MILKED-4A2
HIGH FREQUENCY DIRECTION FINDING AND MONITORING SYSTEM
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MILKED-4A2 High Frequency Direction Finding and Monitoring System provides Electronic Support Measures (ESM) for communication systems in HF band and satisfies intelligence requirements via its scanning, detection, DF, location fixing, parameter extraction, recording and analysis capabilities.

System provides DF and monitoring against targets communicating over ground-wave, sky-wave and NVIS. The DF antenna array has several configurations that suit terrain conditions. The DF algorithm implemented in the system enables getting lines of bearing of co-channel signals. There are multiple monitoring receivers and antennas that provide monitoring of target signals that have different polarizations and elevations.

System provides audio and baseband I/Q recording for digital signals as well as wideband IF recording for spread spectrum targets. Using narrowband signal analysis tool the System provides parameter extraction and protocol decoding for digital signals. Using wideband signal analysis tool the System detects frequency hopping signals, extracts hopping parameters and de-hop the signals.

The System is installed in a NATO-6516/SCHPE/86 standard shelter. The System shelter, generators, air condition units, antennas, antenna cables and all other accessories are mounted on 2 tactical vehicles that are in the 5-ton class. Being installed on tactical vehicle platform MILKED-4A2 has high mobility on the rough terrain. The System is platform independent and the System-or a subset of the System-can be integrated on different platforms according to the user requirements.

General Specifications

- HF frequency coverage
- Modular, extendable structure
- Effective to ground-wave, sky-wave and NVIS signals
- Reconfigurable antenna array, small/large/ground optimized/sky optimized array configurations
- High resolution wide band DF and monitoring
- 2 MHz IF bandwidth
- Multichannel DF receiver
- Multiple monitoring receivers
- Correlative Interferometry, MUSIC and ADBF algorithms
- Co-channel DF
- Automatic spectrum threshold
- Location fixing with 2+ Systems coordination
- Single Site Location (SSL) with single System
- FHSS, OOK, burst, chirp signal detection
- Digital map
- Path loss analysis on real terrain information
- Demodulation and decoding of digital modulated signals
- Wideband IF record, analysis
- FHSS parameter extraction and de-hopping
- Remote control over TCP/IP based encrypted communication infrastructure
- Software based digital transceivers
- Extensive Built-In-Test
- 2-staff operation
- User Friendly GUIs

Technical Specifications

- Frequency Range: HF frequency band
- Coverage : 360° azimuth, 0°-85° elevation
- Antenna Array
  Complete : Monopole+Crossed Loop array in a large area
  Minimized : Monopole antenna array in a smaller area
- DF accuracy : Changes according to the selected antenna array
- Demodulation : AM, FM, USB, LSB, CW, BPSK, QPSK, pi/2DPSK, RFSK, RQAM4, QQAM8, QQAM16, QQAM32
- Protocols : STANAG 4285, STANAG 4529, STANAG 4481, STANAG 4539, STANAG 4539, MIL-STD-188-110A (*)
- Power : 220 / 380 ±10% VAC, 50±3 Hz, 3 phase
- Operational Temp. : -30°/+50°C (outside units), 0 °/+50°C (in-shelter)
- Storage Temp : -40°/+60°C
- Humidity : 90% (non-condensed)

(*) List can be enlarged according to the user requirements.