National Radio & Telecommunication Corporation

Reliability - Quality - Self-Reliance

Military Radios

PHF-22H1
NRTC HF SDR

A new generation, high-performance digital radio covering 1.5-30 MHz HF band. Software configurable architecture provides reliable secure voice/data communication by supporting various HF radio waveforms beyond line of sight.

NRTC HF SDR Radio establishes reliable and secure voice and data links with support of digital voice, built-in encryption and modem capabilities.

General Features

- New generation Software Defined Radio covering the HF band
- Mobile, vehicular and fixed station use
- Frequency Hopping Capability
- Digital voice and data
- Built-in digital modem with the latest HF technology
- Built-in Encryption
- Emergency Erase (Zeroize)
- Automatic Channel Selection (ACS)
- Channel Scanning
- Automatic Link Establishment (3G ALE)
- Modulation Types: USB, LSB, ISB, CW, AM and AME
- Number of Presets: 200 preprogrammed, 20 manually programmable

- Easy to use Man Machine Interface
- Built-in-Test Equipment (BITE)
- Built-in GPS receiver
- Remote Control Capability
- Communication capability with field cable
- IP data communication capability

V/UHF SDR

NRTC V/UHF radio family is designed and developed using frequency-agile, low-power SDR hardware with latest fast-processing FPGAs. Its waveforms are designed for robust performance in the most demanding dynamic environments.

General Features

Frequency:	30-512 MHZ
Waveform:	WBNR, NBNR, ACNR, Air-to-Ground/ Ground-to-Air
Channel Bandwidth:	Up to 20 MHZ
RF Output Power:	5W (Handheld Configuration)
	10W (Manpack Configuration)
	50W (Vehicular Configuration)
Modulation:	Adaptive/ Advance Modulation and Coding QAM, FM, AM, BPSK, QPSK, PSK, FSK
Data Rates:	Up to 5 Mbps (extendable)
TRANSEC	Full band frequency hopping (Up to 1000 hops)
COMSEC:	AES 256 (Encrypted Voice and Data)

- Blue Force Tracking (BFT) via external GPS
- Key/ Network Management System
- MANET in NBNR and WBNR
- Self-healing and Self-forming
- Built-in-Test (BITE)
- IP Compatibility (IPV4 compliant)
- Simultaneous Voice and Data in NBNR and WBNR
- Emergency Erase of Crypto System

Eagle Eye System

Eagle Eye is a fully IP-based communication system using MANET technology for the demand of the Airborne platforms. It is a high-capacity, easy-to-operate, portable, quickly deployable, and manageable communication system for the tactical needs of the military. This solution can be deployed in various aircraft configurations (rotary, unmanned). The system can serve ISR purpose more efficiently and effectively with simultaneously voice and data support.

General Features

- Supports Mobile Ad Hoc Networking waveform with network on the move capability for the tactical users.
- Secure communication with TRANSEC: FH upto 1000hps.
- Automatic data routing between different radio nets without the need of any additional routing device which allows enhanced communication security and reduced overall latency.
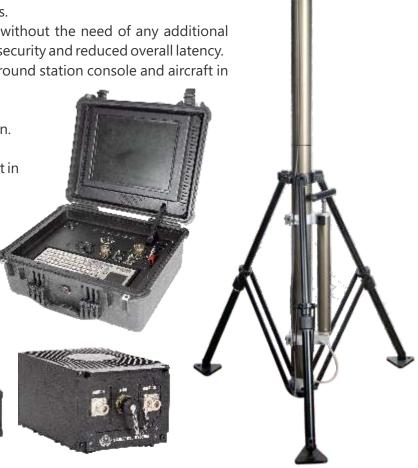- Provide seamless communications services between ground station console and aircraft in the theatre of operations.
- Highly rugged and reliable.
- Support both omni & directional antennas configuration.
- Self-healing communication & self-forming network.
- Auto link adaptation to continually optimize throughput in dynamic environments

Digital Intercom

For Armored or Military vehicles (Tank/APC), Emergency Services vehicles and command posts or any other situation where high-quality intra-crew and intra-fleet voice communications are required.

NRTC – is a global high technology leaguer for critical and secure market with high performance solutions, developed a Digital Intercom system which can be employed in wide variety of platforms ranging from light transport to heavy armored vehicles. The system provides intercom services between commander, crew members and vehicle radio systems.

- Designed to meet modern communication needs of combat vehicle crew.
- Best suited for communication needs of all types of light and heavy combat vehicles like Armored Personnel Carriers (APC) and Main Battle Tanks (MBT).
- Compatible with all relevant Combat Network Radios and headsets.
- Compact, lightweight, and rugged design to suit mission critical requirements.
- All Crew Boxes share common modules and flexible interfaces while maintaining a simple user interface.
- The system can be scaled to provide solutions for all types of configurations and operational requirements.
- It offers outstanding EMC characteristics.

General Features

- Up to 16 users depending on module configuration.
- Two-wire RS-485 interface between user stations.
- Supporting most types of military, commercial and PMR radio transceivers.
- Full duplex communication for wired intercom stations and semi-duplex for radio.
- Designed to withstand military grade environmental conditions with anti-vibration.

- Compact & Modular design with User friendly interface.
- Minimal training required to operate the system.
- Simple to maintain using off the shelf components.
- Available in VoIP, Analog, and Hybrid versions.
- Power is routed via interconnecting cables for simpler installation.
- Quick release snatch connectors are utilized for all headset connections and Press select.

Land Mobile Radio System (LMR)

The LMR system, a terrestrially-based wireless communications system is designed exclusively to fulfill secure and seamless voice and low-speed data communication demands of defense forces, territorial emergency responders and federal state. LMR systems typically consist of handheld portable radios, mobile radios, base stations and repeaters.

General Properties

- Analog and Digital Operations on a Single Radio
- Configurable User Informative Alerts
- LCD Monitor, Alphanumeric Keypad
- Graphical User Interface
- Call Logging
- Talking Party Identification
- Easy Selection of RF Output Power
- Channel Scan
- VOX (Only With Audio Accessories)
- Transmit Time-out Timer

Analog Mode Features

- Tone Coded Squelch
- ANI
- Selective Call

Digital Mode Features

- Configurable Menu Options
- Individual Call
- Group Call
- Emergency Call
- SMS (Radio to Radio)
- Data Transmission (With Data Software Set)
- Status Messages
- Power-on Control
- Encryption
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Technical Features

- Frequency Band: 136 – 174MHz
- Modulation (Analog):   11F3FM (12.5 KHz) / 16F3FM (25 Khz)
- Modulation (Digital):   GMSK
- Channel Spacing: 12.5 / 12.5 Khz
- Number of Channels: 999
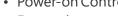- RF Output Power: 1-5W (Handheld), 10-40W (Mobile/Base)
- RF Baud Rate (Digital):   7.875kbps
- Data Baud Rate (Digital):   3.2kb/s,4.8kb/s
- Audio Codec (Digital):   4.8kb/s ACELP
- RF Output Impedance: 50
- Operation: Simplex / Half Duplex
- Environmental Protection: MIL-STD-810-D/E/F

NATIONAL RADIO & TELECOMMUNICATION CORPORATION
Haripur, Pakistan

Phones: +92-995-666611, 666627
Fax: +92-995-610933
Email: marketing@nrtc.com.pk
Website: www.nrtc.com.pk