media5
corporation

Model M - Mediatrix G7 Series

Hardware Installation Guide

v. 44.0.1535

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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 Mediatrix unit, 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 Mediatrix unit 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 Mediatrix unit.

Warning: Disconnect all interface cables (including PRI, FXS, and FXO) as well as all power sources connected to the Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit 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 Media5 unit may become greater than the maximum operating temperature recommended by Media5 for the use of its units, i.e. 40ºC. The Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit, 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 Mediatrix unit 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.

Waarschuwing: 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.

Avertissement : 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..

⚠ **¡Advertencia!:** 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: 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, insure user security and facilitate access, upgrades and maintenance, the following guidelines must be followed.

- Install the Mediatrix unit:
    - on a standard 48.26 cm (19 in.) equipment rack
    - on a flat surface (desk, table, etc.)
- Install the Mediatrix unit in a well-ventilated location where it will not be exposed to high temperatures or humidity.
    - Storage temperature: -20ºC 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 Media5 unit may become greater than the maximum operating temperature recommended by Media5 for the use of its units, i.e. 40ºC. The Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit.

- 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

Mediatrix G7 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 (7 lb)
Power consumption	• 100 Vac -240 Vac • 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.		
Mediatrix unit 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 Mediatrix unit	
1 power cord with the proper model for the country	
1 Bumpon kit for desktop use	
1 printed flyer	
1 black RJ-48 cable for each PRI port	
1 grey Ethernet RJ-45 cable	

Cleaning Instructions

To clean a Mediatrix unit, wipe with a soft dry cloth.

⚠️ **Caution:** Do not use volatile liquids such as benzine 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 Mediatrix G7 is highly customizable in the sense that it may have one or several types of ports, or none. Therefore the following image may not exactly represent your Mediatrix unit.

LEDs

#	LED	Behavior	Condition
1	Power	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
7	IN-USE	Amber, steady ON	Indicates that the PRI port is in use.
		OFF	Indicates that the PRI port is not connected.
8	LINK	Green, steady ON	Indicates that the PRI port is well connected
		Amber, steady ON	Indicates that the PRI port is not connected
10	ERROR/TROUBLE	Red, steady ON	Indicates that the PRI port is not working properly
		OFF	Indicates that the PRI port is working properly
13	ETH1 - Right LED (activity)	Green, blinking, variable rate	Network traffic
		Green, steady ON	No network traffic
		OFF	Not connected
13	ETH1 -Left LED (speed)	OFF	10 Mbps
		Green	100 Mbps

#	LED	Behavior	Condition
		Yellow	1000 Mbps
14	ETH2/3/4/5 -Right LED (activity)	Green blinking, variable rate	Network traffic
		Green, steady ON	No network traffic
		OFF	Not connected
14	ETH2/3/4/5 -Left LED (speed)	OFF	10 Mbps
		Green	100 Mbps
		Yellow	1000 Mbps

Switches

#	Switch	Description
4	Reset/Default	Allows setting the unit to default (known) values. Refer to RESET/ DEFAULT Button (p. 30)

Connectors and ports

#	Connectors/ports	Description
5	SYNC IN	8 KHz TDM synchronisation pulse input
6	SYNC OUT	8 KHz TDM synchronisation pulse output
9	PRI port	RJ-45 connector for ISDN-PRI connectivity
13	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.
14	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.
11	FXS card with 4 FXS ports	RJ-11 connector for phone/fax/PBX-FXS connection
12	FXO card with 4 FXO ports	RJ-11 connector for PSTN/PBX-FXS connection
13	BRI card with 4 BRI ports	Up to four RJ-48C connectors for BRI connectivity.

#	Description
1	POWER connector
2	Power switch
3	Grounding screw

Installing The Mediatrix Unit

Before you start

⚠ **Warning:** When installing or replacing the Mediatrix unit, the earth ground connection between the grounding screw on the back of the Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit 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. 28).

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 Media5 unit may become greater than the maximum operating temperature recommended by Media5 for the use of its units, i.e. 40°C. The Mediatrix unit 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 Mediatrix unit, make sure to connect the cables to their proper location on the Mediatrix unit.

3) Connect the Ethernet Cables. Refer to:
   a) Connecting the Mediatrix Unit Using a DHCP Server (p. 20)
   b) Connecting the Mediatrix Unit 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.
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 Mediatrix unit, make sure to connect the cables to their proper location on the Mediatrix unit.

Steps

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

   ⚠️ **Warning:** Adequate earth grounding connection of the Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit are OFF.
6) Make sure the provided AC power cord is connected into the POWER connector located on the back of the Mediatrix unit and in an appropriate AC electrical outlet.

7) Connect faxes, phones or a PBX to the FXS card.

Connecting the Mediatrix Unit 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 Mediatrix Unit 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 Mediatrix unit and an appropriate grounding point in your site.

    ⚠ **Warning:** Adequate earth grounding connection of the Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit are OFF.
6) Make sure the provided AC power cord is connected into the POWER connector located on the back of the Mediatrix unit and in an appropriate AC electrical outlet.
7) Connect a 10/100/1000 BaseT Ethernet RJ-45 cable into the ETH1 connector of the Mediatrix unit.
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 Mediatrix unit 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 Mediatrix.
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 Mediatrix Unit 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 Mediatrix unit and an appropriate grounding point in your site.

   ⚠ **Warning:** Adequate earth grounding connection of the Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit are OFF.
6) Make sure the provided AC Power Cord is connected into the POWER connector located on the back of the Mediatrix unit and in an appropriate AC electrical outlet.
7) Connect a 10/100/1000 BaseT Ethernet RJ-45 cable into the ETH5 Ethernet connector of the Mediatrix unit.
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 Mediatrix unit 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 Mediatrix.

Result

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

Verifying the Installation

Steps

1) Contact the Mediatrix unit via the Web Browser, or go to step 2

   a) In your Web browser, enter the IP address used by your Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit with an SNMP browser, or
3) Contact the Mediatrix unit via the CLI, or
4) Ping the Mediatrix unit.

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 Mediatrix units 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.
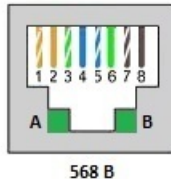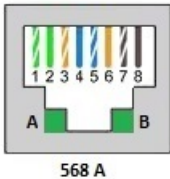
Pin	Name	Description	TIA/EIA 568A	TIA/EIA 568B
1	Bl_DA+/Tx+	Bi-directional pair A+ (Transmit+)	white/green	white/orange
2	Bl_DA-/Tx-	Bi-directional pair A- (Transmit-)	green	orange
3	Bl_DB+/Rx+	Bi-directional pair B+ (Received+)	white/orange	white/green
4	Bl_DC+	Bi-directional pair C+	blue	blue
5	Bl_DC-	Bi-directional pair C-	white/blue	white/blue
6	Bl_DB-/Rv-	Bi-directional pair B- (Receive -)	orange	green
7	Bl_DD+	Bi-directional pair D+	white/brown	white/brown
8	Bl_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 Mediatrix unit 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 Mediatrix unit 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 (+)
5	Receive #1 (-)	Transmit #1 (-)
6	Not connected	Not connected
7	Not connected	Not connected
8	Not connected	Not connected

BRI S/T Connection (RJ-48)

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

BRI S/T connections use two pairs of wires: one pair for transmission and the second pair for reception. It is wired so that pins 3 and 6 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.

⚠ **Caution:** The Mediatrix unit ISDN BRI ports are configurable to operate as network or terminal ports. The pin-out of the sockets is switched according to this configuration. Wrong port configurations, wrong cabling or wrong connections to neighbouring equipment can lead to short circuits in the BRI line powering.
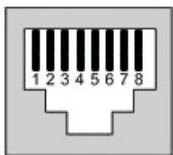
Pin#	TE mode	NT mode
1	Not Connected	Not Connected
2	Not Connected	Not Connected
3	Tx +	Rx +
4	Rx +	Tx +
5	Rx -	Tx -
6	Tx -	Rx -
7	Not connected	Not Connected
8	Not connected	Not Connected

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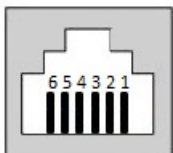
Pin #	Function
1	Not used
2	Not used
3	Ring
4	Tip
5	Not used
6	Not used

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.

Note: 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, (2) this device must accept any interference received, including interference that may cause undesired operation.
Designed and assembled in Canada.

⚠ **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 (Mediatrix unit 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.
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 Mediatrix unit 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 Mediatrix unit.	No changes are made to the Mediatrix unit settings.
All LEDs blinking, 1cycle per second, 50% duty	Initiates a Partial Reset of the Mediatrix unit.[1]	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 Mediatrix unit.	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 Mediatrix unit 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 Mediatrix unit 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 Mediatrix unit through its Rescue interface, which is bound to the unit's WAN port (ETH5 for the Mediatrix 3000, wan for the Mediatrix 4102s, and ETH1 for all other Mediatrix units). 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.

[1] *The partial reset is optional as it can be disabled with the CLI **Hardware.ResetButtonManagement** parameter. For more details, refer to the* Reference Guide *published on the Media5 documentation portal.*

- 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.

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	Lan1
SNMP	Port	161
Web	ServerPort	80
	SecureServerPort	443

Performing a Partial Reset

Before you start

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 (ETH5 for the Mediatrix 3000, wan for the Mediatrix 4102s, and ETH1 for all other Mediatrix units). 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 Mediatrix unit.

   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

Information

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 (ETH5 for the Mediatrix 3000, wan for the Mediatrix 4102s, and ETH1 for all other Mediatrix units). 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 .

Rescue Network Configuration			
Family	**Link**	**IP Address**	**Activation**
IP version 4	eth1	192.168.0.1/24	Disable ▼
IP version 6	All	fe80::0290:f8ff:fe09:b3db	

Factory Reset

The Factory reset reverts the Mediatrix unit 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 Mediatrix unit 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
- Via the web interface of the Mediatrix unit (**Management/Firmware Upgrade**).
- Via the Command Line Interface of the Mediatrix unit by using the **fpu.defaultsetting** parameter.

Performing a Factory Reset

Information

The Factory reset alters any persistent configuration data of the Mediatrix unit.

Steps

1) Insert a small, unbent paper clip into the hole of the **Reset/Default** button, located on the Mediatrix unit.

   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 WAN on the 4102), or via its LAN interface default IP address 192.168.0.10 (ETH2 or LAN on the 4102).

Standards Compliance and Disclaimers

Supported Standards

Note: The standards compliance of the Mediatrix units are printed on the same sticker as the product serial number. Refer to Locating the Product Serial Number (p. 28).

Category	Specification
Agency approvals and other compliances	• Anatel • European Union • CE mark (Declaration of Conformity) • UL mark • FCC
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
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 Media5 Corporation 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

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 Of Compliance

This Mediatrix unit 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.

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 Compliane 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

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 Media5 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

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 Media5 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.

BRI Standards Compliance and Disclaimers

BRI S/T- Card Supported Standards

Category	Specification
Telecom	• TBR3:1995 + A1:1997

Stock Keeping Unit (SKU) Number for Model M

Configuration :

322

SKU :

M350W60000MX000022000000

The SKU number is an alphanumerical number indicated on a label located under the unit. This number identifies the configuration and packaging of the unit and is used for order processing and inventory. On a Model S unit, the SKU number is composed of 24 digits, each having a specific meaning.

Letter/ Number	Description	Possible Values
A	Product family	• M: G7 Series, S7 Series, S7 LP Series, and Sentinel 100
B	CPU	• 3 - Armada A380 CPU for the G7 Series, S7 Series, and S7 LP Series • 4 - Armada A385 CPU for the Sentinel 100
C	RAM size	• 0 - no DDR module, on board memory • 5 - 256MB DDR • 6 - 512MB DDR
D	SSD size	• 0 - No SSD (slave device) • 1 - 16GB SSD (3k erase cycle) • 2 - 32GB SSD (3k erase cycle) • 3 - 64GB SSD (3k erase cycle) • 4 - 128GB SSD (3k erase cycle) • 5 - 256GB SSD (3k erase cycle) • 6 - 512GB SSD (3k erase cycle) • 7 - reserved • 8 - reserved • 9 - reserved • A - 16GB SSD (20k erase cycle) • B - 32GB SSD (20k erase cycle) • C - 64GB SSD (20k erase cycle) • D - 128GB SSD (20k erase cycle) • E - 256GB SSD (20k erase cycle)
E	Power cord	• C - Australia/New Zealand • D - UK • E - Denmark

		• F- Europe
		• G - India/South Africa
		• H - Israel
		• I - Italy
		• J - Japan
		• K - North America
		• L - Switzerland
		• O - Brazil
		• X - China
		• Z - No power cord
F	Power supply	6 - Single 65W PSU; 120/240 Vac
G	Reserved field (Software options)	• 0 - reserved • 2 - S7 Series and S7 LP Series

H/H/H	Nb users (Software options)	000 to 999 defined as:
		• When field K contains survivability, this field indicates the number of users represented by 2 significant numbers and the number of zeros to add. For example:
		  • 230 = 23 users
		  • 231 = 230 users
		  • 232 = 2300 users

I/I/I	Profiles (Software options)	• MX0 - Mediatrix default • MX1 - SW option group 1 • GV0 - SW option group 2 • EN0 - SW option group 3 • MT0 - SW option group 4
J	SLA (Support options)	• 0 - No SLA included in SKU, must be separate line on PO • 1 - 1 year SLA support & HW warranty • 5 - 5 year HW warranty
K/K	SW license (Software options)	• 0/0- no licence • 0/1- Survivability (field H/H/H indicates the number of users)
1 to 6	Unit SLOT 1 to 6 identification	• 0 - No card • 1 - DSP card • 2 - 1PRI card

		• 3 - 4FXS card • 4 - 4FXO card • 5 - 2FXS card • 6 - reserved • 7 - 2FXO card • 8 - reserved • 9 - reserved • A - reserved • B - 4FXS Bypass card • C - 2FXS Bypass card • K - 2FXS-LP card • L - 4FXS-LP card • M - 2FXS-LP bypass card • N - 4FXS-LP bypass card
7	Slot 7 for internal Mini-DSP	• 0 - No card • D - internal single DSP card • E - internal dual DSP card
8	Reserved	Always 0

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 Media5 Corporation 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.	

Documentation

Mediatrix units are supplied with an exhaustive set of documentation.

Mediatrix user documentation is available on the Documentation Portal.

Several types of documents were created to clearly present the information you are looking for. Our documentation includes:

- **Release notes**: Generated at each GA release, this document includes the known and solved issues of the software. It also outlines the changes and the new features the release includes.
- **Configuration notes**: These documents are created to facilitate the configuration of a specific use case. They address a configuration aspect we consider that most users will need to perform. However, in some cases, a configuration note is created after receiving a question from a customer. They provide standard step-by-step procedures detailing the values of the parameters to use. They provide a means of validation and present some conceptual information. The configuration notes are specifically created to guide the user through an aspect of the configuration.
- **Technical bulletins**: These documents are created to facilitate the configuration of a specific technical action, such as performing a firmware upgrade.
- **Hardware installation guide**: They provide the detailed procedure on how to safely and adequately install the unit. It provides information on card installation, cable connections, and how to access for the first time the Management interface.
- **User guide**: The user guide explains how to customise to your needs the configuration of the unit. Although this document is task oriented, it provides conceptual information to help the user understand the purpose and impact of each task. The User Guide will provide information such as where and how TR-069 can be configured in the Management Interface, how to set firewalls, or how to use the CLI to configure parameters that are not available in the Management Interface.
- **Reference guide**: This exhaustive document has been created for advanced users. It includes a description of all the parameters used by all the services of the Mediatrix units. You will find, for example, scripts to configure a specific parameter, notification messages sent by a service, or an action description used to create Rulesets. This document includes reference information such as a dictionary, and it does not include any step-by-step procedures.

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media5
corporation

4229, rue de la Garlock
Sherbrooke (Quebec)
J1L 2C8 Canada
media5corp.com