

# TS4000 Radio Modem

*High Speed  
Channel Rates*

*Advanced  
Packet Data  
Operation with  
Store-and-Forward  
Data Repeating*

*Network Wide  
Diagnostics  
Supporting  
Non-intrusive  
Monitoring of  
Radio and Data  
Functions*



## Applications

- Water and Waste Water Management
- Oil and Gas Field Monitoring
- Differential GPS and RTK Surveying
- Traffic Monitoring and Control
- Automatic Vehicle Location (AVL)
- CAD Dispatch and Messaging
- Security/Alarm System Management

## Advanced Performance

The TS4000 is a high performance radio modem supporting over the air data rates in excess of 19,200 bits per second. Its advanced data processing architecture allows high data throughput even on narrow 12.5, 7.5 and 6.25 kHz channels. The TS4000 incorporates a wide range of high performance radio modules which meet the stringent demands of both domestic and international regulatory agencies. Advanced features including address selective store-and-forward data repeating, multilevel packet management, remote system adjustment and network wide diagnostics makes the TS4000 the new benchmark for next generation radio modems.

## Key Features

- Provides high speed channel rates in excess of 19,200 bits per second
- Selectable operating modes for transparent and packet data operation
- Provides addressed communications for devices that are not directly addressable themselves
- Includes store-and-forward data repeating for wide area coverage
- Provides two individually configurable data ports
- Supports data activation (three wire) and RTS/CTS handshake protocols
- Includes powerful network diagnostics for non-intrusive monitoring of all radio and data network functions
- Built-in bit error rate (BER) monitoring
- Configurable RF output power levels
- Programmable receive sensitivity level (squellch) for use on noisy channels
- Watertight case option for field work and marine installations



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*... providing complete Wireless Data Solutions*



# TS4000 Radio Modem



## Flexible Data Interfaces

- Two highly configurable user data serial ports.
- Primary port supports connection to virtually any asynchronous user device.
- Secondary port used as diagnostics port, synchronous port, or separately addressable packet data port.
- Full Handshake and Data Activation modes supported on both ports.
- Data Activation mode requires only receive and transmit data lines for full communications with user device.
- Data rates from 300 to 38,400 baud.
- RS-232, RS-485 or TTL signal levels.

## Integrated RF Transceiver

- Synthesized transceivers cover VHF, UHF, 800 and 900 MHz bands.
- Programmable RF output power levels.
- Channel frequencies, stored in internal flash memory, selectable on-the-fly using simple ASCII command strings.

## Selectable Channel Protocols

- User selectable scrambling codes for private network communications.
- Optional error correction block coding (FEC) with bit interleaving to correct channel induced data errors.
- User selectable transparent or AirNet packet data transfer modes.

This product is available for domestic and international sale. For domestic sale, some frequency bands have not been approved by the Federal Communications Commission. Therefore, some devices are not, and may not be, offered for sale or lease, or sold or leased within the United States and its territories until approval of the FCC has been obtained.

## Integrated AirNet Packet Data Protocol

- Allows user directed transmissions to only selected destinations.
- Provides addressed communications for devices that are not directly addressable themselves.
- Can be optimized for point to point, point to multipoint, and full mesh networks.
- Supports group and all-call broadcast transmissions.
- Built-in CSMA/CA algorithm minimizes transmission collisions to maximize channel efficiency and utilization.
- Individual TS4000s can be configured as store-and-forward data repeaters to extend radio network coverage.

## Advanced Diagnostics

- Non-intrusive operation efficiently mixes application and diagnostic messages.
- Radio and data communications metrics available from all nodes in network.
- Field node parameters remotely settable from other nodes in network.
- Diagnostics control integrated with user data or accessible through separate port.

## PC Configurable

- Windows based configuration software provides quick setup and testing of TS4000 radio modems and networks.
- TS4000 flash memory program storage allows easy in-field firmware upgrades.
- Free technical support provided during all phases of installation and use.

## Rugged and Reliable

- Optional watertight housing and connections designed to withstand abuse from field and marine use.
- External interfaces protected against voltage transients, reversed polarity, electrical shorts and high VSWR.
- Two year no nonsense warranty.

Teledesign Systems provides a complete line of wireless data equipment including high speed wireless modems, RF amplifiers, antennas, duplexer kits, power supplies, cables and DGPS surveying accessories.



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