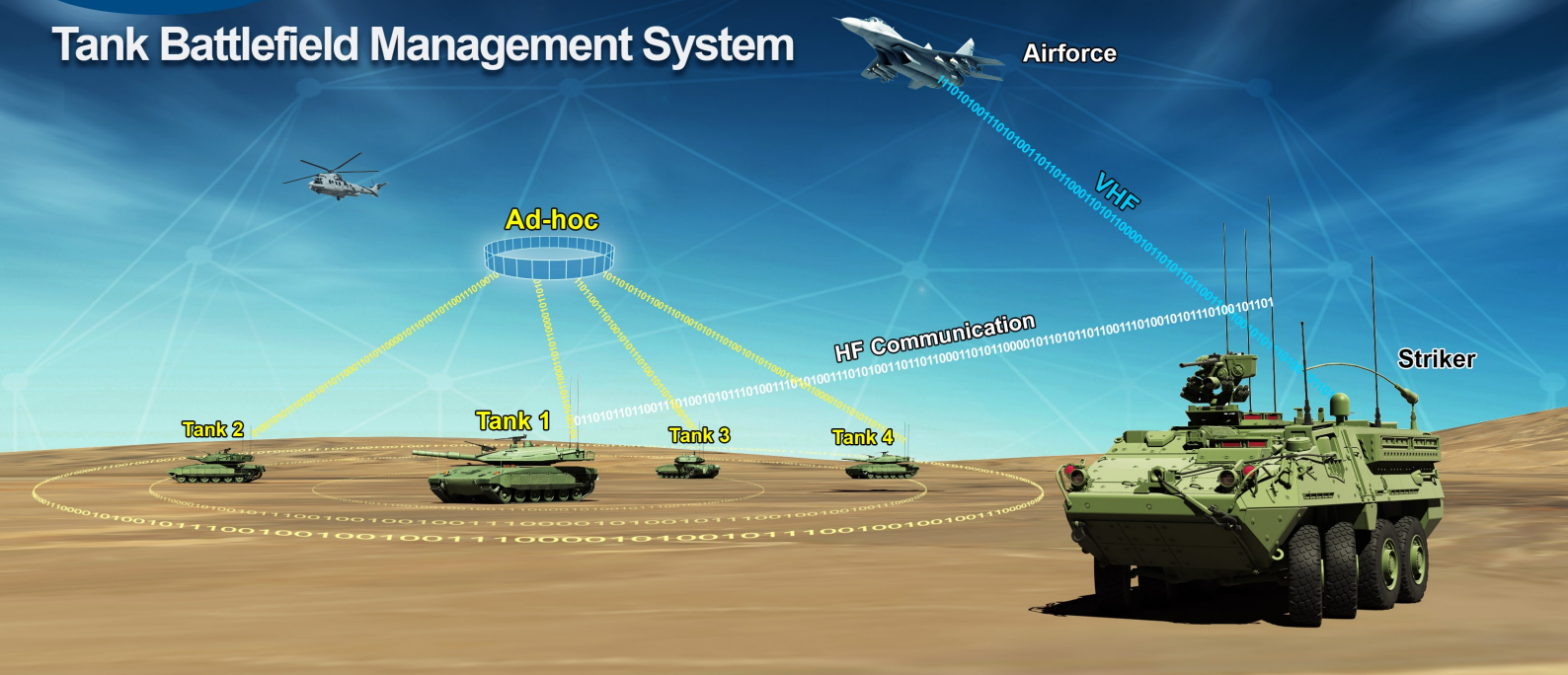


GS-2220 Tank Battlefield Management System



Tank Battlefield Management System



Highly Adaptive, Inexpensive Solution for Vehicle Platform Upgrade

Key Features

- Easily adaptable to a wide range of conventional tanks
- Inexpensive solution for upgrade conventional tanks
- Seamless connectivity in the rugged terrain and noisy environment
- An integrated Battle Management System, including navigation capability
- Simultaneous secure voice & data
- Full interoperability with other forces

Today's growing worldwide defense, security and safety concerns have created the need for net-centric approaches to counter emerging, non-traditional threats. Forces, systems and platforms must be woven into an interoperable and joint network in order to succeed on the modern battlefield. Glocom's state of the art C⁴I solutions create a force multiplier by maximizing combat resource coordination with excellent communication technology.

Glocom has developed the Tank Battlefield Management System, GS-2220, to provide an inexpensive, highly adaptive communications upgrades to conventional tank platform, thus offering customers the cost-effective capabilities to deploy tanks on a networked basis, resulting in maximization of combat force.

GS-2220 enables rapid and accurate execution of the mission together with full command and control capabilities using existing infrastructure.

The GS-2220 builds a battlefield communication network, which enables the tank to receive real-time battlefield information achieved by various equipment deployed in other corps, to transmit their data to other tanks, and makes IFF and situational awareness easier in the combat situation.

According to experts, with this communication network, the tank has 2.5-fold higher fighting capabilities than the others which have not such choice.

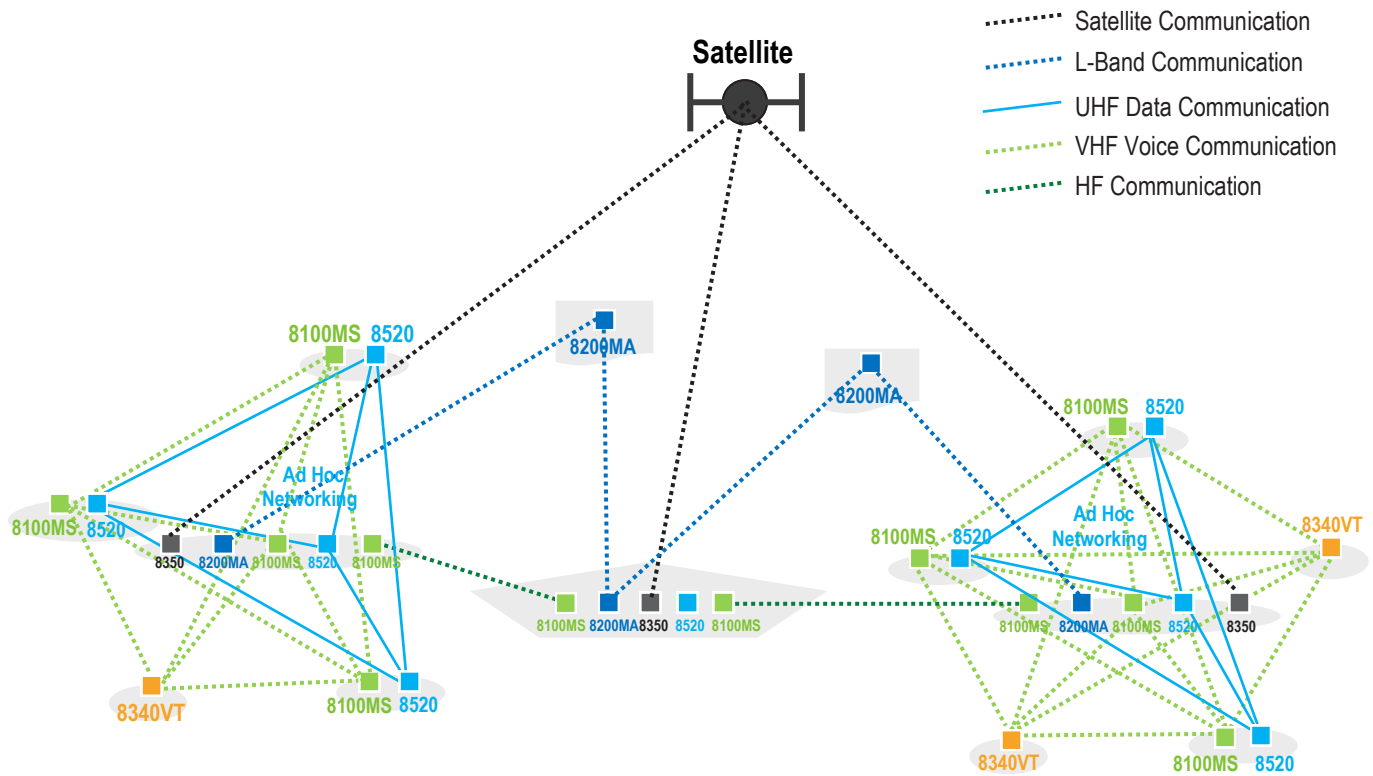
Benefits

Incorporated full C⁴I capabilities into existing infrastructure. The upgrades enable rapid and accurate execution of the mission together with full C⁴I capabilities.

- Real-time position reporting & BFT
- Real-time sharing of situational awareness information
- Transmitting of command & control information
- Full interoperability with other forces
- Ad-hoc networking between vehicles
- Speedy & accurate data communication

System Overview

GS-2220 Tank Battlefield Management System



GS-2220 Tank Battlefield Management System is specially designed for full C4I capabilities with multiband-HF/VHF/L-Band communication. GS-2220 combines the benefits of GR series radios to support wide variety of waveforms integrated together.

GR-8520VU VHF/UHF High Capacity Data Radio (HCDR) deployed on tanks provides ultra-high data rates and embedded Blue Force Tracking (BFT) over a truly decentralized mobile ad-hoc network (MANET).

GR-8100MS HF/VHF 100W Mobile Radios support 3G ALE with spectrum sensing capability which would allow us to identify the usable portion of an occupied wideband channel. VHF voice communication between tanks is performed by these radios.

The tanks also have a choice to use GR-8340VT VHF Mobile Radios for VHF voice communication since these radios are interoperable with GR-8100MS radios. This ensures that no tank is failed to join the team and lost while the combat.

The command tank will use another GR-8100MS radio for HF communication with the headquarters post. Besides, for B-LOS communication, the command tank will always keep a link with head-

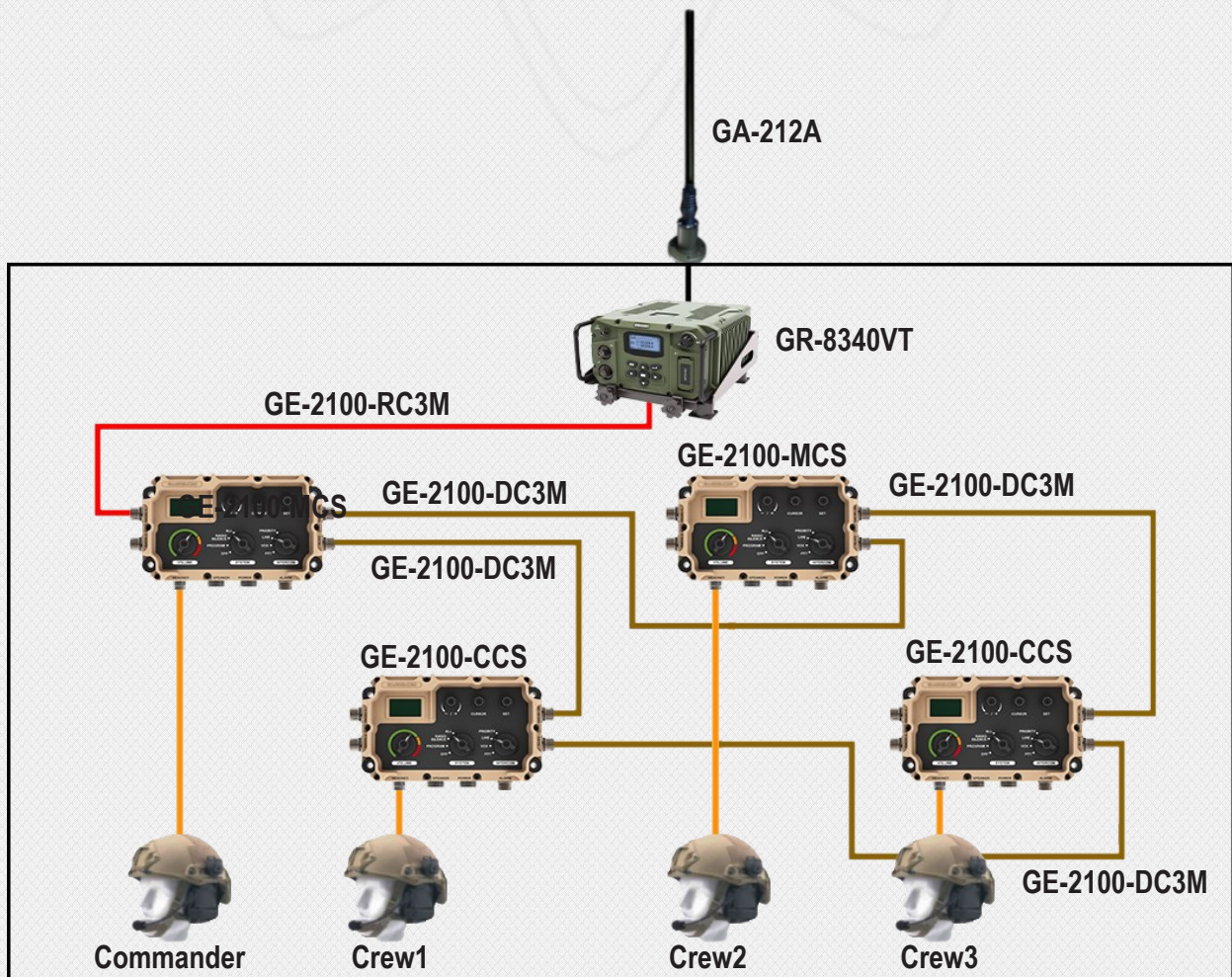
quarters post via SATCOM performed by GR-8350MV VHF/UHF Multiband Vehicular Radio.

While joint operation, GR-8200MA Multiband Airborne Radio enables L-Band Communication between the command tank and airplanes. GR-8200MA fulfills evolving mission needs delivering expanded area command and control, ISR and close combat support.

GS-2220 Tank Battlefield Management System will increasingly expand the combat area with a variety of solution which enhances war-tanks capabilities in battlefield where mission critical communication is vital. This will make your tank superior to your enemy in the battlefield.

GS-2220A-01 “Fox” Tank Battlefield Management System

Tanks are equipped with GR-8340VT VHF radio and this radio is specifically designed for battle tanks to support secure and reliable voice communications in VHF band from 20MHz to 88MHz, even in bad conditions.

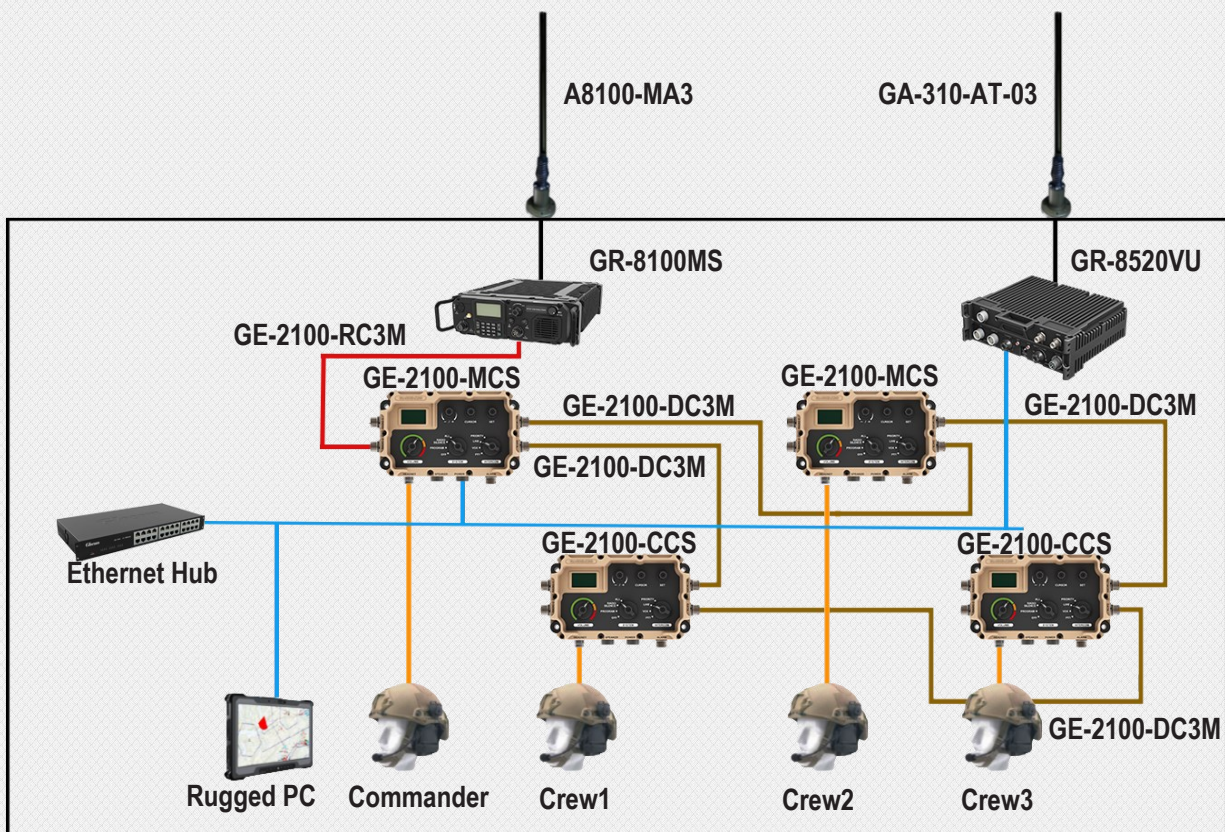


Ordering Information

Nº	DESCRIPTION	MODEL	BRAND	UNIT	QTY
1	VHF Mobile Radio Set	GR-8340VT	Glocom	Set	1
1-1	VHF Mobile radio	GR-8340VT	Glocom	Pc	1
1-2	VHF Vehicle Antenna with cable	GA-212A	Glocom	Pc	1
1-3	Vehicle Headset	A8340VT-VH10	Glocom	Pc	1
1-4	Power Cable	A8340VT-PC01	Glocom	Pc	1
1-5	User manual	A8340VT-UM01	Glocom	Copy	1
2	Tactical Network Intercom System	GE-2100	Glocom	Set	1
2-1	Master Control Station	GE-2100-MCS	Glocom	Pc	2
2-2	Crew Control Station	GE-2100-CCS	Glocom	Pc	2
2-3	Data & Power Cable	GE-2100-DC3M	Glocom	Pc	4
2-4	Radio Voice & Data Cable	GE-2100-RC3M	Glocom	Pc	1
2-5	Power Cable	GE-2100-PC3M	Glocom	Pc	1
2-6	Tactical Headset	A8100-TH10	Glocom	Pc	4

GS-2220A-02 “Fox” Tank Battlefield Management System

Tanks are equipped with GR-8100MS HF/VHF radio and GR-8520VU High Capacity Data Radio. GR-8520VU VHF/UHF High Capacity Data Radio provides UHF data communications including voice, video, etc. over a truly decentralized mobile ad-hoc network. And GR-8100MS radio is for VHF voice communication between tanks. Also it can be interoperable with GR-8340VT VHF radios.

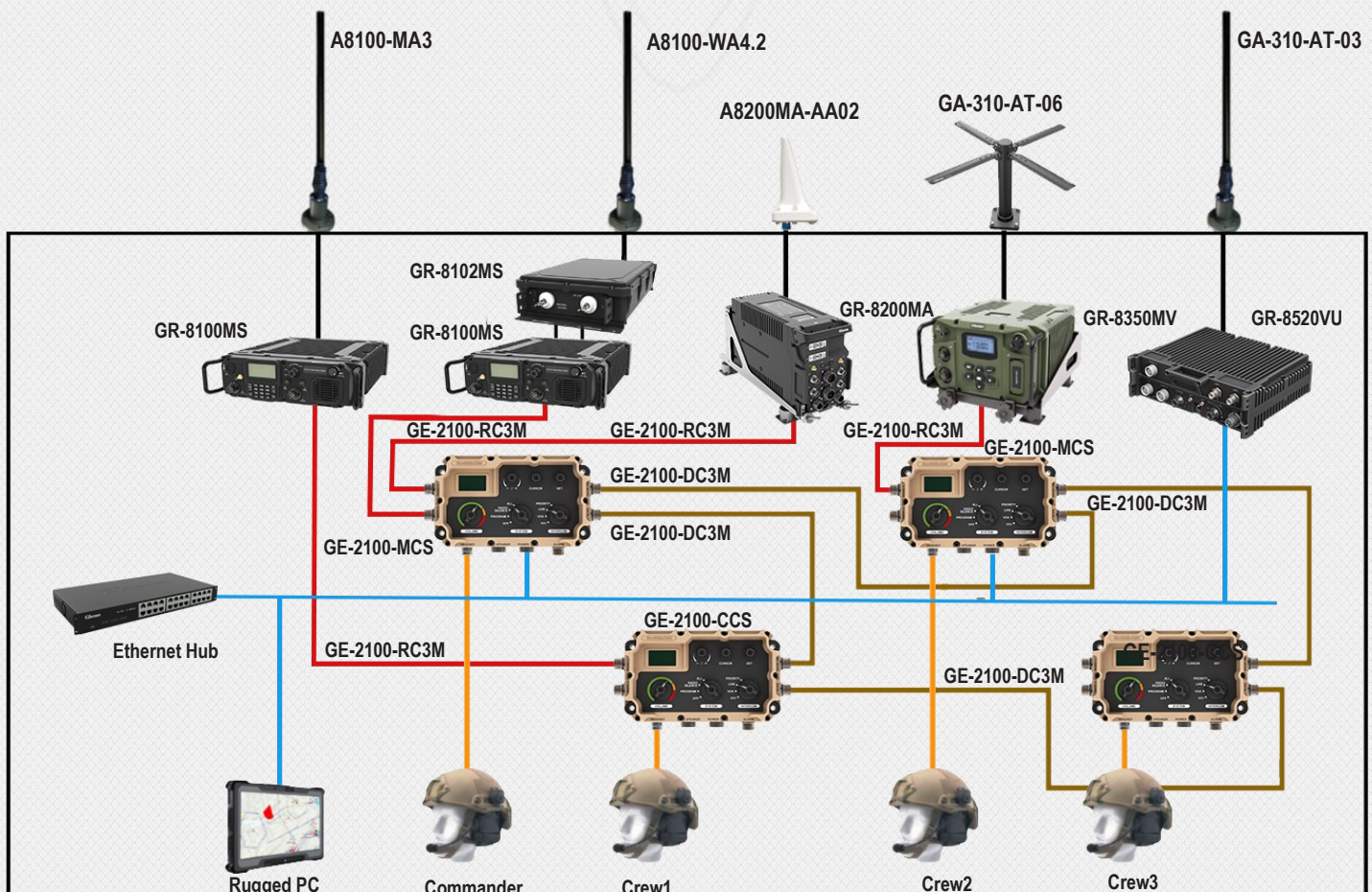


Ordering Information

Nº	DESCRIPTION	MODEL	BRAND	UNIT	QTY
1	HF/VHF 100W Mobile Radio Set	GR-8100MS	Glocom	Set	1
1-1	HF/VHF 100W Mobile Radio	GR-8100MS	Glocom	Pc	1
1-2	Officer Handset	A8100-OH10	Glocom	Pc	1
1-3	VHF Mobile Antenna with Cable (30~88 MHz, 3.7m)	A8100-MA3	Glocom	Pc	1
1-4	GPS Mobile Antenna	GA-50A	Glocom	Pc	1
1-5	Power Cable	A8100MS-PC01	Glocom	Pc	1
1-6	User Manual	A8100MS-UM01	Glocom	Copy	1
2	High Capacity Data Radio Set	GR-8520VU	Glocom	Set	1
2-1	High Capacity Data Radio (HCDR)	GR-8520VU	Glocom	Pc	1
2-2	Officer Handset	A8100-OH10	Glocom	Pc	1
2-3	Mobile antenna with cable (225-512MHz, 1m)	GA-310-AT-03	Glocom	Pc	1
2-4	GPS Mobile Antenna	GA-50A	Glocom	Pc	1
2-5	Ethernet Cable	A8520-EC3M	Glocom	Pc	1
2-6	Power Cable	A8520-PC2M	Glocom	Pc	1
2-7	User Manual	A8520-UM10	Glocom	Copy	1
3	Tactical Network Intercom System	GE-2100	Glocom	Set	1
3-1	Master Control Station	GE-2100-MCS	Glocom	Pc	2
3-2	Crew Control Station	GE-2100-CCS	Glocom	Pc	2
3-3	Data & Power Cable	GE-2100-DC3M	Glocom	Pc	4
3-4	Radio Voice & Data Cable	GE-2100-RC3M	Glocom	Pc	1
3-5	Power Cable	GE-2100-PC3M	Glocom	Pc	1
3-6	Ethernet Cable	GE-2100-EC3M	Glocom	Pc	1
3-7	Tactical Headset	A8100-TH10	Glocom	Pc	4
4	Computer & Peripheral				
4-1	Rugged PC CPU: Core I 5, RAM: 8GB, Hard Disk: 256GB, Display: 15"	3rd Party	Getac	Set	1
4-2	Ethernet Switching Hub	8 ports	Brand	Set	1
4-3	Ethernet Cable	3m	Brand	Pc	1
5	Software		Glocom		
5-1	BMS Software for vehicle	GS-930VH	Glocom	Copy	1
5-2	Tactical Chat	GS-910	Glocom	Copy	1
6	Vehicle Installation Kit	A8100-IK10	Glocom	Set	1

GS-2220B “Wolf” Tank Battlefield Management System

Tanks are equipped with two GR-8100MS HF/VHF radios, GR-8520VU High Capacity Data Radio, GR-8200MA Multiband Airborne radio and GR-8350MV VHF/UHF Multiband Vehicular radio. GR-8100MS radios are used for VHF and HF communication, specifically one for VHF voice communication between tanks and another one for HF communication with H.Q. post. GR-8520VU High Capacity Data Radio is for UHF data communications including voice, video, etc. over a truly decentralized mobile ad-hoc network. And GR-8200MA Multiband Airborne radio provides L-band communication between command tanks, H.Q. post and airplanes. GR-8350MV VHF/UHF Multiband Vehicular radio supports satellite communication between command tanks, H.Q. post and airplanes.



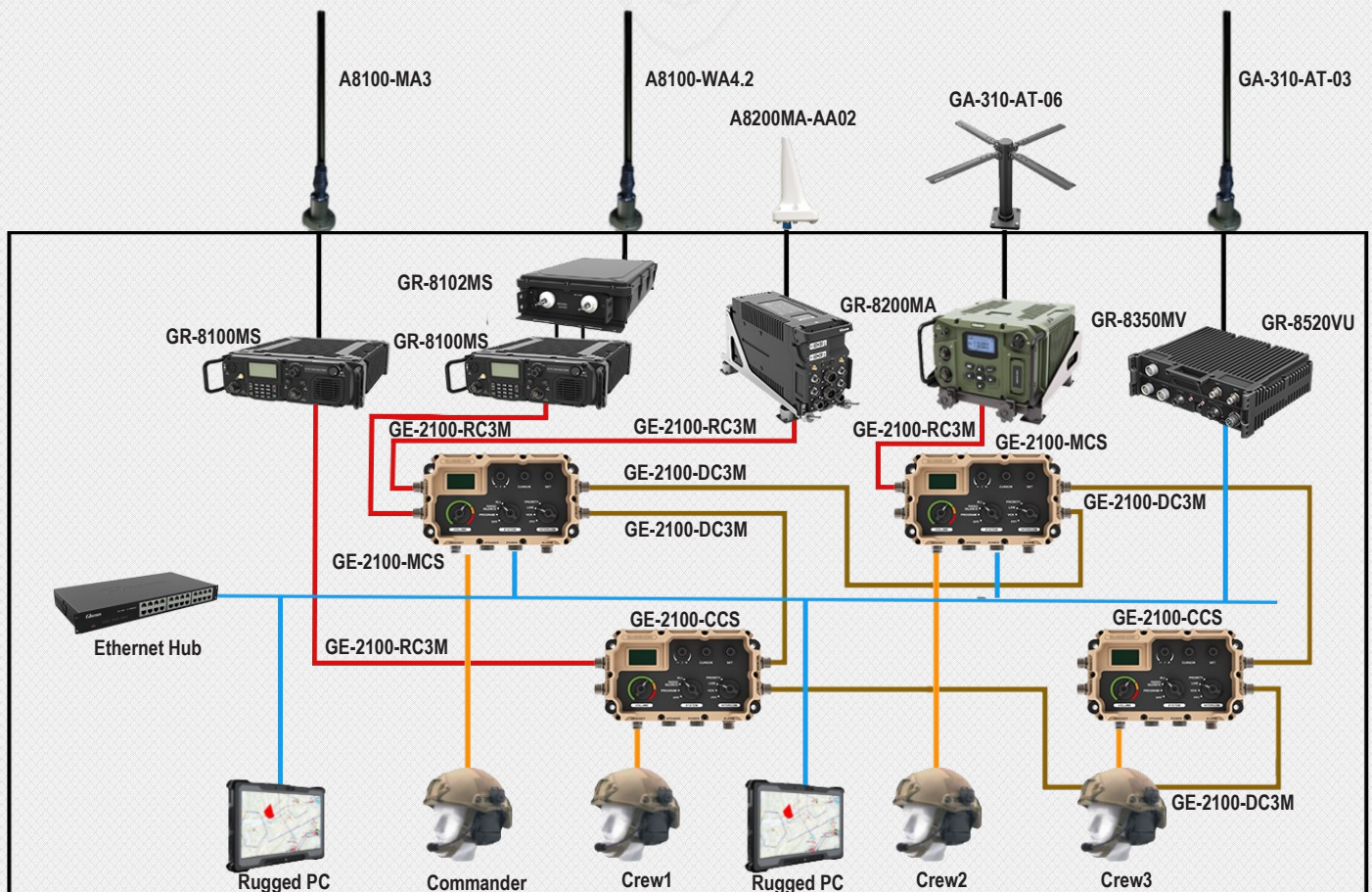
Ordering Information

Nº	DESCRIPTION	MODEL	BRAND	UNIT	QTY
1	HF/VHF 100W Mobile Radio Set	GR-8100MS	Glocom	Set	2
1-1	HF/VHF 100W Mobile Radio	GR-8100MS	Glocom	Pc	2
1-2	Officer Handset	A8100-OH10	Glocom	Pc	2
1-3	HF Mobile Antenna with Cable	A8100-WA4.2	Glocom	Pc	1
1-4	VHF Mobile Antenna with Cable (30~88 MHz, 3.7m)	A8100-MA3	Glocom	Pc	1
1-5	GPS Mobile Antenna	GA-50A	Glocom	Pc	2
1-6	HF 100W Automatic Tuning Unit	GR-8102MS	Glocom	Pc	1
1-7	Amplifier-ATU RF Cable	A8100MS-RC01	Glocom	Pc	1
1-8	Amplifier-ATU Control Cable	A8100MS-CC01	Glocom	Pc	1
1-9	Power Supply Unit	N/A	Glocom	Pc	1
1-10	Power Cable	A8100MS-PC01	Glocom	Pc	2
1-11	User Manual	A8100MS-UM01	Glocom	Copy	1
2	High Capacity Data Radio Set	GR-8520VU	Glocom	Set	1
2-1	High Capacity Data Radio (HCDR)	GR-8520VU	Glocom	Pc	1
2-2	Officer Handset	A8100-OH10	Glocom	Pc	1
2-3	Mobile antenna with cable (225-512MHz, 1m)	GA-310-AT-03	Glocom	Pc	1
2-4	GPS Mobile Antenna	GA-50A	Glocom	Pc	1
2-5	Ethernet Cable	A8520-EC3M	Glocom	Pc	1
2-6	Power Cable	A8520-PC2M	Glocom	Pc	1
2-7	User Manual	A8520-UM10	Glocom	Copy	1
3	Multiband Airborne Radio Set	GR-8200MA	Glocom	Set	1
3-1	Multiband Airborne Radio	GR-8200MA	Glocom	Pc	1
3-2	Remote Control Unit	A8200MA-RC01	Glocom	Pc	1
3-3	Keypad Display Unit	A8200MA-KD01	Glocom	Pc	1
3-4	L-Band Antenna(960-1240MHz)	A8200MA-AA02	Glocom	Pc	1
3-5	Airborne GPS Antenna	GA-53A	Glocom	Pc	1
3-6	Flying Helmet	A8200MA-FH01	Glocom	Pc	1
3-7	Data Cable	A8200MA-DC01	Glocom	Pc	1
3-8	Power Cable	A8200MPC01	Glocom	Pc	1
3-9	User Manual	A8200MA-UM01	Glocom	Copy	1

Nº	DESCRIPTION	MODEL	BRAND	UNIT	QTY
4	VHF/UHF Multiband Vehicular Radio Set	GR-8350MV	Glocom	Set	1
4-1	VHF/UHF Multiband Vehicular Radio	GR-8350MV	Glocom	Pc	1
4-2	X-Wing Satcom Antenna with Cable	GA-310-AT-06	Glocom	Pc	1
4-3	Vehicle GPS Antenna	GA-52A	Glocom	Pc	1
4-4	Vehicle Headset	A8350MV-VH10	Glocom	Pc	1
4-5	Data Cable	A8350MV-DC01	Glocom	Pc	1
4-6	Power Cable	A8350MV-PC01	Glocom	Pc	1
4-7	User Manual	A8350MV-UM01	Glocom	Copy	1
5	Tactical Network Intercom System	GE-2100	Glocom	Set	1
5-1	Master Control Station	GE-2100-MCS	Glocom	Pc	2
5-2	Crew Control Station	GE-2100-CCS	Glocom	Pc	2
5-3	Data & Power Cable	GE-2100-DC3M	Glocom	Pc	4
5-4	Radio Voice & Data Cable	GE-2100-RC3M	Glocom	Pc	4
5-5	Power Cable	GE-2100-PC3M	Glocom	Pc	1
5-6	Ethernet Cable	GE-2100-EC3M	Glocom	Pc	2
5-7	Tactical Headset	A8100-TH10	Glocom	Pc	4
6	Computer & Peripheral				
6-1	Rugged PC CPU: Core I 5, RAM: 8GB, Hard Disk: 256GB, Display: 15"	3rd Party	Getac	Set	1
6-2	Ethernet Switching Hub	8 ports	Brand	Set	1
6-3	Ethernet Cable	3m	Brand	Pc	1
7	Software		Glocom		
7-1	BMS Software for vehicle	GS-930VH	Glocom	Copy	1
7-2	Tactical Chat	GS-910	Glocom	Copy	1
8	Vehicle Installation Kit	A8100-IK10	Glocom	Set	1

GS-2220C “Lion” Tank Battlefield Management System

Tanks are equipped with GR-8100MS HF/VHF radios, GR-8520VU High Capacity Data Radio, GR-8200MA Multiband Airborne radio and GR-8350MV VHF/UHF Multiband Vehicular radio. GR-8100MS radios are used for HF communication between command tanks. GR-8520VU High Capacity Data Radio is for UHF data communications including voice, video, etc. over a truly decentralized mobile ad-hoc network. And GR-8200MA Multiband Airborne radio provides L-band communication between command tanks, H.Q. post and airplanes. GR-8350MV VHF/UHF Multiband Vehicular radio supports satellite communication between command tanks, H.Q. post and airplanes.



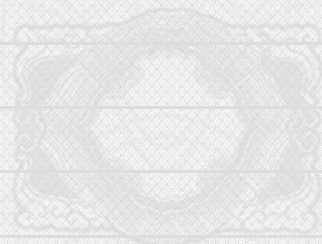
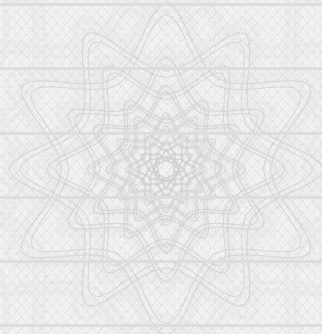
Ordering Information

Nº	DESCRIPTION	MODEL	BRAND	UNIT	QTY
1	HF/VHF 100W Mobile Radio Set	GR-8100MS	Glocom	Set	2
1-1	HF/VHF 100W Mobile Radio	GR-8100MS	Glocom	Pc	2
1-2	Officer Handset	A8100-OH10	Glocom	Pc	2
1-3	HF Mobile Antenna with Cable	A8100-WA4.2	Glocom	Pc	1
1-4	VHF Mobile Antenna with Cable (30~88 MHz, 3.7m)	A8100-MA3	Glocom	Pc	1
1-5	GPS Mobile Antenna	GA-50A	Glocom	Pc	2
1-6	HF 100W Automatic Tuning Unit	GR-8102MS	Glocom	Pc	1
1-7	Amplifier-ATU RF Cable	A8100MS-RC01	Glocom	Pc	1
1-8	Amplifier-ATU Control Cable	A8100MS-CC01	Glocom	Pc	1
1-9	Power Supply Unit	N/A	Glocom	Pc	1
1-10	Power Cable	A8100MS-PC01	Glocom	Pc	2
1-11	User Manual	A8100MS-UM01	Glocom	Copy	1
2	Multiband Airborne Radio Set	GR-8200MA	Glocom	Set	1
2-1	Multiband Airborne Radio	GR-8200MA	Glocom	Pc	1
2-2	Remote Control Unit	A8200MA-RC01	Glocom	Pc	1
2-3	Keypad Display Unit	A8200MA-KD01	Glocom	Pc	1
2-4	L-Band Antenna(960-1240MHz)	A8200MA-AA02	Glocom	Pc	1
2-5	Airborne GPS Antenna	GA-53A	Glocom	Pc	1
2-6	Flying Helmet	A8200MA-FH01	Glocom	Pc	1
2-7	Data Cable	A8200MA-DC01	Glocom	Pc	1
2-8	Power Cable	A8200MPC01	Glocom	Pc	1
2-9	User Manual	A8200MA-UM01	Glocom	Copy	1
3	VHF/UHF Multiband Vehicular Radio Set	GR-8350MV	Glocom	Set	1
3-1	VHF/UHF Multiband Vehicular Radio	GR-8350MV	Glocom	Pc	1
3-2	X-Wing Satcom Antenna with Cable(240-400MHz)	GA-310-AT-06	Glocom	Pc	1
3-3	Vehicle GPS Antenna	GA-52A	Glocom	Pc	1
3-4	Vehicle Headset	A8350MV-VH10	Glocom	Pc	1
3-5	Data Cable	A8350MV-DC01	Glocom	Pc	1
3-6	Power Cable	A8350MV-PC01	Glocom	Pc	1
3-7	User Manual	A8350MV-UM01	Glocom	Copy	1

Nº	DESCRIPTION	MODEL	BRAND	UNIT	QTY
4	High Capacity Data Radio Set	GR-8520VU	Glocom	Set	1
4-1	High Capacity Data Radio (HCDR)	GR-8520VU	Glocom	Pc	1
4-2	Officer Handset	A8100-OH10	Glocom	Pc	1
4-3	Mobile antenna with cable (225-512MHz, 1m)	GA-310-AT-03	Glocom	Pc	1
4-4	GPS Mobile Antenna	GA-50A	Glocom	Pc	1
4-5	Ethernet Cable	A8520-EC3M	Glocom	Pc	1
4-6	Power Cable	A8520-PC2M	Glocom	Pc	1
4-7	User Manual	A8520-UM10	Glocom	Copy	1
5	Tactical Network Intercom System	GE-2100	Glocom	Set	1
5-1	Master Control Station	GE-2100-MCS	Glocom	Pc	2
5-2	Crew Control Station	GE-2100-CCS	Glocom	Pc	2
5-3	Data & Power Cable	GE-2100-DC3M	Glocom	Pc	4
5-4	Radio Voice & Data Cable	GE-2100-RC3M	Glocom	Pc	3
5-5	Power Cable	GE-2100-PC3M	Glocom	Pc	1
5-6	Ethernet Cable	GE-2100-EC3M	Glocom	Pc	2
5-7	Tactical Headset	A8100-TH10	Glocom	Pc	4
6	Computer & Peripheral				
6-1	Rugged PC CPU: Core I 5, RAM: 8GB, Hard Disk: 256GB, Display: 15"	3rd Party	Getac	Set	More than 1 on demand
6-2	Ethernet Switching Hub	8 ports	Brand	Set	1
6-3	Ethernet Cable	3m	Brand	Pc	More than 1 on demand
7	Software		Glocom		
7-1	Integrated Command & Control System Software	GS-930HQ	Glocom	Copy	1
7-2	BMS Software for vehicle	GS-930VH	Glocom	Copy	1
7-3	Tactical Chat	GS-910	Glocom	Copy	1
8	Vehicle Installation Kit	A8100-IK10	Glocom	Set	1

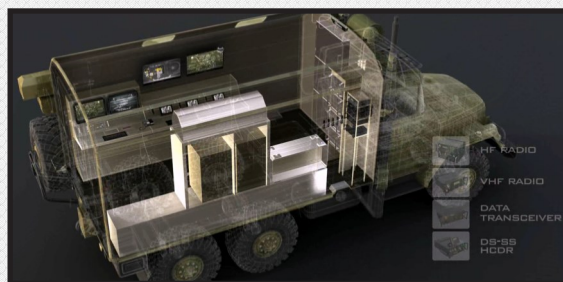
MEMO

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Global Communications Co.,



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



Command System



Jeep System



Tank System



Combat car System

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.