HTT-700/MTT-700

Tactical VHF Software Defined Radio

- Long-range communication
- High-rate FH and FCS
- Unique SWaP and usability design
- AES-256 and customized encryption

MTT-700
Manpack Radio

HTT-700
Handheld Radio

Vehicular/Base Radio

Overview

The tactical VHF SDR family provides reliable and secure critical voice and data services under harsh environment conditions. Based on advanced waveforms, the radio offers flexible combat network, Line-Of-Sight (LOS) voice relay and Ad-hoc Networking that enable users to communicate more crital information. In a ruggedized and lightweight design, the radio features highly portable and easy to use. Moreover on-site situational awareness, remote control application can better support task decision.
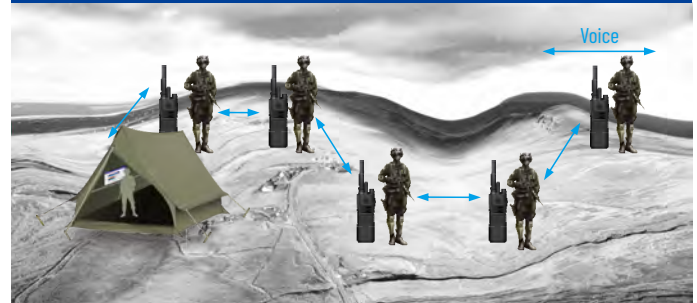
Advanced Waveforms

Combat Net Radio (CNR)
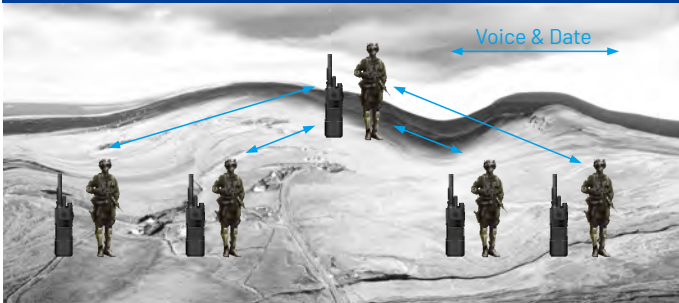
CNR network provides voice and data services, which supports point-to-point and point-to-multipoint communication. CNR includes 4 modes: FM (Frequency Modulation), FF (Fixed Frequency), FH (Frequency Hopping) and FCS (Free Channel Search).

Voice Relay Network (VRN)

With 6-hop relay, the VRN network can extend communication range by 3-5 times, enhancing communication capability in indoor, jungle, and other complex environments. It can also work in the fixed frequency relay modes.

Packet Radio Network (PRN)
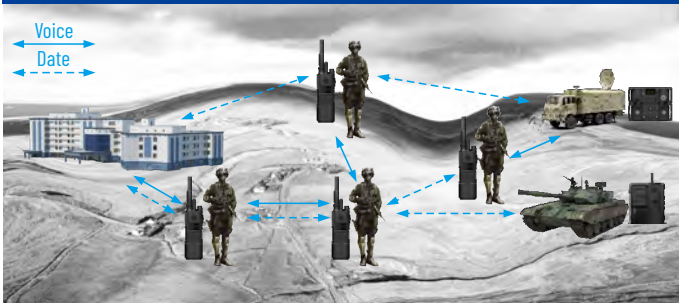
PRN network realizes non-centralization, and self-recovery communication through Ad-hoc networking technology based on point to-multipoint voice communication (1-hop relay) and data communication (6-hop relay).32-node and 6-hop network to ensure real-time sharing of battlefield information .It supports data and voice transmission simultaneously.

Link Network (LINK)
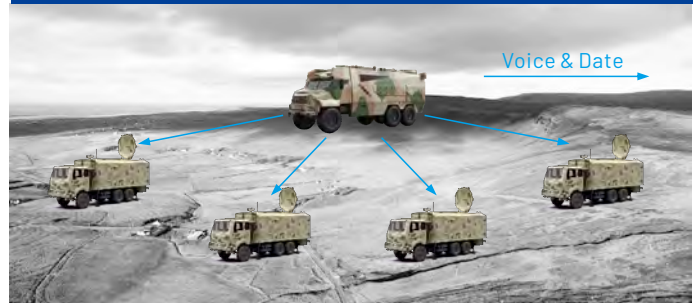
LINK network mainly serves as voice and real-time data transmission, supports data broadcasting, data and voice transmission at the same time. It supports fixed frequency and frequency hopping modes. LINK network is mainly used in data application between various platforms. Any radio in this network can broadcast data to other radios, and multiple radios can broadcast data at the same time.
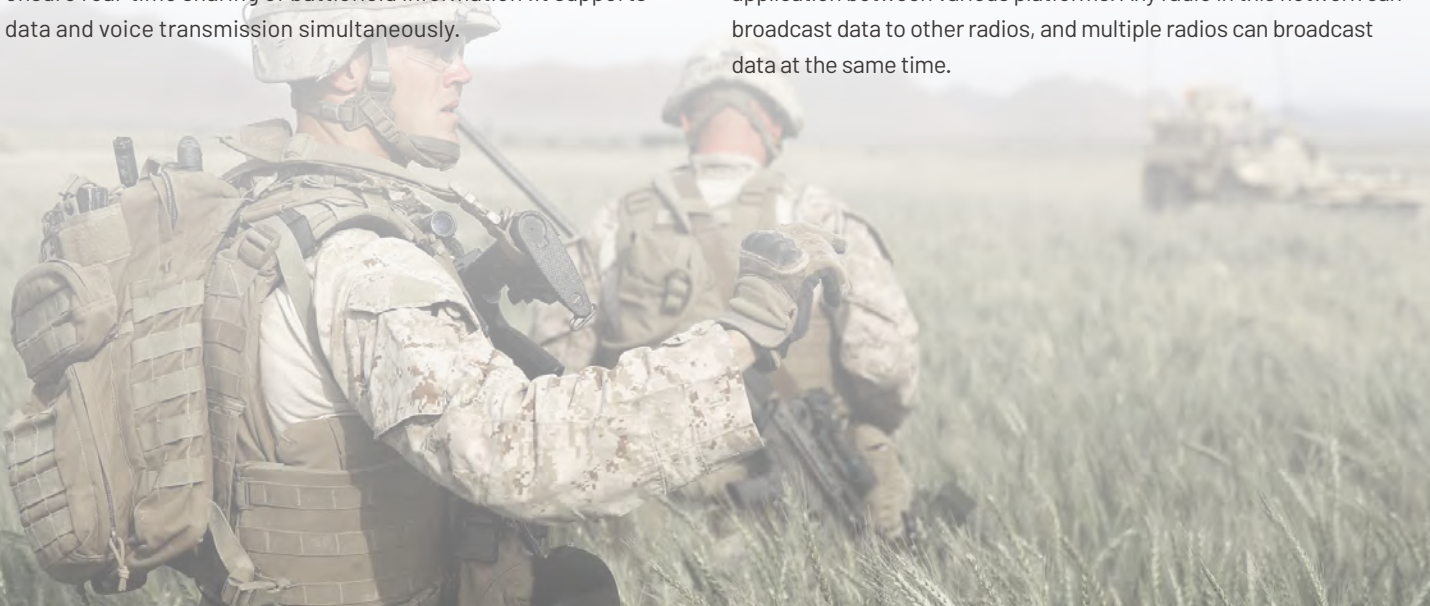
Highlights

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 60 % of working band interfered.

Free Channel Search (FCS)
The radio can automatically select the current best frequency among the preset channels to void the interfered frequency. With advanced modulation and demodulation technology features high sensitivity, communication range can increase by 30%.

Communication Security (COMSEC)

Encryption
The radio provides AES-256 software encryption for both voice and data communication,as well as supports customized encryption.

Key Erasing
The radio supports erase the key manually or automatically, i.e., manually erasing the key by holding the combined buttons, automatically erasing the key when the radio is disassembled.

Reliability

Rugged Design
The robust compact design meets MIL-STD-810G in vibration, drop, rapid decompression, humidity, sand and dust, salt fog and etc.

Immersion
Handheld and manpack radio supports 4 hours of immersion under 2 meters of water.

Vehicular power amplifier supports 0.5 hours of immersion under 1 meter of water.

Usability

Ergonomic Design
Excellent SWaP (Size Weight and Power consumption) design meets ergonomic requirements, easy to carry and be used in a avariety of complex application scenarios.

User Friendly Operation
Friendly user interaction and various software applications, such as remote control, data transfer, situational awareness and etc.

Specification

General	
Frequency Range	30-88MHz
Channels Spacing	25kHz
Net Preset	100 total/15 selectable from switch
GPS	External GPS
Data Interface	RS232/Ethernet
Power	HTT-700 Vehicular/Base:12V-32VDC/24V DC (Nominal) / AC 220V MTT-700 Vehicular/Base:24V DC (Nominal)/AC 220V
Operational Battery Life (1:1:8)	Handheld: ≥12h; Manpack: ≥24h
Weight	HTT-700: ≤0.60 kg (with battery) HTT-700 Vehicular/Base: ≤7kg MTT-700: ≤4.65 kg (with battery) MTT-700 Vehicular /Base: ≤10.5kg
Dimension (HXWXD, ±5mm)	HTT-700: 220×72.5×36.5 (with battery) HTT-700 Vehicular/Base: 295×278×118 MTT-700 : 75×190×325 (with battery) MTT-700 Vehicular/Base: 161×190×332

Transmitter	
Output Power	HTT-700 : 0.5/2/4W; HTT-700 Vehicular/Base: 5/20/50W MTT-700 : 0.5/5/10W MTT-700 Vehicular /Base: 0.5/5/50W
AF Output	2W with Palm Mircophone 10mW with Handset

Receiver	
Sensitivity	Handheld/Manpack: ≤-118dBm (SINAD=12dB) Vehicular/Base: ≤-116dBm (SINAD=12dB)
RF Input Impedance	50Ω

Waveforms and COMSEC	
Waveforms	CNR/VRN/PRN/LINK
Modulation	FM/GMSK/CPM
COMSEC	AES 256/Customized
ECCM	FH/FCS
Max. Hopping Rate	1,000hops/s
Networking capability	32-node, Max. 6-hops Relay

Environmental	
Storage Temperature	-45℃~85℃
Operating Temperature	-40℃~65℃ (Dedicated Battery)
Immersion	HTT-700/MTT-700 : 2m, 4h Vehicular/Base: 1m, 0.5h
Shock & Vibration	MIL-STD-810G
Electromagnetic	MIL-STD-461F

＊PA:Power Amplifier

Power Amplifier

Power Amplifier

The vehicular power amplifier offers 'jerk & run' features, and the handheld radio can be dismounted from the amplifier set without shut down.

By using the vehicular power amplifier, the radios not only remain all operation modes but also improve link reliability and extand communication range. Vehicular power amplifier has built-in co-address filter to meet the needs of deploying multiple sets of communication equipment on the same vehicle.

Accessories

1.3m Handheld Antenna

3800mAh Handheld Battery

Handheld Power Supply

GPS Antenna

2.4m Manpack Antenna

12Ah Manpack Battery

Manpack Power Adapter

Palm Microphone
with Display