



ANV-241A MULTI-MODE RECEIVER

The ANV-241A, is an integrated Multi-Mode Receiver giving a world-wide precision navigation, approach and landing capability, providing a cost-effective, state-of-the-art solution for avionics upgrades and new installations.

The single-box Multi-Mode Receiver (MMR) can operate in four modes:

- Instrument Landing System (ILS), ICAO FM-compliant,
- Microwave Landing System (MLS),
- VHF Omni Range (VOR)
- Embedded GPS with capability to support DGPS is provided as a growth capability

This fusion provides the means for aircraft flying in Europe to take advantage of the flexibility and economy of operation offered by European Basic Area Navigation (BRNAV) routes and GPS-based approaches.

The MMR can be remotely controlled and transmit/receive data through a standard Arinc 429 and an optional MIL-STD-1553B interfaces. Analog and Discrete Interfaces are also provided. An optional MMR/DME Multifunction Control Panel (MCP) is also available.

The MMR has been designed using a modular structure to provide maximum growth capability.

Special attention has been devoted to building a comprehensive self-test capability into the MMR to give a high degree of confidence about the unit's operational status. It is ICAO-compatible for Civil and Military interoperability.

The following MMR configurations are available:

- VOR/ILS
- ILS/MLS
- VOR/ILS/MLS

The GPS/DGPS option can be added to any of the above.

The ANV-241A has been chosen for integration in the Eurofighter EF-2000 through a specific customization (e.g. the form factor), which has determined the birth of a derived Selex ES product named ANV-243.

WEIGHT AND DIMENSIONS

Weight	6kg max
Dimensions	3/8 ATR short box format i.a.w. Arinc-404

CHARACTERISTICS

Operational

- Provides Precision ILS and MLS landing guidance with GPS/DGPS Growth
- Accommodates variety of landing facilities (offset and split site)
- Growth Capability through modular architecture
- ICAO-Compatible Civil and Military inter-operability

GPS features (Optional)

- Meets enroute primary means operations for oceanic and continental en-route navigation, with growth to terminal, Non-Precision Approach, and CAT-I Precision Approach
- The GPS module can accommodate these added functions by simple software load update
- The growth path for GBAS/LAAS CAT-II and CAT-IIIb has been provisioned for with the appropriate software load and a drop-in fault monitor
- RAIM and Fault Detection and Exclusion (FD&E)
- Growth to Wide Area Augmentation (WAAS)
- 2 fully independent L1 RF input Channels
- Embedded LADGPS Data link

Performance Characteristics

- MLS performance per RTCA/DO-177
- ILS performance per RTCA/DO-195, 192, 143 in Compliance with new FM Interference requirements
- VOR per RTCA/DO-196
- GPS performance per RTCA/DO-208
- DGPS Precision approach performance per RTCA/DO-217 SCAT-1
- VHF: RTCA/DO-217 Appendix F (Change 2) D8PSK VDL
- Differential Capability per RTCA/DO-217
- Communicates ARINC 429 and a optional over both MIL-STD-1553 Interface
- Operates from +28 VDC per MIL-STD-704 (Cat. B)

Reliability

- > 4200 hours MTBF, as per MIL-HDBK-217F, AUF Environment

Supportability

- Modular design for easy assembly/disassembly
- MTTR < 30 min
- No scheduled maintenance

Features

- Achieves low cost through advanced technology MMIC and VLSI
- Growth features: flexible architecture
- Comprehensive (>95%) Built-in-Test coverage
- Computer software programmed in ADA and reprogrammable via a maintenance serial Interface for Main operational software
- A separate serial interface is provided for GPS Module software upgrade