CONVOY JAMMING SYSTEM JAMMER

CONFIDENTIAL

Convoy System

Jamming means deliberate radiation or reflection of electromagnetic energy for the purpose of disrupting the use of electronic devices or systems. The CJS offers state of the art Jamming technology. It has an outstanding performance for VIP or Convoy protection and provides maximum security.

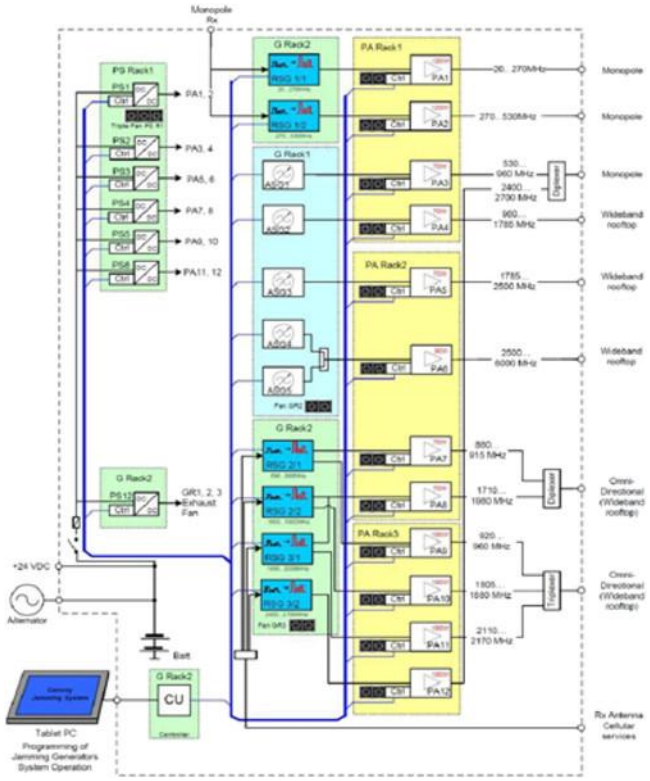
The complete frequency range between 20 and 6000 MHz is covered without gap.

FEATURES

- 20-6000 MHz
- Modular System Design
- High Power and high efficiency an-PA modules (RF Power 1000W)
- Reactive Jamming (Jamming energy concentrated on thread frequency)
- Very low spurious emission

FUNCTIONAL DIAGRAM

The main building blocks are Signal Generators and Power Amplifier Units. The CJS uses two types of Generators: Sweeper and Reactive.



JAMMED APPLICATIONS

- VHF / UHF
- GSM 850 / 900 / 1800 / 1900
- 3G / UMTS
- 2.4 GHz ISM-Band
- LTE (4G)
- RC-Toy
- CDMA
- Satellite phone / GPS
- WiMax / Wi-Fi / Bluetooth

OPERATION PRINCIPLES

VEHICLE AND ALTERNATOR

The system is installed in the trunk of a carrier vehicle. The carrier vehicle will be equipped with an additional alternator in the motor compartment. The alternator charges the system battery. The capacity of the system battery is customized. Usually there is a 300Ah lithium-iron-phosphat battery installed. This capacity allows to operate the CJS up to 4 hours without alternator support.

SYSTEM MODULES

The Power Supply Units (PSU) are connected to the Battery. The PSUs stabalize the supply voltage for Power Amplifiers and Generator Modues. Therefore it is guaranteed that the RF output power does not vary during operation. For each frequency band there is separate chain between PSU, Generator and Power Amplifier. This provides maximum redundancy.

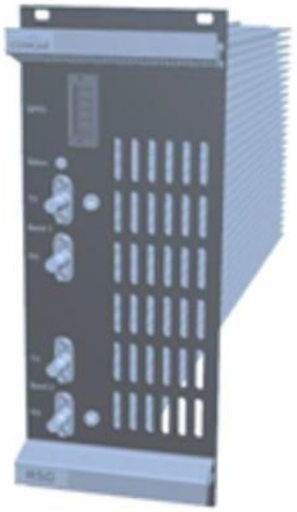
USER INTERFACE AND MONITORING

A tablet PC to control the system is installed in the passenger compartment. The user interface allows to operate the CJS easily, further it is possible to switch on and off or adjust frequency bands individually. In the unlikely event of a module malfunction the operator will take notice immediately through the tablet PC.

RACK SPECIFICATIONS	
MECHANICAL	
LENGHT	**1068 mm**
HEIGHT	**761 mm**
WIDTH	**760 mm**
WEIGHT	**160 Kg**
COLOUR	**Silver**
ELECTRICAL	
SUPPLY VOLTAGE	**24 VDC/120A**
POWER CONSUMPTION	**Max 3000 V**
INPUT/OUTPUT	
POWER (IN)	**Phoenix**
ANTENNA RF CONNECTOR	**QN Female**
GENERATOR RF CONNECTOR	**QMA Female**
ETHERNET	**M12**

POWER AMPLIFIER UNIT	
FREQUENCY RANGES OF PAU'S	
VHF/UHF	**20-700 MHz / 120 W**
BROADBAND 1	**500-2500 MHz /70W**
BROADBAND 2	**1700-2900 MHz /50W**
GSM 900	**850-1000 MHz /100W**
GSM 1800	**1780-1920 MHz /100W**
3G/UMTS	**2000-2200 MHz /100W**
BROADBAND 3	**2500-6000 MHz /30W**
ELECTRICAL	
INPUT VOLTAGE	**28 VDC**
MAX PA CURRENT	**8A**
TYPICAL GAIN	**500dB**
MAX INPUT POWER	**+ 7 dBm**
RF POWER (PSAT)	**30-120 W**
MECHNICAL	
DIMENSIONS	**4 U x 21 HP x 420 mm**
WEIGHT	**4.5 kg**
RF CONNECTOR (IN)	**QMA female**
RF CONENCTOR (OUT)	**QN female**

REACTIVE SIGNAL GENERATOR	
FREQUENCY RANGES (TWO BAND PER RSG)	
VHF/UHF	**Band 1/1: 20-700 MHz Band 1/2: 270-530 MHz**
GSM /DCS	**Band 2/1: 530-1430 MHz Band 2/2: 1130/1900 MHz**
UMTS/LTE	**Band 3/1:1700-2400 MHz Band 3/2: 2100-3000 MHz**
CONNECTORS	
RF	**QMA female**
MECHNICAL	
DIMENSIONS	**4 U x 14 HP x 385 mm**
WEIGHT	**2 kg**



ADVENCED SWEEP GENERATOR	
FREQUENCY RANGES	
BAND 1	**500-960 MHz**
BAND 2	**960-1785 MHz**
BAND 3	**1785-3000 MHz**
BAND 4	**3000-4000 MHz**
BAND 5	**4000-6000 MHz**
CONNECTORS	
RF	**QMA female**
MECHNICAL	
DIMENSIONS	**3U x 10 HP x 245 mm**
WEIGHT	**1 kg**

ANTENNAS		
FREQUENCY RANGES ANTENNA GAIN		
ANTENNA 1 / OMNI- DIRECTIONAL	**20-530 MHz**	**-5 / + 1 dBi**
ANTENNA 2 / OMNI- DIRECTIONAL	**100-520 MHz**	**-2 / + 2 dBi**
ANTENNA 3 / OMNI- DIRECTIONAL	**500-6000 MHz**	**-1 / + 3 dBi**
ANTENNA 4 / OMNI- DIRECTIONAL	**870-6000 MHz**	**-6 / + 9.5 dBi**
ANTENNA 5 / DIRECTIONAL	**380-520 MHz**	**-8.7 / + 9.2 dBi**
ANTENNA 6 / DIRECTIONAL	**Tri-Band (GSM900/1800/UMTS)**	**-9 / + 11.5 dBi**
CONNECTORS		
RF	**N female**	