



TELEFUNKEN  
RACOMS



## PRC-710MB

Multi-Band Radio  
for Multi-Mission Communications

# Advanced multi-band handheld radio for military voice and data communications

The PRC-710MB was designed and developed to specifically meet the growing demand for versatile and highly reliable communications in operations involving multiple forces.

Providing ground-to-ground, ground-to-air and ground-to-sea communications, the PRC-710MB offers users exceptional frequency band coverage and waveforms to enable radio communications with a wide range of forces, units and stations, by means of a single radio unit.

With a comprehensive set of features packed into its small volume, the PRC-710MB weighs less than 800 grams and is one of the lightest and most advanced radios of its type on the market. Implementing the combat proven synchronous-orthogonal frequency hopping technology, it is fully compatible with the TELEFUNKEN RACOMS frequency hopping legacy CNR-900, PRC-710 and CNR-9000 radio systems. Operating in its fixed frequency mode of operation, it is compatible with current-generation fixed-frequency VHF and UHF radios.

## PRC-710MB main features

- ◆ Multi-Band: 30-512 MHz
- ◆ Multi waveform: FM & AM (voice) and FSK (data) modulations
- ◆ Unique ECCM/COMSEC capability using synchronous-orthogonal frequency hopping to effectively counter interception, jamming, spoofing, eavesdropping and other forms of active electronic warfare
- ◆ Dynamic network synchronization that eliminates the need for a central control station thereby minimizes communication vulnerability
- ◆ Advanced digital encryption for high level voice and data security (COMSEC)
- ◆ Powerful error detection/correction codes and automatic data rate adaptation to ensure error-free data communications at various data rates
- ◆ State-of-the-art, innovative MMI
- ◆ AM Beacon
- ◆ GPS interface
- ◆ Selective calling
- ◆ Auxiliary channels scanning
- ◆ Two way hailing
- ◆ Future growth capability; Programmable hardware supports software-updates for future product improvement.

## Technical Specifications

General	
Frequency	30.000 to 512.000 MHz
Frequency step	12,5 kHz spacing
Modulation	FM (F3E), AM (A3E), CVSD (voice), FSK (data)
Modes of Operation	Fixed frequency (FF): CLEAR and encrypted (COMSEC) Frequency hopping (FH): ECCM/COMSEC
Preset Channels	10
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	LiMnO <sub>2</sub> (BT-6625)
Rechargeable battery	Lithium Ion (TLI-714/TLI-718)
Operation Hours: (at 1:1:8 Tx:Rx:Stby and 2W power output)	BT-6625: 14 hours; TLI-718: 15 hours; TLI-714: 7 hours
Environmental	
Operating temperature	-30°C to +65°C
Storage temperature	-40°C to +71°C
Relative Humidity	95%
Immersion	1 m of water for 2 hours
Dynamic & Mechanical	per MIL-STD-810E
Max. Dimensions	180 x 75 x 55 mm (HxWxD)
Weight	Less than 800 grams
Receiver	
Sensitivity	FM: 0,5µV for 10 db SINAD AM: 1,5µV for 10 db SINAD
Spurious, Image & IF Rejection	-60 dB
Adjacent channel rejection	>55 dB at ± 25 kHz
Audio Outputs	
Adjustable	12 mW/600 ohm (earphone) 150 mW/45 ohm (ext. speaker) 300 mW internal loud speaker
Fixed level	220 mV/150 ohm
Squelch	CTCSS, 150 Hz or noise activated
Front-end Protection	+ 37 dBm
Transmitter	
Power output	FM: adjustable from 1/4W up to 5 W AM: adjustable; 1W, 5W
Harmonic suppression	-47 dBc
Spurious emission	Less then -60 dBc
Beacon	121,5 MHz or 243 MHz or preload in frequency range 116-150 MHz, 225-400 MHz

Anti-jamming (ECCM)	
Technique:	Orthogonal frequency hopping
Hopping Rate:	2 levels
No. of preset hopping keys:	10
No. of preset frequency tables:	10
Synchronization:	Self and seamless (no master station); 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 spec. procedures required
Programming & Data Loading	Keygun loader, another PRC-710MB 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 preset COMSEC Keys	10
Programming & Data Loading	Keygun loader, another PRC-710MB or PC
Special Features	CLEAR override, COMSEC alarm
Data Communication	
Type	Synchronous and asynchronous
Rate	50 to 4800 bps with error correction 16 kbps (synchronous) w/o error correction
Interface	RS-232
Special Feature	Automatic rate adaptation

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