Specifications   TDL450Hx Radio

Radio Name	TDL 450Hx Radio
Frequency Bands	
	390 - 430 MHz
	430 - 473 MHz
Channel spacing	12.5 kHz and 25kHz derived, synthesized 6.25 kHz resolution, +/- 1ppm stability.
Number of Channels	N/A
Number of Networks	N/A
RF Power Select	Programmable
Power output	2 W to 35 W (where permitted)
Sensitivity	–110 dBm BER 105
Adjacent Channel Selectivity	
Access Point for 2 Way Data	No
License Required	Yes

General

DTE - DCE Interface	1 x 3 wire RS232, 115.2 kbps maximum
Keyboard and display	LCD display, 16 characters (English/Russian) or 8 characters (Chinese) by 2
	On/Off button
	5 navigation buttons
	English, Russian, Chinese
	Modem power / status indicators
Dimensions (L × W × D)	11.9 cm x 8.6 cm x 21.3 cm (4.7 in x 3.4 in x 8.37 in)
Weight	1.95 kg (4.3 lb)

Power

External	11-16 V DC, 15 Amp maximum
Internal battery	None
During TX (nominal)	115W nominal @ 12.0 V DC, 35W RF output
	45W nominal @ 12 V DC, 8W RF output
	25W nominal @ 12 V DC, 2W RF output
During RX (nominal)	1.7W nominal @ 12 V DC

Antenna

	External 50 ohm, TNC(F)

Modes of Operation

Base	Yes
Rover	Yes
Repeater	Yes
Rebroadcaster	Yes, with Cellular device connected

Number of Repeaters Supported in a Network	N/A

Modem Specifications

RF Modulation	Gaussian Minimum Shift Keying (GMSK) or (FSK)
Link Rate / Modulation	19200 bps / 4FSK
	9600 bps / 4FSK
	19200 bps / GMSK
	16000 bps / GMSK
	9600 bps / GMSK
	8000 bps / GMSK
	4800 bps / GMSK
Link Protocols	Transparent FST, Transparent EOT/EOC, Packet-switched,TRIMMARKTM, TRIMTALKTM, TT450S (HW), SATEL®
Forward Error Correction	Yes
Emission Designator	8K60F1D for 12.5 kHz channel
	17K8F1D for 25 kHz channel

Environmental Specifications

Operating Temperature	
Transmitting	-30 °C to +65 °C (-22 °F to +149 °F)
Receiving	-30 °C to +65 °C (-22 °F to +149 °F)
Storage Temperature	-30 °C to +85 °C (-22 °F to +185 °F)
Vibration / Shock	MIL/STD 810F
Humidity / Enclosure	IP 67 (Dustproof and watertight to deoth of 1m for 30 minutes)

Connections

Power	
Data	5 pin, #1 shell LEMO
Antenna	5 Ohm, TNC(F)
Ethernet	N/A
Serial	1 RS-232 port, 115.2 kbps max
Bluetooth	N/A

Mount

	Tripod

Operational Range

Typical	
Optimal	

Configuration

	Display and navigation buttons, TDLCONF software via RS232

Type Certification

All models are type accepted and certified for operation in the U.S., Canada, Australia, New Zealand, Brazil and Europe. For detailed information concerning your country's type certification, please contact your local sales representative

Supported Configurations

25 kHz Channel Bandwidth

Protocol Type	Modulation Type	Radio Link Rates (bps)
Transparent EOT/EOC and Packet Switched	GMSK	4800*, 9600*
Transparent EOT/EOC and Packet Switched	4FSK	19200
Transparent FST	4FSK	19200
TRIMTALK 450s	GMSK	4800*, 9600*, 16000*
TRIMMARK II/IIe	GMSK	4800*
TT450S (HW)	GMSK	4800*, 9600*
TRIMMARK 3	GMSK	19200 (USA)
SATEL	4FSK	19200

Notes

Before operating this modem, users are legally required to obtain frequency licenses as required by the country of use

Only one frequency band per radio

Only one channel spacing per radio

Use the same frequency for all modems in the same wireless network

Range varies with terrain and operatonal conditions

Power consumption and battery life depend on the broadcast information content and wireless data rate (e.g. CMR versus RTCM SC-104 Ver 2.x packets at 1 Hz epoch rates).

Specifications subject to change without notice.

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