

Hardware Providers

<https://campus.barracuda.com/doc/39823661/>

See also:

- [System Configuration](#)
- [Telephone and User Configuration](#)

The Barracuda Phone System models ending in B (for example, 270B) have built-in hardware for connecting to traditional telephone company (telco) connections. The 270B allows up to four analog phone lines. The 370B has a single PRI port, the 470B has two PRI ports, and the 670B has four PRI ports.

Analog Phone Lines (Model 270B)

Navigate to **Providers > Hardware Providers**. You will see four analog ports and one Analog Phone Port. The four analog ports are FXO ports, with two lines per RJ14 jack. These ports are backlit with a red light. The jack nearest the side of the chassis contains FXO ports 1 and 2, and the inner pair of pins are FXO 1 and the outer pins are FXO 2. The second RJ14 jack contains FXO ports 3 and 4 with the same pin pattern. The analog phone port is a single FXS port that is backlit green. (This port is currently unused and will be made available in a future software revision.)

Each analog port has two basic settings:

- A destination extension number for incoming calls on the FXO port
- Route settings for outbound calls

Use any valid extension on the system as the destination for incoming calls on this FXO port. Routing of outbound calls is discussed below.

PRI Circuits (Models 370B, 470B, 670B)

Navigate to **Providers > Hardware Providers**. You will see one or more digital ports listed. Each digital port represents a single PRI connection to the Barracuda Phone System from the telephone company. Each port has several configuration options. Most of these will be supplied by your telco. The following options are available on each digital port:

- **Signal Type** – The Barracuda Phone System supports DMS100, National ISDN-2, Lucent 5ESS, and EuroISDN.

- **PRI Signaling** – Almost always set to CPE. Only choose Network Side when instructed to do so by your carrier or by Barracuda Technical Support.
- **Clock Source** – Almost always set to Normal. Only choose Master when instructed to do so by your telco.
- **Channels** – Usually set to All Channels. In some cases the telco provides only a partial (or fractional) circuit and will tell you which channels to enable.
- **Channel Hunt Order** – The order in which PRI channels are selected when making outbound calls. The options are:
 - **Ascending** – (Default) Selects the highest-numbered channel first, then the next highest-numbered channel. In a typical North America PRI this would mean channel 23, then channel 22, etc. (most outbound calls would go out on channel 23).
 - **Descending** – Selects the lowest-numbered channel first, then the next-lowest numbered channel. In a typical North American PRI this would mean channel 1, then channel 2, etc. (most outbound calls would go out on channel 1).
 - **Round Robin Ascending** – Selects the highest-numbered channel first, then the next highest numbered channel until all channels have been used at least once and then repeats. In a typical North America PRI the Barracuda Phone System would use channel 23, then 22, 21, ... down to 1 and then back up to channel 23.
 - **Round Robin Descending** – Selects the lowest-numbered channel first, then the next lowest numbered channel until all channels have been used at least once and then repeats. In a typical North America PRI the Barracuda Phone System would use channel 1, then 2, 3, ... up to 23 and then back down to channel 1.
- **Caller ID Number** – Customize the sent outbound caller ID on this PRI circuit. Specify which conditions to send the caller ID:
 - Always sent
 - Always sent unless overridden
 - Never sent
- **Services** – Specify whether or not to allow faxing on this PRI. Not all carriers support faxing over a PRI circuit, so if you plan to use the PRI for faxing, be sure to ask the carrier whether the circuit supports faxing.
- **External Numbers** – If your telco has provided DID numbers for this PRI circuit then enter them here. Be sure to enter the numbers exactly as specified by the provider. Usually these are 10-digit numbers, however sometimes the provider will send 4- or 7-digit phone numbers.
- **Outbound Routing** – Add outbound routes to this PRI circuit. See [Call Routing](#) for configuration instructions for outbound routing.

PRI Preferences for North America

The Barracuda Phone System supports a number of T1 and PRI settings. In North America the following settings are preferred, though not required. Your PRI provider will be able to confirm whether these are available.

- **PRI switch type:** National ISDN (NI2)

- **Line Framing:** ESF
- **Line Encoding:** B8ZS
- **Clock Source:** The clock is provided by the carrier.
- **Channel selection on inbound DID calls:** Ascending
- **DNIS digits:** 10 digits (or 1+10 digits)

The Barracuda Phone System is CPE (aka terminal) and carrier is network side.

If you have any questions about T1/PRI configurations, contact your carrier or [contact technical support](#).

Hardware Providers

Call routing allows you to customize how outbound calls are routed over your provider connections. You can specify which connections to use based on the digits that the user dialed. You can also specify the failover order. For example, if you have a PRI circuit and a VoIP gateway, you can specify that outbound calls try the PRI circuit first and then the VoIP gateway second (or vice versa).

Navigate to **PROVIDERS > Call Routing** to see the current routes on the system. The routes are listed in the order that they will be attempted. You can move a route up or down to adjust its priority. You can also add a new route or edit existing routes from this page.

Each route listed has three parameters:

- **Call Type** - The name of the route that will attempt to match the digits dialed.
- **Restrict To** - When set, causes the route entry to apply only to the specified [group](#) or [site](#). The digits must match the Call Type and the caller must belong to the group or site. If either condition is not met then the route processing will continue.
- **Destination** - Gateway through which the call is to be sent.

A route will be deleted automatically if it is restricted to a single group and that group is deleted from the system.

The Barracuda Phone System comes preconfigured with several common route definitions. You may not need to add custom route definitions, but you may do so if needed. The following routes are preconfigured:

- **10 Digit Dialing** - Matches any 10 digits dialed
- **11 Digit Dialing** - Matches any 11 digits dialed
- **International Dialing (011)** - Matches any international dialing, that is, any string of digits

beginning with 011 followed by 8 to 15 more digits

- **North America (NANPA)** - Matches any valid area code and phone number combination, with an optional leading 1. Example: 1-408-342-5400 and 408-342-5400 both match. NANPA is more restrictive than 10 or 11 Digit Dialing. The latter allow any combination of 10 or 11 digits.
- **Information** - Matches a 411 call
- **Emergency (USA)** - Matches a 911 call
- **7 Digit Dialing** - Matches any 7 digits
- **7 Digit Dialing (Area Code xxx)** - Only appears if you have specified a default area code in CONFIGURATION > Phones. This route will match any 7 digit number but will prepend 1 and the area code when sending the call out. Most VoIP providers require sending 1 + area code + phone number on all calls, even local ones. For example, if 408 is the default area code, a user can dial 342-5400 and the Barracuda Phone System will send 14083425400 to the gateway provider.

External Hardware Ports

This screen contains a list of all of the analog and digital ports configured on external SIP-based gateways connected to this server. The controls on this screen are:

- **Show** - Select the number of entries to show on each page.
- **Filter** - Filter the display by port name or number.

Click on a port from the list to open up the detail page where the port settings can be modified.

Add Routes

You can add new routes and edit existing routes. All routes have a [regular expression pattern](#) for matching the digits dialed. All routes also have a Call Type. Using Manage Call Types you can add a New Call Type or edit an existing call type by selecting it and editing Call Type Name, Match Condition (regular expression) and Route Type. The available Route Type options to associate with a Call Type are:

- **Internal** - A route for calls between PBXs
- **Local** - Local calls
- **Long Distance** - Long distance calls
- **International** - International calls
- **Emergency** - Emergency calls
- **Information** - Information calls

Route Type helps caller ID work correctly for that route. If you are creating a new route then use the Route Type that best describes your route. If you are configuring a Call Type for a route that applies to both local and long distance calls, select **Long Distance** as the **Route Type**.

After you create your new route definition you will be able to view it and use it. You should always test your routes before putting them into production, and put them into production when the system activity is relatively low.

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