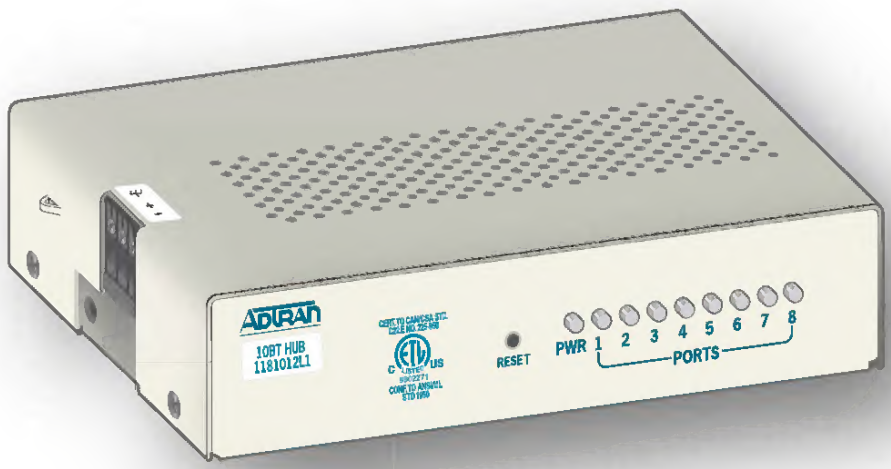

10Base-T Hub
Installation and Maintenance Practice

Document Number: 61181012L1-5C
CLEI: SIM3FG0D_ _
November 2007

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

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Revision History

Revision	Date	Description
A	January 2001	Initial release
B	February 2007	Correct CLEI code; update compliance information
C	November 2007	Updated to show there are two mounting brackets that ship with this unit.

Conventions

The following typographical conventions are used in this document:

This font indicates a cross-reference link.

This font indicates screen menus, fields, and parameters.

THIS FONT indicates keyboard keys (ENTER, ESC, ALT). Keys that are to be pressed simultaneously are shown with a plus sign (ALT+X indicates that the ALT key and X key should be pressed at the same time).

This font indicates references to other documentation and is also used for emphasis.

`This font` indicates on-screen messages and prompts.

`This font` indicates text to be typed exactly as shown.

This font indicates silkscreen labels or other system label items.

This font is used for strong emphasis.

NOTE

Notes inform the user of additional, but essential, information or features.

CAUTION

Cautions inform the user of potential damage, malfunction, or disruption to equipment, software, or environment.

WARNING

Warnings inform the user of potential bodily pain, injury, or death.

Training

ADTRAN offers training courses on our products. These courses include overviews on product features and functions while covering applications of ADTRAN's product lines. ADTRAN provides a variety of training options, including customized training and courses taught at our facilities or at customer sites.

For inquiries concerning training, contact ADTRAN:

Training Phone: 800-615-1176, ext. 6996

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10Base-T Hub

INTRODUCTION

The ADTRAN 10Base-T Hub is a compact, lightweight hub that delivers 10Base-T connectivity. The 10Base-T Hub can also be used to increase the density of existing services.

Figure 1 illustrates the 10Base-T Hub (P/N 1181012L1) front panel.

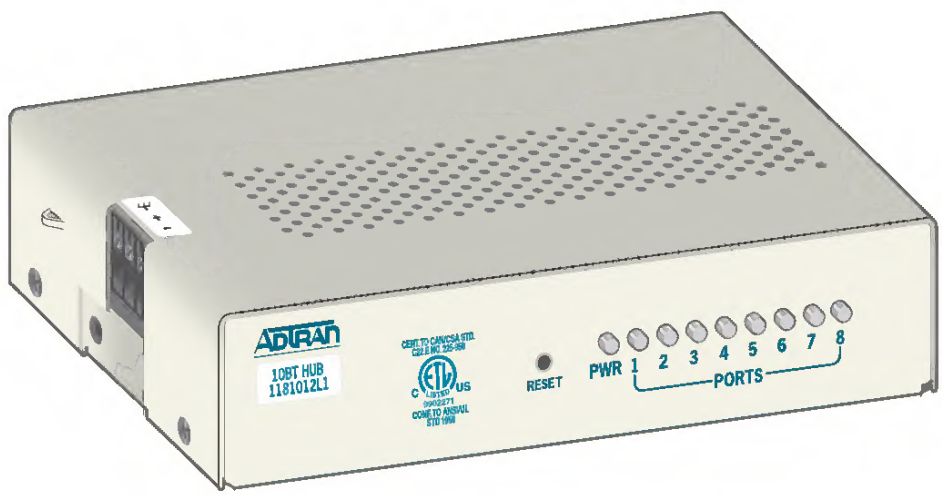

Figure 1. 10Base-T Hub

Description

The 10Base-T Hub has eight 10Base-T Ethernet ports that support up to seven platforms or equipment. It is housed in a metal enclosure and can be mounted in three different ways.

Mounting

The 10Base-T Hub can be mounted using one of the following three methods:

- Wall-mount (mounting to a vertical surface)
- Rack-mount (mounting to the outside of an ADTRAN multi-service access platform or to the relay rack itself
- Desk-mount (mounting to a desk or similar horizontal surface)

Connections

The 10Base-T Hub incorporates eight 10Base-T Ethernet ports (including one cross-over LAN connector/daisy-chain port). Up to seven platforms, or other equipment, can be connected to the hub using its 10Base-T Ethernet ports.

- All Ethernet equipment connections to the 10Base-T Hub are made using modular RJ-45 jacks (labeled 1 through 8) located on the rear panel (see Figure 2).
- Power connections are made to a terminal block located on the side panel of the 10Base-T Hub (see Figure 3).
- A cross-over switch allows the first port to connect directly to the LAN, or allows the daisy-chaining of multiple hubs.

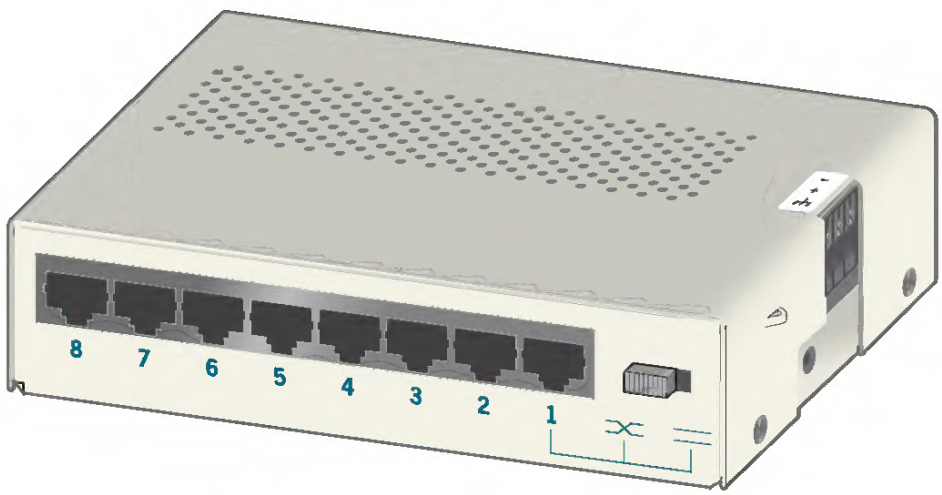

Figure 2. Rear Panel RJ-45 Jacks

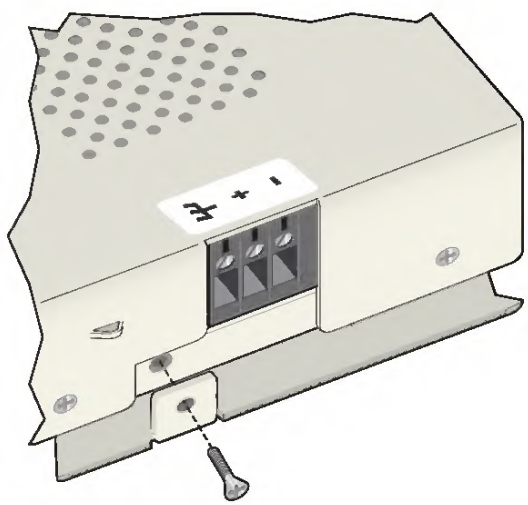

Figure 3. Side Panel Terminal Block

Controls

The 10Base-T Hub has nine front panel LEDs for power and port status, and a front panel reset button. The reset button can be used without removing power.

Table 1 describes the LEDs and the reset button on the front panel).

Table 1. Front Panel Description

Label	Status		Description
PWR	○	Off	No power to the unit
	●	Green	Power is present
PORTS (1 – 8)	○	Off	No Ethernet link
	●	Green	Normal operation
	✷	Green Flashing	Data is being transferred
RESET	N/A		Resets the unit, without removing power

Features

The basic features of the 10Base-T Hub include the following:

- Uses –48 VDC; no power adapters required for Telco environment
- Supports eight 10Base-T Ethernet ports
- Provides a reset button on the front panel
- Provides front panel LEDs for power and port status
- Provides modular RJ-45 jacks for equipment connections
- Can be mounted on a wall, in a rack, or on a desk
- Complies with UL 60950 requirements
- Complies with NEBS Level 3

Compliance

CAUTION

Electrostatic discharge (ESD) can damage electronic modules. When handling modules, wear an antistatic discharge wrist strap to prevent damage to electronic components. Place modules in antistatic packing material when transporting or storing. When working on modules, always place them on an approved antistatic mat that is electrically grounded.

Figure 2 shows the compliance codes for the 10Base-T Hub. The 10Base-T Hub is NRTL-listed to the applicable standards. It meets or exceeds all the applicable requirements of NEBS, Telcordia GR-63-CORE, and GR-1089-CORE.

The 10Base-T Hub is intended for deployment in Central Office (CO) type facilities, EEEs, EECs, and locations where the NEC applies.

Table 2. Compliance Codes

Code	Input	Output
Power Code (PC)	A	–
Telecommunication Code (TC)	–	X
Installation Code (IC)	F	C

CAUTION

Per GR-1089-CORE, the 10Base-T Hub is designed and intended for installation as part of a Common Bonding Network (CBN). The 10Base-T Hub is not designed nor intended for installation as part of an Isolated Bonding Network (IBN).

CAUTION

Per GR-1089-CORE Section 9, the 10Base-T Hub is designed and intended only for installation in a DC-C (common) bonding and grounding system. The 10Base-T Hub is not intended or designed for installation in a DC-I (isolated) bonding and grounding system.

NOTE

The 10Base-T Hub (P/N 1181012L1) does not require the use of an external AC Surge Protection Device. However, for highly exposed AC mains environments, an external AC Surge Protection Device is recommended.

INSTALLATION

After unpacking the 10Base-T Hub, inspect it for damage. If damage has occurred, file a claim with the carrier then contact ADTRAN Customer Service. Refer to "Appendix A, Warranty" for further information. If possible, keep the original shipping container for returning the 10Base-T Hub for repair or for verification of shipping damage.

Shipping Contents

The contents include the following items:

- 10Base-T Hub
- *10Base-T Hub Installation and Maintenance Practice* (P/N 61181012L1-5)
- An external mounting bracket that is shipped assembled to the hub and is used for wall mount and chassis mount
- An internal mounting bracket that is shipped unassembled with the hub and is used to bay framework-mount the unit
- Rubber desk mounts
- Four 6-32 × 3/16 flathead screws, one cable tie, and five 12-24 × 3/8 screws

Installation Prerequisites

Before installing the 10Base-T Hub, observe the following:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designated for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- When installed, this unit is intended to be used behind devices that provide primary lightning protection.

The 10Base-T Hub ships pre-assembled to the external mounting bracket, and unassembled from the internal mounting bracket. It is necessary to disassemble the 10Base-T Hub before installing on a wall or in a rack. See Figure 3 and Figure 4 for details on disassembling and assembling the 10Base-T Hub.

Installing the 10Base-T Hub

The 10Base-T Hub can be mounted using any one of the following three methods:

- "Wall-Mount Installation" on page 6
- "Rack-Mount Installation" on page 8
- "Desk-Mount Installation" on page 9

Wall-Mount Installation

Use the wall-mount method of installation to secure the 10Base-T Hub to a vertical surface.

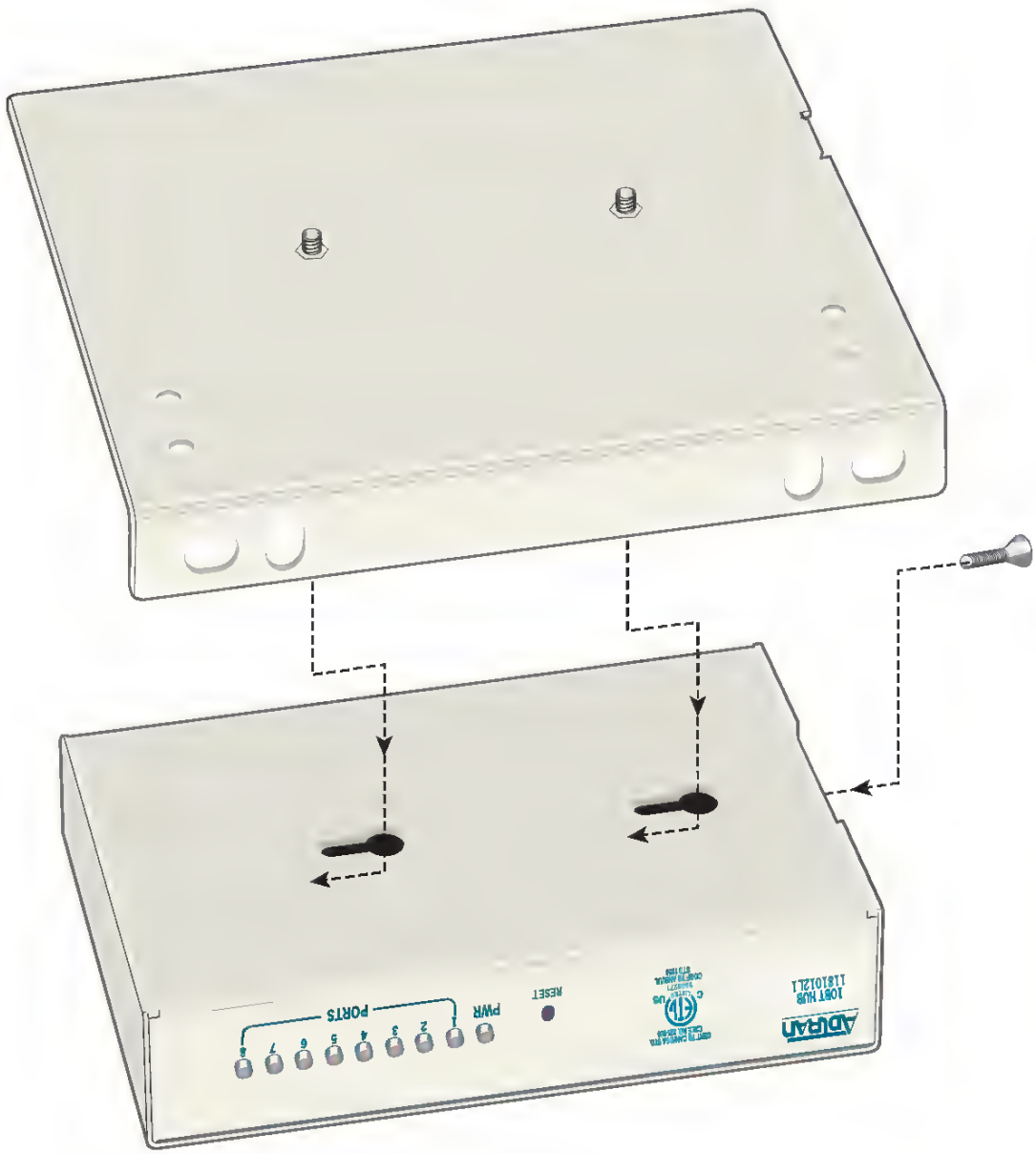

Figure 4. Wall-mount Attachment Assembly

Tools Required

NOTE

Wall-mounting hardware and tools are not included.

The following tools are required to mount the 10Base-T Hub to a wall.

- Small flat-tip screwdriver
- #1 Phillips-head screwdriver
- Depending on the mounting surface: wood screws, dry-wall fasteners, or cement-type wall fasteners
- Awl or drill with assorted wood or cement bits
- Hammer
- Pliers
- Line cutters

Wall-Mount Instructions

To mount the 10Base-T Hub to a wall, complete the following steps:

NOTE

The 10Base-T Hub ships pre-assembled to the external mounting bracket, and unassembled from the internal mounting bracket. The 10Base-T Hub must be disassembled before performing the following instructions. See Figure 3 and Figure 4 for details on disassembling and assembling the 10Base-T Hub.

1. Remove the hub from the external mounting bracket by removing the flathead screw near the power connector that secures the hub to the bracket. Slide the hub away from the tab and lift off the bracket (see Figure 4).
2. Locate a place to mount the 10Base-T Hub that allows for sufficient slack in the RJ-45 cables.
3. Use the external mounting bracket as a template, and mark the location of the mounting holes for the 10Base-T Hub to be installed.
4. After marking the hole locations, remove the mounting plate from the wall. Drill a hole into the wall to accommodate the wall fasteners being used. Do not make the holes too large.
5. Mount the bracket to the wall.
6. Attach the 10Base-T Hub to the mounting bracket through the keyholes on the bottom of the 10Base-T Hub. The front panel of the 10Base-T Hub must be facing the side flange.
7. Use the flush-mount phillips-head screw to secure the 10Base-T Hub to the bracket through the small lip on the side of the bracket. The orientation is correct if the lip is flush against the 10Base-T Hub on the side containing the power connection terminals.

8. Put the 10Base-T Hub on the wall-mounted bracket.
9. Connect the RJ-45 cables. Refer to the "Connections" on page 10 in this practice.

Rack-Mount Installation

There are two procedures for mounting the 10Base-T Hub to a rack.

- "Chassis-Mount Instructions" on page 8
- "Bay Framework-Mount Instructions" on page 9

Tools Required

The following tools are require to mount the 10Base-T Hub to a rack:

- Small flat-tip screwdriver
- #1 Phillips-head screwdriver
- Line cutters

Chassis-Mount Instructions

To mount the 10Base-T Hub to a chassis, complete the following steps:

NOTE

The 10Base-T Hub ships pre-assembled to the external mounting bracket, and unassembled from the internal mounting bracket. The 10Base-T Hub must be disassembled before performing the following instructions. See Figure 3 and Figure 4 for details on disassembling and assembling the 10Base-T Hub.

1. Remove the hub from the external mounting bracket by removing the flathead screw near the power connector that secures the hub to the bracket. Slide the hub away from the tab and lift off the bracket (see Figure 4).
2. The external mounting bracket is designed to replace either of the side flanges that mount the chassis to the bay. Carefully remove either of the side flanges attached to the chassis and replace them with the mounting bracket provided with the10Base-T Hub. Tighten the chassis to the bay. Ensure two phillips-head screws are attached to the center two holes closest to the edge opposite the flange on the bracket.
3. Attach the 10Base-T Hub to the mounting bracket through the keyholes on the bottom of the 10Base-T Hub. The front panel of the 10Base-T Hub must be facing the side flange.
4. Use the flush mount phillips-head screw to secure the 10Base-T Hub to the bracket through the small lip on the side of the bracket. The orientation is correct if the lip is flush against the 10Base-T Hub on the side containing the power connection terminal block.
5. Put the 10Base-T Hub on the rack-mounted bracket.
6. Connect the RJ-45 cables. For more information, refer to the "Connections" on page 10 in this practice.

Bay Framework-Mount Instructions

To mount the 10Base-T Hub to the bay framework, complete the following steps:

NOTE

The 10Base-T Hub ships pre-assembled to the external mounting bracket, and unassembled from the internal mounting bracket. The 10Base-T Hub must be disassembled before performing the following instructions. See Figure 3 and Figure 4 for details on disassembling and assembling the 10Base-T Hub.

1. Remove the hub from the external mounting bracket by removing the flathead screw near the power connector that secures the hub to the bracket. Slide the hub away from the tab and lift off the bracket (see Figure 4).
2. The external mounting bracket, removed from the 10Base-T Hub in step 1, will not be used in this application. The internal mounting bracket, shipped unassembled from the 10Base-T Hub, will be used instead.
3. Mount the internal bracket through the flange to anywhere on the bay framework.
4. Attach the 10Base-T Hub to the mounting bracket via the keyholes on the bottom of the 10Base-T Hub. The front panel of the 10Base-T Hub must be facing the side flange.
5. Use the flush mount phillips-head screw to secure the 10Base-T Hub to the bracket through the small lip on the side of the bracket. The orientation is correct if the lip is flush against the 10Base-T Hub on the side containing the power connection terminal block.
6. Put the 10Base-T Hub on the bay framework-mount bracket.
7. Connect the RJ-45 cables. For more information, refer to the "Connections" on page 10 in this practice.

Desk-Mount Installation

To mount the 10Base-T Hub to a desk, complete the following steps:

1. Remove the 10Base-T Hub from the bracket, as it will not be used in this application.
2. Attach the rubber desk mounts to the bottom of the 10Base-T Hub.
3. Plug in cables and set the unit on a flat surface. Allow adequate slack in the RJ-45 cables. For more information, refer to the "Connections" on page 10 in this practice.

Connections

All Ethernet connections are made using the RJ-45 jacks (labeled 1 through 8) located on the rear panel. The first jack is also designated as the cross-over jack; it is controlled by the cross-over switch located at the far right of the rear panel.

NOTE

To daisy-chain the 10Base-T Hub to other hubs, place the rear panel switch (see Figure 2) in the left cross-over position (×). To use as a LAN port, put in the right position (=).

The 10Base-T Hub provides for a single voltage input, a single voltage return, and a frame ground. Table 3 shows the connections.

Table 3. –48 VDC Connections

Label	Connections
–	–48 VDC
+	–48 VDC Return
⏚	Frame Ground

MAINTENANCE

The 10Base-T Hub does not require routine maintenance for normal operation.

Do not attempt repairs in the field. Repair services may be obtained by returning the defective unit to ADTRAN. Refer to "Appendix A, Warranty" for further information.

SPECIFICATIONS

Table 4 lists the specifications for the 10Base-T Hub.

Table 4. 10Base-T Hub Specifications

Specification	Description
Environmental	
Operating Temperature:	–0°C to +50°C
Storage Temperature:	–40°C to +85°C
Relative Humidity:	95 percent maximum @ +50°C, noncondensing
Power	
Maximum Current Draw:	–48 VDC
Maximum Heat Dissipation:	2 watts
Physical	
Dimensions:	Height: 1.25 inches Width: 3.78 inches Depth: 5.56 inches
Weight:	< 1 pound
Part Number	
10Base-T Hub:	1181012L1

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Appendix A
Warranty

WARRANTY AND CUSTOMER SERVICE

ADTRAN will replace or repair this product within the warranty period if it does not meet its published specifications or fails while in service. Warranty information can be found at www.adtran.com/warranty.

Refer to the following subsections for sales, support, Customer and Product Service (CAPS) requests, or further information.

ADTRAN Sales

Pricing/Availability:

800-827-0807

ADTRAN Technical Support

Pre-Sales Applications/Post-Sales Technical Assistance:

800-726-8663

Standard hours: Monday - Friday, 7 a.m. - 7 p.m. CST
Emergency hours: 7 days/week, 24 hours/day

ADTRAN Repair/CAPS

Return for Repair/Upgrade:

(256) 963-8722

Repair and Return Address

Contact CAPS prior to returning equipment to ADTRAN.

ADTRAN, Inc.
CAPS Department
901 Explorer Boulevard
Huntsville, Alabama 35806-2807

Carrier Networks Division
901 Explorer Blvd.
Huntsville, AL 35806