



With over 45 years of experience designing and integrating Air Traffic Control (ATC) and Air Traffic Management (ATM) technologies, TTM is trusted to provide the equipment and expertise required to safely and reliably control flight operations. Our SkySearch family of surveillance solutions is utilized at airports around the globe and offers superior aircraft reporting performance for civil ATC applications.

Advanced Air Traffic Control

SkySearch®-2020 is a direct derivative of our pedigree SkySearch-2000 product line and combines Mode S Monopulse Secondary Surveillance Radar (MSSR) with advanced signal processing technology to achieve superior aircraft reporting for civil ATC applications.

Key Features:

- Meets or exceeds Mode S MSSR ICAO, FAA and DoD requirements
- Supports Modes: 1, 2, 3/A, C, and Mode S ELS/EHS and Automatic Dependent Surveillance-Broadcast (ADS-B)
- Superior positional accuracy using monopulse azimuth calculations
- ADS-B acquisition and clustering for minimized Mode S All-Call interrogations
- 3D automatic monopulse calibration
- Comprehensive Built-In Test Equipment (BITE) for fast, accurate fault detection/reporting
- ≥ 2000 aircraft processing capacity with advanced data correction algorithms
- Azimuth start/stop sector control for interlace variation, RF blanking and gain time control
- Beacon/search correlation
- Accurate Mode S tracking provides surgical in-beam roll-call interrogations
- Cyber security protection
- MTBCF >60,000 Hrs./MTTR <30min/System Availability: ≥ 0.9995

SkySearch-2020 Specifications



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|--------------------------|---|
| System Redundancy | Dual channel receivers, transmitters, processors, gps, recorders and communications |
| System Switchover | Automatic Fault Condition and Manual Operator Control |
| MSSR Transmitters | Dual solid-state transmitter frequency: 1030MHz +/- 0.01MHz |
| | High duty cycle: $\geq 4\%$ Sigma, $\geq 1\%$ Omni |
| | Sigma and Omni channel peak output power: 32 dBW |
| | Independent Sigma and Omni power control: 16 dB range in 0.5 dB steps |
| MSSR Receivers | Number of channels: 3 (Sigma, Difference and Control) |
| | Center frequency: 1090MHz +/- 3MHz |
| | Adjustable receiver side lobe suppression |
| | Programmable sensitivity time control |
| | Signal interference protection |

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|---------------------------|--|
| MSSR Processor | Range coverage: 0.5nm to 256nm |
| | Probability of Detection: ATCRBS $\geq 98\%$, Mode S $\geq 99\%$ |
| | Range bias: $\leq 30\text{ft}$ / Range accuracy: $\leq 25\text{ft}$ (1-Sigma) |
| | Azimuth bias: ≤ 0.033 degrees |
| | Azimuth accuracy: ≤ 0.066 degrees |
| | Resolution: $\geq 98\%$ Eurocontrol Zone 1 |
| | $\geq 90\%$ Eurocontrol Zone 2 |
| | $\geq 60\%$ Eurocontrol Zone 3 |
| | Code reliability/validation: ATCRBS $\geq 99\%$, Mode S $\geq 99.9\%$ |
| | Closely spaced reply extraction: Up to 6 |
| Recorders | Dual redundant high-speed recording for interrogations, replies, command controls, status and others |
| Display Processors | Local maintenance, remote maintenance and remote air traffic configuration |
| Communication | Data input/outputs ASTERIX CAT 048, CAT 021, CAT 033, CAT007, RMM, CD-2, ASR-9, CARSR, Beacon Only |

Visit www.ttm.com for more information.

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