



# Trimble TDL 450

## SERIES RADIOS

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 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, 0.5 W, 1 W, 2 W, and 4 W
  - 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:
  - 390 MHz to 430 MHz and 430 MHz to 473 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 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.

## Key Features

- ▶ Easy setup and configuration, even in the field
- ▶ The latest Trimble radio technology for optimal performance
- ▶ Super-rugged housing for robust reliability



Trimble  
TDL 450L Radio

Trimble  
TDL 450H Radio

\* 430 MHz to 473 MHz range only available on TDL450H. The TDL450L upper frequency range is 430 MHz to 470 MHz.

Connected Functions	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	11.0 V DC to 16.0 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	115 W nominal @ 12.0 V DC, 35 W RF output 45 W nominal @ 12.0 V DC, 8 W RF output 25 W nominal @ 12.0 V DC, 2 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	390 MHz to 430 MHz and 430 MHz to 470 MHz	390 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, Brazil, and Canada. The current model of the TDL450H is indicated on the product label as TDL450Hx.
<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)	-30 °C to +65 °C (-22 °F to +149 °F)
Operating Temperature (transmitter)	-40 °C to +65 °C (-40 °F to +149 °F)	-30 °C to +65 °C (-22 °F to +149 °F)
Storage Temperature	-55 °C to +85 °C (-67 °F to +185 °F)	-30 °C to +85 °C (-22 °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



Specifications subject to change without notice.

Contact your local Trimble Authorized Distribution Partner for more information

#### NORTH AMERICA

Trimble Navigation Limited  
10368 Westmoor Drive  
Westminster CO 80021  
USA

#### EUROPE

Trimble Germany GmbH  
Am Prime Parc 11  
65479 Raunheim  
GERMANY

#### ASIA-PACIFIC

Trimble Navigation  
Singapore Pty Limited  
80 Marine Parade Road  
#22-06, Parkway Parade  
Singapore 449269  
Singapore