

AN/ARN-147(V) VOR/ILS/GS/MB Receiver System



The standard VOR/ILS receiver.

The ARN-147 is recognized worldwide as a value added solution on multiple military platforms. Originally designated as the standard VOR/ILS receiver for the United States Air Force, the ARN-147 quickly gained acceptance by many military users around the world and is installed on a multitude of platforms including C-130, C-141, C-5, UH-1N, CH-47, UH-60, T-50 and JAS 39 Gripen.

The ARN-147 is a proven design derived from extensive experience in navigation and precision approach and landing systems. As a leading supplier of these systems, Rockwell Collins has designed and manufactured more than 100,000 VHF navigation and landing systems.

Solid-state modular design and rugged construction provide long life, high reliability and excellent maintainability for both new and retrofit applications on fixed-wing and rotary-wing aircraft. The receiver combines all VOR/ILS functions in one compact, lightweight, low-cost system. The AN/ARN-147 meets multiple stringent MIL-STD requirements assuring peak performance under the harshest military aircraft environments.

With support for both analog and digital (MIL-STD-1553B) interfaces, the ARN-147 is compatible with a variety of aircraft architectures.

The ARN-147 is available to meet FM broadcast immunity requirements as defined in ICAO Annex 10. Noncompliant models can be upgraded with an FM immunity retrofit kit

KEY FEATURES

- ▶ Low power, lightweight solid-state design
- ▶ FM broadcast immunity per ICAO Annex 10
- ▶ Analog and MIL-STD-1553B interface
- ▶ MIL-E-5440 Class 2 environment
- ▶ MIL-STD-810 vibration
- ▶ MIL-STD-461/462 electromagnetic interface
- ▶ Selectable rotor modulation suppression
- ▶ High reliability: predicted MTBF is 7,700 hours
- ▶ Design refresh 2012

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SPECIFICATIONS

Operating characteristics

VOR/LOC	
Frequency range	108.00 - 117.95 MHz
Frequency control	MIL-STD-1553B or ARINC 2-out-of-5
VOR channels	160
LOC channels	40
Audio sensitivity	10 μ V
Frequency stability	\pm 0.005%
Flag sensitivity	10 μ V
Deviation output	
VOR Low-level	150 mV at 10 degrees
High-level	2.0 V at 10 degrees
MIL-STD-1553B	12 bits plus sign, range \pm 180 degrees, LSB 0.044 degrees
LOC Low-level	90 mV at 0.093 DDM
High-level	1.2 V at 0.093 DDM
MIL-STD-1553B	12 bits plus sign, range \pm 0.4 DDM, LSB 0.0002 DDM
Deviation accuracy	
VOR	RTCA DO-196
LOC	RTCA DO-195 Class B
Low-level flag	
	+300 to +500 MV, 1 to 5 loads, 1,000 ohms each
High-level flag	
	+15 to +22 V, 1,500 ohm load
RMI capacity	
	1 to 5 loads
RMI accuracy	
	RTCA DO-196
Audio output	
	Not less than 100 mW into 150 ohms
Glideslope	
Frequency range	329.15 to 335.00 MHz
Frequency control	MIL-STD-1553B or ARINC 2-out-of-5 (paired with localizer channels)
Channels	40 with 150 kHz spacing
Frequency stability	\pm 0.005%
Flag sensitivity	20 μ V
Deviation Outputs	
Low-Level	78 mV at 0.091 DDM
High-Level	1.04 V at 0.091 DDM
MIL-STD-1553B	12 bits plus sign, range \pm 0.8 DDM, LSB 0.0002 DDM
Deviation accuracy	
	RTCA DO-192
Low-level flag	
	+300 to +500 mV, 1 to 5 loads, 1,000 ohms each
High-level flag	
	+15 to +22 V, 1,500 ohms load minimum

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Frequency	75 MHz
Sensitivity	
	High: 200 to 1,000 μ V (adjustable)
	Low: 1,000 to 4,000 μ V (adjustable)
Lamp outputs	
	3 lamps output, +28 V dc lamp load, 340 mA maximum, strappable for single lamp
Audio output	
	Not less than 100 mW into 150 ohm load, at 10 times lamp threshold

Physical Characteristics

Size	
	4.12 in W, 5 in H, 12 in D (104.6 mm W, 127.3 mm H, 304.8 mm D)
Weight	
With MIL-STD-1553B	8 lbs (3.6 kg)
Without MIL-STD-1553B	7.5 lbs (3.4 kg)

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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Rockwell Collins delivers smart communication and aviation electronic solutions to customers worldwide. Backed by a global network of service and support, we stand committed to putting technology and practical innovation to work for you whenever and wherever you need us. In this way, working together, we build trust. Every day.

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