AV-10 & AV-10(-GB)

Airborne Communications

FAA TSO: C37d, C38d

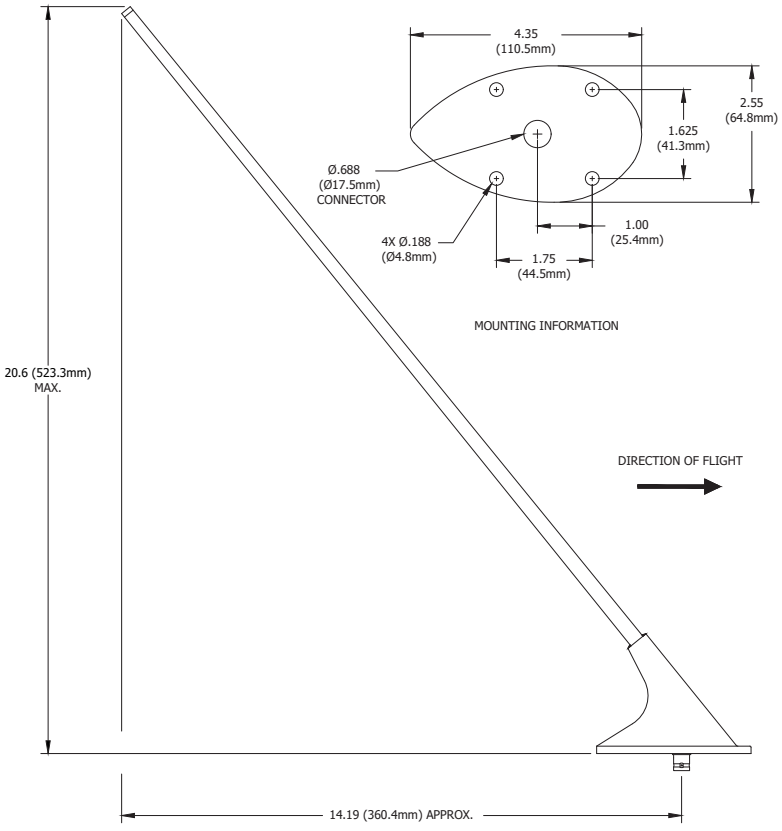
The AV-10 is designed for high-performance aircraft applications. It exhibits excellent electrical characteristics and incorporates an efficient aerodynamic 4-bolt mounting base. The antenna essentially matches the styling of the communication antenna currently used on most single and light twins. The antenna is designed to operate at speeds up to 350 mph and altitudes up to 50,000 feet. It has a drag force of 2.70 lbs. @ 250 mph. This antenna is a direct replacement for the CI 121.

Product Specifications

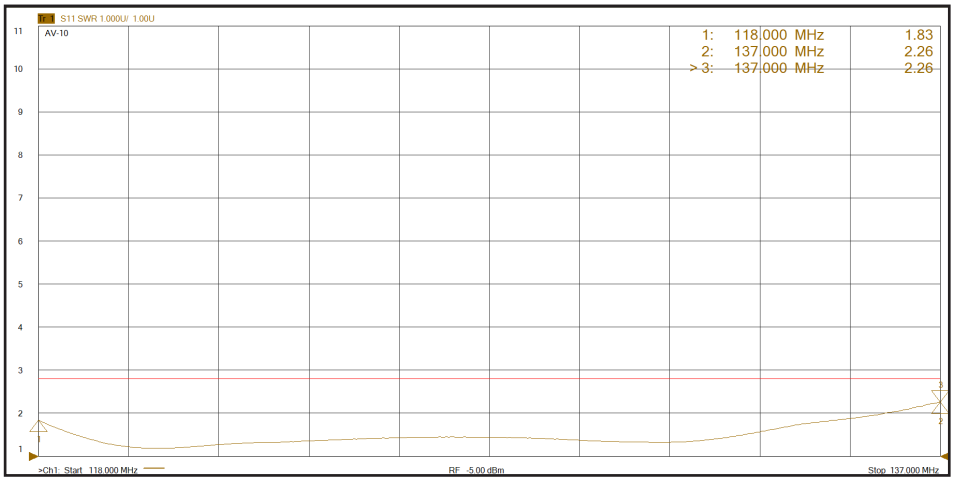
Application	Airborne Communications
Frequency	118-137 MHz
Impedance	50 Ohms Nominal
VSWR	2.0:1 Maximum
Polarization	Vertical
Pattern	Omni-Directional
Connector	"BNC" Female
RF Power Handling	30 Watts
FAA TSO	C37d, C38d

Mechanical Specifications

Max. Height	20.6"	523.24 mm
Max. Weight	8.0 oz	0.23 kg
Available Colors	AV-10	Gloss White
	AV-10(-GB)	Gloss Black



VSWR


Tr 1 S11 SWR 1.000U/ 1.00U
AV-10
1: 118.000 MHz 1.83
2: 137.000 MHz 2.26
>3: 137.000 MHz 2.26
11
10
9
8
7
6
5
4
3
2
1
>Ch1: Start 118.000 MHz
RF -5.00 dBm
Stop 137.000 MHz

INSTALLATION INSTRUCTIONS
AV-10, AV-10(-B), AV-10(-GB), AV-14 & AV-17(-1)
VHF Communications Antennas for General Aviation

Frequency Range
AV-10, AV-10(-B), AV-10(-GB), AV-17(-1): 118-137MHz
AV-14: 138-174 MHz

1A.) ***Metal Skin Aircraft***
Determine the desired mounting location on the aircraft. Keep in mind that the antenna should be located at least two feet away from other antennas and reflective surfaces on the airframe (e.g., vertical stabilizer, landing gear, etc.). A good electrical connection must exist between the antenna mounting hardware and the metal frame or skin of the aircraft.

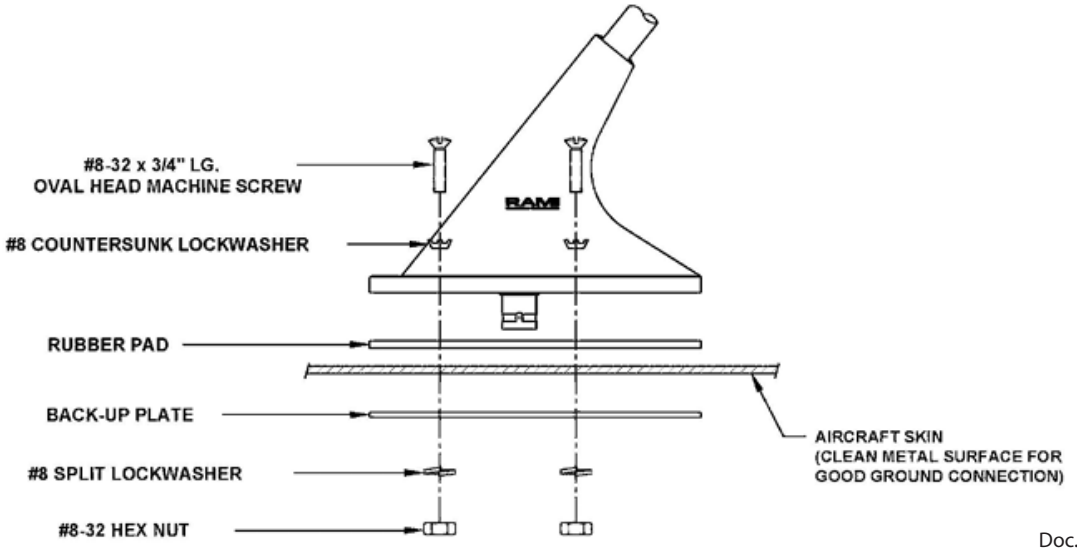
1B.) ***Composite or Wood Aircraft***
Determine the desired mounting location using the guidelines discussed above. Create a “ground plane” on the inside of the aircraft skin by preparing (2) 48 inch long light gage copper wires perpendicular to each other and intersecting at their mid point (forming an X). Strip away insulation at this intersection if using insulated wire. Locate this on the inside of the aircraft skin where the antenna will be mounted externally. Run the wires forward, aft and side to side along the inside wall and secure in place. Attach the (X) intersecting point to one of the antenna’s mounting bolts, making a good electrical connection. This concept is similar to a communications antenna which you would see at an airport terminal building; a vertical radiator with (4) ground plane “radials” equally spaced around the base.

2.) Using the template provided, drill four mounting holes and one hole for the connector. Note: Be sure to mount correctly using the front and rear noted on the template.

3.) Mount the antenna by placing the rubber pad provided between the antenna base and aircraft skin and the back-up plate provided inside the aircraft. Insert hardware provided as shown below and tighten all mounting screws securely to provide good electrical contact. Caution: The antenna must be properly grounded by means of the countersunk washers biting through the painted surface under the mounting screw heads.

4.) Using RG-58/U cable or similar 50 ohm coax cable (not supplied), attach a BNC type connector (Delta Electronics #UG-88/U or equal, not supplied) to one end. See connector supplier for appropriate mounting instructions. The other end of the cable must have a connector attached to match the connector on the radio.

5.) Place the cable with the connectors attached between the antenna and the radio. Test the antenna by connecting an In-Line Wattmeter between the transmitter and the antenna. VSWR should be 2.0 to 1.0 or better for the AV-10 & AV-14 for satisfactory operation and 3.0 to 1.0 or better for the AV-17(-1) for satisfactory operation.



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