


FD900X5

Installation and Operation Manual

28VDC Wireless Audio Transmitter



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FD900X5

28VDC Wireless Audio Transmitter

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General Information

The FD900X5 is a 28VDC Wireless Audio Transmitter that represents a state of the art audio experience. The FD900X5 has features that allow installation in the smallest of mounting areas with the minimum of interface equipment. Built with retrofit aircraft integration in mind, this transmitter can be mounted almost anywhere in the cabin. The transmitter includes a separate PA input which interrupts all other channels when transmitting.

Front View




Additional Information

This Wireless Audio Transmitter is for use exclusively with the FD24X5 Headsets (not included, shown below). The headset operation information is included with the purchase of a headset. A brief overview of headset operation is to turn the headset ON using the ON/OFF/CHANNEL SELECT button. Press the CHANNEL SELECT button to select the first channel. Adjust the VOLUME with the volume adjustment wheel. Subsequent channel selections are obtained by pressing the CHANNEL SELECT button. The headset can be turned off by holding the ON/OFF/CHANNEL SELECT button for 5 seconds.



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Specifications

Channels	Five & Mic.
Channel Frequencies (MHz)	888.2, 900.3, 914, 918, 927.2 (MHz)
RF Output Power	< 7dBm
Distortion	< 3%
Signal-Noise Ratio	≥ 70 dB
Frequency Response	50-20,000 Hz
Dimensions	11.4" (W) x 1.6" (H) x 3.5" (D)
Weight	11.5 oz
Power	28VDC @ .5 Amps
Input	HD-25 Connector
Materials	ABS Plastic (Burn Rating - UL94-5VA)
Flammability Testing	FAR 25.853(a) Appendix F, Part I(a)(1)(ii) Passed
Operating Temperature	0-50° C (32-122° F)
DO-160 Testing	Complete


Installation Instructions

All cabin entertainment equipment, such as the FD900X5, 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 two #8 mounting holes located on the ends of the housing. It is sufficient to mount by two attach points. Mounting locations in the cabin can be anywhere that is not blocked or enclosed by metal surfaces. A drawer, cabinet, headliner or other suitable location is fine.

When using the headsets, it is necessary to cycle the headset to get the channel. Sometimes if the operator leaves his/her hands touching the headset the arms and body will act like an antenna and the selection is more difficult. For optimum operation, press the CHANNEL SELECT button and release.

It is important to match the output impedance of the audio sources. The input of the FD900X5 should be low level audio such as that used for the inputs to home or automotive entertainment systems. If one source is significantly stronger than another, it will cause significant variation in the volume levels between channels. It may also cause frequency bleeding and crossover between the audio channels.

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In order to achieve the best frequency transmission, it is recommended that the unit be mounted in the headliner or as close to the center of the aircraft as possible. Do not install the unit near the nose or tail of the aircraft. It is also important not to install the unit near any strobe circuits, inverters, or any high energy lines. Do not install the unit in a metal enclosure. Note: some cabinets have a foil liner (grounding) which may limit the range of the transmitter.

Power

The FD900X5 is a 28VDC device that requires .5 Amps of power to operate.

Audio Wiring Suggestions

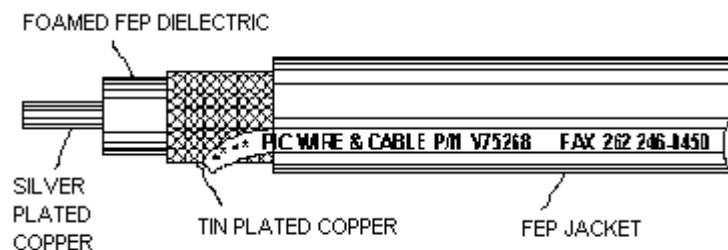
The center conductor of coaxial cable should be high, and outer shield should be the return/low.

Avoid routing audio wiring parallel to:

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

Wiring

Recommended cable for 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).



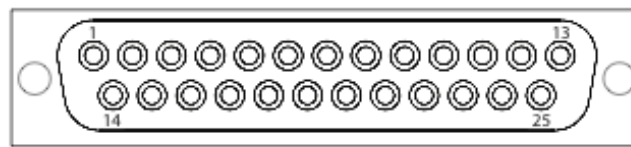
Similar aviation coaxial cable can be used from other vendors, as well.

Power/Video

Pin out for P1 (High Density DB-25 Receptacle)


Connector
Crimp Contacts

P/N: M24308/4-261 or Equivalent
P/N: M39029/64-369 or Equivalent



MATING FACE

Pin Number	Description
1	28VDC Power
2	GND
3	Audio #1 - Left
4	Audio #1 - Right
5	Audio #1 - GND
6	Audio #2 - Left
7	Audio #2 - Right
8	Audio #2 - GND
9	Audio #3 - Left
10	Audio #3 - Right
11	Audio #3 - GND
12	Audio #4 - Left
13	Audio #4 - Right
14	Audio #4 - GND
15	Audio #5 - Left
16	Audio #5 - Right
17	Audio #5 - GND
18	N/C
19	PA INTERRUPT (MIC.)
20	PA INTERRUPT (MIC. GROUND)
21	N/C
22	N/C
23	N/C
24	N/C
25	N/C

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Operation Instructions

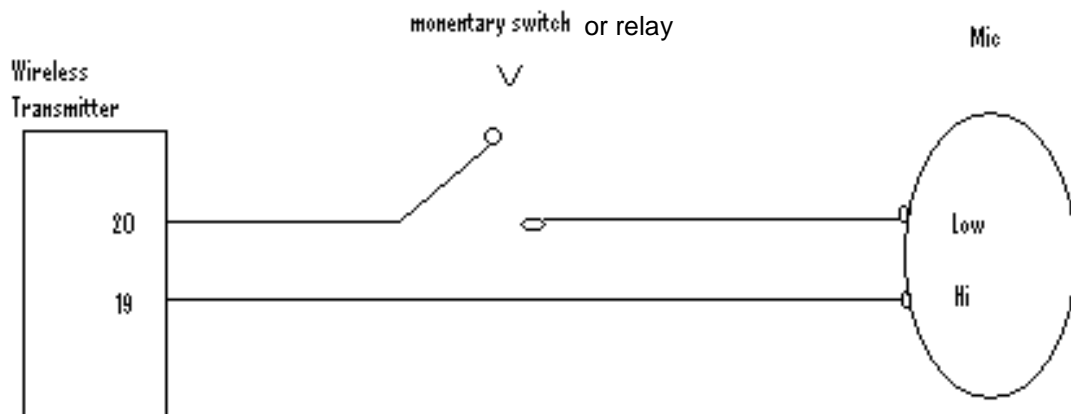
The passengers will be able to access the different audio channels by momentarily pressing the TUNE button found on the headset (not supplied). It is necessary to cycle the headset through the different frequencies once turned on so that it may recognize the transmitting frequencies.

If you recognize degradation in the quality of your audio or that you cannot channelize the frequencies, check to make sure your headset batteries have sufficient power.

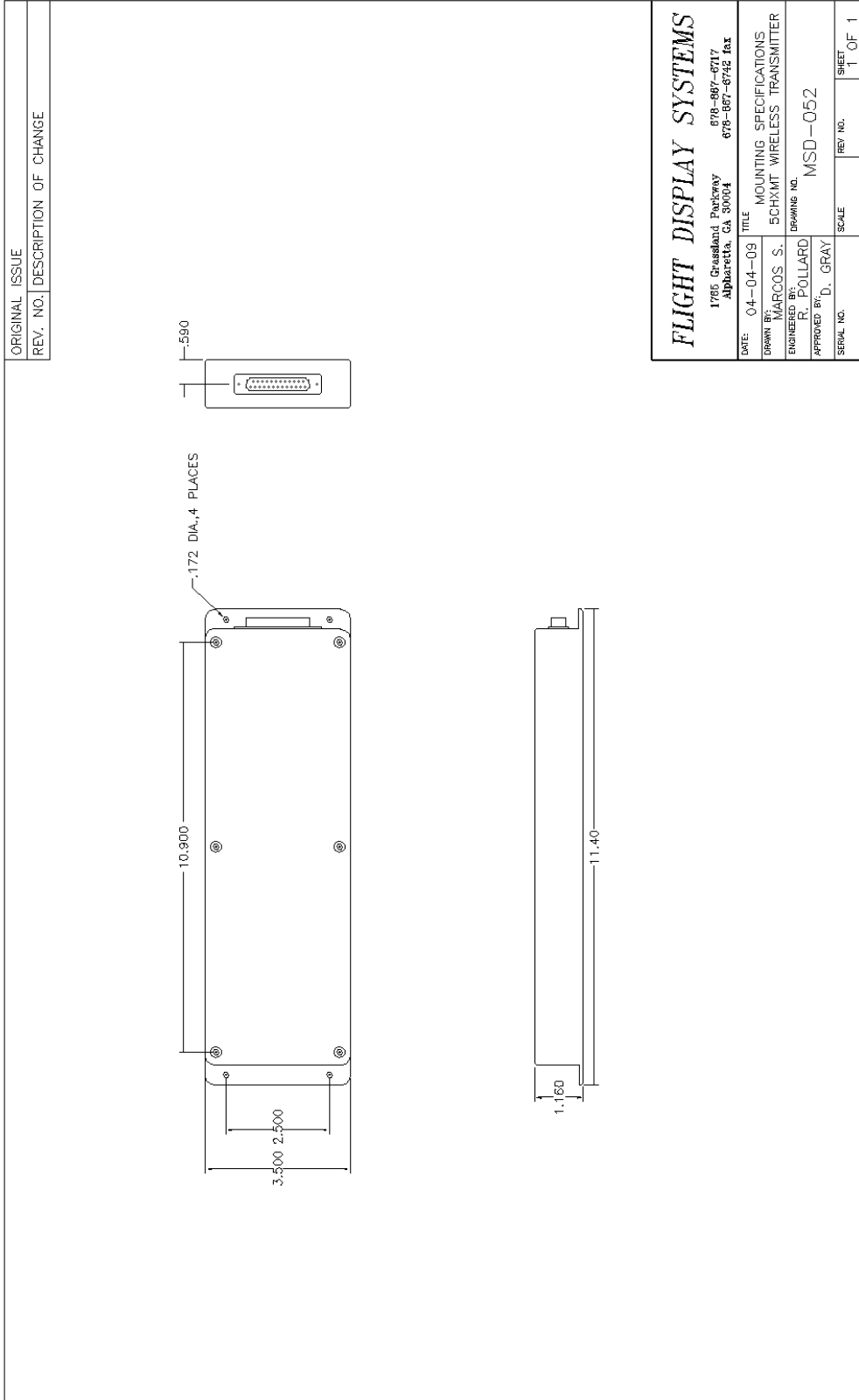
PA Interrupt


To use the PA interrupt, wire the audio coming from the cockpit microphone onto pins 19 and 20 of the D-Sub connector. Use a relay or push button to control the interrupt by opening and closing the circuit. See diagram below.

The microphone impedance will activate the override and broadcast the audio on pins 19 and 20 to all wireless channels.



Technical Drawing



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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.

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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 FD900X5 is designed not to require regular general maintenance.

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Warranty Information

Flight Display Systems warrants the FD900X5 against material or manufacturing defects for a two-year period. Effective 1/1/2009, all equipment sold after 1/1/2009 will have a 2-year warranty. 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.

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Log of Revisions

Rev	Date	Page	Description
A	04/23/2009		Initial Release
B	09/17/2009	2	Updated Testing Information
C	03/02/2011	8	Added PA Interrupt info, Format Change
D	10/03/2011	4, 5, 8	Added Operating Temperature, Updated PA Interrupt, added new diagram, updated additional information and installation instructions