

DEPLOYABLE RADIO LINK

COMMUNICATION SYSTEM



Deployable Radio Link Communications System is a network centric communication infrastructure that enables obtaining a common picture of the battlefield in near-real time and sharing data among battlefield systems.

Deployable Radio Link Communications System provides similar capabilities compared to the Tactical Communication System (TASMUS), but it is installed on tactical carrying cases. The capabilities of the system is focused on core services in order to obtain a lightweight version. The exact capabilities of the system can be tailored based on end-user requirements. System forms a survivable, flexible, secure network to address all the present and future communication requirements of the commanders in the tactical field.

Several command & control functions such as air defense, fire support, maneuver control, intelligence, electronic warfare and logistic support need to be executed simultaneously on the battlefield through rapid and reliable exchange of information. System brings together state-of-the-art military communication technologies, enabling user access through mobile radios and Combat Net Radio networks in addition to wired local area access in the tactical field.

Deployable Radio Link Communications System is deployed in the center of military operations such that seamless communication between the army and battalion/company level is achieved. It also provides interfaces to the strategic telecom and data networks.



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Deployable Radio Link Communication System Features:

The tactical battlefield has now become a ground for extensive digital data exchange where many sensors, weapons and command centers need to exchange a large amount of data promptly. Moreover, these units have to communicate with each other while on the move because the military doctrines now heavily emphasize on mobility and flexibility. System provides this flexible communication infrastructure and delivers secure communication services including voice (clear/encrypted), encrypted IP data, video teleconference, file transfer and fax. System is built with several Electronic Counter Measures such as LPI/LPD, COMSEC (with end-to-end encryption) and TRANSEC.

System supports full IP based communications. Network nodes are connected by state-of-the art ASELSAN GRC-5220 Tactical IP Radio Links. GRC-5220 is an OFDM based, frequency-hopping radio that can support over 200 Mbps Ethernet throughput (100 Mbps full-duplex) using MIMO technology. Furthermore, it supports long-range connectivity at distances beyond 100 km. Key features:

- Mobility through ASELSAN's Tactical Software Defined Networking Radio (SDR)'s.
- Interfaces to the other strategic telecom and data networks, PTT networks, SATCOM and tactical Combat Net Radios.
- Interoperability with the Other Nations, with Allied Networks, and with Strategic (Commercial/Military) Networks.
- Electronic Protection Measures (LPI/LPT Capability, COMSEC, Link-by-Link TRANSEC).
- Modular infrastructure that can be continuously upgraded according to customer requirements.

Secure Communications

Deployable Radio Link Communications System provides highest level of communication security.

All types of voice, data and video communication are encrypted before being transmitted:

- IP Crypto Device provides, end-to-end, high speed, and secure IP communication with its next generation IP network encryption standards.
- Link Encryption Device provides secure data communication over links, through Ethernet
- ASELSAN Secure Key Management System (Security Manager) provides remote cryptographic key management and network management functionalities for Cryptographic Products.

MAIN SYSTEM COMPONENTS

Tactical Routers

Tactical Routers provides IP based voice, data, and video communication services and facilitates fast routing/switching capabilities. The tactical routers support IP Qos and multi-path routing features. Moreover, it enables communication among different IP based user equipments like LAN Equipment (PC, router), VoIP phones, Wireless Local Area Networks Equipment and provides fully integrated IP solution for radio networks. Tactical IP Switch is completely based on IP for routing and switching functions.

GRC-5220 Tactical IP Radio Link

GRC-5220 is an Orthogonal Frequency Division Multiple Access (OFDMA) based high capacity Ethernet radio, specially designed for outdoor use in the tactical field to provide secure and reliable communication for on-the-move IP services.

GRC-5220 operates both under Line-of-Sight (LOS) and Non-LOS (NLOS) conditions with Point-to-Point (PTP) and Point-to-Multipoint (PMP) modes. GRC-5220 can support over 200 Mbps Ethernet throughput (100 Mbps full-duplex) using MIMO technology. Furthermore, it supports communication over very long ranges (beyond 100 km).

The radio system can operate at two different military frequency bands. NATO Band-III+ (1350 - 2690 MHz) and NATO Band-IV (4400 - 5000 MHz) are supported using the corresponding Radio Frequency Units (RFU). GRC-5220 offers the latest ECCM features including full band adaptive fast frequency hopping and automatic power control and more in order to overcome advanced electronic warfare threats.

Tactical Voice Server

Tactical Voice Server, designed for military applications, supports tactical voice communication services. It is a fully ruggedized shock proof device. System is based on SIP protocol. It also supports all major interfaces to support both IP based and legacy devices/system such as, CO, ISDN PRI, RoIP and Analog interfaces.

Software Defined Networking Radios (SDNR's)

System supports two distinct waveforms: Narrow Band Networking Radio Waveform and Wide Band Networking Radio Network Waveform. These two waveforms are used to connect different battlefield systems (e.g., fire support, air defense) to the system. Through the gateway radios (SDNR Radio Access Point), mobile segment subscribers are able to access to the network backbone.

Secure VoIP Phone

Secure VoIP Phone supports encrypted voice/ IP data and video communications on the same terminal and fulfills the NATO SCIP standards. Secure VoIP phone is a rugged device that can be used in both tactical and strategic systems. Secure VoIP phone supports approved military and NATO encryption algorithms.

