



NAVCONTROL



The NavControl system is a stationary installation that consists of high-power jammer and spoofer subsystems operating within the GNSS frequency bands.

This system effectively safeguards borders and strategic locations against UAV attacks from a long distance.

SPECIFICATIONS

KEY FEATURES

- Jams full range of GNSS spectrum
- Spoofs GNSS signals in multiple bands to protect a specified area of interest
- Combination of jamming and spoofing capability for maximum coverage range
- Typical jamming and spoofing range for unprotected GNSS platform is 50km. ①

COMPONENTS

- Outdoor air-conditioned cabinet with signal generation, control, and powering equipment
- Outdoor directional antennas installed on a motorized pedestal
- Tripod
- Relevant cables for installation



① Depending OEM Sensor performance.

Cabinet				
Equipment	L mm	W mm	H mm	W kg
Cabinet	1370	1110	1720	600
Battery	710	440	130	78
Spoofing Unit	-	-	-	-
UPS	710	440	130	55.7
SDRs	300	490	45	3.9
Network Server	800	470	45	13.5
Network Switch	360	485	45	4
Power Supply Unit	580	480	135	12.5
PA Block	600	480	170	35.5

Jammer and Spoofer Antenna System				
Equipment	L mm	W mm	H mm	W kg
PT Head	270	435	421	50
High gain dish Antenna	1535	2203	1045	54
GNSS Antenna	-	94	57	0.4
Antennas Total				104.4

SPECIFICATIONS^①

Hardware - Subsystem	
RF Jamming Frequency	GNSS spectrum: 1164-1300MHz; 1559-1610MHz
RF Spoofing Frequency	GNSS spectrum: 1164-1260MHz; 1559-1610MHz
Total Output Power	Up to 300W
RF Jamming and Spoofing PA Output power	Jamming: Up to 100W from 1100-1300MHz Jamming: Up to 100W from 1550-1610MHz Spoofing: Up to 50W from 1100-1300MHz Spoofing: Up to 50W from 1550-1610MHz
Jamming Signal Source	Field programmable gate array (FPGA)
Jammer Type	Active Jammer
Total power control step	< 2 dB
Power Consumption (Peak)	< 6.5KW
Connectivity to Command & Control	Ethernet interface
Antenna	Two high gain directional antennas
RF Jamming Range	Up to 50km
RF Spoofing Range	Up to 50km
Safety	Alarms for VSWR and temperature
Environmental^②	Designed to meet MIL-STD 810G

^① All specifications provided herein are indicative values and figures, and there may be reasonable deviation from the same.

^② The environmental conditions stated above apply only to the NavControl systems' main components.

Software - Subsystem	
Remote Control Unit	C2 application
Exciter controller	Ability to activate/deactivate specific frequency bands
RF power mute per bands	GUI allows the user to mute specific bands before activation
RF power mute for all bands together	GUI allows the user to mute all bands instantaneously
Safety measures	Alarm for VSWR and temperature
Health monitor	System status (Initializing, standby, transmitting)
Selectable jamming threats	GPS, GLONASS, Galileo, BeiDou
Selectable spoofing threats	GPS L1C/A, L2C, L5, Glonass L1OF, L2OF, Galileo E1B/C, E5a, BeiDou B1I, B2I
Ephemeris data	Live update obtained from the system location
Update desired GNSS spoof location	User defined spoof location
Pan and tilt control via C2 software	Pan the antennas in +/-180 degrees Tilt the antennas between -10 to +90 degrees

Cabinet	
Dimensions	1.53m x 1.30m x 1.17m (Length / Width / Height)
Weight	< 800 kg
Fabrication	GI Sheet metal outside insulation of PIR/PU with PPGI sheet of 50mm thickness from inside.
Surface	UV resistant finish, 3 coat Epoxy paint colour RAL 1001
Access Doors	2 doors front side + 2 doors back side with AC fixed
Inside	2x 19-inch rack
Cable Entry	1x (on the side)
Transportation	4x lifting bolts at the top

DEPENDENCIES

- Antennas must have clear line of sight to the jammed/spoofed target
- Cable length between cabinet and antenna is assumed to be no more than 30 metres (for performance purposes)
- The spoofer requires fresh ephemeris data to properly work
- For best result, accurate position of the target must be provided, ideally by radar (within 300 meters accuracy).
- C2 integration with 3rd party radar or other sensors, will be costed separately on time & material basis