

Outbound Routes Module User Guide

THIS WIKI HAS BEEN UPDATED FOR VERSION 13 OF YOUR PBX GUI

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Overview

Outbound routing is a set of rules that the PBX uses to decide which trunk to use for an outbound call. Having multiple trunks allows you to control cost by routing calls over the least costly trunk for a particular call. Outbound routes are used to specify what numbers are allowed to go out a particular route.

You will want to make sure you define routes for all types of calls. Not defining a route can leave your users frustrated when they need to make an important call.

When a call is placed, the actual number dialed by the user is compared with the dial patterns in each route (from highest to lowest priority) until a match is found. If no match is found, the call fails. If the number dialed matches a pattern in more than one route, only the rules with the highest priority in the route are used.

Important

The emergency route should normally be placed first, at the top of the list.

"Outbound Route Dial Patterns" can be used to strip off leading digits before passing them to a trunk. This is most useful if you use a specific dialing code to access a particular route. For example, "9" to access an outside line.

Outbound dial rules work in conjunction with trunk dial rules. Trunk dial rules are ONLY used for adding numbers to, or subtracting numbers from the number being sent to the trunk. Trunk dial rules are never used to allow or restrict numbers that may be dialed. See the [Trunks Module](#) wiki for additional information.

Logging In

- From the top menu click **Connectivity**
- In the drop down click **Outbound Routes**

Outbound Routes

This page is used to manage your outbound routing.

[+ Add Outbound Route](#)

Name	Outbound CID	Attributes	Actions
+ E911-Leave-First		   	 
+ SIPStation-Out		   	 
+ SIPStation-INT		   	 

The outbound routes home page shows a list of routes, in order of priority from highest to lowest. The columns are **Name**, **Outbound CID**, **Attributes**, and **Actions**.

Name

The name of the route, along with an arrow symbol  indicating you can drag and drop the route to change its order in the list.

Outbound CID

The outbound caller ID for this route.

Attributes

- **Green = Yes**
- **Gray = No**



= Emergency Route



= Intra-Company Route



= Password-Protected



= Time Group Assigned

Actions



= View or Edit



= Delete

Adding an Outbound Route

Click the **Add Outbound Route** button.

Route Settings Tab

Route Name

Name of this route. Usually used to describe what type of calls this route matches (for example, "local" or "longdistance"). Cannot contain spaces.

Route CID

Optional route Caller ID to be used for this route. If set, this will override all CIDs specified *except*.

- Extension/device EMERGENCY CIDs if this route is checked as an EMERGENCY route type
- Trunk CID if trunk is set to force its CID
- Forwarded call CIDs (CF, Follow Me, Ring Groups, etc)
- Extension/user CIDs if the Override Extension option is set to No

Override Extension

Yes/No: If set to **Yes**, the extension's Outbound CID will be ignored in favor of the route CID set above. The extension's Emergency CID will still be used if the route is an Emergency Route and the Extension has a defined Emergency CID.

Route Password

(Optional) A route can prompt users for a password before allowing calls to progress. This is useful for restricting calls to international destinations or 1-900 numbers. A numerical password or the path to an authenticate password file can be used. Leave this field blank to not prompt for a password.

Route Type

(Optional) Whether the route is considered an emergency or intra-company route.

- **Emergency:** This will enforce the use of a device's Emergency CID setting (if set). Select this option if the route is used for emergency dialing (i.e.: 911).
- **Intra-Company:** The system will treat route as an intra-company connection, preserving the internal caller ID information instead of the outbound CID of either the extension or trunk.

Music On Hold

You can choose which music category (MoH) to use. For example, choose a type appropriate for a destination country that may have announcements in the appropriate language.

Time Group

If this route should only be available during certain times, then select a time group created under the Time Groups module. The route will be ignored outside of times specified in that time group. If left as default, "Permanent Route," then it will always be available.

Route Position

Where to insert this route or relocate it relative to the other routes.

Trunk Sequence for Matched Routes

The trunk sequence controls the order of trunks that will be used when the above dial patterns are matched. For dial patterns that match long distance numbers, for example, you would want to pick the lowest cost route for long distance, followed by more expensive routes.

Time Group

By default the route is a **Permanent Route**, meaning it is available at all times. To restrict the route to only being available during certain times, you can select a time group from the drop-down menu. Then, the route would be ignored outside of times specified in the time group. To create a new time group, visit the [Time Groups Module](#).

Route Position

Where to insert this route or relocate it relative to the other routes. You can select a position from the drop-down menu. You will also be able to move the route later by dragging and dropping it in the routes list on the module home page.

Trunk Sequence for Matched Routes

Controls the order of trunks that will be used when the above dial patterns are matched. For dial patterns that match long distance numbers, for example, you'd want to pick the cheapest routes for long distance (i.e., VoIP trunks first) followed by more expensive routes (POTS lines).

Select one or more trunks from the drop-down menus. You can also change the order of trunks by dragging and dropping the routes using the arrow icon . The top route will be tried first, followed by the next route down, and so forth.

Optional Destination on Congestion

Destination for calls that encounter trunk congestion. Default = **Normal Congestion**. You can select a different destination if desired. For example, you might play a customized system recording.

Dial Patterns Tab

A dial pattern is a unique set of digits that will select this route and send the call to the designated trunks. If a dialed pattern matches this route, no subsequent routes will be tried. If time groups are enabled, subsequent routes will be checked for matches outside of the designated times.

A dial pattern can have up to four elements: **Prepend**, **Prefix**, **Match Pattern**, and **CallerID**. Each element has its own field in the Outbound Routes Dial Patterns tab.

The format is:

(prepend) prefix | [match pattern / caller ID]

(prepend)		prefix		[match pattern /	CallerID]	
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You can enter any combination of numbers and the following special patterns:

PATTERN	DESCRIPTION
X	Any whole number from 0-9
Z	Any whole number from 1-9
N	Any whole number from 2-9
[###]	Any whole number in the brackets, example [123] is 1 OR 2 OR 3. Note that multiple numbers can be separated by commas and ranges of numbers can be specified with a dash ([1.3.6-8]) would match the numbers 1,3,6,7 and 8.
. (dot)	It matches one or more characters and (acts as a wildcard)

Prepend

The prepend will be added to the beginning of a successful match. If the dialed number matches the patterns specified by the subsequent columns, then this will be prepended to the sequence before sending it to the trunks.

Prefix

Prefix to remove upon a successful match. The dialed number is compared to this and the subsequent columns for a match (prefix + match pattern). Upon a match, this prefix is removed (stripped) from the dialed number before sending the sequence to the trunks.

Match Pattern

The dialed number will be compared against the prefix + this match pattern. Upon a match, the match pattern portion of the dialed number will be sent to the trunks.

CallerID

If caller ID is supplied, the dialed number will only match the prefix + match pattern if the caller ID being transmitted matches this. When extensions make outbound calls, the caller ID will be their extension number and NOT their outbound CID. The above special matching sequences can be used for caller ID matching similar to other number matches.

Dial Patterns Wizards

These are pre-constructed dial patterns. Selecting a pre-made pattern will automatically populate the Dial Pattern fields.

To use a wizard, click the **Dial patterns wizards** button.

Dial patterns wizards

This displays a pop-up window where you can generate various dial patterns.

Dial patterns wizards ×

These options provide a quick way to add outbound dialing rules. Follow the prompts for each.

Download local prefixes This looks up your local number on www.localcallingguide.com (NA-only), and sets up so you can dial either 7, 10 or 11 digits (5551234, 6135551234, 16135551234) as selected below to access this route. Please note this requires internet access and may take some time

Generate Buttons You may choose 7,10,11 digit patterns as your provider allows. If you do not choose 'Download' this will add a generic 7,10 or 11 digit pattern

Generic Patterns You may select to allow toll free calls such as 800,877 etc as well as Directory assistance, International dialing and long distance

NPA

NXX

[Download Local Patterns](#)

[7 Digit Patterns](#)

[10 Digit Patterns](#)

[11 Digit Patterns](#)

[US Toll Free Patterns](#)

[US Information](#)

[US Emergency](#)

[US International](#)

[Long Distance](#)

[Close](#)

[Generate Routes](#)

The information on this wizard comes from a variety of sources and is not guaranteed to be 100% complete or correct. For authoritative information, please consult the appropriate company or trunk provider.

How to Generate Local Dial Patterns

The Download Local Patterns feature will look up the NPA-NXX (area code and prefix) on www.localcallingguide.com. This feature is only available for North American numbers. Internet access is required in order to use this feature.

NPA

NXX

Download Local Patterns

- Enter your local **NPA** (area code)
- Enter your local **NXX** (prefix)
- Select the **Download Local Patterns** button. It will turn dark blue when selected.

Download Local Patterns

- Now, select one or more pattern options in the next line of buttons. You can choose from 7-, 10-, and 11-digit patterns.

Unselected:

7 Digit Patterns

10 Digit Patterns

11 Digit Patterns

Selected:

7 Digit Patterns

10 Digit Patterns

11 Digit Patterns

- Click the **Generate Routes** button.

Generate Routes

- Be patient; this may take some time. After the system has looked up and downloaded local dial patterns, the Wizard window will disappear, and your dial pattern fields will be populated with the 7-, 10-, and/or 11-digit patterns you requested.

How to Generate Generic 7-, 10-, and/or 11-Digit Dial Patterns

- Leave the **NPA** and **NXX** fields blank
- **Do not** select the **Download Local Patterns** button (it should be light blue in color)
- Then, select one or more pattern options:

7 Digit Patterns

10 Digit Patterns

11 Digit Patterns

- Click the **Generate Routes** button.
- Your new dial patterns will be added to your list in the Dial Patterns tab. If the Wizard window does not automatically disappear, click **Close** to close it.

How to Generate Toll-Free, US Information, US Emergency, US International, and Long Distance Dial Patterns

- Choose one or more of the buttons near the bottom of the Dial Patterns Wizard. Note: the settings above, such as 7/10/11 digit patterns and NPA-NXX do not affect these dial patterns.

- **US Toll Free Patterns:** 11-digit dial patterns 1800NXXXXXX, 1888NXXXXXX, 1877NXXXXXX, 1866NXXXXXX, 1855NXXXXXX, and 1844NXXXXXX
 - **US Information:** 3-digit dial patterns 211, 311, 411, 511, 611, and 711.
 - **US Emergency:** 3-digit dial patterns 911 and 933, along with three other versions of 911 containing a prefix (1-911, 9-911, and 91-911).
 - **US International:** Matches any number that begins with 011 (dial pattern of "011 + wildcard").
 - **US International:** A generic 11-digit dial pattern starting with 1 ("1NXXNXXXXXX").
- Click the **Generate Routes** button.
 - Your new dial patterns will be added to your list in the Dial Patterns tab. If the Wizard window does not automatically disappear, click **Close** to close it.

Import/Export Patterns Tab

Here, you can import dial pattern CSV files or export your dialplan as a CSV file.

Upload

Create a CSV file with a dial pattern list. If there are no headers, then your CSV file must have 4 columns of patterns in the same order as in the GUI. You can also supply headers: **prepend**, **prefix**, **match pattern** and **callerid** in the first row. If there are less than 4 recognized headers, then the remaining columns will be blank.

Click the **Choose File** button to import a CSV file. Select the file from your computer. After you have made your selection, the filename will appear next to the Choose File button. The new dial patterns are added to your list in the Dial Patterns tab after you click the module's **Submit** button.

After clicking **Submit**, the dial patterns in your CSV file will replace the entire list in your Dial Patterns tab, instead of adding to or syncing with any dial patterns you previously entered in that tab.

Export

Click the **Export** button to download a list of patterns as a CSV file with headers listed as: **prepend**, **prefix**, **match pattern** and **callerid** in the first row.

This feature will export the latest dialplan that has been submitted. If this is a brand-new route or you have just made changes to your dial patterns, you would need to click the module's **Submit** button before this feature will work correctly.

Additional Settings

The settings shown here will vary depending upon whether you have additional add-ons installed. If you have modules such as Outbound Call Limiting, Class of Service, Extension Routing, Fax Pro, and Page Pro, you will see their associated options.

Below is the view without add-ons:

Outbound Routes

Edit Route

Route Settings	Dial Patterns	Import/Export Patterns	Additional Settings
Note that the meaning of these options has changed. Please read the wiki for further information on these changes.			
Call Recording	Force	Yes	Don't Care
	No	Never	
PIN Set	None		

Call Recording

Force/Yes/Don't Care/No/Never: This sets the call recording behavior for calls going out this route. Please read the [Call Recording walk through](#) wiki for information on what these settings mean.

"Class of Service is enabled"

**Shown only if Class of Service is enabled:* If you see this message, you can use the [Class of Service](#) module to manage which users have access to this outbound route.

Extension Routing

**Shown only if Extension Routing is enabled AND Class of Service is unavailable or disabled.* Please refer to the [Extension Routing](#) wiki for more information.

T38-Gateway Enabled

Shown only if Fax Pro is enabled.* **Yes/No: Set this to yes if you are using a T38 Gateway device. Please refer to the [Fax Pro](#) wiki for more information on outbound faxing.

Notifications

Shown only if Page Pro is enabled.* Select a page group to page and connect to any call that is served by this route. Default = **None. (We do not recommend using a page group that uses "force valet paging.") When a call is placed using this route, a page will go out to the page group notifying them of what number was dialed and what user dialed the number. Any user of the page group can then dial "*"1" to barge into the call to listen and speak. Notifications would also be for emergency routes, such as 911. Please refer to the [Page Pro](#) wiki for more information.

PIN Set

Select a PIN set to use. Default = **None**. For more information on this feature, see the [Pin Sets](#) wiki for the standard version, or [PIN Set Pro](#) wiki for the Pro version.

Save

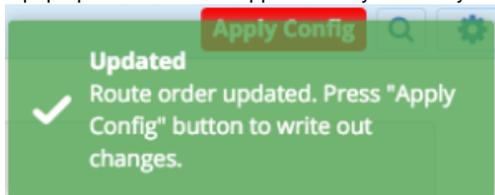
Make sure to press the **Submit** button when done editing your outbound route, followed by the **Apply Config** button to apply the changes. You can also create a duplicate route by clicking the **Duplicate Route** button.

Changing the Order of Outbound Routes

Remember, the system searches for a matching dial pattern by starting with the top route and working its way down. If a match is found, the system does not continue going down the list looking for a "better" route. Therefore, route order is important, especially if there is some overlap. For example, the number 5555551212 will match both a dial pattern of 555555XXXX and NXXNXXXXXX.

A) To change the order of routes in the module home page:

- Simply drag and drop. Hold the mouse button down over the arrow symbol  or the route's name, and drag the entire line to a new position in the list.
- A pop-up notification will appear to let you know you've changed the order.



- Click the **Apply Config** button to apply the changes.

B) To change the order of a route when creating/editing it:

- In the **Route Settings** tab, you can use the **Route Position** tab to select a new position for a route.



- Click the **Submit** button, then click the **Apply Config** button to save the changes.

Editing or Deleting an Outbound Route

- To **Edit**, click the edit button  next to an outbound route in the list on the module home page. When finished, click the **Submit** button, then click the **Apply Config** button.
- To **Delete**, click the trash button  next to an outbound route in the list on the module home page. Confirm deletion by clicking **OK** in the pop-up window. Then click the **Apply Config** button.
 - Alternatively, if already viewing an outbound route, click the **Delete** button, click **OK** in the pop-up window, and click the **Apply Config** button.