

TRACER Monitored Protection Switch (MPS)

ADTRAN
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Quick Start Guide

61280300L1-13B

About this Quick Start Guide...

This guide contains information for installing your TRACER MPS system. ADTRAN recommends that the entire TRACER link be tested on a lab bench prior to installation in the field.



Verify the existence of an adequate microwave path for each hop or link to ensure that a point-to-point microwave system is feasible for your particular application. Record the frequency of your microwave system (2.4 GHz or 5.8 GHz) and be sure to configure the Frequency Band menu option appropriately before operating your TRACER MPS. For more details, refer to Reviewing the Menus on page 4.

Before you begin...

■ Required Components

- (2) TRACER Baseband Processor (BBP) and RF Converter (RFC) rackmount units
- Or,*
- (2) TRACER 4103 or 4203 integrated rackmount radio units
- RS-232 interface cable and VT100 terminal (or a PC with VT100 emulator software) for connecting to the unit
- (2) RS-232 (MALE) to RJ-45 (FEMALE) adapter (ADTRAN P/N 3196ADPT010) for creating the VT100 management chain (included in the TRACER MPS shipment)
- (2) 8-conductor RJ-45 to RJ-45 straight-through cable for creating the VT100 management chain (included in the TRACER MPS shipment)
- (4) Straight-through T1 cables to connect the TRACER BBP or 4103/4203 T1 interfaces to the MPS (2 are included in each TRACER shipment)
- (2) N-Type (MALE) to SMA (MALE) cables for connecting the antenna interfaces (TRACER units) to the TRACER MPS (included in the TRACER MPS shipment)
- 18, 20, or 22 AWG dual-conductor cable for connecting the alarm contacts between the TRACER BBP or 4103/4203 and the TRACER MPS; also needed for connecting the MPS to an external alarm monitoring system
- Antenna, mounting hardware, and feedline cable
- 21 to 63 VDC power source (available from ADTRAN)
- (2) Straight-through T1 cables to connect the TRACER MPS to other CPE equipment (included in the TRACER MPS shipment)
- Or,*
- (2) T1 crossover cables to connect the TRACER MPS T1 interfaces to the public-switched network (included in the TRACER MPS shipment)

1 Rackmount the Units

Install the TRACER MPS system in a location that requires minimal antenna feedline length (the loss in this cable directly affects overall system performance). The TRACER MPS should be mounted in a rack between the two BBP components of the TRACER systems (see Figure 1 on page 2). Although no space is needed between the units, certain regulations may require at least 0.75" of space above and below each BBP.

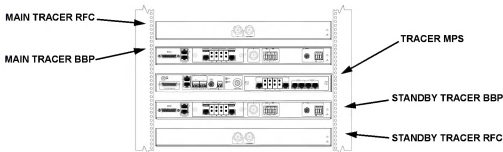


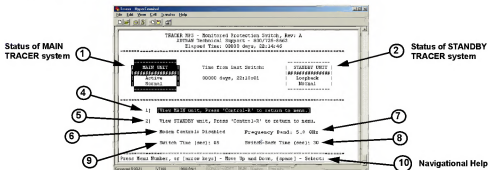
Figure 1. TRACER MPS System Rackmount Configuration



Figure 1 displays a TRACER MPS system using TRACER units with separate BBP and RFC components. The TRACER MPS can also be used with TRACER 4103 or 4203 integrated rackmount radio units.

4 Reviewing the Menus

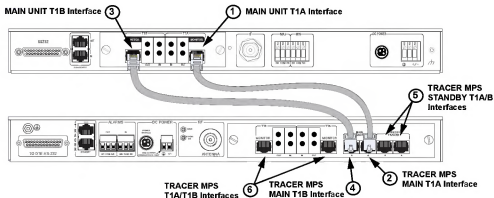
The TRACER MPS software interface consists of a single menu screen (shown below). Navigate through the available menu options using the up and down arrow keys. Alternately, the numbered menu options may be selected by entering the appropriate menu number displayed to the left of the option. Pressing the <space bar> activates the current menu selection. The TRACER MPS VT100 interface provides access to the MAIN and STANDBY TRACER unit menus (using menu options 1 and 2, respectively). Press <Ctrl + R> to exit the TRACER menus and return to the TRACER MPS menu screen. A brief description of the available menu options for the TRACER MPS follows the figure below.



- 4 Activates the menu system for the MAIN TRACER unit. This provides access to all configuration and status parameters.
- 5 Activates the menu system for the STANDBY TRACER unit. This provides access to all configuration and status parameters.
- 6 Configures the TRACER MPS for modem or terminal access. When connecting a VT100 terminal or PC with terminal software, select DISABLED. To connect a modem to the TRACER MPS RS-232 interface, set this parameter to ENABLED. To disable the modem control, press <Ctrl + Z> three times.
- 7 Specifies the frequency band of the MAIN and STANDBY TRACER units as 5.8 GHz or 2.4 GHz. This menu setting should match the operational frequency of your TRACER systems, and must be manually configured by the user prior to operation.
- 8 Number of seconds the TRACER MPS waits (after a switch to the STANDBY system) before attempting to restore MAIN operation.
- 9 Number of contiguous seconds the MAIN TRACER system must exhibit an alarm condition before the TRACER MPS switches to STANDBY operation.
- 10 Provides instructions for navigating through the menus using the arrow keys or entering the menu number and activating the highlighted menu by pressing the space bar.

5 Connecting the T1 Interfaces

1. Connect the T1A interface (RJ-45) of the MAIN TRACER BBP (labeled 1 below) to the MAIN T1A interface (RJ-45) of the TRACER MPS (labeled 2 below) using a straight-through T1 cable (ADTRAN P/N 3127004). Follow the same procedure to connect the T1B interfaces (labeled 3 and 4 below).
2. Repeat Step 1 to connect the T1A and T1B interfaces of the STANDBY TRACER BBP to the STANDBY T1A and T1B interfaces (RJ-45) of the TRACER MPS (labeled 5 below).



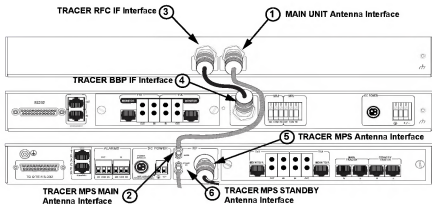
3. Connect the T1A and T1B interfaces of the TRACER MPS (labeled 6 above) to the public-switched network or CPE-type equipment.



When connecting the T1A/B interfaces of the TRACER MPS to the public switched network, use a T1 crossover cable (ADTRAN P/N 3125M011). For connections to other CPE-type equipment, such as an ADTRAN TSU, use a straight-through T1 cable (ADTRAN P/N 3127004). For your convenience, 2 (each) T1 crossover and straight-through T1 cables are provided with the TRACER MPS shipment.

Connecting the Antenna Interfaces (TRACER BBP and RFC Systems)

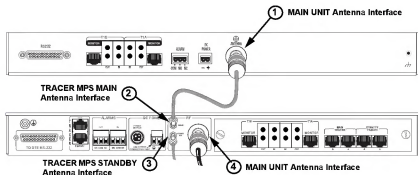
1. Connect the Antenna interface (N-Type connector) of the MAIN TRACER RFC (labeled 1 below) to the MAIN RF interface (SMA connector) of the TRACER MPS (labeled 2 below) using a male N-Type to male SMA cable.
2. Connect the IF connector on the MAIN TRACER BBP (labeled 4 below) to the IF connector on the MAIN RFC (labeled 3 below) using the 6" RF cable (ADTRAN P/N 3125RF027).
3. Repeat Step 1 to connect the Antenna interface (N-Type connector) of the STANDBY TRACER RFC to the STANDBY RF interface (SMA connector) of the TRACER MPS (labeled 6 below).
4. Repeat Step 2 for the STANDBY TRACER BBP and RFC.



5. Connect the TRACER MPS Antenna interface (N-Type connector, labeled 5 above) to the customer provided antenna using antenna feedline cabling. Refer to the appropriate TRACER User Manual for a detailed discussion on link planning, antenna loss/gain, and antenna alignment.

Connecting the Antenna Interfaces (TRACER 4103 and 4203 Systems)

1. Connect the Antenna interface (N-Type connector) of the MAIN TRACER 4103/4203 (labeled 1 below) to the MAIN RF interface (SMA connector) of the TRACER MPS (labeled 2 below) using a male N-Type to male SMA cable.
2. Repeat Step 1 to connect the Antenna interface (N-Type connector) of the STANDBY TRACER 4103/4203 to the STANDBY RF interface (SMA connector) of the TRACER MPS (labeled 3 below).



3. Connect the TRACER MPS Antenna interface (N-Type connector, labeled 4 above) to the customer provided antenna using antenna feedline cabling. Refer to the appropriate TRACER User Manual for a detailed discussion on link planning, antenna loss/gain, and antenna alignment.

7

Connecting the Alarm Contacts



All alarm contact connections in the steps below should be made using standard 18 AWG insulated conductors. Insert the conductor in the terminal block then use a flat-head screwdriver to secure the connection.

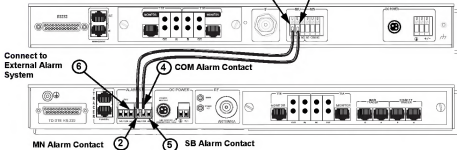
1. Connect the NO (Normally Open) alarm contact of the MAIN TRACER BBP (labeled 1 below) to the MN alarm contact in the IN alarm block of the TRACER MPS (labeled 2 below). The TRACER BBP provides two sets of alarm contacts; for normal configuration, use the NO located in the MAJ (Major Alarm) block.



Only the TRACER 2603 BBP provides the optional MIN (Minor Alarm) terminal block. Connecting the MIN alarm contacts allows the TRACER MPS to perform a system switch when a minor alarm condition occurs. Please refer to the TRACER 2603 User Manual (ADTRAN P/N 61280003L1-1) for a detailed listing of major and minor alarms.

2. Connect the COM (Common) alarm contact of the MAIN TRACER BBP (labeled 3 below) to the COM alarm contact in the IN alarm block of the TRACER MPS (labeled 4 below). Repeat this step for the STANDBY TRACER BBP.
3. Connect the NO alarm contact of the STANDBY TRACER BBP to the SB alarm contact in the IN alarm block of the TRACER MPS (labeled 5 below).
4. (OPTIONAL) Connect the TRACER MPS alarm contacts (NO, COM, NC) in the OUT alarm block (labeled 6 below) to your external alarm monitoring system. Failure to follow this step will not affect TRACER MPS redundancy operation.

NO Alarm Contact 1 COM Alarm Contact 3



8 Supplying Power to the Unit

The TRACER MPS can operate from a supply between 21 and 63 Volts DC, with either polarity referenced to ground, and consumes 3 Watts nominal, 20 Watts peak (during relay switching). Current required (in Amps) is determined by dividing the power consumed (in Watts) by the applied voltage (in Volts). As an example at 48 Volts, the TRACER MPS would draw approximately 0.417 Amps peak (20 Watts / 48 Volts).

9 Pinouts

MAIN/STANDBY T1A/T1B INTERFACES (RJ-45)

Pin	Name	Description
1	R	TRANSMIT DATA (RING)
2	T	TRANSMIT DATA (TIP)
3, 6-8	UNUSED	—
4	R1	RECEIVE DATA (RING)
5	T1	RECEIVE DATA (TIP)

RS-232 CONSOLE INTERFACE (DB-25)

Pin	Name	Description
1, 8-25	UNUSED	—
2	TXD	TRANSMIT DATA
3	RXD	RECEIVE DATA
4	RTS	REQUEST TO SEND
5	CTS	CLEAR TO SEND
6	DSR	DATA SET READY
7	GROUND	TERMINAL GROUND