

**TELERAD**

Aeronautical and Maritime Radiocommunication Systems

**DGPS  
108-118 MHz  
RECEIVER**

**RB9009A**

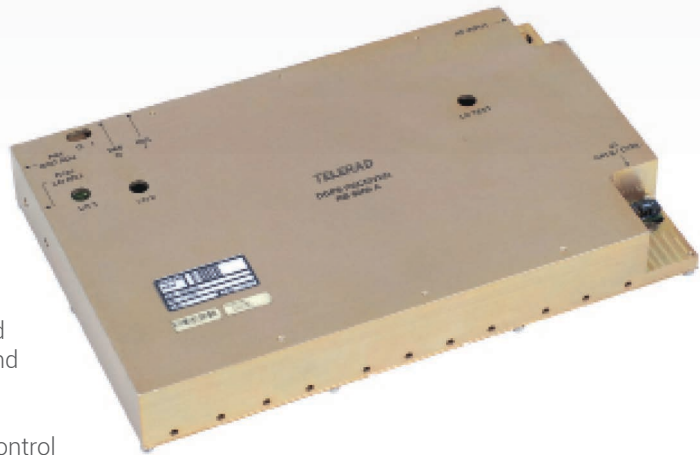


**OVERVIEW**

The Airborne DGPS VHF Data Broadcast receiver RB9009A has been designed for CAT I and SCAT I operation in the 108.025-117.950 MHz frequency range. Its mechanical structure has been designed to match the particular conditions of use in an aircraft.

Its modular conception in two dedicated subsets, one for the receiver front-end, the second for the baseband signal processing allows a good isolation between RF and AF parts.

Due to the fact that the receiver front-end and the control board are paired, relatively to a "level in dBm" vs "RSSI voltage level" learning, the corrective maintenance shall be done at the equipment level, by a complete exchange of the receiver



**MAIN FEATURES**

The RB9009A receiver can fit into a metallic chassis, which holds together a receiver front-end module and a control board.

All the operating connections to the receiver are done through the DATA/CTRL connector.

**Operating mode:**

VDB according to the GBAS CAT I and SCAT I mode, referred DO-114 (MOPS) and DO-217.

**ICD can be standard, or customer defined.**

**Other operations:**

- Remote configuration through the data port according to the Interface Control Document
- Digital processing of the baseband signal
- Built-in-test
- Protected access for maintenance, through the Maintenance/Test connector, allowing:
  - a first local access through a RS232 interface, for configuration and BIT operation, using an ASCII terminal or a PC under terminal emulation (VT100).
  - a second local access through a RS485 interface and a JBUS protocol, for a software updating operation, using a PC running a specific software.
- External DC voltage power supply.
- Software compatibility with the RE9009 TELERAD equipment

## ■ GENERAL CHARACTERISTICS

**Mode:**

GBAS VDB monitoring

**Frequency range:**

108.025-117.950 MHz

**Channel spacing:**

25 kHz

**Lowest channel:**

108.025 MHz

**Highest channel:**

117.950 MHz

**Frequency stability:**

≤ 2 ppm 0°C to +55°C

**Modulation:**

- 14K0G7D
- D8PSK ; 10500 symbols/s

**Power Supply:**

15 V<sub>DC</sub> ± 10 % and 5 V<sub>DC</sub> ± 10 %

**Consumption:**

- 15 V<sub>DC</sub>: 4.8 W max.
- 5 V<sub>DC</sub>: 1.5 W max.

**Sensitivity:**

BER < 10<sup>-4</sup> with Carrier level: -87 dBm

**IF Selectivity:**

-6 dB at ±10 kHz

-80 dB at ± 30 kHz

**Dynamic range:**

-1 to -87 dBm with BER < 10<sup>-4</sup>

**Adjacent channel rejection:**

> 50 dB

**Co-channel interference:**

The message failure requirement is met in the presence of an undesired co-channel VDB signal that is:

- Assigned to the same time slot(s) and 26 dB below the desired VDB signal.
- Assigned to different time slot(s) and whose is up to 15 dBm.

## ■ MECHANICAL CHARACTERISTICS

- Width: 240 mm
- Overall depth: 154.2 mm
- Height: 30 mm
- Weight: 850 g

**Note: Mechanical characteristics can be arranged to customer's needs.**

## ■ CLIMATIC CHARACTERISTICS

- Operation assured between -20°C and +55 °C
- Relative humidity: 95 % at 40 °C (non-condensing)
- Storage: -40 °C to +80 °C