

EPM-Admin User Guide

Commercial Module

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Overview of EPM

The PBX End Point Manager (EPM) on your phone system lets you manage external device settings such as phones, gateways, and overhead paging devices. With EPM you can create templates defining the settings you want for a group of devices, and then map extensions to use specific templates.

The following items are the main parts of EPM:

- **Global Settings** - These are global settings that EPM will use for all templates, such the external and internal IP addresses of your PBX.
- **Extension Mapping** - This is where you map an extension on the phone system to a specific MAC address of a device and define what template will be used to build the configuration files.
- **Brands** - This is where you can see which brands have been set up with a template in EPM. Clicking on a brand name will bring up a screen to see all the templates that are created for that brand.
- **Add Brand** - Here is where you would add a new brand of phones/devices for which you want to create one or more templates.
- **Image Management** - Here you can manage uploading images that you can use in any template that supports phone side images.
- **Basefile Edit** - This section is for advanced users and should only be used with guidance from support. This allows you to change hard coded values of any template settings on any brand of phone. Many settings for a template are set to use hard coded default values, but these can be changed in the base file edit on a per template basis. You can also add new config file values that we do not let you define in the Template Management section for each brand.
- **Custom Extensions** - The premise of EPM is to pull extension information such as SIP passwords and names from within your local PBX. If you want to set up a phone or a line key on a phone for an extension that does not exist on the local PBX, you would first need to define the extension information here for EPM to pull from.
- **Firmware Management** - The firmware management section is used to install and update firmware for each brand of phone that supports firmware management. You can choose which firmware version should be installed in two different versions: "Slot 1" and "Slot 2." You can then choose on a per template basis which firmware slot to use for that template.
- **Network Scan** - Network Scan is software that will scan your network for all MAC addresses of all the devices we support. It presents you with all MAC addresses for devices that are currently not mapped in Extension Mapping and lets you automatically map those MAC addresses to any extension and template.

Getting Started

- When you first log into EPM you will see a menu like this on the right side with the sections as defined above. You can click the menu button



at any time to expand or collapse the menu.

EndPoint
Global Settings
Extension Mapping
Brands
Sangoma
Advanced
Add Brand
Image Management
Basefile Edit
Custom Ext Management
Firmware Management
Network Scan

Global Settings

- First, make sure you have some global settings set correctly, so choose the **Global Settings** option on the right.

Endpoint Manager

Global Settings

Internal IP Address ?	<input type="text" value="192.168.0.1"/>						
External IP Address ?	<input type="text" value="178.891.919.111"/>						
Ports ?	<table><tr><td>Web Server Port</td><td>80</td></tr><tr><td>HTTP Provision Port</td><td>83</td></tr><tr><td>RESTfull Apps Port</td><td>84</td></tr></table>	Web Server Port	80	HTTP Provision Port	83	RESTfull Apps Port	84
Web Server Port	80						
HTTP Provision Port	83						
RESTfull Apps Port	84						
Phone Admin Password ?	<input type="text" value="222222"/>						
Phone User Password ?	<input type="text" value="111111"/>						
ReSync Time ?	<input type="text" value="86400"/>						
XML-API (RestAPI) Default Login ?	<input checked="" type="radio"/> Yes <input type="radio"/> No						
Extension Mapping IP Addresses ?	<input checked="" type="radio"/> Yes <input type="radio"/> No						
Extension Mapping Phone Status ?	<input checked="" type="radio"/> Yes <input type="radio"/> No						
Value Correction ?	<input checked="" type="radio"/> Yes <input type="radio"/> No						
Admin UCP for All ?	<input checked="" type="radio"/> Yes <input type="radio"/> No						

- **Internal IP** - You need to set the Internal IP Address to be whatever the IP Address of the PBX is. You will use this later when creating a template.
In our example this is set to 192.168.0.1.

Internal IP Address ?

- **External IP** - If you are going to have any phones connecting to the PBX from outside your local network, then make sure to define the External IP address or FQDN that will resolve to the External IP Address of your PBX.
In our example we have set this to 178.891.919.111.

External IP Address ?

- **Ports** - This section displays which ports are used for the web server, HTTP provisioning, and RESTful Apps. This information is based on what you have set up in the Port Mapping section of the System Admin module. For instructions on how to change the ports, see the [System Admin - Port Management](#) wiki.
 - **Web Server Port** - This is the port for the PBX Admin GUI for controlling the system.
 - **HTTP Provision Port** - Set the phone's config to this port number if you are using HTTP provisioning for your phones. All traffic from this port will automatically be directed to the folder that contains your phone configuration and firmware.
 - **RESTful Apps Port** - If you are using Phone Apps, this is the port that the applications will use to communicate with the PBX.
- **Phone Admin Password** - All phones that we support have a Phone Admin Password. You can set this password here, and it will be used by all phones as the Admin password for logging into the phone's web GUI. You are required to use at least 6 characters for your password. You can also use this password when using the [Login REST App](#) on the phone to login as a user without knowing the user's password.

Phone Admin Password ?

- **Phone User Password** - Some phones, such as Cisco, have both an Admin User and a Normal User. You need to first log in as a Normal User, then log in as the Admin User. The Phone User Password set here defines the password for the Normal User. You are required to use at least 6 characters for your password. You can also use this password when using the [Login REST App](#) on the phone to login as a user who does not have a voicemail password set up.

Phone User Password

111111

- **ReSync Time** - Most phones will auto sync periodically to see if there are any phone config changes for the phone to apply. You can define this interval here in seconds.
In our example below, 86400 would tell the phone to check once every 24 hours for new configurations and apply them if found.

ReSync Time

86400

- **XML-API (RestAPI) Default Login** - If you want to allow a phone to use the Phone Apps Login/Logout [hot-desking feature](#), if supported by the phone, then you need to enable this option. This will cause the system to generate a default config that will present a new user with a login button on the phone after the previous user logs out. If this default login option is set to **No**, then when a user logs a phone out, there will be no login button available to a new user. Be sure to set this to **Yes** if you need to enable hot-desking. (Dark blue background = selected)

XML-API (RestAPI) Default Login

Yes

No

- **Extension Mapping IP Address and Phone Status** - Choose whether to display these items.
 - **IP Address** - This will display the IP address that the phone is reporting to your PBX while it is registered to the PBX.
 - **Phone Status** - This will display the ping time of the phone from the PBX while the phone is registered to the PBX.

Extension Mapping IP Addresses

Yes

No

Extension Mapping Phone Status

Yes

No

- Click the **Save Global** button to save your changes when done.

» **Save Global**

Next Step

Now that you have some global settings defined, you can create templates for any brand of phone that you would like to connect to the PBX.

Adding a Brand

- Click the menu button



on the right side to expand the menu.

- Here you will see a list of phone **Brands** (manufacturers) that have been activated on your PBX.

EndPoint
Global Settings
Extension Mapping
Brands
Sangoma
Advanced
Add Brand

- To add a new brand, click the **Add Brand** button under the **Advanced** section of the menu.

Advanced
Add Brand
Image Management
Basefile Edit

- A pop-up will then let you pick which brand you want to add. Click on a brand name.

Add a New Brand

Select a new Brand

Aastra
Algo
And
Audiocodes
Cisco
Cortelco
Cyberdata
Digium
Grandstream
Htek
Incom
Konftel
Mitel
Mocet
Obihai
Panasonic
Phoenix
Polycom
Snom
Uniden
Vtech
Xorcom
Yealink

- A new template will be created. You can now set up the template as outlined below for each manufacturer.

Template Creation and Editing (Example with Sangoma Brand)

In our example we are going to use the Sangoma brand products. Each brand has its own settings and may vary a bit from our example. At the end of this wiki guide, we go through any special settings on specific brands.

- Click the menu



- button on the right to expand the nav menu.
- Click on the **Sangoma** option under brands.

EndPoint
Global Settings
Extension Mapping
Brands
Sangoma
Advanced
Add Brand

- At this point you can either edit an existing template or create a new template.
 - To Edit an Existing Template:** Click on any template name from the list. A list of all extensions that are mapped to the template will be listed under the "Used By" section.

Template	Used By
default-sangoma	5001 5002 5003 5004 5005 5006 5007 5008 5009 5010 5011 5012 7001 7002 7003 7004 7005 7006 7008
test	Not in use

- To Create a New Template:** Click the **New Template** button.

New Template

- Template Name-** Give your template a name, such as "Default."

Template Name ?

- Default Template-** A single template for each brand can be marked as the **default** template. Please review our [Hot Desking Primer](#) wiki for EPM and Rest Apps.

Default Template ?

- Destination Address-** Here you define what IP Address or FQDN you will program the phone with. This will tell the phone how to reach the PBX and where to register. You can either type an IP or FQDN, or select the **Internal** or **External** button to automatically pull the information from the EPM Global Settings.

Destination Address ?

- **Time Zone**- The time offset from 0 (GMT) for the time zone where the phone is located, in +/-HH:MM format. For example, Central Time would be -06:00.

Time Zone ?

-06:00

- **Primary Time Server**- The IP or FQDN Address of the time server you want the phone to use. We recommend using 0.us.pool.ntp.org

Primary Time Server ?

0.us.pool.ntp.org

- **Daylight Savings**- This is used to tell the phone weather it should use daylight savings or not.

Daylight Savings ?

Enable

Disable

- **Background Image**- Use this option to change the background image used on your phone. See the Image Management section later in this wiki for information on how to upload a background image for devices.

Background Image ?

None

- **Line Label**- If the device supports an LCD screen for the line label you can pick between having the extension name, extension number, or both show up on the LCD for the line label on the device. Please note, the label portion of your phone is limited in the number of characters it supports. Anything too long will be cropped.

- **Name**- Only the assigned name will show up, for example, "John Doe."
- **Extension**- Only the extension number will show up, for example, "4000."
- **Name-Extension**- Both the name and number will show up, for example, "John Doe 4000."

Line Label ?

Name

Extension

Name-Extension

- **Multicast Enable**- Enable or disable multicast paging on this device. If enabled, you can define a list of addresses it will listen on for a multicast page, below.

Multicast Enable ?

Enable

Disable

- **Multicast Address**- List of IP addresses that the device should listen on for multicast pages, separated by commas.

Multicast Address ?

224.0.36.0:10000,224.0.36.1:10000

- **Dial Patterns**- Here you can change the default included dial pattern for the phone. A dial pattern is what the phone looks to for a match for sending calls to the PBX.

Dial Patterns ?

x+# |xx+*

- **Firmware Version**- The firmware slot this template will use for the firmware for these devices. Please see the Firmware Management section later in this wiki for instructions on how to create firmware slots. Each brand has an included recommended firmware slot by

default, which is the version that we have tested with. This does not mean all features will work or that the firmware is bug-free; it is just the version we tested with. You can pick between **Recommended**, **Slot 0**, **Slot 1** and **Slot 2**.

Firmware Version ?

Firmware Slot 1

- **Ring Tones**- Here you can pick from the 5 included ring tones that you want to set as the default ring tone. This will be used for calls to this device any time something in the PBX is not explicitly set to override the ring tone. Please see the Sangoma phone [Ring Tones](#) wiki for more information on how Sangoma phones can dynamically change the ring tone from within the PBX based on where the caller originated.

Ring Tone ?

Default

- **Screen Saver and Screen Saver Timeout**- You can optionally turn on a Screen Saver and what time it should wait before it kicks on.

- **Screen Saver**- Select one of the available types.

Screen Saver ?

Time and Logo

Photo Switch

Photo 1

- **Screen Saver Timeout**- If you do not want to enable the screen saver, select **Screen Saver Off**. Otherwise, select one of the time delay options for how long the phone should wait before turning on the screen saver.

Screen Saver Timeout ?

Screen Saver Off

1 Minute

2 Minutes

5 Minutes

10 Minutes

30 Minutes

- **Headset Settings**- Enable this option if you want to connect an Electronic Hook Switch (EHS) headset to the phone.

Headset Settings ?

Enable

Disable

- **Call Waiting Signal**- Enable this option if you want to hear a beep on the phone when a call is sent to your device while you are already on a call. If you set this to **Disabled**, the call is still sent to your device and you can see the inbound call on the screen of the phone, but an audible call waiting tone will not be played to you.

Call Waiting Signal ?

Enable

Disabled

- **BLF Alert**- If you have a BLF button set up to monitor 1 or more extensions, you can optionally have an audio alert, visual alert, or both sent to your phone. See the [BLF Alerts](#) wiki for more information.

BLF Alert ?

No Alert

Visual

Audio

Both

- **HotLine and HotLine Destination**- The Hotline Dial option allows you to set up the phone to auto-dial a specific extension or phone number when you take the receiver off hook. This is handy in a lobby area where you can inform the caller to pick up the handset in order to automatically place a call. You can set this to route the call to a destination such as an extension, outside phone number, queue, ring group or IVR.

- **HotLine**- Pick whether to enable or disable the hotline dial option. If you **Enable** it, you will see the option to enter a destination below.
- **HotLine Destination**- The destination that the phone will automatically dial when a user takes the receiver off hook.

HotLine ?

Disable

Enable

HotLine Destination

HotLine
Destination

Destination



- **Provision Server Address**- This is used to tell the phone what IP or FQDN Address it should use to locate and pull firmware and configuration files from. This is usually your PBX IP or FQDN.

Provision Server Address ?

199.102.239.16

At this time, Sangoma devices only support TFTP provisioning.

- **Provision Server Protocol**- Define what protocol you want your phones to use when receiving their config files.
 - **TFTP** should be used when phones are local to the PBX, as it's easy to use and requires no setup.
 - **FTP** should be used if your phones are remote, as it requires the phone to know the FTP username and password to receive the config file.
 - If using FTP, you will need to set up an FTP username and password for the PBX. Review this [wiki on how to set up an FTP server](#) for phones to receive their configuration files.

Provision Server Protocol ?

TFTP

FTP

HTTP

- When done, do not forget to press the **Save Template** button at the bottom of the page.

Save Template

- Once you have saved your template, you can now manage the settings for each specific model number/device that you want to set up.
- Scroll to the bottom of the template page and click on one of the model numbers under Available Phones.

Available Phones

S300

S500

S700

- The first 2-3 buttons should always be set up as line keys. A line key is what allows you to make or receive a call, so if you want to manage 2 calls at a time, you need to set up 2 line keys.

IMAGE NOT AVAILABLE

Save Model

Remove Model

Key	Type: ?	Label: ?	Value: ?	Account: ?
Line Key 1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Line Key 2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Line Key 3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

- From the **Type** drop down, pick **Line**.

Blank
 Line
 BLF
 Speedial
 Voicemail
 Call Park
 Intercom
 DTMF
 XML-API
 Record
 Multicast Paging

- Repeat this process to set up 2-3 keys as the Line type. Note that the **Label** and **Value** columns become unavailable for Line Keys.

Key	Type: ?	Label: ?	Value: ?	Account: ?
Line Key 1	Line <input type="text"/>			Account 1 <input type="text"/>
Line Key 2	Line <input type="text"/>			Account 1 <input type="text"/>
Line Key 3	Line <input type="text"/>			Account 1 <input type="text"/>

- Continue your button setup by selecting a **Type** for each key you want to configure, and enter a **Label** and/or **Value** whenever appropriate.

The information included below explains the various types of Line Keys available on Sangoma phones. This information is also available as a standalone wiki: [Line Keys](#)

Line Key Types

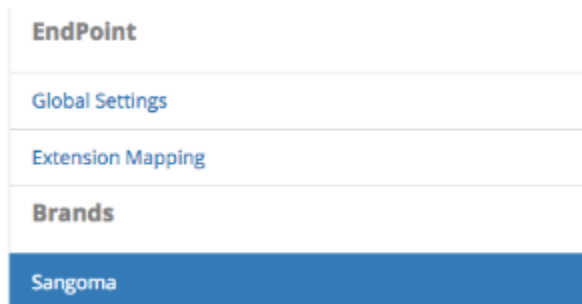
- Line keys can be set up in End Point Manager with the following options.

Line Keys		Horizontal Soft Keys		
Key	Type: [?]	Label: [?]	Value: [?]	Account: [?]
Line Key 1	Line			Account 1
Line Key 2	Line			Account 1
Line Key 3	Line			Account 1
Line Key 4	Intercom	Intercom		Account 1

- Line Key Types:
 - BLF**- ("Busy Lamp Field") - Monitors another extension or feature code that has state information on your PBX. The state is indicated by the **BLF button**.
 - Call Park**- Used for one-touch **Call Parking**.
 - Conference**- Configures a conference button to allow 5-way **conference calling**.
 - DTMF**- Sends DTMF digits while on a active call, such as having the system dial a feature code while on a active call.
 - Hold**- Places the caller on **Hold**.
 - Intercom**- Causes the dialed extension to answer using **Intercom Calling/Auto Answer** instead of ringing.
 - LDAP**- Button to Launch LDAP directory
 - Line**- Sets up a line key. Each phone needs at least one line key.
 - MultiCast Paging**- Starts a page to a specific **MultiCast** address.
 - Record**- Toggles on-demand call recording. Requires the user to have **on-demand recording** permissions in the PBX.
 - Redial**- Redials the last number.
 - SpeedDial**- Dials the programmed external number. To insert pauses, use a comma. Each comma adds a 500ms pause when dialing.
 - Transfer**-**Transfers a call** to a new recipient.
 - Voicemail**- Dials the voicemail system, allowing the user to **check voicemail**.
 - XML API**- Provides access to the specified **Phone App**.

Configuring Line Buttons

- Go into End Point Manager in your PBX and choose the Sangoma brand in the menu.



- Click on the template in End Point Manager that you want to change a button for.

Endpoint Manager

[New Template](#) [Import Template](#)

Template	Used By
default-sangoma	5001 5002 5003 5004 5005 5006

Showing 1 to 1 of 1 rows

Default Template

default-sangoma

- Click on the Models menu tab at the top

Template Name [?](#) default-sangoma

[General](#) [Models](#) [Regional](#) [Options](#) [Redundancy](#) [VLAN](#) [LDAP](#) [Tasks](#)

- Select a model number you want to add manage buttons for.

Available Phones

[S300](#) [S400](#) [S500](#) [S700](#)

- Make your Line Key button changes.

[Line Keys](#) [Horizontal Soft Keys](#)

Key	Type: ?	Label: ?	Value: ?	Account: ?
Line Key 1	Line			Account 1
Line Key 2	Line			Account 1
Line Key 3	Line			Account 1
Line Key 4	Intercom	Intercom		Account 1

- Save the Model using the **Save Model** button.

S700

IMAGE NOT AVAILABLE



Save Model

Remove Model

- You now need to update the phone configuration file. Choose an option and click the **Apply** button. The three options at the bottom of the template are:

- Save-** This will only save your changes into the PBX database. It will not write out new config files for the phones that are using this template as mapped in the Extension Mapping section of End Point Manager.

Save Apply

- Save and Rebuild Config(s)-** This will save your changes to the PBX Database and also write out new config files for the phones that are using this template as mapped in the Extension Mapping section of End Point Manager. The phones do not retrieve the updates.

Save and Rebuild Config(s) Apply

- Save, Rebuild Config(s) and Update Phones-** This will save changes into the PBX database, write out new config files for the phones, and also immediately update any phones that are mapped to use this template and currently registered to the PBX. This may cause the phones to reboot.

Save, Rebuild Config(s) and Update Phones Apply

- You can optionally change the label name for any button type except Line. The *Label* is the name that will be shown on your phone screen for that button.
 - When picking the **Line** type, the label name will be whatever you defined in the **Line Label** section of the phone Template Settings. The default is to show the extension number of the device. You can change this to show the name instead, or both name and extension number.

Line Key 20	XML-API	Voicemail	REST-Voicemail	Account 1
Line Key 21	Intercom	Intercom	Account 1	

- You can also drag the button to be in a different spot. Left click on the button and while holding down your left mouse drag the button to a different spot and release it.
In our example we will drag Button 21 up toward the top to make it button 4 on the phone. The button number will not change until you save the model.

Key	Type: ?	Label: ?	Value: ?	Account: ?
Line Key 1	Line			Account 1
Line Key 2	Line			Account 1
Line Key 3	Line			Account 1
Line Key 21	Intercom	Intercom		Account 1

- You can optionally change the **Label** name to be something different for any button type except Line. The **Label** is the name that will be shown on your phone screen for that button.
 - For the Line type, the Label name will automatically be whatever you defined in the Template Settings section called **Line Label**. The default is to show the extension number of the device. You can change this to show the name instead, or both name and extension number.

Line Key 20	XML-API	Voicemail	REST-Voicemail	Account 1
Line Key 21	Intercom	Intercom		Account 1

- You can also drag the button to be in a different position. Left-click on the table row for the button, and while holding down your left mouse button, drag the button to a different spot and release it. *In our example we will drag Button 21 up toward the top to make it button 4 on the phone. Note that it will initially say "21" instead of "4" after dragging it to position 4. However, the number sequence will be corrected after you save your settings.*

Key	Type: ?	Label: ?	Value: ?	Account: ?
Line Key 1	Line			Account 1
Line Key 2	Line			Account 1
Line Key 3	Line			Account 1
Line Key 21	Intercom	Intercom		Account 1

- Once done, click the **Save Model** button to save your settings for this model.

S700

IMAGE NOT AVAILABLE



Save Model

Remove Model

- If you go back into the model number it will show the new numbering. For example, our Intercom button that was 21, is now 4 instead of 21.

Key	Type:	Label:	Value:	Account:
Line Key 1	Line			Account 1
Line Key 2	Line			Account 1
Line Key 3	Line			Account 1
Line Key 4	Intercom	Intercom		Account 1

- You now need to update the phone config. Choose an option from the drop-down and click the **Apply** button. Your three options at the bottom of the template are:
 - Save** - This will only save your changes into the PBX database. It will **not** write out new config files for the phones that are using this template as mapped in Extension Mapping section of End Point Manager.

Save Apply

- Save and Rebuild Config(s)**- This will save your changes to the PBX database and write out new config files for the phones that are using this template as mapped in Extension Mapping section of End Point Manager. The phones will **not** retrieve the changes.

Save and Rebuild Config(s) Apply

- Save, Rebuild Config(s) and Update Phones**- This will do both the Save Template and Rebuild Configs options above. It will also immediately update any phones that are mapped to use this template and currently registered to the PBX with no need to reboot the phones.

Save, Rebuild Config(s) and Update Phones Apply

Now that you have a template created and set up, you can map a device to use this template. Please see the Extension Mapping below for information on this.

Extension Mapping

Extension mapping is where you link an extension to a MAC Address of a phone, and link that phone to a specific template you have created. This will cause EPM to write out the configuration files for that phone based on the template.

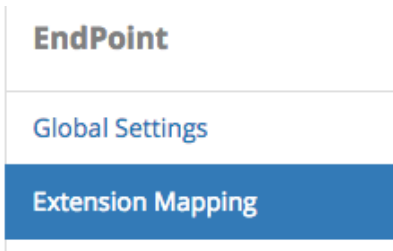
To navigate to Extension Mapping:

- Click the menu



button on the right to expand the nav menu.

- Click on **Extension Mapping** in the nav menu.



- You should see a table similar to this, showing any extensions you have mapped.

Add Extension Export List Import List Search <input type="text"/>					
<input type="checkbox"/>	Extension/Name	Brand MAC Address	IP Address Status	Template Model	Actions
<input type="checkbox"/>	5001 Micro Advantage Account1	Sangoma 00505850000C		default-sangoma S500	
<input type="checkbox"/>	5002 e4 Account1	Sangoma 00505850000D		default-sangoma S500	

Adding a New Extension

- On the Extension Mapping home screen, click the **Add Extension** button at the top. This will add a new row to the table of extensions.



- Here you can configure 6 options:
 - In the first column select an **Extension Number and Name** on the top and an **Account** on the bottom.
 - In the second column, select a phone **Brand** on the top and enter the phone's **MAC Address** on the bottom.
 - In the third column, select a **Template** on the top in and a phone **Model** on the bottom.

<input checked="" type="checkbox"/>	5501 Micro Advantage <input type="button" value="v"/> Select Account <input type="button" value="v"/>	Select Brand <input type="button" value="v"/> MAC Address <input type="text"/>	Select Template <input type="button" value="v"/> Select Model <input type="button" value="v"/>
-------------------------------------	----------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------

- Scroll to the bottom and select one of the options from the drop-down menu. Then click the **Use Selected** button to apply the action. The options are:
 - Save and Rebuild Config(s)**- This will save the information to the database and build the config file for that phone, so the phone can retrieve the configuration file.

Save and Rebuild Config(s) <input type="button" value="v"/>	<input type="button" value="Use Selected"/>
-------------------------------------------------------------	---------------------------------------------

- **Save, Rebuild Config(s) and Update Phones-** This will save the information to the database, build the config file for that phone, and tell the phone to retrieve its config file. The reboot option will only work if the phone is currently registered with the PBX.

Save, Rebuild Config(s) and Update Phones Use Selected









- **Delete Selected-** Deletes the selected Extension from Extension Mapping.

Delete Selected Use Selected

Color Coding of Extensions in Extension Mapping

All the extensions listed in Extension Mapping will either be green or yellow in color.

- Green- Means the config file is up to date with all changes saved in the database for this device.
- Yellow- Means the config file has not been updated with changes made in the template for this device that are saved in the database.

<input type="checkbox"/>	Extension/Name	Brand MAC Address	IP Address Status	Template Model	Actions
<input type="checkbox"/>	2200 Tony Lewis Cabin Account1	Vtech 00122A48CE3E	69.131.182.14 340 ms	remote-direct VSP735	 
<input type="checkbox"/>	2202 Tony Lewis Home Account1	Vtech 00122A48658E	108.70.220.222 419 ms	remote-direct VSP735	 
<input type="checkbox"/>	4001 Preston McNair Account1	Sangoma 005058500015	74.124.187.243 38 ms	remote_direct S700	   

Updating Phone Configurations for Extensions Marked as Yellow

When you use the **Save** option for a phone template, instead of a "rebuild" option, the system does not update the configuration files for any extensions mapped to that template. In this case you will see the affected extension(s) in Extension Mapping as yellow instead of green. This color coding means you have changed the template but the extension has not been rebuilt.

To rebuild the config(s), and optionally update the phones:

- Select the desired extensions using the checkboxes in the far left column.

Page 44

<input type="checkbox"/>	Extension/Name
<input checked="" type="checkbox"/>	2200 Tony Lewis Cabin Account1
<input checked="" type="checkbox"/>	2202 Tony Lewis Home Account1

To select all extensions in Extension Mapping at once, click on the checkbox in the header row at the top of the table.

<input checked="" type="checkbox"/>	Extension/Name
-------------------------------------	----------------

- At the bottom of the page, pick one of the following two options and click the **Use Selected** button to apply the action.

Save and Rebuild Config(s)

Use Selected

- **Save and Rebuild Config(s)**- This will save the information to the database and build the config file for that phone, so the phone can retrieve the configuration file. This will **not** automatically update the phones.
- **Save, Rebuild Config(s) and Update Phones**- **May cause the phone to reboot**. This will save the information to the database, build the config file for that phone, and tell the phone to retrieve its config file. This will only work if the phone is currently registered with the PBX.

Pushing Config Updates Rebooting the Phone (Sangoma Phones Only)





Sangoma phones support the ability to update the phone's running configuration file without rebooting the phone.

Any Sangoma phone set up in Extension Mapping will have a "Push Config"



button under the Action section.

Pressing this button will send an updated configuration to the phone and have it process the changes without a reboot. For this feature to work, your phone has to be registered and connected to the PBX.

<input type="checkbox"/>	Extension/Name	Brand MAC Address	IP Address Status	Template Model	Actions
<input type="checkbox"/>	4100 John Doe Account1	Sangoma 105053500517		mysangomatemplate S700	   

Adding Expansion Modules

You can now go back to Extension Mapping select an expansion module to include as a part of a phone's configuration.

Support of expansion modules, and the number of expansion modules supported by a specific phone, varies by brand and by model.

- Click the menu



button on the right to expand the nav menu.

- Click on **Extension Mapping** in the nav menu.
- Click on the Edit Icon



for the extension you want to modify.

- Expansion module options will be displayed near the bottom of the window. Use the drop-down menus to select your expansion module(s).

Expansion Modules

SPA500DS-1

SPA500DS-2

SPA500S-1

SPA500S-2

Note

If you select a different brand and/or phone model from this edit window, you will need to apply your settings and come back to edit the extension again, in order for the expansion module options to display correctly.

- Scroll to the bottom and select one of the options from the drop-down menu. Then click the **Apply** button to apply the action.

Save Extension

The options are:

- **Save Extension**- This will save the information to the database but will **not** build the config file for the phone.
- **Save and Rebuild Config(s)**- This will save the information to the database and build the config file for that phone, so the phone can retrieve the configuration file. It will **not** update the phone.
- **Save, Rebuild Config(s) and Update Device**- This will save the information to the database, build the config file for that phone, and tell the phone retrieve its config file.
- **Delete Extension and Remove Config(s)**- This will delete the selected extension from Extension Mapping.

BLF Substitution

Since Busy Lamp Field (BLF) buttons are controlled by a template, and you may share the same template with more than one device, BLF Substitution simply means, "If my extension is set up as a BLF button in the template, please substitute this button on my device with the extension defined in this field." (Most users don't want to monitor the BLF state of their own phone.)

In our example, we are going to edit extension 4001's advanced settings. Since our extension mapping is using a template that includes a BLF to extension 4001, the system will substitute the BLF 4001 with what we define below.

- Click the menu



button on the right to expand the nav menu.

- Click on **Extension Mapping** in the nav menu.
- Click on the edit icon



for the extension you want to modify.

- Next you will tell the system to to replace any BLFs that are set up for this extension with a different BLF and Label.

BLF Label BLF Substitution

- **BLF Label**- The replacement label
 - **BLF Substitution**- The replacement extension that will be monitored instead of the one originally set
- Scroll to the bottom and select one of the options from the drop-down menu. Then click the **Apply** button to apply the action.

Save Extension

The options are:

- **Save Extension**- This will save the information to the database but will **not** build the config file for the phone.
- **Save and Rebuild Config(s)**- This will save the information to the database and build the config file for that phone, so the phone can retrieve the configuration file. It will **not** update the phone.
- **Save, Rebuild Config(s) and Update Device**- This will save the information to the database, build the config file for that phone, and tell the phone retrieve its config file.
- **Delete Extension and Remove Config(s)**- This will delete the selected extension from Extension Mapping.

VPN

If you have licensed the system admin pro module on your PBX and have setup a VPN server you can optionally connect Sangoma Phones to use the VPN on the PBX direct. You will need to make sure your PBX is set up as a VPN server first, and that you have created a client for each phone by following the instructions in the [System Admin - VPN Server](#) wiki. Other

manufacturer's phones such as Yealink may work but are not supported by us for the VPN option.

- After you have set up the VPN server, go to the **End Point Manager (EPM)** module.

- Click the menu



button on the right to expand the nav menu.

- In the nav menu, go to **Extension Mapping**.
- Click on the edit icon



for the extension you want to modify.

- In the **VPN Client Options** section, use the **VPN Client** drop-down menu to pick which VPN client you want to pair with this device.
 - If no VPN clients are showing up or new clients your created are not showing up then that means the VPN client has not been paired with a [User inside User Management as outlined here](#).

The screenshot shows a form field labeled "VPN Client" with a question mark icon. The dropdown menu is open, showing "None" as the selected option. The field is surrounded by a light blue border.

- Scroll to the bottom and select one of the options from the drop-down menu. Then click the **Apply** button to apply the action.

The screenshot shows the bottom of the form. On the left is a dropdown menu labeled "Save Extension" with a question mark icon. To its right is a blue button labeled "Apply".

The options are:

- **Save Extension**- This will save the information to the database but will **not** build the config file for the phone.
- **Save and Rebuild Config(s)**- This will save the information to the database and build the config file for that phone, so the phone can retrieve the configuration file. It will **not** update the phone.
- **Save, Rebuild Config(s) and Update Device**- This will save the information to the database, build the config file for that phone, and tell the phone retrieve its config file.
- **Delete Extension and Remove Config(s)**- This will delete the selected extension from Extension Mapping.

How Extension Mapping Affects Line Keys

In the template for a phone brand, you pick which buttons on the phone are "line" buttons. For example, with Sangoma phones you can set up any button on the phone to be a line key, then state which account that line key is tied to (i.e. "Account 1," "Account 2," etc.).

In Extension Mapping, you can map a certain extension to an account. This will map the extension to the line key(s) on the phone that are configured as belonging to that account.

Example: 3 Line Keys for the Same Extension

In our example below, Line Keys 1 through 3 are set up as Line Keys to Account 1 in our template. All three of these line keys will be for extension 5001.

Template Settings:






Line Keys	Horizontal Soft Keys			
Key	Type: ?	Label: ?	Value: ?	Account: ?
Line Key 1	Line			Account 1
Line Key 2	Line			Account 1
Line Key 3	Line			Account 1

Extension Mapping Settings Edit Page:

In Extension Mapping, we tied Extension 5001 to Account 1, so now all 3 Line keys for this phone will be set up as Extension 5001.

Extension	Account	Brand	MAC Address	Template	Model
5001 Micro Advantage	Line: account1	Sangoma	00505850000C	default-sangoma	S500

Extension Mapping View Page:

<input type="checkbox"/>	Extension/Name	Brand MAC Address	IP Address Status	Template Model	Actions
<input type="checkbox"/>	5001 Micro Advantage Account1	Sangoma 00505850000C		default-sangoma S500	    

Example: Using 2 Extensions on the Same Phone

You can have line keys for different extensions on the same phone if you map each extension to a separate account, map those extensions to the same MAC address, and set up the phone template to use different accounts for its line keys.

In Extension Mapping, you can map each extension on the PBX to a specific phone. By default, if you don't pick an account when adding a new extension, the extension will use "Account 1." If you would like this extension to belong to Account 2 instead, you would select Account 2 from the drop-down menu.

In our example, we want to use extensions 5001 and 5002 on the same phone, with a line key for each. We will map extension 5001 to Account 1 and extension 5002 to Account 2. Each of these two extensions will be its own entry in Extension Mapping, but we will use the same MAC address and phone template for both.

In our phone template, we will set up 3 line keys: two for one account and one for another account. This will let us use two different extensions on the same phone. Our line keys 1 and 2 will be for extension 5001, and our line key 3 will be for extension 5002.

Template Settings

In our template, we have selected Account 1 for the first two line keys, and Account 2 for the third line key.

Line Keys	Horizontal Soft Keys			
Key	Type: ?	Label: ?	Value: ?	Account: ?
Line Key 1	Line			Account 1
Line Key 2	Line			Account 1
Line Key 3	Line			Account 2

Extension Mapping Settings Edit Page

In Extension Mapping, we have set up extension 5001 to belong to Account 1. We are mapping this extension to MAC address 00505850000C and using our default-sangoma template for the Sangoma s500 phone.

Extension	Account	Brand	MAC Address	Template	Model
5001 Micro Advantage	Line: account1	Sangoma	00505850000C	default-sangoma	S500

We have set up our second extension, 5002, to belong to Account 2. We are mapping it to the same MAC address and phone template as above.

Extension	Account	Brand	MAC Address	Template	Model
5002 e4	Line: account2	Sangoma	00505850000C	default-sangoma	S500

Extension Mapping View Page

<input type="checkbox"/>	Extension/Name	Brand MAC Address	IP Address Status	Template Model	Actions
<input type="checkbox"/>	5001 Micro Advantage Account1	Sangoma 00505850000C		default-sangoma S500	
<input type="checkbox"/>	5002 e4 Account2	Sangoma 00505850000C		default-sangoma S500	

The same type of technique described above would be used for multi-line systems like Gateways/ATAs and DECT Wireless phones, such as the Aastra MBU400 Wireless DECT phones that allow more than one extension to register to the same base station.

In the case of an Aastra MBU400, which supports 8 wireless handsets, each wireless handset is its own extension. To handle this, you would create 8 extension entries in the Extension Mapping section, all with the same MAC address but with different Accounts. You would pick from Accounts 1 thru 8 for each device. For each extension, you would define IMEI ID number of each wireless handset.

Image Management

Image Management allows you to upload images such as a company logo. You can then use these images in templates that support background images. Please note not all phone brands and models support this. See EPM-Supported Devices for a full list of models that support background images with EPM.

- In End Point Manager, click the menu




button on the right to expand the nav menu.

- Click on **Image Management** in the nav menu, under the Advanced section.

EndPoint
Global Settings
Extension Mapping
Brands
Sangoma
Advanced
Add Brand
Image Management

- You will now see a list of any images you have uploaded.

Image Management	
+ Add Image	
Image	Action
background.png	

Showing 1 to 1 of 1 rows

Adding an Image

You can upload as many images as you want. Each template in EPM can use a different image or the same image.

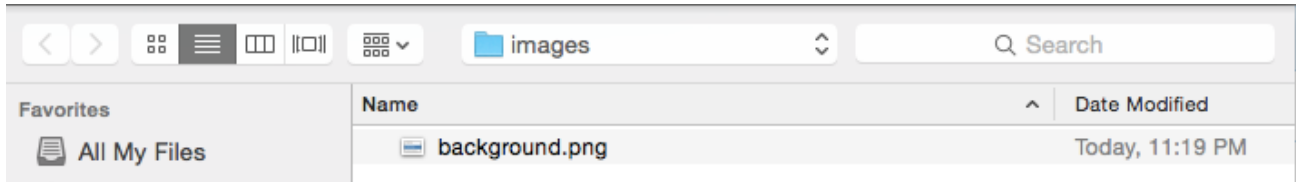
- Click the **Add Image** button to add a new image.

[+ Add Image](#)

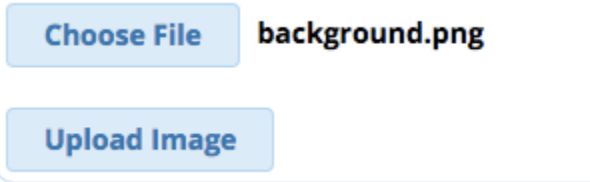
- Click on the **Choose File** button to pick the image you want to upload from your local computer. Pictures must be a GIF, JPEG, or PNG image file no greater than 256KB in file size.

Pictures must be a GIF, JPEG, or PNG image file no greater than 256KB

[Choose File](#)



- Click on the **Upload Image** button to save the image. EPM will now store the image for you.



Using an Uploaded Image

To use an uploaded image, you will need to edit the brand template as described earlier in this wiki.

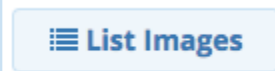
Inside each brand template that supports images, you can use a drop-down menu to pick which image to use. The system will then convert your uploaded file into the size and format needed by the devices for that template.



Don't forget to save your template, rebuild the extension(s), and update the phone config file(s) in order to see the new background image on the device.

Viewing or Deleting an Image

- Click the **List Images** button if you are not already viewing the list.



- **To View (and optionally delete):** Click the name of the image file. This will display the image, along with a **Remove Image** button that you can click if you want to delete the image.

Image	Action
background.png 	

- **To Delete Directly from the List:** Click the trash icon for the image.

Image	Action
background.png	 

Basefile Editing

Basefile editing is designed to let you edit all the hidden default settings that EPM hard codes for each template created.

Review our [EPM-Basefiles](#) wiki for more in-depth information on basefile editing.

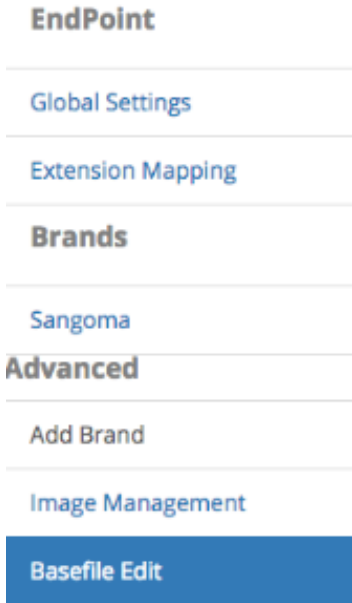
Anything in basefile should only be edited by someone who understands how phone configuration options work and what all the options mean.

- Click the menu



button on the right to expand the nav menu.

- Click on **Basefile Edit** in the Advanced section in the nav menu.



- You will see a list of all your templates. Click on the name of the template you want to edit.



- Pick which model number to edit.

Available Phones

S300
S500
S700
Vega3000
Vega50-4FXS
Vega50-8FXS
Vega5000-24
Vega5000-50

- Click on the option you want to change.

```
<?xml version="1.0" encoding="UTF-8" ?>
<hl_provision version="1">
< config version="1">
<P271>_line1Enable_</P271> #
<P47>_line1Dest_:_line1ServerPort_</P47> #
<P967></P967> #
<P4567>0</P4567> #
<P48></P48> #
<P130>0</P130> #
<P52>2</P52> #
<P35>_line1Ext_</P35> #
<P36>_line1Ext_</P36> #
<P34>_line1Pass_</P34> #
<P3>_line1Name_</P3> #
<P103>0</P103> #
<P63>0</P63> #
<P31>_line1Enable_</P31> #
```

- Make your changes.

Parameter:

Value:

- At the top is a list of models that your change will affect. (Dark blue background = selected.) You can deselect any model numbers you do not want to change. Click the model names to select or deselect them.
In the example below, we have selected only the s500 and s700.

Applies to Model(s)

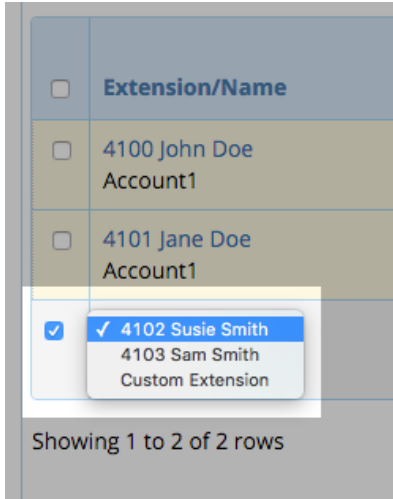
S300	S500	S700	Vega3000	Vega50-4FXS	Vega50-8FXS	Vega5000-24
Vega5000-50						

- Pick the **Change Basefile** button to save your change, or the **Delete Entry** button to delete the entry.

Custom Extension Management

In the Extension Mapping section of EPM, you need to choose from a dropdown menu of available extensions to add. This menu automatically lists any unmapped SIP devices on your phone system. You can map any of these unmapped SIP extension to any device in EPM.

What if you want to add an extension that is not in the list, such as an extension on another PBX? This is where custom extension management comes in.



The **Custom Ext Management** section of EPM lets you add custom extensions to the internal dropdown of available extensions that you can map to a device. It lets you provide information about that extension, such as the password, name, and IP address to which the extension will register.

A good use case for this would be where you need to map an extension from another PBX to line 3 on a device on your PBX.

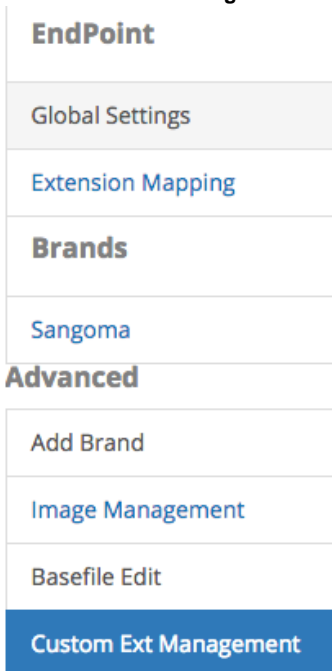
Adding a Custom Extension

- Click the menu



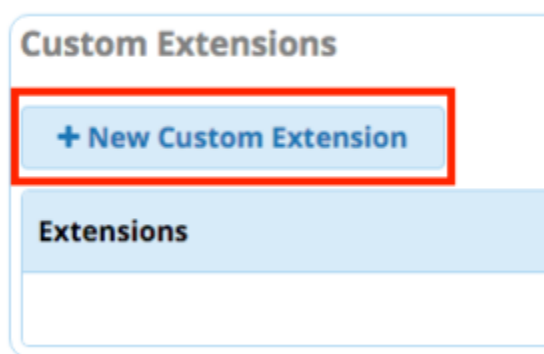
button on the right to expand the nav menu.

- Click **Custom Ext Management** in the Advanced Section of the nav menu.



- Click on the **New Custom Extension** button at the top of the page.

Endpoint Manager

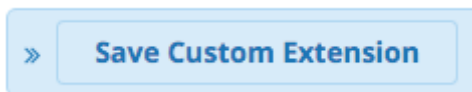


- Fill in the following information.
 - **Extension Number**- The extension number for this custom extension.
 - **Extension Password**- The SIP Secret or Password for this extension, as defined on your other PBX, to allow this extension to register.
 - **Label**- The name that you want associated with this custom extension, such as "John Doe."
 - **Destination**- The IP address of where this extension needs to register to.
 - **SIP Port**- The SIP port where this extension needs to register to. The default for FreePBX or PBXact systems is port 5060.

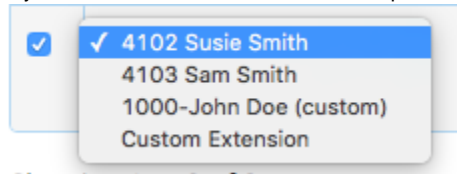
Settings for custom extension number

Extension Number ?	Extension Number
Extension Password ?	Password
Label ?	Label
Destination ?	Destination
Sip Port ?	Sip Port

- When done, click the **Save Custom Extension** button.

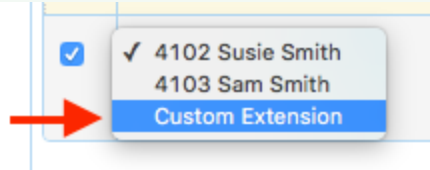


- Now your new custom extension will show up in the dropdown of available extensions in the Extension Mapping section of EPM.



Tip

You can also create a custom extension from within the Extension Mapping section of EPM. Click the **Add Extension** button and pick **Custom Extension** from the dropdown.



A window like below will pop up and let you fill in the information. Click the **Send** button. Your new custom extension will automatically be selected in Extension Mapping, where you can finish mapping it.

Create Custom Extension ✕

Extension Number:

Extension Secret:

Extension Label:

Destination Server:

Sip Port:

Send

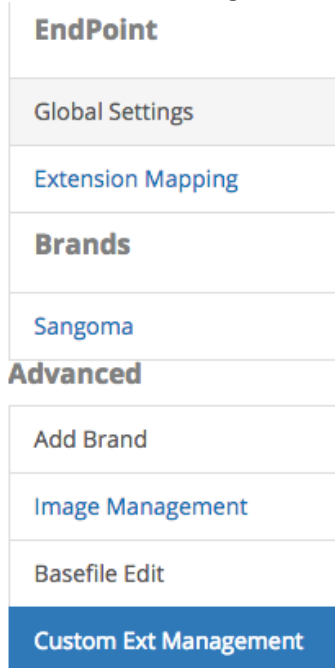
Editing or Deleting a Custom Extension

- Click the menu



button on the right to expand the nav menu.

- Click **Custom Ext Management** in the Advanced Section of the nav menu.



- Click on the name of the custom extension to edit.

Endpoint Manager

Custom Extensions

+ New Custom Extension

Extensions

1000-John Doe ←

Showing 1 to 1 of 1 rows

- **To edit:** Make your changes and click the **Save Custom Extension** button.

» Save Custom Extension

- **To delete:** Click the **Remove Custom Extension** button.

Remove Custom Extension

Firmware Management

You can manage the firmware for most brands of devices supported by End Point Manager.

Installing Firmware


- Click the menu



button on the right to expand the nav menu.

- Click **Firmware Management** in the Advanced section of the nav menu.

Advanced

Add Brand
Image Management
Basefile Edit
Custom Ext Management
Firmware Management 
Network Scan

- You will now see a list of brands that you can manage firmware for. Click on the name of a brand to edit its firmware. You will only see brands that have at least one template. (If you have not created a template, see the [templates](#) section earlier in this wiki for instructions.)

Device Brand
Aastra
Cisco
Digium
Grandstream
Htek
Incom
Polycom
Sangoma
Snom
Vtech

In our example, we are going to set up Sangoma firmware.

Device Brand
Sangoma

- You will see a list of available firmware versions on the left side.

Firmware Revisions for Sangoma

List Brands

Available Firmwares

0.00
1.01
1.02

Firmware Slot 1

Firmware Slot 2

- You will need to install firmware into at least one firmware slot. Drag a firmware version from the **Available Firmwares** list into **Firmware Slot 1** or **Firmware Slot 2**.

Below you will see we dragged version 1.02 into slot 1, and version 1.01 into slot 2. Version 1.02 consists of different firmware versions for each model of phone listed below the slot number. In slot 1, we see the firmware for the S700 phone would be 2.0.3.97.

Firmware Revisions for Sangoma

List Brands

Available Firmwares

0.00

Firmware Slot 1

1.02

Firmware Slot 2

1.01

S300 2.0.3.97
S500 2.0.3.97
S700 2.0.3.97

S500 2.0.3.96
S700 2.0.3.96

- Note: You can remove existing firmware from a slot by dragging it back to the Available Firmwares list. This will allow you to install a different firmware version in that slot.
- Press the submit button at the bottom of the page.

Submit

- Once you have installed the firmware, you can go into any of your templates and pick which firmware that template should use for the devices that are mapped to your template.

Firmware Version ?

Ring Tone ?

✓ Firmware Slot 1
Firmware Slot 2
None

Installing Custom Firmware

- If you would like to install your own custom firmware for a phone you can drag version 0.00 into slot 1 or 2. This will reserve that slot for your custom firmware by following the same step above for Installing Firmware.

Available Firmwares

- 1.01
- 1.02
- 1.03
- 1.04
- 1.05
- 1.06
- 1.07
- 1.08
- 1.09
- 1.10
- 1.11
- 1.12
- 1.13
- 1.14
- 1.15
- 1.16
- 1.17
- 1.18
- ...

Firmware Slot 1

0.00

Firmware Slot 2

Custom
Firmware

Upload your
firmware to
/tftpboot/brand/slotnumber

Leave version
file in folder

- SSH to your PBX and navigate to /tftpboot/brand/slot and put your firmware in place.
 - Replace /brand with the brand of your phone such as sangoma and replace /slot with 1 or 2 for slot 1 or slot 2.

```
[root@uc-85436011 1]# cd /tftpboot/sangoma/1/
[root@uc-85436011 1]#
[root@uc-85436011 1]# cd /tftpboot/sangoma/2
[root@uc-85436011 2]#
```

Network Scan

The Network Scan feature of EPM will attempt to scan the network where the PBX is located and find devices that have not been provisioned yet. Please note, this feature only works for phones on the same actual subnet as the PBX.

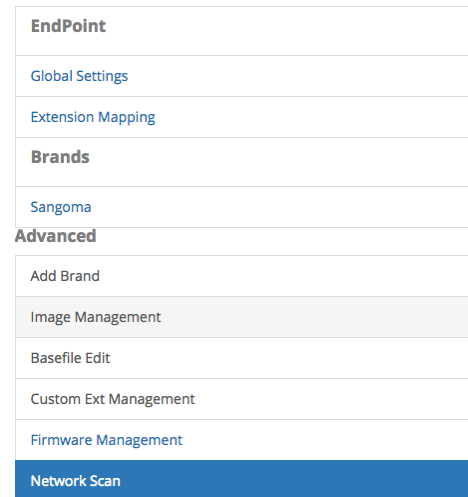
The scan results will display the device brand and MAC address and let you map the devices with their MACs to specific extensions. This saves you from having to locate and type in the MAC address for each phone in the Extension Mapping section. All devices mapped here will show up in the Extension Mapping section of EPM.

- Click the menu



button on the right to expand the nav menu.

- Click **Network Scan** in the Advanced section of the nav menu.



- The system will detect the subnet that the PBX is on. You can optionally change the subnet if the system detects it incorrectly. Click the **Scan This Subnet** button to perform the scan.

Network Scan

Scan this Subnet (x.x.x.x/x):

[Scan This Subnet](#)

Please Note: MAC addresses are not routable. Subnet needs to be local to the PBX

Devices from brands with no templates will not be displayed

No Devices Found

- Devices that haven't been provisioned will show up in a list. (Any devices that have already been provisioned will not show up in the scan results.)

In our example we see the system scanned subnet 10.10.0.0/24 which is the subnet the PBX is on. It found 1 phone that is not yet provisioned with EPM.

Extension	Brand	MAC	Template	Model	
<input type="text" value="4000 Luke 39i"/>	<input type="text" value="Aastra"/>	<input type="text" value="10.10.0.71"/>	<input type="text" value="00085D19E6"/>	<input type="text" value="aastratest"/>	<input type="text" value="9133i"/>
<input type="button" value="Save"/>					

- From here you can pick which extension, template, and model you want to map the device to. Click the **Save** button to save your selections.
- Now, the system should map the device and generate a configuration file.
- If you would like to make further edits or manage this device, visit the Extension Mapping section of EPM.

Specific Template Settings per Brand

Aastra Templates

Below are settings that are unique to Aastra that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Button Types

For each button you can choose from the following types:

- **BLF**- Busy Lamp Field allows you to program a button to monitor another extension. The light by the button will be red whenever that extension is on a call. You can also press the button to call the user.
- **BLF/XFER**- The same as BLF, but while on a call you can transfer the active call to the extension of that BLF simply by pressing the BLF button.
- **XML**- Aastra phones support XML apps. Please see the [Aastra XML App UserGuides](#) for more info on each each app and how it works.
- **Speeddial**- Allows you to program a number that will automatically be dialed when you press this button.
- **Intercom**- By pressing this button and then dialing an extension, the phone you are dialing will immediately auto answer on the speaker phone instead of ringing.
- **Services**- The services button will take you to a page that lists all XML apps that the phone supports. You can also navigate to any XML app without having that specific XML App mapped to a button.
- **Call List**- This will give you a list of all missed and received calls to this phone while it is registered to the PBX.

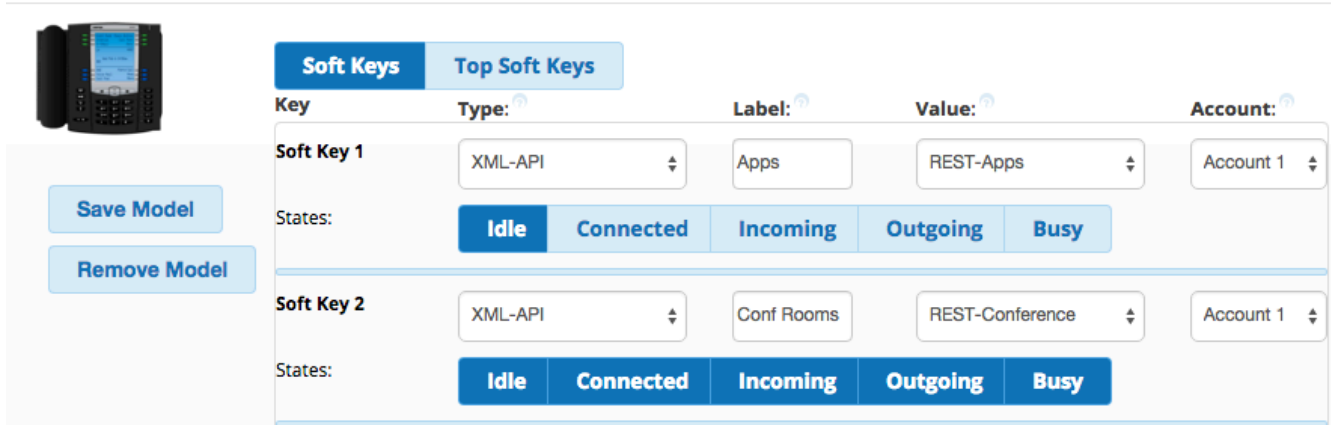
Soft Key Button States

By default, a soft key style button will be displayed during all phone states (idle, connected, incoming, outgoing, and busy). You can change this if desired, per button, by clicking on the name of the state to deselect or select it. (Dark blue background = selected)

- **Idle**- The phone has no call activity.
- **Connected**- The phone has an established call.
- **Incoming**- The phone is receiving an inbound call it has not answered yet.
- **Outgoing**- A user is placing an outbound call that has not been answered by the remote party yet.
- **Busy**- The phone is busy, such as navigating menus.

In the example below, Soft Key 1 is only shown when the phone is idle. Soft Key 2 is shown in all states.

57i



The screenshot shows the configuration page for Soft Keys on a 57i phone. It features a sidebar with 'Save Model' and 'Remove Model' buttons. The main area is titled 'Soft Keys' and 'Top Soft Keys'. It contains two configuration rows:

Key	Type:	Label:	Value:	Account:
Soft Key 1	XML-API	Apps	REST-Apps	Account 1
States:	<input checked="" type="checkbox"/> Idle <input type="checkbox"/> Connected <input type="checkbox"/> Incoming <input type="checkbox"/> Outgoing <input type="checkbox"/> Busy			
Soft Key 2	XML-API	Conf Rooms	REST-Conference	Account 1
States:	<input checked="" type="checkbox"/> Idle <input checked="" type="checkbox"/> Connected <input checked="" type="checkbox"/> Incoming <input checked="" type="checkbox"/> Outgoing <input checked="" type="checkbox"/> Busy			

Algo Templates

Below are settings that are unique to Algo that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Device Settings

You can define the following options for each device:

- **Algo 8028**


Algo8028



Relay Destination:
 Momentary Key Press Digit:

- **Door Phone Destination**- What number to dial when someone presses the intercom button. This can be any phone number or destination on your PBX, like a ring group, queue, or extension number.
 - **Momentary Key Press Digit**- What digit you can press on your phone after answering a call from the Call button that will unlock the door.
- **Algo 8128**

Algo8128



Flash Pattern:

Cadance:

Save Model

Remove Model

On Time:


Off Time:

Mode:

- **Flash Pattern-** Defines how the LED light will flash.
- **Cadence-** Whether the light will be continuous or flash.
- **On Time-** Defines how long the LED light will be on.
- **Off Time-** Defines how long the LED light will be off.
- **Mode-** Defines what causes the LED light to activate.

• Algo 8180

Algo8180



Pager Ring Tone: Pager Volume:

Ringer Tone: Ringer Volume:

- **Pager Ring Tone-** Here you can pick which ringtone to play when someone dials the Overhead paging destination on the 8180
- **Pager Volume-** Define what volume you want the overhead paging to be at.
- **Ringer Tone-** Here you can pick which ringtone to play when someone dials the Ringer destination on the 8180
- **Ringer Volume-** Define what volume you want the ringer to be at

AND Templates

Below are settings that are unique to AND that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Device Settings

All the device settings for the AND Clock are as follows. You can hover over the “?” for more information on each setting.

SIP Mode:	Paging
Speaker Volume:	0
Microphone Volume:	0
Feedback Suppression:	Off
Time Format:	12 Hour
Clock Font:	Batang Bold
Message Font:	Arial Bold
Clock Color:	Cranberry
Seconds Color:	Cranberry
AM Color:	Cranberry
PM Color:	Cranberry
Message Color:	Cranberry
Show Seconds:	On
Blink Colon:	On

Audio Codes Templates

(no special settings)

Cisco Templates

Below are settings that are unique to Cisco that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Expansion Modules

Some models of Cisco phones support Expansion modules. You can have a total of 2 expansion modules per phone. You set up the Expansion Module buttons just like any other phone button. You will use the Extension Mapping section of EPM to actually map which extensions use which expansion modules, and in what order.

Expansion Modules

SPA500DS-1	SPA500DS-2	SPA500S-1	SPA500S-2
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Cortelco Templates

Below are settings that are unique to Cortelco that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Expansion Modules

Some models of Cisco phones support Expansion modules. You can have a total of 2 expansion modules per phone. You set up the Expansion Module buttons just like any other phone button. You will use the Extension Mapping section of EPM to actually map which extensions use which

expansion modules, and in what order.

Expansion Modules

C10

CyberData Templates

Below are settings that are unique to CyberData that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Device Options

Different devices have different options, but below is an explanation of all the different options that can be set:

- **Relay Destination**- What number to dial when someone presses the intercom button. This can be any phone number or destination on your PBX, like a ring group, queue, or extension number.
- **Momentary Key Press Digit**- What digit you can press on your phone to unlock the door after answering a call from the call button.
- **Pincode 1-10**- These are PIN codes that a user can press on the keypad of the device to unlock the door from the keypad.
- **Dial Code 00-14**- These are the 15 different paging zones that someone can enter when dialing the zone controller. You can then pick which combination of zones for each code will be included in the page.

Keypad-Intercom-V1



Save Model

Remove Model

Pin Code 1:

Pin Code 2:

Pin Code 3:

Pin Code 4:

Pin Code 5:

Pin Code 6:

Pin Code 7:

Pin Code 8:

Pin Code 9:

Pin Code 10:

Momentary Key Press Digit:

Relay Destination:

Dial Code 00:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 01:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 02:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 03:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 04:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 05:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 06:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 07:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 08:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 09:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 10:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 11:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 12:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 13:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>
Dial Code 14:	<input type="checkbox"/>	Zone 1	<input type="checkbox"/>	Zone 2	<input type="checkbox"/>	Zone 3	<input type="checkbox"/>	Zone 4	<input type="checkbox"/>

Digium Templates

Below are settings that are unique to Digium that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Horizontal Soft Key States

You can change the layout and display of Horizontal Soft Keys (HSKs) for different phone states (idle, hold, incoming, connected, dial, and calling). Click on the name of a phone state to see the HSK button template for the state.

- **Idle**- The phone has no call activity.
- **Hold**- The phone has a call on hold.
- **Incoming**- The phone is receiving an inbound call it has not answered yet.
- **Connected**- The phone has an active call.
- **Dial**- The user is dialing a number.
- **Calling**- The phone is making an outbound call that has not been answered yet.

Line Keys
Soft Keys
Horizontal Soft Keys

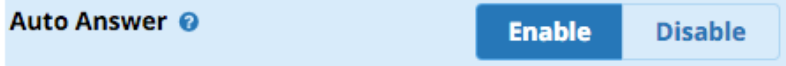
Idle	Hold	Incoming	Connected	Dial	Calling															
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Key</th> <th style="width: 40%;">Label: [?]</th> <th style="width: 40%;">Action: [?]</th> </tr> </thead> <tr> <td>Idle 1</td> <td><input type="text" value="Missed Or Ca"/></td> <td><input style="border-bottom: 1px solid #ccc;" type="text" value="Missed Or Call Log"/></td> </tr> <tr> <td>Idle 2</td> <td><input type="text" value="None"/></td> <td><input style="border-bottom: 1px solid #ccc;" type="text" value="None"/></td> </tr> <tr> <td>Idle 3</td> <td><input type="text" value="Info"/></td> <td><input style="border-bottom: 1px solid #ccc;" type="text" value="Info"/></td> </tr> <tr> <td>Idle 4</td> <td><input type="text" value="None"/></td> <td><input style="border-bottom: 1px solid #ccc;" type="text" value="None"/></td> </tr> </table>						Key	Label: [?]	Action: [?]	Idle 1	<input type="text" value="Missed Or Ca"/>	<input style="border-bottom: 1px solid #ccc;" type="text" value="Missed Or Call Log"/>	Idle 2	<input type="text" value="None"/>	<input style="border-bottom: 1px solid #ccc;" type="text" value="None"/>	Idle 3	<input type="text" value="Info"/>	<input style="border-bottom: 1px solid #ccc;" type="text" value="Info"/>	Idle 4	<input type="text" value="None"/>	<input style="border-bottom: 1px solid #ccc;" type="text" value="None"/>
Key	Label: [?]	Action: [?]																		
Idle 1	<input type="text" value="Missed Or Ca"/>	<input style="border-bottom: 1px solid #ccc;" type="text" value="Missed Or Call Log"/>																		
Idle 2	<input type="text" value="None"/>	<input style="border-bottom: 1px solid #ccc;" type="text" value="None"/>																		
Idle 3	<input type="text" value="Info"/>	<input style="border-bottom: 1px solid #ccc;" type="text" value="Info"/>																		
Idle 4	<input type="text" value="None"/>	<input style="border-bottom: 1px solid #ccc;" type="text" value="None"/>																		

Grandstream Templates

Below are settings that are unique to Grandstream that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Answering

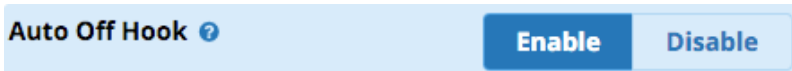
- **Auto Answer**- If you want the device to auto answer to the speaker phone for every call that comes to the device.



- **Mute Mic**- If you have Auto Answer set to Enabled, you can choose if you want the microphone on the phone to be muted by default when it auto answers.



- **Auto Off Hook**- If you have Auto Answer set to Enabled, and the person calling this device hangs up, the phone can hang up or go back into idle mode.



Button Types

For each button you can pick from the following types:

- **BLF**- Busy Lamp Field allows you to program a button to monitor another extension. The light by the button will be red whenever that extension is on a call. You can also press the button to call the user.
- **Speed Dial**- Allows you to program a number that will automatically be dialed when you press this button.
- **Dial DTMF**- Enter a series of DTMF digits in the Value field to be dialed during the call. Leave the Label field blank.
- **Voice Mail**- Enter the voicemail access number in the Value field. By default this is *97 but refer to the [Feature Code module](#) in your PBX to verify this. Leave the Label field blank.
- **Call Return**- The last answered calls can be dialed using Call Return. The Label and Value field should be left blank.
- **Transfer**- Enter the number in the value field to be transferred (blind transfer) during the call. Leave the Label field blank.
- **Call Park**- Enter the call park extension in the value field to park a call. By default this is 70 but refer to the [Feature Code module](#) in your PBX to verify this. Leave the Label field blank.
- **Intercom**- Enter the intercom feature code in the value field to do the intercom. By default this is *80 but refer to the [Feature Code module](#) in your PBX to verify this. Leave the Label field blank.

Expansion Modules

Some models of Grandstream phones support expansion modules. You can have a total of 2 expansion modules per phone. You set up the Expansion Module buttons just like any other phone button. You will use the Extension Mapping section of EPM to actually map which extensions use which expansion modules, and in what order.

Available FXS Devices

FXS Devices

GXW-4004	GXW-4008	GXW-4216	GXW-4224	GXW-4232	GXW-4248	HT-286	HT-502	HT-503	HT-701
HT-702	HT-704								

For each gateway that you want to use for faxing, you can decide to use T38 or Passthrough fax mode. Usually, with faxing you will enable T38 mode.



Mitel Templates

Below are settings that are unique to Mitel that are different from the standard example we used with the Sangoma brand earlier in this

wiki.

Button Types

For each button you can pick from the following types:

- **Line**- Since Mitel phones do not have dedicated line keys, you have to program 1 or more of the buttons on the phone to be the line key so that you can make outbound calls.
- **BLF**- Busy Lamp Field allows you to program a button to monitor another extension. The light by the button will be red whenever that extension is on a call. You can also press the button to call the user.
- **Speed Dial**- Allows you to program a number that will automatically be dialed when you press this button.

Mocet Templates

Below are settings that are unique to Mocet that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Button Types

For each button you can pick from the following types:

- **Line**- Since Mocet phones do not have dedicated line keys, you have to program 1 or more of the buttons on your phone to be your line key so that you can make outbound calls.
- **BLF**- Busy Lamp Field allows you to program a button to monitor another extension. The light by the button will be red whenever that extension is on a call. You can also press the button to call the user.
- **Speed Dial**- Allows you to program a number that will automatically be dialed when you press this button.

Obihai Templates

Below are settings that are unique to Obihai that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Expansion Modules

Some models of Obihai phones support expansion modules. You can have a total of 2 expansion modules per phone. You set up the Expansion Module buttons just like any other phone button. You will use the Extension Mapping section of EPM to actually map which extensions use which expansion modules, and in what order.

Expansion Modules

OBIExp-1

OBIExp-2

Panasonic Templates

Below are settings that are unique to Panasonic that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Button Types

For each button you can pick from the following types:

- **Line**- Since Panasonic phones do not have dedicated line keys, you need to program 1 or more of the buttons on your phone to be your

line key so that you can make outbound calls.

- **BLF**- Busy Lamp Field allows you to program a button to monitor another extension. The light by the button will be red whenever that extension is on a call. You can also press the button to call the user.
- **Speed Dial**- Allows you to program a number that will automatically be dialed when you press this button.

Phoenix Audio Templates

(no special settings)

Polycom Templates

Below are settings that are unique to Polycom that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Button Types

For each button you can pick from the following types:

- **Line**- Since Polycom phones do not have dedicated line keys, you have to program 1 or more of the buttons on your phone to be your line key so that you can make outbound calls.
- **BLF**- Busy Lamp Field allows you to program a button to monitor another extension. The light by the button will be red whenever that extension is on a call. You can also press the button to call the user.
- **Speed Dial**- Allows you to program a number that will automatically be dialed when you press this button.

Polycom Built-In Features

You can choose whether you want the following buttons to be displayed on the bottom horizontal row of each phone.

- **New Call**- Press to start a new call.
- **Call Forward**- Press to access the call forward application that lets you do phone-side call forwarding at the device level.

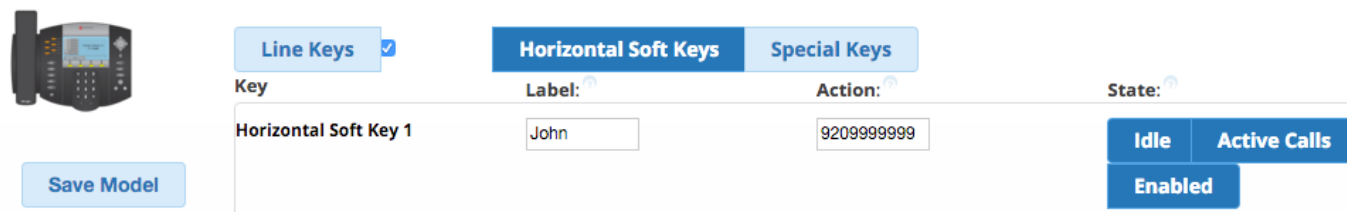
Horizontal Soft Key State Information

For each horizontal soft key (HSK), you can define when you want the button to be displayed on the phone.

- **Active Call**- If enabled, the button will be displayed on the phone while on an active call.
- **Idle**- If enabled, the button will be displayed on the phone when the phone is not ringing or on a call.

In this example the IP650 lets you program 8 horizontal soft keys. These can only be speed dial numbers. As shown below we set up the first button as a speed dial to 9209999999. The action field is where you define the number you want dialed.

IP650



The screenshot shows the configuration interface for a Polycom IP650 phone. On the left is an image of the phone. The main area has three tabs: "Line Keys" (checked), "Horizontal Soft Keys" (selected), and "Special Keys". Below the tabs is a table for configuring a horizontal soft key. The table has columns for "Key", "Label", "Action", and "State". The "Key" column contains "Horizontal Soft Key 1". The "Label" column contains "John". The "Action" column contains "9209999999". The "State" column has two sub-columns: "Idle" and "Active Calls". The "Idle" sub-column has a blue "Enabled" button. The "Active Calls" sub-column has a greyed-out button.

Key	Label:	Action:	State:
Horizontal Soft Key 1	John	9209999999	Idle: Enabled, Active Calls: Disabled

Expansion Modules

Some models of Polycom phones support expansion modules. You can have a total of 3 expansion modules per phone. You set up the Expansion Module buttons just like any other phone button. You will use the Extension Mapping section of EPM to actually map which extensions

use which expansion modules, and in what order.

Expansion Modules

BEM-1	BEM-2	BEM-3	VVX-1	VVX-2	VVX-3	VVX-Color-1	VVX-Color-2	VVX-Color-3
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SNOM Templates

Below are settings that are unique to Snom that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Button Types

For each button you can pick from the following types:

- **Line-** Since SNOM phones do not have dedicated line keys, you have to program 1 or more of the buttons on your phone to be your line key so that you can make outbound calls.
- **BLF-** Busy Lamp Field allows you to program a button to monitor another extension. The light by the button will be red whenever that extension is on a call. You can also press the button to call the user.
- **Speed Dial-** Allows you to program a number that will automatically be dialed when you press this button.

Expansion Modules

Some models of Snom phones support expansion modules. You can have a total of 3 expansion modules per phone. You set up the Expansion Module buttons just like any other phone button. You will use the Extension Mapping section of EPM to actually map which extensions use which expansion modules, and in what order.

Expansion Modules

ExpD7-1	ExpD7-2	ExpD7-3	ExpV2-1	ExpV2-2	ExpV2-3
---------	---------	---------	---------	---------	---------

Xorcom Templates

Below are settings that are unique to Xorcom that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Button Types

You can pick from the following button types:

- **Line-** Since Xorcom phones do not have dedicated line keys, you have to program 1 or more of the buttons on your phone to be your line key so that you can make outbound calls.
- **Speed Dial-** Allows you to program a number that will automatically be dialed when you press this button.
- **BLF-** Busy Lamp Field allows you to program a button to monitor another extension. The light by the button will be red whenever that extension is on a call. You can also press the button to call the user.

Expansion Modules

Some models of Xorcom phones support expansion modules. You can have a total of 2 expansion modules per phone. You set up the Expansion Module buttons just like any other phone button. You will use the Extension Mapping section of EPM to actually map which extensions use which expansion modules, and in what order.

Expansion Modules



Yealink Templates

Below are settings that are unique to Yealink that are different from the standard example we used with the Sangoma brand earlier in this wiki.

Config Style

Starting with firmware V70, Yealink has changed the way configuration files must be generated. If you are using V70 or newer firmware on your devices set **Config Style** to **v70 Style**. T4XG and W52P devices will automatically use V70 style configs regardless of what you set here, since they only support Firmware V70.



Button Types

You can pick from the following button types:

Line- Since Yealink phones do not have dedicated line keys, you need to program 1 or more of the buttons on your phone to be your line key so that you can make outbound calls.

Speed Dial- Allows you to program a number that will automatically be dialed when you press this button.

Expansion Modules

Some models of Yealink phones support Expansion Modules. You can have a total of 2 expansion modules per phone. You set up the Expansion Module buttons just like any other phone button. You will use the Extension Mapping section of EPM to actually map which extensions use which expansion modules, and in what order.

Expansion Modules

EXP38-1	EXP38-2	EXP38-3	EXP38-4	EXP38-5	EXP38-6	EXP39-1	EXP39-2	EXP39-3	EXP39-4	EXP39-5
EXP39-6	EXP40-1	EXP40-2	EXP40-3	EXP40-4	EXP40-5	EXP40-6				