GX Gateway

Hardware Installation Guide

March 23, 2020

Mitel®

Notice

Trademarks

Table of Contents

SafetyRecommendationsand Information 5
Danger, Warning, Caution, and Note Definitions 5
Electrical Safety Guidelines 5
General Safety Practices 7
Electrostatic Discharge Prevention 8
Translated Warning Definition 8

Requirements 10
Location Requirements 10
Wiring Guidelines 11
Mitel GX Gateway Characteristics 11

Getting Started 12
Installation Check List 12
Package Check List 13
Cleaning Instructions 13
Mounting Tools andEquipment 13
Connectors and Indicators 14

Installing the Mitel GX Gateway 18
Installing the Unit on a Flat Surface 19
Connecting the Telephony Cables 19
Connecting the Mitel GX Gateway Using a DHCP Server 20
Connecting the Mitel GX Gateway Using a Static IP Address 21
Verifyng the Installation 22

Cables 23
Gigabit Ethernet Connection(RJ-45) 23
PRI Connection (RJ-48) 24
FXS and FXO Connections (RJ-11) 25

Troubleshooting 26
Locating the Product Serial Number 26
Troubleshooting 27
LED Patterns 27
RESET/DEFAULT Button 28
Partial Reset 29
Performing a Partial Reset 31
Disabling the Rescue Interface 31
Factory Reset 32
Performing a Factory Reset 32
Standards Compliance and Disclaimers 33
Supported Standards 33
Federal Communications Commission (FCC) Disclaimer 34
Innovation, Science and Economic Development Canada (ISED) Disclaimer 35
CE Marking 35
RoHS China 35
Other Disclaimers 36
FXO Card - Standards of Compliance and Disclaimers 37
FXO Card - Supported Standards 37
FXO Card - Federal Communications Commission (FCC) Disclaimer 37
FXO Card - Innovation, Science and Economic Development Canada (ISED) Disclaimer 38
PRI/T1/E1/J1 Card - Standards Compliance and Disclaimers 39
PRI/T1/E1/J1 - Card Supported Standards 39
PRI/T1/E1/J1 Card - Federal Communications Commission (FCC) Disclaimer 39
PRI/T1/E1/J1 Card - Innovation, Science and Economic Development Canada (ISED) Disclaimer 40
Product Disposal Instructions 40

Safety Recommendations and Information

Danger, Warning, Caution, and Note Definitions

Danger: Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

Warning: Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Caution: Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury or damage to property or equipment.

Note: Indicates important information not related to personal injury.

Electrical Safety Guidelines

Danger: Do not work on the Mitel GX Gateway, connect or disconnect its cables during periods of lightning.

Danger: Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

Warning: The earth ground cable must be firmly and securely connected to the grounding screw on the back of the Mitel GX Gateway and an appropriate grounding point in your site: the earth ground cable must remain tightly secured at all times during service and installation.

Warning: Disconnect all interface cables (including PRI, FXS, and FXO) before unplugging any power sources from the Mitel GX Gateway.

Warning: Disconnect all interface cables (including PRI, FXS, and FXO) as well as all power sources connected to the Mitel GX Gateway before servicing the unit.

Warning: This equipment must be installed and maintained by service personnel. Incorrectly connecting this equipment to a general-purpose outlet could be hazardous.

Warning: This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15 A U.S. (240 VAC, 10 A international) is used on the phase conductors (all current-carrying conductors).

Warning: The unit must be grounded at all times when in use.

Warning: The earth ground connection between the grounding screw on the back of the Mitel GX Gateway and an appropriate grounding point in your site must always be made first and disconnected last.

Warning: Do not connect the ETH2, ETH1, LAN, and FXS connectors directly to the Public Switched Telephone Network (PSTN), to an off premise application, an out of plant application, any exposed plant application, or to any equipment other than the intended application, connection may result in a safety hazard, and/or defective operation and/or equipment damage. Exposed plant means where any portion of the circuit is subject to accidental contact with electric lighting or power conductors operating at a voltage exceeding 300 V between conductors or is subject to lightning strikes.

Warning: The Mitel GX Gateway must be installed on a circuit equipped with a breaker so that you can easily power the unit off if required.

Warning: Hazardous network voltages may be present in PRI and FXO cables. Always disconnect the cables from the Mitel GX Gateway first to avoid possible electric shock. Network hazardous voltages may be present on the device in the area of the PRI and FXO port, even when power is turned OFF.

Warning: Adequate earth ground connection of the Mitel GX Gateway is mandatory to avoid any damage or injuries.

Warning: Hazardous network voltages might be present in WAN, LAN, Sync, and telephony port connectors regardless of whether power to the device is OFF or ON. Use caution when working near these connectors to avoid electric shocks.

Warning: The socket outlet, if used, shall be located near the equipment and shall be easily accessible by the user. The AC adaptor inlet is considered as a disconnection device. The device must be readily operational.

Caution: To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cords.

Caution: The RJ-11 cable should comply with UL 1863 and CSA C22.2 No 233 standards.

General Safety Practices

Warning: Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.

Warning: Do not expose the unit to rain or moisture to avoid any shock hazard. 

Warning: Do not use the telephone to report a gas leak in the vicinity of the leak. 

Warning: Do not get this product wet or pour liquids into it.

Warning: Ultimate disposal of this product should be handled according to all national laws and regulations.

Caution: If the unit is installed in a closed environment or on a multi-unit rack, the ambient temperature of the environment next to the Mitel unit may become greater than the maximum operating temperature recommended by Mitel for the use of its units, i.e. 40ºC. The Mitel GX Gateway should never be used to temperatures greater than the recommended maximum operating temperature. Any damage occurring in such environmental conditions will void the warranty.

- Keep your Mitel GX Gateway clear and dust-free during and after installation.
- Locate the emergency power-off switch for the room in which you are working. Then, if an electrical accident occurs, you can act quickly to turn off the power.
- Do not work alone if potentially hazardous conditions exist.
- Never assume that power is disconnected from a circuit. Always check.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Do not open or disassemble this product.
- The unit should be located at 20 cm from your monitor, computer casing or other peripheral including speakers.
- When the unit is brought from a cold to a warm environment, condensation, that might be harmful to the unit, may occur. If this is the case, wait one hour before powering the unit.

Electrostatic Discharge Prevention

- When working on a Mitel GX Gateway, always wear an ESD wrist strap, ensuring that it makes a good contact with your bare skin.
- Attach the ESD wrist strap end to an earth ground i.e. the grounding screw on the back of the Mitel GX Gateway or on an unpainted bare metal spot of a grounded equipment rack.

Translated Warning Definition

Warning: Means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and familiar with standard practices for preventing accidents.

Attentie: Dit waarschuwingssymbool betekent gevaar. U overtreat in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen.

Varoitus: Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista.

Averrtissement: Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents.

Warnung: Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt.

Avvertenza: Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti.

Advarsel: Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du vare oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker.

Aviso: Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize- se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes.

Aviso: Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes.

Varning - risk för maskinskada: Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador.

Requirements

Location Requirements

To avoid premature aging of the unit, ensure user security and facilitate access, upgrades and maintenance, the following guidelines must be followed.

- Install the Mitel GX Gateway:
  - on a standard 48.26 cm (19 in.) equipment rack
  - on a flat surface (desk, table, etc.)
- Install the Mitel GX Gateway in a well-ventilated location where it will not be exposed to high temperatures or humidity.
  - Storage temperature: -
  - ºC to +70ºC
  - Operating temperature: 0ºC to +40ºC

    Caution: If the unit is installed in a closed environment or on a multi-unit rack, the ambient temperature of the environment next to the Mitel unit may become greater than the maximum operating temperature recommended by Mitel for the use of its units, i.e. 40ºC. The Mitel GX Gateway should never be used to temperatures greater than the recommended maximum operating temperature. Any damage occurring in such environmental conditions will void the warranty.
  - Humidity lower than 85% and non-condensing
- Do not install the Mitel GX Gateway in a location exposed to direct sunlight or near stoves or radiators. Excessive heat could damage the internal components.
- Unit should be positioned to be accessible for future upgrade, maintenance and troubleshooting and where cables can be easily connected.
- Maintain a minimum of 25 mm (1 in.) clearance in front, in the back, on top, under (for rack mounted units), and on the sides of the unit.
- Keep airflow around and through the vents of the unit clear of any obstruction.
- Do not put books or paper on the unit.

Wiring Guidelines

These guidelines apply for any cable, supplied or not, used with a Mitel GX Gateway.

- Always use straight through cables.
- Cables must not pull or create a lateral stress on the connectors, i.e. they must be long enough.
- Cables must be installed in such a way not to present a trip hazard to personnel working in the vicinity of the equipment.
- Keep cables away from:
  - Sources of electrical noise such as radios, transmitters, and broadband amplifiers
  - Power lines
  - Fluorescent lighting fixtures
  - Liquids or moisture
  - Heat sources

Mitel GX Gateway Characteristics

Parameter	Description
Dimensions	• Height: 4.4 cm (1.75 in.) • Width: 48.3 cm (19 in.) • Depth: 19.5 cm (7.5 in.)
Weight	• 3 kg (7lb)
Power consumption	• 100 Vac -240Vac • 50 Hz/60 Hz 1.3 A

Getting Started

Installation Check List

Task	Verified by	Date
Network information available and recorded in site log.		
Location requirements verified.		
Site power Voltage.		
Installation site pre-power check completed.		
Mounting tools and equipment available.		
Additional equipment available.		
Mitel GX Gateway received.		
Regulatory compliance and safety information received.		
Software version verified		
Rack, desktop mounting of chassis completed.		
Initial electrical connections established.		
Cable length limits verified.		
Initial configuration performed.		
Initial operation verified.		

Package Check List

Item	Condition
1 Mitel GX Gateway	
1 power cord with the proper model for the country	
1 Bumpon kit for desktop use	
1 printed flyer	
1 black RJ-45 cable for each PRI and BRI port	
1 grey Ethernet RJ-45 cable	

Cleaning Instructions

To clean a Mitel GX Gateway, wipe with a soft dry cloth.

Caution: Do not use volatile liquids such as benzene and thinner as they can damage the unit's casing. For resistant markings, wet a cloth with a mild detergent, wring well and then wipe off. Use a dry cloth to dry the surface.

Mounting Tools and Equipment

Tools

- Screwdriver as required for attaching brackets to rack
- ESD wrist strap
- Earth ground cable

Warning: The earth ground cable should be the same size (18 AWG minimum) as the earth cable of the provided power cord. Otherwise, make sure the earth ground cable meets the standards and requirements of your local electrical code. The type of the cable is likely to have VW-1 or RT1 markings on the cable.

Equipement

- RJ-45 cables for the WAN and LAN connections
- RJ-45 cable for PRI and BRI connections
- RJ-11 cable for telephony connections

Connectors and Indicators

Note: The Mitel GX Gateway is highly customizable in the sense that it may have one or several types of cards, or none. Therefore the following images may not exactly represent your Mitel GX Gateway.

LEDs

#	LED	Behavior	Condition
1	Unit with Power 1 connector only	Green, blinking, 1 cycle per second, 50% duty	Unit is being restarted
		Green, steady ON	Unit is restarted
		OFF	No current or failing power supply
2	Ready	Green, steady ON	All lines are enabled (operational state)
		OFF	All lines are disabled (operational state)
		Blinking 1 cycle per 4 seconds, 75% duty	At least one line is enabled and at least one line is disabled (operational state)
3	In-Use	OFF	Lines idled and unlocked
		Yellow, steady ON	Lines in use and unlocked
		Yellow, blinking yellow, 1 cycle per second, 50% duty	Locked
8	IN-USE	Amber, steady ON	Indicates that the PRI port is in use
		OFF	Indicates that the PRI port is not connected
9	LINK	Green, steady ON	Indicates that the PRI port is well connected
		OFF	Indicates that the PRI port is not connected
11	ERROR/TROUBLE	Red, steady ON	Indicates that the PRI port is not working properly
		OFF	Indicates that the PRI port is working properly
12	ETH1 - Right LED (activity)	Green, blinking, variable rate	Network traffic
		Green, steady ON	No network traffic
		OFF	Not connected
12	ETH1 -Left LED (speed)	OFF	10 Mbps
		Green	100 Mbps
		Yellow	1000 Mbps

#	LED	Behavior	Condition
13	ETH2/3/4/5/-Right LED (activity)	Green blinking, variable rate	Network traffic
		Green, steady ON	No network traffic
		OFF	Not connected
13	ETH2/3/4/5/ -Left LED (speed)	OFF	10 Mbps
		Green	100 Mbps
		Yellow	1000 Mbps
16	LED	Green, steady ON	Indicates that the BRI port is well connected/configured and the link is up.
		OFF	Indicates that the BRI port is not well connected or configured, and that the link is down.

Switches

#	Switch	Description
4	Reset/Default	Allows setting the unit to default (known) values. Refer to RESET/ DEFAULT Button (p.28)

Connectors and cards

#	Connectors/ cards	Description
5	USB	USB connector
6	SYNC IN	8 KHz TDM synchronisation pulse input
7	SYNC OUT	8 KHz TDM synchronisation pulse output
10	PRI card with PRI port	RJ-48 connector for ISDN-PRI connectivity
12	ETH1	A 10/100/1000 BaseT Ethernet RJ-45 connector for access to a LAN, WAN, or computer. This port is by default used for uplink / WAN connection.
13	ETH2-ETH3-ETH4/ ETH5	10/100/1000 BaseT Ethernet RJ-45 connector for access to a LAN, WAN or computer. These ports are used by default for LAN connections.
14	FXS card with 4 FXS ports	RJ-11 connector for phone/fax/PBX-FXS connection
15	FXO card with 4 FXO ports	RJ-11 connector for PSTN/PBX-FXS connection

16	BRI card with 4 BRI ports	4 x RJ-48C connectors for BRI connectivity.

#	Description
1	POWER 1 connector
2	Power switch
3	Grounding screw

Installing the Mitel GX Gateway

Before you start

Warning: When installing or replacing the Mitel GX Gateway, the earth ground connection between the grounding screw on the back of the Mitel GX Gateway and an appropriate grounding point in your site must always be made first and disconnected last. This is mandatory to avoid any damage or injuries, even if the Mitel GX Gateway is installed in a grounded equipment rack.

Warning: The earth ground cable should be the same size (18 AWG minimum) as the earth cable of the provided power cord. Otherwise, make sure the earth ground cable meets the standards and requirements of your local electrical code. The type of the cable is likely to have VW-1 or RT1 markings on the cable.

Warning: The earth ground cable must be firmly and securely connected to the grounding screw on the back of the Mitel GX Gateway and an appropriate grounding point in your site: the earth ground cable must remain tightly secured at all times during service and installation.

Warning: Before performing this procedure, you must first read and understand the Safety Recommendations listed in this document.

Note: Note or take a picture of your unit's serial number before starting the installation, and place the card stickers of the cards not factory installed. Refer to Locating the Product Serial Number (p.26).

Steps

1) Install the unit on a flat surface or in an equipment rack. Refer to Installing the Unit on a Flat Surface (p.19).

   Caution: If the unit is installed in a closed environment or on a multi-unit rack, the ambient temperature of the environment next to the Mitel unit may become greater than the maximum operating temperature recommended by Mitel for the use of its units, i.e. 40ºC. The Mitel GX Gateway should never be used to temperatures greater than the recommended maximum operating temperature. Any damage occurring in such environmental conditions will void the warranty.

2) Connect the Telephony Interface Cables. Refer to Connecting the Telephony Cables (p.19).

   Caution: To prevent damage to the Mitel GX Gateway, make sure to connect the cables to their proper location on the Mitel GX Gateway.

3) Connect the Ethernet Cables. Refer to:
   a) Connecting the Mitel GX Gateway Using a DHCP Server (p.20)
   b) Connecting the Mitel GX Gateway Using a Static IP Address (p.21)

Installing the Unit on a Flat Surface

Before you start

Warning: Before performing this procedure, you must first read and understand the Safety Recommendations listed in this document.

Steps

1) Unpack the unit and go through the Package Check List (p.13)
2) Apply the Bumpon ™ autoadhesive protective products to the bottom of the unit.

   Note: This will improve the airflow under the unit.

3) Install the unit on a flat surface.
4) Make sure the unit is at 20 cm (8 in.) from your monitor, computer casing, or other peripheral, including speakers.

Connecting the Telephony Cables

Information

Note: To prevent damage to the Mitel GX Gateway, make sure to connect the cables to their proper location on the Mitel GX Gateway.

Steps

1) Make sure an adequate earth ground connection has been made between the grounding screw on the back of the Mitel GX Gateway and an appropriate grounding point in your site.

   Warning: Adequate earth grounding connection of the Mitel GX Gateway is mandatory to avoid any damage or injuries.

2) Wear an ESD wrist strap, ensuring it makes good contact with your bare skin.
3) Attach the ESD wrist strap end to an earth ground (grounding screw on the back on the Mitel GX Gateway or unpainted bare metal spot of a grounded equipment rack).
4) Make sure the unit's power switch is OFF.
5) Make sure the circuit breakers of AC power sources used to power the Mitel GX Gateway are OFF.
6) Make sure the provided AC power cord is connected into the POWER connector located on the back of the Mitel GX Gateway and in an appropriate AC electrical outlet.
7) Connect faxes, phones or a PBX to the FXS card.
8) Connect a PBX or ISDN line to the PRI card.
9) Connect a PSTN or a PBX to the FXO card.

Connecting the Mitel GX Gateway Using a DHCP Server

Before you start

- Make sure that your network connection is working.
- You must use an IPv4 Network.
- The IPv4 Network must have a DHCP server.
- If your unit does not have an FXS port, or if you do not have access to the DHCP server's logs, then use the Connecting the Mitel GX Gateway Using a Static IP Address (p.21) procedure.

Steps

1) Make sure an adequate earth ground connection has been made between the grounding screw on the back of the Mitel GX Gateway and an appropriate grounding point in your site.

   Warning: Adequate earth grounding connection of the Mitel GX Gateway is mandatory to avoid any damage or injuries.

2) Wear an ESD wrist strap, ensuring it makes good contact with your bare skin.
3) Attach the ESD wrist strap end to an earth ground (grounding screw on the back on the Mitel GX Gateway or unpainted bare metal spot of a grounded equipment rack).
4) Make sure the unit's power switch is OFF.
5) Make sure the circuit breakers of power sources used to power the Mitel GX Gateway are OFF.
6) Make sure the provided AC power cord is connected into the POWER connector located on the back of the Mitel GX Gateway and in an appropriate AC electrical outlet.
7) Connect a 10/100/1000 BaseT Ethernet RJ-45 cable into the ETH1 connector of the Mitel GX Gateway.
8) Connect the other end of the cable to a router/switch connected to your Network.
9) Validate the installation.
10) Turn ON the power sources that are used to power the Mitel GX Gateway at the circuit breaker.

    Note: When the unit is brought from a cold to a warm environment, condensation, that might be harmful to the unit, may occur. If this is the case, wait one hour before connecting the power cord.

11) Turn On the power switch of the unit.
12) If you have an FXS port, dial *#*0 to get the IP address or consult the DHCP server's logs to find out your IP address.

Result

The Power LED on the unit will be flashing when the unit performs a DHCP server query. It will become solid once it successfully gets an IP address from the DHCP server. At this point, you can now use the DHCP IP address to access your unit's management interface.

Connecting the Mitel GX Gateway Using a Static IP Address

Before you start

- Your network interface must be set with an IP address in the 192.168.0.0/24 subnet (e.g. 192.168.0.11).
- You must use an IPv4 Network.
- Make sure that your network connection is working.

Steps

1) Make sure an adequate earth ground connection has been made between the grounding screw on the back of the Mitel GX Gateway and an appropriate grounding point in your site.

   Warning: Adequate earth grounding connection of the Mitel GX Gateway is mandatory to avoid any damage or injuries.

2) Wear an ESD wrist strap, ensuring it makes good contact with your bare skin.
3) Attach the ESD wrist strap end to an earth ground (grounding screw on the back on the Mitel GX Gateway or unpainted bare metal spot of a grounded equipment rack).
4) Make sure the unit's power switch is OFF.
5) Make sure the circuit breakers of power sources used to power the Mitel GX Gateway are OFF.
6) Make sure the provided AC Power Cord is connected into the POWER connector located on the back of the Mitel GX Gateway and in an appropriate AC electrical outlet.
7) Connect a 10/100/1000 BaseT Ethernet RJ-45 cable into the ETH5/EXT Ethernet connector of the Mitel GX Gateway.
8) Connect the other end of the cable into your PC.
9) Validate the installation.
10) Turn ON the power sources that are used to power the Mitel GX Gateway at the circuit breaker.

    Note: When the unit is brought from a cold to a warm environment, condensation, that might be harmful to the unit, may occur. If this is the case, wait one hour before connecting the power cord.

11) Turn On the power switch of the unit.

Result

You can now use the 192.168.0.10 IP address to access your unit's management interface.

Verifyng the Installation

Steps

1) Contact the Mitel GX Gateway via the Web Browser, or go to step 2
   a) In your Web browser, enter the IP address used by your Mitel GX Gateway to communicate with the Web interface.
      - If your computer is connected to the Ethernet port, commonly used to be connected to the Local Area Network (LAN), i.e. ETH2 on most devices, use the 192.168.0.10 IP address
      - If your Mitel GX Gateway is configured to use a DHCP server with IPv4, use the provided DHCP server IP address.
   b) Enter **public** as your username and leave the password field empty.

      Note: The **public** username account has administrator rights.

      Note: You can also use **admin** as a username and **administrator** as password.

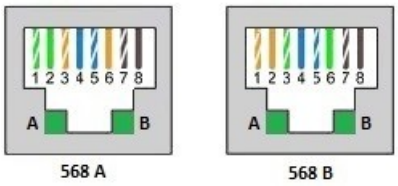
   c) Click **Login**.
2) Contact the Mitel GX Gateway with an SNMP browser, or
3) Contact the Mitel GX Gateway via the CLI, or
4) Ping the Mitel GX Gateway.

Cables

Gigabit Ethernet Connection(RJ-45)

Caution: Always use standard telecommunication cables with a minimum of 26 AWG wire gauge.

- Gigabit Ethernet requires all four pairs to be present.
- Category 5 cables can be used for 10/100 Base T-Connections.
- Category 5e or 6 cables are recommended for Gigabyte Ethernet.
- It is possible to use either a crossover or a straight Ethernet cable as the Mitel GX Gateways perform automatic MDI/ MDIX detection, meaning that they adapt to the type of cables connected to them. The Auto MDI/ MDIX feature only works when the unit are configured in auto detect mode, which is the default mode.



Pin	Name	Description	TIA/EIA 568A	TIA/EIA 568B
1	BI_DA+/Tx+	Bi-directional pair A+ (Transmit+)	white/green	white/orange
2	BI_DA-/Tx-	Bi-directional pair A- (Transmit-)	green	orange
3	BI_DB+/Rx+	Bi-directional pair B+ (Received+)	white/orange	white/green
4	BI_DC+	Bi-directional pair C+	blue	blue
5	BI_DC-	Bi-directional pair C-	white/blue	white/blue
6	BI_DB-/Rv-	Bi-directional pair B- (Receive -)	orange	green
7	BI_DD+	Bi-directional pair D+	white/brown	white/brown
8	BI_DD-	Bi-directional pair D-	brown	brown

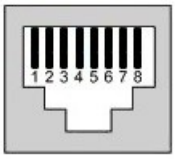
LED	Name	Description
A	Speed	• OFF: 10 Mbps • Green: 100 Mbps • Yellow: 1000 Mbps
B	Link (activity)	• Green, blinking, variable rate: Network traffic • Green, steady On: No network traffic • OFF: Not connected

PRI Connection (RJ-48)

Caution: Always use standard telecommunication cables with a minimum of 26 AWG wire gauge.

PRI connections use two pairs of wires: one pair for transmission and the second pair for reception. It is wired so that pins 1 and 2 are on one twisted pair and pins 4 and 5 are on a second pair according to common wiring standards which meet the TIA/EIA 568A and 568B requirements.

Note: The Mitel GX Gateway PRI ports can be used as a T reference point, but not as U reference points (2-wire). Never connect a U PSTN line or a U TE into the Mitel GX Gateway PRI ports.



Pin #	NT Mode	TE Mode
1	Transmit #2 (+)	Receive #2(+)
2	Transmit #1 (-)	Receive #1 (-)
3	Not connected	Not connected
4	Receive #2(+)	Transmit #2 (+)

Pin #	NT Mode	TE Mode
5	Receive #1 (-)	Transmit #1 (-)
6	Not connected	Not connected
7	Not connected	Not connected
8	Not connected	Not connected

FXS and FXO Connections (RJ-11)

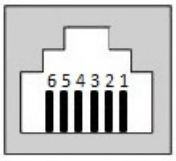
Warning: The RJ-11 cable should comply with UL 1863 and CSA C22.2 No 233 standards.

Caution: Use standard telecommunication cables with a minimum of 26 AWG wire gauge.

Note: The Ringer Equivalence Number (REN) is 0.1. for each individual FXO port of the unit.

Note: The maximum standard FXS cable length is 450 m.

The RJ-11 pair of wires is wired so that pins 3 and 4 are connected to the Ring and Tip, which meets the EIA/TIA-IS 968 and CS-03 Issue 8, Part III requirements.



Pin #	Function
1	Not used
2	Not used
3	Ring
4	Tip
5	Not used
6	Not used

Troubleshooting

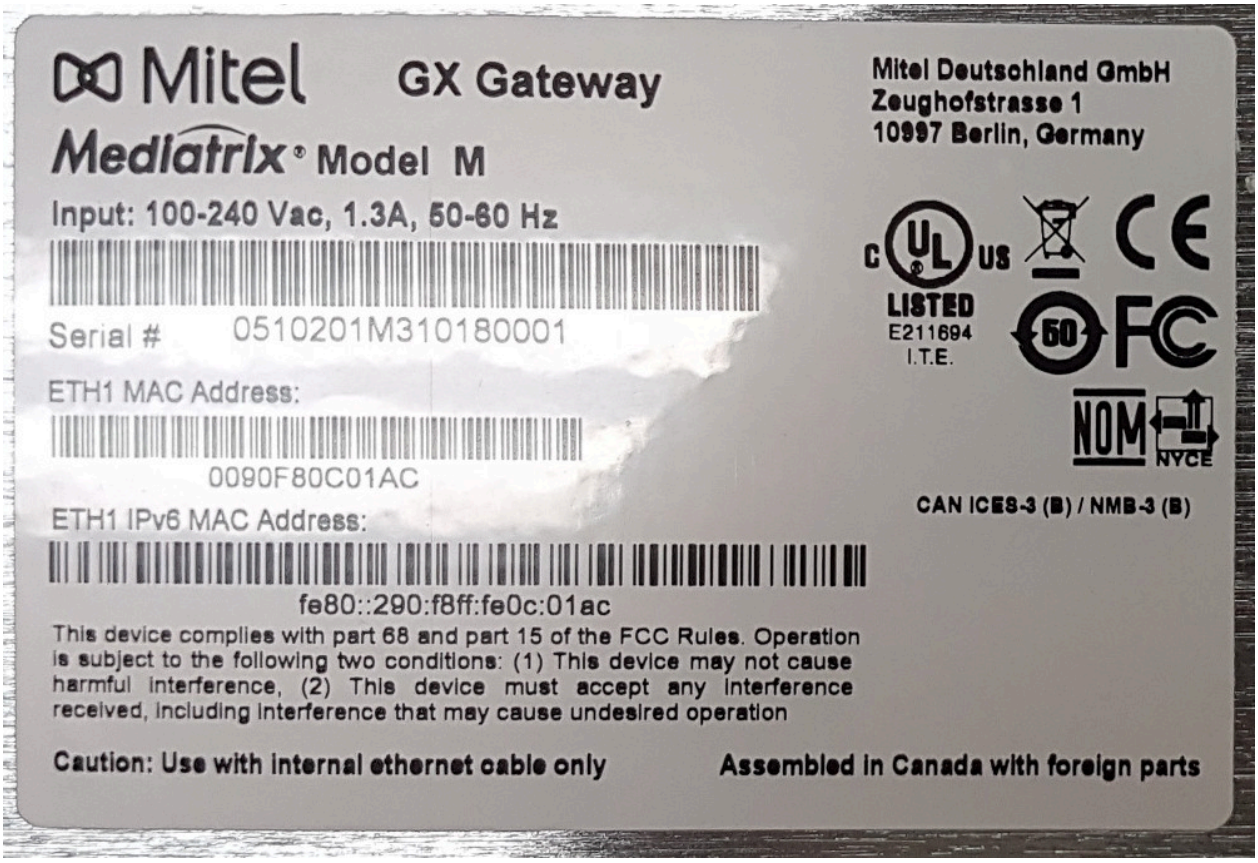
Locating the Product Serial Number

Before you start

Warning: Make sure your unit is powered off.

Steps

1) Flip the unit. The serial number is located underneath the unit.



Caution: Use with internal Ethernet cable only.

Warning: Make sure your unit is powered off before flipping it over. Make sure all your cables are well connected.

2) Flip the unit and power the unit.

Troubleshooting

Problem	Cause
Unable to contact the Management Interface.	Wrong Eth port used for the Network configuration (Mitel GX Gateway on the edge or in the LAN with or without a DHCP server).
Card does not appear in the Management Interface.	• The card is broken. • The unit is broken.
Card appears in the Management interface, but cannot be used (For example, unable to make calls).	The card is not configured properly. Refer to the Software Configuration Guide.
Unable to contact the Management Interface via the CLI.	• CLI service not activated in the configuration. • Protocol used to contact the CLI not activated.
Unable to contact the unit via SNMP.	• SNMP service not activated. • Credentials do not grant access.
Unable to make calls, although cards appear in the Management Interface.	Hour and date are not synchronized (required by certificates).

LED Patterns

LED state	Description
All LEDs cycling from left to right, individually blinking 1 cycle per second, 33% duty.	A firmware pack is being downloaded into the unit and written to persistent storage.
All LEDs blinking at 3 cycles per second, 50% duty. One LED out of two has a 180 degree phase. This pattern lasts for 8 seconds.	The download of the firmware has failed. After 4 seconds, the unit restarts.
Power1 or 2 and Ready LEDs blinking (synchronized) 1 cycle per second, 75% duty.	The partial reset is completed.
Power LED blinking, 1 cycle per 4 seconds, 75% duty.	Triggered when the unit is booting on the recovery bank and no update is pending.

LED state	Description
Power LED blinking green 3 cycles per second, 50% duty.	Waiting for DHCP (IPv4 or IPv6) answer or IPv6 router advertisement or PPPoE connection. No Ip Address configured.
Ready LED OFF, all other LEDs cycling from right to left, left to right.	The unit tries to download and install a firmware given by the Network Rescue server.

RESET/DEFAULT Button

The **Reset/Default** button is a switch that can be used to perform a partial or factory reset while the unit is running.

In other words, the **Reset/Default** button can be used to:

- Cancel an action that was started.
- Revert to known factory settings if the Mitel GX Gateway refuses to work properly for any reason or the connection to the network is lost.
- Reconfigure a unit.

The **Reset/Default** button will generate different actions depending on the amount of time the button is held.

IMPORTANT: It is the LED pattern that will indicate the action that is being applied to the unit. The action will occur more or less rapidly depending on the platform.

LED Pattern	Action	Comment
Power1 blinking, all other LEDs OFF	Restarts the Mitel GX Gateway.	No changes are made to the Mitel GX Gateway settings.
All LEDs blinking, 1cycle per second, 50% duty	Initiates a Partial Reset of the Mitel GX Gateway. **Note:** The partial reset is optional as it can be disabled with the CLI **Hardware.ResetButtonManagement** parameter. For more details, refer to the DGW Configuration Guide - Reference Guide published on the Media5 documentation portal at https://documentation.media5corp.com/	Restarts the unit in a known and static state while keeping most of the configuration unchanged.
All LEDs steady ON	Initiates a Factory Reset of the Mitel GX Gateway.	Reverts the unit back to its default factory settings.

All LEDs will become OFF after blinking and being steady on.	No action is taken. This is useful if you accidentally pushed the button and do not need and action to be applied.	The action is ignored.

Partial Reset

The partial reset provides a way to contact the Mitel GX Gateway in a known and static state while keeping most of the configuration unchanged.

A partial reset can be performed at the initial start-up of the Mitel GX Gateway or on a unit already in use where the configuration was modified in such a way that the user can no longer access the system by the Web page or otherwise. In both cases, the user can manage the Mitel GX Gateway through its Rescue interface, which is bound to the unit's WAN port (ETH1). The IP address of the Rescue interface is 192.168.0.1 (IPv4) or an IPv6 Link Local address. These connections give access to the Rescue Management Interface where the configuration of a new unit can be completed and where an existing configuration can be modified.

By default the Rescue Network Interface is disabled. When a partial reset is performed, the Rescue network Interface becomes enabled and the "Power" and "Ready" LEDs are blinking at 1Hz with 75% duty and all other LEDs are off. Once the configuration has been modified to solve the problem that required the partial reset, it is important to disable the Rescue Network Interface to make sure that you are no longer working in the Rescue Network Interface.

Performing a partial reset on a new unit will not modify the configuration, as it has not yet been modified to your needs. However, a partial reset performed on a unit already in use will:

- Rollback Local Firewall settings that are not yet applied.
- Add a Local Firewall rule to allow complete access to the Rescue interface.
- Rollback NAT settings that are not yet applied.
- Add NAT rule to allow complete access to the Rescue interface.
- Cancel the changes that were being modified but not yet applied to the configuration.
- Disable any Network Interface in conflict with the Network Rescue Interface.
- Configure and enable the Rescue Network Interface to:
  - use the link as the default value used by the Uplink Network Interface
  - set the IP address to 192.168.0.1 and the Network Mask to 255.255.255.0.
  - set the IPv6 link-local address on all network links. The IPv6 link-local address can be found underneath the unit.

A partial reset will also modify the following parameters and preserve the values below even after the Rescue interface has been disabled.

Note: These changes are valid when using a MX profile. If the Mitel GX Gateway is not using a MX profile, the default values and therefore the behaviour of the parameters may be different.

Service	Parameter	Default Value
AAA	Users.Password	User(s) from profile are restored with their factory password. All other usernames keep their password.
	Users.AccessRights	User(s) from profile are restored with their factory rights.
	ServicesAaaType (table)	Each service will be configured to use Local authentication and no accounting mechanism.
CLI	EnableTelnet	Disable
	TelnetPort	23
	EnableSsh	Enable
	SshPort	22
	InactivityTimeOut	15
HOC	ManagementInterface	Rescue
SNMP	Port	161
	EnableSnmpV1	Enable
	EnableSnmpV2	Enable
	EnableSnmpV3	Enable
Web	ServerPort	80
	SecureServerPort	443

Performing a Partial Reset

Note: It is not recommended to access the unit on a regular basis through the Rescue Network Interface.

Important: Make sure the unit is connected to the WAN port, as the Rescue interface is bound to the unit's WAN port (ETH1). The IP address of the Rescue interface is 192.168.0.1 (IPv4) or an IPv6 Link Local address.

Steps

1) When the Power LED is steady or blinking rapidly, insert a small unbent paper clip into the hole of the **Reset/Default** button located on the Mitel GX Gateway.

   Note: The Power LED will start blinking.

2) Wait a few seconds.
3) When all LEDs are blinking, but before they stop blinking, remove the paper clip.

   Note: You have between 7 to 11 seconds.

Result

The Rescue Network Interface is displayed when accessing the Management Interface. Several parameters and services are modified, refer to Partial Reset. Do not forget to perform the Disabling the Rescue Interface step.

Disabling the Rescue Interface

By default the Rescue interface is disabled. However, after a partial reset the rescue interface is enabled.

Important: The Rescue interface is bound to the unit's WAN port (ETH1). The IP address of the Rescue interface is 192.168.0.1 (IPv4) or an IPv6 Link Local address.

Steps

1) Go to **Management/Misc**.
2) From the **Network Interface** drop-down menu, select the interface that will be used to manage the unit.

   Important: If you keep the **Rescue Interface** selected, you will not be able to get into the management interface after disabling it.

3) Click **Apply**
4) Go to **Network/Interfaces**.
5) In the **Rescue Interface** table, from the **Activation** selection list, select **Disable**.
6) Click **Apply**.

   Important: Make sure to reconfigure at least the user's authentication and firewall rules (if applicable), otherwise it may leave the unit unsecure.

Result

The unit will be reachable either on the new configured static IP address or on the DHCP .

Factory Reset

The Factory reset reverts the Mitel GX Gateway back to its default factory settings.

It deletes the persistent configuration parameters of the unit, including:

- User files stored in the File service
- Certificates, except for factory installed ones
- Log files of the File service

The Factory reset should be performed with the Mitel GX Gateway connected to a network with access to a DHCP server. If the unit cannot find a DHCP server, it will sent requests indefinitely. A Factory Reset can be triggered either:

- Directly on the unit. Refer to Performing a Factory Reset (p.33).
- Via the web interface of the Mitel GX Gateway (**Management**/**Firmware Upgrade**).
- Via the Command Line Interface of the Mitel GX Gateway by using the **fpu.defaultsetting** parameter.

Performing a Factory Reset

Information

The Factory reset alters any persistent configuration data of the Mitel GX Gateway.

Steps

1) Insert a small, unbent paper clip into the hole of the Reset/Default button, located on the Mitel GX Gateway.

   Note: Do not release the **Reset/Default** button before the LEDs stop blinking and are steadily ON. This can last from 12 to 16 seconds. If you leave the inserted pin longer, no action will be taken which is useful if you accidentally pushed the button and do not need any action to be applied.

2) Release the paper clip.

Result

All configuration parameters are reset to their default value. The unit can then be contacted via its WAN interface DHCP-provided IP address (ETH1), or via its LAN interface default IP address 192.168.0.10 (ETH2-5).

Standards Compliance and Disclaimers

Supported Standards

Note: The standards compliance of the Mitel GX Gateways are printed on the same sticker as the product serial number. Refer to Locating the Product Serial Number (p.26).

Category	Specification
Agency approvals and other compliances	• Anatel • European Union • CE mark (Declaration of Conformity) • UL mark • FCC • NOM, IFETEL
Safety standards	• UL 60950-1, 2nd Edition, 2014-10-14 • CAN/CSA-C22.2 No. 60950-1-07 2nd Edition, 2014-10 • IEC 60950-1: 2005 (2nd Edition); Am1: 2009 + Am2: 2012 with all national deviations • EN 60950-1: 2006 + A1: 2010 + A11: 2009 + A12: 2011 + A2: 2013 • NOM-019-SCFI-1998
Emissions	• EN61000-3-2: 2014 • EN61000-3-3: 2013 • FCC part 15 (2016) subpart B, class B • EN55032 (2015), class B • ICES-003 (2016), class B
Immunity	• EN55035: 2017

Federal Communications Commission (FCC) Disclaimer

This device complies with Part 15 of the FCC Rules.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

IMPORTANT: Modifications: Any modifications made to this device that are not approved by Mitel may void the authority granted to the user by the FCC to operate this equipment.

Supplier's Declaration of conformity	
47 CFR § 2.1077 Compliance Information	
Unique Identifier	Mediatrix Model M
Responsible Party –U.S. Contact Information	207 Beach Avenue, Kennebunk, Maine. 04043 USA
Email	pa100110ca@gmail.com
FCC Compliance Statement	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

Innovation, Science and Economic Development Canada (ISED) Disclaimer

This Class B digital apparatus complies with Canadian ICES-003.

CE Marking

CE Marking

CE

DECLARATION OF CONFORMITY
We, Media5 Corporation, located at 4229 Garlock st. Sherbrooke, Québec, Canada J1L 2C8, declare that for the hereinafter mentioned product the presumption of conformity with the applicable essential requirements of Directives 2014/30/EC and 2014/35/EC European parliament (EMC and LVD directives)is given. Any unauthorized modification of the product voids this declaration. For a copy of the original signed Declaration Of Conformity please contact Media5 at the above address.

RoHS Declaration OfCompliance

This Mitel GX Gateway is in compliance with the Council Directives 2011/65/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

RoHS China

Model M complies with the China IEC 60950-1 safety deviation, but does not have CCC approvals.

这个文件涉及的是在中华人民共和国境内进口或销售的电子信息产品
Include this document with all Electronic Information Products imported or sold in the People's Republic of China.

部件名称 (Parts)	有毒有害物质或元素 (Hazardous Substance)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr^{6+})	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
塑料和聚合物部件 (Plastic and Polymeric parts)	o	o	o	o	x	x
集成电路 (Integrated Circuit)	x	o	x	o	x	x

o: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T-11363 - 2006 规定的限量要求以下。
Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T-11363 - 2006 standard.

x: 表示该有毒有害物质至少在该部件的某一均质材料中的含量可能超出SJ/T-11363 - 2006规定的限量要求。
Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts might exceed the relevant threshold of the SJ/T-11363 - 2006 standard.

除非另外特别的标注,此标志为针对所涉及产品的环保使用期限标志。某些可更换的零部件会有一个不同的环保使用期限(例如,电池单元模块)贴在其产品上。
此环保使用期限只适用于产品是在产品手册中所规定的条件下工作。
The Environmentally Friendly Use Period (EFUP) for all enclosed products and their parts are per the symbol shown here, unless otherwise marked. Certain field-replaceable parts have different EFUP (for example, battery modules) and so are marked to reflect such. The Environmentally Friendly Use Period is valid only when the product is operated under the conditions defined in the product manual.

Other Disclaimers

Altitude of Operation

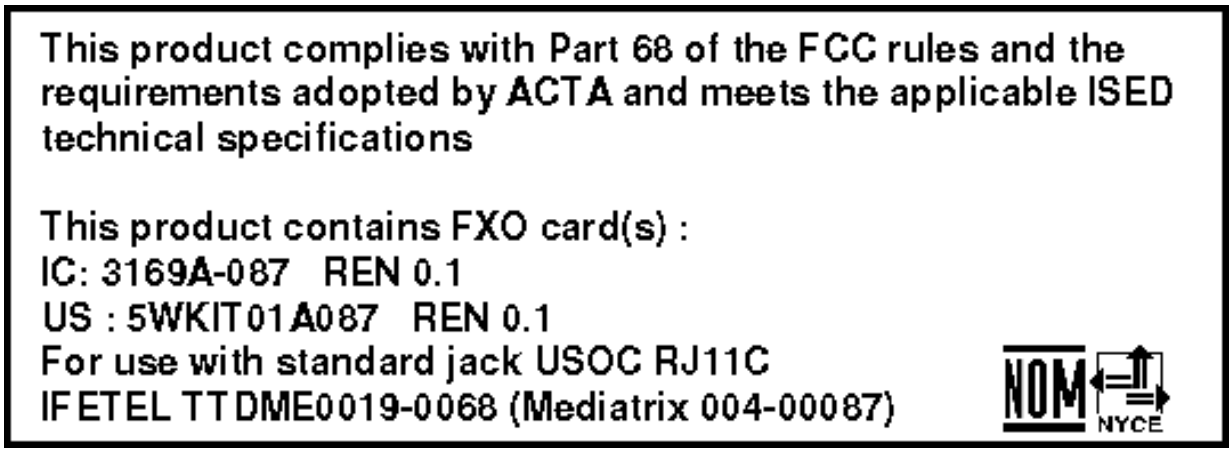
仅适用于海拔2000m 以下地区安全使 用"或类似的警告语句 Use only at altitudes no more than 2000 m above sea level.


Only use in non-tropical climate regions.

FXO Card - Standards of Compliance and Disclaimers

FXO Card - Supported Standards

Category	Specification
Telecom	• TBR 21 : January 1998 • CS-03 Part I; Issue 9 including Amendment 1 to 4 IC: 3169A-087 REN 0.1 • TIA-968-B including Amendments B1, B2 and B3 US: 5WKIT01A087 REN 0.1
Mexico	• NOM-196-SCFI-2016 for Mediatrix 004-00087 FXO card (NYCE/CT/0019/19/TS) • IFETEL Certificate Number TTDME0019-0068 for Mediatrix 004-00087 FXO card



FXO Card - Federal Communications Commission (FCC) Disclaimer

The FXO card complies with Part 68 of the FCC Rules. On the underside of this equipment is a label that contains, among other information, the FCC Registration Number, Ringer Equivalence Number (REN) and USOC jack type for this equipment. You must, upon request, provide this information to your telephone company. The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your telephone company to determine the maximum REN for your calling area. If your telephone equipment causes harm to the telephone network, the Telephone Company may discontinue your

service temporarily. If possible, they will notify you in advance, but if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service. If you experience trouble with this telephone equipment, please contact Mitel for information on how to obtain service or repairs. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning. This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs. This device is equipped with an USOC RJ-11C connector.

FXO Card - Innovation, Science and Economic Development Canada (ISED) Disclaimer

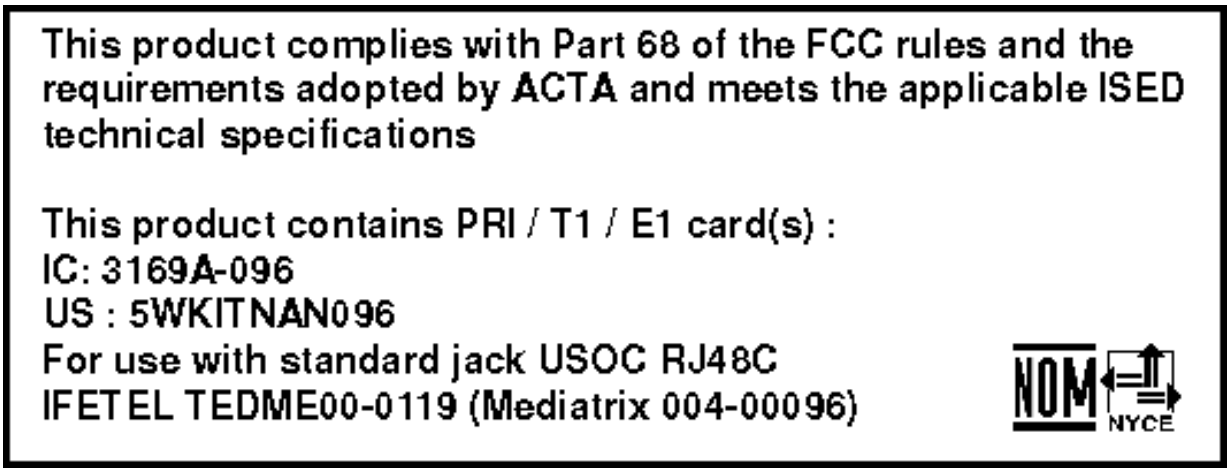
The FXO card meets the applicable Innovation, Science and Economic Development Canada technical specifications.

The Ringer Equivalence Number (REN) indicates the maximum number of devices allowed to be connected to a telephone interface. The termination of an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices not exceed five.

PRI/T1/E1/J1 Card - Standards Compliance and Disclaimers

PRI/T1/E1/J1 - Card Supported Standards

Category	Specification
Telecom	• TBR 4: including Amendment A1 • CS-03 Part VI; Issue 9 including Amendment 1 IC: 3169A-096 • TIA-968-B including Amendments B1, B2 and B3 US: 5WKITNAN096
Mexico	• NOM-218-SCFI-2017 for Mediatrix 004-00096 PRI card (NYCE/ CT/0045/19/TS) • IFETEL Certificate Number TEDME00-0119 for Mediatrix 004-00096 PRI card



PRI/T1/E1/J1 Card - Federal Communications Commission (FCC) Disclaimer

The PRI/T1 card complies with Part 68 of the FCC Rules. On the underside of this equipment is a label that contains, among other information, the FCC Registration Number, Ringer Equivalence Number (REN) and USOC jack type for this equipment. You must, upon request, provide this information to your telephone company. If your telephone equipment causes harm to the telephone network, the Telephone Company may discontinue your service temporarily. If possible, they will notify you in advance, but if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service. If you experience trouble with this telephone equipment, please contact Mitel for information on how to obtain service or repairs. The telephone company may ask that you disconnect this equipment from the network

until the problem has been corrected or until you are sure that the equipment is not malfunctioning. This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs. This device is equipped with an USOC RJ-48C connector.

PRI/T1/E1/J1 Card - Innovation, Science and Economic Development Canada (ISED) Disclaimer

The PRI/T1 card meets the applicable Innovation, Science and Economic Development Canada technical specifications.

Product Disposal Instructions

	This symbol indicates that the product is classified as electrical or electronic equipment and should not be disposed of along with commercial or household waste at the end of its working life. For appropriate disposal and recycling instructions, contact your local Mitel provider.
The Waste of Electrical and Electronic Equipment (WEEE) Directive (2002/96/EC) was established by the European Union to minimize negative impact on the environment, control hazardous substances, and curtail landfill expansion by using the best available recovery and recycling techniques.	