

# DAPS350

## Installation and Operation Manual

### VGA (RGB) Video Amplifier



TECHNICAL SUPPORT  
678-867-6717, or  
[www.FlightDisplay.com](http://www.FlightDisplay.com)

**Flight Display Systems**  
*Enhancing the Flight Experience*

DAPS350

VGA (RGB) Video Amplifier

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# General Information

The DAPS350 is a VGA (RGB) Video Amplifier which takes a VGA source, and splits and amplifies each to 8 outputs. In addition, the DAPS350 supplies 3 Amps of 12VDC of power available for other cabin entertainment products (i.e. Wireless Audio, DVD player, Glareshield Camera, or LCD monitors).

## Front View



## Additional Information

The DAPS350 is designed to interface with products that use VGA (Analog RGB) video output such as our Flight Display Moving Map. The DAPS350 also produces a significant increase in video signal quality due to better shielding on the video board.

The DAPS350 is made of all metal components. DO-160D testing has been completed and is available upon request.

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## Specifications

Input Source	PC VGA (TTL Compatible, RGB Analog)
Input Connector	HD-15M
Video Output	8 Channels, HD-15F
Maximum Resolution	1600x1280 (XGA)
Transmission Distance	DAPS350 to Monitor 250 FT CPU to Splitter 25 FT
Horizontal Frequency	30-100 KHz
Vertical Frequency	43-120 KHz
Bandwidth	150 MHz
Dimensions	7.5" (W) x 2.1" (H) x 4.15" (D)
Weight	1 lbs 2 oz
Power	28VDC @ 2.5 Amps
Mounting	6 Points on Flange
Materials	Aluminum
DO-160 TESTED	FAA/PMA Approved

# Installation Instructions

All cabin entertainment equipment, such as the DAPS350, should be installed on a non-essential bus and have a dedicated circuit breaker. It is a requirement that a switch be installed so that the pilot can de-energize the system should it become necessary.

There are four mounting slots located on the sides of the DAPS350 on the sides for horizontal mounting and two slots on the end for vertical mounting. It is sufficient to mount the unit by only two attach points. This unit can be mounted in any orientation. Care should be given to make sure the DB Connectors are firmly seated in the VGA inputs and outputs and that the aircraft wire bundle will not shift and pull the plugs away from the DAPS350.

The unit will come on automatically upon applying power. During check out you can look to see that the power LED is illuminated once power has been applied. Install VGA cables in the numerical order as indicated on the DAPS350 labeling.

Note: Maximum length from the source to the DAPS350 is 25', and maximum length from the DAPS350 to the displays is 250'.

## Power

This is a **28VDC** device that requires 2.5 Amps of power to operate.

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## Video Wiring Suggestions

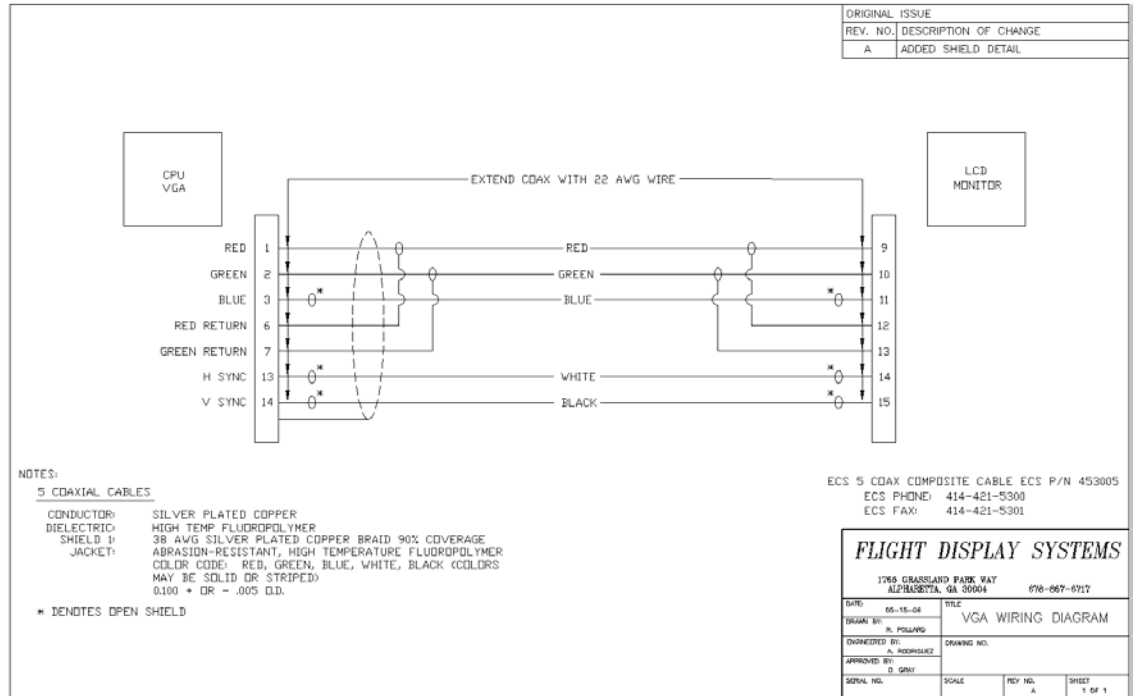
All shields should be grounded to the connector at the source, and floating at the display.

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.

## Power and Ground Wiring

22 AWG wire is recommended for Power and Ground applications.

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## Pinout for DB-9 (Power Connection)

Part Numbers for DB-9 connector, manufactured by Tyco or Amp.

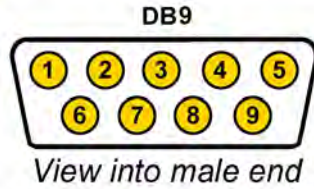
D-sub, 9 contact receptacle (female)

P/N 205203-1

9F pins

P/N M39029/63-368

### Wiring Diagram



Pin Number	Description
1	28VDC In - Power
2	28VDC In - Ground
3	N/C
4	12VDC Out - Power
5	12VDC Out - Ground
6	12VDC Out - Power
7	12VDC Out - Ground
8	12VDC Out - Power
9	12VDC Out - Ground

## Pinout for DB-15 (VGA Connections)

Part Numbers for DB-15 connector, manufactured by Tyco or Amp.

D-sub, 15 contact receptacle (female)

P/N 748565-1

D-sub, 15 contact receptacle (male)

P/N 748364-1

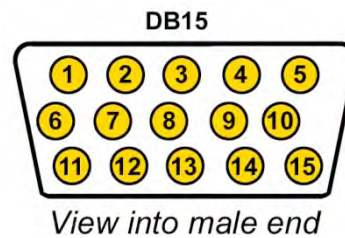
15F pins

P/N M39029/57-354

15M pins

P/N M39029/58-360

### Wiring Diagram



Pin Number	Description
1	Red Video
2	Green Video
3	Blue Video
4	N/C
5	N/C
6	Red Ground
7	Green Ground
8	N/C
9	N/C
10	N/C
11	N/C
12	N/C
13	Horizontal Sync
14	Vertical Sync
15	N/C

# Troubleshooting

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## Video Noise

Check for an incorrect ground in the installation wiring. See specific examples of video noise below, or visit <http://flightdisplay.com/Grounding.pdf>

### Snow or Sweeping Lines

Lines that slowly sweep up and down are a result of AC noise. This AC noise can be generated by a power cart on the aircraft. Take the power cart off of the aircraft. Be careful of inverter wiring, which can also cause noise. Stand off the wires, if necessary.

If snow or sweeping lines persist, it is possible that the ground is at an incorrect point in the aircraft. Try moving the ground to another location.

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## No power to Monitor, or No video Input

- Verify correct wiring. Check the base receptacle connectors for possibly damaged pins.
- Check that the video source is:
  1. Powered on,
  2. In Play mode, and
  3. Displaying video.

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## Color Distortion

- Adjust brightness and contrast settings using the buttons on the monitor.

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## Remote Control Inoperable

- Confirm that the infrared eye on the LCD screen is visible.
- Replace battery in remote control.

# Technical Support

Should you have any questions concerning this product or other Flight Display Systems products, please contact our Product Support representatives at (678) 867-6717.

**Flight Display Systems**

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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.flightdisplay.com](http://www.flightdisplay.com)

## Instructions for Continued Airworthiness

The DAPS350 is designed not to require regular general maintenance.

# Warranty Information

Flight Display Systems warrants the DAPS350 against material or manufacturing defects for a \*two-year period (effective 1/1/2009 on all equipment shipped with 2009 pricing). Warranty begins on date of installation. \*The warranty registration card must be returned upon installation in order to validate the two-year warranty. Any warranty registration not returned during this time period will default to the date of purchase as the warranty start date.

If product support is required, please call our Technical Support team at 678-867-6717 to obtain assistance. If the return of the unit to the factory is required, an RMA number will be issued at that time. Flight Display Systems will, upon receipt of the failed hardware, remanufacture or replace the unit at our discretion.

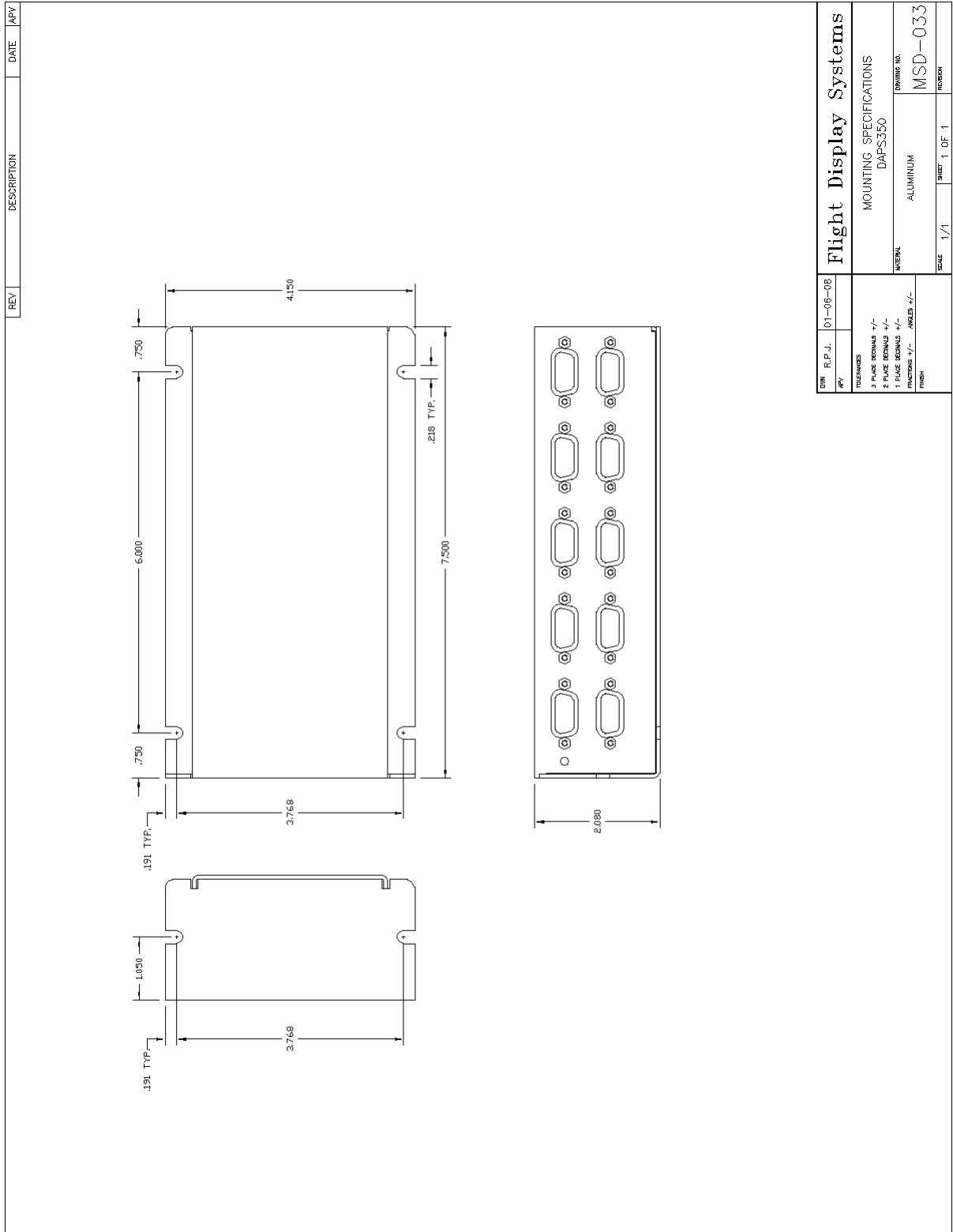
Flight Display Systems will pay Ground Shipping charges for warranted items. Charges for express shipment will be the responsibility of the sender.

This warranty is not transferable. Any implied warranties expire at the expiration date of this warranty. We shall not be liable for incidental or consequential damages.

This warranty does not cover a defect or failure that has resulted from improper or unreasonable installation, use or maintenance, as determined by Flight Display Systems. This warranty is void if there is any attempt to disassemble or open this product without factory authorization.

Any labor charges associated with the removal of product or related troubleshooting by a firm other than Flight Display Systems or its designee will not be covered.

# Assembly Drawing



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## Log of Revisions

Rev	Date	Page	Description
A	02/02/2007	---	---
B	06/20/2008	1	Updated image
		5	Corrected image of DB-15 connector
C	04/14/2009	1,8	Updated specifications, warranty info
D	07/20/2009	1	Updated FAA/PMA Testing Approval
E	11/19/2009	cover	Updated front cover photo
F	11/23/2009	1	Updated specs
G	11/30/2009	9	Revised Assembly Drawing