

GR-8100HV

HF/VHF Tactical Manpack Radio



Anywhere, anytime in battlefield with new HF communication technology!



Mobile Force



Dismounted Soldier Force

Key benefits

- Smallest, lightest, fastest wideband HF/VHF tactical radio
- Wideband data up to 120kbps
- IP-based LAN, USB, WIFI & Bluetooth interface
- Interoperable with Glocom GR-150 HF radio, GR-250 VHF radio, GR-310 V/UHF radio

Features

Wideband HF data	MIL-STD-188-110C Appendix D
ALE ⁽¹⁾	STANAG 4538 FLSU, MIL-STD-188-141B Appendix A, Appendix B (Linking Protection, AL-1)
Frequency hopping	Serial Tone ECCM GR-150 interoperable
Encrypted data	HF: MIL-STD-188-110C App. D, App. C, and Main Body Serial-tone Waveforms, STANAG 4285, STANAG 4415, STANAG 4539 VHF: WBFSK (16 kbps)
Vocoder	HF: MELP1200 VHF: CVSD, MELP1200

The Glocom GR-8100HV HF/VHF tactical radio system reaches the highest level in wideband data performance and interoperability with fielded GR-150 HF radios, GR-250 VHF radios and GR-310 V/UHF radios - to deliver information superiority on today's battlefields. It provides continuous coverage from 1.5 to 88 MHz, 20W HF and 10W VHF on the power of a single battery, and bandwidths from 3 to 24 kHz - with data rates of up to 120 kbps.

No matter the deployment scenario, the GR-8100HV ensures the transmission and receipt of critical communications. With its Glocom GR-150/250/310 interoperability, it easily integrates into existing networks to deliver secure voice and data. It provides extended range, operating over degraded communication channels. And with ultra-robust 3G waveforms, it provides last-ditch voice and SMS messaging in channels where legacy waveforms don't work.

Incorporating enhanced anti-jamming measures and embedded AES encryption, all GR-8100HV transmissions are completely secure and reliable. The radio also features high performance automatic link establishment and data link protocols to provide fast, reliable linking and error-free data transfer - even under the most challenging channel conditions.

In addition to its array of embedded capabilities—which also include an internal GPS receiver and telephony—the GR-8100HV features a Software-Defined Radio (SDR) architecture, which allows it to host future capabilities. Combined with its incredible processing power, this ensures it will continue to be state-of-the-art well into the future.

Providing all of these features in a form factor that's more compact and 30% lighter than previous HF manpacks, the GR-8100HV enables today's warfighter to take on tomorrow's missions.

(1) - Automatic Link Establishment

General specifications

Frequency range	1.6~88MHz
Net presets	75, fully programmable
Frequency stability	±1ppm
Emission modes	J3E (single sideband, upper or lower, suppressed carrier telephony) H3E (compatible AM single sideband plus full carrier) A1A, J2A (compatible CW), selectable; F3E (FM)
RF in/out impedance	50Ω
Power supply	26VDC(21.5~32VDC)
Data interfaces	RS-232C, Ethernet, USB, WIFI, Bluetooth
Dimension	230mm x 90mm x 230mm
Weight	≤3.5Kg (4.5Kg with battery)

Receiver

Sensitivity	SSB: -113dBm(0.5uV) @ 10dB SINAD
Audio output	12 mW@1000Ω to external handset
Squelch	Front panel adjustable, active squelch selectable
IF rejection	≥85dB
Image	≥80dB (1st IF image)
AGC	Mode dependent, automatically selected
Intermodulation distortion	-80dB or better for two -30dBm signals separated 30 kHz or more
Overload protection	Receiver protected to 32 VRMS

Transmitter

RF power	HF 1/5/20W PEP, VHF 1/5/10W FM
Audio input	1.5mV@150Ω or 0dBm@600Ω for full rated output
Carrier suppression	≥60dB below PEP output (J3E mode)
Undesired Sideband suppression	≥60dB below PEP output

Environment

Test method	MIL-STD-810G
Vibration	Ground tactical
Immersion	1m of water
Temperature	-30°C~+60°C

Security

Encryption mode	AES256, customized algorithm
Key fill device	Windows/Android based application

Options for manpack & mobile set

• Adaptor for mobile set	A8100-AD10
• Tactical headset	A8100-TH11
• 6 bay battery charger	A8100-BC6B
• 4 bay battery charger	A8100-BC4B
• Speaker microphone	A8100-SM13
• HF 20m x 2 dipole antenna	A8100-DA20
• Ethernet cable (RJ-45)	A8100-EC24
• Battery eliminator(AC/DC)	A8100-BE32-03
• Power supply unit	A8100-PS300
• NVIS antenna	A8100-NA11

To learn more about the Glocom GR-8100HV HF/VHF tactical radio system and its advanced features, contact Glocom at support@glocom-corp.com.

GR-8100HV-MP HF/VHF manpack set

The Glocom GR-8100HV-MP manpack set is ideal for extended portable field operations providing the tactical user with effective, secure and comprehensive communications with remote sited command locations. It includes all necessary handset, antennas, battery case, cables and rucksack carrying system. The standard set comprises:-

• HF/VHF tactical manpack radio	GR-8100HV
• Officer handset	A8100-OH10
• HF 2.4m whip antenna	A8100-WA2.4
• HF 15m line antenna	A8100-LA15
• Battery box w/o battery ⁽²⁾	A8100-BB31
• GPS antenna kit	A8100-GA01
• Ground stake kit	A8100-GK25
• Asynchronous data cable (RS-232C)	A8100-DC01
• USB programming cable (9Pin-USB A)	A8100-UC23
• Setup/control application(Windows)	A8100-APPV10
• Field reference guide	A8100-HVUM01
• Tactical rucksack	A8100-RS22-01

Supported batteries⁽³⁾

• Non-rechargeable LiSO2 battery	BA-5590B/U
• Non-rechargeable LiMnO2 battery	BA-5390/U
• Rechargeable NiMH battery	BB-390B/U
• Rechargeable Li-Ion battery	BB-2590/U
• 2 bay battery charger	A8100-BC2B

(2) - Battery box doesn't include any batteries, it is box only.

(3) - The batteries and charger can be bought from market worldwide.

GR-8100HV-MB HF/VHF mobile set

The Glocom GR-8100HV-MB mobile set upgrades the GR-8100HV-MP by providing a convenient vehicle installation kit and transmitter power amplification to 100W PEP. With options for power supply system and the flexibility of dismounted use of GR-8100HV radio when not in the vehicle (additional accessories may be required), the GR-8100HV-MB mobile set can be installed in a wide range of vehicle types with antenna options to suit. The standard set comprises:-

• HF/VHF tactical manpack radio	GR-8100HV
• Officer handset	A8100-OH10
• HF 2.4m whip antenna	A8100-WA2.4
• HF 15m line antenna	A8100-LA15
• Battery box w/o battery	A8100-BB31
• GPS antenna kit	A8100-GAK01
• Ground stake kit	A8100-GK25
• Asynchronous data cable (RS-232C)	A8100-DC01
• USB programming cable (9Pin-USB A)	A8100-UC23
• Setup/control application(Windows)	A8100-APPV100
• Field reference guide	A8100-HVUM01
• Tactical rucksack	A8100-RS22-01

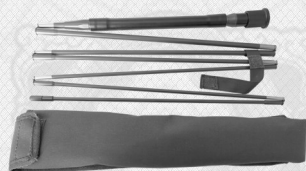
Followings are added for mobile set

• Adaptor for mobile set	A8100-AD10
• HF 20m x 2 dipole antenna	A8100-DA20
• HF 4.2m whip antenna	A8100-WA4.2
• HF 100W amplifier set	GR-8101C
• HF 100W ATU set	GR-8102C
• Mobile installation kit	A8100-1K10



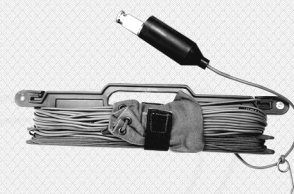
Officer handset(A8100-OH10)

The officer handset is a high-grade, lightweight MIL handset for use with the Glocom tactical radio systems. One handset is supplied with each radio.



HF 2.4m whip antenna(A8100-WA2.4)

1.6~30MHz, 40W, Impedance:50Ω, Contact resistance: ≤120mΩ, Length:2400mm, Draw back length: 365mm, ≤0.7Kg, Interface: BNC fixed with threading sheath.



HF 15m line antenna(A8100-LA15)

This antenna can be used for communication on actual combat. This antenna is used for HF radio set or long distance emergency communication. It has the features of high radiation efficiency, easy carrying and installation.



Battery box w/o battery(A8100-BB31)

Battery box for BB-2590/U series batteries for GR-8100 manpack radio system. Waterproof and moisture-proof. This battery box is fully compatible with BB-2590/U size battery system.



GPS antenna(A8100-GA01)

This is high gain, low loss, active, extra low current consumption, small size GPS antenna. It supports SMA plug and magnetic mounting. It's useful for mobile application with GR series radios.



Ground stake kit(A8100-GK25)

Earth braid, 1.5m.



Asynchronous data cable(A8100-DC01)

This is RS-232C data communication cable for GR 8000 series radios. It is used for data communication, radio programming and radio control by computer etc.



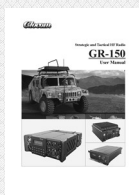
USB programming cable(A8100-UC23)

This is a cable to connect radio with USB port in computer/tablet for programming the radio.



Setup/control application(A8100-APPV10)

This software application allows user to enter frequency, mode, encryption code, ALE network information and other parameters into a Windows-based computer program and save it to a file.



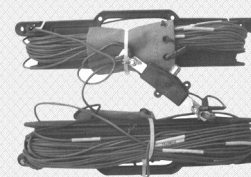
Field reference guide(A8100-HVUM01)

This is a field reference user manual for GR-8100HV radio system.



Rucksack(A8100-RS22-01)

This is a rucksack for GR series manpack radio system. It is very convenience for soldier to carry radio with all accessories. It can keep antenna, batteries, handset, headset etc...



HF 20m x 2 dipole antenna(A8100-DA20)

This antenna can be used for communication on actual combat. This antenna is used for stationary HF radio set or long distance emergency communication.



HF 4.2m whip antenna(A8100-WA4.2)

This is HF mobile communication antenna. The antenna is composed of three parts. The antenna is light weight, good flexibility, endureable for corrosion.



HF 100W amplifier set(GR-8101C)

This is a set of 100W mobile amplifier system. It includes power amplifier, control cable, RF cable, power cable etc. It will be installed in pair of GR-8102C automatic tuning unit.



HF 100W ATU set(GR-8102C)

This is a set of 100W automatic tuning unit system. It includes 100W automatic tuning unit, RF cable, control cable, antenna cable etc. It will be installed in pair of GR-8101C 100W amplifier system.



Mobile installation kit(A8100-IK10)

This is a set of mobile installation kit. It can be used to install GR series radio system into various kind of vehicles, ships or stationary. It is very simple to install or uninstall on the vehicles.



Adaptor for mobile set(A8100-AD10)

This adaptor is shock mount for 20W manpack radio and 100W mobile system which secures manpack and mobile system by DC generated and by the installation vehicle.



Tactical headset(A8100-TH11)

Tactical headset adopts structure of head ring soft strap, it is audio terminal. It has the features of small in dimension, light in weight, good water proof performance, high environment adaptability.



Speaker microphone(A8100-SM13)

This speaker microphone amplifies radio audio output for manpack, vehicular and base station applications. It can be connected to audio jack on manpack radio.



Ethernet cable(RJ-45)(A8100-EC24)

This cable is the Ethernet cable to connect radio and Ethernet port or network hub.



Battery eliminator(AC/DC)(A8100-BE32-03)

The battery eliminator provides a regulated output voltage to Glocom GR-8100 series manpack radio from an AC input range of 85-270VAC/47-400Hz.



Power supply unit(A8100-PS300)

This is 320W AC-DC/DC-DC converter to supply power into GR-series mobile radio system. It supports very high efficiency, over-voltage protection, polarity protection.



NVIS antenna(A8100-NA11)

This is mobile antenna which radiates NVIS propagation. It is designed to realize the communication during movement and effectively solve the problem of "communication blind area" in near distance of HF band.



Li-Ion battery(BB-2590/U)

The Li-Ion battery is a very high-capacity, rechargeable, Li Ion battery for the GR-8100 manpack. Use with Glocom A8100-BC2B/4B/6B battery charger system.



2 bay charger(A8100-BC2B)

This is 2 bay battery charger for BB-2590/U. Up to 2 batteries may be connected for simultaneous processing, and disconnected from any channel during processing.



4 bay charger(A8100-BC4B)

This is 4 bay battery charger for BB-2590/U. Up to 4 batteries may be connected for simultaneous processing, and disconnected from any channel during processing.

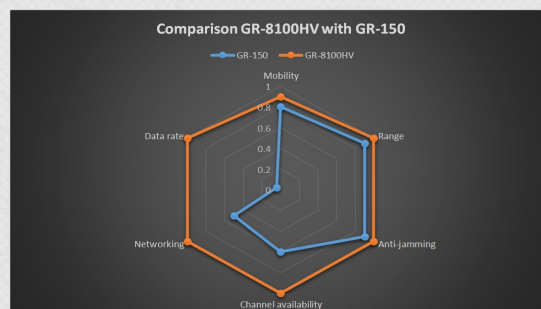


6 bay charger(A8100-BC6B)

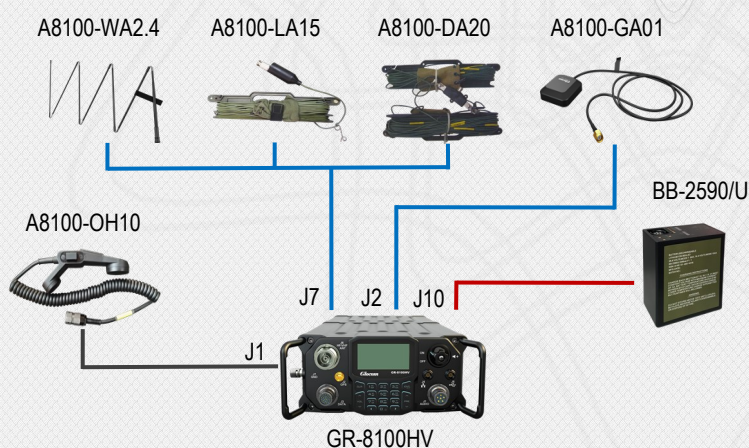
This is 6 bay battery charger for BB-2590/U. Up to 6 batteries may be connected for simultaneous processing, and disconnected from any channel during processing.

Comparison GR-8100HV with GR-150 HF radio

Model	Mobility	Range	Anti-jamming	Channel availability	Networking	Data rate	Result
GR-150	0.80	0.90	0.90	0.60	0.50	0.04	0.78
GR-8100HV	0.90	1.00	1.00	1.00	1.00	1.00	90.00
	1.12	1.1	1.1	1.6	2	25	115.74

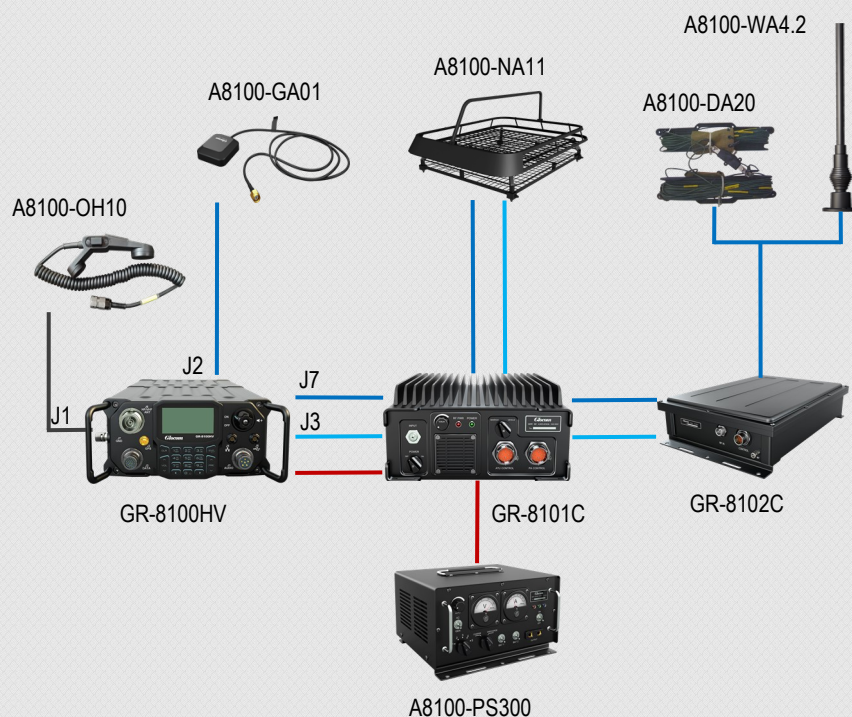


Configuration of GR-8100HV manpack set



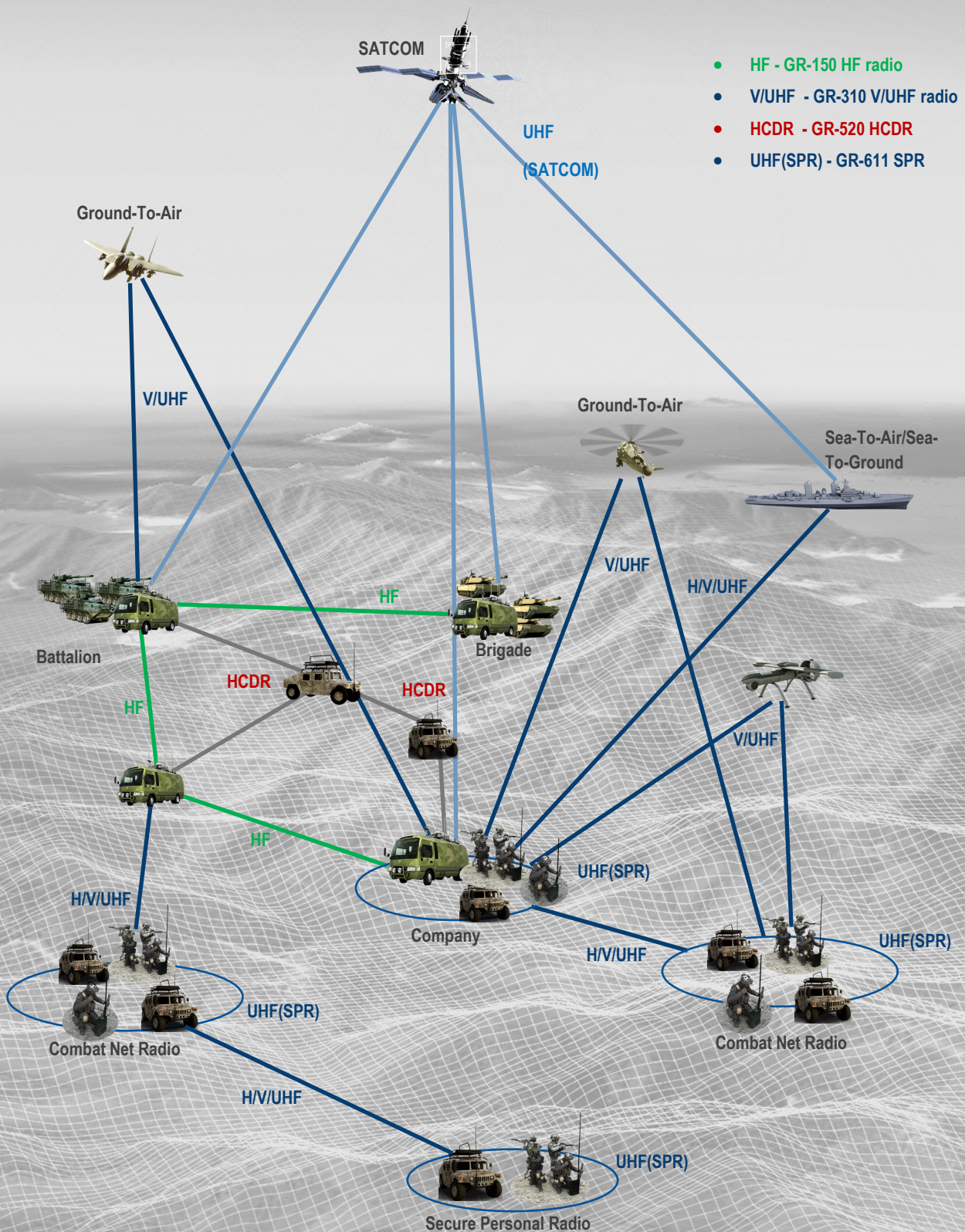
Dismounted soldiers

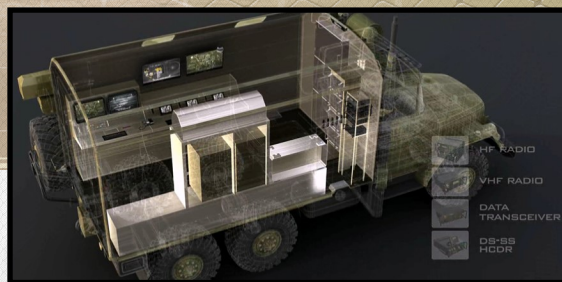
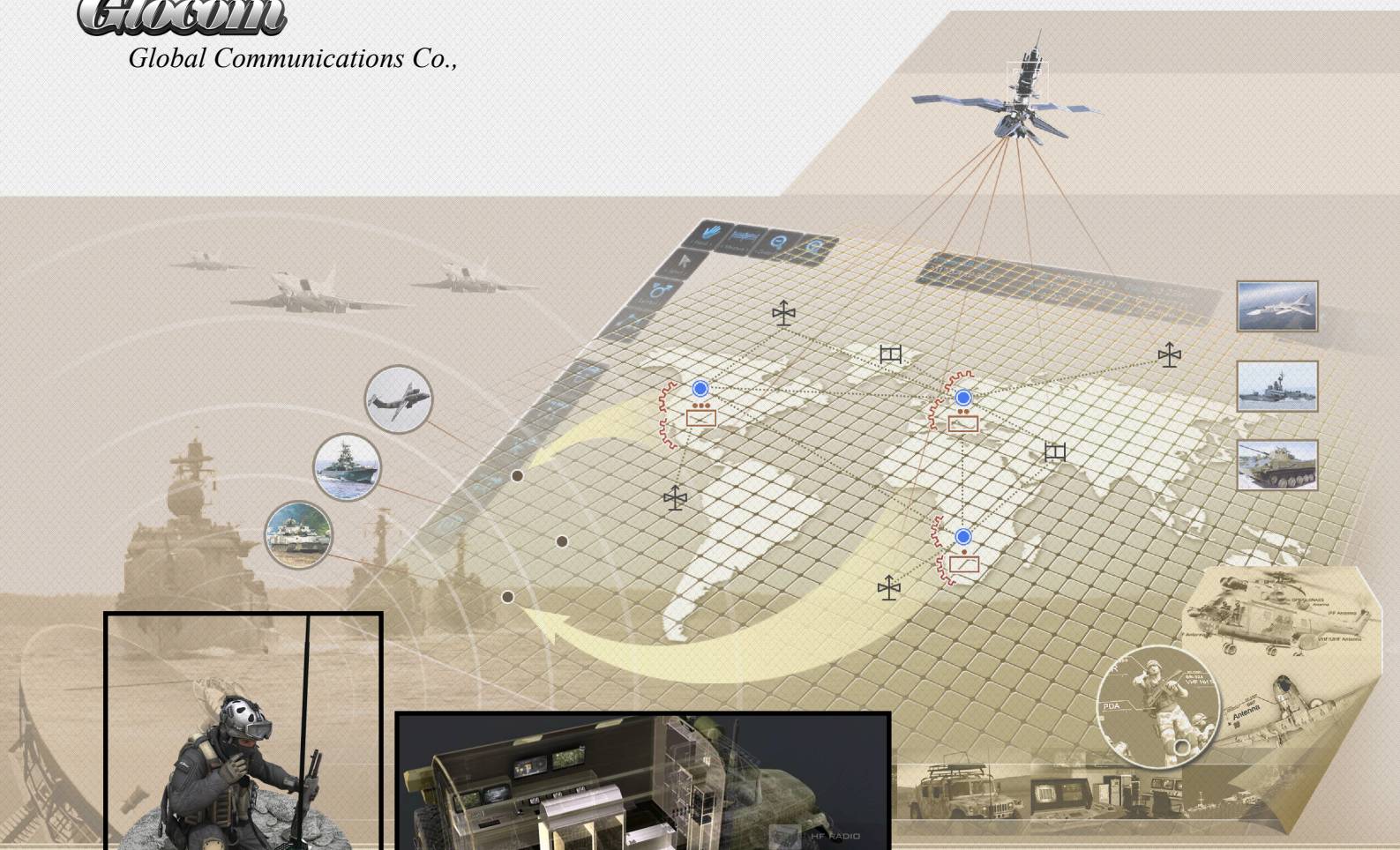
Configuration of GR-8100HV mobile set



Mobile Systems

Glocom Battlefield Communications Architecture





- Tactical manpack radio systems
- Tactical handheld radio systems
- Stationary systems
- Mobile systems
- Airborne systems
- Shipborne systems
- Soldier systems
- BMS applications

Communications solutions for anywhere, anytime in battlefield

Global Communications is a leading supplier of secure voice and data communications products, systems and networks to military, government and commercial organizations worldwide.

Glocom is an international communications and information technology company serving government and commercial markets in more than 50 countries. The company has annual revenue of over \$15 million and 200 employees—including nearly 100 engineers and scientists. Glocom is dedicated to developing best-in-class communications products, systems and services. Additional information about Global Communications is available at Glocom website www.glocom-corp.com.