aselsan

PRC-5433 V/UHF
NEW GENERATION TACTICAL HANDHELD SDNR

PRC-5433 is a new generation Software Defined Networking Radio (SDNR) that is designed to provide high speed data communications for the user in the tactical field. A wide operating frequency spectrum bandwidth of 30-512 MHz and high level Electronic Warfare Protection features provides much more field maintenance ability to PRC-5433.

PRC-5433 handheld radio has a software defined architecture providing the following advantages:
- By using different waveforms on the same radio hardware, different units can communicate with each other in the tactical field.
- Waveforms on the radio can be updated.
- New waveforms and features can be added to the radio.

PRC-5433 has the capability to fulfill all the strategical and tactical communication requirements. User can select the required communication mode without loading any software and by just selecting the related waveform (mode) from the user interface.

Features:
- 1.77 inches Color RGB TFT Display with 128 x160 resolution
- Built in loudspeaker
- High level of Electronic Warfare Precautions (COMSEC and TRANSEC)
    - Built-in hardware based encryption
    - Frequency Hopping
    - Red/Black data separation
    - Emergency Clear
    - User access control with Crypto Ignition Key
- High speed real time data communications
- Simultaneous voice and data communications
- Ability of communicating with a second NET other than selected NET
    - Independent two PTT buttons to communicate with selected NET and
    - a second NET for network based waveforms
- Built-in GNSS Receiver
- Built-in camera (13 Megapixels)
- Built-in memory (8 GBytes)
- Preset channels and quick access channels by a multi position knob
- Software defined architecture
- Built-in-test
- Ethernet and Audio interface

www.aselsan.com

PRC-5433 V/UHF
NEW GENERATION TACTICAL HANDHELD SDNR

General

Operating Frequency Band : 30-512 MHz
RF output power : 5 W (max)

Operating Modes/Features/Services
Wide Band Networking Radio (WBNR) Waveform Mode
- Fixed Frequency Operating Band: 225-512 MHz
- Frequency Hopping Operating Band: 50-108, 108-512 MHz
- Encrypted and frequency hopping voice/data communications
- Up to 150 radios in a NET
- Forward Error Correction (FEC with Polar Codes)
- TDMA based structure
- OFDM modulation
- Simultaneous voice and data communications
- High frequency hopping rate
- Independent dynamic coding and modulation between the radios with respect to channel condition
- Self-forming, self-healing (MANET)
- Automatic and dynamic IP packet routing

Voice Service
- Voice relay up to 4 hops for radios in the same logical NET
- Selective unit call, CNR group call and broadcast call

Data Service
- IP compatibility
- High rate data communications
    - Frequency Hopping + Encrypted Mode : up to ~ 1 Mbps / link.
    - Practically, up to 5 Mbps for total Net data rate by channel reuse,
    - Fixed Frequency Encrypted Mode : ~ 5 Mbps
- Point to Point Transmission
    - In-NET and Inter-NETs
    - 3 Physical NETs beyond (will include A-NBNR Waveform)
    - Up to 10 radio hops in a NET
- Point to Multi-Point Transmission
    - In-NET and Inter-NETs
- Broadcast Transmission
    - Up to 2 radio hops in a NET (Limited to two radio hops in a NET for optimizing usage of resources)
    - Service quality management appropriate for different traffic profiles and Quality of Service (QoS) with preemptive priority mechanism
    - Maximizing resource reuse by cognitive interference management
    - Automatic position transmission

Advanced Narrow Band Networking Radio (A-NBNR) Waveform Mode (2022)
- Operating Frequency Band: 50-512 MHz
- Encrypted and frequency hopping voice and data communications
- Up to 50 radios in a NET
- Forward Error Correction (FEC with Polar Codes)
- TDMA based structure
- Simultaneous voice and data communications
- High frequency hopping rate
- Independent dynamic coding and modulation between the radios with respect to channel conditions
- Self-forming, self-healing (MANET)
- Automatic and dynamic IP packet routing

Voice Service
- Automatic voice relay up to 2 hops in the same logical NET (3 hops support will also be available via NET planning)
- Selective unit call, CNR group call and broadcast call

Data Service
- IP compatibility
- Data rate: up to ~ 100 Kbps / link. Practically, up to 3-8 times of this rate for total Net data rate by channel reuse
- Point to Point Transmission
    - In-NET and Inter-NETs
    - 3 Physical NETs away (including WBNR Waveform)
    - Up to 3 radio hops in a NET
- Point to Multi-Point Transmission

- In-NET and Inter-NETs
- Broadcast Transmission
    - In-NET and for radios having direct communication (Limited to single radio hop in a NET for optimizing usage of resources)
- Service quality management appropriate for different traffic profiles and Quality of Service (QoS) with preemptive priority mechanism
- Maximizing resource reuse by cognitive interference management
- Automatic position transmission

V/UHF A-CNR Mode (9600A) (30-512 MHz)
- Clear and encrypted fixed frequency Voice and Data
- Encrypted frequency hopping Voice and Data
- FM modulation with 25kHz channel spacing
- Hailing / Active-Passive Late Entry / Audio- Data Relay and
- Retransmission
- Forward Error Correction (FEC)
- Data Transmission (max. 19 Kbps, half duplex)
- SMS

V/UHF Air to Ground Mode (108-400 MHz)
- AM/FM Fixed Frequency Clear Voice
- Encrypted Voice with External Encryption Device
- 25/12.5/8.33 Khz Channel Spacing

SK-2 VHF Mode
- Operating Frequency Band/Channel Bandwidth: 146-174 MHz / 25 KHz
- Fixed frequency clear and encrypted voice/data
- Over the air re-keying/forbidding
- Analog clear voice with VHF-FM radios (EN 300 086 and EN 300 113 compatible)
- 4.8 Kbps CELP voice CODEC

Voice Services
- Group Call, Emergency Call
- Maximum 11 analog and digital channel scan Data Services
- Asynchronous Data
- Status Message Transmission
- SMS

Environmental:
- MIL-STD-810G
- Operating Temperature: -30 ℃ (-20 ℃ turn on) / +55℃
- Storing Temperature: -30 ℃ / +70℃
- Relative Humidity: %95
- Immersion: 1/2 hr @ 1 m
- Shock
- Dust

EMI/EMC: MIL-STD 461E
Mechanical :
- Dimensions: W ~ 82 mm, H ~ 189 mm, D ~ 52 mm (With battery, without antenna and connectors)
- Weight 983 gr (With battery, without antenna)

Configuration :
- Receiver/Transmitter
- Battery
- Battery Charger
- V/UHF Antenna
- UHF Antenna
- GNSS Antenna
- CIK (Crypto Ignition Key)
- 50 W External Power Booster
- Carrying Case

Optional Accessories:
- FG-2070 Fillgun Key/NET Plan Loader
- Solar Charging Panel
- Vehicular KIT
- Headset
- Data Cables

aselsan