**PR9560 Advanced VHF COMSEC/ECCM radio systems**

**PR9560 Advanced VHF COMSEC/ECCM radio systems for reliable voice and data communications**

The PR9560 is intended for land forces such as infantries, forward observers, snipers, special forces and antiterror units, and can be deployed at the platoon or company level. The radio owns compact, lightweight and ruggedized characters, which assures reliability and maneuverability in demanding mission critical conditions.

The PR9560 provides continuous coverage in the 30~87.975 MHz frequency band. By applying with the Software Defined Radio (SDR) architecture, the radio offers three progressive waveforms (CNR/VRN/PRN) to guarantee a more stable transmission, longer distance and greater speed for secured communication. With the high data throughput, it benefits to weapon system control, battlefield supervision and real-time situational awareness.

The Tianhai VHF handheld radio is packed with numerous advanced functionalities, for instance: simultaneous voice and data, automatic position reporting using an internal or external GPS receiver, VOX, integration with tactical messaging or image transmission applications.

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**ADVANCED WAVEFORMS**

**Combat Net Radio (CNR)**

CNR’s primary role is voice or data transmission in battlefield via point to point/ point to multi-points communication. The CNR attributes 4 modes: FM (Frequency Modulation), FF (Fixed Frequency), FH (Frequency Hopping) and FCS (Free Channel Search).

**Voice Relay Network (VRN)**

VRN extends voice communication distance by chaining, resolves the communication issues in complicated scenarios, for example underground, jungle and trench. The VRN can be spread up to 6 hops relaying in both FF and FH modes.
Packet Radio Network (PRN)

PRN mainly serves as data transmission for man to machine and machine to machine in battlefield. Based on Mobile Ad-Hoc Network (MANET) technology, the PRN contains abilities of decentralization, self-healing, self-forming, dynamic topology and simultaneous voice and data. The transmission distance can be stretched significantly by up to 6 hops in 32 nodes maximum.

HIGHLIGHTS

Electronic Counter-Counter Measures (ECCM)

Frequency Hopping (FH)
The radio contains a frequency hopping rate of 1,000 hops per second which ensures the communication can be succeeded with up to 7% of working band interfered, whereas the communication distance will not be degraded.

Free Channel Search (FCS)
FCS mode is intended for operations that requires frequency agility in a high-noise or wideband radiojamming environment.

Communication Security (COMSEC)

Encryption
The PR9560 provides AES 256 bit software encryption for both voice and data communication, as well as supports customized encryption board.

Key filling
Key fill gun offers 6 functions: confidential information storage, networking configurations injection, encryption parameters backup, identification authentication, key erasing execution and also reserves key storage ability even if in the event of power loss.

Key erasing
The radio affords diverse methods to prevent the secured information disclosure through erasing the key manually or automatically, i.e., manually erasing the key by holding the combined buttons even if the radio is shut down; automatically erasing the key when the radio was disassembled.

Reliability

Optimized Battery Performances
Continuously working for at least 12 hours (1:1:8,3,800mAh) through the unique adaptive energy saving technique. The operation temperature can be expanded to -40°C ~ +65°C by adopting the low temperature battery.

Ruggedized
The PR9560 and its accessories are certified MIL-STD-810G, with an improved waterproof capability of submersion in 2 meters water for up to 4 hours.

Usability

Small-profile (220H×72.5W×36.5D) and lightweight (<600g) design guarantees portable capability in the front-line.
GPS build-in module enables Team Leaders at the tactical level to track individual soldier position location information (PLI), enabling situational awareness.

OLED screen provides high brightness, wider viewing range, and readable capability under direct sunlight.

Power and volume buttons are separated along both sides of PTT button to prevent mistakenly touch.

Versatile applications such as data transmission software, PC programming kit and dispatch platform offer immediate manipulation readiness.

**SPECIFICATION**

**GENERAL**
- Frequency Range: 30-87.975MHz
- Channels: 2320 at 25kHz spacing
- Net Preset: 100 total/15 selectable from switch
- RF Output Impedence: 50Ω
- FM Deviation: 5.6kHz ±1kHz
- Waveforms: CNR/VRN/PRN
- Transmission Modes: FM/GMSK/CPM

**TRANSMITTER**
- Power Output: 0.5/2/4W
- Spurious Emission: ≤ -70dBc
- Harmonic Suppression: ≤ -50dBc
- Frequency Stability: ± 0.5ppm

**RECEIVER**
- Sensitivity: ≤ -118dBm (SINAD=12dB)
- IF Rejection: ≥ 90dB
- Adjacent Channel Rejection: ≥ 50dB
- Audio Power: 2w (16Ω)
- Audio Distortion: ≤ 3%

**COMSEC**
- AES 256/Customized
- Vocoder: MELP

**Data Rate**
- ≤ 48kbps

**Dimensions(H×W×D)**
- 220×72.5×36.5mm (with 3800mAh battery)

**Weight**
- ≤ 0.6kg (with 3800mAh battery)

**Operational Battery Life (1:1:8)**
- ≥ 12H(3,800mAh)

**ENVIRONMENTAL**
- Storage Temperature: -40°C to +85°C
- Operating Temperature: -40°C to +65°C (Low temperature Battery)
- Immersion: 2m, 4H
- Shock & Vibration: MIL-STD-810G

**ELECTRONIC PROTECTION MEASURE (EPM)**
- EMC/EMI: MIL-STD-461F
- ECCM: FH/FCS
- Hopping Rate: 1,000hops/s
- Initial Synchronization Time:
  - Synchronization Reliability: ≥ 98%

**ACCESSORIES**
- 1.3m Foldable Antenna
- Palm Microphone with Screen
- Key Fill Gun
- Charger
- 3800 mAh Battery
- Noise Cancelling Headset

**PR9560 BASED FAMILY**
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