

TMP800 Development Platform System Installation Guide

Issue 2.0e

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Preface

About this Guide

This guide provides installation, and setup procedures for the Tdev TMP800 Development Platform.

Conventions

Terminology	Description
Tdev TMP800 Development Platform	This term is used when a description applies to the Tmedia system comprised of the TMP800-CTRL and TMP800 Telecom Unit.
TMP800-CTRL	This term is used when a description applies specifically to the TMP800-CTRL application server.
TMP800 Telecom Unit	This term is used when a description applies to the telecom unit of the TMP800 Development PlatformTMP800.

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Chapter 1 Introduction

This chapter provides an introduction to the installation and setup of a Tdev TMP800 Development Platform:

The following topics are covered:

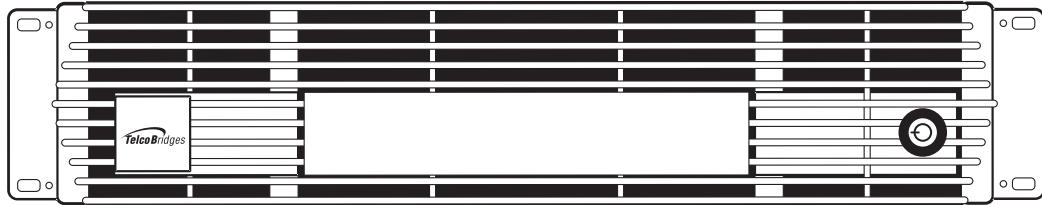
- Section 1.1 “Identifying the Tdev TMP800 Development Platform Equipment”
- Section 1.2 “Installation Prerequisites”
- Section 1.3 “Preventing Electrostatic Discharge Damage”
- Section 1.4 “Recommended Reading”

1.1 Identifying the Tdev TMP800 Development Platform Equipment

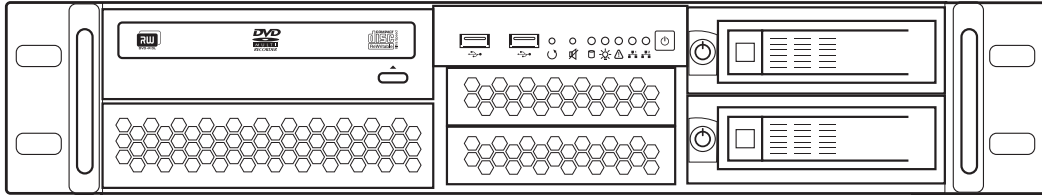
The Tdev TMP800 Development Platform is comprised of the following equipment:

- One (1) or two (2) TMP800-CTRL application server(s). See figure 1.1 on page 2.
- One TMP800 Telecom Unit. See figure 1.1 on page 2.

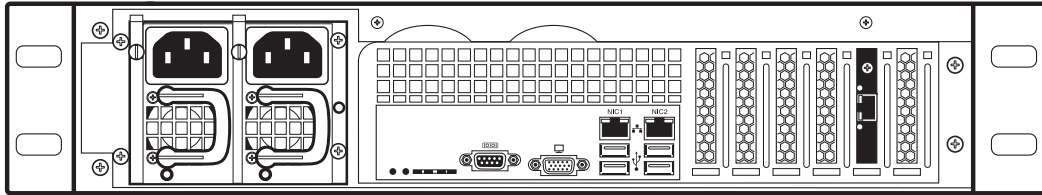
TMP800-CTRL (outer view)



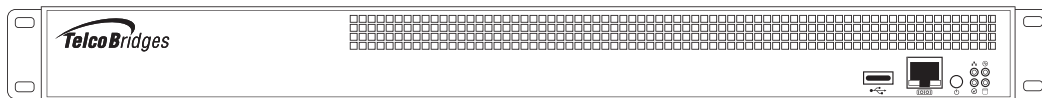
TMP800-CTRL (inner view)



TMP800-CTRL (rear view)



TMP800 (front view)



TMP800 (rear view)



Figure 1.1 TMP800-CTRL and TMP800 Telecom Unit

1.2 Installation Prerequisites

For the installation to proceed without interruption, it is important that you verify that you have all necessary materials on hand.

1.2.1 TMP800-CTRL

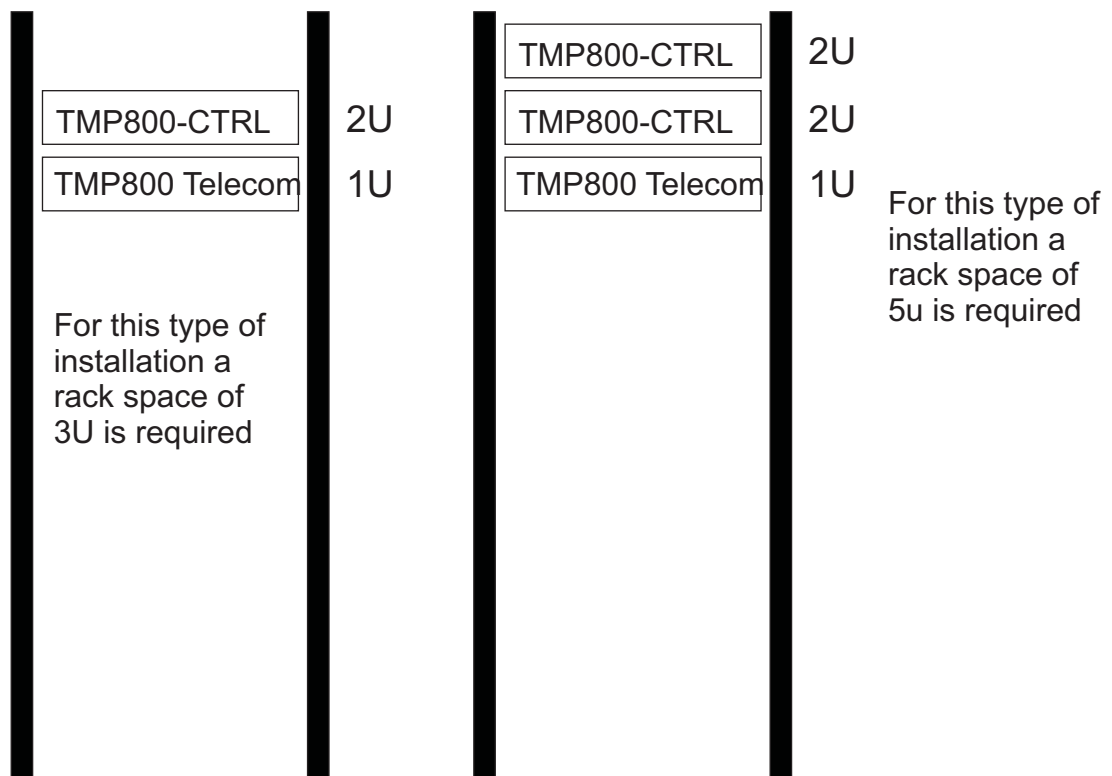
Adequate space for the installation of the TMP800-CTRL

You will need to mount the TMP800-CTRL on a 19" equipment rack (customer provided). Your TMP800-CTRL is a 2U unit. Plan for an additional 2U space on the equipment rack for a redundant TMP800-CTRL.

Note The depth of the TMP800-CTRL is 26" (660mm) instead of 16" (406mm) depth of the TMP800 Telecom Units. It is important to plan for an equipment rack of an adequate size.

The dimension of the TMP800-CTRL are as follows:

- Depth x Width x Height (mm) 660 x 430 x 88
- Depth x Width x Height (inch) 26" x 16.9" x 3.5"



Adequate power supply and power connections

Each TMP800-CTRL requires two power connections to provide for its redundant power supply. To guarantee an uninterrupted supply of electricity, each power connection must be fed by a dedicated power source.

An IP address for the management port

Each TMP800-CTRL requires an IP address for the management port. To avoid delays, you should have the IP address, netmask and gateway addresses on hand. Take note that the management port supports DHCP, see Section 2.3.1 “Connecting to the System Management Interface” on page 22 for further information.

Cabling

Three (3) customer supplied ethernet cables are required for each TMP800-CTRL to connect the TMP800-CTRL to the switches.

1.2.2 TMP800 Telecom Unit

Adequate space for the installation of the TMP800 Telecom Unit

You will need to mount the TMP800 Telecom Unit on a 19" equipment rack (customer provided). The TMP800 Telecom Unit is housed in a 1U chassis.

Adequate power supply and power connections

The TMP800 Telecom Unit requires two power connections to provide for its redundant power supply.

To guarantee an uninterrupted supply of electricity, each power connection must be fed by a dedicated power source.

1.3 Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. It may occur if electronic printed circuit cards are improperly handled and may cause complete or intermittent failure.



Warning

Always follow ESD prevention procedures when removing and replacing modules:

- Ensure that the Tdev Development Platforms are grounded.
 - Wear an ESD-preventive wrist strap and ensure that it makes good contact with your skin. Connect the wrist strap clip to an unpainted surface of the Tdev Development Platform or the grounded equipment rack in order to channel away all ESD voltage safely to ground. To guard against ESD damage and shocks, the wrist strap and cord must be in proper working condition.
 - If no wrist strap is available, and you must work with Tdev Development Platforms, ground yourself by touching a metal part of the chassis.
-

1.4 Recommended Reading

This document assumes that you have a clear understanding of the installation of the TelcoBridges Tdev Development Platforms and have been trained to work with the equipment. If you have any technical questions, TelcoBridges TB Support (technical support team) can be reached via telephone (+1 866 438 4703) or email: support@telcobridges.com.

Documents exploring various aspects of the Tmedia system are available on the TB Wiki: <http://docs.telcobridges.com>

Chapter 2 Installing the Equipment

This chapter provides information about the following topics:

- Section 2.1 “Package Contents”
- Section 2.2 “Rack Mounting the Tdev TMP800 Development Platform Equipment”
- Section 2.3 “TMP800-CTRL”
- Section 2.4 “TMP800 Telecom Unit”
- Section 2.6 “Verifying the LED Status Indications”
- Section 2.7 “Powering Down”

2.1 Package Contents

Depending on your system requirements, you may receive one or more of the following items:

- Section 2.1.1 “TMP800-CTRL Application Servers” on page 8.
- Section 2.1.2 “TMP800 Telecom Unit” on page 9.

The contents of these devices are described in the following sections.

2.1.1 TMP800-CTRL Application Servers

In the TMP800-CTRL box, you will find the following items:

- One (1) TMP800-CTRL. See figure 1.1 on page 2.
- Four (4) keys.
- One (1) front bezel.
- Two (2) hard drives.
- Two (2) power cords.
- One Product Warranty.
- One Important Notice (two-sided document containing pertinent product serial numbers and other important information).
- One (1) packing slip.
- One (1) set of sliding rails and associated screws.
- One (1) set of brackets and associated screws.

Not included

- Ethernet cables.

2.1.2 TMP800 Telecom Unit

In the TMP800 Telecom Unit box, you will find the following items:

- One (1) TMP800 unit. See figure 1.1 on page 2.
- One (1) set of mounting brackets and screws, used to mount the TMP800 on a 19" rack.
- One (1) DB-9 to RJ-45 adapter to interface the serial port of your computer with the RJ-45 port of the TMP800.
- Three (3) CAT5 Ethernet (blue) straight cables (male-male), 3 meters in length.
- One (1) Important Notice (two-sided document containing pertinent product serial numbers, and other important information).
- One (1) Product Warranty.
- One (1) packing slip.
- One (1) Quick Installation Guide (two-sided document that provides a pictorial view of the equipment setup).
- Two (2) AC or DC power cables

Not included

- A 19" equipment rack. The Tdev TMP800 Development Platform must be installed on a 19" wide equipment rack.

2.2 Rack Mounting the Tdev TMP800 Development Platform Equipment

The Tdev TMP800 Development Platform equipment is mounted on a customer provided equipment rack using the mounting hardware packaged in each box.

2.2.1 Prerequisites

To mount the equipment, you will need:

- One customer-provided equipment rack, measuring 19" in width and 31.5" in depth. The rack must be solidly anchored to the floor with appropriate support at the top of the racks.
- Climate controlled room: 0 to +50 Celsius, 0 to 95% non-condensing humidity.

2.2.2 Vertical Placement of Tdev TMP800 Development Platform Equipment

The TMP800-CTRL is housed in a 2U chassis while the TMP800 Telecom Unit is each housed in a 1U chassis, as tabulated in table 2.1 on page 10. It is important that you provide for enough room on the equipment rack to allow for the installation of the equipment.

Consider the available space on your equipment rack and the height of one (1) or two (2) TMP800-CTRL unit(s) and one (1) TMP800 Telecom Unit. Due to the rear-exhaust heat vents and the efficient heat dissipation design, there is no need to leave any physical vertical space above or below the TMP800-CTRL unit(s) and the TMP800 Telecom Unit on the equipment rack.

Table 2.1 Tdev Development Platform Physical Height

Tmedia Model Number	Vertical Height
TMP800-CTRL	2U (3.5 inches or 89.10 mm)
TMP800 Telecom Unit	1U (1.75 inches or 44.45 mm)

2.2.3 Installing the Tdev TMP800 Development Platform on an Equipment Rack

The TMP800-CTRL, and TMP800 Telecom Unit are mounted on a 19" equipment rack using the angle brackets and screws provided in the box.

2.2.3.1 TMP800-CTRL

Mounting the TMP800-CTRL Unit(s):

The TMP800-CTRL is installed in a 19" equipment rack using one of the following two methods:

Method One: Slider Rails

1. Install the left sliding rail on the left-hand side of the equipment rack.
 - 1a. Attach the front end of the slider rail to the front edge of the equipment rack. See figure 2.1 on page 12.
 - 1b. Attach the rear end of the slider rail to the rear edge of the equipment rack. See figure 2.2 on page 12 and figure 2.3 on page 13.
2. Repeat Step 1 to install the right sliding rail on the right-hand side of the equipment rack.
3. Extend both sliding rails. See figure 2.4 on page 13.
4. Attach the TMP800-CTRL to the rails. See figure 2.5 on page 14 and figure 2.6 on page 14.
5. Push the TMP800-CTRL back into the equipment rack until it locks into place.

Note To unlock the rails and slide the TMP800-CTRL outwards from the equipment rack, depress the purple colored buttons on each side of the sliding rails.

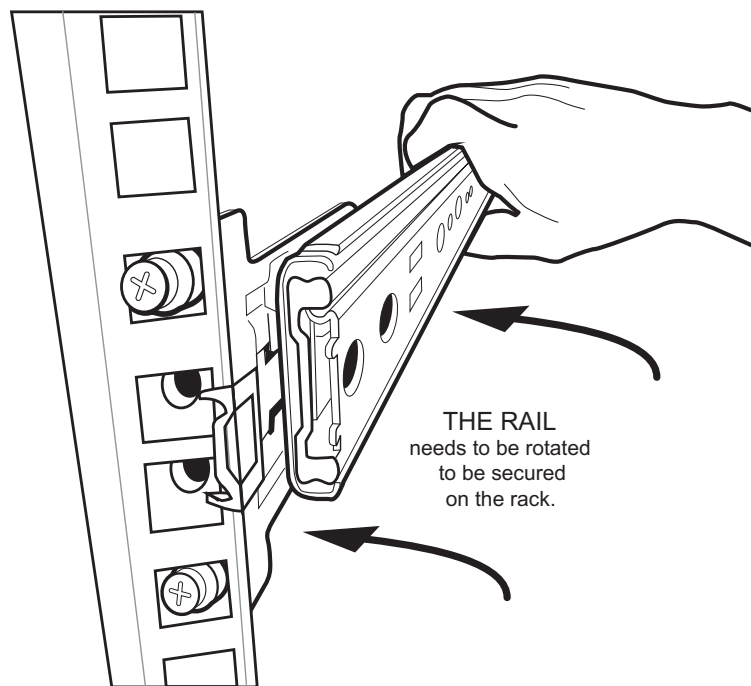


Figure 2.1 Securing the Slider Rail to the Front of the Equipment Rack

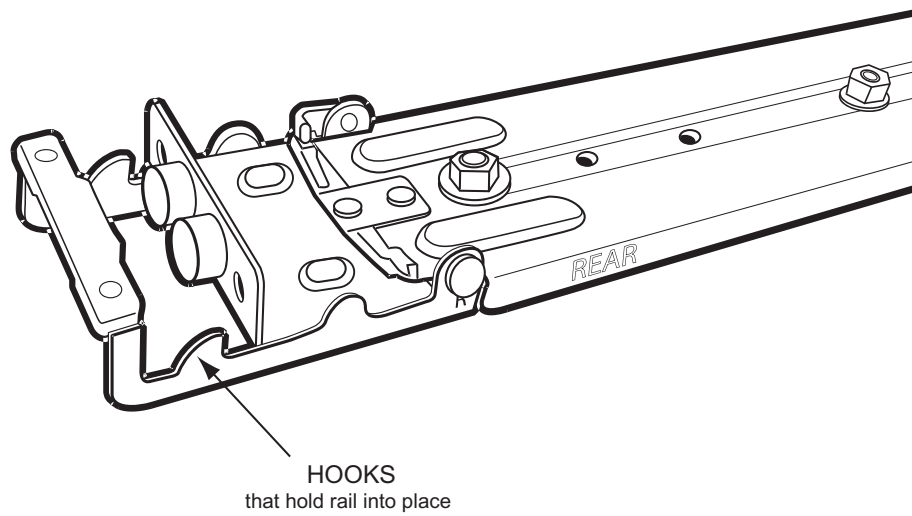


Figure 2.2 Detail View of Slider Rail Rear Retaining Hooks

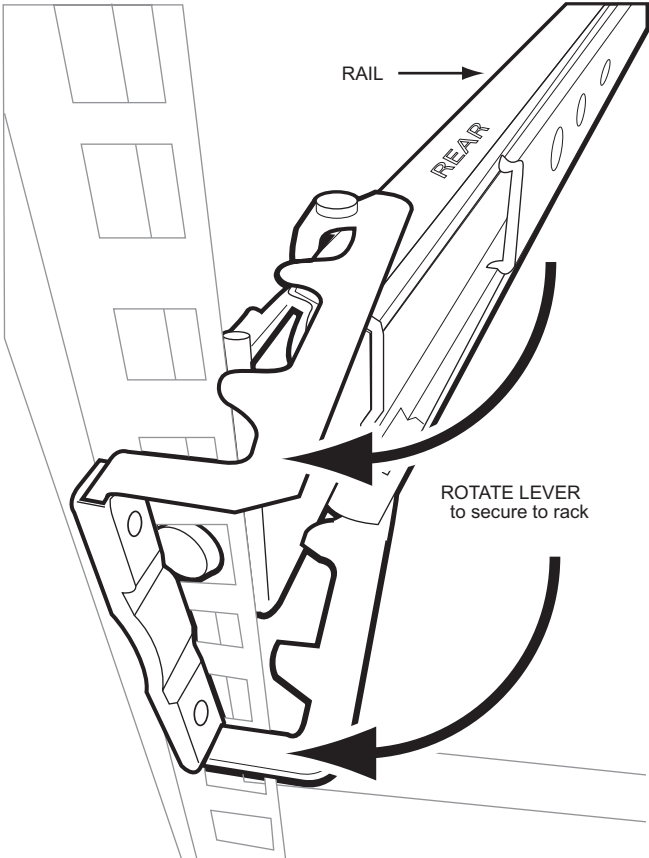


Figure 2.3 Detailed View of Slider Rail Rear Retaining Hooks being Locked onto the Rear of the Equipment Rack

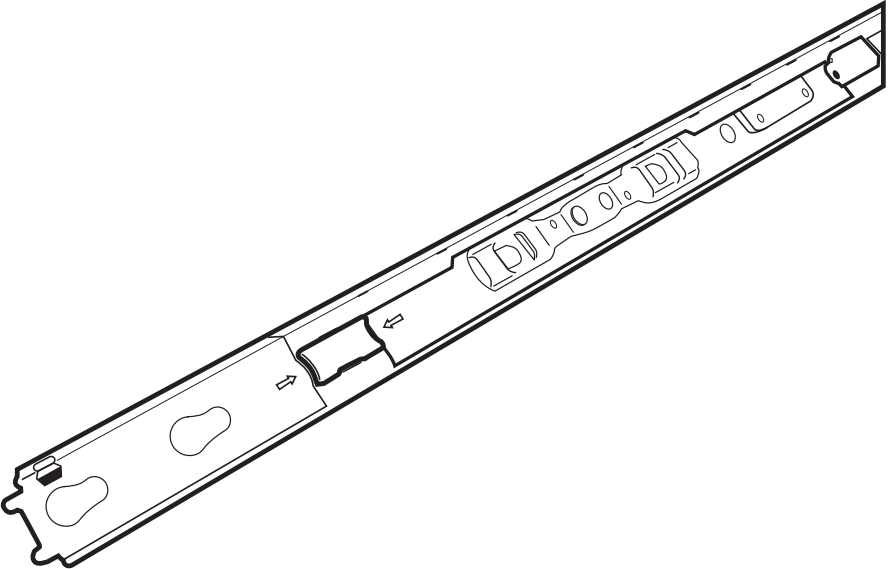


Figure 2.4 Detailed View of the Slider Rail Release Mechanism

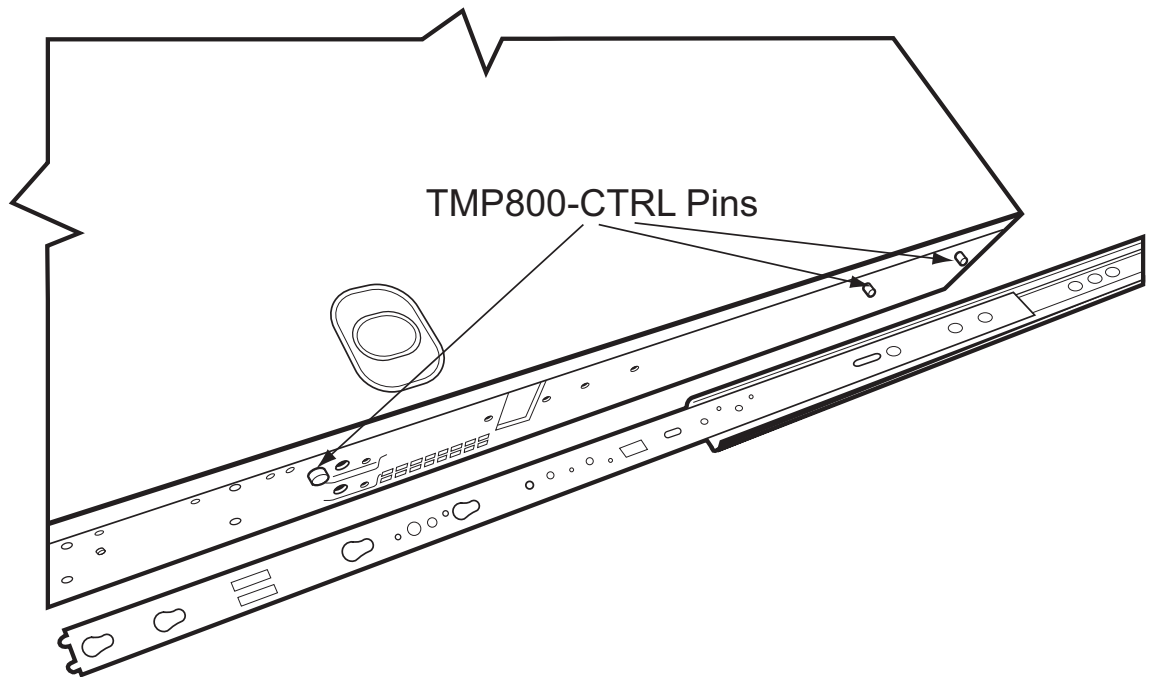


Figure 2.5 Attaching Sliding Rails to the TMP800-CTRL Mounting Pins

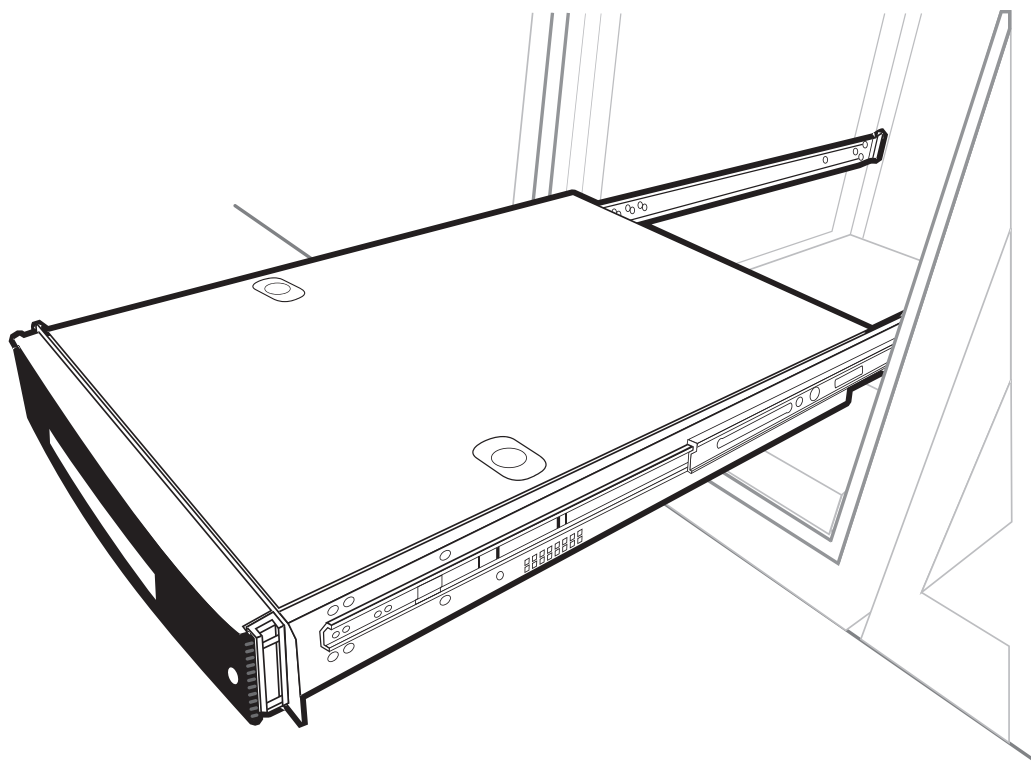


Figure 2.6 TMP800-CTRL Installed on Slider Rails in the Fully Extended Position

Method Two: Fixed Brackets

1. Install the fixed brackets on the TMP800-CTRL, adjusting their position in accordance with the equipment rack depth. See figure 2.7 on page 15.
2. Mount the TMP800-CTRL on the equipment rack.
3. Secure it in place using the screws provided with the bracket. See figure 2.8 on page 15 and figure 2.9 on page 16.

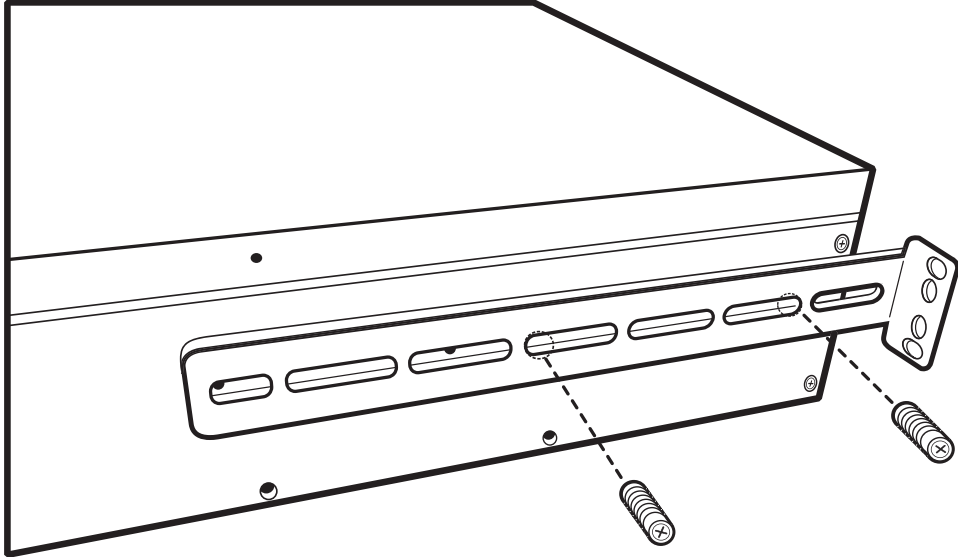


Figure 2.7 Attaching the Rear Brackets to the TMP800-CTRL

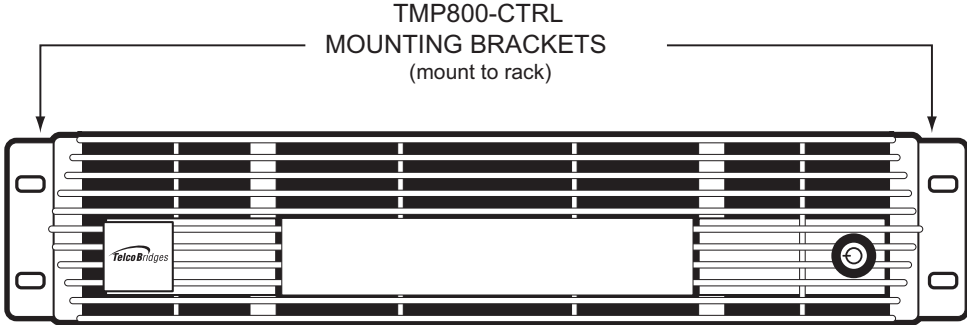


Figure 2.8 Front View of TMP800-CTRL with Front Mounting Brackets

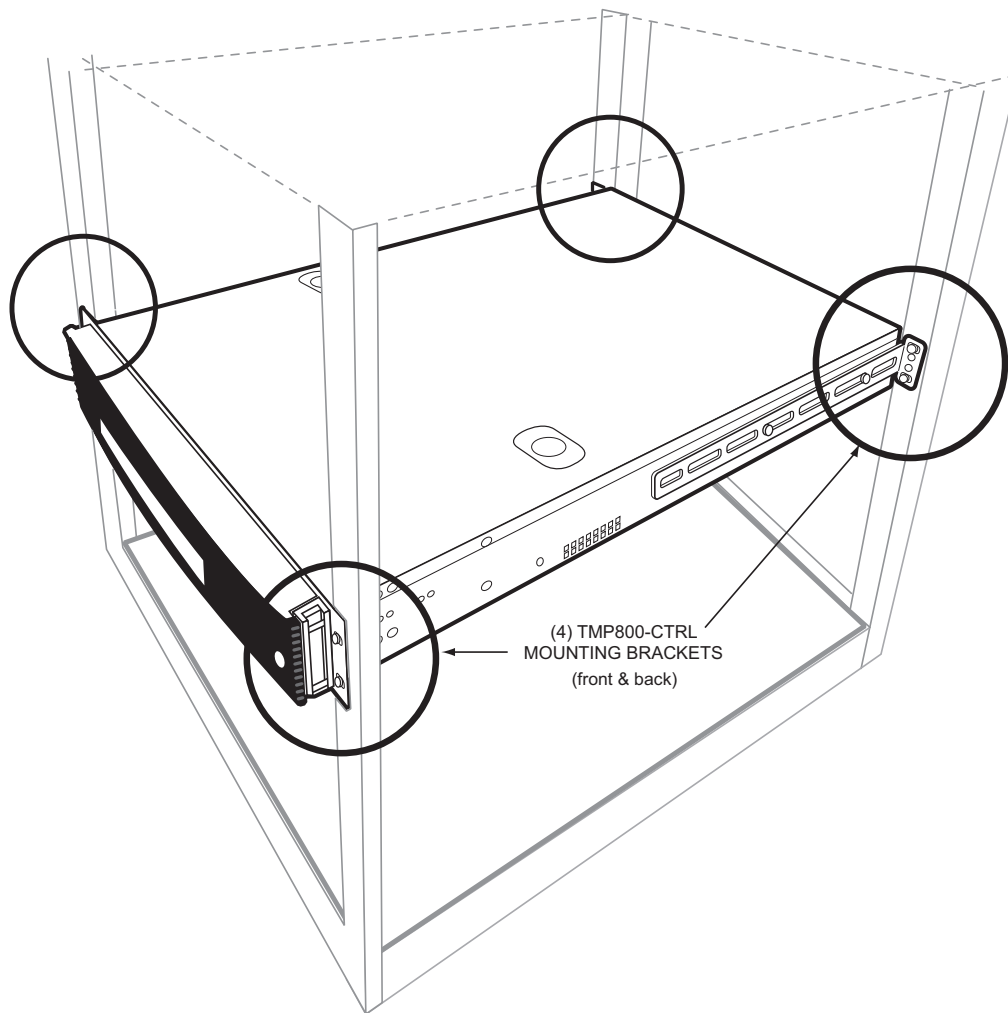


Figure 2.9 TMP800-CTRL Installed in the Equipment Rack

Installing the Hard Drives

To install the hard drives, do the following:

1. Using the bezel key, unlock and remove the TMP800-CTRL front bezel. See figure 2.10 on page 17, figure 2.12 on page 18, and figure 2.13 on page 18.
2. Using the hard disk key, open the top hard disk tray. See figure 2.14 on page 19, and figure 2.15 on page 19.
3. Insert the top disk drive. See figure 2.11 on page 17 and figure 2.16 on page 20.
4. Close the top hard disk tray. See figure 2.17 on page 20.
5. Repeats steps 2-4 to install the bottom disk drive.
6. Reinstall the front bezel.

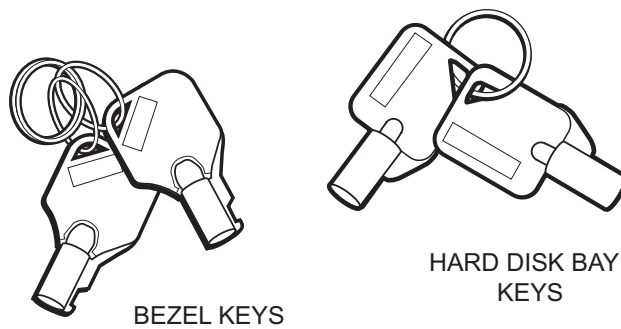


Figure 2.10 Bezel and Hard Disk Keys

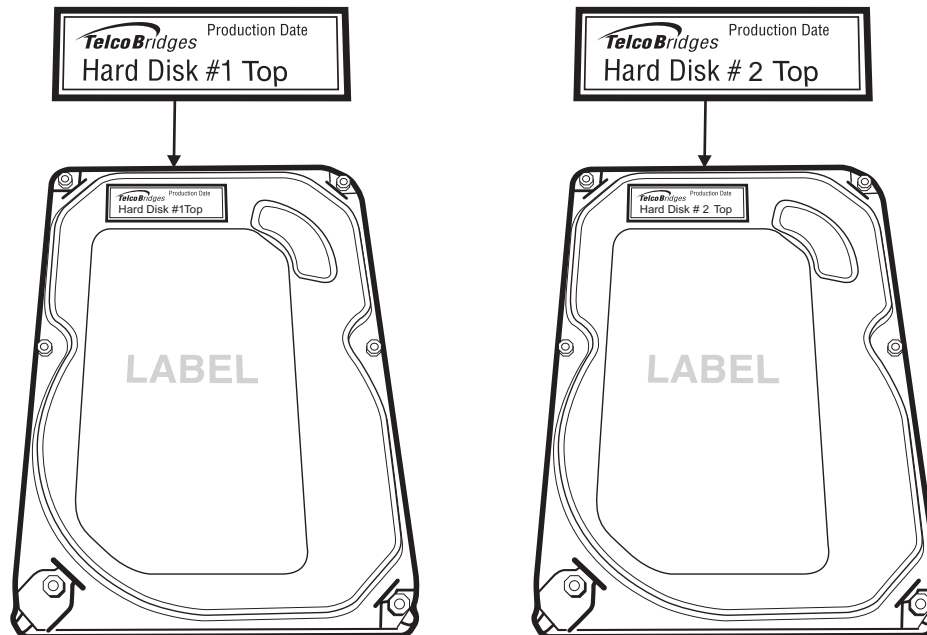


Figure 2.11 Top View of Hard Disks 1 and 2.

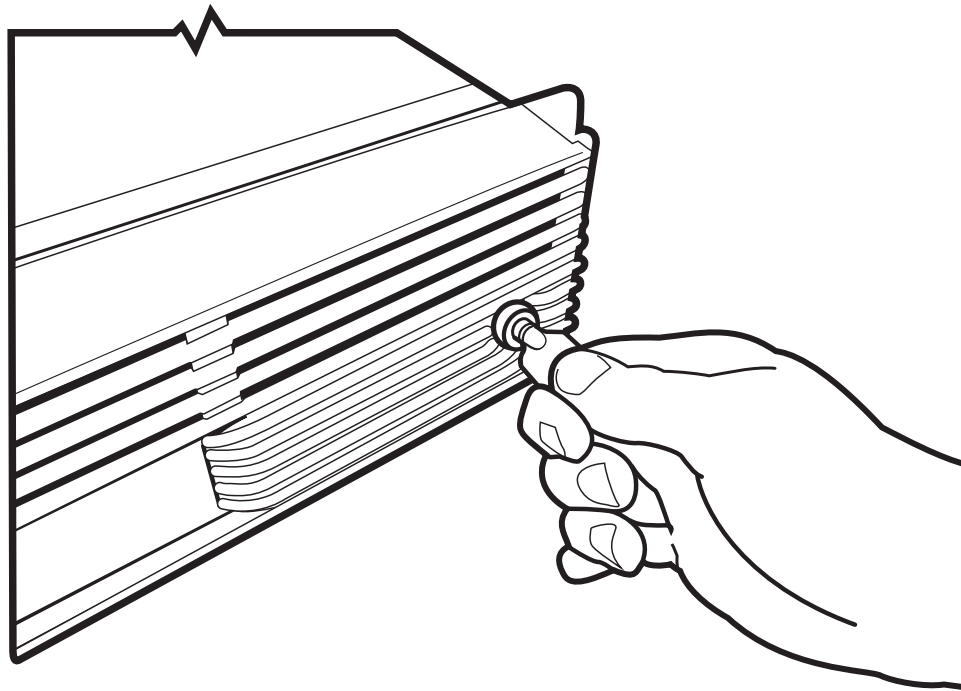


Figure 2.12 Unlocking the Front Bezel of the TMP800-CTRL

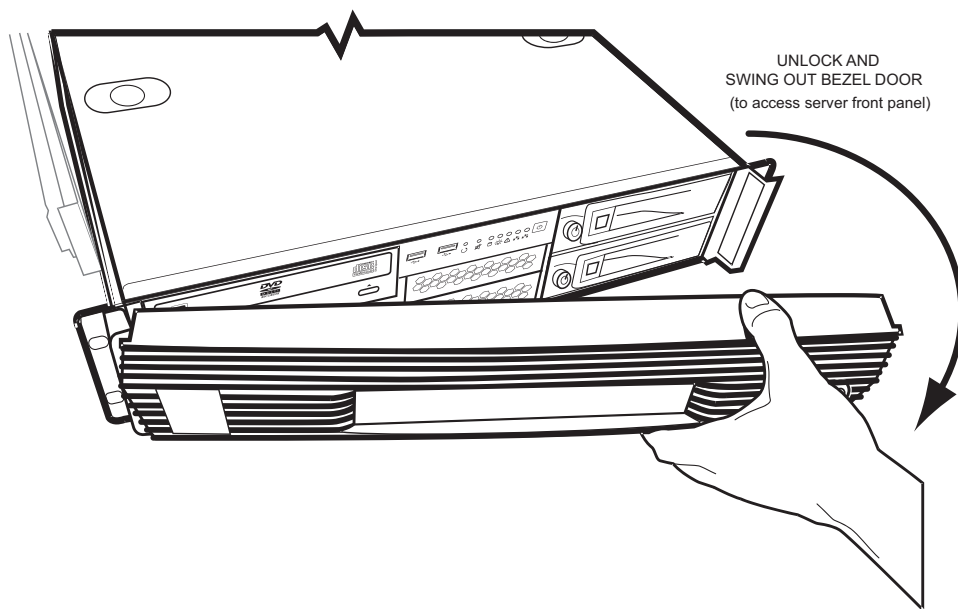


Figure 2.13 Opening the Front Bezel to Access the Hard Disks of the TMP800-CTRL

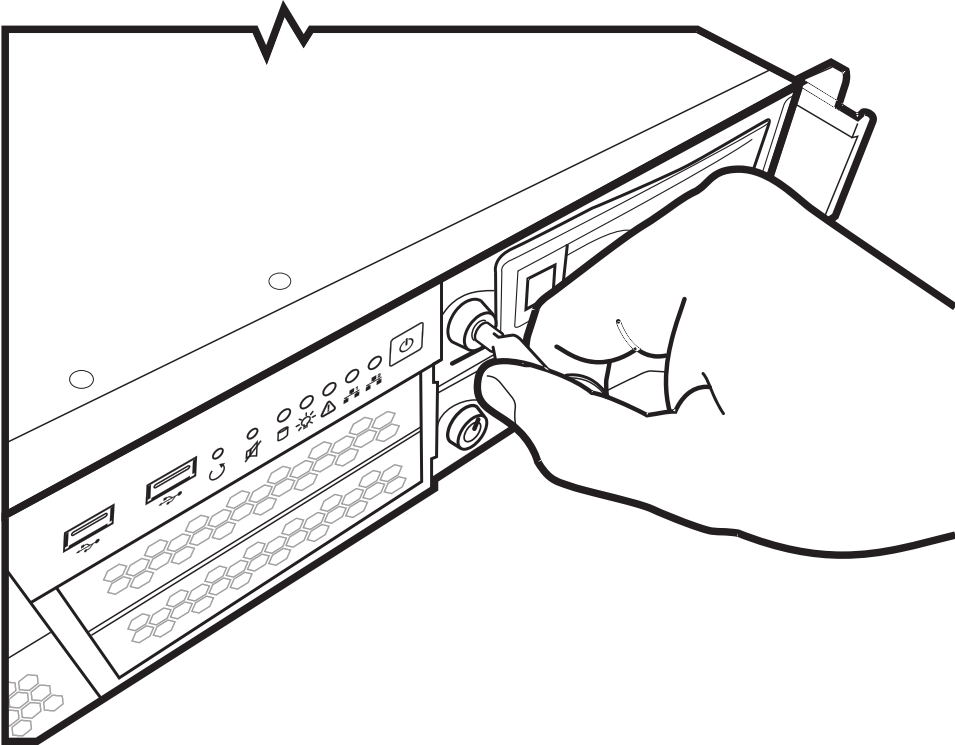


Figure 2.14 Unlocking the Hard Disk Door

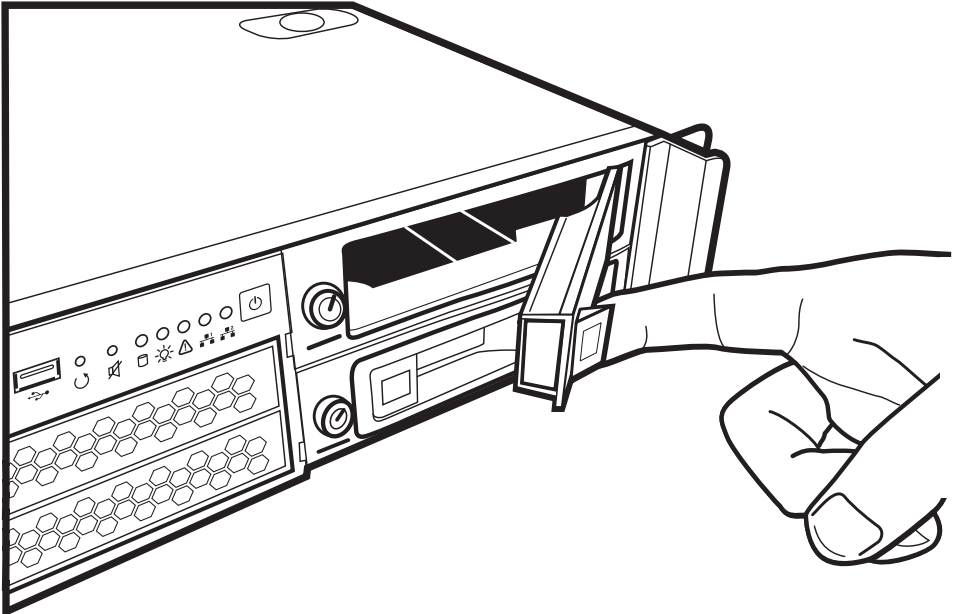


Figure 2.15 Opening the Hard Disk

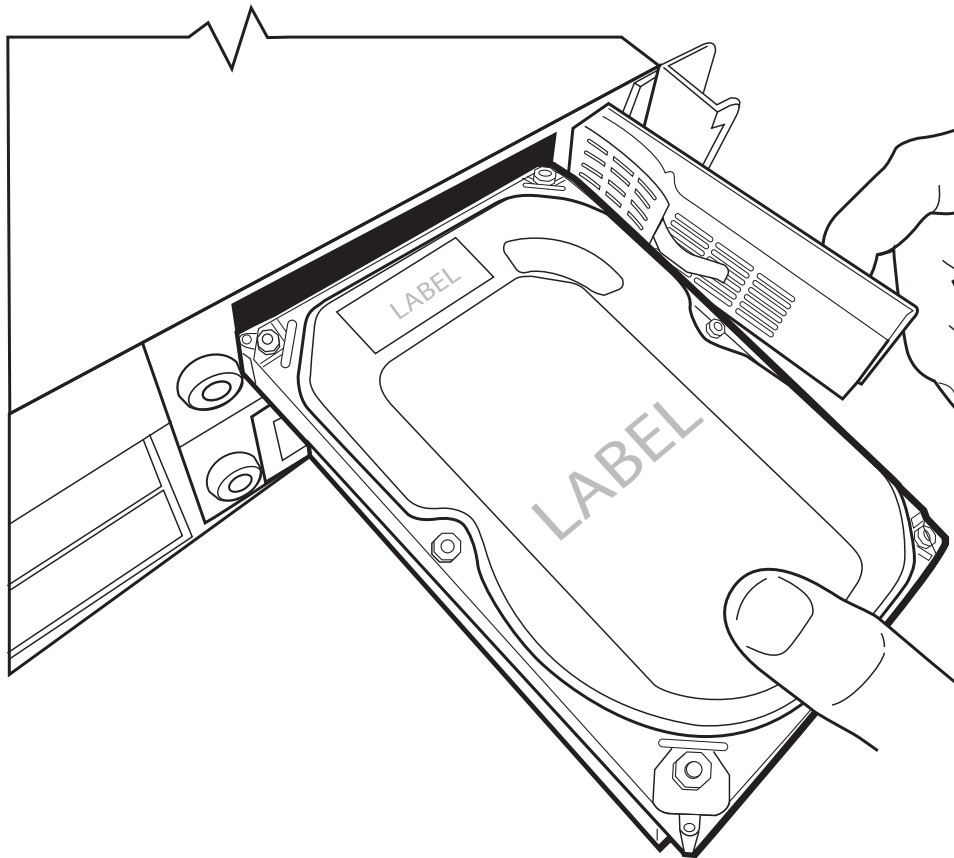


Figure 2.16 Inserting the Hard Disk

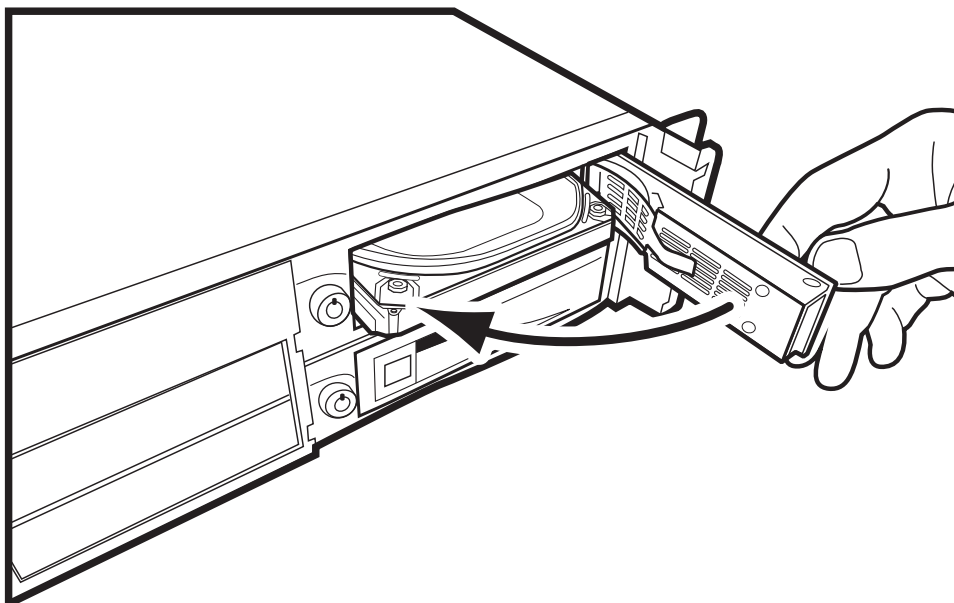


Figure 2.17 Closing the Hard Disk Door

2.2.3.2 TMP800 Telecom Units

Mounting the TMP800 Telecom Unit(s):

1. Using four metal screws, attach one angle bracket to the front, left-hand side of the TMP800 Telecom Unit, when viewed from the front. Do the same for the angle bracket on the right-hand side.
2. Start mounting equipment beneath the TMP800-CTRL, keeping in mind the space required on the equipment rack as described in Section 2.2.2 “Vertical Placement of Tdev TMP800 Development Platform Equipment” on page 10.

2.3 TMP800-CTRL

This section covers the following procedures:

- Section 2.3.1 “Connecting to the System Management Interface” on page 22.
- Section 2.3.2 “Connecting to the Tmedia Control Network” on page 23.
- Section 2.3.3 “Powering Up” on page 24.
- Section 2.5 “Start Up” on page 33.

2.3.1 Connecting to the System Management Interface

The Tmedia Management Interface enables administrators to perform management tasks on a TMP800-CTRL.

Prerequisites

To communicate with the Tmedia Management Interface, the following is needed:

- One CAT5 Ethernet cable with RJ45 male-male terminations.

Note Ethernet cables are not supplied with the TMP800-CTRL.

To communicate with the Tmedia Management Interface:

1. Connect an RJ45 cable from the TMP800-CTRL to a Gigabit Ethernet switch.

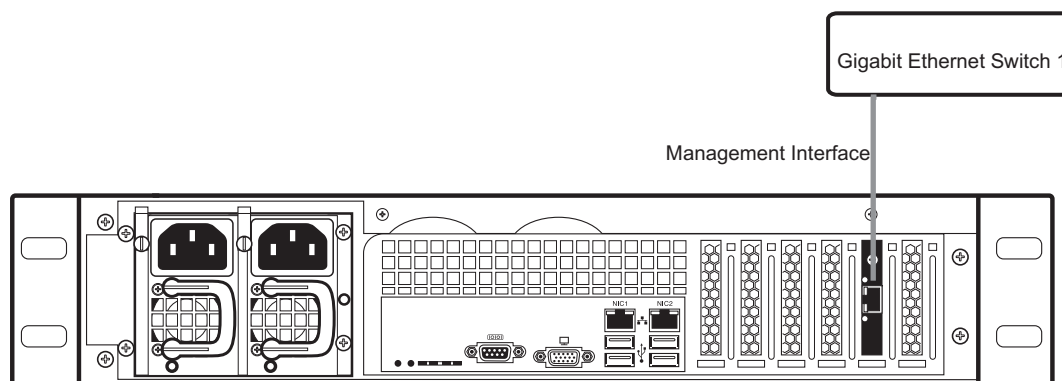


Figure 2.18 TMP800-CTRL System Management Interface

2.3.2 Connecting to the Tmedia Control Network

The Tmedia Control network enables communication between the TMP800-CTRL and the TMP800 Telecom Unit.

Prerequisites

To connect the TMP800 to the Tmedia control network, you will need:

- One CAT5 Ethernet cable with RJ45 male-male terminations.

Connections

The TMP800-CTRL is connected to the Tmedia control network using one CAT5 Ethernet cable, as shown in figure 2.19 on page 23.

To connect to the Tmedia control network:

1. Connect the NIC1 connector on the TMP800-CTRL to the Tmedia Control network switch one.

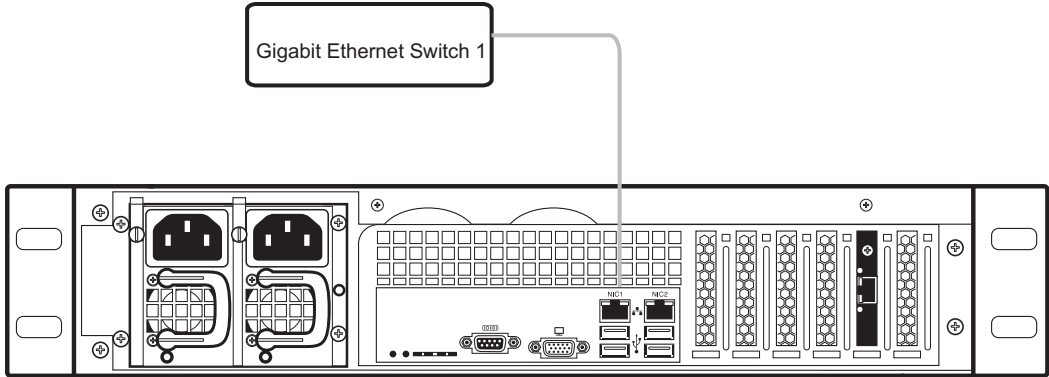


Figure 2.19 Connecting to the Tmedia Control Network

2.3.3 Powering Up

The TMP800-CTRL is furnished with two (2) AC or two (2) DC power connections. Only once all other equipment installation work has been completed should the Tdev Development Platform be powered up.

Prerequisites

To power the TMP800-CTRL, you will need:

- Two independent AC or DC power sources.
- Two power cables.

2.3.3.1 Connecting to AC Power

The TMP800-CTRL is furnished with two AC power connectors.

To connect the TMP800-CTRL to AC Power:

1. Connect the first power connector of the TMP800-CTRL to the first power source. See Figure 2.20.
2. Connect the second power connector of the TMP800-CTRL to the second power source.

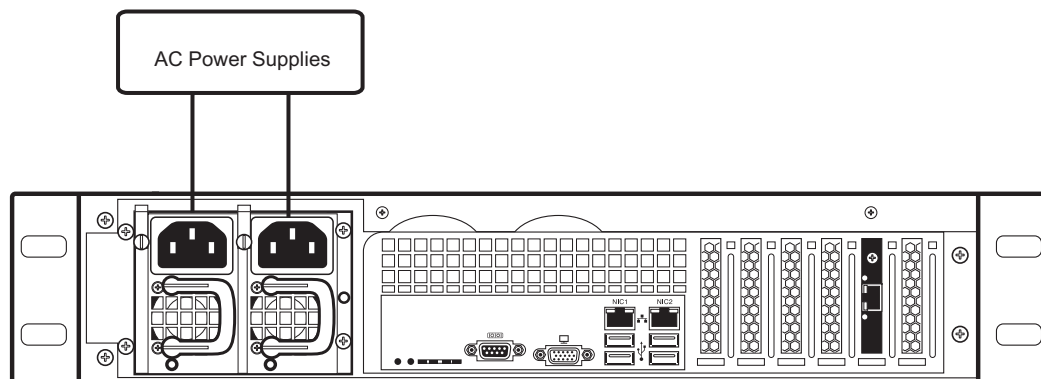


Figure 2.20 TMP800-CTRL AC Power Connections

2.3.3.2 Connecting to DC Power

The TMP800-CTRL is furnished with two DC power connection ports. In addition, each DC powered TMP800-CTRL is supplied with two DC power cables.

To connect the TMP800-CTRL to DC Power

1. Connect the first DC power connector of the TMP800-CTRL to DC power source one. See figure 2.21 on page 25.
 - 1a. Connect one lead of each DC power cable to the positive terminal of the DC power source.
 - 1b. Connect the other lead of each DC power cable to the negative side of the DC power source.
2. Repeat the previous steps for DC power source two.

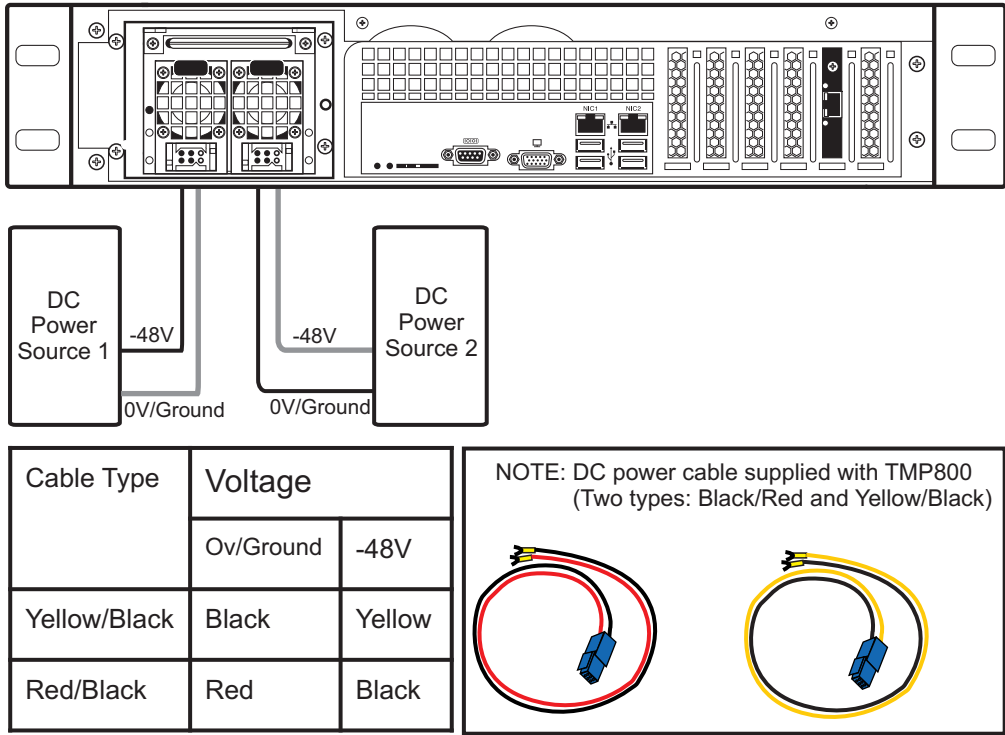


Figure 2.21 TMP800-CTRL DC Power Connections

2.4 TMP800 Telecom Unit

This section covers the following procedures:

- Section 2.4.1 “Connecting to the Tmedia Control Network” on page 27.
- Section 2.4.2 “Connecting to a VoIP Network” on page 28.
- Section 2.4.3 “Connecting to the PSTN” on page 29.
- Section 2.4.4 “Powering Up” on page 30.

2.4.1 Connecting to the Tmedia Control Network

The Tmedia Control Network enables administrators to perform management tasks on the TMP800.

Prerequisites

To communicate with the Tmedia Control Network, the following is needed:

- One CAT5 Ethernet cable with RJ45 male-male terminations.

Interconnections

The TMP800 provides a Tmedia Control Network Interface, using one Gigabit Ethernet network link, as shown in figure 2.22 on page 27.

To communicate with the Tmedia Control Network:

1. Connect the supplied CAT5 Ethernet cable to the port labelled “ETH0” at the rear of the TMP800.

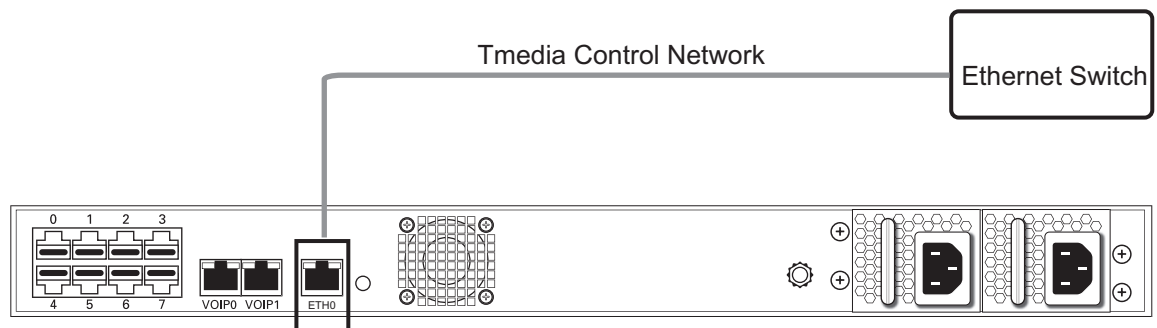


Figure 2.22 Tmedia Control Network

2.4.2 Connecting to a VoIP Network

The TMP800 features dual GigE ports for connection to different VoIP networks. This provides an access point to manage VoIP traffic. Should one of the IP networks fail, the TMP800 will continue to manage VoIP traffic using the alternate network.

The IP address of the VoIP ports can be modified using the web portal.

Note: Certain configurations of the TMP800 will exceed 100 Mbps, therefore 1000 Mbps is recommended.

Prerequisites

To connect the TMP800 to the VoIP network, you will need:

- Gigabit layer 2 Ethernet switch. A second one is required to support redundancy of the VoIP interface.
- One or two CAT5 Ethernet cables with RJ45 male-male terminations.
- If your system has access to a second VoIP network, you can connect it to a second VoIP interface of the TMP800 with an RJ45 (male-male) CAT5 Ethernet cable.

Connections

The TMP800 is connected to the VoIP network by one or optionally two Ethernet GigE network links, as shown in figure 2.23 on page 28.

To connect the TMP800 to the VoIP network:

1. Connect a CAT5 Ethernet cable to VoIP0 at the rear of the TMP800. Connect the other end of the same CAT5 cable to the Gigabit Ethernet switch.
2. If your system employs a second Gigabit Ethernet switch for redundancy, connect a second CAT5 Ethernet cable to VoIP1 at the rear of the TMP800. Connect the other end of the same CAT5 cable to the second Gigabit Ethernet switch.

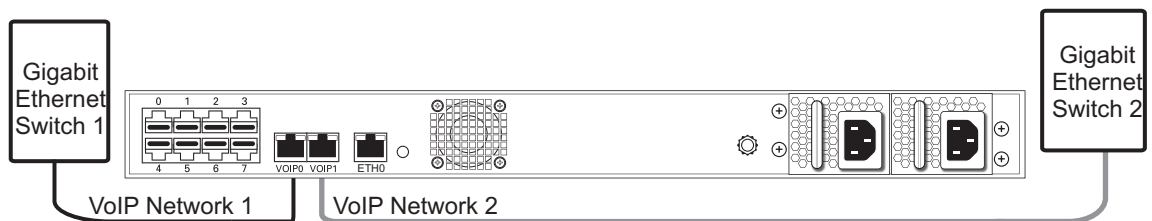


Figure 2.23 Connecting to the VoIP Network

2.4.3 Connecting to the PSTN

A TMP800 with 8 RJ48C type ports enables the connection to T1/E1 lines. The termination impedance is set at 100 ohms for T1 lines and 120 ohms for E1 lines. It is possible to connect an external balun in order to convert the line impedance to 75 ohms.

If you are making your own cables, refer to page 54 in Appendix A for crossover or straight cable wiring connections.

Note All ports may not be active. T1/E1 ports are activated by software license; the number of active ports depends on the licenses purchased.

To connect the TMP800 (RJ48C type) to the PSTN:

1. Start with port 0 located at the top and leftmost position. Connect one cable between this port and the T1/E1 line. See figure 2.24 on page 29.
2. Repeat step 1, using the next available port.



Figure 2.24 8-Port Interface to the PSTN

2.4.4 Powering Up

The TMP800 is furnished with one (1) or two (2) AC or DC power connections. Only once all other equipment installation work has been completed should the TMP800 be powered up.

2.4.4.1 Connecting to AC Power

Prerequisites

To power the TMP800, you will need:

- One to two power sources.
- Two power cables for the TMP800.

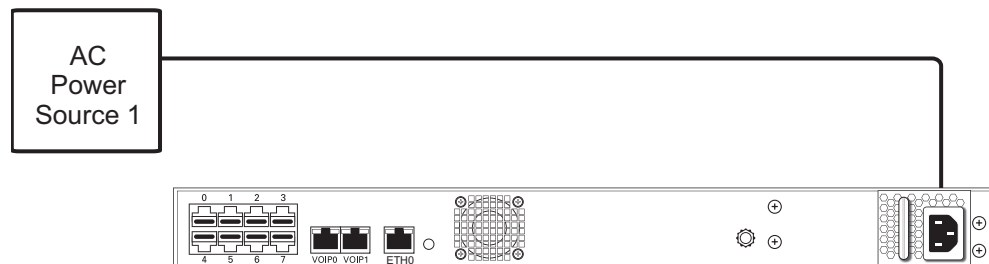
To connect the TMP800 to AC Power:

1. Connect an AC power cable to each AC connector of the TMP800 and an AC supply. See figure 2.25 on page 30.

Note If the TMP800 features redundant power supplies, it is important to connect both power supplies in order to avoid setting off its audible alarm.

2. Power up the TMP800 by turning on its power switch(es).

TMP800 single power supply



TMP800 dual (redundant) power supply

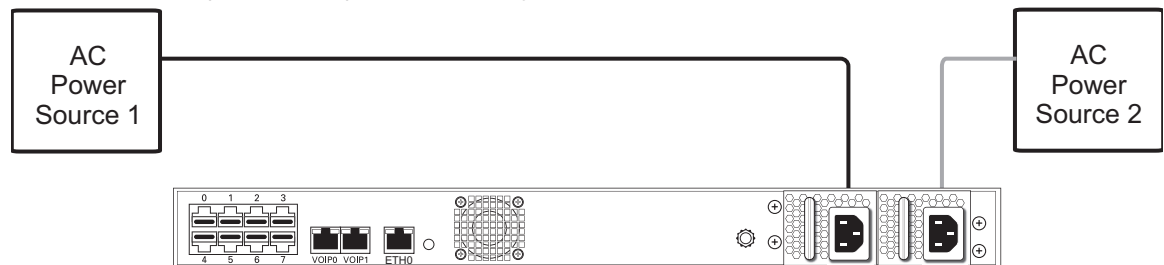


Figure 2.25 AC Power Connection

2.4.4.2 Connecting to DC Power

The TMP800 DC model is furnished with one or two power connection ports. In addition, each DC powered TMP800 is supplied with either one or two DC power cables.


To connect the TMP800 to DC power:

Note Two types of cable with different coloring are available. Refer to figure 2.26 on page 31 for the appropriate wiring information.

The connection of DC power is described for:

- Single DC power connection port
- Dual DC power connection port

To connect a TMP800 with a single DC power supply:

1. Connect a ground wire to the ground plug located at the rear of the TMP800, as shown in figure 2.26 on page 31.
2. Connect a 14 AWG wire between the positive terminal of a DC power source and the terminal on the TMP800 labelled as .
3. Connect a 14 AWG wire between the negative terminal of a DC power source and the terminal on the TMP800 labelled as 48V.

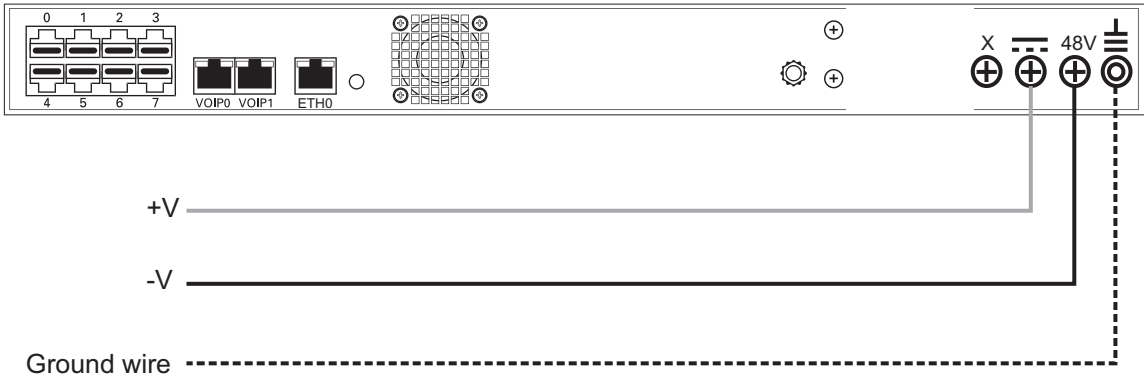


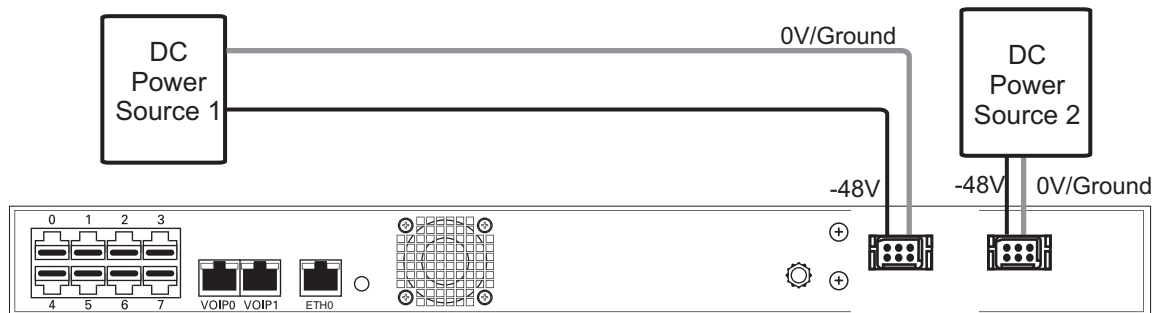
Figure 2.26 TMP800 DC Wiring Diagram

To connect a TMP800 with dual DC (redundant) DC power:

1. Connect one DC cable supplied with the TMP800, as shown in figure 2.27 on page 32, to the DC outlet at the rear of the TMP800.

Note Two types of cable with different coloring are available. Refer to figure 2.27 on page 32 for the appropriate wiring information.

2. Connect one lead of the DC power cable to the positive terminal of the DC power source, as shown in figure 2.27 on page 32.
3. Connect the other lead of the DC power cable to the negative side of the DC power source.
4. Repeat steps 1-3 for the second power DC power source.



Cable Type	Voltage	
	0v/Ground	-48V
Yellow/Black	Black	Yellow
Red/Black	Red	Black

NOTE: DC power cable supplied with TMP800 (Two types: Black/Red and Yellow/Black)

Figure 2.27 TMP800 Redundant DC Supply Wiring Diagram

2.5 Start Up

After powering up the TMP800-CTRL, you must select one of the servers to be the primary server. If you have a second server, configure it as a secondary.

Once these configuration settings have been applied, your Tdev TMP800 Development Platform will start up and display the web portal configuration management tool.

2.5.1 Primary

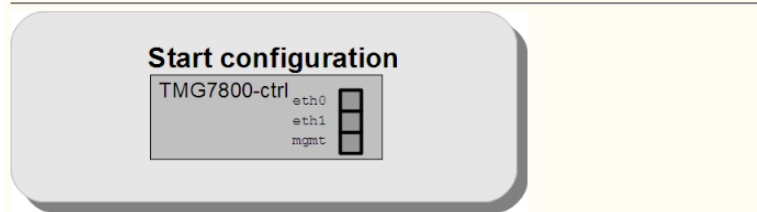
1. Connect to the web portal. The Welcome page appears.

Welcome to the TelcoBridges Tmedia Web Portal!

Please take the time to complete the following steps to ensure the proper, initial configuration of your TMG7800-ctrl server unit. For access to our Tmedia Installation Guides, visit [Tmedia Installation guides](#).

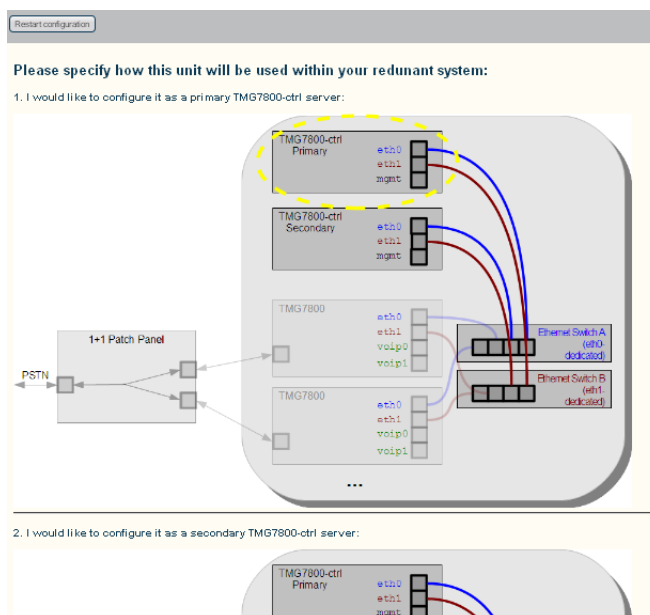
You are configuring the following TMG7800-ctrl server unit:

Model: **TMedia TMG7800-ctrl**
 Serial number: **srv-test-centos53-x64-1**
 Allowed modes: **primary or secondary**

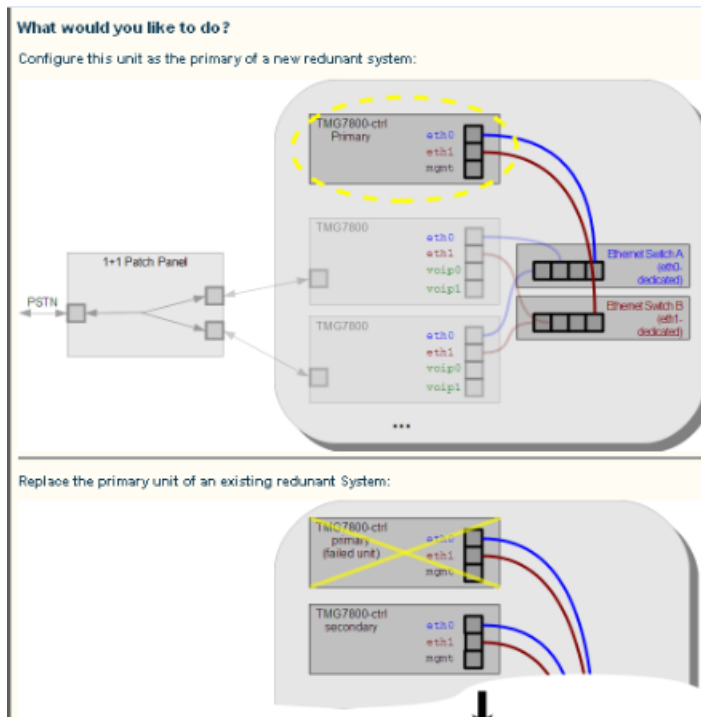


Note: The Welcome page indicates whether the TMP800-CTRL is a primary or secondary unit.

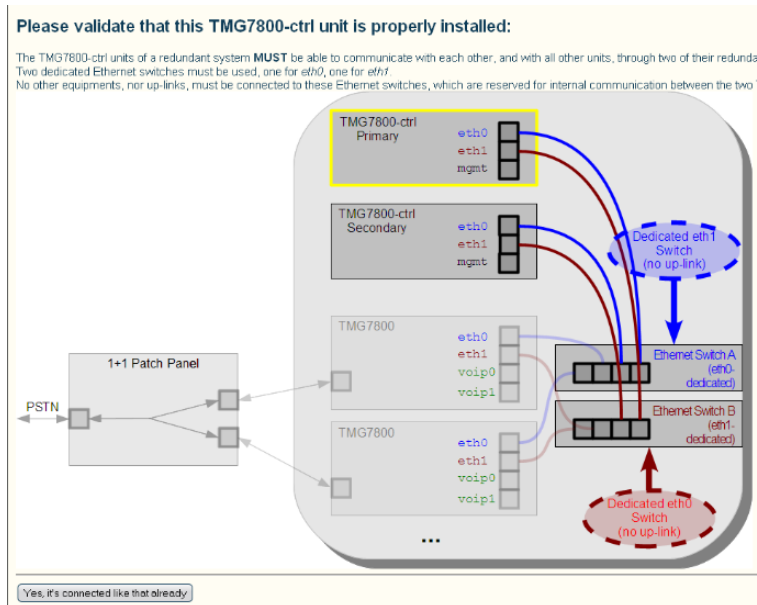
2. Select the top portion of the image to configure the TMP800-CTRL as a primary unit.



3. Select New Redundant.



4. Before clicking the **Yes, it's connected like that already**, verify that the physical connections have been properly done.



2.5.2 Secondary

1. Connect to the web portal. The Welcome page appears.

Welcome to the TelcoBridges Tmedia Web Portal!

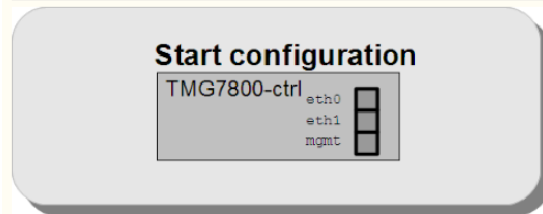
Please take the time to complete the following steps to ensure the proper, initial configuration of your TMG7800-ctrl server unit. For access to our Tmedia Installation Guides, visit [TMedia Installation guides](#).

You are configuring the following TMG7800-ctrl server unit:

Model: **TMedia TMG7800-ctrl**

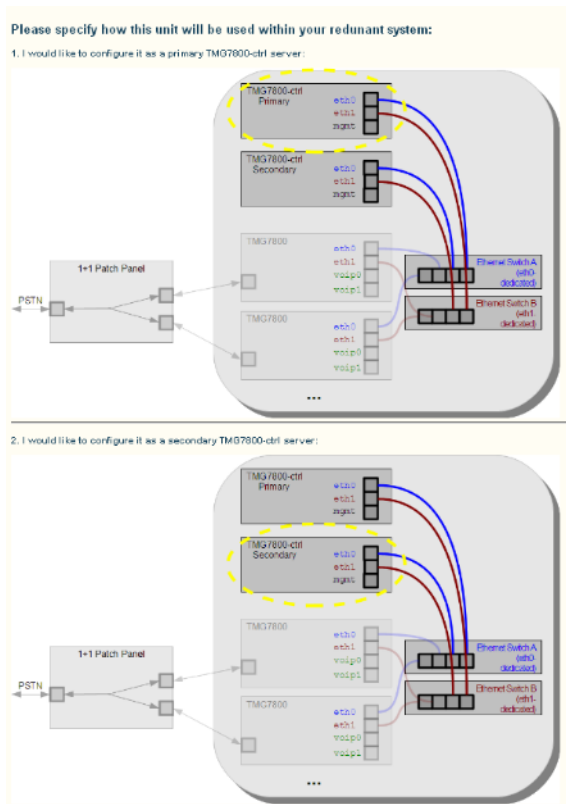
Serial number: **svr-test-centos53-x64-1**

Allowed modes: **primary or secondary**

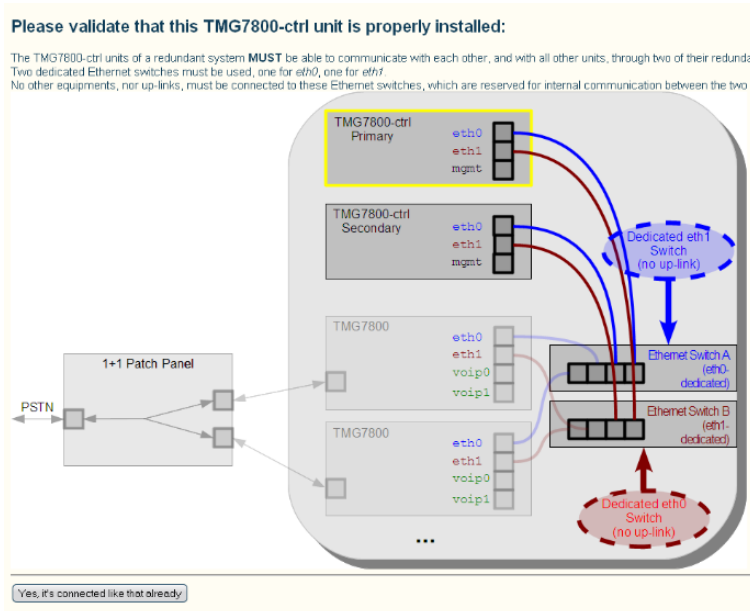


Note: The Welcome page indicates whether the TMP800-CTRL is a primary or secondary unit.

- Select the bottom portion of the image to configure the TMP800-CTRL as a secondary unit.



- Before clicking the **Yes, it's connected like that already**, verify that the physical connections have been properly done.



2.6 Verifying the LED Status Indications

When the Tdev Development Platform has been powered up, verify the front panel of each unit to determine that all indications are normal.

2.6.1 TMP800-CTRL

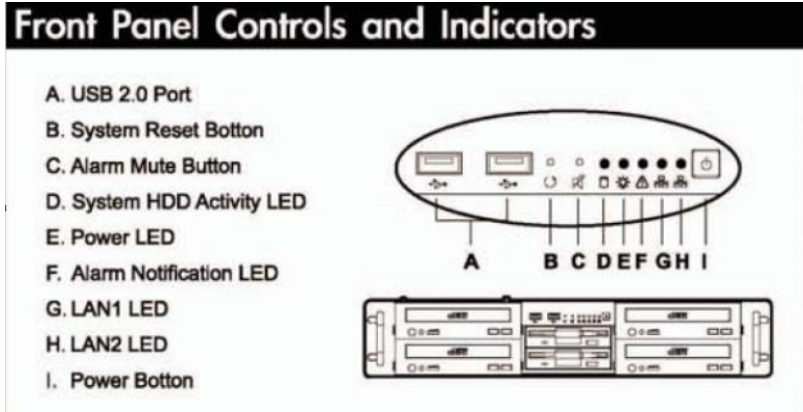


Table 2.2 TMP800-CTRL Indicators





Display Order	Display
System HDD Activity LED (yellow)	Indicates the operation of the hard drive: <ul style="list-style-type: none">• Blinking = active• No light = inactive
Power LED (blue)	<ul style="list-style-type: none">• On = powered• Off = unpowered
Alarm Notification LED (red)	<ul style="list-style-type: none">• On = stem error• Off = no alarm
LAN 1 LED (green)	<ul style="list-style-type: none">• On = LAN is busy• Off = no connection
LAN 2 LED (green)	<ul style="list-style-type: none">• On = LAN is busy• Off = no connection

2.6.2 TMP800 Telecom Unit

Front of Unit

When the TMP800 Telecom Unit has been powered, verify the front panel to determine that all indications are normal. See Table 2.3 on page 38.

Table 2.3 Tmedia Unit Displays

LED	Description
	<ul style="list-style-type: none"> Unused
	<ul style="list-style-type: none"> Off: Not Ready Flashing Red: Unit has failed during the boot up process. Flashing Orange: The unit will shut down in a few minutes. Flashing Green: The unit is performing a boot up. Steady Green: The unit has successfully performed a boot up.
	<ul style="list-style-type: none"> Off: Unpowered Steady Red: Initial Startup sequence Steady Green: Powered
	<ul style="list-style-type: none"> Off: No hard drive activity Steady Green: Read/Write activity on the hard drive.

Note

An alarm will sound if one of the power supplies is faulty. There is no alarm button to disable the alarm. To stop the alarm, you must remove the faulty power supply.

Pressing the Reset button for 1 second will force the unit into a graceful shutdown. This will take a few minutes. Pressing the reset button for 10 seconds will force the Tmedia VoIP Gateway into an abrupt shutdown. This method should only be used in extreme cases.



Figure 2.28 Front display and LEDs

2.7 Powering Down

2.7.1 TMP800-CTRL

Powering down the Tdev Development Platform requires that the Linux embedded host be shut down. In order to do this, you must connect to the management interface using SSH, and enter:

```
shutdown -hP now
```

Attention DO NOT TURN OFF the power to the Tdev Development Platform system using the power switch located at the rear, unless the Linux host has been properly shut down beforehand, instead use the reset button display, or manually use the shutdown command.

Allow enough time for the Linux host to shut down before turning off the power to the Tdev Development Platform (ex. 1 minute). Be aware that the shutdown procedure of the unit is logged and traceable for support and warranty purposes.

Note As an alternate method to this procedure, refer to Section 2.6 “Verifying the LED Status Indications” on page 37, to power down the Tdev Development Platform with the reset button.

2.7.2 TMP800 Telecom Unit

Unplug the power cord from the unit. The unit can be restarted using restart button on the front of the unit.

Chapter 3 Initial System Configuration

This chapter provides information about the following topics:

- Section 3.1 “Connecting to the Server”
- Section 3.2 “Connecting to the Telecom Unit”

3.1 Connecting to the Server

Note

By default, the management port is set to DHCP.

This section and Section 3.1.1 “Configuring the Terminal Emulator Application” on page 43 provide instructions on how to convert the DHCP management port to a static IP address. If your network supports DHCP, skip these sections.

The serial port interface enables administrators to perform management tasks on the Tdev Development Platform. You can connect to the serial port of a Tdev Development Platform, using one of the following two methods.

Method 1: Use a male-male DB9 cross-connect cable

1. Connect a male-male DB9 cross-connect cable between the DB9 serial port of your computer and the DB9 serial port of the TMP800-CTRL. See figure 3.1 on page 41.

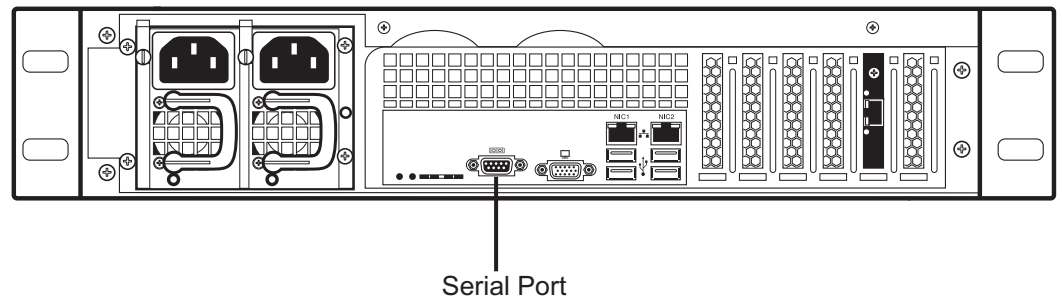


Figure 3.1 Tdev Development Platform Serial Port Connection

Method 2: Use a USB to DB9 adapter

1. Connect the USB connector of the cable to a USB port on your computer and the DB9 connector of the cable to the DB9 serial port of the TMP800-CTRL. See figure 3.2 on page 42.



Figure 3.2 USB to DB9 Adapter

3.1.1 Configuring the Terminal Emulator Application

Before initiating communication with the Tmedia serial interface, you must first configure a terminal emulator or console application to communicate with the Tdev Development Platform in order to configure initial settings. Available terminal emulation software includes:

- HyperTerminal
- Putty
- Minicom

To configure the terminal emulator application:

1. Set the baud rate (bits per second) to **9600**
2. Set the data rate to **8 bits**
3. Set the parity to **None**
4. Set the stop bits to **1**
5. Set the flow control to **None**

Note See Section 3.1.4 on page 44 to learn how to change the IP address of the MGMT0 port.

3.1.2 Connecting to the Tdev Development Platform

The Tdev Development Platform is shipped with the TMG-CTRL preinstalled. In order to make changes to the system configuration, you must connect the port labelled MGMT0 at the front of the Tdev Development Platform to a terminal.

To access the Tdev Development Platform, you must use an SSH connection. The password is set at the factory and is indicated on the shipment sheet.

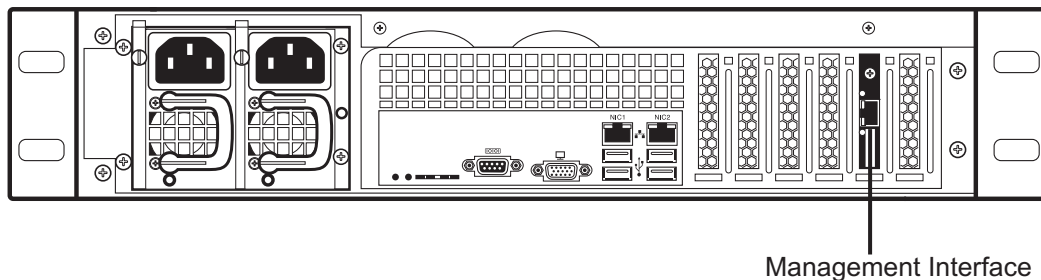


Figure 3.3 Tmedia Management Interface

3.1.3 Retrieving Tdev Development Platform Information

Note The Tdev Development Platform enables you to retrieve system information with the following shell commands:

- `tbproduct` (retrieve the Tmedia product type)
 - `tbserial` (retrieve the Tmedia product type)
-

The Tdev Development Platform enables you to retrieve system information with the following shell commands:

- `tbproduct` (retrieve the Tmedia product type). See http://docs.telcobridges.com/mediawiki/index.php/TMG:Get_Product_Type, for further information.
- `tbserial` (retrieve the Tmedia serial number). See http://docs.telcobridges.com/mediawiki/index.php/TMG:Get_Serial_Number, for further information.

3.1.4 Changing the Tdev Development Platform Management Port IP Address

The management port of the Tdev Development Platform (labeled MGMT0) is configured using DHCP by default. It can be modified it using the following shell script:

- `tbchangeip`. See http://docs.telcobridges.com/mediawiki/index.php/TMG:Change_Management_IP_Address, for further information.

3.1.5 Changing Tdev Development Platform Management Port Passwords

Once logged you are logged on to the Tdev Development Platform, type “`passwd`”, to change the password being used. The following information will be displayed:

```
[root@TB003540 ~]# passwd

Changing password for user root.
New UNIX password:
Retype new UNIX password:
passwd: all authentication tokens updated successfully.
```

3.1.6 Setting the Time Zone

You can change the time zone of the Tdev Development Platform using the `tbtimezone` shell command.

3.2 Connecting to the Telecom Unit

The serial port interface enables administrators to perform management tasks on the TMP800 Telecom Unit.

To connect to the serial port of a TMP800 Telecom Unit:

1. Connect a CAT5 RJ-45 (male-male) cable (supplied with unit) between the com port of your computer and the serial port (labelled 10101) of the TMP800 Telecom Unit as shown in figure 3.4 on page 45. See Section A.2 on page 55 for a RJ-45 console wiring diagram.
2. If your computer's serial port features a DB9 connector, use the DB9 to RJ-45 adapter supplied with your TMP800 Telecom Unit. If your computer's serial port features a USB connector, you will need to provide a USB to DB9 adaptor. Refer to figure 3.2 on page 42.

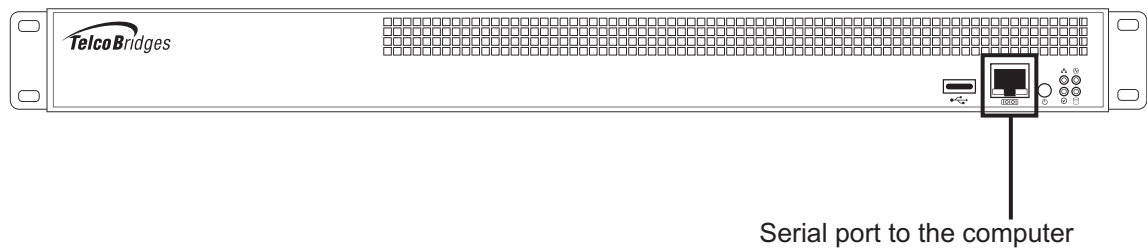


Figure 3.4 Tmedia Management Interface

3.2.1 Configuring the Terminal Emulator Application

Before initiating communication with the Tmedia serial interface, you must first configure a terminal emulator or console application to communicate with the Tdev Development Platform in order to configure initial settings. Available terminal emulation software includes:

- HyperTerminal
- Putty
- Minicom

To configure the terminal emulator application:

1. Set the baud rate (bits per second) to **9600**
2. Set the data rate to **8 bits**
3. Set the parity to **None**
4. Set the stop bits to **1**
5. Set the flow control to **None**

3.2.2 Using the set_boot and print_boot Commands

The set_boot command can be used to modify certain settings and the print_boot command can be used to review the changes. Using the set_boot command, the System ID (also known as gateway port) can be configured.

Settings will be applied on the next reboot of the platform.

Alternatively, you can use the default IP address of ETH0 to configure the Tmedia units, the IP addresses are available on the important notice sheet shipped with the unit. To do this, connect a device on the same subnet as the default IP addresses and connect using Telnet.

Note System ID is also known as **UDP gateway port**.

To modify boot settings:

1. Using the Management Interface, type **set_boot** and press the **Enter** key to move to the next prompt.

```

tml>set_boot

Press <ENTER> to use the existing value,
or insert a new value and press <ENTER>.
active cfg (max 80 char) (<cfgname>)=default? :
autoboot (y|n)=y? :
autofpgalload (y|n)=y? :
boottimeout (max=255)=5? :
gateway port (TBX_GW_PORT=12358)? :

Press <ENTER> to use the existing value,
or insert a new value and press <ENTER>.
adapter name (max 80 char) (<adaptername>)=TB007437? :
eth0 dhcp (y|n)=n? :
eth0 Ip Address (ipaddr)=172.16.27.209? :
eth0 Netmask (nmaddr)=255.254.0.0? :
eth0 Gateway (gwaddr)=172.16.27.209? :
eth1 dhcp (y|n)=n? :
eth1 Ip Address (ipaddr)=172.18.27.209? :
eth1 Netmask (nmaddr)=255.254.0.0? :
eth1 Gateway (gwaddr)=172.18.27.209? :
voip0 dhcp (y|n)=n? :
voip0 Ip Address (ipaddr)=10.3.10.72? :
voip0 Netmask (nmaddr)=255.255.252.0? :
voip0 Gateway (gwaddr)=10.3.10.72? :
voip1 dhcp (y|n)=n? :
voip1 Ip Address (ipaddr)=10.3.14.72? :
voip1 Netmask (nmaddr)=255.255.252.0? :
voip1 Gateway (gwaddr)=10.3.14.72? :
host Ip Address (ipaddr)=172.31.1.1? :
host Netmask (nmaddr)=255.255.255.252? :

List of available boot directories:
/
 0207fa01 (2_7_250.1)
 02073102 (2_7_49.2)
 licenses
Curr Boot dir.....: /ffs/02073102/
Good Boot dir.....: /02073102
Next Boot dir.....: /02073102
nextbootdir (max 80 char) (<curr>)=/02073102? :

```

The following prompts are displayed:

Prompt	Description
Adapter Name	Name of the Tmedia unit. This character string must uniquely identify the Tmedia unit. The default value is the serial number of the Tmedia unit.
DHCP	Dynamic IP address is used when the Tmedia unit is started. Currently not supported.
eth0/VoIP0/VoIP1: IP Address	When you are not using DHCP, the IP address is used as the static IP address for ports Ethernet 0 (ETH0), VoIP0 (VoIP0), VoIP1 (VoIP1) of the Tmedia unit. Note: Internal Host and Internal are not used.
eth0/VoIP0/VoIP1: NetMask	When you are not using DHCP, the network mask is used for ports Ethernet 0, VoIP0, and VoIP1 of the Tmedia unit.
eth0/VoIP0/VoIP1: Gateway	When you are not using DHCP, the gateway address is used for ports Ethernet 0, VoIP0, and VoIP1 of the Tmedia unit. If you are planning to use the Tmedia unit in the same subnet as the host (i.e. you do not require access to an IP address outside the subnet), then the gateway can be set to '127.0.0.1'. Each network interface (Eth0, VoIP0 and VoIP1) must be on a different subnet. For example, if the netmask is 255.255.0.0 and the IP address of ETH0 is 192.168.1.10, the VoIP0 port cannot be on any IP address starting with 192.168.x.x.
Active cfg	This allows a device to make use of multiple configurations.
autoboot: auto fpgaload	When set to "no", the device will stop booting after initial bootup sequence. This is used for debugging only, the default value is "yes".
Boot timeout	This is used to set the time lapse between the initial bootup sequence and the complete bootup. The default value for this setting is 5 seconds.
gateway port	(see previous page)
list of available Boot directories	This enables the user to manually switch between available software versions.

Note Each network interface (Eth0, ETH1, VoIP0 and VoIP1) must be on a different subnet. For example, if the netmask is 255.255.0.0 and the IP address of ETH0 is 192.168.1.10, the VoIP0 port cannot be on any IP address starting with 192.168.x.x.

Note Do not confuse the gateway port (also known as System ID) with the IP gateway address.

The gateway port is used to control the Tmedia units and TelcoBridges strongly recommends that this setting be left at its default value: 12358.

Tmedia units on the same gateway port will be automatically detected by any Toolpack application.

Different gateway ports can be useful for the segmentation of systems configured to operate on the same physical network and IP subnet. Make certain that all applications in the same system are configured to use the same values.

This is described in the Toolpack Installation guide; for further information, contact TelcoBridges Technical Support.

To view the results of a set_boot command:

1. Type print_boot

```
tml>print_boot

active config.....: default
fs location.CPU0.....: /tb640
autoboot.....: yes
autofpgaload.....: yes
boot timeout.....: 5
gateway port.....: 12358

Adapter name.....: TB006973
-----
eth0: IP address.....: 10.3.2.24
eth0: NetMask.....: 255.255.252.0
eth0: Gateway.....: 10.3.0.24
-----
voip0: IP address.....: 10.3.10.24
voip0: NetMask.....: 255.255.252.0
voip0: Gateway.....: 10.3.8.24
-----
voip1: IP address.....: 10.3.14.24
voip1: NetMask.....: 255.255.252.0
voip1: Gateway.....: 10.3.12.1
-----
Embedded host: IP address.....: 172.31.1.1
Embedded host: NetMask.....: 255.255.255.252
-----
Internal: IP address.....: 127.255.255.254
-----

List of available boot directories:
/
 0207150d (2_7_21.13)
 02071701 (2_7_23.1)
 licenses
Curr Boot dir.....: /ffs/0207150d/
Good Boot dir.....: /0207150d
Next Boot dir.....: /0207150d
```

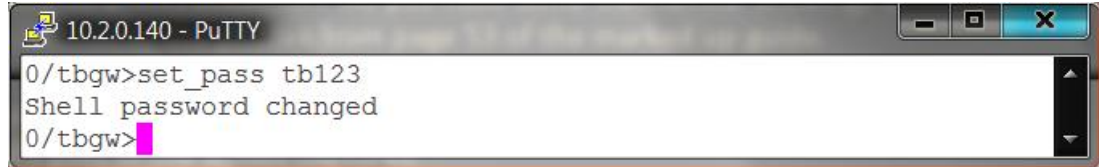
3.2.3 Creating a Shell Password

Access to the shell commands may be protected with a password.

Note By default, access to the shell commands is not password protected.

To create a password:

1. At the shell prompt, type **set_pass <your password>**.



```

10.2.0.140 - PuTTY
0/tbgw>set_pass tb123
Shell password changed
0/tbgw>

```

2. Restart the Tmedia unit. This will reset the Tmedia unit and add the enable and disable shell password commands to the console commands list.

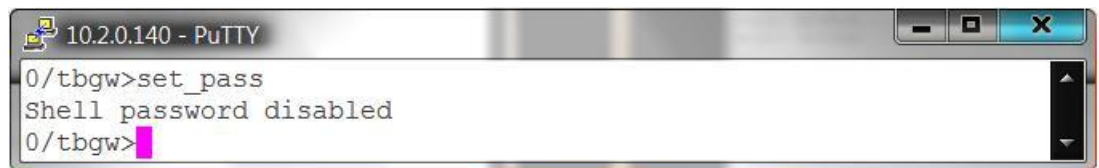
Once the shell password has been set, it cannot be changed unless you are in the **Enabled** mode. The enabled mode provides you with access to operation sensitive commands.

To enter the enabled mode:

1. At the shell prompt, type **enable <your password>**.

To clear the password mode:

1. At the shell prompt, type **set_pass** (without entering a password).



```

10.2.0.140 - PuTTY
0/tbgw>set_pass
Shell password disabled
0/tbgw>

```

To exit the enabled mode:

1. At the shell prompt, type **disable**.

3.2.4 Applying Changes

In order to apply all changes made, enter the following command:

```
reboot
```

This will restart the platform with the new settings taking effect.

Chapter 4 System Backups

This chapter provides information about the following topics:

- Section 4.1 “Creating a Database Backup”
- Section 4.2 “Downloading a Database Backup”
- Section 4.3 “Uploading a Database Backup”
- Section 4.4 “Restoring a Database Backup”

For more detailed information with regard to any of the points described in this section, please refer to the TBWiki: <http://docs.telcobridges.com>

4.1 Creating a Database Backup

It is important that backups be made of system configuration settings in the event of a system failure. It is recommended that a backup be made once the system has been configured. Backups are performed using the web portal.

4.2 Downloading a Database Backup

A backup of system data is stored on the hard drive of the Tdev Development Platform. It is important that system backups be downloaded to an external storage device.

4.3 Uploading a Database Backup

An external backup of your database can be uploaded to your Tdev Development Platform.

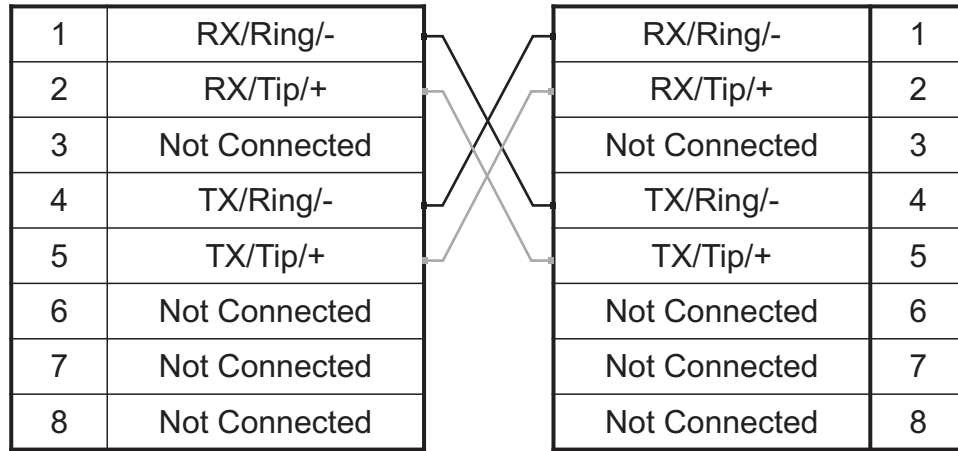
4.4 Restoring a Database Backup

In the event of a system failure requiring the replacement of a Tdev Development Platform, a previously saved backup of system settings can be restored to the new unit.

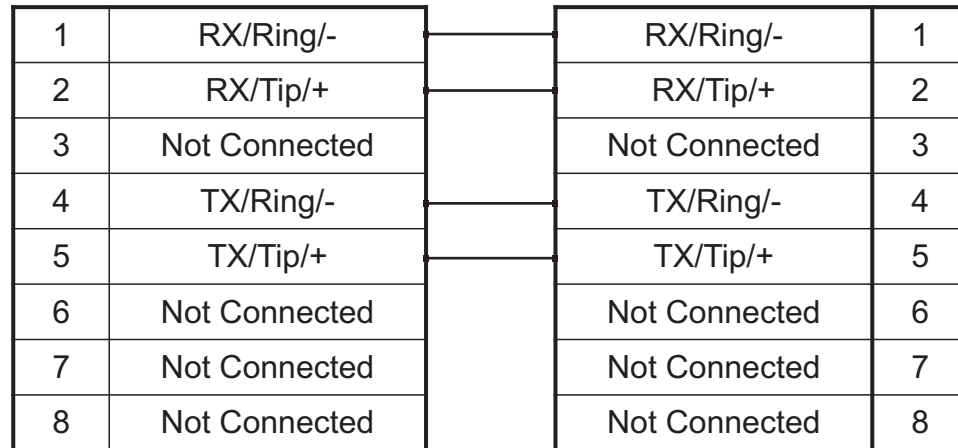
Appendix A Wiring Diagrams

A.1 RJ48C Wiring Diagram: Crossover and Straight Cables

RJ 48 (T1/E1/J1) Wiring Schematic: Crossover Cable



RJ 48 (T1/E1/J1) Wiring Schematic: Straight Cable



A.2 RJ48 Console Wiring Diagram

