



# AAC-1575G VHF/UHF/GPS ANTENNA COMBINER UNIT

- Frequency coverage  
80 - 520 MHz  
1200-1600 MHz
- Accurate and repeatable bearings
- Designed for airborne use
- Low power consumption
- 1/2 ATR enclosure
- One year warranty on parts and labor

## A Compact Antenna Combiner for Airborne Operations

The AAC-1575G antenna combiner is an airborne electronics unit used in conjunction with external antenna adcock arrays for direction finding. The unit covers the VHF/UHF and GPS band frequencies. Automatic switching between bands is provided. The unit is well suited for installation in small aircraft and is used in conjunction with the 4400 DF receiver processor or the 4006R DF processor combined with a communications receiver.

With its wide frequency range the AAC-1575G is well suited for spectrum monitoring and interference detection in the VHF,

UHF, and GPS bands. In conjunction with the DF processor output the interfering signal information can be passed to the cockpit for display or to a flight inspection avionics system.

The AAC-1575G offers a low cost, low power consumption alternative.

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## SPECIFICATIONS

|                                     |   |                                  |                 |
|-------------------------------------|---|----------------------------------|-----------------|
| Frequency Range:                    | 80 - 520 MHz, 1200 - 1600 MHz   |                                  |                 |
| Azimuthal Coverage:                 | 360°  |                                  |                 |
| Bearing Accuracy:<br>(Notes 1 & 3)  | VHF 80 - 200 MHz: 3° rms typical (4° rms maximum)<br>UHF 200 - 520 MHz: 4.5° rms typical (6° rms maximum)<br>UHF (High) 1200 - 1600 MHz: 5° rms typical (7° rms maximum)  |                                  |                 |
| Antenna Elements:                   | 4-element monopole arrays external to the aircraft (Note 4)   |                                  |                 |
| Power:                              | Voltage: 11.5 - 20 VDC (supplied through DF processor)<br>Current: 125 mA VHF, 370 mA UHF, 550 mA UHF (High)  |                                  |                 |
| Typical DF Sensitivity:<br>(Note 2) | 135 MHz: 3.5 µV/m<br>1201 MHz: 15 µV/m  | 250 MHz: 2 µV/m<br>(6 kHz IF BW) | 520 MHz: 5 µV/m |
| Output Impedance:                   | 50 ohms nominal   |                                  |                 |
| Polarization:                       | Vertical  |                                  |                 |
| Mechanical:                         | Height: 7.78" (19.76 cm)<br>Width: 4.97" (12.6 cm)<br>Depth: 12.64" (32.11 cm)<br>Weight: 6.2 lbs (2.8 kg)  |                                  |                 |
| Environmental:                      | Operating: -40°C to +60°C<br>Storage: -40°C to +70°C<br>Humidity: 95% RH, non-condensing per MIL-STD-810 (507.2)<br>Shock: MIL-STD-810 Procedure VI<br>Vibration: MIL-STD-810, Method 514.4, Procedure 1, Category 9, Figure 514.4-15 |                                  |                 |

Note 1: DF bearing accuracy is measured on an ideal site. Test antenna elements are mounted on a flat 1m diameter plate with no bias over specified azimuthal and frequency range and polarization at 0° elevation. Actual production acceptance testing performed at Cubic test site using standard deviation to eliminate site bias.

Note 2: System sensitivity is specified for an incident field strength in microvolts per meter for direction finding processor output with 6° standard deviation bearing jitter, minimum integration time of 200 msec and an IF bandwidth of 6 kHz.

Note 3: DF bearing accuracy is the rms value of all frequencies at all azimuth points as a single calculation.

$$RMS = \sqrt{\frac{\sum_{i=1}^n (AM_i - AT_i)^2}{n}}$$

i = index  
n = # of points (frequency • azimuth)  
AM = measured azimuth  
AT = true azimuth

Note 4: Bearing accuracy and sensitivity specifications are relative to the antenna arrays configured with the system. Antennas are connected to the combiner unit via phase-matched cables. Accuracy's will depend upon antennas used and location of antennas on the aircraft. Sensitivity and bearing accuracy are specified using the following antenna elements.

- VHF & UHF: Northern Technologies, P/N DA-100-001
- UHF High (GPS Band): Sensor Systems Inc., P/N S65-5366-4S

## Ordering Information

| Model No. | Part No.     | Description                                      |
|-----------|--------------|--|
| AAC-1575G | 0253-1000-15 | Antenna Combiner Unit VHF/UHF/GPS; Color - Black |

Specifications subject to change without notice

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