

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.



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 |
| | Impedance | 75 ohm nominal |
| Pulse Output: | 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



Whilst every effort is made to ensure the accuracy of the information contained in this brochure, no responsibility can be accepted for any errors and/or omissions.

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