

# TRACER™

## WIRELESS 2xE1

The ADTRAN TRACER is a digital microwave radio that uses spread-spectrum technology to provide E1 communication links. TRACER operates in the 2.4 - 2.4835 GHz or 5.725 - 5.850 GHz band and is unlicensed in many countries.

TRACER is composed of two primary components; a baseband processor and a radio-frequency converter (RFC). To minimize transmission line loss, the RFC may be mastmounted up to 100 meters from the baseband processor using a single RG-8 size coaxial cable. Alternatively, the RFC may be rackmounted as an option for installations using low-loss coaxial connections to the antenna. All signaling and power functions between the baseband processor and RFC are provided over a single coaxial connection.

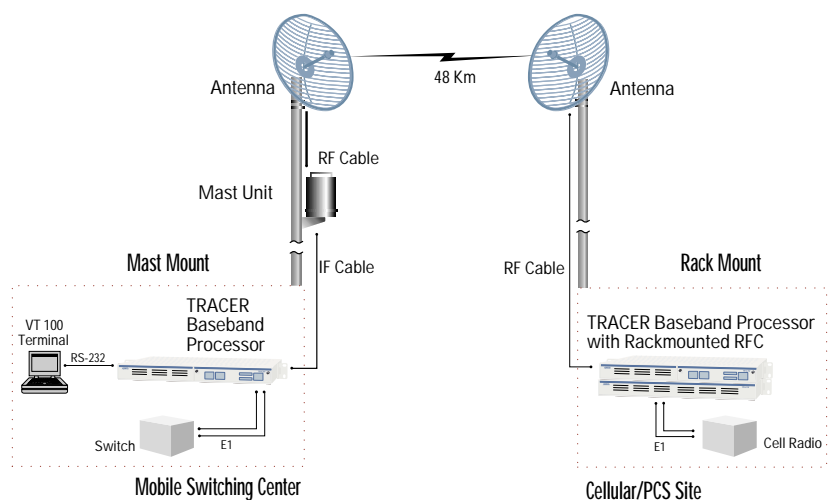
TRACER transports two E1 digital signals in either HDB3 or AMI coding formats and provides either 75Ω BNC or 120Ω DB-15/RJ-48 interfaces. A separate maintenance channel is embedded in the TRACER data stream, providing remote configuration and monitoring functions. The maintenance channel is provided without impacting the E1 capacity.

TRACER is suitable for installations where wireless voice or data communication is a cost-effective alternative to traditional wireline connections in point-to-point, line-of-sight applications. For example, TRACER is ideal in deployment situations involving land preservation, difficult-to-navigate terrain, disaster recovery, and other scenarios where laying cable is unmanageable, too costly, or temporary.

By using the latest technology and incorporating ADTRAN's ISO 9001 manufacturing processes, ADTRAN has designed TRACER to provide the highest levels of reliability and durability.

### PRODUCT FEATURES

- Digital microwave radio
- Dual E1 interface
- Direct sequence spread spectrum
- Two frequency bands: 2.4 to 2.4835 GHz or 5.725 to 5.850 GHz
- No license required in many countries
- Frequency agile
- Remote loopback
- Remote control of far end
- Rack- or mastmounted RFC option
- 1U (4.4 cm), 48.3 cm (19" EIA) rack space using mastmounted RFC
- Point-to-point, up to 48 km





**2xE1 Baseband Processor**



**Rackmounted RFC**

## Product Specifications

### TRANSMITTER

#### 2.4 GHz

- Output Power: +20 dBm, Max
- Frequency Band: 2.4 to 2.4835 GHz
- Channel Bandwidth: 40 MHz
- Intermediate Frequency: 140 MHz

#### 5.8 GHz

- Output Power: +20 dBm, Max
- Frequency Band: 5.725 to 5.850 GHz
- Channel Bandwidth: 40 MHz
- Intermediate Frequency: 140 MHz

### RECEIVER

#### 2.4 GHz

- Receive Level Threshold: -87 dBm ( $10^{-6}$  BER)
- Receive Level, Max: -30 dBm
- Receive Level, Nominal: -60 dBm
- Frequency Range: 2.4 to 2.4835 GHz
- Channel Bandwidth: 40 MHz
- Intermediate Frequency: 70 MHz

#### 5.8 GHz

- Receive Level Threshold: -86 dBm ( $10^{-6}$  BER)
- Receive Level, Max: -30 dBm
- Receive Level, Nominal: -60 dBm
- Frequency Range: 5.725 to 5.850 GHz
- Channel Bandwidth: 40 MHz
- Intermediate Frequency: 70 MHz

### FREQUENCY PLAN

#### 2.4 GHz

- A - TX 2.422 GHz      RX 2.462 GHz
- B - TX 2.462 GHz      RX 2.422 GHz

#### 5.8 GHz

- A - TX 5.747 GHz      RX 5.827 GHz
- B - TX 5.827 GHz      RX 5.747 GHz

### BASEBAND PROCESSOR

- Operating Temperature: -25° to 65° C
- Width: 42.4 cm, (for 19" EIA rack mounting)
- Height: 1U (4.4 cm)
- Depth: 29.2 cm
- Humidity: 95%, non-condensing
- Weight: 2.7 kg

### RACKMOUNTED RFC

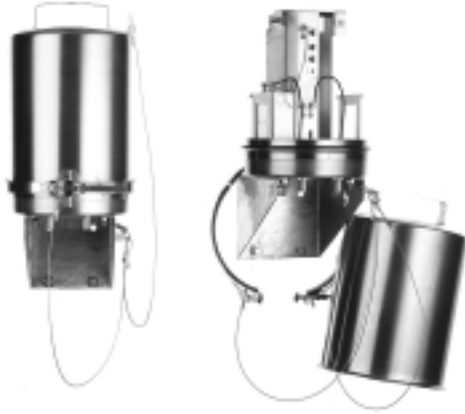
- Operating Temperature: -40° to 65° C
- Width: 42.4 cm, (for 19" EIA rack mounting)
- Height: 1U (4.4 cm)
- Depth: 29.2 cm
- Humidity: 95%, non-condensing
- Weight: 4.8 kg

### MASTMOUNTED RFC

- Operating Temp: -40° to 65° C
- Diameter: 22.5 cm
- Height: 52.5 cm
- Humidity: 100%
- Weight: 8.1 kg

### POWER

- Input Voltage: 21 to 60 VDC (either polarity referenced to ground)
- Power Consumption: 30 watts (amperage=30 watts/voltage)
- DC Connector: 3-pin screw clamp
- AC Adapter Connector: 3-pin DIN



**Mastmounted RFC**



**AC Adapter**

## Ordering Information

EQUIPMENT	2.4 GHZ PART #	EQUIPMENT	5.8 GHZ PART #
2xE1 Mastmount, 75 Ω, Freq Plan A .....	4280TRACERE1L5-A	2xE1 Mastmount, 75 Ω, Freq Plan A.....	4280TRC582E75M1A
2xE1 Mastmount, 75 Ω, Freq Plan B .....	4280TRACERE1L5-B	2xE1 Mastmount, 75 Ω, Freq Plan B.....	4280TRC582E75M1B
2xE1 Rackmount, 75 Ω, Freq Plan A .....	4280TRACERE1L6-A	2xE1 Rackmount, 75 Ω, Freq Plan A.....	4280TRC582E75R1A
2xE1 Rackmount, 75 Ω, Freq Plan B .....	4280TRACERE1L6-B	2xE1 Rackmount, 75 Ω, Freq Plan B.....	4280TRC582E75M1B
2xE1 Mastmount, 120 Ω, Freq Plan A .....	4280TRACERE1L7-A	2xE1 Mastmount, 120 Ω, Freq Plan A.....	4280TRC582E12M1A
2xE1 Mastmount, 120 Ω, Freq Plan B .....	4280TRACERE1L7-B	2xE1 Mastmount, 120 Ω, Freq Plan B.....	4280TRC582E12M1B
2xE1 Rackmount, 120 Ω, Freq Plan A .....	4280TRACERE1L8-A	2xE1 Rackmount, 120 Ω, Freq Plan A.....	4280TRC582E12R1A
2xE1 Rackmount, 120 Ω, Freq Plan B .....	4280TRACERE1L8-B	2xE1 Rackmount, 120 Ω, Freq Plan B.....	4280TRC582E12M1B

Specifications subject to change without notice.

ADTRAN, Inc.  
Attention: International  
Department  
901 Explorer Boulevard  
Huntsville, Alabama 35806  
USA

[www.adtran.com](http://www.adtran.com)

Asia Pacific—Hong Kong  
852 2824-8283 voice  
852 2824-8928 fax  
[sales.asia@adtran.com](mailto:sales.asia@adtran.com)

Canada--Ontario  
1 416 290-0585 voice  
1 416 296-1259 fax  
[sales.ontario@adtran.com](mailto:sales.ontario@adtran.com)

Canada—Quebec  
1 877 923-8726 toll free  
1 514 940-2888 voice  
1 514 940-2890 fax  
[sales.quebec@adtran.com](mailto:sales.quebec@adtran.com)

Canada—Other Provinces  
1 877 923-8726 toll free  
[sales.canada@adtran.com](mailto:sales.canada@adtran.com)

Europe--Zurich, Switzerland  
41 1 880 27 77 voice  
41 1 880 27 78 fax  
[sales.europe@adtran.com](mailto:sales.europe@adtran.com)

Latin America  
1 954 746-5355 voice  
1 954 746-7540 fax  
[sales.latin@adtran.com](mailto:sales.latin@adtran.com)

Mexico/Caribbean  
1 954 577-0357 voice  
1 954 577-0358 fax  
[sales.mexico@adtran.com](mailto:sales.mexico@adtran.com)

U.S. Headquarters  
1 256 963-2500 voice  
1 256 963-6300 fax  
1 256 963 8200 fax back  
[international@adtran.com](mailto:international@adtran.com)



I.S. EN ISO 9001  
ADTRAN is an ISO 9001  
registered company.



Printed in the U.S.A. on recycled paper.  
I64280TRACERE TLX-8B July 2000  
©2000 ADTRAN, Inc. All rights reserved.