

ACCU-Track Civil ATC/MSSR Interrogator

The ACCU-Track MSSR family employs modern COTS, programmable VME architecture to make this the smallest, full performance MSSR available today

Long-Range System Performance

- Fully Redundant
- Seamless Automatic Switchover
- Amplitude Monopulse
- Modes 1, 2, 3/A, B, C and D
- Mode S Level 2 Enhanced Surveillance (optional)
- Growth to Mode S Level 4
- Software Programmable COTS Architecture
- High Probability of Detection
- High Availability
- ASTERIX Cat 34/48 Interface
- Derived from FAA-Certified AN/UPX-39(V)2 MSSR

ACCU-Track Dual Channel



The ACCU-Track Monopulse Secondary Surveillance Radar is a completely new interrogator designed to meet the most demanding air traffic control system requirements and replace aging SSR interrogators that can no longer be economically maintained.

The ACCU-Track-M MSSR is a long-range, monopulse interrogator with 2,000 watts of output power, ISLS operation, three receiver channels, RSLs, GTC/STC, target extractor, and target tracker. The ACCU-Track-S MSSR includes Mode S level 2 Enhanced Surveillance. The ACCU-Track outputs digital target reports (plots) in ASTERIX formats over Ethernet to the radar data processor or air traffic control station.

The ACCU-Track MSSR family employs modern COTS, programmable VME architecture to make this the smallest, full performance MSSR available today. The ACCU-Track meets the requirements of

current FAA and international standards for identification and air traffic control systems including remote control and monitoring, and fault detection and isolation capability. The reliability, maintainability and supportability of the ACCU-Track significantly lowers maintenance costs.

ACCU-Track measures and reports transmitter power, pulse width and pulse spacing, receiver sensitivity and antenna VSWR. This allows the detection and repair of a degrading line replaceable unit or antenna system before it actually fails.

Both ACCU-Track-M and ACCU-Track-S are available as a Dual Channel fully redundant system, that includes two MSSR interrogators, two uninterruptible power supplies, two network switches and a switchover unit, housed in a four-foot rack. Each ACCU-Track is also available as a Single Channel interrogator. Each of these systems is available with any listed option.

ACCU-Track Civil ATC/MSSR Interrogator

ACCU-Track Offers State-of-the-Art Technology



ACCU-Track Single Channel

The LDMOS linear transmitter allows precise, digital waveform control including output power, pulse width, rise and fall times - all under software control.

The digital software radio receivers track each other precisely, eliminating temperature compensation and calibration due to drift - all under software control.

Field programmable gate arrays perform all logic functions including reply processing, defruiting and degarbling, monopulse determination, transmitter and BITE modulator drivers, system timing, I/O support and switchover unit support - all under software control.

Four PowerPC™ processors perform target detection, code validation, target tracking, false target suppression, system manager and server functions.

ACCU-Track Options

- Mode S Level 2 Enhanced Surveillance
- I²SLS
- Primary Search Radar Tracker
- PSR/MSSR Correlator
- GPS Time of Day Receiver
- Remote Control and Monitor System
- Ground Data Link Processor

Functional Characteristics

MSSR Modes	.1, 2, 3/A, B, C, D		
Mode S Enhanced Surveillance	.Intermodes, All-Call, Roll-Call, GICB		
Sidelobe Suppression	.ISLS, I ² SLS (Optional), RSLs		
Maximum Range	.256 Nautical Miles		
Rotation Rate	.5 to 12 rpm		
Target Load	.> 1000 Per Scan		
Transmitter Power	.+63dBm, reducible to +51dBm in 1 dB steps		
Probability of Detection (Pd)	.> 99%		
False Targets Reports	.0.5 Per Second		
Multiple Target Reports	.< 1 Per Scan		
Code Validation (Pv)	.> 99%		
Validated False Code Ratio	.< 0.01		
Resolution According to Eurocontrol Areas:			
-Area 1: 0.6° < Δθ < 4.8°	ΔR < 2 nmi	Pd > 98%	Pv > 98%
-Area 2: 0° < Δθ < 0.6°	0.05 < ΔR < 2 nmi	Pd > 98%	Pv > 90%
-Area 3: 0° < Δθ < 0.6°	ΔR < 0.05 nmi	Pd > 60%	Pv > 30%
Monopulse Azimuth Accuracy	.< 0.05°		
Range Accuracy (SSR)	.< 30 meters		
MTBF (Single MSSR)	.> 8,800 Hours		
MTBCF (Redundant System)	.> 40,000 Hours		
MTTR	.< 0.4 Hour		
Availability	.> 0.99999		
Monopulse Calibration	.Utilizing PARROT or target of opportunity		
Preventative Maintenance	.None		

For more information, please contact:

Northrop Grumman Corporation
 Navigation Systems
 21240 Burbank Boulevard
 Woodland Hills, California 91367 USA
 1-866-NGNAVSYS (646-2879)
 www.nsd.es.northropgrumman.com