

## TReX Lite TELEMETRY, DATA & MESSAGING TRANSCIVER

The TReX Lite is a serial RS232 capable transceiver for data, telemetry and paging (one and two-way). The TReX is suitable for commercial, industrial and remotely managed control/monitoring applications.

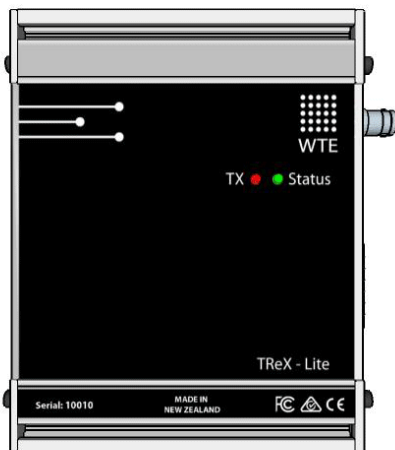
Use the TReX when high reliability, long range and high speed control or messaging is required.

### DMR MESSAGING

The TReX supports the transmission of short Digital Mobile Radio text messages, allowing direct messaging to a variety of DMR radios.

### APPLICATIONS:

- Transmit DMR Messages.
- Transmit and receive POCsAG paging messages.
- Transmit and receive serial and telemetry data at high data rates.
- Act as a repeater for forwarding telemetry and paging messages in poor coverage areas\*.
- Detect antenna faults during normal operation\*.



### FEATURES:

- Up to 4W power output.
- Operates from 421 to 480MHz.
- Data transmit rates from 512 baud to 32K baud.
- Supported channel spacing of 25kHz, 12.5kHz and 6.25kHz.
- Sends and receives POCsAG paging messages.
- Transmit DMR tier 1 text messages.
- Receives FLEX™ paging messages.
- Two-Way paging, with auto acknowledge and request confirmation message.
- Variable content macro which allows the TReX to build a periodic message with current system status, IO state and more.
- 4 digital inputs
- RS232 support.
- Configured inputs can be programmed to send POCsAG and DMR messages simultaneously when triggered.
- Periodic message support to ensure radio link integrity.
- High sensitivity receiver.
- Antenna mismatch detection\*.
- Low battery/voltage messaging.
- Support for additional protocols upon request and negotiation.

### CONFIGURABLE:

The TReX can be configured and cloned through serial commands.

### TReX Lite OPTIONS

With the purchase of a license, the following features are available:

- Increase of output power from 500mW to 4W.
- Support for additional protocols (other the default WT Protocol)
- Antenna mismatch detection.
- Store and forward repeater operation.

### CUSTOMISATION

The TReX has been developed and is maintained "in-house". WTE can work with your team to customize the TReX to meet your system needs. Designed and manufactured in New Zealand.

### CONNECTING TO THE TReX Lite

The minimum required connections for a usable system:

- Connection to a 50 ohm antenna constructed for the frequency of interest.
- 13.8V, 3A supply connected to the power terminals

#### Right Panel:



**RF:** BNC CONNECTOR (50 OHMS)

**USB:** MINI TYPE B CONNECTOR

Inputs/Outputs Pin Number	Description
1	Input – Digital 1
2	Input – Digital 2
3	Input – Digital 3
4	Input – Digital 4
5	GND
6	GND
7	GND

#### LEFT Panel:



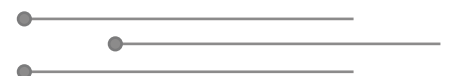
#### Serial Connector:

Serial Connector Pin Number	Description
1	RS232 TX
2	RS232 RX
3	Ground (GND)

#### Power Connector:

Power Connector Pin Number	Description
1	Ground (GND)
2	+13.8V
3	Not Connected (N.C.)

\*Model dependent optional features



## SPECIFICATIONS:

<b>FREQUENCY RANGE</b> .....	TReX-460: 421MHZ to 480MHZ
<b>SUPPLY VOLTAGE</b> .....	Nominal 12V. Min 10.8. Max 15.6V.
<b>TX POWER</b> .....	250mW, 500mW, 1W, 2W and 4W
<b>DIGITAL INPUTS</b> .....	4
<b>ANTENNA CONNECTOR</b> .....	BNC
<b>INTERFACES</b> .....	RS232
<b>RECEIVER SENSITIVITY</b> .....	<b>.460MHZ</b> (512 BAUD) -123 dBm <b>460MHZ</b> (4800 BAUD) -118 dBm

## MECHANICAL:

<b>LENGTH:</b> .....	104mm (125mm including BNC connector)
<b>WIDTH:</b> .....	131mm
<b>HEIGHT:</b> .....	41mm
<b>WEIGHT:</b> .....	550 Grams
<b>MOUNTING:</b> .....	RACK, WALL & DIN RAIL
<b>IP RATING:</b> .....	IP51

## ENVIRONMENTAL

<b>OPERATING TEMPERATURE</b> .....	-40 to +70 °C
<b>HUMIDITY</b> .....	Maximum 95% non-condensing

## DMR SUPPORT:

<b>ENCODE</b> .....	Partial ETSI TS 102 361-1 (Tier 1 direct mode). Short Message Type, unconfirmed. Max Message Length 50 characters.
<b>DECODE</b> .....	N/A

## POCSAG SUPPORT:

<b>ENCODE AND DECODE BAUD RATES</b> .....	512, 1200, 2400, 4800, 9600
<b>SUPPORTED MODES</b> .....	Alphanumeric and numeric, singular or batched for 25KHz, 12.5KHz and 6.25KHz channel spacing Adjustable preamble from 64 to 5000 bits
<b>FLEX™ PAGING DECODE SUPPORT</b> .....	1600 BAUD (2 LEVEL ONLY)

## PROTOCOL SUPPORT:

- WTE PROTOCOL
- COMP2
- PET/TAP
- SCOPE
- ESPA 4.4.4
- ASCOM
- MULTI-TONE
- SALCOM
- WTE CUSTOM
- OTHERS ON REQUEST
- TNPP
- TPP

## MODULATIONS SUPPORT:

<b>25KHZ CHANNEL WIDTH</b> .....	512 BAUD (FSK), 1200 (FSK), 1600 (FSK), 2400 (GFSK), 3200 (4GFSK), 4800 (2GFSK), 9600 (GFSK), 9600 (4GFSK), 16K (4GFSK), 32K (4GFSK)
<b>12.5KHZ CHANNEL WIDTH</b> .....	512 BAUD (FSK), 1200 (FSK), 2400 (GFSK), 4800 (GFSK), 9600 (GFSK), 9600 (4GFSK), 16K (4GFSK)
<b>6.25KHZ CHANNEL WIDTH</b> .....	512 BAUD (FSK), 1200 (GFSK), 2400 (GFSK), 4800 (4GFSK)

## REGULATORY COMPLIANCE

FCC .....	FCC Part 90
EN .....	EN 300 113
EN .....	EN 50385
AS/NZ .....	AS/NZ 4769.1:2000
EMC .....	EN 301 489
SAFETY .....	EN 60950 + IEC 62368
RoHS (Restriction of Hazardous Substances) .....	Compliant
WEEE (Waste Electrical and Electronic Equipment) .....	Compliant <sup>1</sup>

Notes: <sup>1</sup> Please contact your WTE dealer or WTE directly for further information regarding safely disposing of electronic equipment

For latest information and specifications please visit [wte.co.nz](http://wte.co.nz)



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