Raveon's M7 Series Competitive Features

By John Sonnenberg   *Raveon Technologies Corp*

Raveon's *M7* wireless modem is a sophisticated radio modem incorporating a wealth of features that make it not only one of the most advanced radio modems available, but also one of the easiest to use.

Although it features plug-and-play operation, working straight out of the box as a point-to-point or point-to-multipoint radio modem, the user may configure it for more advanced network topologies, repeating, and diagnostic abilities.

This paper summarized its advanced features, and their benefits to the user. No radio modem on the market has all of these features, and because the *M7* is built with a highly integrated RISC processor, it does all this at a price similar to old analog radio modems.

M7 Features

Business benefits

One design, many bands   The *M7* is available in a variety of frequency bands. Even though they operate on different frequencies or with different channel spacing, their user interface is identical. Once you learn how to program and manage one M7 model they all work the same.

Lowest Cost   The *M7* radio modem is small and highly integrated, making it the most economical modem on the market. With its very-low power consumption, it reduces system power supply expenses. With its remote-diagnostic capabilities, it reduces installation time and maintenance costs by eliminating the need for on-site tests.

2-Year Warranty   Raveon's *M7* radio modems are backed by a 2-year warranty.

System Benefits

Long-Range   Raveon's modems have outstanding receiver sensitivity, and with their programmable data rates, the user may select long-range and slower data or faster-data at reduced sensitivity.

Dual-Mode   Unique to the *M7*, it operates in _EITHER_ Streaming or Packetized modes. In *Streaming Mode*, data is transmitted in real-time as it enters the modem, and is output from the receiver the moment it is

received. In *Packetized Mode*, data is collected into packets, sent in bursts, and includes error-checking, error-correction, and network addressing overhead to ensure reliable data with no errors, and no dribble bits.

Integrated Repeater in Every Unit   All *M7* modems have integrated store-and-forward repeater capabilities in them.   When used in Packetized mode the *M7* may operate as a regular radio modem, AND as a store-and-forward repeater. Similar to IP networks, the repeater function uses the network address and an "address mask" to determine if a particular reception should be repeated.

Flexible I/O   The *M7* has more I/O options than any other radio modem. Regardless of I/O option used, all *FireLine* radio modems will communicate with all others. The *FireLine* has the following I/O options:

- RS-232 Serial to 115,200kbps

- USB 2.0 client

- RS-485 Duplex

- RS-485 Simplex

- RS-422

16-bit Modem Addresses   The *M7* modems in a system may be configured with a 16-bit address and network mask. This allows sub-groups of radios to communicate on the same radio channel, and not have their data interfere with modems that are not in their group. Also, many point-to-point systems may share one radio channel, or a point-to-multipoint may be set-up so that the multi-point modems do not hear each other's data. *M7* addressing is the most flexible radio modem addressing scheme available, and if it is not needed, is simple to turn off.

Reliable Data   Raveon's *M7* incorporates 16-bit CRCs, and reverse error correction, so that all data that comes out of an *M7* is 100% perfect. – No bit errors. – No "dribble-bits" after a reception. – No noise data. This gives the radio modem a "Transparent" look to the network. Most applications simply work over an *M7* link, just as they would a hard-wired link.

Common Port   Similar to all telco/Hayes type modems with the AT command set, the *M7* uses a common serial port for operation, configuration, and diagnostics.   The user needs only one data channel to use and manage the modem.   Simple "AT" commands are used to configure the modem, and to perform diagnostics.

Remote Ping   The *M7* supports a variety of remote diagnostics, including a remote "Ping" command. Invaluable when configuring the system, the

operator may query any *M7* in the system, and receive a report of it's signal strength.

Auto-Status Reporting   An *M7* may be configured to automatically and periodically report its status over-the-air.   A network monitor may be used to collect this data and ensure that all modems are operating properly.

TDMA Option   Al *M7* modems have the option of being ordered with a unique TDMA (Time Division Multiple Access) feature. TDMA orchestrates the transmissions of an entire field of M7 modems to ensure that no two transmissions occur at the same time, avoiding any potential RF collisions that could otherwise bring a system to its knees, and this is done without the need for a polling master. Ideal for ad hoc transmission or report-by-exception systems, TDMA ensures near 100% utilization of the RF channel, something other modems lacking this feature cannot come near approaching.

For More Information Contact:

Raveon Technologies Corporation
2320 Cousteau Court
Vista, CA 92081
(760) 444-5995 • sales@raveon.com