Tadiran CNR-710

VHF Hand-held based radio family for multi-mission communications

Elbit Systems™
C⁴I and Cyber

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Modern theatres of operation demand real-time coordination between multiple ground, air, and marine forces. In today's complex tactical scenarios, easy-to-use, interoperable and secure communications are mission-critical.

The Tadiran CNR-710 from Elbit Systems offers all the combat-proven lightweight reliability that operatives expect, together with an uncompromising level of communications modularity, flexibility and security.

A Military, Combat-Proven, Modular Solution

Designed specifically to meet the challenges of multiple- force engagements, the Tadiran CNR-710 offers ground, sea, and air units VHF frequency band coverage and waveforms – enabling simple and secure voice and data communications with a wide range of forces, units and stations, from a single R/T unit. Offering the most comprehensive feature set of its class, the Tadiran CNR-710 is combat-proven, already exceeding the expectations of military organizations around the world. Lightweight, rugged and slim, the Tadiran CNR-710 leverages Tadiran's synchronous-orthogonal frequency hopping technology, and is fully compatible with legacy Tadiran frequency hopping systems like the CNR-710MB, CNR-900, CNR-9000 and CNR-9000HDR.

A Platform for Growth

Ideal for use at the tactical level, the flexible tadiran CNR-710 is the basic building block for creation of platoon-level and above voice and data communications infrastructure. With a complete line of add-ons, the Tadiran CNR-710 is available in variety of configuration packages for land, Sea and Airborne.The Tadiran CNR-710 enables a full range of communication solutions, from standalone radios to turnkey C⁴I systems.

Feature-Rich

Leveraging over 40 years of combat-proven ingenuity, Elbit Systems designed the Tadiran CNR-710 with features that meet and exceed the rugged demands of military organizations worldwide, including:

Human Engineering
- Simple to operate, with all functions unambiguously identified
- Innovative, menu-driven interface, interactive display-guided operation
- Preset, DATA, COMSEC and ECCM parameters loaded via keyboard, keygun loader or another CNR-710
- Visual and audible alerts for security breach protection; frequency hopping indication in fixed frequency mode Clear indication in Secure mode
- Minimum operatior workload under battlefield conditions; auto data rate adaptation, auto synchronization, "clear" override to enable clear reception in SEC mode
- Quick emergency erasure of radio security parameters

Data Communications
- Powerful data rate and data mode (sync/async) adapter
- Sophisticated and robust error correction and high probability of error-free data transfer under severe communication conditions
- Synchronous and asynchronous modes of operation and interface

Built-in Information Security and Immunity Encryption (COMSEC)

- Very high level of voice and data security (digital encryption)

Anti-Jamming (ECCM)

- Wideband (or narrowband) frequency hopping over the entire frequency band 30 to 88 MHz
- Synchronous orthogonal frequency hopping minimizes friendly collocation interference and improves anti-jamming immunity
- PTT-oriented, self-distributed synchronization eliminates need for master stations and provides immediate operation readiness
- Very high probability of synchronization and resynchronization under severe jamming conditions
- Spoofing resistant

Special Features (optional)

- SMS-burst for powerful message transmission
- Communication controller enables the radio to work as an IP radio, allowing an IP network to be established over the tactical network
- Built-in Vocoder for high voice quality reception even under poor level channels
- Built-In GPS for system location report
- Scanning - up to 4 preset channels
- Selective call - individual and group communications

Logistic Flexibility

- Easy operational configuration based a common receiver-transmitter
- Reduced equipment down-time and logistical costs
- High MTBF
- Low MTTR; plug-in modular design at LRU and SRU levels

Configurations

The Tadiran CNR-710's modular design provides a variety of configurations geared to match any specific operational requirement. Manpack, Vehicular, Base, Marine and Airborne radio sets are easily configured around the common Receiver-Transmitter unit in the following configurations:

PRC-710
5w Handheld/Manpack Radio set

PRC-710/HP
20w Manpack Radio set

VRC-710
5w Vehicular/Base/Marine Radio set

VRC-710/20
20w Vehicular/Base/Marine/Airborne Radio set

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Optional Ancillaries and Accessories

Elbit systems offers a variety of optional accessories depending on the configuration and client operational requirement.

- **Power sources**
  - · Batteries - Primary and Rechargeable Lithium Ion batteries
  - · Battery chargers - Electrical, hand crank & solar
  - · Power Supplies - AC/DC & DC/DC
- **Antennas** – Variety of antennas for all configurations
- **Audio** – Standard & Control Handsets, headsets and loudspeakers
- **Remote control** – Variety of solutions depending on required operational scenarios
- **Software application** – Programming, Radio Network Management System (RNMS), Data communication etc.

Specification

General

• Frequency range:	30-88 MHz
• Channel spacing:	25 kHz
• Modulation:	FM (F3E)
• Operation mode:	Fixed frequency (FF): CLEAR and encrypted (COMSEC); Frequency hopping (FH): ECCM/ COMSEC,
• Channels:	10 preset channels
• Scanning:	Up to 4 preset channels
• Selective call:	Individual and group communications
• Built-in-test (BIT):	On-line and operator-initiated test
• Squelch:	150 Hz tone or noise activated
• Power Source:	
• Hand-held/Manpack:	LiMn02; Lithium Ion
• High Power Manpack:	Lithium; Lithium Ion
• Vehicular/Base:	24-28V nominal
• GPS (optional):	Embedded GPS
• Vocoder (optional):	2400, 4800 bps
• Comm. Controller (optional):	STANAG 4XXX

Environmental:

• Operating temperature:	-30°C to +65°C
• Storage temperature:	-30°C to +71°C
• Relative humidity:	95%
• Immersion:	1 meter
• Dynamic and mechanical:	MIL-STD-810F

Transmitter

• Power output:	
• Hand-held/Manpack:	Up to 5W
• High power manpack:	Up to 20W
• Airborne:	Up to 20W
• Vehicular/Base:	Up to 50W

Anti Jamming (EECM)

• Technique:	Orthogonal frequency hopping
• Synchronization:	Own and homogeneous (w/o master station) Auto resynchronation capability
• Late entry:	Without special procedures

Encryption (COMSEC)

• Type:	Digital, very long non-linear "white" sequences
• Special characteristics:	CLEAR override, COMSEC alarm

Data Communications:

• Type:	Synchronous and asynchronous
• Rate:	Up to 16 kbps Synchronous
• Interface:	RS-232
• Special characteristics:	Automatic rate adaptation

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