



TRACER[®] 4106/4206

Compact License-free Quad T1 Radios

Product Summary

- Key applications:
 - Cellular backhaul
 - Service provider network extension
 - Corporate networks and campus connectivity
 - Redundant link
 - Disaster recovery
- High-capacity wireless connectivity up to 4 T1s
- Rapid return on investment
- Economical and reliable alternative to wireline
- Small footprint – 1U, 19-inch rack space
- No license required per FCC rules part 15.247
- 2.4 to 2.4835 GHz and 5.725 to 5.850 GHz ISM band operation
- Remote loopback and configuration
- Point-to-point, up to 30 miles
- Multiple software selectable channel plans
- Five-year North American warranty

The TRACER[®] 4106 and 4206 are license-free digital microwave radios from ADTRAN[™], that provide economical, wireless, high-capacity connectivity for service providers and corporate networks. The TRACER 4106 operates in the 2.4 GHz ISM band while the TRACER 4206 operates in the 5.8 GHz ISM band to provide high bandwidth wireless solutions, at a significantly lower cost than competing products. The monthly cost savings of ADTRAN's license-free wireless solutions generate a rapid return on investment while lowering overall communications costs. Additionally, in applications where quick installation and time-to-market are essential, or where existing high bandwidth infrastructure is inadequate or nonexistent, the TRACER 4106/4206 radios will provide rapid deployment and reliable carrier-grade connectivity.

TRACER 4xT1 systems are ideally suited for many applications such as backhauling cellular traffic from hub or cell sites, upgrading existing wireless links to support higher bandwidths, extending a service provider's network and presence, interconnecting corporate networks within a campus community, providing a redundant link, or rapid deployment for disaster recovery.

Because TRACER operates in the license-free ISM bands, delays and expenses associated with frequency coordination and licensing are eliminated, allowing rapid delivery of high-bandwidth connectivity to those areas of the network that require it. Locations previously unreachable by existing copper or fiber networks can now be seamlessly integrated into both public and private networks.

TRACER 4106/4206 quad T1 radios support multiple channel plans (3 total) for flexible co-location at tower sites. TRACER channel plans are easily changed in the device configuration menus without the added expense of hardware upgrades. TRACER's outstanding performance enables excellent link distances with high confidence and less expensive infrastructure than other license-free T1 transport alternatives. Full-duplex data transmission is provided and 99.999% carrier-class reliability can be achieved with proper link engineering design.

TRACER 4000 series radios occupy only 1 RU and are excellent wireless connectivity solutions for applications where cabinet or rack space is limited.

The TRACER series is intended for use in point-to-point situations, and features VT100 management of both ends of the link without impacting throughput. Management functions include control, status, and alarm capabilities.

By using the latest technology and incorporating ISO 9001 manufacturing processes, ADTRAN has designed the TRACER series to provide the highest levels of reliability and durability. As a result, TRACER series products are supported by an industry-leading five-year warranty in North America and an award-winning technical support team.





ADTRAN, Inc.

Attn: Enterprise Networks
901 Explorer Boulevard
Huntsville, AL 35806

P.O. Box 140000
Huntsville, AL 35814-4000

256 963-8000 voice
256 963-8699 fax
256 963-8200 fax back

General Information

800 9ADTRAN
info@adtran.com
www.adtran.com

Pre-Sales

Technical Support

800 615-1176 toll-free
application.engineer@adtran.com
www.adtran.com/support

Where to Buy

877 280-8416 toll-free
channel.sales@adtran.com
www.adtran.com/where2buy

Post-Sales

Technical Support

888 423-8726
support@adtran.com
www.adtran.com/support

ACES Installation & Maintenance Service

888 874-ACES
aces@adtran.com
www.adtran.com/support

International Inquiries

256 963 8000 voice
256 963-6300 fax
international@adtran.com
www.adtran.com/international

For the regional office nearest you, visit:

www.adtran.com/where2buy



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



TL 9000

ADTRAN is a
TL 9000 registered company.

Printed in the U.S.A.
612804206L1-8B February 2003
Copyright ©2003 ADTRAN, Inc.
All rights reserved.

TRACER® 4106/4206

Compact License-free Quad T1 Radios

Product Specifications

Transmitter

- **Output power:** +20 dBm (100 milliwatts) max
- **Frequency band:** 2.4 to 2.4835 GHz (TRACER 4106), 5.725 to 5.850 GHz (TRACER 4206)
- **Channel bandwidth:** 14 MHz

Receiver

- **Receive level threshold (10⁻⁶ BER):** -93 dBm (TRACER 4106), -90 dBm (TRACER 4206)
- **Maximum receive level:** -30 dBm
- **Nominal receive level:** -55 dBm
- **Frequency range:** 2.4 to 2.4835 GHz (TRACER 4106), 5.725 to 5.850 GHz (TRACER 4206)
- **Channel bandwidth:** 14 MHz

Frequency Plans

Plan A Center Frequencies TRACER 4106

- A1 TX 2.416 GHz, RX 2.456 GHz
- A2 TX 2.422 GHz, RX 2.462 GHz
- A3 TX 2.428 GHz, RX 2.468 GHz

TRACER 4206

- A1 TX 5.734 GHz, RX 5.814 GHz
- A2 TX 5.744 GHz, RX 5.824 GHz
- A3 TX 5.753 GHz, RX 5.833 GHz

Plan B Center Frequencies TRACER 4106

- B1 TX 2.456 GHz, RX 2.416 GHz
- B2 TX 2.462 GHz, RX 2.422 GHz
- B3 TX 2.468 GHz, RX 2.428 GHz

TRACER 4206

- B1 TX 5.814 GHz, RX 5.734 GHz
- B2 TX 5.824 GHz, RX 5.744 GHz
- B3 TX 5.833 GHz, RX 5.753 GHz

RF Interface

- **Antenna connector:** female type-N
- **Impedance:** 50 ohms

Digital Interface

- **Capacity:** 4xT1 (ANSI T1.403)
- **Data rate:** 4x1.544 Mbps
- **Interface type:** DSX-1
- **Connectors:** RJ-48C
- **Line code:** AMI, B8ZS
- **Framing:** SF, ESF
- **Alarms:** AIS, Red, Yellow, BPVs, LOS
- **Loopbacks:** Line and link

User Interface

- **Front panel:** Status LEDs
- **Diagnostics:** Self-test LED
- **Test points:** RSSI, transmit power
- **Alarm contacts:** RF carrier loss, normally open and closed

Terminal Interface

- **Function:** Menu-driven user interface, monitor and control of local and remote end of link, password protection, event history
- **Emulation:** VT100
- **Data rate:** 9600 bps
- **Physical interface:** Female DB25
- **Electrical interface:** RS-232

Mechanical and Environmental

- **Operating temperature:** -25°C to 65°C
- **Width:** 17.12" (for 19" EIA rackmounting – hardware accommodates both 19 and 23-inch bays)
- **Height:** 1.72" (1U)
- **Depth:** 9.34"
- **Humidity:** 95%, non-condensing
- **Weight:** 7 lbs.

Compliance

- FCC Part 15.247

Power

- **Input voltage:** 21-60 vDC, either polarity referenced to ground
- **Power consumption:** 20 Watts, maximum
- **DC connector:** 2-pin plug in

Ordering Information

Equipment	Part #
TRACER 4106, Freq A	12804106L1A
TRACER 4106, Freq B	12804106L1B
TRACER 4206, Freq A	12804206L1A
TRACER 4206, Freq B	12804206L1B
AC Power Supply	1280650L1



Specifications subject to change without notice. ADTRAN is a trademark and TRACER is a registered trademark of ADTRAN, Inc. All other registered trademarks and trademarks mentioned in this publication are the property of their respective owners.