



## **ANV-211 DISTANCE MEASURING EQUIPMENT (DME)**

Among its CNS solutions, Selex ES provides the ANV-211 DME/P (Distance Measuring Equipment Interrogator/Precise), capable of receiving accurate distance information from DME/P Transponders and standard distance information from conventional DME/N Transponders. It meets the requirements specified in the RTCA-DO/189.

Performance of DME/N Interrogator is enhanced by the addition of the DME/P IA mode; this guarantees a very accurate distance data in N mode as well.

When used with other systems, such as VOR, ILS, Microwave landing System (MLS), etc., the ANV-211 meets the needs of a variety of users in the en-route, approach, landing, missed approach and departure phases of flight.

The ANV-211 DME/P is an integral element of the SelexES Multi-Mode Receiver (MMR) ANV-241 that provides the angular information. These units together provide a highly accurate 3D position system capable of elaborate Terminal Area Navigation by following precise curved and segmented flight paths from the Approach Area through touchdown and rollout.

The ANV 211 acts as DME/P when coupled with MMR (MLS function) for precise landing operations and as DME/N when coupled with MMR (VOR/ILS functions) or other navigation equipment.

### P-Mode

When operating in P mode, it provides only one distance data (slant range), with the required accuracy, to the selected P-type ground station.

### N-Mode

When operating in N mode, it provides up to three distances data (slant ranges), with the required accuracy, to the selected N-type ground stations. This allows the p-p (rho-rho) navigation function.

An optional MMR/DME Multifunction Control panel (MCP) is also available.

The ANV-211 is controlled through the standard ARINC-429 429 (low speed) interface and, optionally, through the MIL-STD-1553B.

Special design attention has been devoted to building a comprehensive self-test capability into the Interrogator to give a high degree of confidence about the units operational status, and a high probability of being able to trace any faults to module level.

The ANV-211 has been designed to meet the stringent environmental requirements, of high performance military aircraft. It meets EMC and Environmental requirements of MIL-STD-810 and RTCA/DO-160. Thermal and mechanical integrity is achieved through the use of a rugged internal frame which dispenses with the need for forced air cooling and vibration isolator mounting.

### WEIGHT AND DIMENSIONS

#### ARINC 404 3/8 ATR short

Dimensions (LxWxH)	322 x 90.5 x 194mm
Weight	6.25 Kg max

### OPERATIONAL CHARACTERISTICS

#### General

Coverage limits	Yaw plane 360° Pitch plane -40° to +25° (with respect to the horizontal)
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#### Operational Range

DME/P Mode	IA Mode: 7 to 22nm FA Mode: 0 to 7nm
DME/N Mode	0 to 300nm

#### Distance Accuracy (no garble, no multipath)

DME/P Mode	IA Mode: PFE: ±30m IA Mode: CMN: ±15m FA Mode: PFE: ±15m CMN: ±10m
DME/N Mode	±0.1nmi max, typically ±30m

#### Electrical

Frequency range	TX 1025MHz to 1150MHz RX 962MHz to 1215MHz
No. of channel frequencies	126 for every X, Y, Z and W mode
Channel spacing	1MHz
Power output	Greater than 500W peak
Sensitivity	P-IA mode better than -89dBm P-FA mode better than -79dBm
Interfaces	Discrete and analog ARINC-429 low speed MIL-STD-1553B Remote Terminal (optional)
Power requirements	Interrogator less than 55W@28VDC

#### Environmental

Temperature/altitude	Operative -40° to +70° C (50,000 ft)
Storage	-60° to +90° C MIL-STD-810D
Thermal shock	Interrogator Temp. Limits -54° to +71° C RTCA-DO/160C
Vibration	RTCA-DO/160C
Acceleration	RTCA-DO/160C
EMI/EMC	MIL-STD-461C