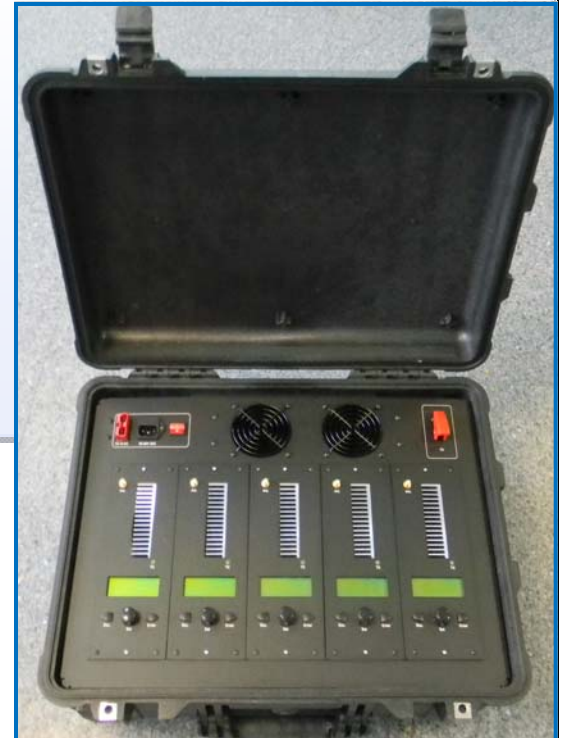


## The Next Generation Bomb Jammer™ Demo Kit - approved for LIVE DEMONSTRATIONS to Government End Users

The Bomb Jammer™ Demo Kit represents the most effective way to show Government End users as well as qualified engineers a professional demonstration of the Bomb Jammer™ technology. That means a qualified EOD Technician could evaluate the attributes of the Bomb Jammer™ in order to measure the efficiency required for Proof-Of-Concept + factory testing of RF waveform efficiency at client sites.

The system build is housed in a rugged hard case, in order to transport to client sites for demonstrations and presentations. Inside this mil-spec case is a full-featured quad-band RF Jamming System with a configuration of expertly designed features:

- PROGRAMMABILITY:  
Frequency Range +  
User Settings
- SELF-DIAGNOSTICS
- TECHNICAL + SAFETY  
PARAMETERS
- DIGITAL EXCITER FEATURES
- FREQUENCY RANGE + SPECS



### PROGRAMMABILITY

HSS implemented programmable interactivity so that operational capabilities can be changed by the operator. Examples include:

1. Frequency Range
2. Self Diagnosis / System Status
3. Integrated Protection Redundancy

#### 1) Frequency Range

The frequency ranges can be set by the operator of the system to broadcast on-command to specific frequencies. This permits demonstration capabilities for Spot Jamming as well as Full Frequency Jamming of each jamming module (This system has a total of 4 Jamming Modules). This is important when known threats that operate on specific frequencies are to be addressed during a LIVE DEMONSTRATION.

During demonstrations, the concentration of RF jamming power is directed at the corresponding frequency band. This is vital to producing a jam-wave that is powerful enough to block frequencies without any degradation of the jamming signal. In other words, the system is able to focus its energy, showing a clean jam-wave that is efficient and reliable. This is the same efficiency factor is built into HSS Bomb Jammer™ technologies for deployments requiring professional technologies.

For VHF-UHF frequency ranges, the BJDK is equipped with communication windows. These notches in the spectrum may be programmed or allocated if needed by the system operator. They are formed when the jamming signal is generated, and feature high precision + accuracy from Direct Digital Synthesis (a proprietary hybrid of DDS and PLL Stabilized technologies inherent in the Bomb Jammer™ architecture).



## Setup based on client expectations: Window & Energy Output Control Mechanisms

### 2) User Determined Settings

The system is able to accept commands from the user in order to show how flexible the operation can be under different conditions. This can be done without factory presets, and this ability was created for the user because so many environmental factors may be different with each location for demonstration.

- **Communication Windows**

User selected jamming can be created and modified at will. The user can choose how wide the window(s) should be and what frequency the window(s) will be set to.

- **Output Power Control**

The output power of RF jamming signals can be regulated. This is important in situations where the user needs to increase or decrease the coverage area. Because RF jamming from the Bomb Jammer™ Demo Kit may interfere with surrounding areas, the ability to limit or intensify the saturation levels of RF interference has been taken into account. This assures trouble-free operation of communications in neighboring areas (by limiting over-jamming through system designated settings)

The system's unique design permits multiple frequency memory recall functionality. These scenarios involve pre-programmed user set frequencies that are stored directly into memory. On command, the user may recall which frequency to demonstrate RF jamming on. Because the system is user programmable, the user can change the parameters as desired in order to make presentations and demonstrations in different areas where field circumstances are different.

For example, if the user wants to demonstrate the efficiency of the system's jam wave on a 900 MHz spectrum to block a cellular service provider ; And there is no service coverage of that band in that area, the user can select a different band (such as 2170 MHz) where there is coverage by another service provider. This scenario can be demonstrated without having to make any setting changes at the time of the demonstration. All the user has to do is pre-program the frequency range into the system's memory, and then select that setting during the demonstration.

To make a proper demonstration of HSS Bomb Jammer™ technology, the system can block a perimeter with a desired range based on simple instructional programming commands. This added benefit adds credit to prevent over-jamming and interference to neighboring areas.



## Diagnostics: Real Time Status in The RF Environment

### 3) Self Diagnosis / System Status

When making a demonstration, the system can be manually operated or controlled by the user. However, the system employs an automated Self-Diagnostic capability so that the user can optimize the system's performance.

Because the system constantly analyzes and compares user programmed values to live results, an analytical baseline is generated where normal operational activity is categorized. This baseline extends to each module working within the system build. Should the system encounter a discrepancy or problem where operating parameters deviate from normal expectations, a series of alerts will take place.

Should the conditions cause a "high alert" , the system is capable of self-adjustment or alerts the user that operational behavior needs to be looked at. If the alert does not require immediate attention, the system will still operate during its demonstration, in a satisfactory manner.

The user can review system status reports after a demonstration. Post operational reviewing can be conducted by looking up log reports / message alert notifications within internal memory.

What could go wrong with a Bomb Jammer™ to require Self Diagnosis?

The number 1 cause for system alerts is due to user error. Improper connection of antennas (or disconnection) can lead to unnecessary issues.

With a modular design, the system is optimized to block communications on several spectral coverage ranges. When a module is powered down 'unexpectedly', it is a result of a disconnect to an antenna, or if the system has overheated because of the high power levels in use, a temporary situation alerts the self-diagnosis feature to activate. This feature takes place as long as the process is detected.

When the system diagnostics are completed, the module examined goes back to its normal manner of operation. Self diagnostic actions are beneficial in order to insure a smooth continuity for system performance and operation.





# Bomb Jammer™ DEMO KIT Model # BJDK4-30

## Automated Safety Levels: Advanced Protection during RF Saturation

### 4) Technical Operation + Safety Parameters

The Bomb Jammer™ Demo Kit is a very powerful system. Powerful in that it makes a professional impact when an EOD Technician observes performance, and also when dealing with electrical power generation and emissions of energy levels. The system employs the following safety & performance capabilities:

1. **Input voltage** – The system has built-in protection in the event where the incoming power voltage is under or over the required level.
2. **Output voltage on DC/DC converter** – The system has special power amplifier protection in order to regulate the power levels without incident.
3. **Output current on DC/DC converter** – The system also regulates the power converter and amplifier, protecting against electrical current issues.
4. **Thermal Alert & Reaction Control** - The system has a temperature control of DC/DC electronics, affording converter protection should a cooling fan failure occur.
5. **Thermal Alert & Reaction for Power Amplifiers**- The system has an automated warning and reaction procedure in the event that temperatures cause power amplifiers to overheat, protecting them by auto-shutdown protocols. This protects each module. When the temperature gets back to normal, the module switches on automatically.
6. **Power Amplifier Output Compensator** - Should the power amplifiers begin to fluctuate during operation, an automated application will trigger and balance-out each power amplifier. This self-correcting feature also has the ability to automatically switch off the module in order to protect the system.
7. **Antenna VSWR Adjustment** - Antenna protection able to handle issues when the set point is exceeded (broken cable, short cut in antenna). In this scenario, the safety feature will activate and the module will switch off in order to protect the amplifier.
8. **Digital Exciter Emergency Regulator** - Should the output level of the exciter encounter fluctuations, the safety protocol will correct the exciter, regulating the desired level to take place. If failing to do so, the module switches off automatically.
9. **Digital Exciter Protection** - Should the pre-programmed values of the exciter deviate at the frequency range level, a safety protocol will engage and automatically switch off the module.

These technical features employ a unique microprocessor that is able to handle the operation of each safety protocol under adverse environmental conditions. These microprocessors are integrated into each module in order to insure full control over the individual components within the module. Because RF Jamming requires a great deal of managing energy in an efficient manner, it is necessary to have these safety back up technologies on hand. These modules are flexible, and may also be integrated into various schematic variations should a customized application be required beyond the scopes of operation as a Bomb Jammer™ Demo Kit.

© 2011-2016 Homeland Security Strategies GB Ltd US Rep: 75 South Broadway White Plains, NY 10601 USA  
+001 914.304.4333 (tel) +001.914.368.9729 (Fax) info@secintel.com (email) www.secintel.com (web)

Disclaimer: All Jamming devices in part or whole may be regulated by the US Department of State in accordance with the guidelines of ITAR (International Traffic in Arms) title 22, Code of Federal Regulations (CFR), Parts 120-130. An export license may be required before proceeding. RF Jamming in some countries is regulated. In the United States, RF Jamming is prohibited by the FCC. Using an RF Jammer without FCC permission is a violation. Some Federal Agencies and US Armed Forces may be exempt.





# Bomb Jammer™ DEMO KIT Model # BJDK4-30

## Digital Exciters + Technical Specifications

### 5) Digital Exciter Features

The system management Core is able to control all operations in an efficient manner. This is necessary when dealing with programmable technologies in which the user may opt to direct RF jamming at will and change how the system should operate. In contrast, the system is also able to operate in an automated manner that is based on factory settings, should the user choose to use them.

- 1) The system is programmable during operation in terms of frequency and output power.
- 2) Complete self-diagnosis and submission of results to the controller are made available for data analyzing.
- 3) Increasing the sweeping speed of the frequency several times (up to ten (10) times) is the new normal operating parameter, an advanced technology when compared to the older generation (first generation) DDS exciters.
- 4) Recent testing in Q3 2014 suggests significant increases in radius of coverage, with 2 - 6 times on equal terms (same module with older generation exciters).

### 6) Technical Specifications

Frequency Ranges	Output Power	# of programmable segments
Module 1: 25 MHz - 500 MHz	30 Watts	Module 1: 5 Frequency Bands
Module 2: 800 MHz - 1000 MHz	30 Watts	Module 2: 5 Frequency Bands
Module 3: 1800 MHz - 2000 MHz	30 Watts	Module 3: 5 Frequency Bands
Module 4: 2110 MHz - 2170 MHz	30 Watts	Module 4: 5 Frequency Bands
Power Supply: 90 – 240 VAC, 10 – 15 VDC		
Antennas: External, Directional or Omni-directional		
Controlling and Programming: Built-In Console (terminal)		
Programability:	User Se-lectable	
Total Output Power:	120 Watts	
Jamming Type: Proprietary hybrid of Barrage + Fast frequency sweep using PLL stabilized technologies (through DDS processing)		



© 2011-2016 Homeland Security Strategies GB Ltd US Rep: 75 South Broadway White Plains, NY 10601 USA  
+001 914.304.4333 (tel) +001.914.368.9729 (Fax) info@secintel.com (email) www.secintel.com (web)

Disclaimer: All Jamming devices in part or whole may be regulated by the US Department of State in accordance with the guidelines of ITAR (International Traffic in Arms) title 22, Code of Federal Regulations (CFR), Parts 120-130. An export license may be required before proceeding. RF Jamming in some countries is regulated. In the United States, RF Jamming is prohibited by the FCC. Using an RF Jammer without FCC permission is a violation. Some Federal Agencies and US Armed Forces may be exempt.

