

# TRIMBLE 450L AND 450H RADIOS

## KEY FEATURES

**Easy setup and configuration...** even in the field

The latest Trimble radio technology for **optimal performance**

Super-rugged housing for **robust reliability**

Designed to support all aspects of GNSS surveying, the Trimble® TDL 450 series offers flexible configuration options and rugged reliability. This sophisticated radio modem places Trimble's newest low power data link technology in your hands. For surveyors that need to make the most of every day, the Trimble TDL 450 series is a giant step forward in radio technology.

## FIELD CONFIGURABLE AND BUILT TO LAST

The Trimble TDL 450 series is an advanced, high speed, wireless UHF data radio built to endure the stresses of daily use in harsh conditions. Full metal construction provides impact and weather resistance that will keep you working with complete confidence.

The full-function user interface streamlines field configuration and troubleshooting so you can maintain maximum productivity. Adapt as conditions require: for longer baselines you can dial up the power, and when the work area is smaller, a lower-power output extends battery life.

The Trimble TDL 450 series even provides access to diagnostic data in the field. So, you can solve signal strength challenges and make adjustments to stay more productive.

## PERFORMANCE FEATURES

- High Over-the-Air Link Rate:
  - 19,200 bps (both GMSK and 4FSK)
  - Supports 1 Hz RTK corrections for multi-constellation receivers
- Configurable Transmit Power:
  - Trimble TDL 450L power settings: 0.1 W, 0.5W, 1 W, 2W, and 4W
  - Trimble TDL 450H power settings: 4 user-defined power levels from 2 W to 35 W
  - Configurable from the front panel up to the maximum power output setting for your region

- Available Bandwidth:
  - 410 MHz to 430 MHz and 430 MHz to 470 MHz models
  - Designed for high performance over the entire band
- Software-controlled Channel Bandwidth:
  - Software configurable for both 12.5 kHz and 25 kHz radios

## VERSATILITY, FOR CONTINUOUS PRODUCTIVITY

Easy-to-use and highly reliable, the Trimble TDL 450 series radio is capable of broadcasting, repeating and receiving real-time data used by Trimble GPS/GNSS receivers. Its compact size allows it to be easily mounted on the same tripod as the receiver or on its own tripod using mounting hardware included as standard equipment.

As a transmitter, the Trimble TDL 450 series seamlessly broadcasts corrections to radios and radio-enabled devices. Network coverage can be enhanced by the use of one or two repeaters.

As a repeater, the TDL 450 series enables you to reach inaccessible or obstructed locations due to its extended range and seamless coverage around obstacles. Because it is so versatile, one extra radio can be used as a backup or as a "spare" for multiple tasks.



Trimble TDL 450H Radio

Trimble TDL 450L Radio

# TRIMBLE 450L AND 450H RADIOS

DATASHEET

SPECIFICATIONS	TDL 450L RADIO	TDL 450H RADIO
<b>GENERAL</b>		
Communication	1 RS-232 port, 115.2 kbps maximum	1 RS-232 port, 115.2 kbps maximum
User Interface	5 navigation buttons with 2-row, 16-character LCD display; English language support	5 navigation buttons with 2-row, 16-character LCD display; English, Russian and Chinese language support
<b>POWER</b>		
External	9.0 V DC to 30.0 V DC, 2 Amp maximum	9.0 V DC to 30.0 V DC, 15 Amp maximum
During RX	0.6 W nominal @ 12.0 V DC	1.7 W nominal @ 12.0 V DC
During TX	7 W nominal @ 12.0 V DC, 1 W RF output 13.4 W nominal @ 10.2 V DC, 4 W RF output	130 W nominal @ 12.0 V DC, 35 W RF output 55 W nominal @ 12.0 V DC, 8 W RF output 8 W nominal @ 12.0 V DC, 1 W RF output
<b>MODEM SPECIFICATIONS</b>		
Link Rate/Modulation	19,200 bps/4FSK, 9600 bps/4FSK, 19,200 bps/GMSK, 16,000 bps/GMSK, 9600 bps/GMSK, 8000 bps/GMSK, 4800 bps/GMSK	19,200 bps/4FSK, 9600 bps/4FSK, 19,200 bps/GMSK, 6,000 bps/GMSK, 9600 bps/GMSK, 8000 bps/GMSK, 4800 bps/GMSK
Link Protocols	Transparent EOT/EOC/FST, Packet-Switched, TRIMMARK™, TRIMTALK™, TT450S (HW), SATEL®	Transparent EOT/EOC/FST, Packet-Switched, TRIMMARK™, TRIMTALK™, TT450S (HW), SATEL®
Forward Error Correction	Yes	Yes
<b>RADIO SPECIFICATIONS</b>		
Frequency Bands	410 MHz to 430 MHz and 430 MHz to 470 MHz	410 MHz to 430 MHz and 430 MHz to 473 MHz
Frequency Control	Synthesized 6.25 kHz tuning resolution; Frequency stability ± 1 ppm; -40 °C to +85 °C (-40 °F to +185 °F)	Synthesized 6.25 kHz tuning resolution; Frequency stability ± 1 ppm; -40 °C to +85 °C (-40 °F to +185 °F)
RF Transmitter Output	Programmable to 0.1 W to 4 W (where permitted)	Programmable from 2 W to 35 W (where permitted)
Sensitivity	-110 dBm BER 10 <sup>-5</sup>	-110 dBm BER 10 <sup>-5</sup>
Type Certification	All models are type accepted and certified for operation in the U.S., Europe, Australia, New Zealand, Russia and Canada. TDL 450L-Korea is type certified for operation in Korea.	All models are type accepted and certified for operation in the U.S., Europe, Australia, New Zealand, and Canada.
<b>ENVIRONMENTAL SPECIFICATIONS</b>		
Enclosure	IP67 (Dustproof and watertight to depth of 1 m for 30 minutes)	IP67 (Dustproof and watertight to depth of 1 m for 30 minutes)
Operating Temperature (receiver)	-40 °C to +85 °C (-40 °F to +185 °F)	-40 °C to +65 °C (-40 °F to +149 °F)
Operating Temperature (transmitter)	-40 °C to +65 °C (-40 °F to +149 °F)	-40 °C to +65 °C (-40 °F to +149 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to +185 °F)	-55 °C to +85 °C (-67 °F to +185 °F)
Vibration	MIL-STD-810F	MIL-STD-810F
<b>MECHANICAL SPECIFICATIONS</b>		
Dimensions	8.89 cm L x 4.6 cm W x 16.0 cm H (3.5 in L x 1.809 in W x 6.3 in H)	11.9 cm L x 8.6 cm W x 21.3 cm H with handle (4.7 in L x 3.4 in W x 8.37 in H with handle)
Weight	690 g (1.52 lb)	1.95 kg (4.3 lb)
Data/Power Connector	5-pin, #1-shell LEMO	5-pin, #1-shell LEMO
RF Connector	50 Ohm, TNC female	50 Ohm, TNC female

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