**VOICE, MESSAGE, POSITION**

The RT5 is an ultra-rugged Tactical Terminal. The RT5 is part of the RapTawc MIL family that works with any HF or V/UHF radio to provide secure voice and data services:

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

(* via Gateway or MessagePoint Software)

The RT5 is purpose-built to meet the soldier’s critical communication and navigation needs in extreme environments and under the most challenging conditions.

**SECURE DIGITAL VOICE**

The robust voice solution has superior performance in adverse channels. Vocoder rate is adapted dynamically to allow optimal quality in all channels. Broadcast and Private-Line (point-to-point) modes are supported, as well as automatic late entry.

**SECURITY**

All over-the-air communications, messages and positions are encrypted. Access to the unit is restricted with an Access Code. A Zeroize function is provided from the keypad and CommandPoint which erases all used data and keys.

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**FUNCTIONS AND APPLICATIONS:**

- Voice Encryptor: Secure Digital Voice for Radio
- Position Broadcasts: Force tracking of vast areas
- Secure Military PDA: On-device Messaging applications

**FEATURES & BENEFITS:**

- Robust Modem: STANAG 4538, 3G ALE & ARQ
- Extended Range: 300, 600, 1200 & 2400 bps Vocoder
- Vocoder Options: TWELP* / MELPE**
- Security: AES-256 Encryption
- Address Book: Selective and Broadcast calls
- Position Transfer: Built-in GPS Module
- Any HF or V/UHF Radio: Connect via 3 kHz audio interface
- Radio Remote Control: Ease of use
- Interoperates with: RapTawc RT5 & RT7
- RapidM PC Software: Extends capability
- RapTawc CommandPoint support

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*TWELP voice coding by DSP Innovations Inc. (www.dspinl.com)
**MELPe for USA customer only
**RT5 Secure Digital Voice**

The robust voice solution is designed for BLOS secure digital voice communication with superior performance in adverse channels. Vocoder rate is adapted dynamically to allow optimal quality in all channels. Broadcast and Private-Line (point-to-point) modes are supported, as well as late entry.

**RT5 MODEM**

The RT5 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 solution.

**RT5 Secure Messaging**

CHAT and QuickCodes - provide flexibility and robustness, point-to-point or broadcast. Predefined Forms help structure information for ease-of-use and drastic data compression.

**RT5 Position Transfer**

If configured to do so, position transfer happens with every SDV and Chat transmission as well as on configurable periodic intervals.

### RTS HARDWARE

<table>
<thead>
<tr>
<th>SIZE &amp; WEIGHT</th>
<th>148 x 82 x 28 mm (w x d x h) 490 g including batteries</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOUR</td>
<td>Olive Drab (RAL6022)</td>
</tr>
<tr>
<td>POWER BATTERY</td>
<td>2 x Standard AA-size cells or 2 x NiMH AA-size, internal charger</td>
</tr>
<tr>
<td>EXTERNAL BATTERY LIFE</td>
<td>&gt;12 hrs (Operational profile dependant)</td>
</tr>
</tbody>
</table>

### RTS ENVIROMENTAL

<table>
<thead>
<tr>
<th>TEMPERATURE</th>
<th>Operating: -40°C to +60°C Storage: -55°C to +85°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMMERSION</td>
<td>MIL-STD-810F Method 512.4 Proc 1, 30 min at 1m</td>
</tr>
<tr>
<td>ENVIRONMENTAL</td>
<td>MIL-STD-810F Humidity, Shock, Vibration, Dust</td>
</tr>
<tr>
<td>EMC/EMI</td>
<td>MIL-STD-461</td>
</tr>
<tr>
<td>SAFETY</td>
<td>IEC/EN 60950</td>
</tr>
</tbody>
</table>

### RTS SOFTWARE & MODEM

**MESSAGING**

Chat, Text, QuickCodes, File Transfer, Template-based Forms, Position Transfer. Email and SMS via RAPTAWC Gateway.

**SECURITY**


**MODEM**

STANAG 4538 3G LDL, HDL, HDL+ Packet Mode, ARQ, Robust data extensions. (HDL+ not available in USA or via USA resellers)

STANAG 4538 (3G) Fast Link Set-up (FLSU), Linking Protection, Occupancy Detection

**DIGITAL VOICE**

Purpose-built Robust Digital Voice Waveform RM-SDV1. Automatic Rate Adjustment DRC. Late entry resynchronization.

**VOCODER**

300, 600, 1200 & 2400bps Low-rate Vocoder.

**MODEM**

High performance serial tone BLOS modem (V/UHF compatible) featuring adaptive equalization. The modem is able to deal in both wideband interference and multipath/fading (up to 10 ms, 30 Hz). MIL-STD 110B also available (MARS)

### DIGITAL VOICE PERFORMANCE

<table>
<thead>
<tr>
<th>VOCODER RATE [bps]</th>
<th>END-TO-END LATENCY [s]</th>
<th>PESQ</th>
<th>CHANNEL USE</th>
<th>SPEECH QUALITY</th>
<th>SPEAKER RECOGNITION</th>
<th>LATENCY &amp; EMOTIONAL</th>
<th>UNDERSTANDABILITY</th>
<th>SNR [dB]</th>
<th>CCIR POOR</th>
<th>AWGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 400</td>
<td>1.6</td>
<td>3.1</td>
<td>Gnd/W</td>
<td>Very Good</td>
<td>Good</td>
<td>Acceptable</td>
<td>6.5</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 200</td>
<td>2.2</td>
<td>3.0</td>
<td>Sk/Ky/W</td>
<td>Good</td>
<td>Acceptable</td>
<td>Fair</td>
<td>4.0</td>
<td>-0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>600</td>
<td>2.2</td>
<td>2.4</td>
<td>Sk/Ky/W</td>
<td>Acceptable</td>
<td>Fair</td>
<td>-</td>
<td>0.5</td>
<td>-3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>4.4</td>
<td>1.7</td>
<td>Sk/Ky/W</td>
<td>Fair</td>
<td>-</td>
<td>-</td>
<td>-2.0</td>
<td>-6.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### OS AND BIT

Operating System: Linux. Comprehensive BIT (Built-in-Test), Continuous error detection.

### STORAGE

4 GB secure FLASH

### RTS INTERFACES

**Local**

| DISPLAY | 2.4" Colour OLED, QVGA resolution (320 x 240), 15-bit colour depth. Status LED for ‘message waiting’ and charge indication. Auto night mode. |
| GPS | 16-Channel receiver, -160 dBM sensitivity, LNA, embedded active patch antenna |
| USB HOST | USB Host Port 5V (100mA) output |
| ETHERNET | 10/100 Base T (IEEE 802.3U compatible), embedded TCP/IP Stack, Auto cross-over detection |
| AUDIO | 10k Ohm unbalanced 5 Vp-p max. |
| Link | Balanced, ~40 to +60 dBM adjustable into 600 ohm load. PTT Output, Audio return |

**SERIAL**

Control and Data port: RS-232 levels. RxD, TxD.

**POWER**

5 – 36 V DC. From the radio or other supply.

### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>STOCK NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT5-TU-SB5DCVE4</td>
<td>Rapid Mobile Pty Ltd</td>
</tr>
<tr>
<td>RT5: Term Green Modem 256b GPS S/B EN V4</td>
<td>Apex Corporate Park</td>
</tr>
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</table>

Distributed by:

**RapidM**

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