Comprised of two components, the AHR800-1 ISU and the AHR800-2 MSU, the AHR800 ADAHRS (Air Data Attitude Heading Reference System) from Archangel Systems is designed for the extremes of supersonic flight while setting a new precedent for price, performance, and safety.

For example, software is written to DO-178B Level A (Mission Critical) with multiple redundant processors to ensure data validity. Functionality across environments is assured through extensive DO-160E and MIL-STD tests. And, with multiple high- and low-speed ARINC 429 ports, the AHR800 is compatible with modern avionics architectures.

The AHR800 is available for both domestic and FMS programs as illustrated by existing contract wins in F-5E, F-5F, and Pampa upgrades. Archangel staff is ready to assist your team through the export control process.

**FEATURES**

- Software qualified for Mission Critical applications including IFR, SAR, and primary flight systems
- Angle rate limit of ±420°/s (roll and pitch) and ±220°/s (yaw)
- Air data limit of 55,000 feet altitude and 800 knots indicated air speed
- Directional Gyro is TSO C5f compliant
- Mil Spec 38999 filtered connectors

**CERTIFICATIONS**

- Developed per DO-178B Level A software procedures
- DO-160E environmental certifications including EMI, EMC, and HIRF
- MIL-STD-810F Fluids, Vibration, Shock, Gunfire, Temperature (short duration at 83°C)
- MIL-STD-704A Voltage Spikes

**EXPORTING**

- May require Technical Assistance Agreement and/or end-user statement

AHR800-1 ISU

AHR800-2 MSU
With shrinking global military budgets, new cost-saving strategies that preserve aircraft and crew safety are more critical than ever. With its combined MEMS sensors and proprietary blending algorithms certified to DO-178B Level A, the AHR800 supersonic ADAHRS meets these needs and provides "FOG-grade" attitude performance. Comparing the technical specifications below against legacy military avionics, you will find that small budgets for size, weight, and power are achieved while preserving performance in mil-grade environments.

**Environment/Power**
- **Temperature**: -40°C to +70°C operating, -55°C to +125°C non-operating, 83°C operation survivability
- **Altitude**: -1,500 to 55,000 ft pressure altitude
- **Power**: 16–36 VDC, 0.7 A @ 28 V nominal

**Inputs/Outputs**
- **ARINC 429**: 4 high-speed transmit, 1 receive, ARINC 705-5 and 706-4 words
- **ARINC 705**: 4 low-speed transmit, 1 receive, ARINC 706-4 words
- **Discrete Outputs**: Master fault
- **Discrete Inputs**: Unit ID, Orientation, CW/CCW slewing, Heading mode select, and SSEC/PSEC select

**Ranges (Normal Operations)**
- **Rates**: ±420°/second in pitch and roll, ±220°/second in yaw
- **Accelerations**: ±10 g
- **Airspeed**: 2.0 Mach

**Data Accuracy (Dynamic—Normal Flight)**
- **Pitch, Roll**: ±1.0°, 3 σ
- **Heading**: ±2.0°, 3 σ
- **Body Rates**: 0.2% of input rate, 0.1% non-linearity

**Certifications**
- **Commercial**: DO-160E [D2]XABB[UK1]
- **Environmental**: EWFDFSXXAZZ[Y(QKL)]L
- **Categories**: [B4K44]XAX
- **Software Categories**: DO-178B Level A
- **MIL-STD Categories**: MIL-STD-704A Voltage Spikes, MIL-STD-810F Fluids and Gunfire

**Notes**

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