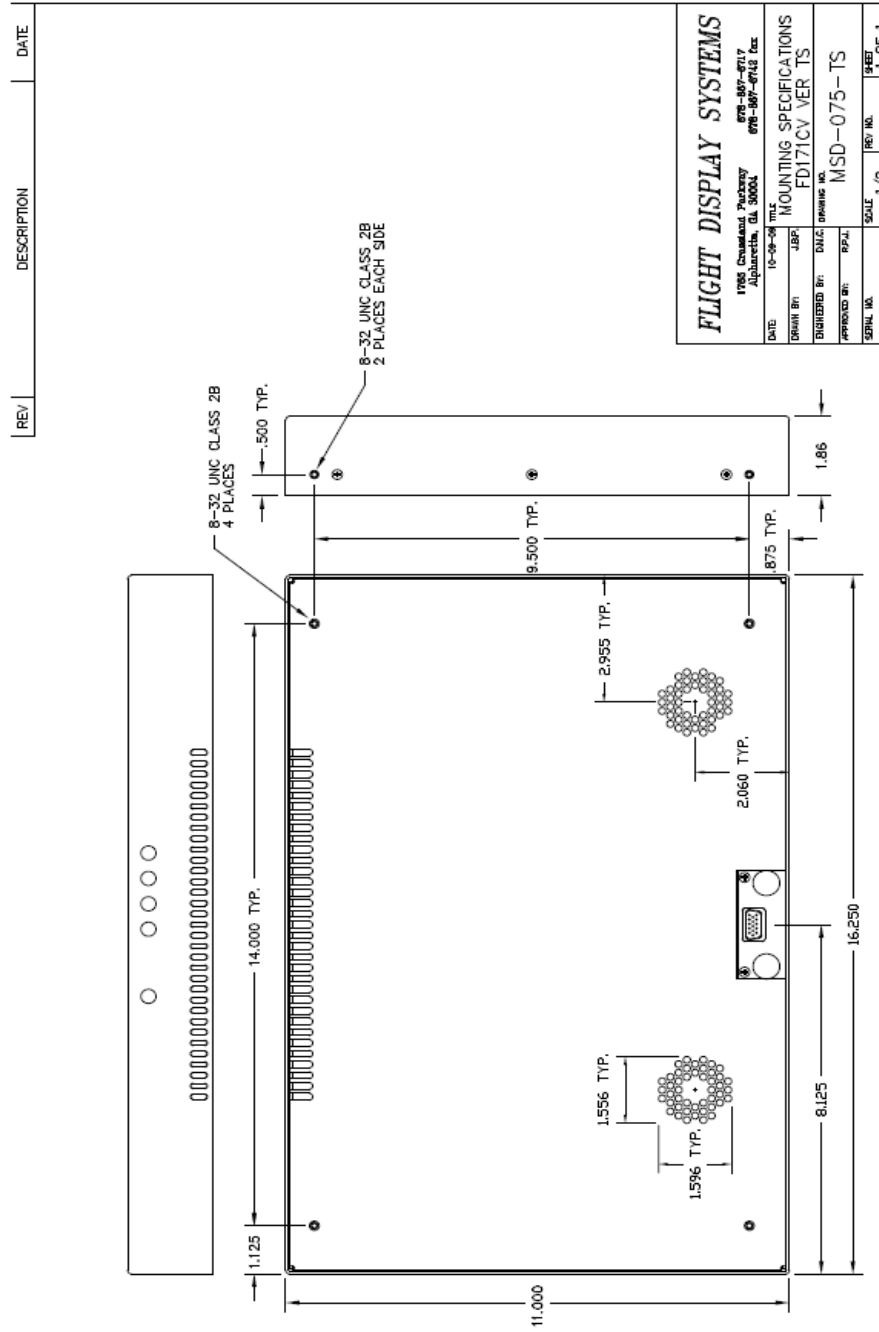


# Technical Drawing





# 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](mailto: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](http://www.FDSAvionics.com)

## Instructions for Continued Airworthiness

The FD171CV VER TS 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.





## Revisions Log

Rev	Date	Page	Description
A	02/11/2013	All	Initial Release
A	1/12/2017	All	Company name change and formatting. No revision change necessary.

