

Elbit TMR™ Max-Tactical Multimedia Router

A comprehensive multimedia routing solution for deployed command posts and tactical command vehicles



Elbit Systems™

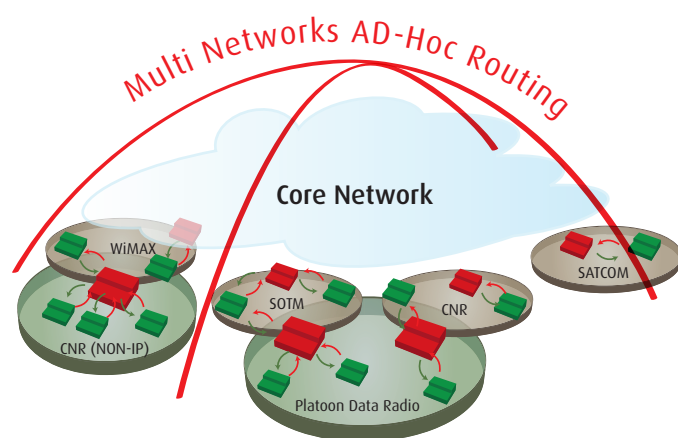
C⁴I and Cyber

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Elbit TMR™ Max is an all-in-one, compact middleware solution for disseminating multimedia information-voice, data and real-time video-over mobile ad-hoc networks (MANET) with dynamic, rapidly-changing network topology. The military-grade Elbit TMR™ Max is an ideal solution for small and midsize deployed command posts, enabling real-time situational awareness coupled with complete network interoperability across the entire chain of command.

Elbit TMR™ Max integrates a powerful data router for IP and non-IP radio networks with a radio-over IP (RoIP) subsystem for advanced voice services to suit multiple profiles and operational needs. Driven by a powerful yet simple-to-use network management system (NMS), the modular and scalable solution can be utilized in any type of tactical configuration. These configurations include numerous command posts and vehicles linked by copper or fiber-optic cables, with shared radio network resources.



Elbit TMR™ Max's unique benefits

Tactical Internet enabler with Elbit TIGER® inside

Elbit TMR™ Max incorporates a powerful data router – interconnecting IP and non-IP radio data networks into a unified “Tactical Internet” with the field-proven TIGER® embedded routing subsystem. Elbit TMR™ Max implements standard and optimized routing protocols to facilitate IP services, together with advanced ad-hoc protocols and QoS mechanisms. These protocols have been specifically developed and optimized to meet the challenges of tactical radio network environments.

Advanced triple play features and services

Elbit TMR™ Max offers state-of-the-art multimedia services, including advanced IP intercom for command post users, RoIP services, telephony, an embedded voice recording subsystem, security services and WLAN ad-hoc connectivity. In addition, the solution offers fixed and mobile voice terminals using the Elbit Systems iTalk™ application.

Interoperability using TMR™ Max RoIP services

Elbit TMR™ Max provides RoIP services for diverse profiles – from simple voice sessions between combat network radios (CNR) to full-scale, multi-participant, multi-network, and multi-hop voice conference calls between IP radios, CNRs, telephony and command post users. TMR™ Max supports voice interoperability between a range of radio networks – HF, VHF, UHF, SatCom and others. It integrates a SIP server and a conference bridge, thereby supporting the user's existing VoIP equipment.

Vetronics connectivity

Elbit TMR™ Max interfaces with a modern armored vehicle data bus – using standard CAN bus and Gbit Ethernet ports-along with discrete alarm ports. Elbit TMR™ Max disseminates vehicle signals and alerts to command post users as well as to distant personnel via the vehicle's radio networks.

C4I System Connectivity



Vetronics connectivity

Key Features

- Tactical Internet enabler with Elbit TIGER® inside
- Multimedia inter-vehicle networking
- Full-featured IP data routing solution
- Simultaneously supports up to 8 CNRs, 9 IP radios and terminals and up to 8 IP crew stations
- Advanced IP intercom services
- RoIP services and 2W telephony (PSTN and ISDN)
- Ad-Hoc WLAN networking
- Embedded voice recording subsystem
- Customer application processor
- Fixed and mobile voice terminals utilize the Elbit Systems' iTalk™ application
- Vetronics connectivity
- Voice and data security services
- Military-grade hardware system

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Elbit TMR™ Max Specifications

IP router capabilities

- IPv4 and Ipv6 dual stack support
- Multiple IP addresses per interface and loopback interfaces
- Secondary IP addresses support routing protocols
- Standard routing protocols – RIP, OSPF, OLSR, BGP, PIM-SM and MSDP
- IP multicast subscription (IGMP and MLD)
- GRE tunneling (including QoS support on tunnel interface)
- VRRP-based router redundancy
- DHCP server and client, NAT server and client. NTP Server
- State-full firewall
- QoS – DiffServ, DSCP/TOS, RSVP support, and traffic shaping
- Policy-based forwarding
- TCP acceleration (TCP proxy) for high delay communication channels (option)
- MPLS routing (option)

Ethernet managed switch capabilities

- Port based and 802.1q VLAN
- STP/RSTP (802.1d + 802.1w)
- 802.1p (QoS at layer 2)
- RMON and user-friendly interface to access switch statistics
- Port mirroring

Call Manager, SIP Server, RoIP Services

- SIP signaling and RTP streaming
- Routes voice sessions between VIC crew boxes, RoIP terminals, CNRs, IP radios and telephony interfaces (FXS, FXO, and remote E1 end points)
- Direct in-dialing or via embedded interactive voice response (IVR)
- Voice conferences with local and remote radios, multi-hop voice conference, multiple radio cross-patches (relay)
- Advanced codecs supported – G.711, G.726, G.729, G.723; additional codecs upon request

Management capabilities

- CLI / remote CLI, web-based and SNMP

WLAN (option)

- 802.11 n/b/g high-power, high-throughput WiFi access point
- Dual antenna (MIMO)
- Self Forming/Healing ad-hoc networking

Data security (option)

- Security mechanisms – IPsec, HTTPS, SSL, SSH, using AES128/256, DES, Triple DES

Customer application module (option)

- Qseven™ ⚡ compatible socket for computer-on-module (COM) board
- Customer's unique application host interfaces to main switch fabric

Physical interfaces

- 7 Ethernet ports 10/100Mbps
- 3 Ethernet ports 10/100/1000Mbps
- 8 non-IP (CNR) radio interfaces, each consisting of:
 - Balanced/unbalanced audio, adjustable gain
 - PTT, COR (voice Rx indication) signals
 - Asynchronous RS-232/485 radio control interface
 - Full synchronous/asynchronous RS-232 data interface (4 CNRs only)
- 6 Telephony ports – FXS/FXO (option)
- E1/T1 telephony interface (option)
- 2 WLAN antenna ports (option)
- 6 Ethernet 10/100Mbps PoE ports; for RoIP terminals, per 802.3at
- 2 RS-485 TDM VIC terminal ports (option)
- 2 CAN bus ports and vehicle discrete alarms ports
- Service/maintenance interfaces
- Power in: 18-32Vdc, 80-180W (*), Mil-Std 1275D
- GPS antenna input interface driving internal C/A code GPS receiver
- External GPS interface (SAASM); includes power, RS-232 and 1PPS signal

(*) Configuration dependent



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