

# PRC-5333

## V/UHF NEW GENERATION TACTICAL HANDHELD SDNR



PRC-5333 is a new generation Software Defined Networking Radio (SDNR) that is designed not only to provide continuous audio, high speed data and video communications but also to support situational awareness applications 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 survivability to PRC-5333.

PRC-5333 introduces military handheld radio usage a new concept with its 4 inches capacitive display, multi-touch feature with image enlargement/reduction and extra functions.

PRC-5333 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.
- New application softwares can be added.

PRC-5333 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

- 4 inches high resolution 480x800 touch screen display
- Projective capacitive display multi touch with image enlargement/reduction
- Ability to work under water drops
- Usable with gloves
- High image quality with optical bonding
- Application based user interface
- Built in loudspeaker
- High level of Electronic Warfare Protection (COMSEC and TRANSEC)
  - Built-in hardware based encryption
  - Frequency Hopping
  - Red/Black data separation
  - Emergency Clear
- 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 (64 GBytes)
- Preset channels and quick access channels by a multi position knob
- Software defined architecture
- Built-in-test
- 100 Mbits/s Ethernet and Audio interface

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## 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 Waveform Mode

- Fixed Frequency Operating Band: 225-512 MHz
- Frequency Hopping Operating Band: 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 (by planning a group for all radios in the NET)

#### Data Service

- IP compatibility
- High rate data communications
  - Frequency Hopping + Encrypted Mode: ~ 1 Mbps/link, Up to 20 times for total NET data rate depending on the topology.
- Fixed Frequency Encrypted Mode: ~ 5 Mbps/link, Up to 4 times for total NET data rate depending on the topology.
- Point to Point Transmission
  - In-NET and Inter-NETs
  - 3 Physical NETs away (including 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

#### Narrow Band Networking Radio Waveform Mode

- Operating Frequency Band: 30-512 MHz
- Encrypted and frequency hopping voice and data communications
- Forward Error Correction (FEC)
- TDMA based structure
- Simultaneous voice and data communications
- 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 in the NET
- CNR group call and broadcast call (by planning a group for all radios in the NET)

#### Data Service

- IP compatibility
- Data rate: ~ 15-25 Kbps / link, Up to 3-8 times for total NET data rate depending on the topology.
- 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
- 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

#### SK-2 VHF/UHF Mode

- Operating Frequency Band/Channel Bandwidth: 146-174 MHz, 406-470 KHZ/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 10 analog and digital channel scan

#### Data Services

- Asynchronous Data (max 4.8 Kbps)
- Status Message Transmission
- SMS

#### Environmental (MIL-STD-810G)

- Operating Temperature: -20 °C / +55°C
- Storing Temperature: -30 °C / +70°C
- Relative Humidity: %95
- Immersion: 1/2 hr @ 1 m
- Shock
- Dust

#### EMI/EMC

- MIL-STD-461E

#### Mechanical

- Dimensions: W< 80 mm, H <200 mm, D< 55 mm (With battery, without antenna and connectors)
- Weight ~ 950 gr (With battery, without antenna)

#### Configuration

- Receiver/Transmitter
- Battery
- 12/24 V DC Charger
- Charging Adaptor (220V, 50 Hz AC v e 110V, 60 Hz AC)
- V/UHF Antenna
- UHF Antenna
- GNSS Antenna
- CIK (Crypto Ignition Key)
- Carrying Case

#### Optional Accessories

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

The operating modes of other V/UHF ASELNAN Radios that are not existing in the brochure can be developed and uploaded to the radio depending on the user requirements.

