

# Using Paging Devices with a Mediatrix FXO Unit

All FXO Mediatrix Units

DGW 49.2.2941

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# Using Paging Devices with an FXO Mediatrix Unit

This configuration notes explains how to configure a Mediatrix unit with an FXO port to use paging devices.



## Requirements

- The Mediatrix unit is connected to the Network via the Uplink network interface.
- The Mediatrix unit must have an FXO port.

## Information to Know Before Starting

**Before starting to use these configuration notes, complete the following table to make sure you have the required information to complete the different steps.**

**IMPORTANT:** If you are not familiar with the meaning of the fields and buttons, click **Show Help**, located at the upper right corner of the Web page. When activated, the fields and buttons that offer online help will change to green and if you hover over them, the description will be displayed.

**Note:** The Mediatrix unit must be reinitialised to its factory default settings to make sure the configuration can be successfully executed.

| Information                                                                                                                                                                                                                                                               | Value                       | Used in Step                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------------------------------------------------------------|
| IP address used by your Mediatrix unit to communicate with the Management Interface. <ul style="list-style-type: none"><li>If your computer is connected to the Ethernet port meant to be connected to the Local Area Network (LAN), i.e. Eth2 on most devices.</li></ul> | Use this value 192.168.0.10 | <a href="#">Logging on to the Mediatrix Unit Web Interface (p.5)</a> |
| <ul style="list-style-type: none"><li>If your Mediatrix unit is configured to use a DHCP server, use the DHCP server-provided IP address.</li></ul>                                                                                                                       |                             | <a href="#">Logging on to the Mediatrix Unit Web Interface (p.5)</a> |
| IP address of the IP PBX for the Registrar Host and the Proxy Host.                                                                                                                                                                                                       |                             | <a href="#">Configuring the Default SIP Servers (p.6)</a>            |
| The DTMF configuration of your FXO must match the PBX's setting.                                                                                                                                                                                                          |                             | <a href="#">Configuring DTMF Transport (p.8)</a>                     |

# Getting Started

## Logging on to the Mediatrix Unit Web Interface

### Before you start

The computer IP address must be in the same TCP/IP network as the Mediatrix unit.

### Information

For better performances, it is recommended to use the latest available version of Microsoft Internet Explorer, Google Chrome, or Mozilla Firefox.

**Note:** You may not be able to log on to the Mediatrix unit Web interface if you are using older browser versions.

### Steps

- 1) In your Web browser, enter the IP address at which the Web interface of your Mediatrix unit can be reached.
  - If your network has an IPv4 DHCP server, connect the primary Ethernet port of the Mediatrix unit to the network (ETH1 port), use the provided DHCP server IP address.
  - You can also connect your computer to the secondary Ethernet port of the Mediatrix unit (ETH2), use the 192.168.0.10 IP address. However, the computer must also own an IP address in the 192.168.0.0/24 network.
- 2) Enter **admin** as your username and **administrator** as the password.

**Note:** You can also use **public** as a username and leave the password field empty; it has the full administration rights by default.

- 3) Click **Login**.

## Result

The **Information** page of the Web interface is displayed.

## Related tasks

[Configuring the Default SIP Servers \(p.6\)](#)

# Configuring the Default SIP Servers

## Information

In some instances, the configuration of the default servers may already be completed.

## Steps

- 1) Go to **SIP/Servers**.
- 2) In the **Registrar Host** field, indicate the server IP address or FQDN of the SIP Registrar server .
- 3) In the **Proxy Host** field, indicate the server IP address or FQDN of the SIP Proxy server.
- 4) In the **Messaging Server Host** field, indicate the server IP address or FQDN of the Messaging server, if needed.
- 5) Leave the **Outbound Proxy Host** field empty, unless specifically instructed to set a value.

**Note:** Setting the address to 0.0.0.0:0 or leaving the field empty disables the outbound proxy host.

- 6) Click **Apply**.
- 7) Located at the top of the page, click **restart required services**.

## Result

| Default Servers        |                                                      |  |  |
|------------------------|------------------------------------------------------|--|--|
| Registrar Host:        | <input type="text" value="sip.registrarserver.com"/> |  |  |
| Proxy Host:            | <input type="text" value="sip.proxyserver.com"/>     |  |  |
| Messaging Server Host: | <input type="text"/>                                 |  |  |
| Outbound Proxy Host:   | <input type="text"/>                                 |  |  |

## Next Step

[Configuring the FXO Endpoints for Paging Devices \(p.6\)](#)

# Configuring the FXO Endpoints for Paging Devices

## Steps

- 1) Go to **SIP/Registrations**.
- 2) In the **Endpoints Registration** table, in the **User Name** field, enter the paging line extension for each FXO port used for paging devices.

- 3) In the **Friendly Name** field, enter a name to recognise the usage of the FXO port.
- 4) If your IP PBX requires authentication, choose from the **Register** drop down list **Enable**.
- 5) Click **Apply and Refresh**.

## Result

| Endpoints Registration |                                               |                                            |                                      |                                      |                                  |  |
|------------------------|-----------------------------------------------|--------------------------------------------|--------------------------------------|--------------------------------------|----------------------------------|--|
| Endpoint               | User Name                                     | Friendly Name                              | Register                             | Messaging                            | Gateway Name                     |  |
| FXO1                   | <input type="text" value="extension number"/> | <input type="text" value="paging line 1"/> | <input type="text" value="Enable"/>  | <input type="text" value="Disable"/> | <input type="text" value="all"/> |  |
| FXO2                   | <input type="text" value="extension number"/> | <input type="text" value="paging line 2"/> | <input type="text" value="Enable"/>  | <input type="text" value="Disable"/> | <input type="text" value="all"/> |  |
| FXO3                   | <input type="text"/>                          | <input type="text"/>                       | <input type="text" value="Disable"/> | <input type="text" value="Disable"/> | <input type="text" value="all"/> |  |
| FXO4                   | <input type="text"/>                          | <input type="text"/>                       | <input type="text" value="Disable"/> | <input type="text" value="Disable"/> | <input type="text" value="all"/> |  |
| FXS1                   | <input type="text"/>                          | <input type="text"/>                       | <input type="text" value="Disable"/> | <input type="text" value="Disable"/> | <input type="text" value="all"/> |  |
| FXS2                   | <input type="text"/>                          | <input type="text"/>                       | <input type="text" value="Disable"/> | <input type="text" value="Disable"/> | <input type="text" value="all"/> |  |
| FXS3                   | <input type="text"/>                          | <input type="text"/>                       | <input type="text" value="Disable"/> | <input type="text" value="Disable"/> | <input type="text" value="all"/> |  |
| FXS4                   | <input type="text"/>                          | <input type="text"/>                       | <input type="text" value="Disable"/> | <input type="text" value="Disable"/> | <input type="text" value="all"/> |  |

## Next Step

[Disabling Silence Suppression \(p.7\)](#)

## Disabling Silence Suppression

### Steps

- 1) Go to **Media/Codecs**.
- 2) From the **Select Codec Bank**, choose the G.723.1, G.726 or G.729 codec bank.

**Note:** All Codec Banks include the T.38, the Clear Mode, the Clear Channel, and the X-CCD codecs.

- 3) In the **Select Endpoint** drop down menu, select the endpoint you want to configure.
- 4) In the **Codec** table, from the **T.38** selection list, choose **Disable**.
- 5) In the **Generic Voice Activity Detection (VAD)** table, set **Enable (G.711, G.722 and G.726)** to **Disable**.
- 6) Click **Apply**.

## Result

Select Codec Bank: **G.723.1, G.726, and G.729** (always includes G.711, T.38, Clear Mode, Clear Channel, and X-CCD)

Select Endpoint: **Default**

| Codec         | Voice          | Data           | Advanced |  |
|---------------|----------------|----------------|----------|--|
| G.711 a-Law   | <b>Enable</b>  | <b>Enable</b>  |          |  |
| G.711 u-Law   | <b>Enable</b>  | <b>Enable</b>  |          |  |
| G.722         | <b>Disable</b> |                |          |  |
| G.723.1       | <b>Enable</b>  |                |          |  |
| G.726 16Kbps  | <b>Disable</b> |                |          |  |
| G.726 24Kbps  | <b>Disable</b> |                |          |  |
| G.726 32Kbps  | <b>Disable</b> | <b>Disable</b> |          |  |
| G.726 40Kbps  | <b>Disable</b> | <b>Disable</b> |          |  |
| G.729         | <b>Enable</b>  |                |          |  |
| T.38          |                | <b>Disable</b> |          |  |
| Clear Mode    | <b>Disable</b> | <b>Disable</b> |          |  |
| Clear Channel | <b>Disable</b> | <b>Disable</b> |          |  |
| X-CCD         | <b>Disable</b> | <b>Disable</b> |          |  |

| Codec vs. Bearer Capabilities Mapping |                |       |              |        |  |
|---------------------------------------|----------------|-------|--------------|--------|--|
| Index                                 | Enable         | Codec | Mapping Type | ITC    |  |
| 1                                     | <b>Disable</b> | G.722 | Prioritize   | speech |  |
| 2                                     | <b>Disable</b> | G.729 | Prioritize   | speech |  |
| 3                                     | <b>Disable</b> | G.729 | Prioritize   | speech |  |

| Generic Voice Activity Detection (VAD) |                |  |
|----------------------------------------|----------------|--|
| Enable (G.711, G.722, and G.726):      | <b>Disable</b> |  |

## Next Step

[Configuring DTMF Transport \(p.8\)](#)

## Configuring DTMF Transport

### Steps

- 1) Go to **Media/Misc.**

- 2) In the **DTMF Transport** table, set the **Transport Method** to the one set in the VoIP server.
  - a) **In-band**
  - b) **Out-of-Band using RTP** (RFC2833). This is usually the preferred method. Remember to set the payload type if different (e.g.: 96, 101 or 110 in some cases).
  - c) **Out-of-Band using SIP**. For Cisco or Avaya systems, from the **SIP Transport Method** field, use **Info DTMF Relay**. For legacy Nortel and others, leave **Draft Choudhuri SIP Info Digit 00**.
  - d) **Signaling Protocol Dependent**: choose this method if unsure. It will try to use the method negotiated by the VoIP server.
- 3) Click **Apply**.

## Result

| DTMF Transport        |                                   |
|-----------------------|-----------------------------------|
| Transport Method:     | Out-of-Band using RTP             |
| SIP Transport Method: | Draft Choudhuri SIP Info Digit 00 |
| Payload Type:         | 101                               |

## Next Step

[Disabling Dial Tone Detection](#) (p.9)

## Disabling Dial Tone Detection

### Information

Disabling dial tone detection allows the Mediatrix unit to wait for a dial tone before initiating the dialing sequence. If no dial tone is detected or correctly recognised, the line is considered busy.

### Steps

- 1) Go to **POTS/FXO Configuration**.
- 2) In the **FXO Dialing Configuration** table, from the **Dial Tone Detection Mode** dropbox, select **Disable**.
- 3) Click **Apply**.

## Result

| FXO Dialing Configuration         |                                      |
|-----------------------------------|--------------------------------------|
| Pre Dial Delay (ms):              | <input type="text" value="0"/>       |
| Dial Tone Detection Mode:         | <input type="text" value="Disable"/> |
| Dial Tone Detection Timeout (ms): | <input type="text" value="3000"/>    |

## Next Step

[Creating a Call Transformation for Paging Devices \(p.10\)](#)

## Creating a Call Transformation for Paging Devices

### Before you start

Create this transformation only if you do not need to dial but only pickup the line (some paging devices do not require to dial).

### Steps

- 1) Go to **Call Router/Route Config**.
- 2) In the **Transformations** table, click **+**.
- 3) In the **Name** field, enter **paging**.
- 4) From the **Criteria** selection list, choose **None**.
- 5) From the **Transformation** selection list, choose **Called E164**.
- 6) Click **Save and Insert Rule**.
- 7) In the **Transformation Rules** view, click **Save**.

## Result

| Configure New Mapping Type |                                          |
|----------------------------|------------------------------------------|
|                            | Value                                    |
| Name                       | <input type="text" value="paging"/>      |
| Criteria                   | <input type="text" value="None"/>        |
| Transformation             | <input type="text" value="Called E164"/> |
| Config Status              |                                          |

| Configure New Mapping Expression |                                     | Suggestion           |
|----------------------------------|-------------------------------------|----------------------|
| Type                             | Value                               |                      |
| Type                             | None to Called E164                 |                      |
| Name                             | <input type="text" value="paging"/> | --- Suggestion --- ▾ |
| Criteria                         | <input type="text"/>                | --- Suggestion --- ▾ |
| Transformation                   | <input type="text"/>                | --- Suggestion --- ▾ |
| Sub Mappings                     | <div><input type="text"/></div>     | --- Suggestion --- ▾ |
| Config Status                    |                                     |                      |

## Next Step

Creating a Route from Sip-Default to FXO for Paging Equipments (p.11)

## Creating a Route from Sip-Default to FXO for Paging Equipments

### Before you start

Create this route and transformation only if you need to select the destination FXO port to be able to pickup the line without the need to dial.

### Steps

- 1) Go to **Call Router/Route Config**.
- 2) In the **Routes** table, click **+**.
- 3) In the **Configure Route** table, set the following:
  - a) Set the **Sources** field to **sip-default**.
  - b) Set the **Criteria Property** field to **Called E164**.
  - c) Set the **Criteria Rule** field to **101\$**.
  - d) Set the **Transformations** field to **paging**.
  - e) Set the **Destination** field to **fxo-FXO1**.
  - f) Leave the other fields to their default value.
- 4) Click **Save**.

## Result

| Configure New Route  |                                          |                                                 |
|----------------------|------------------------------------------|-------------------------------------------------|
|                      | Value                                    | Suggestion                                      |
| Sources              | <input type="text" value="sip-default"/> | <input type="text" value="--- Suggestion ---"/> |
| Properties Criteria  | <input type="text" value="Called E164"/> |                                                 |
| Expression Criteria  | <input type="text" value="101\$"/>       | <input type="text" value="--- Suggestion ---"/> |
| Mappings             | <input type="text" value="paging"/>      | <input type="text" value="--- Suggestion ---"/> |
| Signaling Properties | <input type="text"/>                     | <input type="text" value="--- Suggestion ---"/> |
| Destination          | <input type="text" value="fxo-FXO1"/>    | <input type="text" value="--- Suggestion ---"/> |
| Config Status        |                                          |                                                 |

## Online Help

If you are not familiar with the meaning of the fields and buttons, click **Show Help**, located at the upper right corner of the Web page. When activated, the fields and buttons that offer online help will change to green and if you hover over them, the description will be displayed.

# DGW Documentation

Mediatrix devices are supplied with an exhaustive set of documentation.

Mediatrix user documentation is available on the [Media5 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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