

# MMSSR

## Multi-Mission Monopulse Secondary Surveillance Radar



Multi-Mission Military IFF Interrogator

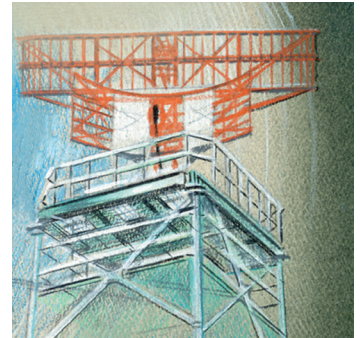
*Telephonics' high performance systems efficiently and safely direct traffic, increase mission effectiveness and keep friendly forces out of harm's way.*

Telephonics Identification Friend or Foe (IFF) and Secondary Surveillance Radar Systems have been consistently providing Military and Civil Air Traffic Controllers and battle management decision makers with high performance systems that efficiently and safely direct traffic, increase mission effectiveness and keep friendly forces out of harm's way. Telephonics identification systems are deployed at airports, on aircraft carriers and surface vessels, on the world's fleet of AWACS aircraft, and in maritime patrol fixed and rotary wing platforms.

Telephonics USAF contracts to upgrade the AN/APX-103C Airborne Early Warning IFF, the NATO AWACS Midterm Upgrade of the IFF to add ATC Mode S capability, as well as the USN upgrade of the Carrier Fleet ATC sensor digital

extraction, and the AN/APS-147 Integrated Internal IFF represent an unparalleled technology baseline for the MMSSR. MMSSR is clearly the next generation of multi-mission IFF interrogators.

- Mark XIIA STANAG 4193, DOD AIMS 97-1000, and DOD AIMS 03-1000 compliant
- Eurocontrol and homeland defense Mode S functionality
- 2000 target capacity
- Advanced code correction algorithms
- True Open System Architecture with plug-and-play upgrade to Mode S and Mark XIIA



## *Mark X/XII System Performance*

- Probability of Detection: >99.9, minimum
- False Target Reports: <0.04%
- Overall Multiple SSR Target Report: <0.3%
- Code Availability: >98.5%
- Code Accuracy: >99.9%
- Positional Accuracy, Systematic Errors
  - Slant range bias: <15 meters
  - Azimuth bias: <0.022°
  - Slant range gain error: <1 m/nm
- Positional Accuracy, Random Errors
  - Slant range: <15 meters
  - Azimuth: <0.068°
- Resolution
  - Range:  $\geq 225$  feet slant range separation
  - Azimuth: >1 antenna beamwidth for targets within 225 slant range separation

### **Transmitter**

- Operating Modes: 1, 2, 3/A, C, 4
  - Mode S/Mark XIIA (level 2, when equipped)
- Mode S Formats (when equipped): UF4/DF4, UF5/DF5, UF11/DF11, UF20/DF20, UF2/DF21 and DF17 Squitter
- Transmitter Frequency: 1030  $\pm$  0.01 MHz
  - High duty cycle (>2%) configurations available
  - Peak output power: 66  $\pm$  1 dBm
  - Power Control: 12 dB range,  $\leq 1.5$  dB steps (when equipped)
- Modulations: PPM, BPSK, MSK available

### **Receiver**

- 2 or 3 channel configurations
- Center Frequency: 1090  $\pm$  0.1 MHz
- Frequency Response: STANAG/DOD AIMS/ICAO compliant
- Noise Figure:  $\leq 5$  dB
- Threshold Level:  $-85$  dBm, default corresponding to Signal-to-Noise Threshold ratio = 14 dB
- Dynamic Range: 70 dB
- Outputs: Linear IF, Limited IF and Log-Video
- DOD AIMS/STANAG Anti-Jam compliant

For further information contact:

**Telephonics Corporation**  
**Radar Systems Division**  
815 Broad Hollow Road,  
Farmingdale, NY 11735-3904  
(631) 755-7000  
Fax (631) 755-7200  
www.telephonics.com

