

RT7 Encrypted Voice Data Modem

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VOICE, MESSAGE, POSITION

The RT7 is a 19" rack-mount Strategic Terminal. The RT7 is part of the AT MIL family and works with any 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, SMS*, Email* (* via Gateway or CommandPoint Software).

Function 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: AT RT3 & RT5
- PC Software: Extends capability
- 19" Rack Mount: Strategic
- Front Panel: Full operator interface
- Rear Panel: Intercom and Data interface
- Extended Range: 300, 600, 1200 & 2400 bps Vocoder



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 device. Audio input is via the Intercom connector. The RT7 can then be operated via RAPTAWC CommandPoint or MessagePoint.

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 and CommandPoint 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

KEY MANAGEMENT & SYSTEM CONFIGURATION

The Key Management Software (KMS256)

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 HF or V/UHF transceivers via the 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 AT RT5 for manpack or vehicleuse, providing seamless interoperability between various forces. The same Key Management System is used on both devices.

AT Communication © EMAIL - GATEWAY & COMMANDPOINT

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

includes Key Management Tools and is provided on a CD along with the necessary cable and USI Key Fill Device.

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

MIL 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 as well as being sent periodically (configurable).

RT7 ACCESSORIES

Accessories - Included: H-250 Handset
Accessories – Required one per unit: Radio Cab - Contact AT Comms AG for list of radio specific cables.

Accessories - Required one per network: Configuration Bundle.

Accessories - Optional: 19" Mounting Tray, Handset Clip, GPS Active Patch Antenna (TNC), Connector interface kit, FILL Device.



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: 90 – 264 VAC, 27 – 440 Hz, 100 – 370VDC	EMC EMI	MIL-STD-461
	DC: 9 – 36 VDC (MIL-STD-1275B)	Safety	IEC/EN 60950

RT7 SOFTWARE & MODEM

Messaging	Chat, Text, QuickCodes, File Transfer, Template-based Forms, Position Transfer. Email and SMS via CommandPoint		
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 Limi SNR (dB)	
					Intelligibility	Speaker Recognition	Latency & Emotional	CCIR Poor	AWGN
	2 400	1.6	3.1	Gnd/W	Very Good	Good	Acceptable	6.5	0.5
	1 200	2.2	3.0	Sky/W	Good	Acceptable	Fair	4.0	-0.5
	600	2.2	2.4	Sky/W	Acceptable	Fair	-	0.5	-3.0
	300	4.4	1.7	Sky/W	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	Audio: 600Ω balanced TX & RX, PTT return (contact closure)
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Interface	Serial Interface: Control and Data port: RS-232 levels. RxD, TxD.
Ethernet (RJ-45)	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	USB 2.0 Full Speed Host Port: 5 VDC (100 mA) output
GPS Ant.	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

RT7 - Encrypted Voice - Data Modem