ES-5080
Wideband Digital Receiver Based ELINT/ESM Systems
The ES-5080 is a state-of-the-art combined Electronic Intelligence (ELINT) and Electronic Support Measures (ESM) system. Its system architecture combines omni-directional and high gain spinning dish antennas with a wideband synthesized superhet tuner and a Digital Receiver. This combination provides high system sensitivity and parameter measurement accuracy, which is needed for receiving today’s complex low power radars at long ranges. The system can be used for submarine, surface ship, aircraft, and land based applications. The ES-5080 system utilizes a multiple Windows HMI for emitter graphical analysis and display. The HMI can also be run on multifunction consoles.

**KEY SYSTEM CAPABILITIES**
- Airborne, Shipboard, and Land-Based applications
- Digital Receiver based
- Automatic acquisition, ID, and DF
- Omni and spinning high gain dish antennas
- High POI signal acquisition with wideband superhets
- High sensitivity for LPI radar signals
- Processes modern complex radar signals

**ANTENNA PERFORMANCE**
- 0.5 to 18 GHz standard frequency coverage
- Receives all radar antenna polarizations
- High-gain antenna for direction-finding and ELINT collection
- Antenna gain 24 dB @ 9 GHz, typical

**RECEIVER PERFORMANCE**
- 500 MHz and 70 MHz instantaneous RF bandwidths
- -70 dBmi Omni antenna pulse processing sensitivity
- -100 dBmi Omni antenna CW processing sensitivity
- -90 dBmi Dish antenna pulse processing sensitivity
- -120 dBmi Dish antenna CW processing sensitivity
- 60 dB instantaneous processing dynamic range
- 50 ns minimum pulsewidth

**SIGNAL PROCESSING PERFORMANCE**
- 1 million PPS signal environment
- DF accuracy 2 degrees RMS
- 0.5 MHz RMS frequency measurement accuracy

**PRECISION PARAMETER MEASUREMENT**
- Fully synthesized superhet receiver
- Very low phase noise
- 1 GHz Pre-Detection IF digitizing and PDW generation
- 1 GHz Pre-Detection IF digitizing and recording
- SPT PDW and Pre-D manual signal analysis software

**HUMAN MACHINE INTERFACE**
- Windows HMI operating system
- Server Computer with removable media
- Operator Workstation or Multifunction Console
- Tactical displays
- Built-in training simulator
- Remote control capability

**ES-5080 OPTIONS**
- Platform-specific omni and spinning dish antennas
- 100-500 MHz and 18-40 GHz frequency extensions
- Second superhet receiver and processor channel
- Intrapulse modulation measurements
- 2000 GB hard disk data storage
ES-5080 Wideband Digital Receiver Based ELINT/ESM Systems

ES-5080 ELINT/ESM System

HIGH GAIN ANTENNA
- Provides accurate direction-finding
- High gain in low band
- Modes include point; sector; spin
- Null-free cosecant-squared coverage in elevation
- Options available for extended frequency coverage

OMNIDIRECTIONAL ANTENNA
- Provides 360° azimuth coverage
- Options available for specialized elevation gain

RADOME AND DUST COVER
- Provides protection for rotating antennas
- May be air-pressurized for shipboard application

RF PREAMPLIFIER UNIT
- 100-500 MHz and 18-40 GHz frequency extensions
- Second superhet receiver and processor channel

SIGNAL PROCESSOR UNIT
- Includes high performance microwave tuner
- Wideband digitizer makes very accurate measurements of each pulse
- High performance deinterleaver with multipath rejection
- Compares measured parameters to a library for emitter identification
- Real-time processing uses Power PC
- LAN interface to operator workstation
- ELINT data storage: PDW and Pre-D data
- Options available for advanced signal processing (subject to export control)
- Option available for dual channel operation including RF sidelobe inhibit

OPERATOR WORKSTATION
- Windows-based HMI
- May be remoted from Signal Processor using LAN interface
- May be hosted on a Multi-function console
- Provides extensive tactical ESM and ELINT displays
- May include SIGNAL PROCESSING TOOLS for ELINT manual signal analysis
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ES-5080 HMI Operator Interface

- Display of High Priority Signals of Interest
- Display of All Emitter Activity
- Plot of Emitter Parameter Measurements. Operator can choose parameters to plot
- Real Time Display of Emitter Scans

Product specifications subject to change without notice

Exelis Inc.
18705 Madrone Parkway,
Morgan Hill, CA, 95037
U.S.A.
Ph #: 408 201 6718
Brian.Murphy@exelisinc.com
www.exelisinc.com

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