

# JAM-DDS

COMMUNICATION JAMMING SYSTEM

**C4i**  
communication



JAM-DDS 800 Watts  
VHF/UHF 30-500MHz Programmable

# INTRODUCTION

**C4i Communication** is introducing a new generation of high power, fully digital (DDS) jammers (**JAM-DDS**) to protect military and VIP convoys from the threat of Remote Control Improvised Explosive Devices (RCIEDs) and offering state of the art communications jamming for modern VHF/UHF Communication frequency bands.

The system can be designed according to customer-specific applications.

**JAM-DDS** is a High Power DDS Communication Jamming System, implementing the most effective and reliable RF jamming technology and is equipped with a fully-integrated broadband jamming system.

## SYSTEM OVERVIEW

**JAM-DDS** Includes 4 independent frequency bands (30-90MHz, 90-180MHz, 180-350MHz, 350-500MHz) each with its own power amplifier module and antenna resulting in faster wide-band scanning, very good receiver sensitivity for each band, higher gain than normal antennas providing precise jamming and multi-waveform countermeasures.

**JAM-DDS** The maximum RF output power for each module is 200W offering a total RF output power of 800W. The system offers very fast jamming rates of 40ns/Channel providing continuous and simultaneous coverage, for all the RF communication frequencies between 30MHz to 500MHz without losing RF power.

Adopting the latest jamming technologies, **JAM-DDS** features an ultra-high RF transmission power of 800 watts, providing effective jamming capabilities over a large coverage area.

**JAM-DDS** The system can be incorporated into various configurations including a ruggedized rack or as a portable jammer module utilizing a rugged briefcase with individual frequency bands.



Figure 1 JAM-DDS system with Portable Configuration

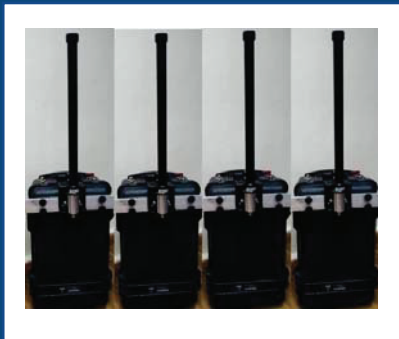


Figure 2 JAM-DDS in Rugged briefcase with independent operation



Figure 3 System installation in the rugged briefcase with independent power supply, battery, receiver, PA module and cooling system.

# JAMMER CONTROL INTERFACE

**JAM-DDS** has two types of control interfaces, a GUI management system and Windows Base application workstation.

**GUI management system** provides activation, control and operation of the system and is carried out via a wired remote-control unit, which can be installed in any desired location.

The touch screen base embedded system is intuitive and user-friendly providing operators with fast and effective response capabilities during field operations. The system can easily fit into a rugged briefcase for transport.

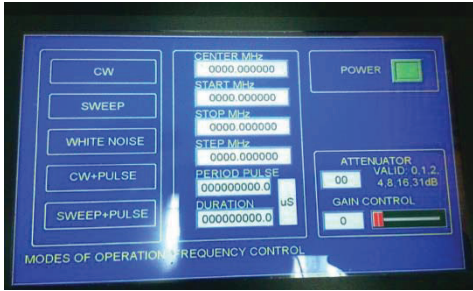


Figure 4 | GUI management system



Figure 5 | GUI management system in the case

**Windows Base** application workstation is used for VHF/UHF spectrum surveillance and counter attack. The interface of the system can be customized according to customer requests.

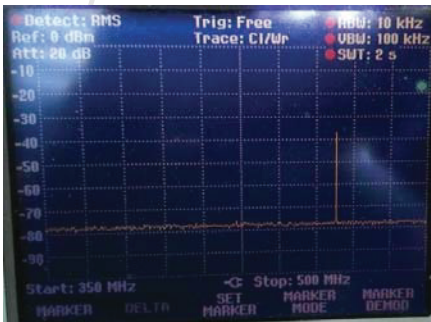


Figure 6 | Windows Base application; Intercepted signal within Bandwidth 350-500MHz



Figure 7 | Ruggedized Laptop configuration for rack case



Figure 8 | Dell Ruggedized Laptop

## FEATURES

**JAM-DDS** also features a **Reactive Jamming System** ( DDS & FPGA) which includes:

- A reactive smart jamming solution that scans and monitors the Area Of Interest locating signals coming from a variety of frequency bands between 30 MHz up to 500 MHz (Walkie-Talkie, etc).
- Enables translation of these signals into visualized data, which is imported into a secured database. This enables the operator to recognize the signal immediately when it is encountered in the future.
- Based on all data gathered in the Area of Interest, the operator is able to efficiently enact counter measures
- The system can be programmed to recognize unwanted signals and to jam them Automatically

## JAM-DDS Advantages:

- Ultra-wideband frequency of 30-500MHz.
- High sensitive receivers.
- User-friendly operating software via laptop computer for Command & Control.
- Total output power can be up to 800watt.
- An Integrated smart active cooling system that assures continuous operational functionality.
- 4 sets of antennas to transmit jamming signals with a high degree of efficiency.

## MAIN SYSTEM

JAM-DDS consists of the following sub-systems:

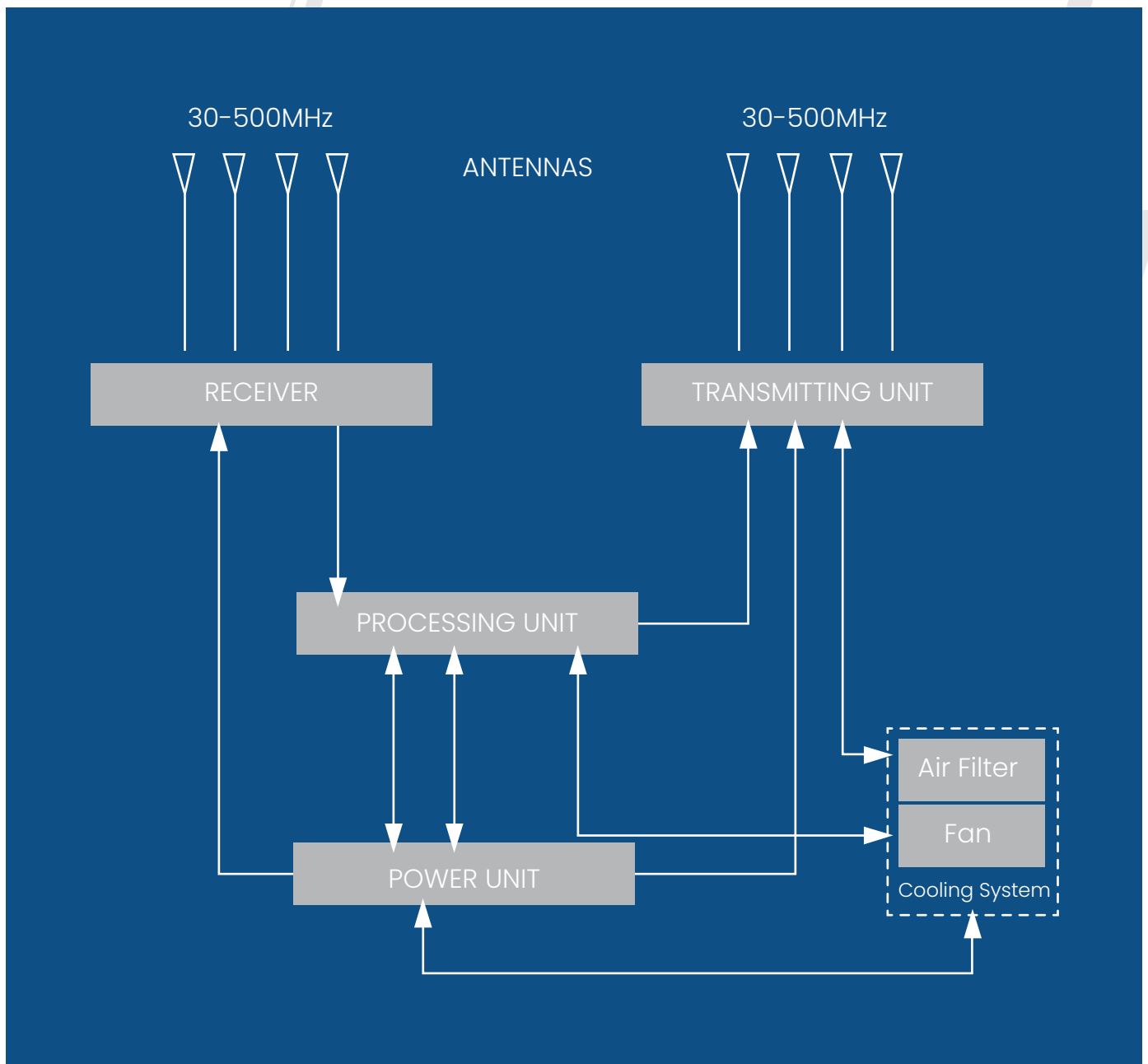
- Receiving antennas for detectors
- Very sensitive receivers capable of recognizing low level signals
- Processing unit + signal data storage
- Computer laptop for command and control
- Power unit (AC + DC + Generator + Backup batteries)
- Transmitting unit + Power amplifiers
- High gain transmitting antennas

# SYSTEM OPERATION

**JAM-DDS** scans and monitors the Area of interest via high gain and highly sensitive receivers, to locate signals from a variety of frequency bands from 30 to 500 MHz. Any signal higher than noise level is processed and analyzed (frequency modulation, type of signal, etc.) then stored in memory for future comparison.

Jamming signals can be transmitted automatically or manually via high power amplifier and high gain antennas at the exact frequency for neutralizing any reliable threat.

# SYSTEM DIAGRAM



# Technical Specification

RF Frequency Band(MHz)	Application	RF Output Power (Watt)
30-90	VHF30	200
90-180	VHF100	200
180-350	UHF300	200
350-500	UHF400	200
TOTAL RF POWER		800 Watt
Frequency Range	30 - 500MHz	
Total RF Power	800 Watt	
Jammer Module Number	4	
Channel Number	Up to 16Bands	
Scanning Rate	40ns/Channel	
Detecting Hopping Signal	Yes, Hopping signals can be detected	
Hops/s	100KHz/s	
Type of Jamming	Manual Jamming Memory jamming and Active Jamming	
Control of output RF power	Manual and Automatic output power control	
Cooling System	Systematic Smart Cooling System	
System Protection	VSWR, Over - voltage, Over - current,	
Jamming Source	DDS Technology (Noise, random code, etc)	
Work Mode	Single Carrier/Multi Carriers/Multi frequency circulation/Fast Frequency Hopping/Barrage Jamming optional	
Frequency Adjustment Step	10KHz	
Modulation Mode	AM/FM/CW/FSK/LSB/USB etc	
Harmonic spurious	40dbc	

Frequency Stability	±1ppm
Remote Control	Full System Operation Control
Antenna Type	Omni directional Antennas, Directional Antenna
Number of Antennas	4
Total Power Consumption	Max: 3000VA, ( +27VDC )
Operating Temperature Range	-20°C~+60°C
Generator Rating	2kW
Automatic Fault Detection	Power, Temp, Antenna, etc
Operating Humidity	Up to 80%

## SAMPLE ANTENNA FOR OMNI AND DIRECTIONAL ANTENNA

Frequency range	30-90MHz 90-180MHz 180-350MHz 350-500MHz
Input Impedance	50Ω
Main Frequency VSWR	<2.5
Gain	-3 ~ 2dBi
Maximum Power	200Watt
Polarization	Vertical Polarization
Temperature	-40 °C to +75 °C
Radom Material	Fiberglass
Wind Velocity	160km/h
Length	About 180cm
Weight	About 2.8Kg





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