

LOCATE

Strategic High-Frequency (HF) monitoring and Direction Finding (DF)

STRATEGIC HF ELECTRONIC SURVEILLANCE

LOCATE is an advanced static HF Electronic Surveillance capability, proven for use in complex electromagnetic environments and with global position fixing coverage. It is in operational use by military and intelligence agencies worldwide.

HIGH FREQUENCY DIRECTION FINDING

LOCATE uses Super Resolution Direction Finding (SRDF) and Adaptive Digital Beam Forming (ADBF) to operate seamlessly against nations deploying sophisticated electromagnetic effects, providing intelligence to decision makers. Roke offer a site survey service, and work with local groundworks providers to ensure that the system performs to optimum capability.

ACCURACY

LOCATE SRDF is highly accurate. Elevation and Azimuth are provided for targets, even during co-channel interference such as jamming, or in the presence of multipath making it suited to contested environments. The array provides both monopole and loop elements, selectable to match signal polarisation. Locate is TDoA capable using VITA49.2 timestamped data feeds.

RF TO INTELLIGENCE

The VIPER/PREFIX software suite is common to the suite of Roke products. It provides cutting edge signal capability with a common look and feel. Workflow based operations provide mission planning, execution and reporting. EW information can be rapidly processed and disseminated in support of your decision making cycle. Single Site Geolocation provides position fixing from a single system based on skywave propagation.

SUPPORT AND TRAINING

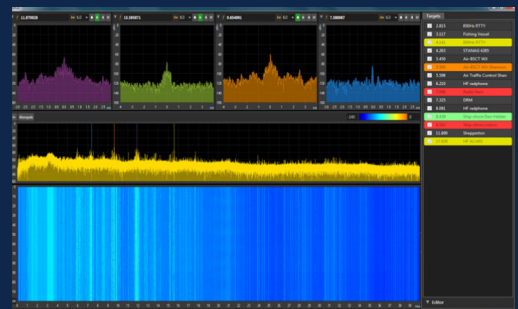
LOCATE is operationally deployed accompanied by training and support delivered by our EW specialists. Roke delivers bespoke packages optimised to our user requirements and delivered by domain experts. The CEMA simulator enables offline training.

FEATURES

- 1MHz to 30MHz operation
- Azimuth (1° RMS) and Elevation SRDF
- SRDF through multipath, interference and jamming
- ADBF to monitor through jamming or interference
- Skywave Single Site Geolocation
- 30MHz Instantaneous Bandwidth
- GNSS positioning and 1PPS time-stamping
- VITA49.2 interface for TDoA

BENEFITS

- Global HF ES interception and geolocation
- Fully operational in contested environments, operating through jamming and interference
- Open WebAPI for integration into national infrastructure
- Common UI (VIPER/PREFIX) with automated operator aids
- Full installation service



LOCATE SPECIFICATIONS

Performance	
Intercept Frequency Range	1MHz to 30MHz.
Direction Finding Frequency Range	1MHz to 30MHz.
Instantaneous Bandwidth	30MHz.
Direction Finding Technique	Super-Resolution Direction Finding (MUSIC).
Direction Finding Accuracy	1° RMS in azimuth.
Sensitivity	Noise Figure ≤14dB.
Phase Noise	-125dBc/Hz at 1kHz offset.
Input Damage Limit	+30dBm.

Environmental	
Environmental Limit (Outdoor Equipment)	Operating +55°C to -40°C.
Product Standards	EN 61326, EN 301 489, EN 62368, EN IEC 6300, EN 61000.
Product Certifications	UKCA / CE.

Technical	
Position, Navigation, Time	Integral GNSS receiver. NMEA compliant. External or Internal 1PPS.
Alignment	Permanent Surveyed Location.
Production Channels	4 Independent ADBF tuning channels. Up to 36 Independent tuning channels (digital drop receivers) per 9 channel monitoring receiver.
Mission Information System	VIPER supporting Mission Planning and Analysis.
EW Application	PREFIX supporting Live Mapping, Wideband DF.
Detection & handoff Method	Wideband with SNR threshold & automated handoff.
Automatic Position Fixing	Collaborative PF via Radios or IP network.
Skywave / Groundwave Intercept & DF	Vertical polarisation for groundwave signals. Circular polarisation for skywave signals.
Build in Test	Yes.
Frequency Tolerance	GPS Disciplined to 5ppm.
VITA49.2 Stream	1x Wideband 40MHz channel and Production Channels linked to GPS 1PPS.

Physical	
Internal Equipment Format	19" rack.
Power Source	AC input.
Backup Power	UPS.
Operator Workstations	PC based workstations with VIPER/PREFIX.