



**TMG3200 Standalone & TMG3200 1+1  
System Installation Guide**

Issue 4.0f

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# Preface



## About this Guide

This guide provides installation, and setup procedures for Tmedia TMG3200 Standalone and Tmedia 3200 1+1 systems.

## Conventions

Terminology	Description
Tmedia VoIP Gateway	This term is used when a description applies to both the TMG3200 and TMG3200 +1.
Tmedia Standalone System	This term is used when a description applies to the TMG3200 operating as a standalone unit.
Tmedia 1+1 System	This term is used when a description applies to the TMG3200 operating in conjunction with the TMG3200 +1. This term also includes the 1+1 patch panel(s).
TMG3200	This term is used when a description applies to all variations of the TMG3200 units.
TMG3200 +1	This term is used when a description applies to all variations of the TMG3200 +1 units.
1+1 Patch Panel	This term is used as a generic reference to 1+1 patch panel(s), which enables a TMG3200 to connect to a TMG3200 +1.

To help guide you through the installation of your Tmedia product, we have produced the following icons. Please take note of the icon which represents the type of installation you are conducting and follow it throughout this guide to ensure proper install and set-up.

Graphics	Description
	This icon appears in the margins of pages describing the TMG3200 operating as a standalone unit. If you are installing a standalone unit read and follow the instructions provided in those sections and pages.
	This icon appears in the margins of pages describing the TMG3200 operating in conjunction with a TMG3200 +1 and 1+1 Patch Panel(s). If you are installing a 1+1 System read and follow the instructions provided in those sections and pages.

Sections and pages that include both icons above, apply for the installation of both the Tmedia Standalone and Tmedia 1+1 System.

## Contact Us

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# Chapter 1 Introduction

This chapter provides an introduction to the installation and setup for the following configurations:



Tmedia Standalone: TMG3200 operating in standalone mode.



Tmedia 1+1 System: TMG3200 operating in conjunction with a TMG3200 +1, and a 1+1 patch panel(s).

The following topics are covered:

- Section 1.1 “Recognizing a Tmedia Standalone versus a Tmedia 1+1 System”
- Section 1.2 “Installation Prerequisites”
- Section 1.3 “ Preventing Electrostatic Discharge Damage”
- Section 1.4 “Recommended Reading”

## 1.1 Recognizing a Tmedia Standalone versus a Tmedia 1+1 System



### 1.1.1 Tmedia Standalone

The Tmedia Standalone consists of one telecom unit, TMG3200. View the front and rear views of the TMG3200, as shown in figure 1.1 on page 3.



### 1.1.2 Tmedia 1+1 System

The Tmedia 1+1 system, see figure 1.1 on page 3 and figure 1.2 on page 4, consists of:

- One (1) telecom unit, TMG3200
- One (1) +1 telecom unit, TMG3200 +1
- One (1) or two (2) 1+1 patch panels(s)



### 1.1.3 Product Images

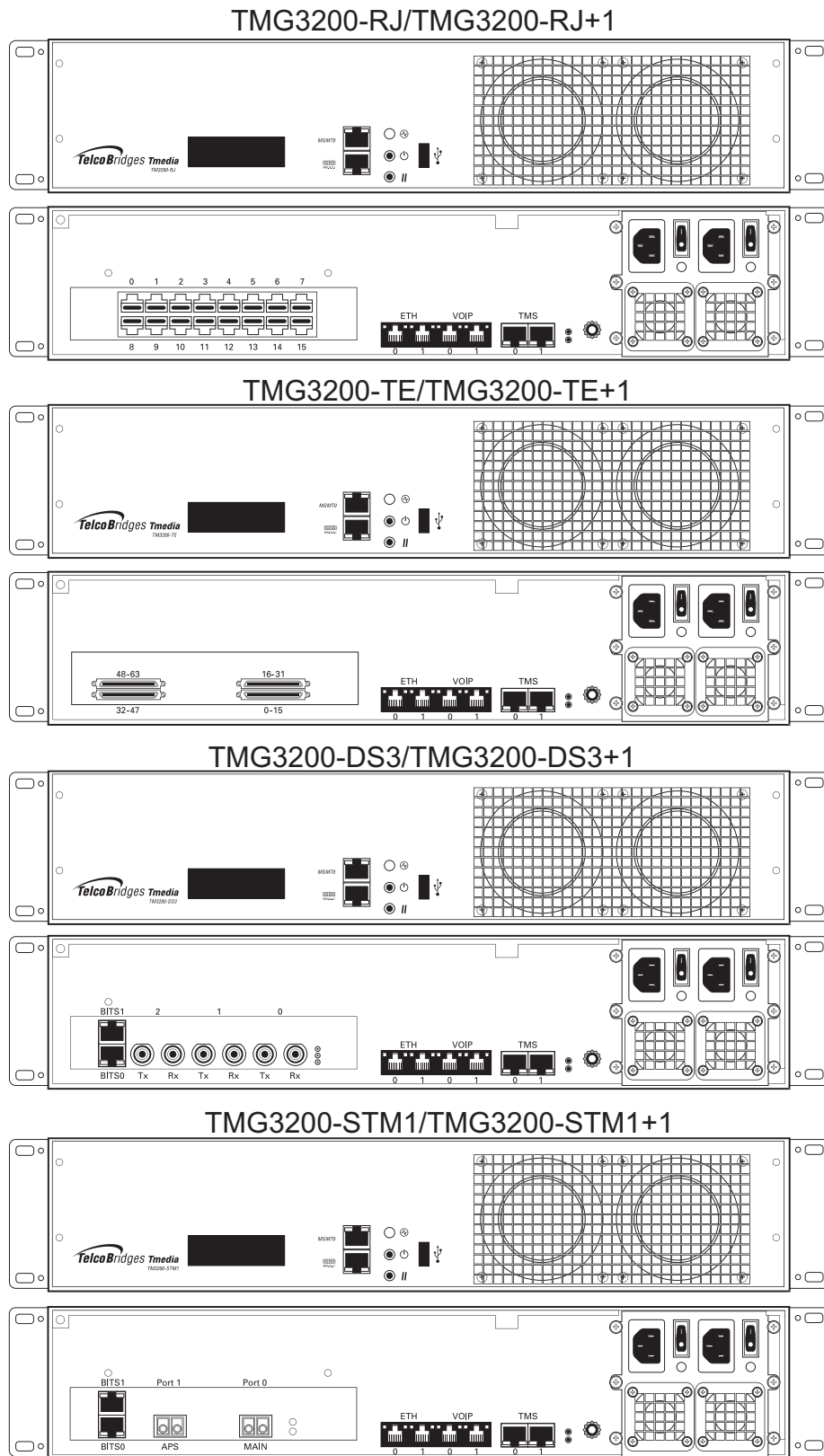


Figure 1.1 TMG3200 and TMG3200 +1 Front and Rear Views

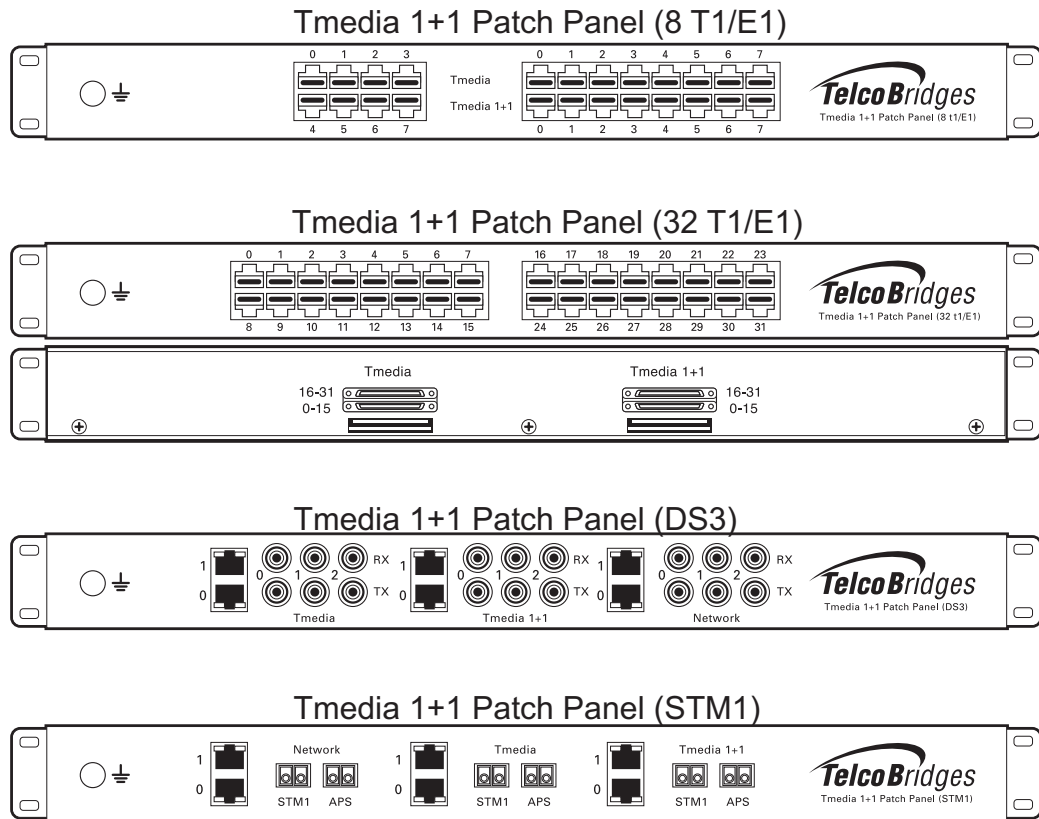




Figure 1.2 1+1 Patch Panels

## 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.

 Tmedia Standalone	 Tmedia 1+1 System								
<p><b>Adequate space for the installation of the Tmedia Standalone.</b> You will need to mount the TMG320 on a 19" equipment rack (customer provided). Your TMG3200 is a 2U unit.</p> <p><b>Adequate power supply and power connections.</b> The TMG3200 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.</p> <p><b>An IP address for the management port.</b> 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 2.4.1 "Connecting to the Tmedia Management Interface" on page 17 for further information.</p>	<p><b>Adequate space for the installation of your Tmedia 1+1 system.</b> You will need to mount the Tmedia 1+1 system on a 19" equipment rack (customer provided).  Your 1+1 System requires space for the following number of units:</p> <table border="0" data-bbox="922 762 1312 898"> <tr> <td>TMG3200:</td> <td>2U</td> </tr> <tr> <td>TMG3200 +1:</td> <td>2U</td> </tr> <tr> <td>1+1 Patch Panel:</td> <td>1U or 2U<sup>a</sup></td> </tr> <tr> <td><b>Total:</b></td> <td><b>5U or 6U<sup>b</sup></b></td> </tr> </table> <p><b>Adequate power supply and power connections.</b> The TMG3200 and TMG3200 +1 require two power connections each, as they are equipped with redundant power supplies. To guarantee an uninterrupted supply, each power connection must be fed by a dedicated power source.</p> <p><b>An IP address for the management port.</b> 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 2.5.1 "Connecting to the Tmedia 1+1 System Management Interfaces" on page 29 for further information.</p>	TMG3200:	2U	TMG3200 +1:	2U	1+1 Patch Panel:	1U or 2U <sup>a</sup>	<b>Total:</b>	<b>5U or 6U<sup>b</sup></b>
TMG3200:	2U								
TMG3200 +1:	2U								
1+1 Patch Panel:	1U or 2U <sup>a</sup>								
<b>Total:</b>	<b>5U or 6U<sup>b</sup></b>								

a. 1U per 1+1 patch panel, 2U if two patch panels are required

b. Depending on whether your system required 1 or 2 patch panels. Refer to Section 2.1.2 "Tmedia 1+1 System Package Contents"

## 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.

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Always follow ESD prevention procedures when removing and replacing modules:

- Ensure that the Tmedia VoIP gateways 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 Tmedia VoIP Gateway 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 Tmedia VoIP Gateways, 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 Tmedia VoIP gateways 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](mailto: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 Tmedia Standalone or Tmedia 1+1 System”
- Section 2.3 “Choosing your Connection Procedures”
- Section 2.4 “Tmedia Standalone System”
- Section 2.5 “Tmedia 1+1 System”
- Section 2.6 “Adding a Tmedia +1 to an Existing Standalone; Creating a 1+1 System”
- Section 2.7 “Verifying the LED Status Indications”
- Section 2.8 “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 “Tmedia Standalone Package Contents” on page 8.
- Section 2.1.2 “Tmedia 1+1 System Package Contents” on page 9.
- Section “1+1 Patch Panels” on page 11.

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

### 2.1.1 Tmedia Standalone Package Contents

#### **TMG3200**

In the TMG3200 box, you will find the following items:

- One (1) TMG3200 unit (TMG3200-RJ, TMG3200-TE, TMG3200-DS3, or TMG3200-STM1). See figure 1.1 on page 3.
- One (1) set of mounting brackets and screws, used to mount the TMG3200 to 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 TMG3200.
- 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

Specifically with the TMG3200-TE unit, you will also have:

- One (1) or two (2) patch panel(s)
- Two (2) SCSI cables per patch panel.

Not included

- A 19" equipment rack. The TMG3200 must be installed on a 19" wide equipment rack.



## 2.1.2 Tmedia 1+1 System Package Contents

### TMG3200

In the TMG3200 box, you will find the following items:

- One (1) TMG3200 unit (TMG3200-RJ, TMG3200-TE, TMG3200-DS3, or TMG3200-STM1). See figure 1.1 on page 3.
- One (1) set of mounting brackets and screws, used to mount the TMG3200 to 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 TMG3200.
- 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

Specifically with the TMG3200-TE, you will also have:

- One (1) or two (2) patch panel(s)
- Two (2) SCSI cables per patch panel.

Not included

- A 19" equipment rack. The TMG3200 must be installed on a 19" wide equipment rack.

### TMG3200+1

In the TMG3200 box, you will find the following items:

- One (1) TMG3200+1 unit (TMG3200-RJ, TMG3200-TE, TMG3200-DS3, or TMG3200-STM1). See figure 1.1 on page 3.
- One (1) set of mounting brackets and screws, used to mount the TMG3200 to 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 TMG3200.
- 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

Specifically with the TMG3200-TE, you will also have:

- One (1) or two (2) patch panel(s)
- Two (2) SCSI cables per patch panel.

Not included

- A 19" equipment rack. The TMG3200 must be installed on a 19" wide equipment rack.





## 1+1 Patch Panels

1+1 patch panels are required for the proper connection of the Tmedia 1+1 system, and are automatically included when a TMG3200 +1 is ordered. Table 2.1 lists the various 1+1 patch panels that you will receive based upon the type of Tmedia telecom unit integrated in your Tmedia 1+1 system.

Table 2.1 1+1 Patch Panels

1+1 Patch Panel (8/T1/E1)	<p>Provides connection for up to 8 T1/E1 lines from the network to the 1+1 Patch Panel (8 T1/E1) and then links to the TMG3200-RJ and TMG3200-RJ+1</p> <p>To connect the TMG3200-RJ-8 to its +1 unit you require one (1) 1+1 Patch Panel (8 T1/E1).</p> <p>To connect the TMG3200-RJ-9 and greater capacity (up to the TMG3200-RJ-16) to its respective +1 unit, you require two (2) 1+1 Patch Panels (8 T1/E1).</p> <p>Cables provided:</p> <p>You will be provided with 16 RJ48C cables (yellow), two meters in length, per 1+1 Patch Panel (8 T1/E1) you receive.</p>
1+1 Patch Panel (32/T1/E1)	<p>Provides connection for up to 32 T1/E1 lines from the network to the TMG3200-TE and TMG3200-TE+1.</p> <p>To connect the TMG3200-TE-16 and the TMG3200-TE-32 to their respective +1 units and the network, you will required one (1) 1+1 Patch Panel (32 T1/E1).</p> <p>To connect the TMG3200-TE-48 and the TMG3200-TE-64 to their respective +1 units and the network, you will require two (2) 1+1 Patch Panel (32 T1/E1).</p> <p>Cables provided:</p> <p>4 SCSI straight cables per 1+1 Patch Panel (32 T1/E1). Three meters in length. This provides connection for up to 32 lines.</p>
1+1 Patch Panel (DS3)	<p>Provides connection for up to 3 DS3 lines from the network to the TMG3200-TE and TMG3200-TE+1.</p> <p>Cables provided (with each 1+1 Patch Panel (DS3)):</p> <ul style="list-style-type: none"> <li>• 12 DS3 cables, each two meters in length.</li> <li>• 4 RJ48C straight cables (yellow), two meters in length.</li> </ul>
1+1 Patch Panel (STM1)	<p>Provides connection of 1 STM1 line from the network to the TMG3200-STM1 and TMG3200-STM1+1.</p> <p>Cables provided (with each 1+1 Patch Panel (STM1)):</p> <ul style="list-style-type: none"> <li>• 4 pairs of fiber optic cables, two meters in length.</li> <li>• 4 RJ48C straight cables (yellow), two meters in length.</li> </ul>



## 2.2 Rack Mounting the Tmedia Standalone or Tmedia 1+1 System

The Tmedia equipment is mounted on a customer provided equipment rack using the mounting hardware packaged in the box.

### 2.2.1 Prerequisites

To rack mount the Tmedia equipment, you will need:

- One 19" customer-provided equipment rack. 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 Tmedia Equipment

The TMG3200 and TMG3200 +1 are each housed in a 2U chassis, as tabulated in table 2.2 on page 12. It is important that you provide for enough room on the equipment rack to allow for the installation of the TMG3200 and TMG3200 +1.

Consider the available space on your equipment rack and the height of the TMG3200, TMG3200 +1, and a 1+1 patch panel. 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 TMG3200 and TMG3200 +1 on the equipment rack.

Table 2.2 Tmedia VoIP Gateway Physical Height

Tmedia Model Number	Vertical Height
TMG3200	2U (3.5 inches or 89.10 mm)
TMG3200 +1	2U (3.5 inches or 89.10 mm)
Patch Panels	1U (1.75 inches or 44.45 mm)



## 2.2.3 Installing the Tmedia Standalone and the Tmedia 1+1 on an Equipment Rack

Both the Tmedia Standalone and the Tmedia 1+1 System are mounted on the 19" equipment rack using the angle brackets and screws provided in the box.



### Mounting the Tmedia Standalone:

1. Using four metal screws, attach one angle bracket to the front, left-hand side of the TMG3200, when viewed from the front, as shown in figure 2.1 on page 14. Do the same for the angle bracket on the right-hand side.
2. Start mounting equipment at the top-most position of the rack, keeping in mind the space required on the equipment rack as described in Section 2.2.2 "Vertical Placement of Tmedia Equipment" on page 12.



### Mounting the Tmedia 1+1 System:

1. Mount the TMG3200 as mentioned above:
2. Install the TMG3200 +1 below the TMG3200, as shown in figure 2.1 on page 14.
3. To attach the TMG3200 +1 to the equipment rack, follow the previous procedure.
4. Install the patch panel below the TMG3200 +1, as shown in figure 2.1 on page 14.

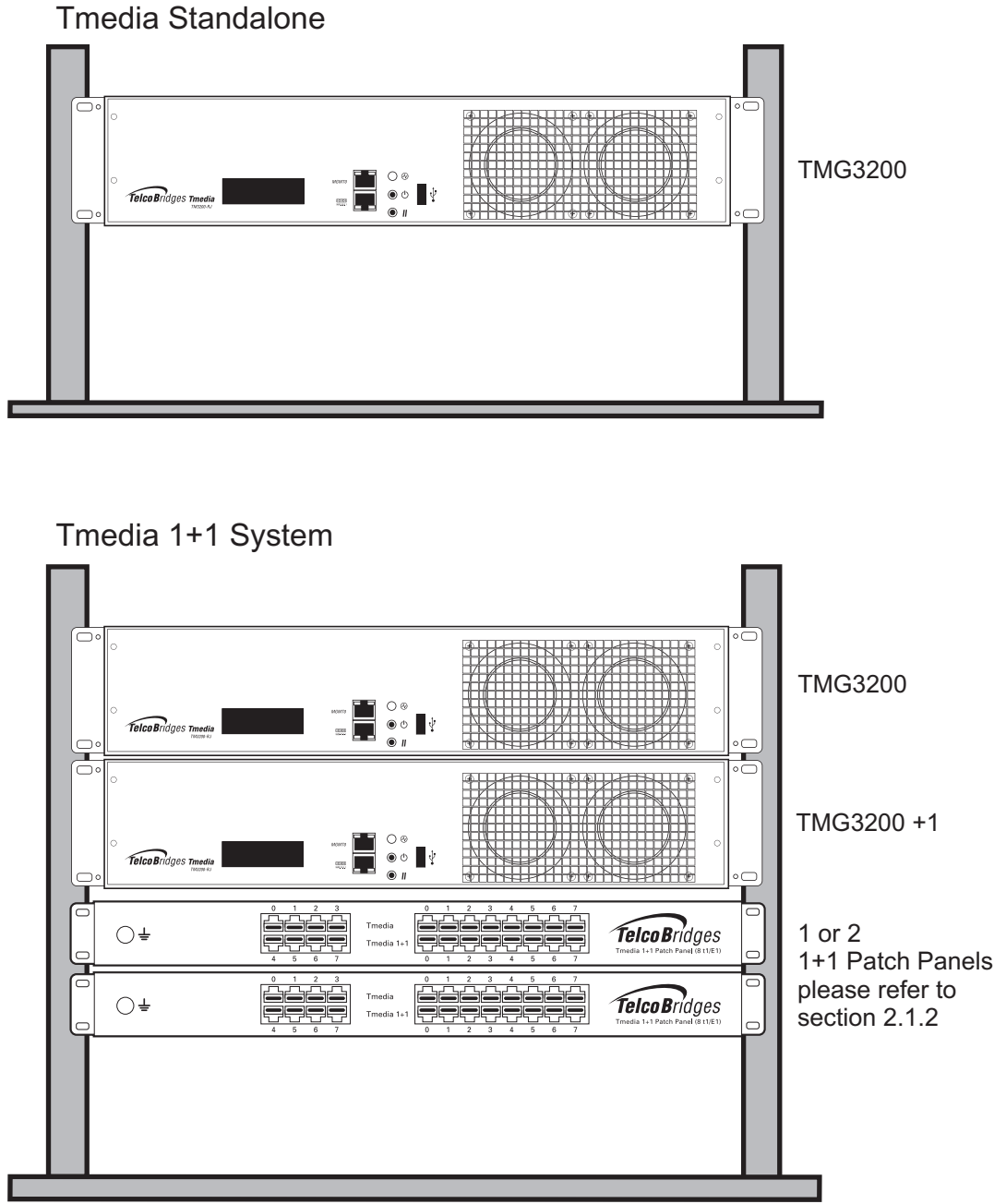
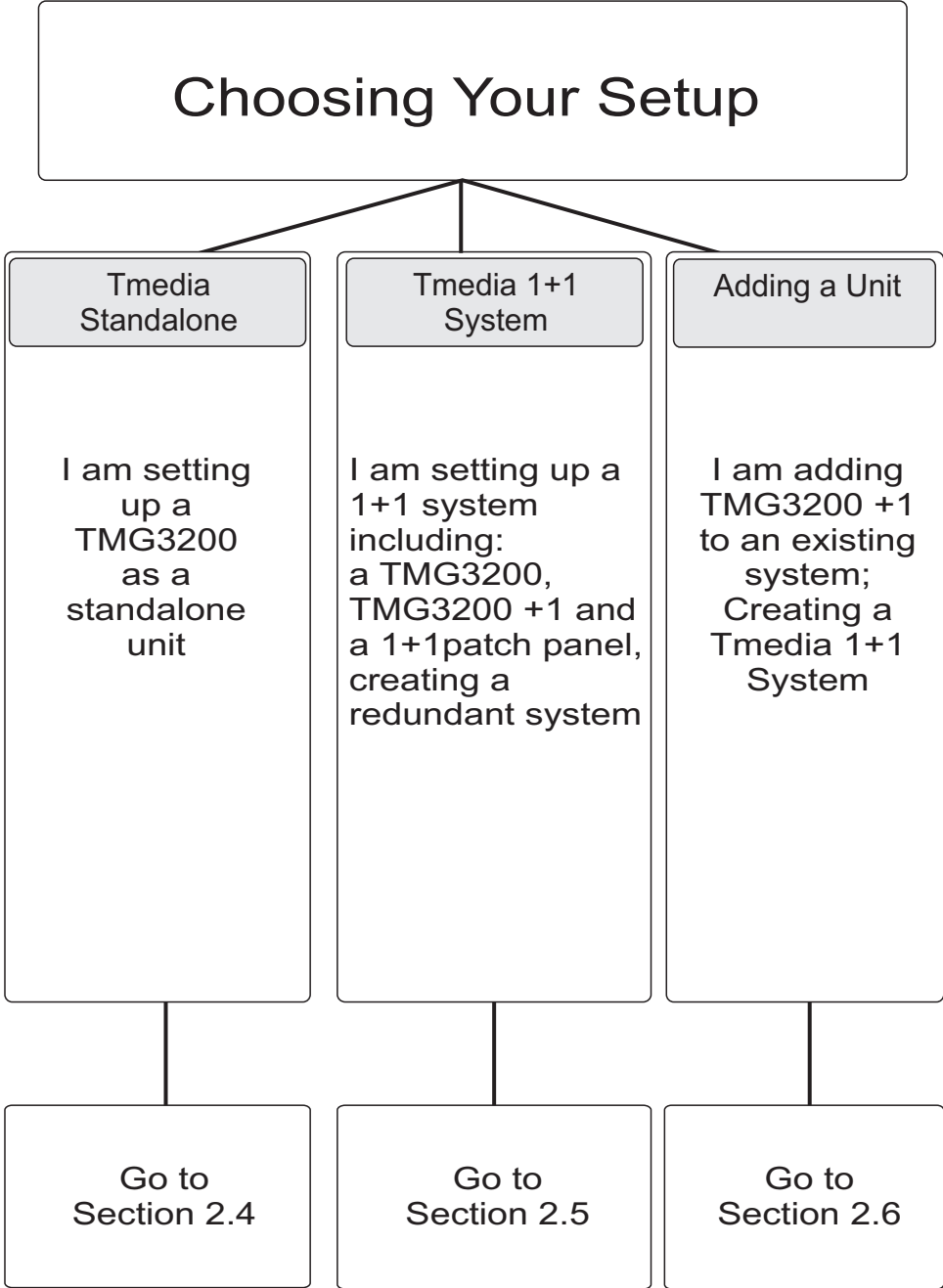


Figure 2.1 Rackmounting the Equipment



## 2.3 Choosing your Connection Procedures

Use the following diagram to guide you to the appropriate section, based on your chosen installation.





## 2.4 Tmedia Standalone System

If you are here, you have a TMG3200 that you will setup as a standalone system. This section covers the following procedures for a TMG3200 standalone system:

- Section 2.4.1 “Connecting to the Tmedia Management Interface”.
- Section 2.4.2 “Connecting to a VoIP Network”.
- Section 2.4.3 “Connecting to the PSTN”.
- Section 2.4.4 “Powering Up”.
- Section 2.4.5 “Start Up”.

## 2.4.1 Connecting to the Tmedia Management Interface

The Tmedia Management interface enables administrators to perform management tasks on the TMG3200.

### Prerequisites

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

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

### Interconnections

The TMG3200 provides a Tmedia Management Interface, using one Gigabit Ethernet network link, as shown in figure 2.2 on page 17.

#### To communicate with the Tmedia Management Interface:

1. Connect the supplied CAT5 Ethernet cable to the port labelled “MGMT0” at the front of the TMG3200.

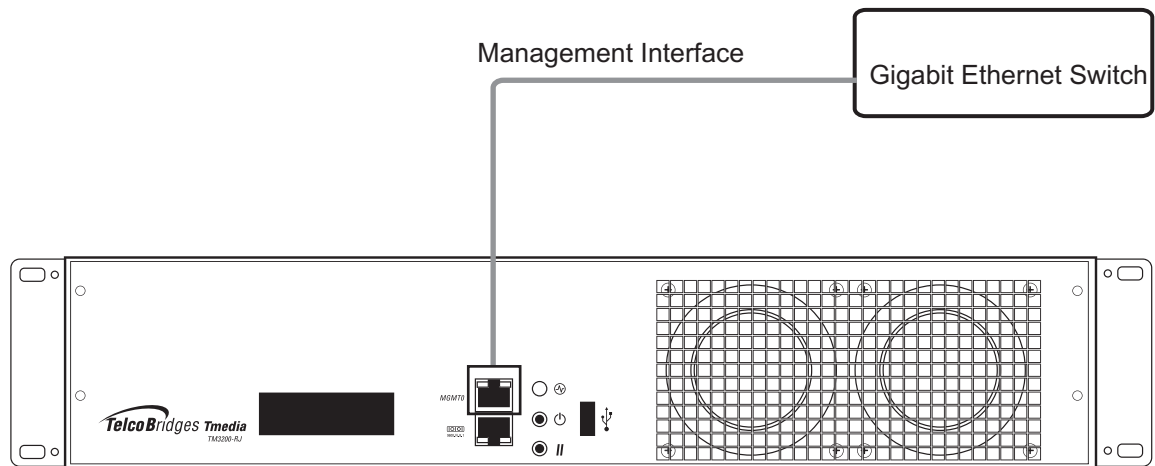


Figure 2.2 Tmedia Management Interface

## 2.4.2 Connecting to a VoIP Network

The TMG3200 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 TMG3200 will continue to manage VoIP traffic using the alternate network.

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

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**Note:** Certain configurations of the TMG3200 will exceed 100 Mbps, therefore 1000 Mbps is recommended.

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### Prerequisites

To connect the TMG3200 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 TMG3200 with an RJ45 (male-male) CAT5 Ethernet cable.

### Connections

The TMG3200 is connected to the VoIP network by one or optionally two Ethernet GigE network links, as shown in figure 2.3 on page 18.

#### To connect the TMG3200 to the VoIP network:

1. Connect a CAT5 Ethernet cable to VoIP0 at the rear of the TMG3200. 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 TMG3200. Connect the other end of the same CAT5 cable to the second Gigabit Ethernet switch.

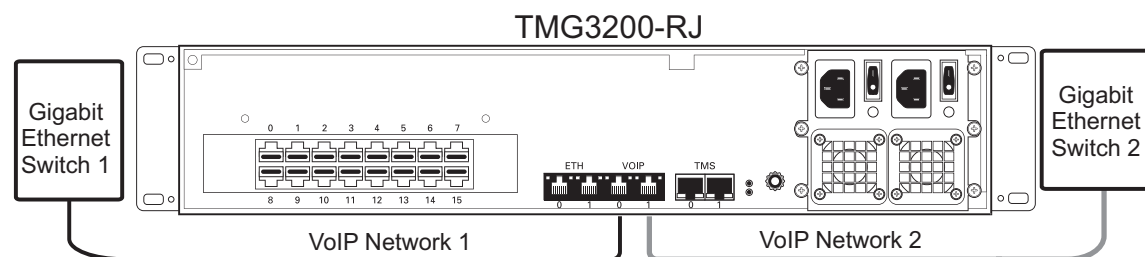


Figure 2.3 Connecting to the VoIP Network





## 2.4.3 Connecting to the PSTN

The TMG3200 features a variety of interfaces to the PSTN network.

### Prerequisites

To connect the TMG3200 to the PSTN network, you must comply with one of the following:

- Your TMG3200-RJ features 16 modular 8-conductor RJ48C type jacks for connection to T1/E1 lines. You will need one cable for each (T1/E1) interface. If you are making your own cables, refer to page 63 in Appendix A in for crossover or straight cable wiring connections.
- Your TMG3200-TE features SCSI connectors for connection to T1/E1 lines. You will require one patch panel for each 32-line grouping of T1/E1 line interfaces on the TMG3200.
- Your TMG3200-DS3 features BNC connectors for connection to DS3 lines. You will require two coaxial cables for each DS3 interface.
- Your TMG3200-STM1 features electrical or optical STM-1 connectors. You will require two fibre optic cables for each STM-1 interface.

### 2.4.3.1 RJ48C Type Interface (T1/E1) for the TMG3200-RJ

A TMG3200-RJ with 16 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 Section A.1 “RJ48C Wiring Diagram: Crossover and Straight Cables” on page 64 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 TMG3200-RJ (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 2.4 on page 20.
2. Repeat step 1, using the next available port.

TMG3200-RJ

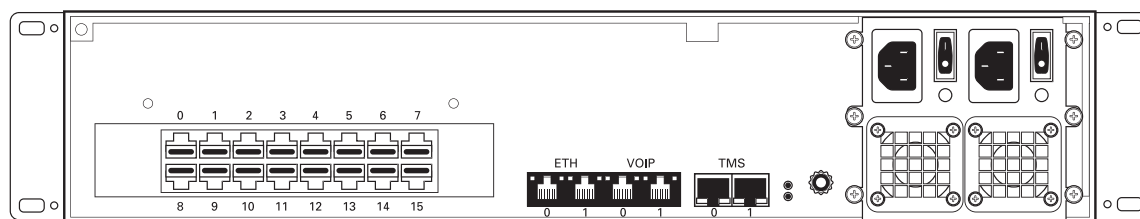


Figure 2.4

16-Port Interface to the PSTN

### 2.4.3.2 SCSI Interface (T1/E1) for the TMG3200-TE

A TMG3200-TE with 4 SCSI connectors enables the connection to T1/E1 lines. The termination impedance is set at 120 ohms. It is possible to connect an external balun in order to convert to 75 ohms.

---

**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.

Patch panels use straight connections. In other words, they do not cross the RX and TX signals. Connections between the patch panels and the TMG3200 require straight cables. The supplied SCSI cables are straight cables. Cables used to connect the network to the patch panel must do the cross connection.

---

**To connect the TMG3200-TE to the PSTN:**

1. Start with SCSI ports 0-15 located at the bottom right as shown in figure 2.5 on page 22. Connect one SCSI cable between this port and SCSI patch panel number 1, ports 0-15. Connect SCSI ports 16-31 to patch panel number 1, ports 16-31.
2. Repeat step 1, using lines 32-63 and a second patch panel. Connect lines 32-47 to patch panel 2, ports 0-15. Connect lines 48-63 to patch panel 2, ports 16-31.

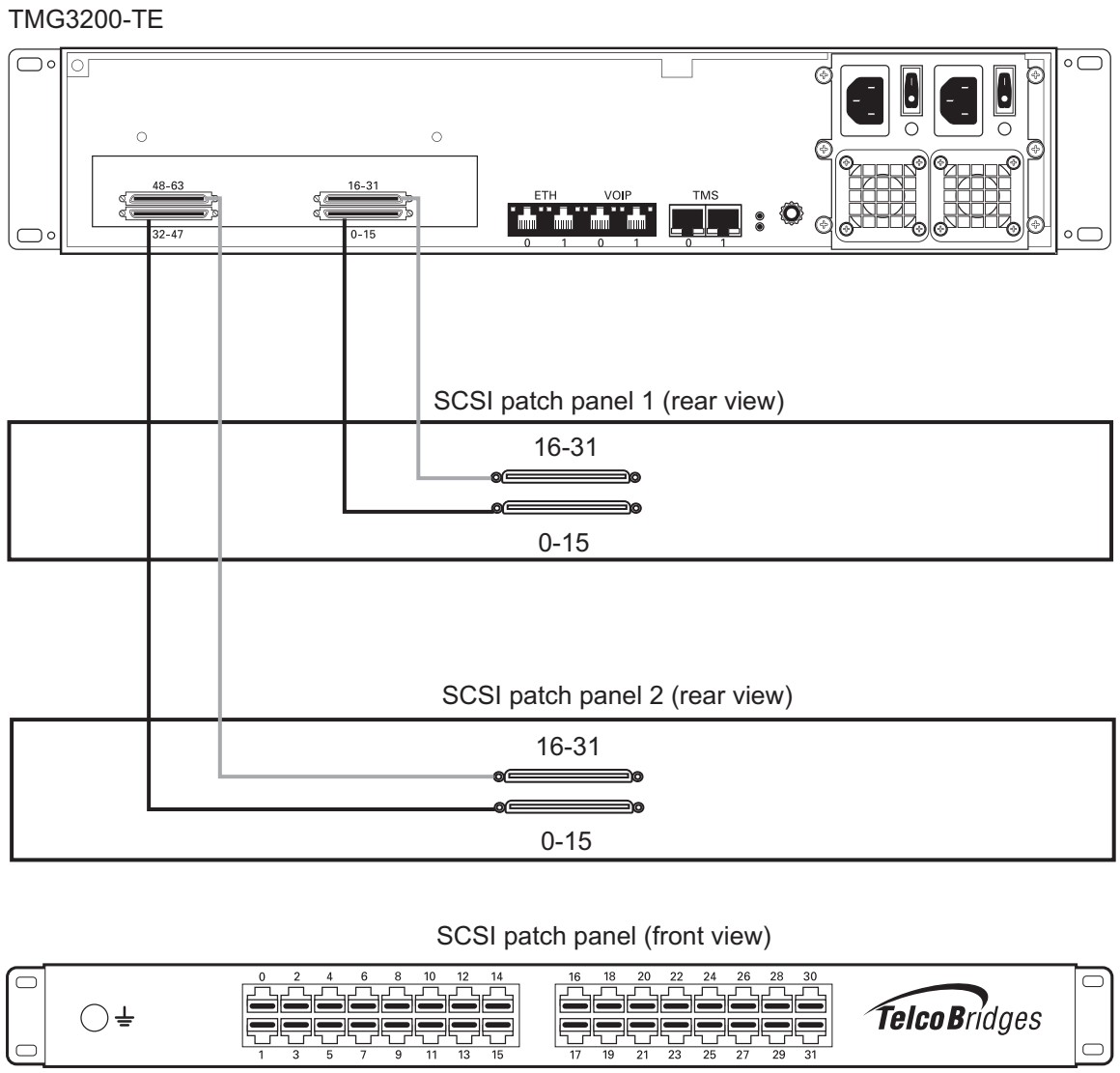


Figure 2.5 TMG3200 with SCSI connectors

### 2.4.3.3 Dual BNC Interface (DS3) for the TMG3200-DS3

A TMG3200-DS3 with 3 sets of BNC connectors enables the connection to DS3 lines. See figure 2.6 on page 23.

---

**Note** All ports may not be active. DS3 ports are activated by software license; the number of active ports depends on the licenses purchased.

---

**To connect the TMG3200-DS3 to the PSTN:**

1. Start with the Dual BNC port pair #0 (right-most) as shown in figure 2.6 on page 23. Connect one pair of BNC cables between this port and the DS3 line.
2. Repeat step 1, using the next available pair of BNC PSTN interface ports.

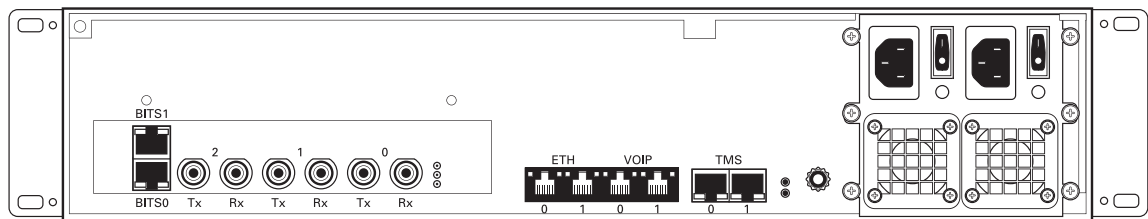


Figure 2.6 DS3 Interface to the PSTN

### 2.4.3.4 Optical Interface (OC3/STM-1) for the TMG3200-STM1

A TMG3200-STM-1, with one main and one backup OC3 or STM1 port enables connection to OC3/STM1 lines. See figure 2.7 on page 24. Refer to table 2.3 on page 24 for a listing of optical interfaces. The default SFP module for OC3/STM1 connection is SMF, intermediate reach, (SFP-OC3-IR1) 1310 nm with LC type connectors.

**Note** Please make certain that the correct SFP model is selected at the time of ordering. If your installation requires a different model from the one that has been provided, you must replace it.

Table 2.3 Optical Interfaces

Transceiver Model	Description	Spec	Mode	Type	Range (Km.)	Wavelength (NM)	Connection
SFP-OC3-IR1	OC3/STM1	Hot Pluggable	Single-mode	Intermediate reach	15	1310	LC
SFP-STM1E	STM1E (Electrical)	Hot Pluggable	75 ohms Cooper	Max 180m	1	NA	DIN (mini-coax)

### Automatic Protection Switching

The APS port is used for OC3/STM1 redundancy. Switchover occurs automatically based on configurable parameters. It is recommended that APS be used if the installation provides this feature.

#### To connect the TMG3200-STM1 (Optical Interface) to the PSTN:

1. Connect a fiber optic cable between the Port 0 (Main) port and OC3/STM1 line, as shown in figure 2.7 on page 24.
2. Connect a fiber optic cable between the Port 1 (APS) port and OC3/STM1 line.

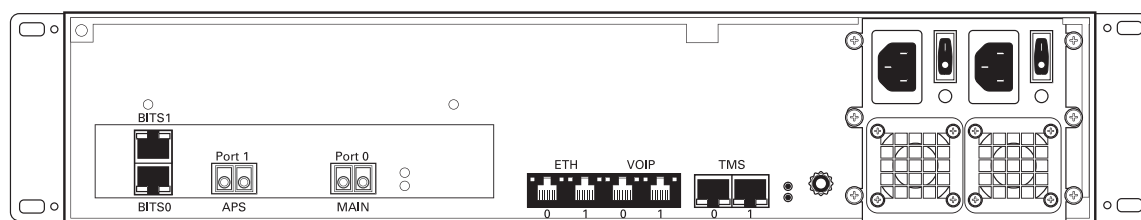


Figure 2.7 Optical Interface to the PSTN

## 2.4.4 Powering Up

The TMG3200 is furnished with two AC or DC power connections. Only once all other equipment installation work has been completed should the TMG3200 be powered up.

### 2.4.4.1 Connecting to AC Power

#### Prerequisites

To power the TMG3200, you will need:

- One to two power sources.
- Two power cables for the TMG3200.

The TMG3200 AC model is furnished with two AC power connectors.

#### To connect the TMG3200 to AC Power:

1. Connect an AC power cable between the AC connector of the TMG3200 and an AC supply. See figure 2.8 on page 25.

---

**Note** If the TMG3200 features a second power supply and it is not connected to an AC power source, press the green button located at the rear of the unit to disable the audible alarm. See figure 2.8 on page 25.

---

2. Power up the TMG3200 by turning on its power switch(es).

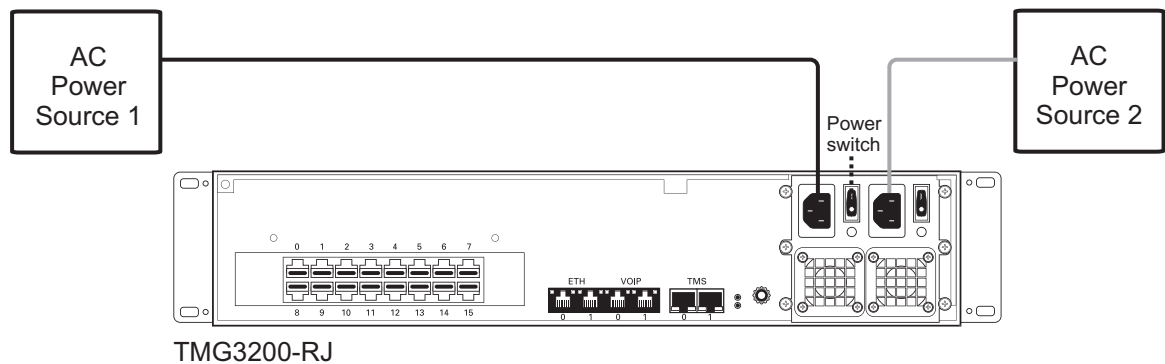


Figure 2.8 AC Power Connection

### 2.4.4.2 Connecting to DC Power

The TMG3200 DC model is furnished with two DC power connection ports. In addition, each DC powered TMG3200 is supplied with two DC power cables.

**To connect the TMG3200 to DC power:**

1. Connect one DC cable, supplied with the TMG3200, as shown in figure 2.9 on page 26, to the DC outlet at the rear of the TMG3200.

---

**Note** Two types of cable with different coloring are available. Refer to figure 2.9 on page 26 for the appropriate wiring information.

---

2. Connect one lead of the DC power cable to the positive terminal of the DC power source.
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.

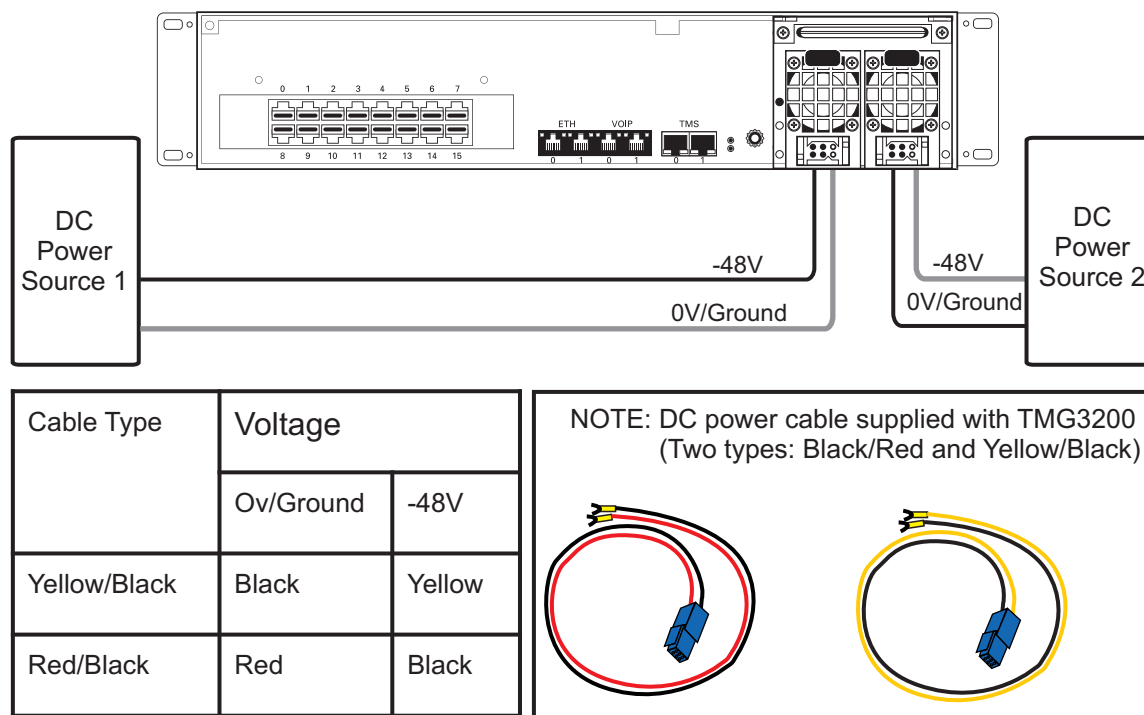


Figure 2.9 TMG3200 DC Wiring Diagram



## 2.4.5 Start Up

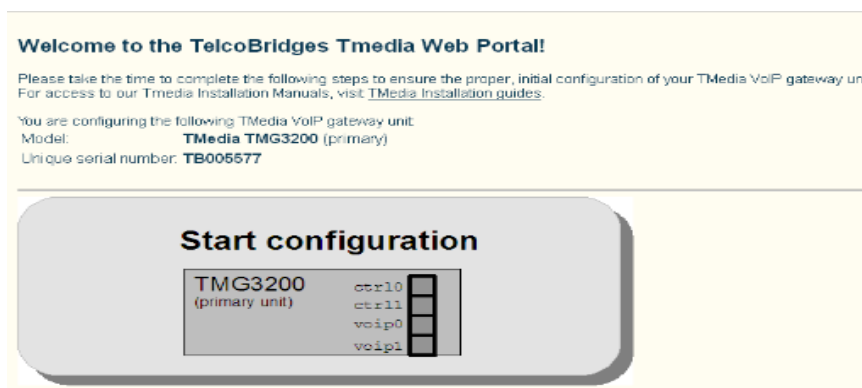
The first time that you connect to a Tmedia VoIP Gateway, the web portal will appear and you will be asked to select how you would like to configure your TMG3200. You will want to be sure to set the role as a Tmedia Standalone.

Once the configuration settings have been applied, your TMG3200 will start up and display the web portal configuration management tool.

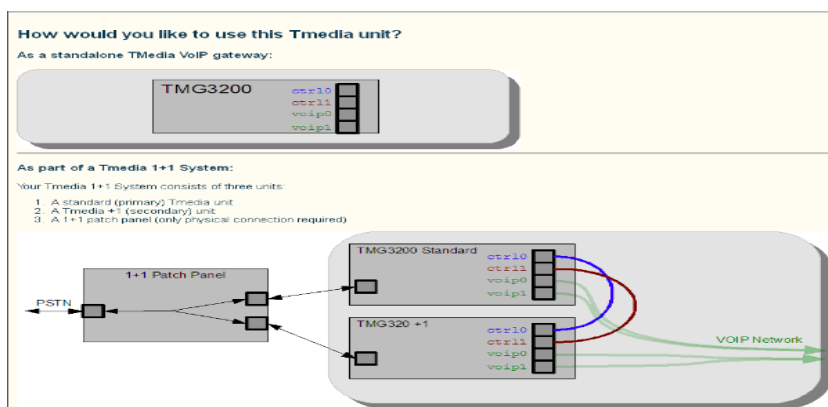
### 2.4.5.1 Configuring the Role

To configure the role of your TMG3200 as a standalone unit, do the following:

1. Connect to the web portal of the standalone unit. The Welcome page appears.



2. Click the TGM3200 image to set the role of the TMG3200 as a Standalone Tmedia VoIP gateway.



The Progress page is displayed, confirming the change.

Configuration is now in progress...

■■■■■■■

---

Configuration may take several minutes (up to ~3 minutes)  
It may be impossible to refresh this web page at some point during that period.

If after the elapsed time you do not see any progress, please cancel the configuration to start again.



## 2.5 Tmedia 1+1 System

If you are here, you are installing a Tmedia 1+1 system. This section covers the following procedures:

- Section 2.5.1 “Connecting to the Tmedia 1+1 System Management Interfaces” on page 30.
- Section 2.5.2 “Connecting to the Tmedia Control Network” on page 31.
- Section 2.5.3 “Connecting the Tmedia 1+1 System VoIP Network(s)” on page 32.
- Section 2.5.4 “Connecting to the PSTN in a Tmedia 1+1 System” on page 33.
- Section 2.5.5 “Powering Up” on page 41.
- Section 2.5.6 “Start Up” on page 43.



## 2.5.1 Connecting to the Tmedia 1+1 System Management Interfaces

The Tmedia Management Interface enables administrators to perform management tasks on a Tmedia 1+1 system.

### Prerequisites

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

- Two CAT5 Ethernet cables with RJ45 male-male terminations.

### Interconnections

Within a 1+1 system there is a management interface for a TMG3200 and a TMG3200 +1, each requiring a Gigabit Ethernet network link. See figure 2.10 on page 30.

#### To communicate with the Tmedia Management Interface:

1. Connect an RJ45 cable from the TMG3200 to a Gigabit Ethernet switch.
2. Connect an RJ45 cable from the TMG3200 +1 to a Gigabit Ethernet switch.

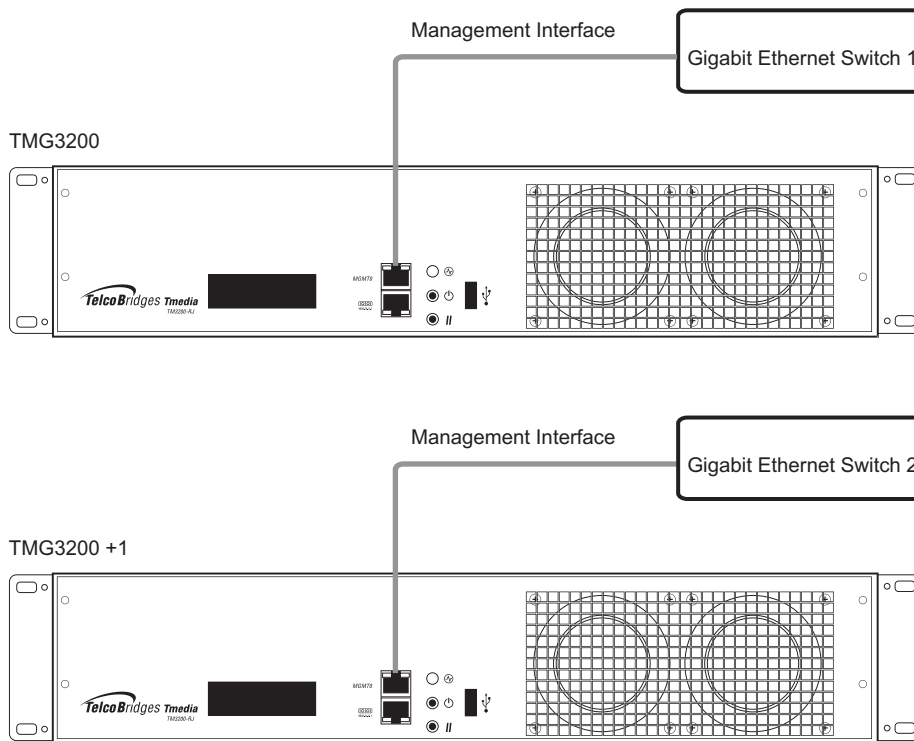


Figure 2.10 Tmedia 1+1 System Management Interface



## 2.5.2 Connecting to the Tmedia Control Network

The Tmedia Control network enables a TMG3200 to be connected to a TMG3200 +1, allowing for a sharing of system resources.

### Prerequisites

To connect the TMG3200 and TMG3200 +1 to the Tmedia control network, you will need:

- Two CAT5 Ethernet cables with RJ45 male-male terminations.

### Connections

The TMG3200 and TMG3200 +1 are connected to the Tmedia control network using two CAT5 Ethernet cables, as shown in figure 2.11 on page 31.

#### To connect to the Tmedia control network:

1. Connect the ETH0 connector on the TMG3200 to the ETH0 connector on the TMG3200 +1.
2. Connect the ETH1 connector on the TMG3200 to the ETH1 connector on the TMG3200 +1.

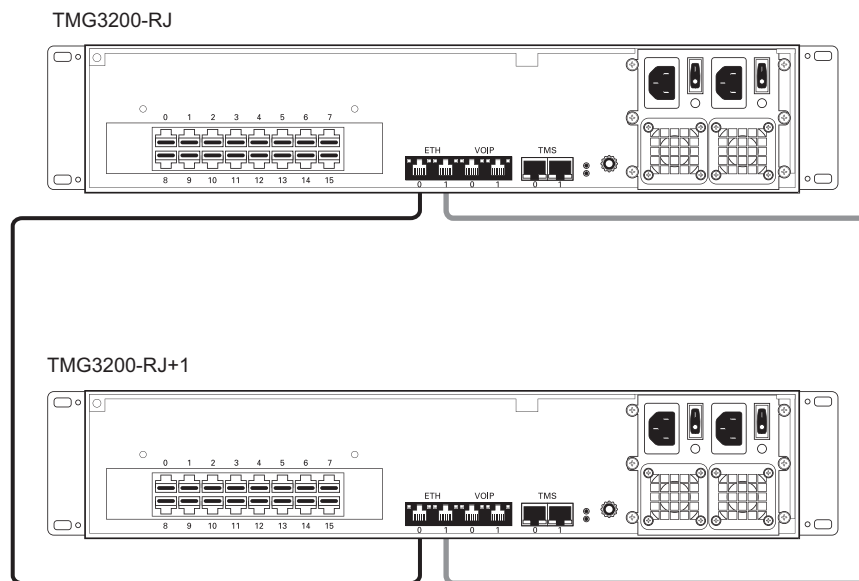


Figure 2.11 Connecting to the Tmedia Control Network



### 2.5.3 Connecting the Tmedia 1+1 System VoIP Network(s)

Each Tmedia TMG3200 and TMG3200 +1 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 Tmedia 1+1 system 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:** The TMG3200 1+1 system requires two (2) gigabit layer 2 Ethernet switches.

---

#### Prerequisites

To connect the TMG3200 and TMG3200 +1 to the VoIP network, you will need:

- Two gigabit layer 2 Ethernet switches. A second one is required to support redundancy of the VoIP interface.
- Four CAT5 Ethernet cables with RJ45 male-male terminations.
- Two IP addresses located on different subnets.

#### Connections

The TMG3200 and TMG3200 +1 are connected to the VoIP network by one or optionally two Ethernet GigE network links, as shown in figure 2.12 on page 32.

#### To connect to the VoIP network:

1. Connect the VoIP0 connector from both the TMG3200 and TMG3200 +1 to the first Ethernet switch.
2. Connect the VoIP1 connector from both the TMG3200 and TMG3200 +1 to the second Ethernet switch.

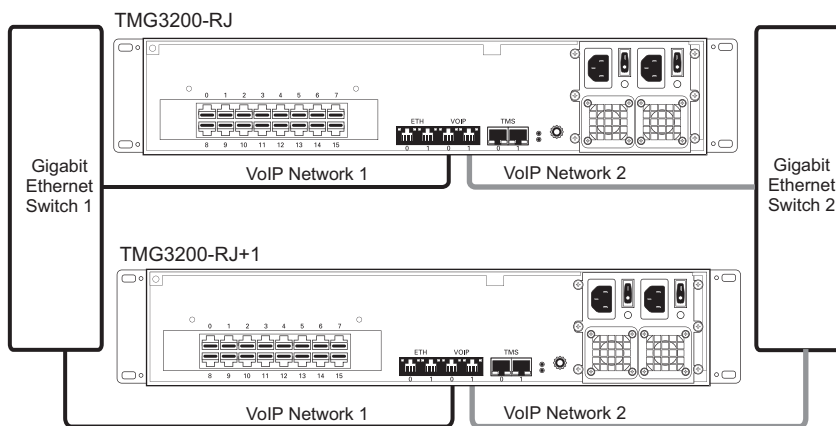


Figure 2.12 Connecting to the VoIP Network



## 2.5.4 Connecting to the PSTN in a Tmedia 1+1 System

The Tmedia 1+1 system features a variety of interfaces to the PSTN network.

### Prerequisites

To connect the Tmedia 1+1 system to the PSTN network, you must comply with one of the following:

- Your TMG3200-RJ and TMG3200-RJ+1 feature 16 modular 8-conductor RJ48C type jacks for connection to T1/E1 lines. You will need one cable for each (T1/E1) interface. If you are making your own cables, refer to Section A.1 “RJ48C Wiring Diagram: Crossover and Straight Cables” on page 64 for crossover or straight cable wiring connections.
- Your TMG3200-TE and TMG3200-TE+1 feature SCSI connectors for connection to T1/E1 lines. You will require one 1+1 patch panel for each 32 line grouping of T1/E1 line interfaces on a Tmedia 1+1 system.
- Your TMG3200-DS3 and TMG3200-DS3+1 feature BNC connectors for connection to DS3 lines. You will require two coaxial cables for each DS3 interface.
- Your TMG3200-STM1 and TMG3200-STM1+1 feature electrical or optical STM-1 connectors. You will require two fibre optic cables for each STM-1 interface.



### 2.5.4.1 RJ48C Type Interface (T1/E1) for the TMG3200-RJ and TMG3200-RJ+1

A Tmedia 1+1 system with an RJ TDM interface featuring 16 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 to 75 ohms. If you are making your own cables, refer to Section A.1 “RJ48C Wiring Diagram: Crossover and Straight Cables” on page 64 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.

Patch panels use straight connections. In other words, they do not cross the RX and TX signals. Connections between the patch panels and a Tmedia 1+1 system require straight cables. The supplied T1/E1 cables are straight cables. Cables used to connect the network to the 1+1 patch panel must do the cross connection.

---

#### To connect both the TMG3200-RJ and TMG3200-RJ+1 (RJ48C type) to the PSTN:

1. Connect T1/E1 lines 0-7 from the network section of the 1+1 patch panel to the remote equipment. See figure 2.13 on page 35.
2. Connect T1/E1 lines 0-7 from the RJ48C connectors of the TMG3200-RJ section of the 1+1 patch panel to the TMG3200-RJ.
3. Connect T1/E1 lines 0-7 from the RJ48C connectors of the TMG3200-RJ+1 section of the 1+1 patch panel to the TMG3200-RJ+1.

---

**Note:** To connect eight more lines to the TMG3200-RJ and the TMG3200-RJ+1, install another 1+1 patch panel and connect the additional eight lines to ports 8-15 on each unit.

---



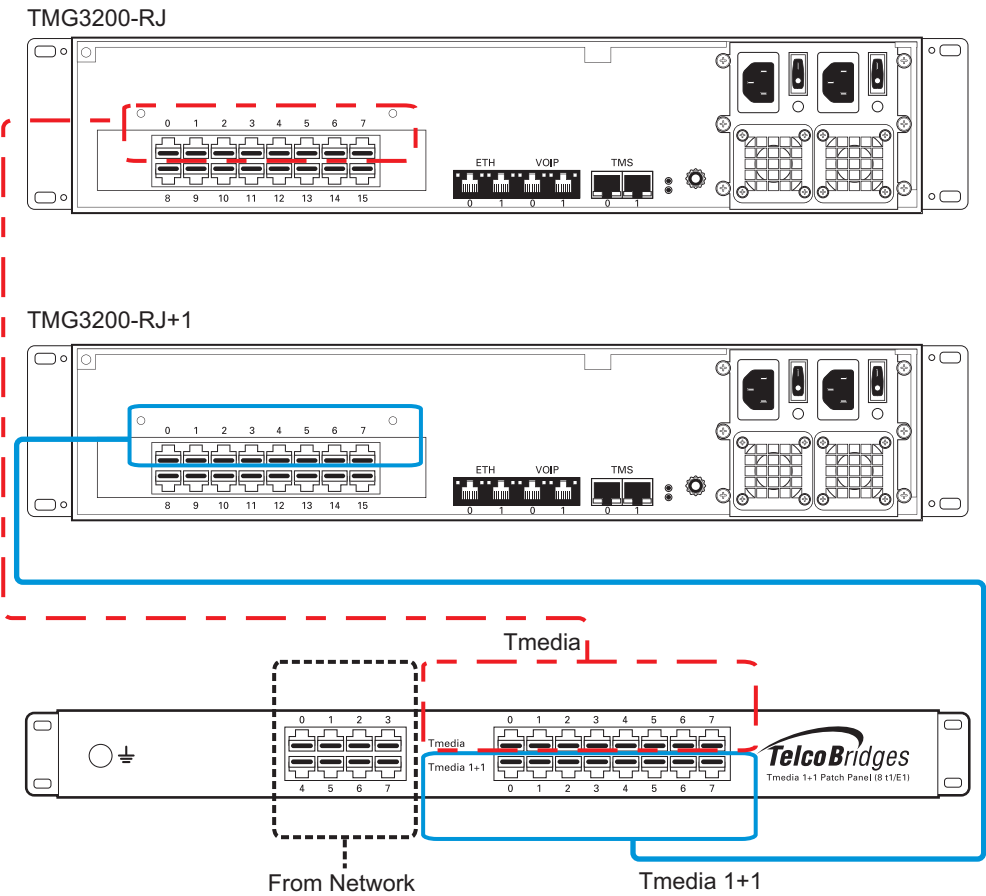


Figure 2.13 TMG3200-RJ and TMG3200-RJ+1 connecting to the TDM 1+1 8/T1/E1 1+1 patch panel



## 2.5.4.2 SCSI Interface (T1/E1) for the TMG3200-TE and TMG3200-TE+1

A TMG3200-TE and TMG3200-TE+1 each with 4 SCSI connectors enables the connection to T1/E1 lines. The termination impedance is set at 120 ohms. It is possible to connect an external balun in order to convert to 75 ohms.

---

**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.

Patch panels use straight connections. In other words, they do not cross the RX and TX signals. Connections between patch panels and Tmedia 1+1 systems requires straight cables. (The supplied SCSI cables are straight cables.) Cables that are used to connect the network to the 1+1 patch panel must make the cross connection.

---

### To connect both the TMG3200-TE and TMG3200-TE+1 (SCSI) to the PSTN:

1. Connect each T1/E1 line from the network section of the 1+1 patch panel to the remote equipment. See figure 2.14 on page 37.
2. Connect SCSI ports 0-15 from the Tmedia section at the rear of the 1+1 patch panel to the SCSI ports 0-15 of the TMG3200-TE.
3. Connect SCSI ports 16-31 from the Tmedia section at the rear of the 1+1 patch panel to the SCSI ports 16-31 of the TMG3200-TE.
4. Connect SCSI ports 0-15 from the Tmedia 1+1 section at the rear of the 1+1 patch panel to the SCSI ports 0-15 of the TMG3200-TE+1.
5. Connect SCSI ports 16-31 from the Tmedia 1+1 section at the rear of the 1+1 patch panel to the SCSI ports 16-31 of the TMG3200-TE+1.

---

**Note:** To connect 32 more lines to the TMG3200-TE and the TMG3200-TE+1, install another 1+1 patch panel and connect the additional 32 lines to ports 32-63 on each unit.

---

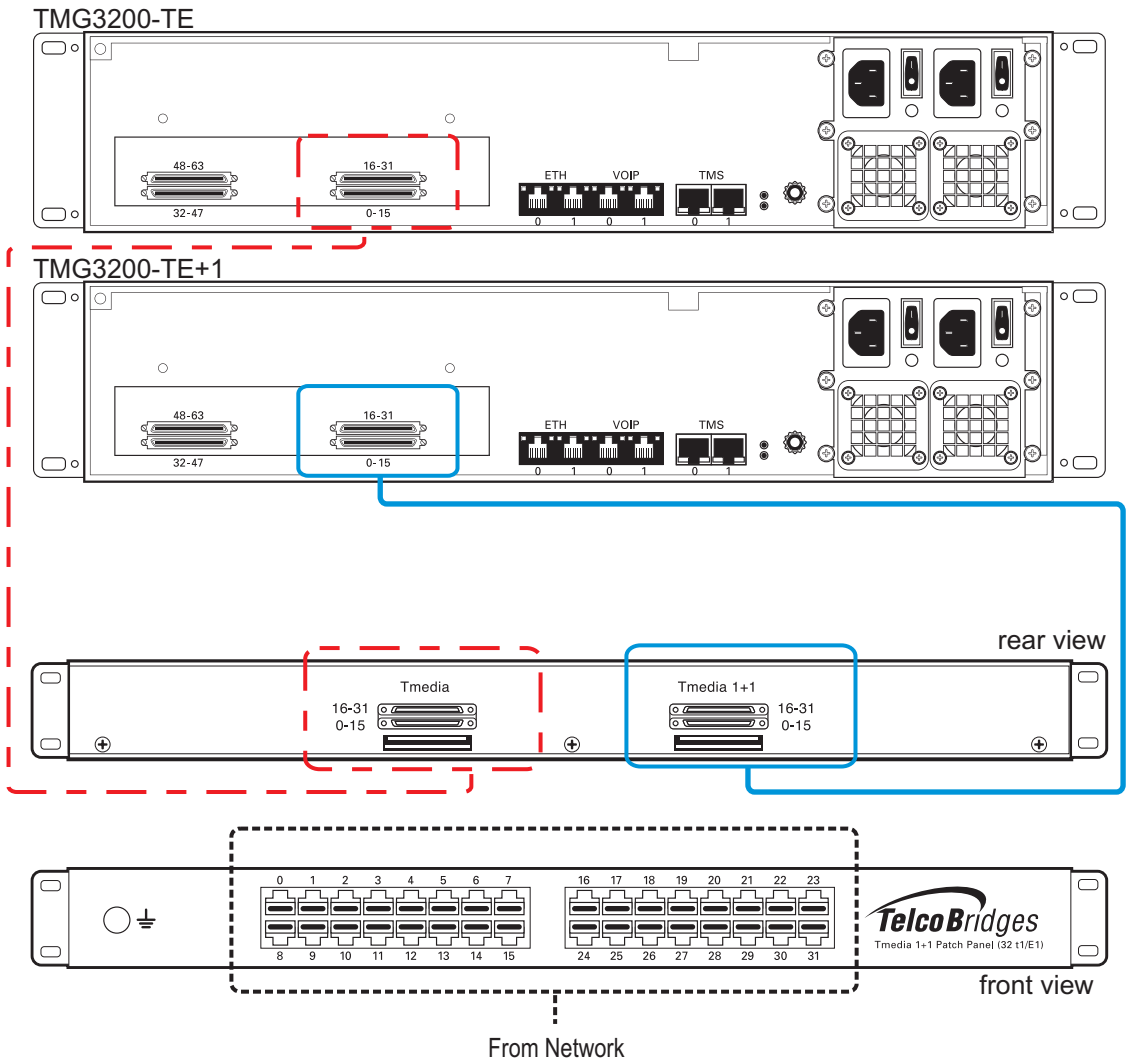


Figure 2.14 TMG3200-TE and TMG3200-TE+1 connecting to the TDM 1+1 32/T1/E1 1+1 patch panel



### 2.5.4.3 Dual BNC Interface (DS3) for the TMG3200-DS3 and TMG3200-DS3+1

A TMG3200-DS3 and TMG3200-DS3+1 each with 3 sets of BNC connectors enables the connection to DS3 lines. See figure 2.15 on page 38.

**Note** All ports may not be active. DS3 ports are activated by software license; the number of active ports depends on the licenses purchased.

Patch panels use straight connections. In other words, they do not cross the RX and TX signals. You must connect RX to RX, and TX to TX between the 1+1 patch panels and Tmedia 1+1 system. Cables used to connect the network to the 1+1 patch panel must do the cross connection.

**To connect both the TMG3200-DS3 and TMG3200-DS3+1 to the PSTN:**

1. Connect each DS3 line from the network section of the 1+1 patch panel to the remote equipment. See figure 2.15 on page 38.
2. Connect each DS3 line from the DS3 connectors of the Tmedia section of the 1+1 patch panel to the TMG3200-DS3.
3. Connect each DS3 line from the DS3 connectors of the Tmedia 1+1 section of the 1+1 patch panel to the TMG3200-DS3+1.

**Optional**

1. Connect bits port 0 and 1 from the TMG3200-DS3 to the 1+1 patch panel
2. Connect bits port 0 and 1 from the TMG3200-DS3+1 to the 1+1 patch panel

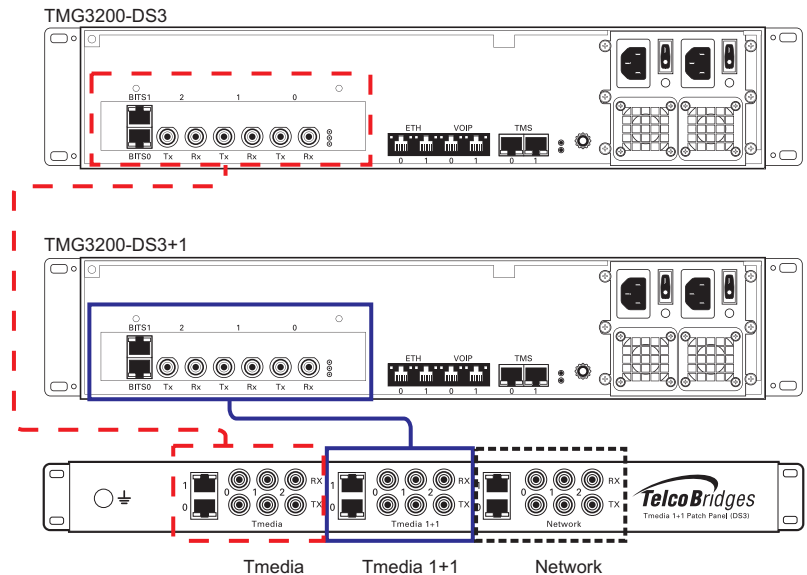


Figure 2.15 TMG3200-DS3 and TMG3200-DS3+1 connecting to the TDM 1+1 DS3 1+1 patch panel



#### 2.5.4.4 Optical Interface (OC3/STM-1)

A TMG3200-STM1 and TMG3200-STM+1, each with one main and one backup OC3 or STM1 port enables the connection to OC3/STM1 lines. See figure 2.16 on page 40. Refer to table 2.4 on page 39 for a listing of optical interfaces. The default SFP module for OC3/STM1 connection is SMF, intermediate reach, (SFP-OC3-IR1) 1310 nm with LC type connectors.

---

**Note** Make certain that the correct SFP model is selected at the time of ordering. If your installation requires a different model from the one that has been provided, you must replace it.

---

Table 2.4 Optical Interfaces

Transceiver Model	Description	Spec	Mode	Type	Range (Km.)	Wavelength (NM)	Connection
SFP-OC3-IR1	OC3/STM1	Hot Pluggable	Single-mode	Intermediate reach	15	1310	LC
SFP-STM1E	STM1E (Electrical)	Hot Pluggable	75 ohms Cooper	Max 180m	1	NA	DIN (mini-coax)

#### Automatic Protection Switching

The APS port is used for OC3/STM1 redundancy. Switchover occurs automatically based on configurable parameters. It is recommended that APS be used if the installation provides this feature.

---

**Note** Patch panels use straight connections. In other words, they do not cross the RX and TX signals. You must connect RX to RX, and TX to TX between the 1+1 patch panels and Tmedia 1+1 system. Cables used to connect the network to the 1+1 patch panel must do the cross connection.

---

#### To connect both the TMG3200-STM1 and TMG3200-STM +1 (Optical Interface) to the PSTN:

1. Connect each OC3/STM1 line of the network section of the 1+1 patch panel to the remote equipment. See figure 2.16 on page 40.
2. Connect a fiber optic cable between STM1 of the Tmedia section of the 1+1 patch panel and the main port of the TMG3200-STM1.
3. Connect a fiber optic cable between APS of the Tmedia section of the 1+1 patch panel and the APS port of the TMG3200-STM1.
4. Connect a fiber optic cable between STM1 of the Tmedia 1+1 section of the 1+1 patch panel and the main port of the TMG3200-STM1 +1.
5. Connect a fiber optic cable between APS of the Tmedia 1+1 section of the 1+1 patch panel and the APS port of the TMG3200-STM1 +1.

#### Optional

1. Connect bits port 0 and 1 from the TMG3200-STM1 to the 1+1 patch panel
2. Connect bits port 0 and 1 from the TMG3200-STM1+1 to the 1+1 patch panel

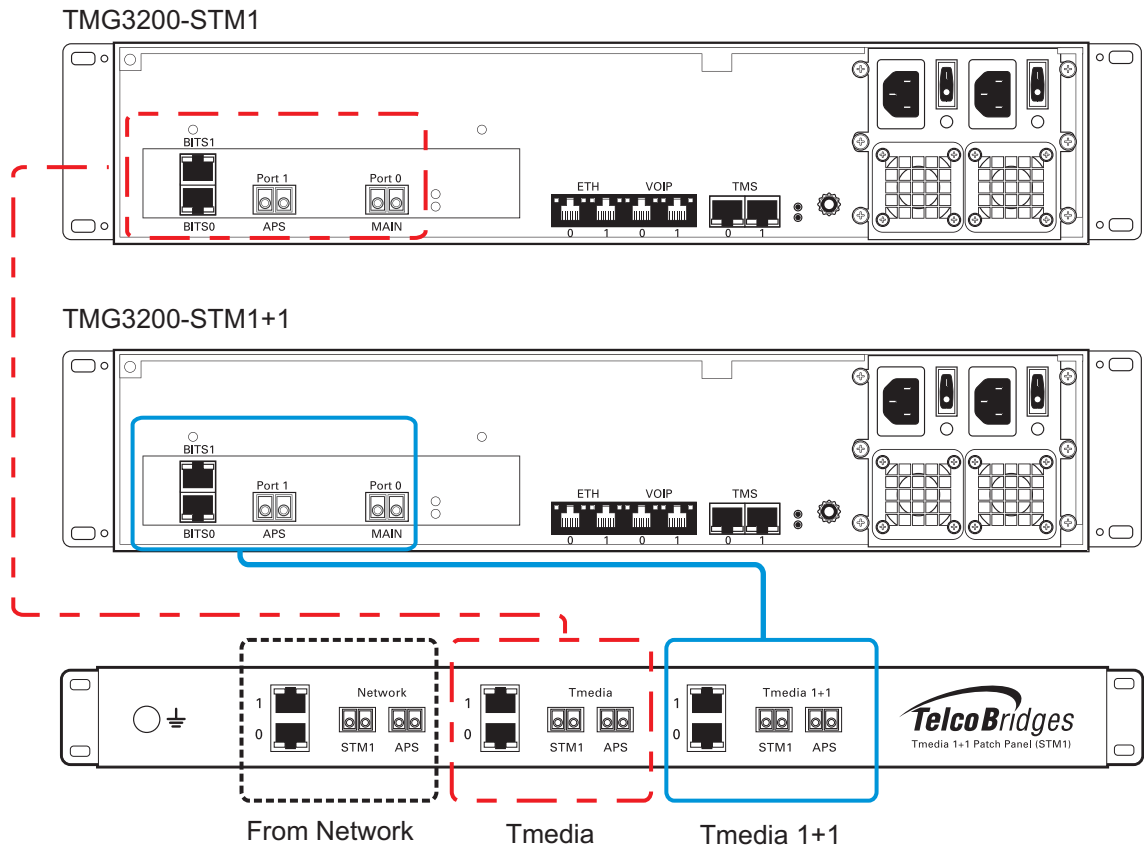


Figure 2.16 TMG3200-STM1 and TMG3200-STM1 +1 connecting to the STM1 1+1 1+1 patch panel



## 2.5.5 Powering Up

The TMG3200 and TMG3200 +1 are furnished with two (2) AC or two (2) DC power connections. Only once all other equipment installation work has been completed should the Tmedia 1+1 system be powered up.

### Prerequisites

To power the TMG3200 and TMG3200 +1, you will need:

- Two independent AC power sources.
- Two power cables for each TMG3200 and TMG3200 +1.

### 2.5.5.1 Connecting to AC Power

The TMG3200 and TMG3200 +1 AC models are furnished with two AC power connectors.

#### To connect the TMG3200 and TMG3200 +1 to AC Power:

1. Connect the first power connector of each unit to the first power source. See Figure 2.17.
2. Connect the second power connector of each unit to the second power source.

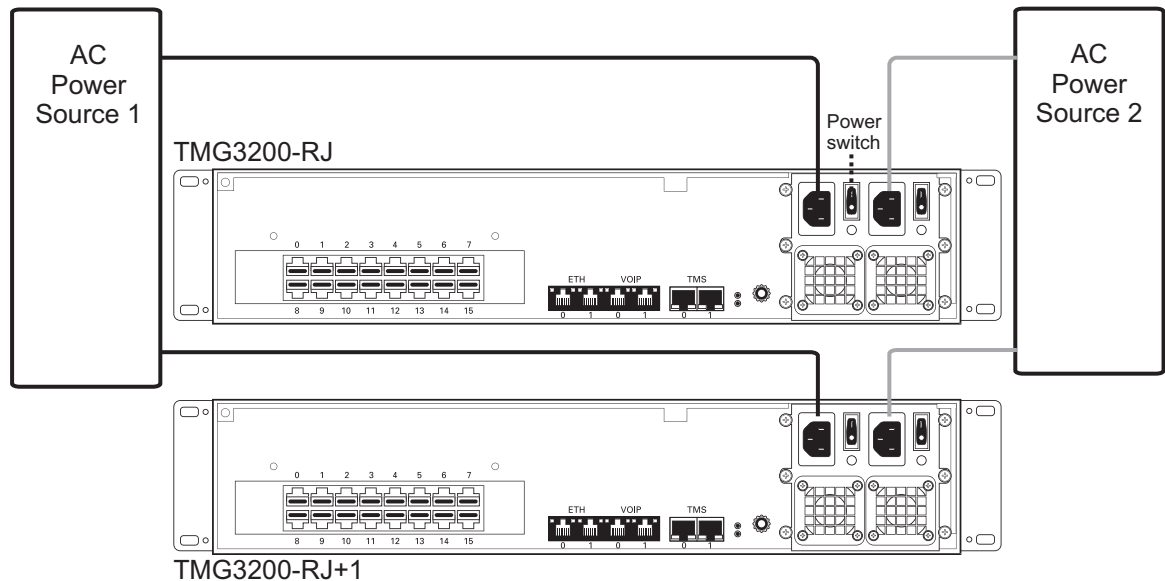


Figure 2.17 TMG3200 and TMG3200 +1 AC Power Connections



### 2.5.5.2 Connecting to DC Power

The TMG3200 and TMG3200 +1 DC models are furnished with two DC power connection ports. In addition, each DC powered TMG3200 is supplied with two DC power cables.

#### To connect the TMG3200 and TMG3200 +1 to DC Power

1. Connect the first DC power connector of the TMG3200 and TMG3200 +1 to DC power source one.
  - 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.

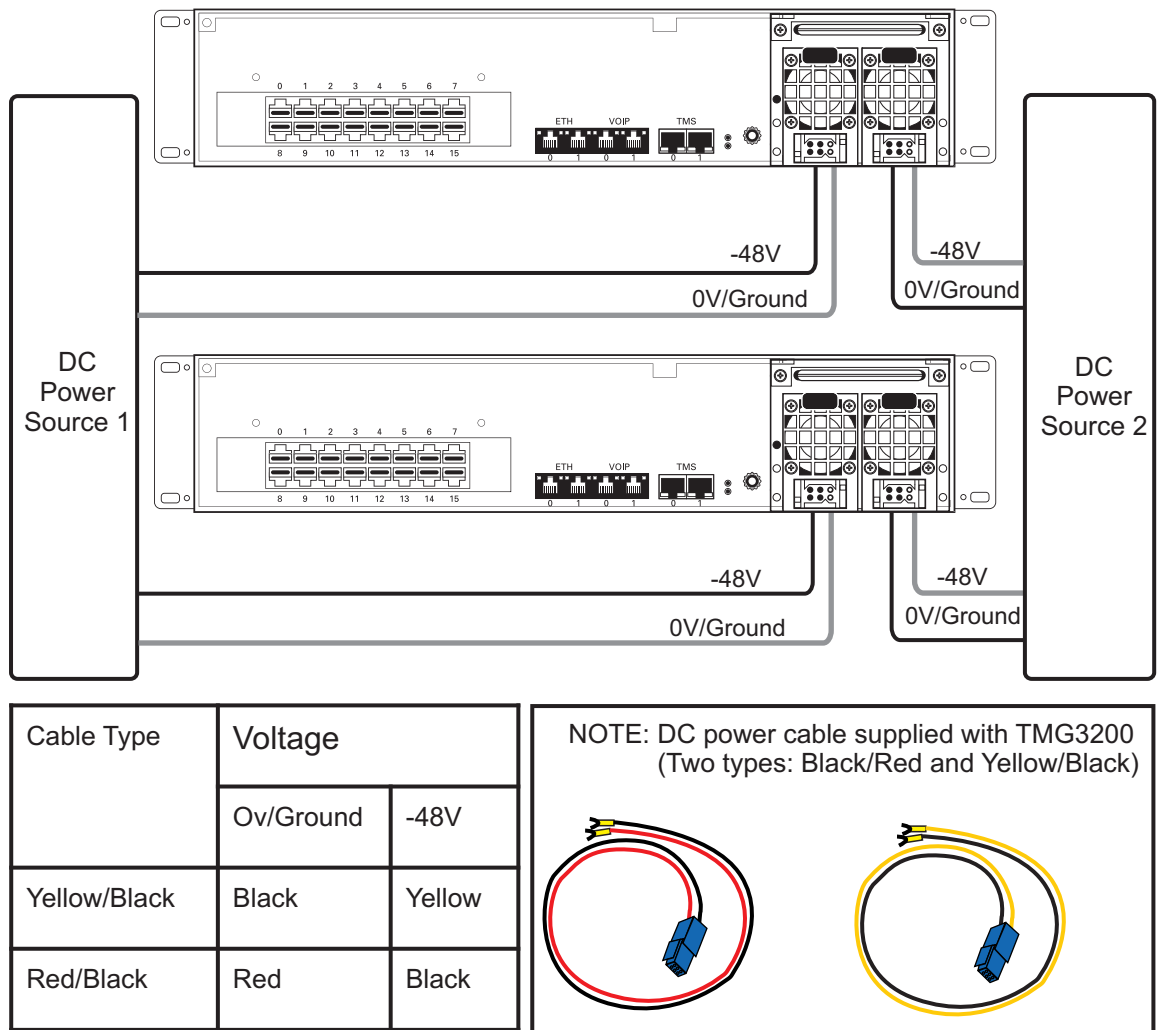


Figure 2.18 TMG3200 and TMG3200 +1 DC Power Connections



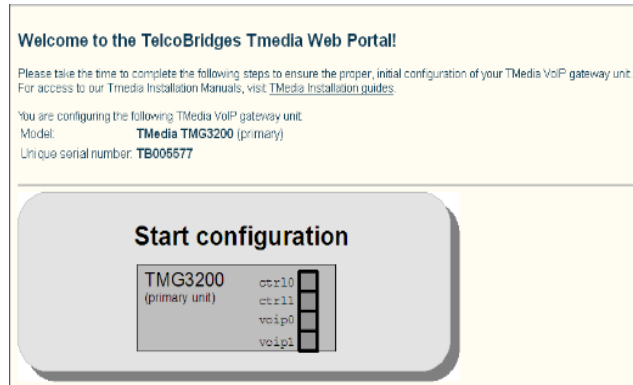


## 2.5.6 Start Up

After powering up the Tmedia 1+1 system, you must configure both units, one as primary and the other as secondary.

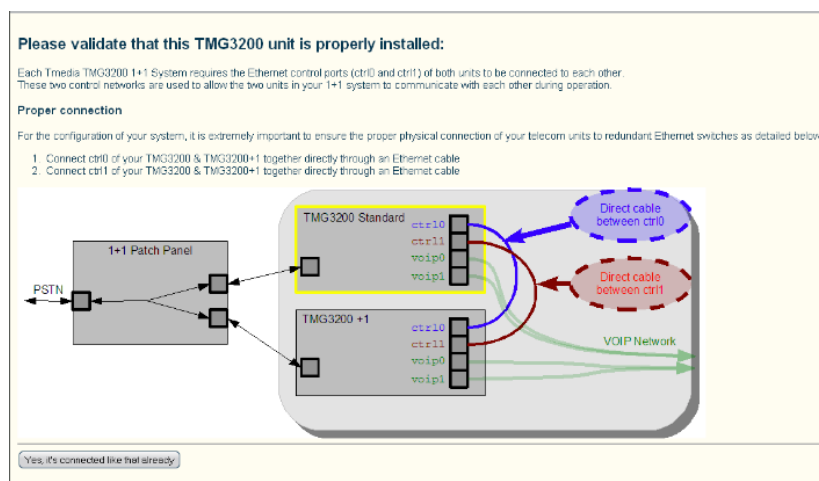
Once these configuration settings have been applied, your Tmedia VoIP Gateway will start up and display the web portal configuration management tool.

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



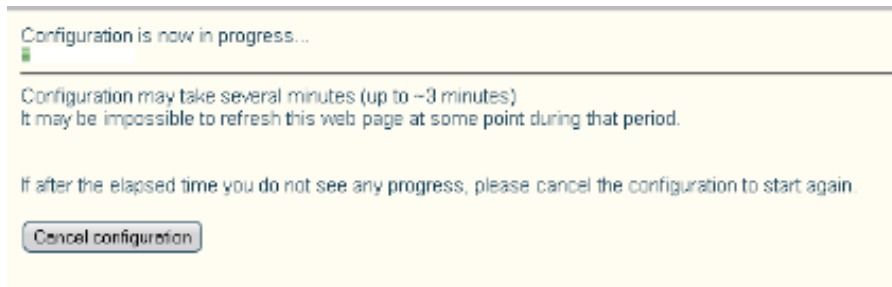
**Note:** The Welcome page indicates whether the TMG3200 is a primary or secondary unit.

2. Follow the instruction of the web portal to configure your unit as a new Tmedia 1+1 system.
3. Before clicking the **Yes, it's connected like that already**, verify that the physical connections have been properly done.





The Progress page is displayed.





## 2.6 Adding a Tmedia +1 to an Existing Standalone; Creating a 1+1 System

**Warning:** This procedure will require some system downtime.

In order to add a TMG3200 +1 to a Standalone TMG3200, you must perform the following procedures:

- Section 2.6.1 “Reconfigure a Standalone Unit as a Primary Unit in a 1+1 system”
- Section 2.6.2 “Install the TMG3200 +1 on the Equipment Rack”
- Section 2.6.3 “Install a 1+1 Patch Panel”
- Section 2.6.4 “Connect to the TMG3200 1+1 Management Interface”
- Section 2.6.5 “Connect to the Tmedia 1+1 Control Network”
- Section 2.6.6 “Connect to the VoIP Network”
- Section 2.6.7 “Connect to the PSTN Network”
- Section 2.6.8 “Power Up the Tmedia VoIP gateway”
- Section 2.6.9 “Start Up”

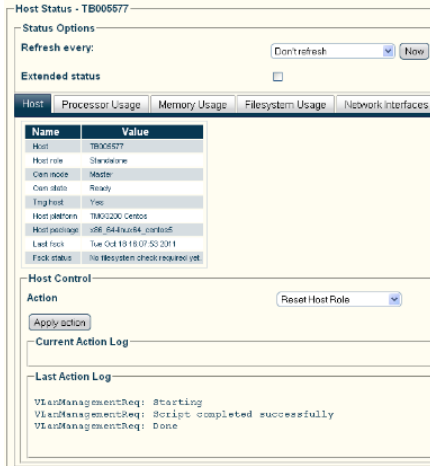
### 2.6.1 Reconfigure a Standalone Unit as a Primary Unit in a 1+1 system

1. Connect to the web portal of the Standalone TMG3200.
2. Select **Status** from the navigation panel.
3. Select the **Hosts** status tab.

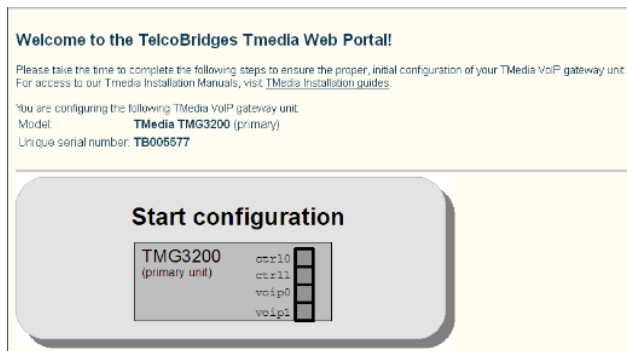
name	value
Ready cnt	1
Not ready cnt	0
Disk full cnt	0
Fack recommended cnt	0
Fack required cnt	0
Ready host list	TB005577
Not ready host list	
Disk full host list	
Fack required host list	
Fack recommended host list	



4. Select **ResetHostRole** for the action, and click **Apply Action**.



5. Reconnect to the same TMG3200. The Welcome page appears.



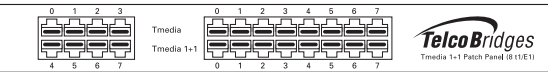
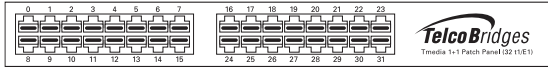
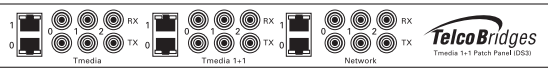
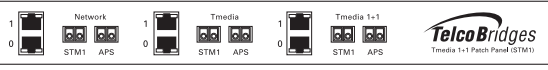
6. Follow the web portal instructions to configure your unit as a Primary Unit in a new 1+1 system.



## 2.6.2 Install the TMG3200 +1 on the Equipment Rack

The TMG3200 +1 is mounted on a customer provided equipment rack using the mounting hardware packaged in the box. Refer to Section 2.2 “Rack Mounting the Tmedia Standalone or Tmedia 1+1 System” on page 12.

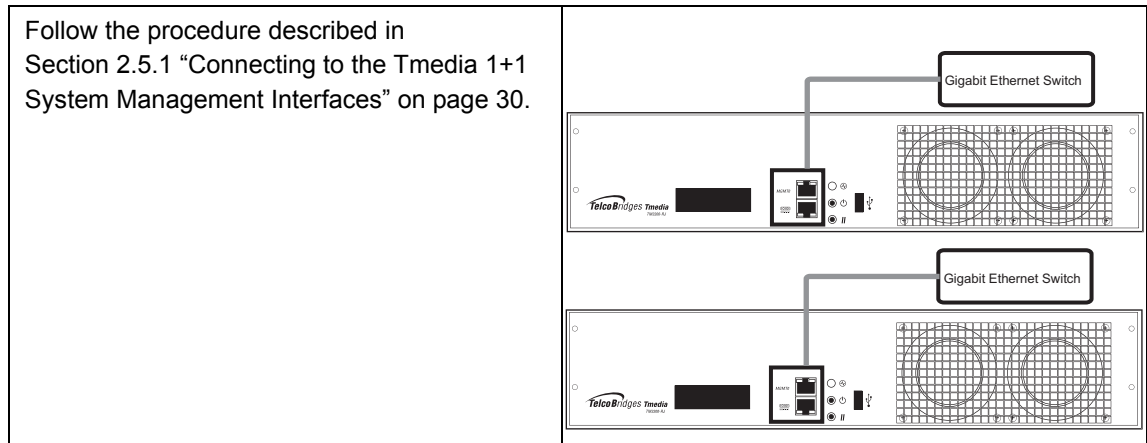
## 2.6.3 Install a 1+1 Patch Panel

<p>If your system features a TMG3200-RJ TDM interface, use a 1+1 patch panel (8/T1/E1). Refer to Section 2.5.4.1 “RJ48C Type Interface (T1/E1) for the TMG3200-RJ and TMG3200-RJ+1” on page 34.</p>	
<p>If your system features a TMG3200-TE TDM interface, use a 1+1 patch panel (32/T1/E1). Refer to Section 2.5.4.2 “SCSI Interface (T1/E1) for the TMG3200-TE and TMG3200-TE+1” on page 36.</p> <p>Note: Patch panels must be replaced by the TMG3200-TE-1+1 patch panels.</p>	
<p>If your system features a TMG3200-DS3 TDM interface, use a 1+1 patch panel (DS3). Refer to Section 2.5.4.3 “Dual BNC Interface (DS3) for the TMG3200-DS3 and TMG3200-DS3+1” on page 38.</p>	
<p>If your system features a TMG3200-STM1 TDM interface, use a 1+1 patch panel (STM1). Refer to Section 2.5.4.4 “Optical Interface (OC3/STM-1)” on page 39.</p>	



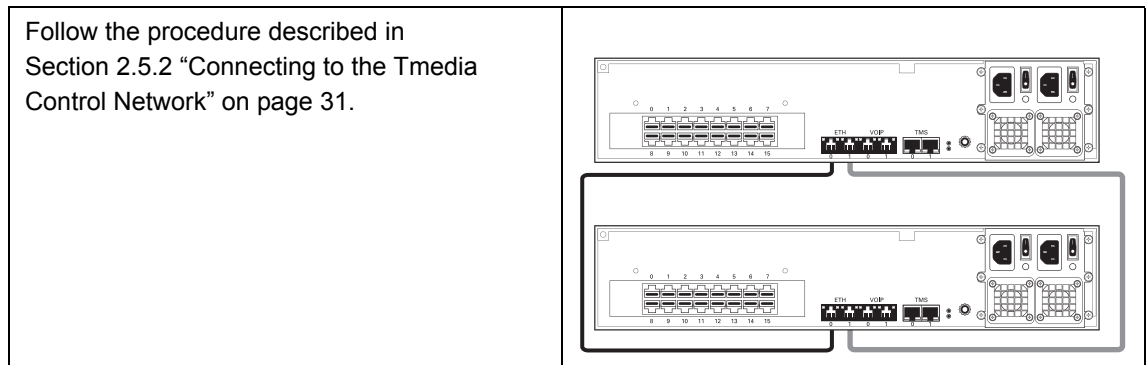
## 2.6.4 Connect to the TMG3200 1+1 Management Interface

The Tmedia Management interface enables administrators to perform management tasks on a Tmedia VoIP Gateway.



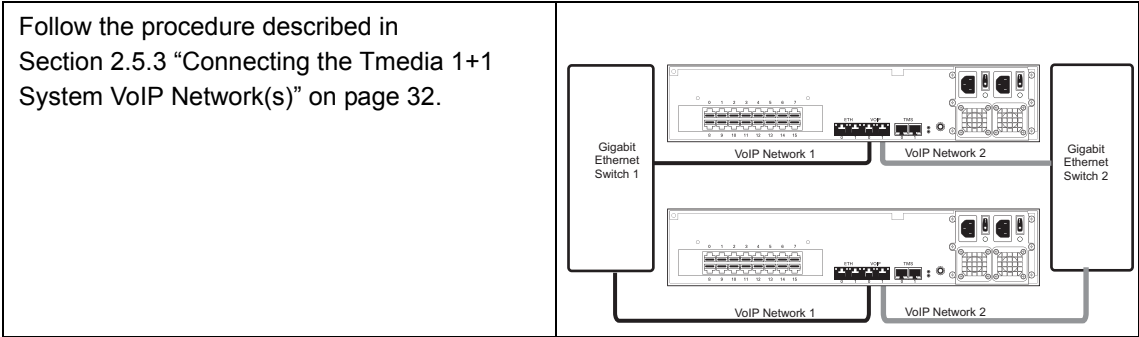
## 2.6.5 Connect to the Tmedia 1+1 Control Network

The Tmedia Control network permits a TMG3200 to be connected to a TMG3200 +1, thereby enabling a sharing of system resources.



## 2.6.6 Connect to the VoIP Network

The Tmedia 1+1 system 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 Tmedia 1+1 system will continue to manage VoIP traffic using the alternate network.



### 2.6.7 Connect to the PSTN Network

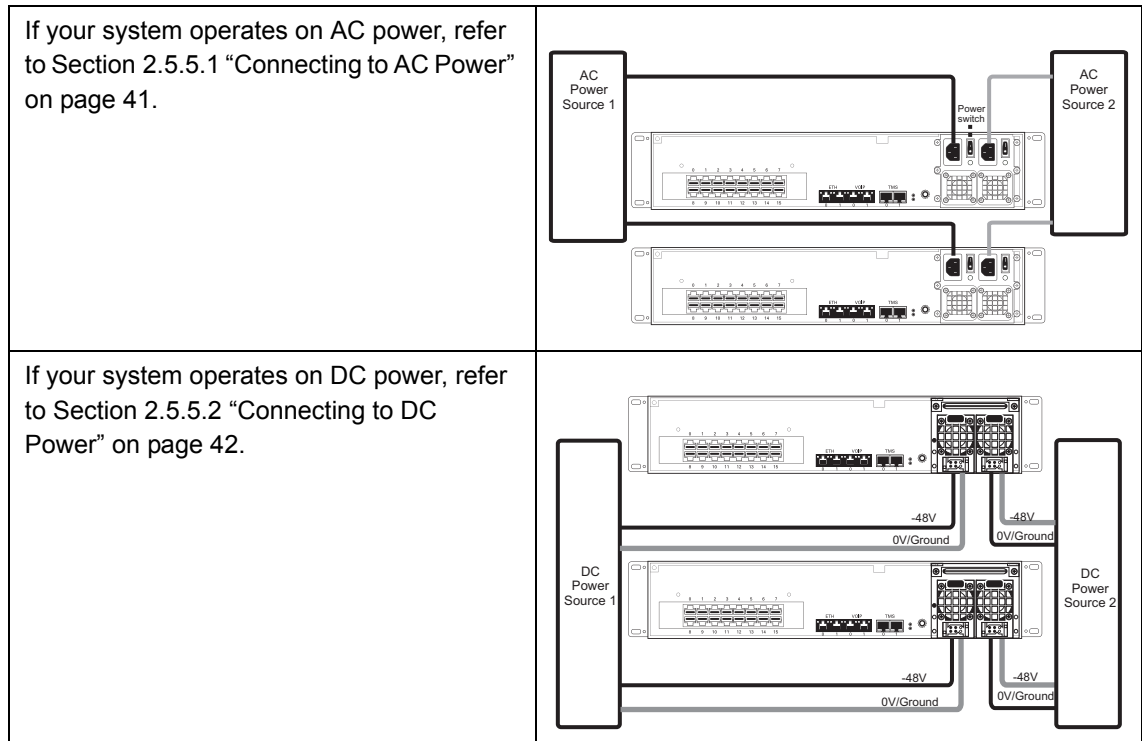
Tmedia VoIP gateways feature a variety of interfaces to the PSTN network.

<p>If your system features a TMG3200-RJ TDM interface, refer to Section 2.5.4.1 “RJ48C Type Interface (T1/E1) for the TMG3200-RJ and TMG3200-RJ+1” on page 34.</p>	
<p>If your system features a TMG3200-TE TDM interface, refer to Section 2.5.4.2 “SCSI Interface (T1/E1) for the TMG3200-TE and TMG3200-TE+1” on page 36.</p> <p><b>Patch panels must be replaced by the 1+1 patch panel.</b></p>	
<p>If your system features a TMG3200-DS3 TDM interface, refer to Section 2.5.4.3 “Dual BNC Interface (DS3) for the TMG3200-DS3 and TMG3200-DS3+1” on page 38.</p>	
<p>If your system features a TMG3200-STM1 TDM interface, refer to Section 2.5.4.4 “Optical Interface (OC3/STM-1)” on page 39.</p>	



## 2.6.8 Power Up the Tmedia VoIP gateway

Tmedia VoIP gateways are furnished with either two AC or DC power connections. Only once all other equipment installation work has been completed should the Tmedia 1+1 system be powered up.

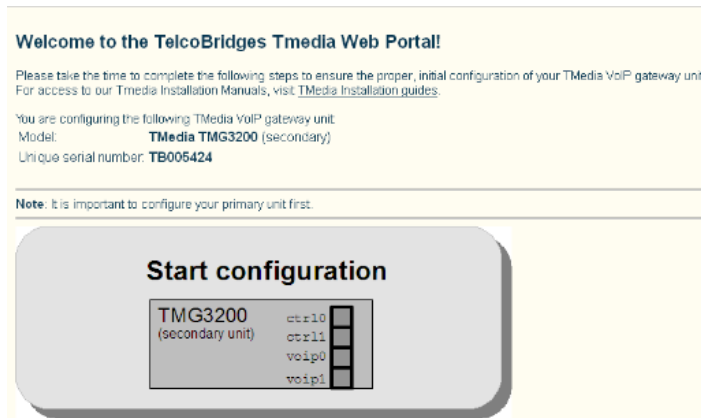






## 2.6.9 Start Up

1. Connect to the web portal of the Tmedia 1+1. The Welcome page appears.



2. Follow the web portal instructions to configure your unit as a Secondary Unit in a new 1+1 system.
3. Before clicking the “**yes, it is connected like that already**” button, make sure that the physical connections have been properly done.

## 2.7 Verifying the LED Status Indications

When the Tmedia VoIP gateway has been powered up, verify the front panel of the unit to determine that all indications are normal.

Once the Tmedia VoIP gateway has run successfully through its system boot procedures, the following will be displayed in an alternating fashion as described in table 2.5 on page 52:

Table 2.5 Tmedia VoIP Gateway system Displays

Display Order	Display
First Screen	IP 0: <ip address of eth0. E.g. 192.168.0.2>  IP 1: <ip address of eth1 E.g. 192.168.0.3>
Second Screen	<board type.. eg. TMP-STM1, TMS-16, TMP-DS3, TMP-16, TMP-32, TMP-64>  <adapter name e.g. TB002821>  <serial number e.g. TB002821>  <release used e.g V2.2.0 RC1>

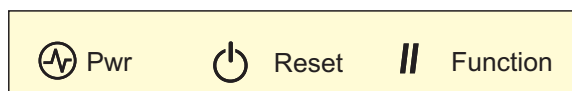
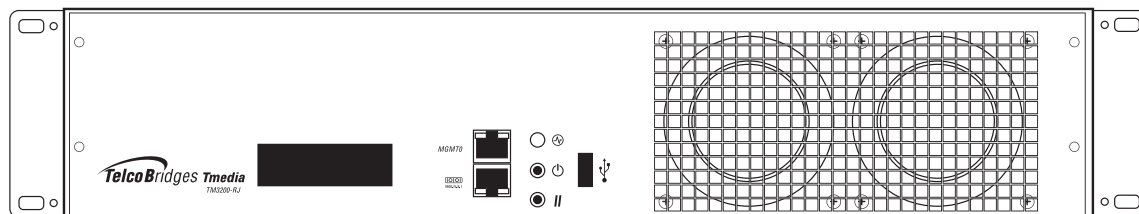


Figure 2.19 Front display and LEDs

If the reset button is pressed a software menu will appear on the display at the front of the unit. Press the function button to select one of the three actions listed in table 2.6 on page 53. Once your selection is made, press the reset button to acknowledge your choice.



Table 2.6 Reset Menu Options

Menu Choices	Description
M   Options:	
e   >Shutdown	Graceful shutdown of the Tmedia VoIP gateway. This takes a few minutes. Press the reset button to restart the Tmedia VoIP gateway.
n   Rst telecom	Reboots the telecom platform of the Tmedia VoIP gateway.
u   Rst host	Reboots the linux host of the Tmedia VoIP gateway.



## 2.8 Powering Down

Powering down the Tmedia VoIP gateway 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 Tmedia VoIP gateway 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 Tmedia VoIP gateway (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 2.7 “Verifying the LED Status Indications” on page 52, to power down the Tmedia VoIP gateway with the reset button.

---

# Chapter 3 Initial System Configuration

This chapter provides information about the following topics:

- Section 3.1 “Connecting to the Serial Port of the Tmedia VoIP Gateway”
- Section 3.2 “Configuring the Terminal Emulator Application”
- Section 3.3 “Connecting to the Tmedia VoIP Gateway”
- Section 3.4 “Retrieving Tmedia VoIP Gateway Information”
- Section 3.5 “Changing the Tmedia VoIP Gateway Management Port IP Address”
- Section 3.5 “Changing the Tmedia VoIP Gateway Management Port IP Address”
- Section 3.7 “Setting the Time Zone”
- Section 3.8 “Configuring the Tmedia VoIP Gateway Using the Web Portal”
- Section 3.9 “Changing VoIP Interface Addresses”

## 3.1 Connecting to the Serial Port of the Tmedia VoIP Gateway

**Note** By default, the management port is set to DHCP.

Sections 3.1 and 3.2 provide instructions on how to convert the DHCP management port to a static IP address. If your network supports DHCP, skip sections 3.1 and 3.2.

The serial port interface enables administrators to perform management tasks on the Tmedia VoIP gateway.

### To connect to the serial port of a Tmedia VoIP gateway:

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 Tmedia VoIP gateway as shown in figure 3.1 on page 56. See Section A.2 on page 93 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 Tmedia VoIP gateway. 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 56.

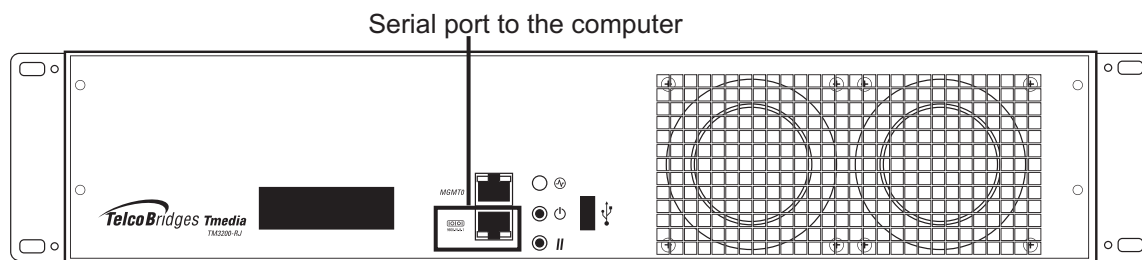


Figure 3.1 Computer to Tmedia VoIP Gateway Serial Port Connection

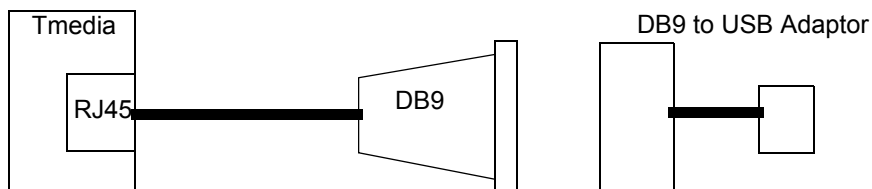


Figure 3.2 Conceptual View of a Serial Connection from the Tmedia VoIP Gateway to a Computer

## 3.2 Configuring the Terminal Emulator Application

Before communicating with the Tmedia Management Interface, you must first configure a terminal emulator or console application to communicate with the Tmedia VoIP gateway 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 3.5 on page 58 to learn how to change the IP address of the MGMT0 port.

---

## 3.3 Connecting to the Tmedia VoIP Gateway

The Tmedia VoIP Gateway 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 Tmedia VoIP Gateway to a terminal.

To access the Tmedia VoIP Gateway, you must use an SSH connection. The password is set at the factory and is indicated on the shipment sheet.

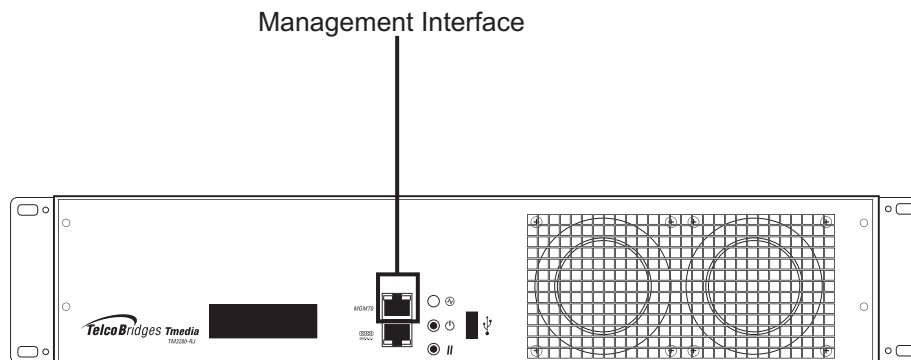


Figure 3.3 Tmedia Management Interface



## 3.4 Retrieving Tmedia VoIP Gateway Information

---

**Note** The Tmedia VoIP gateway enables you to retrieve system information with the following shell commands:

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

---

The Tmedia VoIP Gateway 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](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](http://docs.telcobridges.com/mediawiki/index.php/TMG:Get_Serial_Number), for further information.

## 3.5 Changing the Tmedia VoIP Gateway Management Port IP Address

---

**Note** The following procedure must be performed on the Tmedia Standalone or the Tmedia 1+1 system.

---

The management port of the Tmedia VoIP Gateway (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](http://docs.telcobridges.com/mediawiki/index.php/TMG:Change_Management_IP_Address), for further information.

## 3.6 Changing Tmedia VoIP Gateway Management Port Passwords

---

**Note** The following procedure must be performed on Tmedia Standalone or the Tmedia 1+1 system.

---

Once logged you are logged on to the Tmedia VoIP Gateway, 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.
```





## 3.7 Setting the Time Zone

---

**Note** The following procedure must be performed on Tmedia Standalone or the Tmedia 1+1 system.

---

You can change the time zone of the Tmedia VoIP Gateway using the *tbtimezone* shell command.

## 3.8 Configuring the Tmedia VoIP Gateway Using the Web Portal

---

**Note:** The first time that you connect to the web portal, you will need to configure the role of the TMG3200.

If your system features a TMG3200 standalone unit, refer to Section 2.4.5 “Start Up” on page 27.

If your system features a TMG3200 working in conjunction with a TMG3200 +1, refer to Section 2.5.6 “Start Up” on page 43.

---

To change the default configuration of a Tmedia VoIP Gateway using the Web Portal, follow the steps described in the Web Portal System Configuration Tutorial Guide, found on the TBWiki:

<http://docs.telcobridges.com>

The Web Portal can be accessed with a Web browser. The default url is: `http://[Tmedia MGMT0 IP address]:12358`

---

**Note** A TMG3200 and TMG3200 +1 system can access the Web Portal from either one of their IP addresses.

---

The default login information to access the Web Portal application is:

- Username: root
- Password: root

## 3.9 Changing VoIP Interface Addresses

The default address of the VoIP interfaces of the Tmedia VoIP Gateway can be modified. To learn how this is done, refer to the Web Portal tutorial guide on the Telcobridges TB Wiki at [docs.telcobridges.com](http://docs.telcobridges.com).

---

**Note** With regard to sections 3.2, 3.3, 3.4 3.5, 3.6 or 3.7, please vistis the TBWiki at: <http://docs.telcobridges.com>

---





# 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 Tmedia VoIP gateway. 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 Tmedia VoIP Gateway.

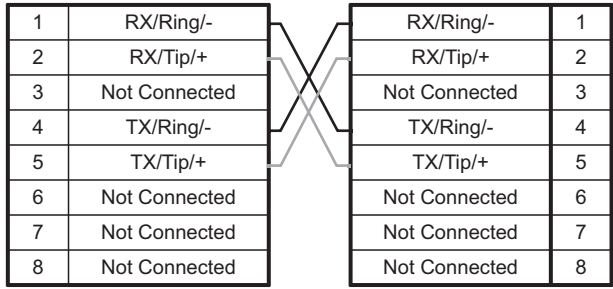
## 4.4 Restoring a Database Backup

In the event of a system failure requiring the replacement of a Tmedia VoIP gateway, a previously saved backup of system settings can be restored to the new unit.

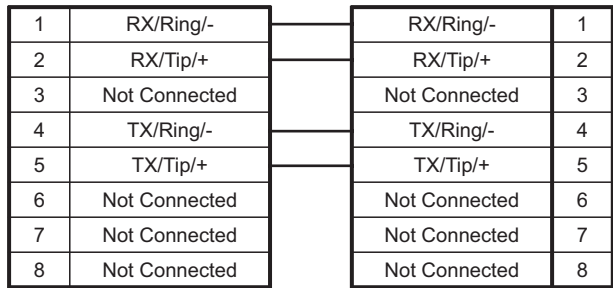
# Appendix A Wiring Diagrams

## A.1 RJ48C Wiring Diagram: Crossover and Straight Cables

RJ48C (T1/E1) Wiring Schematic: Crossover Cable



RJ48C (T1/E1) Wiring Schematic: Straight Cable



## A.2 RJ48 Console Wiring Diagram

