

LONG-RANGE

TACTICAL

LINE-OF-SIGHT

SYSTEMS

COMPUTERS



combat
PROVEN



PRC-710

VHF/FM VOICE & DATA
COMSEC/ECCM HANDHELD RADIO



combat
PROVEN

PRC-710

The advanced, powerful, and lightest military handheld VHF/FM voice and data COMSEC/ECCM radio in the battlefield

The latest generation PRC-710 radio was designed and developed in direct response to emerging combat requirements. The PRC-710 incorporates improvements driven by real combat experience. The RT-710 weighs less than 750 grams, making it the lightest radio of its type on the market. At the same time, this advanced, powerful radio packs a comprehensive set of features. The PRC-710 is fully compatible with the frequency-hopping CNR-900 and CNR-9000 radio systems. The PRC-710 completes the CNR-900 and CNR-9000 families of manpack, vehicular and fixed station radios, delivering seamless interoperability.

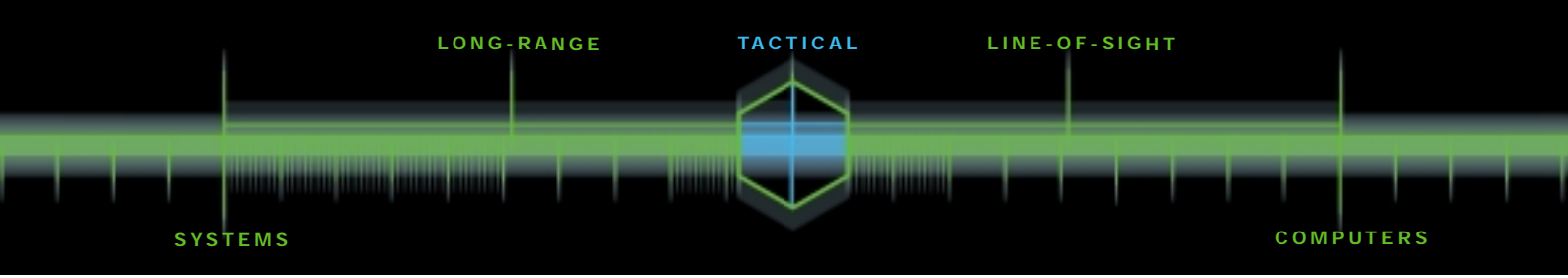
- Unique ECCM facility defeats powerful EW
- High degree of voice and message security
- Powerful error detection / correction codes and automatic data rate adaptation
- State-of-the-art, innovative MMI
- Fully compatible with CNR-900 and CNR-9000 radio systems

Across-the-board latest generation features

Advanced frequency hopping (ECCM), message security (COMSEC) and data communications (DATA) are embedded in the handheld PRC-710. The highly advanced ECCM facility includes such unique features as orthogonal nets with inter-net synchronization, defeating even the most persistent and powerful EW systems. Co-location radio interference is reduced to a minimum even under severe radio environments.

Powerful error detection and correction codes, together with automatic data rate adaptation, ensure error-free data communications at various data rates. The sophisticated digital encryption (COMSEC) facility delivers a high degree of voice and data message security.

An optional, add-on lightweight 20W amplifier is available for extended communication ranges (25 km typical).



Operationally flexible and user-friendly

The PRC-710's functional simplicity, modular design and extensive Built-in Test (BIT) support operational and logistic flexibility.

An innovative Man Machine Interface (MMI) makes operation simple and intuitive, even under the stress of extreme combat conditions. The SECURE alarm and CLEAR override functions, are two examples of the many features designed to simplify operations.

MAIN FEATURES

Operational flexibility

- The lightest handheld radio with 5 watts power output
- Built-in microphone and loudspeaker
- Whisper mode
- Variety of antennas and audio accessories
- Option: PRC-710HP high power 6/20 watt manpack
- Audible indications

Built-in information security and immunity

Built-in encryption (COMSEC)

- Very high level of voice and data security
- Encryption keys protected against unauthorized access

Anti-jamming (ECCM)

- Synchronous, orthogonal frequency hopping minimizes friendly collocation interference and identification
- Very high probability of synchronization and resynchronization under severe jamming conditions
- PTT-oriented, self-distributed synchronization eliminates need for master stations
- Unlimited radio silence
- Latecomers enter the net without special procedures

Data communications

- Powerful data rate adapter
- Automatic adaptation of communication type (voice/data, sync/async, data rate)
- Error correction – high probability of error-free data transfer under severe communication conditions

Logistic flexibility

- Reduced equipment downtime and logistic costs
- High MTBF: 10,000 hours
- Low MTTR; plug-in modular design
- Extensive and efficient Built-in Test (BIT)



PARAMETER PROGRAMMING AND LOADING BY PC



- State-of-the-art human engineering
- Functional simplicity- does not require a skilled operator
- User - friendly, display-guided operations for higher level functions and data loading
- Visual and audio alerts
- Auto synchronization, clear override, secure indication
- Quick emergency erasure of radio COMSEC and ECCM parameters

Interoperability

- Compatible with previous generation radios and newer generation CNR-900, CNR-9000, PRC-624/624(S) VHF/FM radio systems
- Interfaces with a wide range of peripherals

Retransmit capability

- Voice and data transmission
- Built-in retransmission capability (no external units for retransmission)
- Auto protection against security breach
- Operation modes: CLEAR, COMSEC, ECCM



TECHNICAL SPECIFICATIONS

General

Frequency	30.000 to 87.975 MHz
No. of Channels:	2320 at 25 kHz spacing
Modulation:	F3 Simplex, voice, analog and digital data up to 16 kbps
Modes of Operation	Fixed frequency (FF): CLEAR and COMSEC Frequency hopping (FH): ECCM/COMSEC
Preset Channels:	10 FF (CLEAR or COMSEC), and 10 FH hopping nets
Scanning:	Up to 4 pre-selected channels
Selective Call:	Up to 27 addresses and 3 groups
Frequency Stability:	3 ppm
Built-In Test (BIT):	On-line and operator initiated, microprocessor controlled
Power Sources:	14V nominal Primary: Lithium (LiMnO ₂) Rechargeable battery: Lithium ion (TLI-714/TLI-718)
Operation Hours: (in Aj mode, at 1.9 Tx:Rx and 2W power output)	LiMnO ₂ battery (BT-6625): 14 hours Li-Ion battery (TLI-718): 15 hours Li-Ion battery (TLI-714): 7 hours
Environmental (per MIL-STD-810E):	
• Operating Temperature:	-30°C to +65°C
• Relative Humidity:	95%
• Immersion:	1 meter of water for 2 hours
Dynamic & Mechanical:	per MIL-STD-810E
Max. Dimensions (H x W x D):	180x75x55
Weight:	Less than 750 grams

Receiver

Sensitivity:	0.5µV for 10 db SINAD
IF Rejection:	-70 dB
Audio Outputs:	
• Adjustable:	12 mW/600 ohm (earphone) 150mW/45 ohm (ext. speaker) 300 mW internal loudspeaker

• Fixed level:	220 mV/150 ohm
Squelch:	150 Hz or noise activated
Front-end Protection:	+ 37dBm

Transmitter

Power Output:	Adjustable from 1/4W up to 5W
Frequency Deviation:	5.6 kHz

Anti - jamming (ECCM)

Technique:	Orthogonal frequency hopping over the entire frequency band (or partial band)
Hopping Rate:	Medium
No. of preset hopping keys:	10
No. of preset frequency tables:	10
Synchronization:	Based on time of day (T.O.D.) reference. Acquired at up to 4.5 minutes T.O.D. difference. Auto resynchronization capability
Late Entry:	No special procedures required
Programming & Data Loading:	Keygun loader, another PRC-710 or PC
Special features	Hailing from frequency hopping to fixed frequency and vice versa

Encryption (COMSEC)

Type:	Digital, using very long non-linear "white" sequences
No. of Keys:	10
Synchronization Time:	Less than 250 msec
Programming & Data Loading:	Keygun loader, another PRC-710 or PC
Special Features:	CLEAR override, COMSEC alarm Auto resynchronization capability

Data Communication

Type:	Synchronous and asynchronous
Rate:	50 to 4800 bps with error correction 16 kbps (synchronous) without error correction
Comm. Protocol:	RS-232
Special Feature:	Automatic rate adaptation