

GAJR GLONASS/GPS Anti-Jamming Receiver©



Benefits

- Low cost jammer protection for all air/navy/ land forces platforms
- Ideal for retrofitting
- Provides anti-jam protection in dynamic multi jammer scenarios
- Digital interface with Battle Management System

Features

- GLONASS L1/L2 + GPS L1/L2 dual satellite system calculating
- All-in-view navigation using proven,120-channel GLONASS/GPS signal processor
- Standalone Position Accuracy < 1.5 m
- Up to 110 dB of additional anti-jamming protection
- Adaptive digital nulling

The jamming of signals and frequencies seems so farfetched, even in today's world, that many don't understand the importance of this kind of technology. GNSS (Global Navigation Satellite System including GLONASS/GPS) has become integral to the navigation and planning systems of many military and civilian devices. There exists technology today that can prevent devices from receiving GNSS signals from the satellites. In a military situation, this can mean everything, as so many vehicles are equipped with GNSS devices that will not run without receiving the signal from the GLONASS/GPS.

The development and production of anti-jamming technology is limited to a very specific, closed market sector with a particularly high cost of admission. Worldwide, only about 5-6 companies work with this technology. World leaders include the U.S./Canada companies Rockwell Collins, Mayflower Communications Company, NovAtel; the British company BAE Systems; the France company Thales; the England company Cobham Antenna Systems; and also the Russian SMA PROGRESS,LLC. The latter is the leading Russian developer and manufacturer of anti-jamming technology.

SMA PROGRESS,LLC *GNSS Anti-Jamming Technology* addresses the needs of Navigation Warfare, including Electronic Protection, Electronic Support and Electronic Attack. This equipment ensures continuous positioning even in the face of interference and jamming.

One solution for all Air/Navy/Land platforms

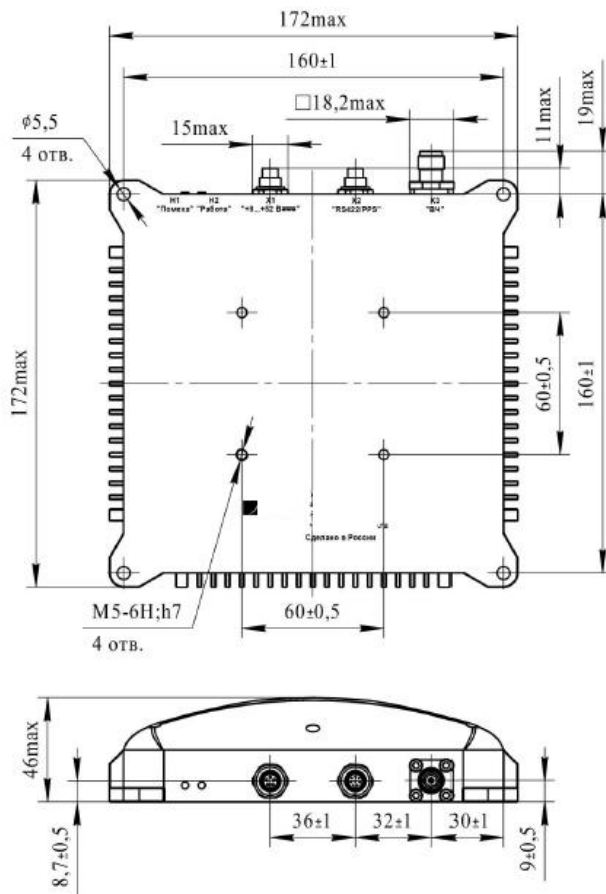
Comparative Analysis of GNSS Anti-Jamming Systems

	BAE Systems & Mayflower Communications Company UNITED KINGDOM & USA	Rockwell Collins USA	THALES France	NovAtel & QinetiQ Canada & USA	COBHAM England	SMA PROGRESS, LLC Russia
Type	SAS Anti-Jam Module	DIGAR	TopShieled	GAJT-700ML	DACU (Type 7-6005)	GAJR
GNSS	GPS L1/L2	GPS L1/L2	GPS L1/L2	GPS L1/L2	GPS L1/L2	GPS L1/L2 GLONASS L1/L2
Position accuracy (CEP)	5 m [NavAssure® SAASM GPS Receiver]	5 m	-	-	-	1.5 m
Anti-Jam Performance	90 dB J/S	100 dB J/S	90 dB J/S	40 dB J/S	85 dB J/S	110 dB J/S

The best protected on the market

The key elements of the system are the GAJR-1 and GALR2© the GNSS Receiver and the Adaptive Antenna Array. A 4-element Adaptive Antenna Array allows gain pattern shapes to be changed in response to interference. Provides 3 independent nulls.

Specifications



Adaptive Antenna Array

Adaptive Antenna Array

GNSS Signals:

GPS L1 + GLONASS L1 or
GPS L1/L2 + GLONASS L1/L2

Anti-Jam Performance: 110 dB J/S

Interference Rejection: Wide band suppression 50 dB
Controlled radiation pattern antennas (CRPA):

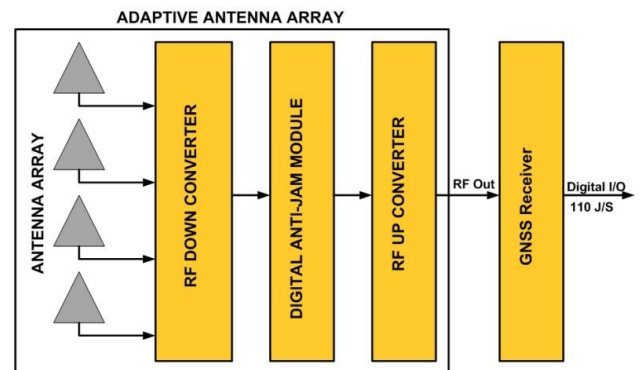
number of elements - 4

Dimensions: 172 x 172 x 43 mm

Weight: 1000 g

Temperature: -40° C - +85 C

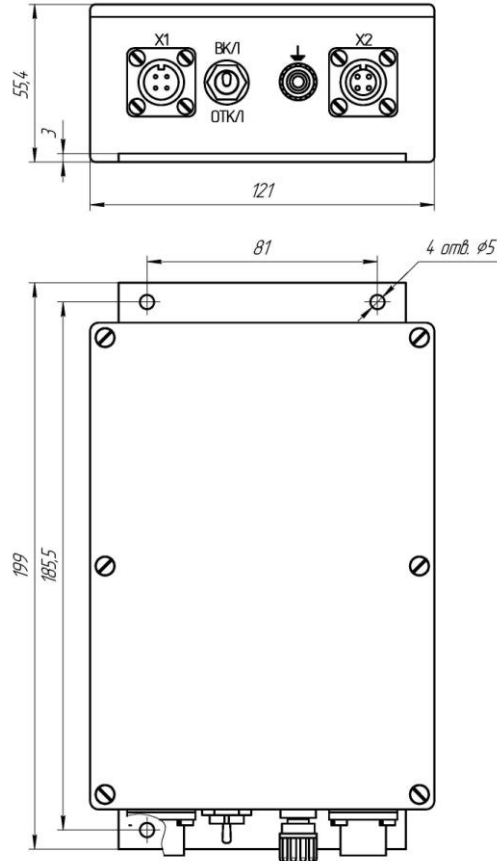
MTBF: 90,000 hours



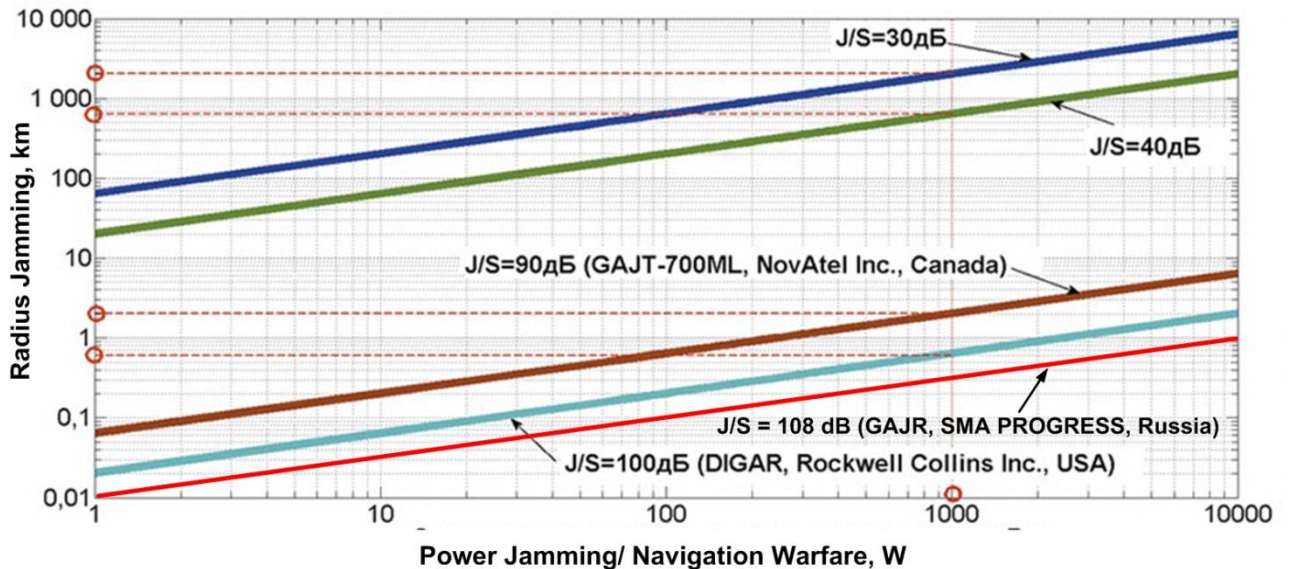
Block Diagram GAJR©

GNSS Receiver

Frequency range:
 GLONASS L1/L2 + GPS L1/L2/L5;
Standalone Position Accuracy: 1.5 m;
Channel: 120 GNSS tracking channels
PPS time Accuracy: 50 nanoseconds
Interfaces: RS-232
Dimensions: 199 x 121 x 55.4 mm
Weight: 1200 g
Temperature: - 40° C - + 85° C
MTBF: 90,000 hours



GNSS Receiver



Ordering Information

- GAJR-1©: L1 GLONASS+L1 GPS,[GNSS Receiver+Adaptive Antenna Array,RF Cable 5 m, RS 232 Interface Cable 3 m]
- GAJR-2©: L1/L2 GLONASS+L1/L2 GPS,[GNSS Receiver+Adaptive Antenna Array,RF Cable 5 m, RS 232 Interface Cable 3 m]
- GAJR-3©: L1/L2 GLONASS+L1/L2/L5 GPS,[GNSS Receiver+Adaptive Antenna Array,RF Cable 5 m, RS 232 Interface Cable 3 m]
- GAJR-5©: L1 GLONASS + L1 GPS only Adaptive Antenna Array
- GAJR-6©: L1/L2 GLONASS + L1/L2 GPS only Adaptive Antenna Array

For more information about GAJR©, please contact:

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