

# ADTRAN TRACER™ 2210 / 3202 QUICK START GUIDE

This guide contains information on installing your Tracer 2210/3202 system.

ADTRAN recommends that the entire TRACER link be tested on a lab bench prior to installation in the field to verify configuration.

**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.**

## 1. UNPACK THE HARDWARE

Carefully unpack the contents of the over-pack box. The box contains the following items:

- 1 Tracer 2210 Data Interface Unit (DIU)
- 1 Tracer 3202 Radio Interface Unit (RIU)
- 1 Pre-threaded Mast Unit Bracket
- 2 extra Bracket Clamps
- 1 7-foot, 4-conductor cable (pre-attached)
- 4 Crimping Barrels (for cable installation)
- 1 Terminal Block (for cable installation)
- 1 User's Manual on CD-ROM

The Tracer 2210, terminal block, and CD-ROM are contained in the smaller Tracer 2210 box.

Please save all packaging materials for future use.

## 2. CABLE INSTALLATION

**WARNING**

*Do not connect the terminal block end of the cable to a powered TRACER 2210 unit while creating the cable assembly.*

A cable installation step is required to connect the 2210 unit to the 3202 unit. A pre-spliced and labeled UV-resistant cable (7-foot long, 4-conductor) is pre-attached to the 3202 unit. The remaining necessary cable length and material can be customized to suit the needs of your application.

Four conductive crimping barrels are included in a 3x5 plastic bag, and can be used to crimp the supplied cable conductors with the custom cable length. The other end of the custom cable length will be attached to the 4-conductor terminal block inside the Tracer 2210 box.

The connector items provided are:

- 1 terminal block (inside Tracer 2210 box)
- 4 crimping barrels

The tools needed for assembling the cable are:

- wire stripper • crimping tool or pliers
- wire cutter • flathead screwdriver

The cable used for the custom cable length assembly should be a copper, 4-conductor, 22 or 24 AWG twisted pair, UV-resistant cable, with maximum length 700 or 600 ft., respectively.

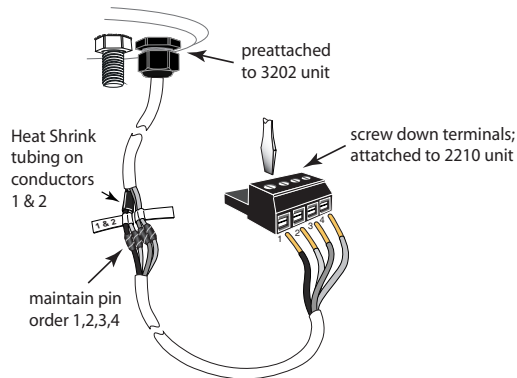


Figure 1. Tracer 2210-to-3202 Cable Installation Diagram

The labels provided on the 7-foot cable are denoted as a "1,2" pair and "3,4" pair. Additionally, the 1,2 pair has a 1/4" heat shrink tube to further distinguish the 1,2 pair. These numbers correspond to socket contacts on the terminal block that plugs into the back of the 2210 unit. It is important that splice pair "1,2" on the spliced cable is electrically connected to socket contacts 1 and 2 on the terminal block. Likewise, splice pair "3,4" should be electrically connected to socket contacts 3 and 4 on the terminal block.

After crimping the conductor splice pairs to the custom cable length, it is recommended that each of the four individual wires be electrically isolated. (Using electrical tape is one option.) A final weatherproofing step should be performed to waterproof the entire cable splice area. Performing these steps will ensure that the connection between the 3202 and 2210 units are safeguarded from external elements.

## 3. TRACER 3202 MAST UNIT INSTALLATION

Place the Tracer 3202 mast unit into the mounting bracket. Tightening the pre-threaded hose clamp using a flat-head screwdriver. After tightening, the mast unit should not be able to move or rotate inside the bracket.

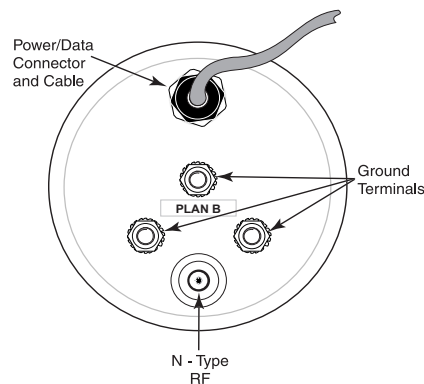


Figure 2. Tracer 3202 Base

Loop the wire rope tethers around the L-shaped cutout on the bracket. One tether is pre-attached to the housing clamp, and the other is pre-attached to the housing cover.

Install a coaxial cable to the N-type RF connector on the base of the Tracer 3202 unit. The other end of the coaxial cable will eventually be connected to a 5.8 GHz antenna. Ensure that the N-type connector is sufficiently tightened.

Thread the 2 extra bracket hose clamps through the top and bottom slots on the V-shaped back of the bracket. The V-shape portion of the bracket will be pressed against the pole, and the 2 clamps will be used to tighten the bracket to the pole. Use a flat-head screwdriver to finish tightening the bracket assembly to the pole.

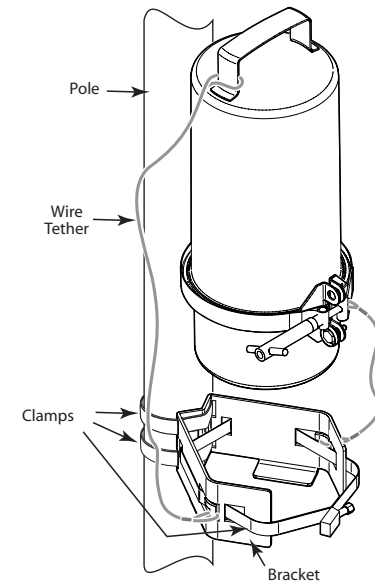


Figure 3. Tracer 3202 Installation

Using the spare nut and washers on the longer ground (GND) terminal on the 3202 base, ground the mast unit to an earth-ground terminal.

After installing the 5.8 GHz antenna to the pole, attach the loose end of the coaxial cable to the antenna RF port. Ensure that the connectors are weatherproof.

## 4. TRACER 2210 INSTALLATION

The Tracer 2210 can be tabletop or wall mounted using the 4 mounting slots on the base of the Tracer 2210 housing. Be sure to place the 2210 within 6 feet of an A/C outlet or power strip.

After mounting the Tracer 2210 unit, plug the terminal block attached to the 4 conductor cable to the 4-pin Eurostyle header on the back of the Tracer 2210 unit.

Connect the round end of the adapter cable to the 2210 power jack and plug the A/C adapter into an A/C outlet.

The Tracer 2210 will run through a power-on initialization sequence for a few seconds. After initialization, the LED panel will indicate the current status of the Tracer system.

1) STATUS 3) UTIL  
2) CONFIG 4) TEST

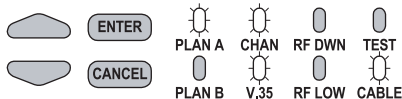


Figure 4. Tracer 2210 Front Panel

Normal conditions are indicated by the following LED pattern:

- PLAN A or PLAN B LED on
- CHAN LED is green (indicating Ch 1) or amber (indicating Ch 2)
- V.35 and CABLE LEDs on
- RF DWN, RF LOW, and TEST LEDs off

The 2210 LEDs have the following meanings. The condition associated with an LED is considered active if the corresponding LED is on or illuminated.

**PLAN A** Tracer 3202 is transmitting on Frequency Plan A.

**PLAN B** Tracer 3202 is transmitting on Frequency Plan B.

**CHAN** Green: Tracer 3202 is using Frequency Channel 1.  
Amber: Tracer 3202 is using Frequency Channel 2.

**V.35** Transmit and/or receive activity on the V.35 port.

**RF DWN** RF Channel is down.

**RF LOW** RF Signal strength is low.

**TEST** Tracer 2210 is in a test mode.

**CABLE** Tracer 2210-to-3202 cable is OK.

Attach the Data Terminal Equipment (DTE) (a bridge, router, etc.) to the V.35 port of the Tracer 2210 using a suitable cable. Data rate and clock settings can be configured via the 2210 keypad menu to suit the DTE settings.

## 5. TROUBLE SHOOTING

In general, system configuration errors fall into 1 of 4 categories: (1) 2210-to-3202 cabling errors, (2) invalid 2210 settings, (3) DTE configuration errors, and (4) RF errors.

### 5.1 2210-to-3202 Cabling Errors

Ensure that the electrical connection between the cable splices and the terminal block plug on the 2210 is correct, using an ohmmeter. If all 4 conductors are intact, ensure that the pinout is correct for each connector, i.e. pin 1 on the terminal block is attached to conductor 1 on the spliced cable, etc.

### 5.2 Invalid 2210 Settings

Several options are available for configuring the Tracer 2210 DTE interface. Clocking is the most common setting errors. The 2210 can be configured to source or accept the DTE (V.35) and radio interface clocks. Additionally, errors may also occur if the number of 56/64 kbps sub-channels are incompatible with the DTE hardware.

The Tracer 2210 is factory-configured to act as standard DCE hardware when connected to DTE hardware via a V.35 cable (network timing).

When using the 2210 in non-standard applications, consult both the DTE hardware user manual and Tracer 2210 user manual for proper setting information.

### 5.3 Invalid DTE Settings

It may be necessary to change certain options on the DTE hardware. Please consult the user manual for your particular DTE hardware to ensure proper setup.

### 5.4 RF Errors

RF errors can range from a non-viable microwave path to loose RF connectors.

Non-viable path conditions could be caused by physical obstructions such as buildings, mountainous terrain, trees, etc., as well as other physical limitations such as excessive path distances and in-band RF interference. These types of errors are remedied by performing a detailed line-of-sight microwave path study to determine whether or not a microwave link is feasible for the terrain and environment under consideration.

If after performing a microwave path study the system is still not operational, ensure that the antennas are properly aligned. Alignment must be achieved in both elevation and azimuth for optimal link performance. The Tracer 2210 RSSI submenu can be used to aid in antenna alignment. Optimal antenna alignment will correspond to the maximum number of RSSI asterisks (or bars) on the 2210 RSSI display.

## 6. IF YOU NEED FURTHER ASSISTANCE

Adtran technical support is always available to assist you with installation, as well as any other support-related questions you might have with the Tracer 2210/3202 and any other Adtran products.

Internet: [www.adtranwireless.com](http://www.adtranwireless.com)

email: [support@adtran.com](mailto:support@adtran.com)

telephone: (+1) 800.726.8863  
(+1) 256.963.8716



*This guide is to be used as a quick reference only. The ADTRAN Tracer 2210/3202 User Manual contains complete information regarding safety issues, installation procedures, grounding considerations, etc.*

# ADTRAN

## TRACER™ 2210/3202 Quick Start Guide

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# ADTRAN

901 Explorer Boulevard  
P.O. Box 140000  
Huntsville, AL 35814-4000  
Phone: (256) 963-8000

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