



# WBR-2000 ESM SYSTEM

## General Description

The WBR-2000 is composed of three units – *Antenna Assembly, Receiver/Processor Unit and Operator Display*. Radar signals received by the antenna assembly through an omni-directional antenna and an array of directional antennas are passed to the Receiver/Processor unit where the frequency and angle of arrival of each radar pulse are measured and digitized. This data then passes to a Signal Processor that associates all pulses from an Individual radar with each other, measures the pulse train modulation characteristics, and forms a report characterizing the radar. These reports are compared with a stored library of radar parameters to identify the type of radar and the platform normally associated with the intercepted radar signal. The emitter is reported parametrically whether or not it is in the library. A computer workstation is used to store the reports and display the data to the operator.



## Applications

- ✓ Situation awareness and threat warning.
- ✓ Range monitoring.
- ✓ Geolocation using multiple installations

## Advantages

- ✓ Commercial off-the-shelf (COTS).
- ✓ Modern software languages.
- ✓ Single operator access and control of data and peripherals.
- ✓ High throughput to handle dense signal environments.
- ✓ X-windows for easy display transport to remote computer systems.
- ✓ Flexible emitter verification and correlation tools.

## Features

- ✓ Open architecture.
- ✓ 100% probability of intercept in dense signal environments.
- ✓ Detection/identification /characterization of complex emitters.
- ✓ Automatic threat alarms / alerts
- ✓ Tactical displays with operator access to all parametric, signal environment, threat, and built-in-test (BIT) data.
- ✓ Variety of interfaces: NTDS, RS-232, RS-422 and Ethernet.
- ✓ Interactive and user friendly display interface.
- ✓ BIT and maintenance functions.
- ✓ Built-in expansion capabilities.



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**ISO 9001:2000**

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## Monopulse Performance Characteristics

Parameter	Basic System	Option
Frequency Range	2 – 18 GHz	.5 – 2 GHz 18 – 40 GHz
Sensitivity	- 65 dBm	
Dynamic Range	60 dB	
Probability of Intercept	100%	
TOA Accuracy	10 ns	
PRI Range	500 ns to 33 ms	
Minimum Pulsewidth	100 ns	

## Signal Performance Characteristics

### Generically Deinterleaves and Displays:

CW and pseudo-CW	> 120 µsec pulsewidth
PCM, stagger	Up to 32 positions
Jitter, discrete jitter	15% maximum
Agile (hoppers)	RF deviation 500 MHz
Chirp (FMOP) Indications	1 GHz per microsecond
Large Library Capacity	
Tracks 500 emitters simultaneously	

## Available Antenna Configurations

Antenna Type	DF Accuracy
Amplitude Monopulse	7 degrees rms
Amplitude / Phase	3 degrees rms
Spinning Reflector	2 degrees rms
Linear Interferometer	2 degrees rms

## Mechanical Specifications

### ESM Processor

Weight	75 lbs.
Power	350 watts

### Standard Antenna

Weight:	22 lbs.
Power:	70 watts

## Typical Displays



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