

RRB RECEIVER

Communication, Navigation & Identification



- Safety of Life
- Close range, precision approach / control
- Long range navigation and control
- Search and rescue
- Individual identification of aircraft
- Enhanced radar track / position reporting
- Oil rig identification / navigation
- Coastal navigation and surveillance
- Air-to-Air identification / surveillance
- Marine navigation / beacon systems
- European Manufacture

The RF2M Microwave Ltd I-Band Transponder System provides a highly effective means of locating, identifying and providing navigational assistance for a variety of aircraft outside normal radar coverage and range by receiving and processing a dedicated transmission from a suitably equipped aircraft.

The system is effectively employed to provide accurate surveillance, tracking and approach control information, not only at low altitudes and beyond the normal radar horizon, but also at close range, in bad weather and in severe clutter environments.

While being more accurate, physically robust and more cost effective than competitive secondary radar systems, the RF2M Microwave Ltd system is also less complex and easier both to install and to support operationally.

Description

The RF2M Microwave Ltd RRB Receiver interfaces with shipborne I Band surveillance / navigation radars. The RRB Receiver (which is specifically tuned to the transmit frequency of the associated RF2M Microwave Ltd I Band Transponder) takes a signal from the prime radar antenna feed waveguide.

The processed output from the RRB Receiver is available for display on bridge or command centre radar display system(s). Additional RRB Receiver outputs may be used for further signal processing or track extraction etc. As standard, the output from the RRB Receiver shows the code being transmitted by the Transponder. 16 different codes are selectable in the aircraft cockpit for identification or other purposes.

With the addition of Video Code Suppression Units, the code information may be removed from a video feed while retaining the essential target enhancement. This switchable feature can reduce display clutter in high target environments. The RRB Receiver provides up to six video output channels.

The RRB Receiver is bulkhead mounted (typically adjacent to the related radar transceiver) and requires no external cooling. Anti-condensation heaters may be switched on when the equipment is not operating. Internal test facilities provide user confidence that the RRB Receiver is functioning correctly.



Image courtesy of Lockheed Martin

RRB Receiver
(ship based)

I Band Transponder counterpart
(aircraft based)



Performance

RRB Receiver - 40100-A NSN 5865-99-531-2778

Electrical Characteristics	
Receive Frequency Range	9303 to 9317 MHz
Receive Sensitivity	-65dBm pulses
Noise Figure	10 dB
Swept Gain Variation	42 dB
Output Threshold	+0.5 V
Output Noise Level	0.0725 V (into 75Ω matched load)
Power Supply	115 V ac, 115 VA
Anti-Condensation Heaters	115 V ac, 30 VA
Mechanical Characteristics	
RF Connector	WG16 (R100 size round choke flange)
Suppression Connectors	BNC
DC / Control Connectors	Round Multi-Pin
Size	455 x 405 x 200 mm
Weight	15.5kg
Environmental Characteristics	
Operating Temperature Range	0°C to +45°C
Storage Temperature Range	-20°C to +70°C

RRB Receiver



Video Code Suppression Unit - 41049-A NSN 5865-99-539-6038

Electrical Characteristics		
Pulse Input:	Width	0.2μs to 2μs
	Amplitude	+0.5 V to +10 V
Pulse Output:	Impedance	75 ohm nominal
	Width	Input Pulse ±0.07μs
	Amplitude	+5.5 V to +7.0 V
	Impedance	75 ohm nominal
	Power Supply	115 V ac, 5 VA
Mechanical Characteristics		
Input / Output Connectors	BNC	
Power Supply Connectors	Round Multi-Pin	
Size	115 x 100 x 260 mm	
Weight	3.5 Kg	
Environmental Characteristics		
Operating Temperature Range	0°C to +45°C	
Storage Temperature Range	-20°C to +70°C	

Video Code Suppression Unit



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Descriptions and specifications of products are subject to change without notice.