

DAPS440

Installation and Operation Manual

Video/Audio Switcher



TECHNICAL SUPPORT
678-867-6717, or
www.FlightDisplay.com

Flight Display Systems
Enhancing the Flight Experience

DAPS440

Video/Audio Switcher

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General Information

The DAPS440 is a Video/Audio Switcher which takes 4 composite sources, and amplifies and switches each to 4 outputs. In addition, the DAPS440 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 DAPS440 has 4 Audio & Video input source connections and four individual Audio & Video output connections for each input. Switching is accomplished with a ground switching system. The DAPS440 will support the installation of four independent switches at four different seat locations. Each individual at each of the four seat positions can independently access up to four audio and video sources by pushing their button. Every time the button is pushed, the audio and video source will sequence through sources 1, 2, 3 and 4.

For example, if you have installed our Moving Map, Glareshield Camera and two DVD players, the DAPS440 can sequence output from Moving Map, to Camera, to DVD1 and then to DVD2.

The DAPS440 is made of all metal components. DO-160 testing has been completed and is available upon request.

Specifications

Dimensions	9.5" (W) x 7.25" (H) x 1.25" (D)
Video System	NTSC/PAL
Input Sources	4 Audio/Video Channels
Output Sources	4 Audio/Video Each
Video Impedance	75 Ohms
Control Sequence	Source 1,2,3,4
Audio Impedance	8.2 KOhms
Weight	1 lbs 12 oz
Power	28VDC @ 1.0 Amps
Source Selection	Momentary Ground Switch (Not Incl.)
Materials	Aluminum
Mounting	6 points on flange
DO-160	Section 21 Category B

Installation Instructions

All cabin entertainment equipment, such as the DAPS440, 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 six mounting slots located on the sides of the housing. Four holes are located at the four corners of the back and four holes are located two on each side of the flange. It is sufficient to mount the display by two attach points. It is recommended that you leave about ¼ inch of space around the unit for air circulation.

Audio/Video inputs are paired and listed on the same side of the unit as the Power Input DB-15. From left to right the video/audio inputs are line 1,2,3,4. Use the inputs sequentially as you would like them selected by the operator.

On the opposite side of the unit is the output side. Here you will find four paired output jacks. The momentary ground is pinned to the DB-15 to accomplish the switch of the Audio/Video source.

Power

This is a **28VDC** device that requires 1.0 Amps of power to operate.

Video Wiring Suggestions

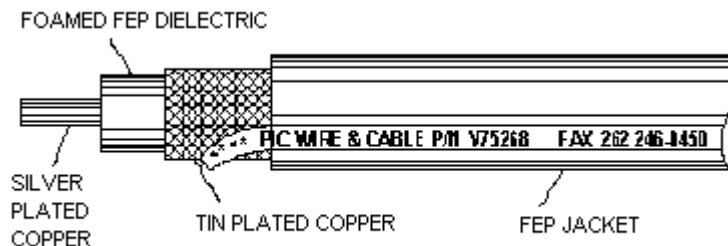
All shields should be grounded to the connector at the source, and floating at the display.

Avoid routing video wiring parallel to:

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

S-Video/Composite and Audio Wiring

Recommended cable for s-video/composite and audio purposes is PIC 75 Ohm Coax, P/N V75268. 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, (650) 632-4090). In most cases this should be added to the video output of the source.

Power and Ground Wiring

22 AWG wire is recommended for Power and Ground applications.

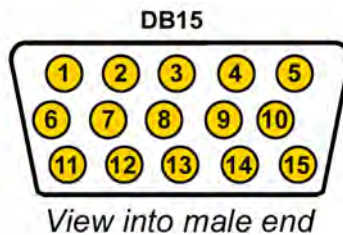
Pinout for High Density DB-15

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

Wiring Diagram



Pin Number	Description
1	28VDC Power In
2	28VDC Ground In
3	N/C
4	12VDC Power Out
5	12VDC Ground Out
6	12VDC Power Out
7	12VDC Ground Out
8	N/C
9	12VDC Power Out
10	12VDC Ground Out
11	N/C
12	Switch #4
13	Switch #3
14	Switch #2
15	Switch #1

Troubleshooting

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.

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.

Color Distortion

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

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
1765 Grassland Parkway
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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

Instructions for Continued Airworthiness

The DAPS440 is designed not to require regular general maintenance.

Warranty Information

Flight Display Systems warrants the DAPS440 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.

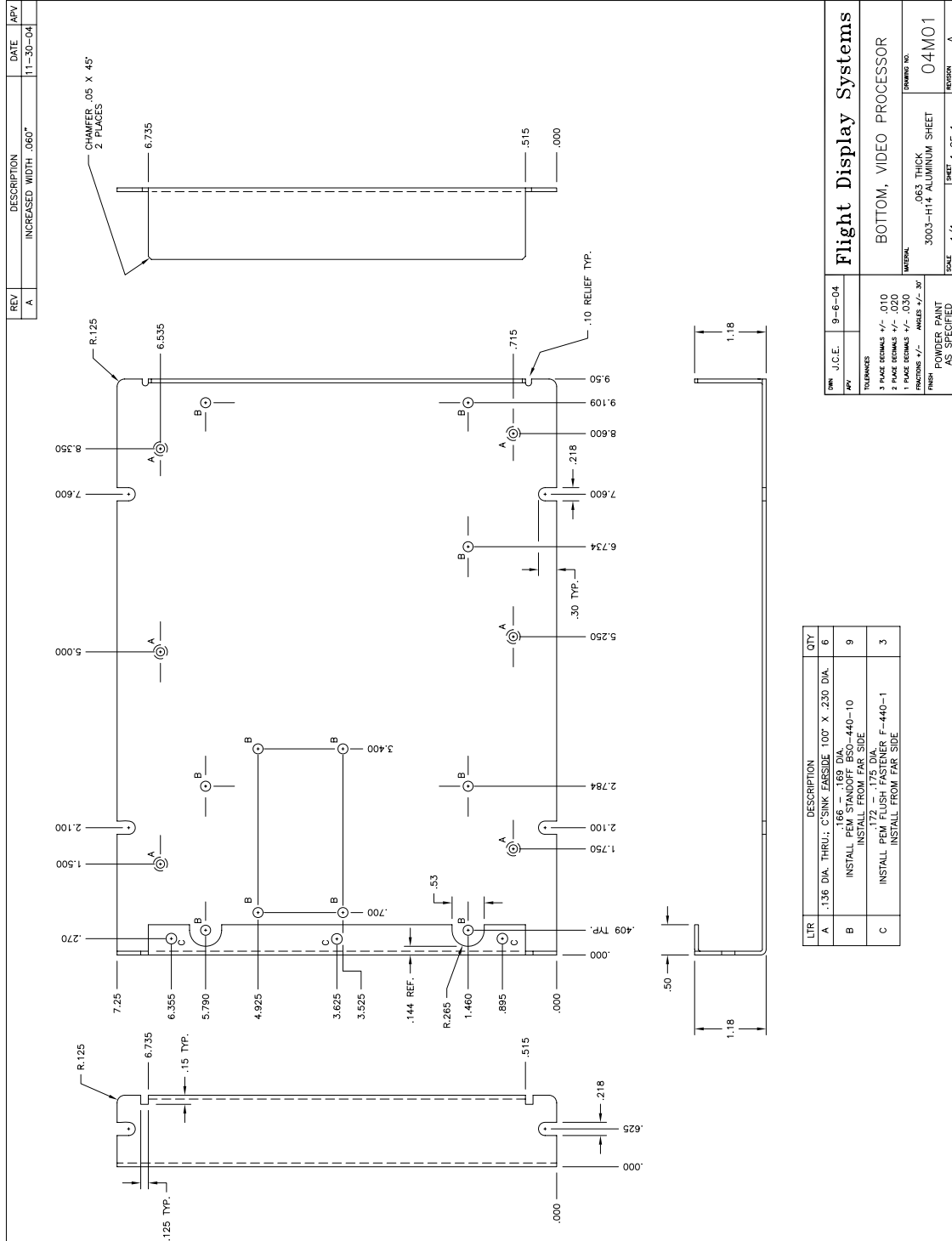
Flight Display Systems will pay Ground Shipping charges for warranted items. Charges for express shipment will be the responsibility of the sender.

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	01/25/2007	---	---
B	01/16/2008	8	Swapped pinout of Switch Inputs.
C	06/20/2008	8	Removed "Remote Control Inoperable" from troubleshooting
D	04/14/2009	6,11	Updated specifications, warranty info
E	12/11/2009	12	Revised Assembly Drawing