

AN/APX-121 Mode S Mark XII IFF Transponder

The AN/APX-121 Transponder incorporates Modes 1, 2, 3/A, C, S, 4, 5 and ADS-B(out). Operational features include, MIL-STD-1553B interface with platform mission computer or direct interface to Remote Control Unit, and support for either KIT-1 or removable KIV-77 INFOSEC appliqué.



The APX-121 Transponder was designed from the ground up to meet the latest DOD AIMS, STANAG and MIL-STD specifications. The Transponder is designed to continuously operate in harsh, uninhabited environments from sea level to 70,000 feet and -40 to 71°C. It is designed to survive and operate safely in aviation, land and marine environments, including; extreme vibration, mechanical shock, high-G accelerations and EMI.

The APX-121 Transponder includes advanced microwave and digital design features that fully support organic maintenance concepts. These features afford the greatest flexibility of application, upgrade, built-in-test and fault isolation possible. The Transponder utilizes advanced RF and digital processing to increase reliability, maintainability, and to permit product upgrades and future growth.

The APX-121 Transponder is designed to replace older IFF transponders, including, the APX-100, APX-101 and APX-108. The Transponder offers interface flexibility through ARINC 429, RS 485, RS 232, Discrete, and/or MIL-STD-1553B MUX BUS.



Your Electronics, Machining and
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Decoder/Encoder

Modes 1, 2, 3/A, C, S (ELS/EHS)
 Modes 4 & 5
 ADS-B (in/out)

Receiver

Solid State
 Dual-channel Superheterodyne
 1,030 ± 0.5 MHz Frequency
 Bandwidth:
 -3 dB points, 7.0 to 10.0 MHz
 -40 dB points, <±12 MHz
 -90 dB points, <±22 MHz
 -77 dBm Sensitivity
 >55 dB Dynamic Range

Transmitter

Solid State
 1,090 ± 0.01 MHz Frequency
 Reply Rates:
 1,200 Hz - SIF modes
 1,000 Hz - Mode 4
 Output is protected against all mismatch
 <1 dB Droop

Interfaces

MIL-STD-1553B
 ARINC 429
 RS 485
 RS 232
 Discrete

Environmental

70,000 ft Altitude
 -40°C to +71°C

Reliability

4,000 hrs MTBF

Design Specs.

STANAG 4193
 RTCA/DO-181E
 DoD AIMS 03-1000A
 DoD AIMS 04-900
 MIL-E-5400T
 MIL-STD-704F
 MIL-STD-810
 MIL-STD-454
 MIL-STD-1686
 MIL-STD-1472
 MIL-STD-461/2/4

BIT / BITE

Passive Monitoring:
 Power
 SWR
 Pulse-Width
 Active RF Testing:
 Sensitivity
 Diversity Operation
 Decoder / Encoder
 Power
 SWR
 Pulse-Width
 >99% Fault Detection:
 90% Isolation to One SRU
 95% Isolation to Two SRUs
 98% Isolation to Three SRUs

Power with Appliqué

19-30 VDC
 50 Watts Nominal
 60 Watts Max.

Dimensions with Appliqué

Width	Height	Depth
5.33 in.	5.43 in.	8.55 in.
13.54 cm	13.79 cm	21.7 cm

10.5 lbs or 4.76 kg Weight

