

Electronics Warfare Systems

Jamming solutions



SELENA ELECTRONICS: law enforcement and counter-terrorism solutions

SELENA ELECTRONICS is the supplier of the equipment and solutions uniting more than 20 years of R&D and manufacturing in the field of electronic surveillance, TSCM and counter-terrorism.

The combination of internationally patented technologies, groundbreaking innovations and synergy with security professionals enables us to respond to the market with cutting edge solutions for information threats prevention, lawful interception, criminal investigation, public safety and internal security.

Our products are usually employed by Law enforcement agencies including:

- · Police departments
- Security organizations
- Prison Authorities
- Intelligence agencies
- Homeland security
- · Military applications
- Audio forensic laboratories
- Loss Prevention professionals as well as
- · Private Security companies.

We are focused on increasing our customers' overall efficiency and effectiveness by meeting their highest expectations for every stage of tactical or day-to-day operations in **three main areas of activity**:

TSCM - Technical Surveillance Counter Measures

The TSCM equipment product range allows carrying the full complex of operations in order to protect the information against illicit threats and includes: Non-linear junction detectors (NLJD), Multipurpose detection devices, Camera detectors, Radio monitoring facilities and systems of active protection: Voice recorder jammers and Noise generators.

Covert surveillance

We provide investigators with complete, flexible, autonomous and reliable solutions which include analog and digital transmitters and receivers, COFDM surveillance systems, covert professional audio/video recorders, audio processing systems for sound cleaning and speech extraction. All surveillance products can be camouflaged or concealed in various objects in accordance with customer request.

Counter-terrorism

Our counter-terrorism equipment designed especially for critical application requiring detection and localization of improvised explosive devices (IED) in combat or comprehensive urban conditions, optical and optoelectronic round the clock surveillance, optic and anti-sniper detection for investigation, military operation or VIP protection.

Jamming solutions

Our experience in designing and customizing jamming system based on customers' needs allows us to provide equipment for protection against:

- Eavesdropping
- · Illegal digital communications
- · Micro and mini UAV
- · RCIED for VIPs, military personal and convoys

The complexity of jammers varies from simple 0.5W CW to more than 1kW smart responsive solutions.

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Programmable jammer

IS210 programmable communication signal jammer

IS210

programmable communication signal jammer



FEATURES:

- · Direct Digital Synthesis (DDS) technology
- Time Division Multiplexing
- · Light weight and high level output power
- All operating standards 2G, 3G, 4G, WiFi
- Adjustable frequency channels with low sidebands
- Small dimensions and back pack camouflage
- · Backpack design for covert operations
- · Directional coverage by internal antenna

The IS210 programmable jammer is intended to block cellular and wireless access of all frequency ranges and operating standards (including 2G, 3G, 4G, Wi-Fi, Bluetooth and etc.). It allows operator jam suspicious signals after its detection by programming the jammer to its frequency range.

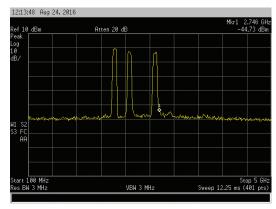
The jammer is able of 8 frequency bands suppression, which can be selected by user with channel width 125 MHz in rage from 20 to 6000 MHz* with output power attenuation for the whole system and each band. The operator is able of creating the communication 'window' for their needs between two frequency ranges within one communication channel. The settings can be saved and easily restored from the file. The system contains programmable filters for generation of clear signal and cutting off the harmonics and other spurious emissions.

The technology of signal generation combines Direct Digital Synthesis (DDS) and Time Division Multiplexing which allows achieving high jamming efficiency and significantly decreasing power consumption, minimizing dimensions and weight, limit harmful impact on operator and people in the controlled area.

The technology allows creating compact system with 2 internal directional antennas for directional jamming coverage and availability of connecting external directional or omnidirectional antennas.

In connection with SpectrumScan analyser with up to 50 GHz scanning rate the IS210 can be used as a reactive jammer in order to activate the suppression only if a communication signal appeared.

The intelligent jammer IS210 is built into a Peli case but can be designed as backpack, luggage bag, wall mount painting and etc. The system is fully autonomous and each module has its own IP address which allows operator remotely control, unite it into network and pre-set desired frequency bands as well as their power via Ethernet or Wi-Fi by laptop, Tablet PC or mobile phone.



Example of jamming signal measurement programmed within 3 cellular frequency bands.

Jamming frequency range*	20-6000 MHz
Number of adjustable frequency bands (channels)*	4-12 (4ch per each generator)
Adjustable channel bandwidth	max 125 MHz
Output power per frequency band*	From 1W to 100W
Effective power output per generator	From 4W to 400W
Output power adjustment	-12dB (4 steps by 3dB)
Antenna system	5-6 dB internal metal directional approx. 120° per generator
Control	Windows laptop, tablet PC or mobile phone
Power Supply	Changeable Battery or AC adapter/charger
Battery type	Li-lon 14,8V
Operating time on one battery set*	1,5-2 hours
Cooling system noise level in 1 m distance	not more than 35dB
Operating temperature range	-10+55°C
Weight*	approx. 12 kg
Dimensions of unit (with built-in antennas)*	45x30x20 cm
Dimensions of unit (with built-in antennas)*	45x30x20 cm

^{*}Depending on customer request.

Portable, universal, vehicle jammers

Portable jammers

CSP series portable jammers CSP-2760 portable jammer

Universal jammers

CSU series universal RCIED jamming system CSU-3500W universal RCIED jamming system with communication windows setting

Vehicle jammers

CSV series vehicle jammers

CSP series portable jammers



FEATURES:

- Variety of models and customization support for different missions
- · Jamming of whole wide band or narrow bans sets
- · Portable light weight solution
- Briefcase design with internal antennas for covert application
- Simultaneous use of different models to cover all bands
- Wide range of power supplies

The portable jammers of CSP series are designed for personal and VIP protection against eavesdropping devices that use radio transmitting channels as well as to prevent radio-controlled improvised explosive devices (RCIED) activation.

The device is able of suppressing HF, VHF, UHF, SHF bands, cellular networks, GPS, WiFi and etc. The CSP can be designed for jamming single broadband or few narrow bands to suppress particular digital transmitting standards.

Customization of operating frequency ranges is available depending on client's request and local cellular standards and varies from 20 MHz up to 6000 MHz with up to 15W output power.

In order to increase efficiency and protection level over all frequency bands, models with different frequency ranges can be used simultaneously to provide over all frequency bands protection.

The flexible power supply system was developed to meet different tactical scenarios. The jammer has built-in Li-ion battery for approximately 1 hour operation, but also can be powered up by external battery pack, 12V car on-board system or 220V AC for continuous operations. The external indicators give operator the information regarding output power and battery level.

PRODUCT SPECIFICATIONS

MODEL NAME	CSP-500	CSP-2000	CSP-2759		
Operating frequency range	20-500 MHz	500-2000 MHz	2000 - 2700 MHz 5600 - 5900 MHz		
Output power	not less than 15W				
Battery type	Li-ion battery (not less than 1 hour operation time)				
Power supply	external battery pack, 12V car on-board system, 220V AC				
Power consumption	not more than 100W				
Dimensions	465x145x410 (±10) mm				
Weight	not more than 10 kg				

The device can be customized in accordance with customer request within 20-6000 MHz frequency range with up to 20W output power.

CSP-2760 portable jammer



FEATURES:

- Jamming of whole bands of 20-2700 MHz and 5000-6000 MHz
- Portable easy to carry solution
- Protection against antenna and signal transmission line break
- Power supply polarity reversal and high input voltage protection
- Variety of power supply options

The CSP-2760 portable jammer is designed for personal and VIP protection against eavesdropping devices that use radio transmitting channels as well as to prevent radio-controlled improvised explosive devices (RCIED) activation operating in the range of 20-2700 MHz and 5000-6000 MHz.

The CSP-2760 is able of suppressing HF, VHF, UHF, SHF bands, cellular networks, GPS, WiFi and etc. The device is installed into ingress protected casing to be used in comprehensive environmental conditions.

The flexible power supply system was developed to meet different tactical scenarios. The jammer has built-in Li-ion battery for approximately 1 hour operation, but also can be powered up by external power source of 11,5-15V or 220V AC for continuous operations.

The indicators on the device give operator the information regarding system serviceability and operating performance as well as battery level

Operating frequency range		20 - 2700 MHz 5000 - 6000 MHz	
Output power		not less than 30W	
Battery type		Li-ion rechargeable battery	
Power supply		11,5-15V external power supply, 220V AC	
	Built-in battery	1 hour	
Continuous operating time, not less than	220V AC	8 hours	
	11,5-15V external power supply	8 hours	
Power consumption		not more than 350W	
Dimensions		470 x 240 x 475 (±10) mm	
Weight		not more than 20 kg	

CSU series universal RCIED jamming system



FEATURES:

- · Powerful broadband solution
- Up to 95W output power
- Multipurpose application (portable, vehicle, stationary)
- · Exchangeable batteries, AC mains or vehicle power supply
- Suppression of entire bands without gaps

The jammers of CSU series is the universal solution which combines portable, vehicle and stationary application in one system for protection of VIP against eavesdropping devices that use radio transmitting channels, RCIED threats as well as protection personnel during explosive ordnance disposal (EOD) operation.

The device is able of suppressing HF, VHF, UHF, SHF bands, cellular networks, GPS, WiFi and etc. The CSU jammers can be designed for jamming single broadband or few narrow bands to suppress particular digital transmitting standards.

The CSU-1000 is one module system that provides continuous wave signal of 55W power at antenna outputs in between 20-1000 MHz.

The CSU-3500 system consists of 2 independent jamming modules that can be used separately. The operating frequency range is from 20MHz to 3500 and divided by 4 fixed channels (2 per each module) and an operator is able of turning off/on each band or unit.

Customization of operating frequency ranges is available depending on client's request and local cellular standards and varies from 20 MHz up to 6000 MHz with up to 55W output power per unit.

The CSU jammers are installed into ingress protected casing to be used in comprehensive environmental condition. The jammers have

automatic self-evaluation procedure with indication of system status and battery level.

VEHICLE APPLICATION

The CSU systems can be used as vehicle jammer installed in a trunk for protections against RCIED, in-car eavesdropping devices or trackers. The delivery set includes antennas for all operating frequency ranges. The power is supplied via standard 12.6-15V on-board network.

STATIONARY APPLICATION

The CSU series jammers can be used for event, base or venue protection and connected to 220V AC mains to be used against RCIED or espionage audio/video transmitters.

PORTABLE APPLICATION

The build-in batteries provide up to 30 minutes of operation as portable jammer or in case the power network is down. The system has built-in antennas and generates up to 95W power at antenna outputs. The units are installed inside shock-proved cases with handle and bottom vehicles for easy transportation.

PRODUCT SPECIFICATIONS

MODEL NAME		0811 4000	CSU-1000		500		
		CSU-1000	CSU-3500-M1		CSU-3500-M2		
			2	20-3500 MHz divided by 4 channels:			
Operating frequency bands		20-1000 MHz	Ch1	20-750	Ch2	750-1000	
			Ch3	1000-1700	Ch4	1700-3500	
Output power		55W	95W (total)				
Power supply		Build-in battery	Build-in battery				
Continuous operation time on one ba	ttery	30 min		30 m	nin		
Power supply voltage		12.6-15V / 220V		12.6-15V	/ 220V		
Power consumption, less than	Battery unit	300W	650W				
Power consumption, less than	Power supply	400W	400W 850W				
Dimensions		530x430x220 mm	mm 530x430x220 mm 530x430x220		0x220 mm		
Weight, less than		22 kg	23 kg 23 kg			3 kg	

The device can be customized in accordance with customer request within 20-6000 MHz frequency range with up to 55W output power.

CSU-3500W universal RCIED jamming system with communication windows setting



The CSU-3500W jammer is the universal solution for protection against RCIED threads that can be used as stationary, portable or vehicular system with communication windows setting.

FEATURES:

- · Powerful broadband solution
- 16 communication windows settings
- Up to 137W output power
- Multipurpose application (portable, vehicle, stationary)
- · Rechargeable batteries, AC mains or vehicle power supply
- · Suppression of entire bands without gaps

The CSU-3500W is a state of art jammer that was especially designed for cases when continuous jammer is a necessity for protection against Radio-controlled Improvised Explosive Devices (RCIED) and it is critical to provide frequency windows for radio communication. The device is the universal solution that combines portable, vehicle and stationary jammer in one system.

The device is able of suppressing HF, VHF, UHF, SHF bands, cellular networks, GPS, WiFi and etc. by generating continuous wave signal from 96W and up to 137W power at antenna outputs. The increased power provides efficient coverage of the full frequency range between 20-3500 MHz.

The system consists of 2 independent jamming units. Each unit has 4 fixed channels and an operator is able of turning off/on any channel and setting up to 2 frequency windows per channel (total 16 windows) by laptop via Ethernet connection.

The CSU-3500W is installed into ingress protected casing to be used in comprehensive environmental condition. Jammer has automatic self-evaluation procedure with indication of system status and battery level.

VEHICLE APPLICATION

The CSU systems can be used as vehicle jammer installed in a trunk for protections against RCIED, in-car eavesdropping devices or trackers. The delivery set includes antennas for all operating frequency ranges. The power is supplied via standard 12.6-15V on-board network.

STATIONARY APPLICATION

The CSU-3500 can be used for event, base or venue protection and connected to 220V AC mains to be used against RCIED or espionage audio/video transmitters.

PORTABLE APPLICATION

The build-in batteries provide up to 30 minutes of operation as portable jammer or in case the power network is down. The system has built-in antennas and generates up to 95W power at antenna outputs. The units are installed inside shock-proved cases with handle and bottom vehicles for easy transportation.

MODEL NAME		CSU-3500W-M1 CSU-3500W-M2			12		
				20-350	0 MHz		
		Ch1	20-250 MHz	17-23W	Ch4	750-1000 MHz	12-17W
Operating frequency band	ds and output power	Ch2	250-500 MHz	15-20W	Ch6	1700-2000 MHz	10-15W
		Ch3	500-750 MHz	11-17W	Ch7	2000-2700 MHz	10-15W
		Ch5	1000-1700 MHz	10-15W	Ch8	2700-3500 MHz	10-15W
Minimum frequency	Ch1, Ch2	500 kHz 1 MHz 2 MHz					
window width	Ch3, Ch4, Ch5						
(min 10dB depth)	Ch6, Ch7, Ch8						
Power supply			Build-in batter	у		Build-in battery	/
Continuous operation time	e on one battery		30 min			30 min	
Power supply voltage		12.6-15V / 220V 12.6-15V / 220V			V		
Power consumption		less then 370W less then 420W			V		
Dimensions		640x510x310 mm 640x510x310 mm			ım		
Weight		less then 33 kg			g		

CSV series vehicle jammers



FEATURES:

- Efficient jamming of high power signals
- · Cellular band spectral density increase mode
- · Full broadband coverage without gaps
- Remote control panel
- · Vehicle on board power supply with optional electric generator

The jammers of CSV series are designed for vehicle passengers protection against eavesdropping devices that use radio transmitting channels as well as to prevent radio-controlled improvised explosive devices (RCIED) activation.

The CSV jammers is able of suppressing HF, VHF, UHF, SHF bands, cellular networks, GPS, WiFi and etc.

Depending on model the jamming frequency range is 20-2700 MHz with additional 5600-5900 MHz range, 20-3500 MHz or 20-6000 MHz. The system provides broadband coverage without gaps. The switch on the main unit allows increasing spectral density for suppression signal of cellular bands.

Customization of operating frequency ranges is available depending on client's request and local cellular standards and varies from 20 MHz up to 6000 MHz with up to 200W output power.

CSV jammers have automatic self-evaluation procedure with indication of system statement.

The device should be installed in the vehicle trunk and powered by 11.6-15V on board network and is operated by remote control. The power consumption is not more than 1200W and electricity generator is supplied as an option.

PRODUCT SPECIFICATIONS

MODEL NAME	CSV-2759	CSV-3500	CSV-6000
Operating frequency bands	20-2700 MHz 5600-5900 MHz	20-3500 MHz	20-6000 MHz
Output power	90W	150W	170W
Power supply voltage	12.6-15V	12.6-15V	12.6-15V
Power consumption, less than	700W	1050W	1200W
Dimensions	330x170x540 mm	560x740x160 mm	560x160x740 mm
Weight, less than	20 kg	29 kg	40 kg

The device can be customized in accordance with customer request within 20-6000 MHz frequency range with up to 200W output power.

Stationary jammers

RSS-C intelligent cellular jammer with white list setting

CSS-OD stationary jammer in IP54 casing

CSS-2759LD stationary jammer for long distance coverage

CSS-UAV stationary jammer

RSS-C intelligent cellular jammer with white list setting



FEATURES:

- 24 hour control of cellular communication
- · Ability to create white lists of allowed cell phones
- · Detection of new devices within a controlled area
- Special modulation for each standard for higher efficiency
- Jamming network creation for complex architectural objects

The RSS-C is an intelligent solution for illegal communication prevention in secured area or facilities where communication is prohibited. The system jams CDMA, GSM900/1800, UMTS (3G) and LTE (4G) and only devices allowed by a system operator are able of providing communication. Each cellular standard is suppressed by means of different types of noise modulation for better jamming performance.

In case of illegal device activity within the jamming area, the system automatically suppresses it and sends the alarm message to an operator. It allows monitoring the history log and seeing if any devices tried to contact the base station. In order to create the secured area in a complex facility, any quantity of RSS-C jammers can be united into a network and controlled from a monitoring center via Ethernet.

The output power of RSS-C system is adjustable which allows decreasing a controlled zone thus to prevent operation out of supervised area. Different casing design and camouflage as well as antenna types can be used to suit the interior of an object.

BASE STATION IMITATOR	
Operating frequency bands*	GSM900/1800
Output power	0,01-2W
Reference-frequency oscillator stability	5 * 10 ⁻⁸
Reference-frequency oscillator jitter	100 picoseconds
Output signal carrier suppression to the output signal ratio	39 dB
Min level of input signal	-100 dB
Ma level of input signal	0 dB
Power supply	AC 220V
Power consumption, not more than	50W
JAMMING UNIT	
	450-500 MHz
	920-960 MHz
Operating frequency bands*	1805-1880 MHz
Operating frequency bands	2110-2170 MHz
	2400-2500 MHz
	2500-2700 MHz
Output power	up to 2W
Power supply	AC 220V
Quantity of units required	3
Dimensions of each unit	710x180x60 mm
Weight of each unit	not more than 10 kg

^{*}To be designed in accordance with customer request and local cellular frequency bands.

CSS-OD stationary jammer in IP54 casing



FEATURES:

- · Prison and other sensitive area protection
- Customizable frequency bands in accordance with local network
- Powerful solution with small dimensions
- Reliable out-door operation in complicated climate conditions
- Directional or omnidirectional antenna sets
- Protection against illegal communication in prisons, data leakage and RCIED threats.

The CSS-OD is a powerful out-doors stationary solution for illegal communication and data leakage prevention. It is installed into IP54 casing to be used in comprehensive environmental conditions.

The device can be used for protection against radio-controlled improvised explosive devices (RCIED) threats by suppressing cellular networks, GPS, WiFi. The system can be customized in accordance with customer request to jam HF, VHF, UHF, SHF bands within 20-6000 Mhz.

In order to create the secured area in a complex facility, any quantity of CSS-OD jammers can be united into a network and controlled from the monitoring center via Ethernet and powered up by AC 220V.

Different antenna sets supplied depending on application scenario.

Operating frequency bands*	920-960 MHz
	1805-1880 MHz
	2110-2170 MHz
	2300-2700 MHz
	5000-6000 MHz
Output power, not less than	45W
Power supply	AC 220V
Power consumption, not more than	400W
Dimensions	310x410x190 mm
Weight, not more than	not more than 20 kg

^{*}To be designed in accordance with customer request and local cellular frequency bands.

CSS-2759LD stationary jammer for long distance coverage



FEATURES:

- · High power and directional antennas for long distance coverage
- Portable solution for widespread area protection
- · Long time battery operation
- Tactical solution for fast re-location
- Directional and omnidirectional antenna sets
- · Protection against illegal RF transmission and RCIED threats

The CSS-LD is a universal stationary solution for radio communication jamming of illegal communication and RCEID treats in near zone or at a long distance. The device can be used for protection against radio-controlled improvised explosive devices (RCIED) threats by suppressing cellular networks, GPS, WiFi within two wideband ranges of 20-2700 MHz and 5600-5900 MHz.

Depending on a scenario an operator can choose whether to use omnidirectional antennas for close area coverage (EOD operations)

or directional in order to point into particular area at a distance. CSS-LD jammer is especially useful for long-range directional suppression in a city area in cases of target fast relocation.

The system is portable when assembled but fast deployed and powered up by the external battery for 90 min continuous jamming signal transmission. For longer operation battery hot swapping and external 13.8V/220V power supply are available.

Operating frequency bands		20-2700 MHz	
		5600-5900 MHz	
Output power, not less than		90W	
Power supply		Built-in battery, 220V, 13.8V	
Continuous operation time on one battery		Built-in battery, 220V, 13.8V 90 min 12.6-15V / 220V	
Power supply voltage		12.6-15V / 220V	
Power consumption		less then 650W	
Dimensions of transmitter		640x500x310 mm	
Weight	Transmitter	50 kg	
weignt	System total	80 kg	

CSS-UAV stationary jammer



FEATURES:

- · Long range GPS and GLONASS jamming
- Ingres protection for stable long term out-door operation
- · High power solution of minimum 353W at antenna output
- Tactical solution for fast re-location
- Direction pattern antenna sets variety for different scenarious
- · Remote controllable for easy operation

The CSS-UAV is a high-power stationary solution for protection against UAV by suppressing of their navigation and control channels which is especially useful nowadays due to high increase of UAV application for terrorists attacks or governmental and commercial espionage.

The device operates with following GPS and GLONASS frequency bands 1575,42 MHz (L1); 1227,6 MHz (L2), 1176,45 MHz (L5), 1548,5-1621,5 MHz; 1210-1260 MHz providing up to 50W of noise signal per each band. In order to block the UAV control channel the system also covers frequency ranges of 900 MHz, 2400 MHz

and 5900 MHz. The system can be customized in accordance with customer request.

The CSS-UAV jammer has the remote control and the variety of antenna sets of different direction pattern for efficient operation under any tactical conditions and scenarios.

The system can be used for building or area protection and poweredup by 220V AC or as a mobile jammer installed on a vehicle with onboard power supply of 24V.

	GPS and GLONASS 1575,42 MHz (L1); 1227,6 MHz (L2), 1176,45 MHz (L5), 1548,5-1621,5 MHz; 1210-1260 MHz	50W pear each band		
Operating frequency bands*	900 MHz	50W		
	2400 MHz	50W		
	5900 MHz	3W		
Output power, not less than	353W			
Power supply	AC 220V, DC 24V			
Power consumption	less then 2000W			
Dimensions	640x500x310 mm			

^{*}To be designed in accordance with customer request and local cellular frequency bands.

Reactive jammers

RSS intelligent reactive stationary jammer RSP portable reactive jammer of cellular bands RSV vehicle reactive jammer

RSS intelligent reactive stationary jammer



FEATURES:

- Ability to use barrage and reactive jamming for different application
- · Frequency windows programming for legal communication
- · Small dimensions makes it easy to camouflage in civil area
- · High level of efficiency and long distance performance
- Programming from a laptop via LAN connection and remote control activation
- Continuous 24/7 operation

The RSS intelligent jammer was especially designed for stationary application in order to protect crowded areas against radio-controlled improvised explosive devices (REIED) threats in cases when it is necessary to provide frequency windows for radio communication.

The system can be used as barrage as well as reactive jammer operating within 20...2750 MHz frequency range. The power at antennas output is not less than 25W in between 20-1000 MHz, 10W for 1000-2750 range and 4W per each band of GSM900, GSM1800, UMTS, LTE(optional) Wi-Fi standards. The system operating frequency ranges are customized in accordance with customer request.

The RSS jammer is controlled and programmed by laptop via LAN connection. An operator can activate it via remote control which is extremely useful in case of possible suicide bomber attack.

The device is designed as a plastic case that does not attracts attention thus it can be easily installed in the crowded civilian areas as bus-, metro- and railway stations, stadiums and etc. The power is supplied by 220V AC and can be used for 24 hour continuous operation.

IODEL CSU-2759			759		
Operating frequency range		20-2750 MHz			
		20-1000 MHz	25W		
		1000-2750 MHz	10W		
O double a support for support based at		GSM900	4W		
Output power at frequency bands*		GSM1800	4W		
		UMTS	4W		
		Wi-Fi 2.4	4W		
Receiver sencitivity at 25 kHz resolution ba	nd width.	not more than -106 dBm			
Power supply voltage		220V	220V AC		
	Monitoring mode	50W			
Power consumption, not more than	Reactive jamming	700W			
	Barrage jamming	1500W			
Signal generator		340x700x400			
Dimensions Antenna system		2400x1000x750 mm			
Woight	Signal generator	40 kg			
Weight	Whole system	135 kg			

^{*}The device can be customized in accordance with customer request and local cellular standards.

RSP portable reactive jammer of cellular bands



FEATURES:

- · High-speed cellular reactive spot jamming
- · Low health effect
- Unlimited quantity of simultaneous cellular frequency spots jamming
- · Camouflaged as business briefcase with internal antennas
- Ability of creating jammers network
- Automatic serviceability assessment system

The RSP portable jammer was developed especially for reactive suppression of illegal cellular transmitters operating within CDMA, GSM, UMTS (3G) and LTE (4G) standards and for jamming of radio-controlled improvised explosive devices (RCIED) activated by mobile phones. The device automatically detects operating frequencies and its base stations signal levels in protected area and generates jamming 0,1W/kHz spectral density signal with a structure similar to structure of efficient signal. This approach allows efficient jamming of any number of active cellular phones including frequency hopping systems and what is more, makes it almost harmless for an operator and people in a controlled area.

The RSP portable reactive jammer is designed as a briefcase with internal antenna system to provide maximum level of secrecy for covert application. The Jammer has automatic serviceability assessment system to give operator information regarding any failure as well as battery charge level.

The RSP jammer can work independently as well as be controlled via laptop. Operator is able of creating jamming network of few units connected to a PC in order to protect different parts of the building or wide-scale complicated areas.

Operating standards and frequency ranges	CDMA450 (463467,5 MHz), EGSM (925935 MHz), GSM900 (925960 MHz), GSM1800 (18051880 MHz), UMTS2100 (21102170 MHz), LTE (791862 MHz, 25002690 MHz)			
Spectral density of jamming signal		0,1W/kHz		
Jamming signal modulation		digital		
Quantity of simultaneous cellular frequency	spots jamming	unlimited		
Cantinua and antinua time	Built-in battery	not less than 2 hours		
Continuous operating time	220V AC	unlimited		
Dimensions		490x360x130 mm		
Weight		9 kg		

 $[\]ensuremath{^{*}\text{To}}$ be designed in accordance with customer request and local cellular frequency bands.

RSV vehicle reactive jammer



FEATURES:

- 30000 GHz/sec scanning rate
- 10 microseconds for signal analysis and jamming activation
- · Low health impact
- · Unlimited quantity of simultaneous frequency spots jamming
- Ability of creating jammers network
- · Automatic serviceability assessment system

The RSV vehicle jammer was developed especially for reactive suppression of radio-controlled improvised explosive devices (RCIED) as well as illegal transmitters operating within HF, VHF, UHF, SHF bands, cellular networks, GPS, WiFi and etc.

The system operates within the range between 20-2750 MHz (up to 6000 MHz optional). The device automatically detects operating frequencies and generates digital jamming signal.

The spectrum scanning rate is about 30000 GHz per second where is operating frequency detection, analysis and signal generation process takes less than 10 microseconds. The system generates 5W/kHz spectral density jamming signal similar to a structure of detected signal. This approach allows efficient jamming of any number of active cellular phones including frequency hopping systems and what is more, makes

it almost harmless for an operator and people in a controlled area. The device can be also used in barrage jamming mode.

The RSV jammer should be installed in a vehicle trunk and can be connected in a network to cover widespread area or a convoy.

The RSV vehicle reactive jammer is military grade system in IP65 casing and is compliant with MIL STD 8. The Jammer has automatic serviceability assessment system to give operator information regarding any failure.

The RSV jammer can work independently as well as be controlled via laptop and powered by 12V, 24V or 27V vehicle on-board network or by 220V AC.

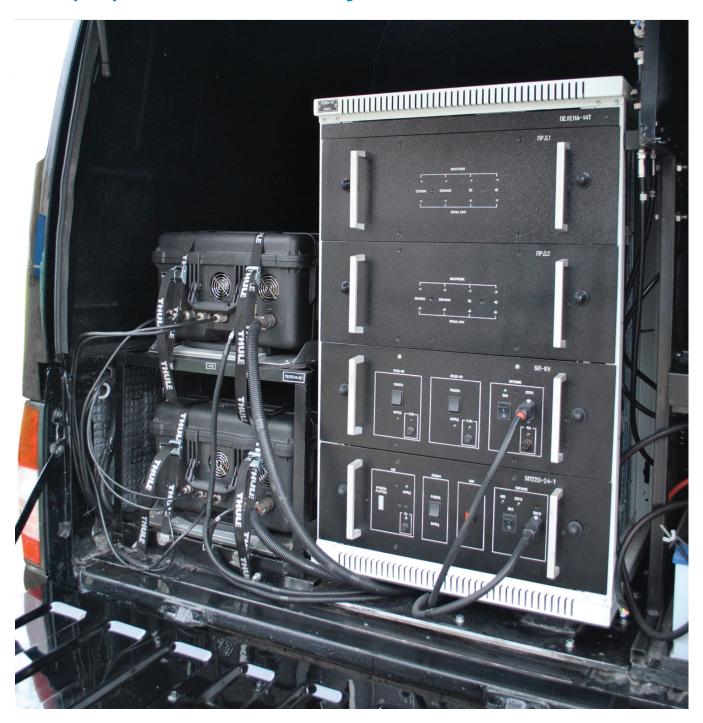
Operating standards and frequency ranges ex	20-2750 MHz (up to 6000 MHz optional)			
Spectral density of jamming signal	5W/kHz			
Time required to forming a jamming signal aft	10 microseconds			
sensitivity monitoring module in 20 kHz band	140 dB/W			
Jamming signal modulation	digital			
Power supply	12V, 24V or 27V vehicle on-board network 220V AC			
Power consumption, not more than	Monitoring mode	200W		
	Jamming mode	650W		
Operating temperature range	-40+60°C			
Dimensions (without antenna)	640x540x400			
Weight (without antenna)	38 kg			

Convoy jammers

CSC-3500M multipurpose vehicle based jammer CSC-7100 civilian convoy jammer

CSC-3500M multipurpose vehicle based jammer

(page 1 of 2)



FEATURES:

- Multipurpose tactical high power solution
- High power solution of 490W at antenna outputs
- Wide operating frequency range from 20 kHz to 3500 MHz
- Increased signal power within cellular range
- · Efficient signal jamming near cellular base stations
- Power supply electric generator working with switched off engine
- 30 min back-up battery
- · Modular hardware architecture to fit into different vehicles

CSC-3500M multipurpose vehicle based jammer

(page 2 of 2)

The CSC-3500M is the universal tactical 2-in-1 solution that combines vehicle based cellular signal jammer and CSU-3500 broadband portable jammer installed in a van or SUV.

The cellular jammer is fixed into a rack where is the CSU-3500 can be removed within 5 min and both of its' modules are able of independent operation with up to 30 min battery lifetime. That gives a great operational flexibility for law enforcement units and VIP protection team and provides ability to respond to almost scenarios.

The CSC-3500M universal jamming system is intended to be applied in the following scenarios:

- Convoy protection within jamming range of 20-3500 MHz with additional high power for cellular bands
- Crowded area protection within short distance or at a long distance by means of directional antenna system
- Portable or stationary inside a building protection of VIP against RCIED activation or data leakage
- RCIED protection of vehicle passengers by CSU-3500, which can be installed at any vehicle model
- Protection of personnel during explosive ordnance disposal (EOD) operation in urban area.

The CSC-3500M universal jammer is able of suppressing transmitters employing HF, VHF, UHF, SHF bands, cellular networks, GPS, WiFi and etc. The jammer proved its' high efficiency during numerous

tests in real life conditions even near mobile network base stations.

The cellular jammer is supplied in accordance with local frequency allocations of users. The total power at antenna outputs is not less than 390W.

The CSU-3500 system consists of 2 independent jamming modules that can be used separately. The system provides total 95W power output within 20-3500 MHz. The CSU-3500 operating frequency range is divided by 4 fixed channels (2 per each module) and an operator is able of turning off/on each band or unit.

The jammer is operated via remote control panel inside a vehicle. In order to camouflage the antenna system and protect it against physical damage the radiotransparent rooftop will be installed.

The CSC-3500M jammer is powered up by 220V electrical generator connected to a vehicle fuel tank, which supports operation even if vehicle is parked and engine is switched off. In case of electrical generator failure the back-up battery system will be activated to continue the operation for up to 15 min. The electrical generator

The jammer has antenna automatic self-evaluation procedure with indication of system statement. In case of any damage to antenna system or cables the amplifiers will be automatically turned off.

The shielding of jammer carrying vehicle or other convoy vehicles in order to decrease health effect is provided as an option.

	Total coverage of 20-3500 MHz with total 496W power output					
	Cellular jamming system*		9	390W total		
			18			
			21			
Operating frequency bands / Min output power			25			
		CSU-3500-M1	Ch1	20-750 MHz		
	CSU-3500	C3U-3500-IVI I	Ch3	1000-1700 MHz	96W total	
	030-3300	CSU-3500-M2	Ch2	750-1000 MHz	90W total	
			Ch4	1700-3500 MHz		
Total minimum output power	Cellular jam	ming system	390W			
Total millimum output power	CSU-	3500	96W			
Power supply		Electric generato	r or AC 220V 50Hz / 20-30V			
Power consumption, not more than			4.4 kW			
	Cellular jam	ming system	600x800x600 mm			
Dimensions	CSU-35	500-M1	530x430x220 mm			
Difficusions	CSU-35	500-M2	530x430x220 mm			
	Electrical	generator	880x590x560 mm			
Weight, not more than	Cellular jamming system		115 kg			
	CSU-35	500-M1	23 kg			
	CSU-3500-M2		23 kg			
	Electrical	generator	110 kg			

^{*}To be designed in accordance with customer request and local cellular frequency bands.

CSC-7100 civilian convoy jammer

(page 1 of 2)



CSC-7100 civilian convoy jammer

(page 2 of 2)

FEATURES:

- · High power solution of 1000W at antenna outputs
- Wide operating frequency range from 20 kHz to 7100 MHz
- · 18 independent frequency channels
- Efficient signal jamming near cellular base stations
- · Power supply electric generator working with switched off engine
- · 30 min back-up battery
- Modular hardware architecture to fit into different vehicles

The CSC-7100 jammer is an extremely powerful solution that was developed to be installed inside of a separate convoy vehicle for protection against radio-controlled improvised explosive devices (RCIED) with high power activation signals.

The CSC-7100 provides broadband jamming without gaps within frequency range between 20-7100 MHz divided by 18 channels; each of them can be turned on/off independently. The communication windows programming is available by customer request.

The system is able of suppressing transmitters employing HF, VHF, UHF, SHF bands, cellular networks, GPS, WiFi and etc. Total power of the device is not less than 1000W at antenna outputs. The jammer proved its' high efficiency during numerous tests in real life conditions even near mobile network base stations.

The device shall be installed in a van or SUV and depending on space capacity can be assembled into one rack or as few

separated modules. The system is operated via remote control panel inside a vehicle. In order to camouflage the antenna system and protect it against physical damage the radiotransparent rooftop is supplied.

The CSC-7100 jammer is powered up by 220/380V electrical generator connected to a vehicle fuel tank, which supports operation even if vehicle is parked and engine is switched off. In case of electrical generator failure the back-up battery system will be activated to continue the operation for up to 30 min.

The jammer has antenna automatic self-evaluation procedure with indication of system statement. In case of any damage to antenna system or cables the amplifiers will be automatically turned off.

The shielding of jammer carrying vehicle or other convoy vehicles in order to decrease health effect is provided upon request.

	Total coverage of 20-7100 MHz by divided 18 channels					
Operating frequency bands /	Ch1	20-60 MHz	100W	Ch 10	1700-2000 MHz	50W
	Ch2	60-130 MHz	100W	Ch 11	1805-1880 MHz	100W
	Ch3	130-250 MHz	100W	Ch12	2000-2700 MHz	20W
	Ch4	250-400 MHz	100W	Ch 13	2700-3500 MHz	20W
Min output power	Ch5	400-500 MHz	150W	Ch 14	2110-2170 MHz	20W
	Ch6	500-750 MHz	50W	Ch 15	3500-4200 MHz	5W
	Ch7	750-1000 MHz	50W	Ch 16	4200-5000 MHz	5W
	Ch8	925-960 MHz	100W	Ch 17	5000-6100 MHz	2W
	Ch9	1000-1700 MHz	30W	Ch 18	6100-7100 MHz	2W
Total minimum output power	1000W					
Standing wave ratio	1,5					
Continuous operating time, not less than	8 hours					
Power supply	220/380V 50Hz					
Power consumption, not more than	4,5 kW					
Dimensions of the main unit	520x1150x680 mm					
Weight, not more than	150kg					

Military grade jammers

MCSP series portable man-pack RCIED jammers

MCSV series military vehicle jammers

MCSV-2700P high power military convoy jammer

MCSV-3500W High power convoy jammer with communication windows setting

MCSP series portable man-pack RCIED jammers



FEATURES:

- · Light-weight and small size solution
- 2 independent modules for overall protection
- 50W real power on antenna output of each unit
- · Exchangeable batteries or vehicle power supply

The MCSP portable man-pack RCIED jammers are intended to protect military personnel against Radio Controlled Improvised Explosive Devices (RCIED) during critical battlefield operations or explosive ordnance disposal (EOD) operation.

The full system consists of two modules that can be used separately: the MCSP-21 module continuously covers the frequency range between 20-1000 MHz, where is the second MCSP-22 jams 4 cellular bands (GSM, UMTS (3G), LTE (4G) as well as other wireless digital communication standards as Bluetooth, WiFi and etc.: 925-960 MHz; 1805-1880 MHz; 2110-2170 MHz; 2300-2700 MHz.

The device designed as a backpack with balanced physical dimensions and jamming performance in order to maximize the effective range and reduce operator's fatigue during extended operation as well as decrease the electro-magnetic affection on combat team.

The light weight and size of the unit were elaborated taking into consideration the tactical experience and feedback of customers within military authorities. Being less than 10 kg each unit provides 50W power on antenna output (not taking into account antenna characteristics as gain factor).

POWER SUPPLY

The operating time is about 30 min from one build-in battery and delivery set includes two of them. The jammer can be connected to any vehicle power network of 20-30V or 12.6-15V for long-term operation from an external power source.

INGRESS PROTECTION

The MCSP jammer is dust and water intrusion protected and employs military grade connectors and elements which make it perfect solution for difficult weather and battlefield conditions.

The MCSP-11 is the first generation of the MCSP series jammers and due to its popularity with clients it is still being updated. With slightly bigger dimensions the device covers 2 frequency bands between 20-1000 MHz and 1700-2000 MHz with 65W continuous output. The operation time is up to 45 min on build-in battery and up to 1 hour from external 12.6-15V source.

MODEL NAME	MCSP-21	MCSP-22	MCSP-11		
Operating frequency bands	20-1000 MHz	925-960 MHz 1805-1880 MHz 2110-2170 MHz 2300-2700 MHz	20-1000 MHz 1700-2000 MHz		
Output power	50W 50W		65W		
Power supply	Build-in battery				
Continuous operation time on one battery/from externa power supply	30 min /	45 min / 1 hour			
Power supply voltage	12.6-15V / 20-30V / 220V		12.6-15V / 220V		
Power consumption	less then 300W	less then 300W	less then 400W		
Dimensions	380x420x100 mm	380x420x100 mm	490x440x200 mm		
Weight	less then 12 kg	less then 12 kg	less then 21 kg		

MCSV series military vehicle jammers



FEATURES:

- · Efficient individual military vehicle protection
- Protection against high power RCIED activation signals
- Radiotransparent protection against ballistic armor and physical damage
- Remote control panel
- · Vehicle on board power supply

The jammers of MCSV series are designed for military vehicle protection against activation of radio-controlled improvised explosive devices (RCIED) operating within most common frequency bands.

The MCSV jammers are able of suppressing high power signals of HF, VHF, UHF, SHF bands, cellular networks, WiFi and etc. Depending on model the jammer covers the following frequency range without gaps: 20-1000 MHz, 1700-2000 MHz, 2110-2170 MHz, 2300-2700 MHz.

Customization of operating frequency ranges is available depending on client's request and local cellular standards and varies from 20 MHz up to 6000 MHz.

The device should be installed on top of a vehicle. The radiotransparent casing is supplied in order to protect the jammer against ballistic armor and physical damage during a battlefield. For personnel protection the jammer is controlled via remote panel that is installed in a cabin.

The jammer is powered by standard 12V or 24V on board network which allows removing it and installation at any other vehicle without additional customization. The system can be in operation when a vehicle is on move or parked with switched-on engine. The power consumption is not more than 800W.

PRODUCT SPECIFICATIONS

MODEL NAME	MCSV-2170	MCSV-2700	
Operating frequency bands	20-1000 MHz 1700-2000 MHz 2110-2170 MHz	20-1000 MHz 1700-2000 MHz 2110-2170 MHz 2300-2700 MHz	
Output power	80W	115W	
Power supply voltage	12V / 24V	12V / 24V	
Power consumption, less than	600W	800W	
Dimensions	480x390x250 mm	510x210x400 mm	
Weight, less than	25 kg	24 kg	

The device can be customized in accordance with customer request within 20-6000 MHz.

MCSV-2700P high power military convoy jammer



FEATURES:

- · Military grade convoy protection system
- High power broadband jamming
- · Efficient jamming of cellular systems
- Radiotransparent protection against ballistic armor and physical damage
- Remote control panel
- Vehicle on board power supply

The MCSV-2700P jammer was developed for broadband protection of military convoy against activation of radio-controlled improvised explosive devices (RCIED).

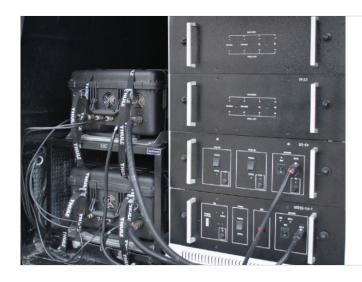
The MCSV-2700P jammer are able of suppressing high power signals of HF, VHF, UHF, SHF bands, cellular networks, WiFi and etc.. The system covers two frequency ranges 20-1000 MHz and 1700-2700 MHz. Each of the bands operates independently and can be turned on/off separately. It is especially useful to prevent GSM900/1800 and UMTS(3G) channels communication due to the special modulation technology.

The device should be installed on top of a vehicle. The radiotransparent casing is supplied in order to protect the jammer against ballistic armor and physical damage during a battlefield. For personnel protection the jammer is controlled via remote panel that is installed in a cabin.

The jammer is powered by standard 24V on board network which allows removing it and installation at any other vehicle without additional customization. The system can be in operation when a vehicle is on move or parked with switched-on engine. The power consumption is not more than 1500W.

MODEL NAME	MCSV-2170P
Operating frequency bands	20-1000 MHz 1700-2700 MHz
Output power	300W
Power supply voltage	24 (-4+6) V
Power consumption, less than	1500W
Dimensions	760x460x280 mm
Weight, less than	47 kg

MCSV-3500W High power convoy jammer with communication windows setting



FEATURES:

- · Over 1000W power at antenna output
- Independent 13 main channels covering 20-3500 MHz with 650W
- · Additional 6 channels for cellular bands of total 358W
- · 38 communication windows programming ability
- AC mains or vehicle power supply
- · Suppression of entire bands without gaps
- · Modular system allows customization on request

The MVCS-3500W jamming system is the military grade solution that can be used as stationary or convoy protection unit with ability of programming communication windows and channels on/off settings.

The MCSV-3500W provides minimum continuous wave signal of 1008W power on antenna output. The jamming range in between 20-3500 MHz is divided without any gap by 13 main channels and 6 additional channels especially for cellular communication frequency bands.

An operator can program up to 38 frequency windows within 13 main channels. The windows quantity and width depend on the channel.

The delivery set includes antennas for the whole frequency range. The power supplied via 22-30V on-board network. The power consumption is not more than 5kW. TThe MCSV-3500W can be stationary installed and connected to the 380V AC mains.

The device employs the maintenance control algorithm that activates the alarm in case of any operation failure or wire disconnection will automatically turn off the amplifier.

The delivery set includes all the antennas and installation kit. The manufacturer's team can install the jammer on the customer request.

	Total coverage of 20-3500 MHz by divided 19 channels					
	Ch1	20-60 MHz	60W	Ch11	1700-2000 MHz	50W
	Ch2	60-130 MHz	60W	Ch12	2000-2700 MHz	15W
	Ch3	130-180 MHz	100W	Ch13	2700-3500 MHz	15W
	Ch4	180-250 MHz	60W	Ch14	791-894 MHz	100W
Operating frequency bands / Min output power	Ch5	250-400 MHz	100W	Ch15	925-960 MHz	100W
catput porto.	Ch6	400-500 MHz	100W	Ch16	1805-1880 MHz	60W
	Ch7	500-750 MHz	40W	Ch17	2110-2170 MHz	60W
	Ch8	750-1000 MHz	50W	Ch18	2400-2500 MHz	25W
	Ch9	1000-1400 MHz	50W	Ch19	2500-2700 MHZ	13W
	Ch10	1400-1700 MHz	50W			
Total output power	1008W					
Standing wave ratio	1,5					
	Ch1 2 windows / 2 MHz					
Quantity of frequency windows /	Ch2-8 3 windows per channel / 2 MHz					
Minimum window width (min 20dB depth)	Ch 9-12 3 windows per channel / 5 MHz					
	Ch13 3 windows / 10 MHz					
Continious operating time, not less than	8 hours					
Power supply	380V 50Hz / 22-30V					
Power consumption from 24V supplier, not more than	5 kW					
Dimensions of the main unit	1050x550x650 mm					
Weight, not more than	150kg					





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