...the broadest narrowband money can buy

6/10 RACOM NEWS

Information bulletin of RACOM company

Meteorology, Italy

Reliable and durable modems of MORSE system enabled construction of a data network in demanding high-altitude conditions of the Italian Alps. The MORSE system has replaced 5 existing networks here (radio, GPRS, GSM dial-up, solid lines) and allows seamless system expansion. This hydrometric network operated by the Office of Civil Protection Department of Bolzano region transmits data necessary for avalanche prevention, meteorological services and hydrometric services for the area of 7500 square km. The highest altitude station is placed on Mount Wilder Freiger at an altitude of 3400 m. and is one of the highest meteorological stations in Europe. Ambient temperatures at many points of the network often fall below -30 ° C. Base stations of the network are fully redundant, equipped with two modems MR400.

Electricity distribution

Philippines

Major project in the Philippines, almost 400 points in the 1st stage, was earned by Braid Networks Incorporated, the local partner of RACOM in Philippines.
This MORSE network with radiomodems MR300 is used to transmit data in a SCADA system for electricity distribution grid. Implementation began in 2009 and continues through this year. The network currently covers Manila and its surroundings and in the next stages will expand to other regions.

New Partner in Russia

Sankt Petersburg, Russia

Racom made a new partner in the Russian Federation, the company Euromobil from St. Petersburg, which managed to realize several networks for water treatment companies and the Russian Railways.

Waterworks in Ecuador

Guayaquil, Ecuador

Successful implementation of Morse systems continue on the American continent, particularly in Central America in Ecuador, where ours partners manage to develop a water supply network in Guayaquil Ecuador.

Microwave link - RAy

GPRS / EDGE / UMTS routers

Success of partners

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RAy - microwave link

RAy

RAy - high-speed point-to-point microwave bridge was developed and manufactured by RACOM, the global leader in the radio modems development and production.
RACOM experience with export of its products and building wireless networks in more than 50 countries all around the world has been taken as an advantage during RAy development.

Advantages

- **256 QAM, user data rate of 170 Mbps**
- **Software Defined Radio, OS Linux**
- **Web interface, charts and logs including history**
- **1 GB Ethernet including PoE power supply**
- **FOD + built-in diagnostic tools => easy and quick installation**
- **All the parameters confirmed by a certified laboratory**
- **Best functionality for a particular site guaranteed**
- **5 years warranty**

Features

Data rates
- Modulation rate of **200 Mbps**, user data rate of **170 Mbps for 256 QAM**
- SW selectable modulation: QPSK, 16, 32, 64, 128, 256 QAM
- **ACM** (Adaptive Coding and Modulation)
- **Highest user data throughput for a particular location guaranteed**

Reliability
- Made exclusively of components intended for military or industrial usage
- Overvoltage and electrostatic **protection**
- Operating **temperature range** from **- 30 °C to + 55 °C** certified
- **Every** single **unit** is thoroughly **tested** in a climatic chamber
- **Outstanding communication reliability:**
  - High data sensitivity of the receiver part
  - High radio receiver robustness to unwanted interference
  - LDPC (Low-Density Parity-Check) **forward error correction** coding adjustable in 2 levels

Simplicity
- **FOD** (Full Outdoor), aluminum casting, direct mounting to the parabolic antenna
- Change of signal polarization simply by 90° rotation (4 fixing screws)
- Antenna alignment support - analog voltage on BNC connector and acoustic signalization.
- **Installation and setup tasks can be done in minutes**

Standards
- **Compliance** with all relevant **European and Czech standards**.
- All parameters measured and confirmed by certified laboratory of **Czech metrological institute.**

Security
- Configuration via **HTTPS, SSH**
- Permanent **real-time** control of the peer station **serial number**
- Theft protection: unique SSH key for each serial number

Diagnostics
- **Web interface**
- **Temperature, power supply, RSS, SNR, BER, data rate** monitoring and history available as text and charts.
- **SNMP** including generation of **TRAPs** when preset thresholds exceeded
- Built-in **spectrum analyzer** for free channel searching
- Automatic **detection** of unit **polarization**
- Constellation diagram of the received signal

Uniqueness
- Rugged **input filter** without any adjustable components
- **Full flexibility** in channel duplex spacing within the Lower and Upper frequency band applicable.
- Optional **second Ethernet port** for **service access** - „out-of-band“ management
- Direct unit mounting to the **antennas** from **various producer.** Flexible waveguide as a general-purpose option.

GPRS/EDGE/UMTS routers - MG100i | MG101 | MG102

MG100i

MG100i is a modernized version of the proven GPRS modem MG100 and is available for GPRS / EDGE / UMTS networks. This new version is currently produced in 3 options:
- GPRS
- GPRS / EDGE / UMTS / HSDPA
- GPRS / EDGE / UMTS / HSDPA / HSUPA

MG100i offers full compatibility with PROFI radiomodems (MR400, etc.) on user interfaces using the same software setting tools, including software package RANEC for network management. Thanks to these qualities, the main usage of MG100i is in MORSE hybrid networks, combining data transfers over radio channels and GPRS / EDGE / UMTS.

MG101

MG101 is a small but fully equipped GPRS / EDGE router with 1xETH and 1xRS232 interfaces, which provides all the standard features of router for connecting remote devices via Ethernet or RS232.

In addition there are 2 digital inputs and 2 digital outputs available that allow for example controlling sensors or any other elements (door contact, emergency stop, etc.). MG101 software supports all currently required functions, such as DHCP, DNS, SSH, OpenVPN, IPsec, NAT, Web management, etc.

MG102

MG102 is a GPRS / EDGE / UMTS higher class router equipped with an Ethernet switch with 4 ports and 1 x RS232 or RS485. It is designed for an expanded temperature range from -20 ° C to +70 ° C. MG102 utilizes 2 SIM cards slots, which enable using 2 independent GSM / UMTS service providers.

MG102 software supports all currently required functions such as DHCP, DNS, SSH, OpenVPN, IPsec, NAT, Web management, etc. For simple applications may be the need for VPN replaced by dynamic DNS or fixed IP addressing.