

RT7

Strategic Voice & Data Encryptor



Functions and Applications

- **Voice Encryptor:** Secure Digital Voice for Radio
- **Secure Data Modem:** Used by External Laptop or PC
- **Position Transfer:** Asset Tracking Over Vast Areas

Features and Benefits

- **Robust Modem:** STANAG 4538, 3G ALE, ARQ and Burst Waveforms
- **Security:** AES-256 Encryption COMSEC, LINKSEC
- **Vocoder Options:** TWELP* or MELPE**
- **Extended Range:** 300, 600, 1200 and 2400 bps Vocoder
- **Address Book:** Selective and Broadcast Calls and Data Transfer
- **Position Transfer:** Built-In GPS Module
- Connects to Any HF or V/UHF Radio via Audio & Control Interfaces
- Interoperates with the RT1, RT3 and RT5 Devices
- RapidM PC Software Extends Capability
- 19" Rack Mount for Strategic Use
- **Front Panel:** Full Configuration and Operator Interfaces
- **Rear Panel:** Intercom, Local Data, Link Audio and Power Interfaces

* TWELP Voice Coding by DSP Innovations Inc. (www.dspini.com)

** MELPE for USA Customers Only

Voice, Message And Position

The RT7 Strategic Voice & Data Encryptor is a ½ 19" rack-mount strategic security terminal intended for use in command centres, base or shore stations and naval vessels. The RT7 forms part of the RT family and connects to a single HF or V/UHF radio to provide high-end secure voice, data and position services to your existing radio network. These services include robust secure voice, text, forms, file transfer, navigation, situational awareness, email and interfaces for third party C2 and C4I systems.

Usage Modes

- **Local User:** The operator uses a handset connected to the RT7 front panel. The RT7 provides an address book to initiate private line calls or to send locally entered messages or files.
- **Remote User:** The operator is situated away from the RT7 and audio input is via the intercom connector. The RT7 can then be operated via **MessagePoint**, **GatePoint** or **CommandPoint XL** and allows for multi-gateway capability.

Assured Security

The RT7 system provides a blanket layer of encryption onto your existing radio networks. This allows secure, interoperable voice and data services across radios from diverse manufacturers. All over-the-air communications, locally stored messages and positions are encrypted and access to the unit is restricted through an access code. A zeroize function is also provided from the keypad, which erases all data and keys.

Key Management and System Configuration

The **Key Management Software (KMS256)** allows for full custom creation of 256 individual cryptographic keys.

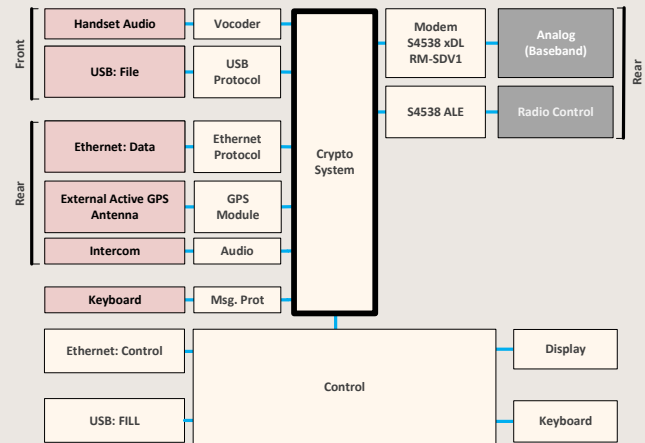
The **System Configuration Software (SCS)** allows configuration of network parameters, periodic position transfer, address book and CALLSIGN configuration, amongst others.

Multiple key and system configuration sets can be loaded and selected from. KMS256 and SCS forms part of the configuration bundle, which includes all the required manuals, cables, fill devices and software for successful system start-up.

RT7 Accessories

- **Accessories – Included:** H-250 Handset (PAM17W), GPS Active Patch Antenna (TNC) and Power Connector Interface Kit.
- **Accessories – One Required Per Unit:** Radio Cable (Contact RapidM for a List of Radio Specific Cables).
- **Accessories – One Required Per Network:** Configuration Bundle
- **Accessories – Optional:** 19" Mounting Tray

System Diagram and Interfaces



On the local/red side, the RT7 allows for easy connection and integration into existing intercom systems.

On the link/black side, the RT7 allows for audio and control interfaces to the HF or V/UHF radios.

Physical Characteristics					
Size and Weight	212 × 178 × 89 mm (W × D × H) 2U 19"/2 34 kg		Colour	Saddlewood Black (RAL9004)	
Environmental Specifications	Temperature	Operating: - 20°C to + 60°C Storage: - 55°C to + 85°C		EMC/EMI	MIL-STD-461
	Environmental	MIL-STD-810F Humidity, Shock, Vibration, Dust, IP65		Safety	IEC/EN60950
Power	AC and DC (62IN-57A-8-3P)	90 – 264 VAC, 47 – 440 Hz, 100 – 370 VDC		DC (62IN-57A-8-4P)	9 – 36 VDC (MIL-STD-1275B)

RT7 Software and Modem									
Services	Chat, Text, QuickCodes, File Transfer, Template-Based Forms, Position Transfer Email and SMS via MessagePoint, GatePoint or CommandPoint XL								
Security	Access Code, Zeroise Function for Emergency Clear, Tamper Detection								
Cryptography	AES 256-Bit (FIPS PUB 197), 256 × Different COMSEC and LINKSEC Keys								
Modem	STANAG 4538 (3G), MIL-STD-188-141 App C, LDL, HDL and RDL Packet Mode, ARQ, Robust Data Extensions								
ALE	STANAG 4538 (3G), Fast Link Set-Up (FLSU), Linking Protection and Occupancy Detection								
Digital Voice	Purpose-Built Robust Digital Voice Waveform HF-2T. Automatic Rate Adjustment DRC. Automatic Late Entry Resynchronisation.								
Vocoder	300, 600, 1200 and 2400 bps Low-Rate Vocoder								
Digital Voice Performance	Vocoder Rate (bps)	End-to-End Latency (s)	PESQ	Channel Use	Speech Quality			Understand-Ability Limit SNR (dB)	
					Intelligibility	Speaker Recognition	Latency and Emotional	CCIR Poor	AWGN
	2400	1.6	3.1	Ground Wave	Very Good	Good	Acceptable	6.5	0.5
	1200	2.2	3.0	Skywave	Good	Acceptable	Fair	4.0	- 0.5
	600	2.2	2.4	Skywave	Acceptable	Fair	-	0.5	- 3.0
	300	4.4	1.7	Skywave	Fair	-	-	- 2.0	- 6.0
OS and BIT	Operating System: Linux, Comprehensive BIT (Built-In Test), Continuous Error Detection								
Storage	4GB Secure Flash, Encrypted User Data Parition for Data-At-Rest Secure Storage								

RT7 Interfaces	
Link Interface (CMA14N)	Audio: 600Ω Balanced TX and RX, PTT Return (Contact Closure)
	Serial Interface: Control and Data Port: RS-232 Levels Rx/D, Tx/D
Ethernet (HOLIN RJ45)	Ethernet: 10/100 Base-T (IEEE 802.3U Compatible), Embedded TCP/IP Stack, Auto Cross-Over Detection
Intercom (U-183)	Intercom Audio: 600Ω Balanced
Handset USB Fill (PAM17W)	Front Panel, Mic (150 Ohm), Phone (300 - 1,000 Ohm), PTT, GND
	USB 2.0 Full Speed Host Port: 5 VDC (100 mA) Output
GPS Ant (TNC)	Connection for External Active GPS Antenna, 3.0 VDC, 35 mA Supply Provided on Connector
Keyboard	QWERTY Layout with Backlighting, Dedicated Backlight Control, Built-In Ambient Light Sensor, Zeroise Key Sequence, Dim to Black
Display	2.4" Colour OLED, QVGA Resolution (320 × 240), 15-Bit Colour Depth, Status LED Shows New Message and Charge, Auto Night Mode

Ordering Information	Stock Number	Description
RT7 Tactical Terminal – SDV & Data: Serial Link	RT7-TU-HSGPCVE4	RT7: Term 19"2U Modem 256b GPS BAU EN V4
Configuration Bundle: SCS, KMS256 & Cables	RAP-BU-CFTKVE4	Bundle: RT SCS, KMS256, Fill-D, Cbl EN V4

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