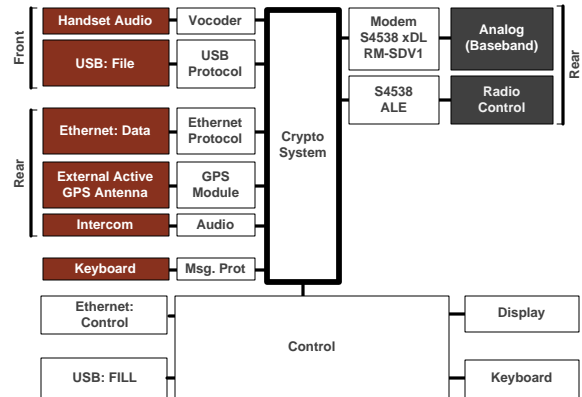




SYSTEM DIAGRAM AND INTERFACES



FUNCTIONS AND APPLICATIONS:

- **Voice Encryptor:** Secure Digital Voice for Radio
- **Position Transfer:** Asset tracking over vast areas
- **Secure Data Modem:** Used by external laptop or PC

FEATURES & BENEFITS:

- Robust Modem: STANAG 4538, 3G ALE & ARQ
- Vocoder Options: TWELP* / MELPE**
- Security: AES-256 Encryption
- Address Book: Selective and Broadcast calls
- Position Transfer: Built-in GPS Module
- Connects to: Any HF or V/UHF radio
- Interoperates with: RT5
- RapidM PC Software: Extends capability
- 19" Rack Mount: Strategic use
- Front Panel: Full operator interface
- Rear Panel: Intercom and Data interface
- Extended Range: 300, 600, 1200 & 2400 bps Vocoder

* TWELP voice coding by DSP Innovations Inc.(www.dspini.com)
 ** MELPe for USA customers only

VOICE, MESSAGE, POSITION

The **RT7** is a ½ 19" rack-mount Strategic Terminal. The **RT7** is part of the **RT** family and connects to a single HF or V/UHF radio to provide secure voice, data and position services. Services include:

Robust Secure Voice, Text, Forms, File Transfer, QuickCodes, Navigation, Situational Awareness, Email

RT7 SECURE DIGITAL VOICE

The Vocoder rate is adapted dynamically to allow optimal quality in all channels. Broadcast and Private-Lines selective call modes are supported, as well as automatic Late Entry.

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**. Audio input is via the Intercom connector. The **RT7** can then be operated via **RT MessagePoint, GatePoint or CommandPoint.**

RT7 SECURITY

All over-the-air communications, locally stored messages and positions are encrypted. Access to the unit is restricted by means of an Access Code. A Zeroize function is provided from the keypad which erases all data and keys.



VOICE/DATA MODE

Any time when PTT is pressed or a Voice call is initiated, the **RT7** will automatically go into 'Voice Mode'. Once voice communications is inactive for a time, the **RT7** will start or resume sending Data. The Voice/Data mode is indicated by an icon on the user interface.

RT7 MODEM

The **RT7** has a built-in high performance data modem that connects to A single HF or V/UHF transceivers via the radio audio interface. This combined with a low-rate vocoder and built-in cryptography creates a robust secure digital voice (SDV) solution.

JOINT OPERATIONS INTEROPERABILITY

The **RT7** interoperability with the **RT5** for manpack or vehicle use, providing seamless interoperability between various forces. The same Key Management System is used on both devices.

EMAIL: MESSAGEPOINT & GATEPOINT

The **RT7** can connect with **RT MessagePoint or Gatepoint** Software via the Local Ethernet port to provide end-to-end Email (with attachments) and GSM SMS connectivity (via Gatepoint) or Situational Awareness capability.

KEY MANAGEMENT & SYSTEM CONFIGURATION

The **RT Key Management Software (KMS256)** includes Key Management Tools and is provided on a CD along with the necessary cable and USB Key Fill Device.

The **RT System Configuration Software (SCS)** includes Network Configuration, Periodic position transfer, Address Book and CALLSIGN configuration.

SCS and KMS256 is part of the **Configuration Bundle** which includes all required manuals, cables, Fill device and software for system start-up.

POSITION TRANSFER

If configured to do so, position information is included with every Chat transmission and is sent periodically (configurable).

RT7 ACCESSORIES

Accessories - Included: H-250 Handset (PAM17W), GPS Active Patch Antenna (TNC), Connector interface kit, FILL Device.

Accessories – Required one per unit: Radio Cable - Contact RapidM for list of radio specific cables.

Accessories - Required one per network: Configuration Bundle.

Accessories - Optional: 19" Mounting Tray.

RT7 HARDWARE					RT7 ENVIRONMENTAL				
SIZE & WEIGHT		212 x 178 x 89 mm (w x d x h), 2U, 19"/2, 3.4 kg			TEMPERATURE		Operating: -20°C to +60°C, Storage: -55°C to +85°C		
COLOUR		Saddlewood Black (RAL9004)			ENVIRONMENTAL		MIL-STD-810F Humidity, Shock, Vibration, Dust, IP67		
POWER	AC & DC (62IN-57A-8-3P)	90 – 264 VAC, 27 – 440 Hz, 100 – 370VDC			EMC / EMI		MIL-STD-461		
	DC (62IN-57A-8-4P)	9 – 36 VDC (MIL-STD-1275B)			SAFETY		IEC/EN 60950		
RT7 SOFTWARE & MODEM									
SERVICES		Chat, Text, QuickCodes, File Transfer, Template-based Forms, Position Transfer. Email and SMS via RT MessagePoint & Gatepoint .							
SECURITY		Access code. Zeroize function for Emergency Clear. Tamper detection.							
CRYPTOGRAPHY		AES 256-bit (FIPS PUB 197). 256x different COMSEC and LINKSEC keys.							
MODEM		STANAG 4538 (3G), MIL-STD-188-141 App C, LDL, HDL, HDL+ Packet Mode, ARQ, Robust data extensions. (HDL+ not available in USA or via USA resellers)							
ALE		STANAG 4538 (3G) Fast Link Set-up (FLSU), Linking Protection and Occupancy Detection.							
DIGITAL VOICE		Purpose-built Robust Digital Voice Waveform RM-SDV2. Automatic Rate Adjustment DRC. Automatic Late Entry resynchronization.							
VOCODER		300, 600, 1200 & 2400bps 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 & EMOTIONAL	CCIR POOR	AWGN
	2 400	1.6	3.1	Ground Wave	Very Good	Good	Acceptable	6.5	0.5
	1 200	2.2	3.0	Sky Wave	Good	Acceptable	Fair	4.0	-0.5
	600	2.2	2.4	Sky Wave	Acceptable	Fair	-	0.5	-3.0
	300	4.4	1.7	Sky Wave	Fair	-	-	-2.0	-6.0
OS AND BIT		Operating System: Linux. Comprehensive BIT (Built-In-Test), Continuous error detection.							
STORAGE		4 GB secure FLASH. Encrypted User Data Partition for Data-at-Rest secure storage.							
RT7 INTERFACES									
LINK INTERFACE (CMA14N)		Audio: 600Ω balanced TX & RX, PTT return (contact closure). Serial Interface: Control and Data port: RS-232 levels. RxD, TxD.							
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		Front Panel, Mic (150 Ohm), Phone (300 - 1,000 Ohm), PTT, GND.							
USB FILL (PAM17W)		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. Zeroize key sequence. Dim to black.							
DISPLAY		2.4" Colour OLED, QVGA resolution (320 x 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-00ALCVE4	RT7-A: Term Link 232 Audio, 256b GPS EN V4
CONFIGURATION BUNDLE: SCS, KMS256 & CABLES	RAP-BU-CONFECVE4	Bundle: MIL SCS, KMS256, Fill-D, Cbl EN V4

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