Savant Telephony Solution
Deployment Guide

Release: PBX 6.0
Document Date: March 2014
Document Number: 009-0406-14

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Contents

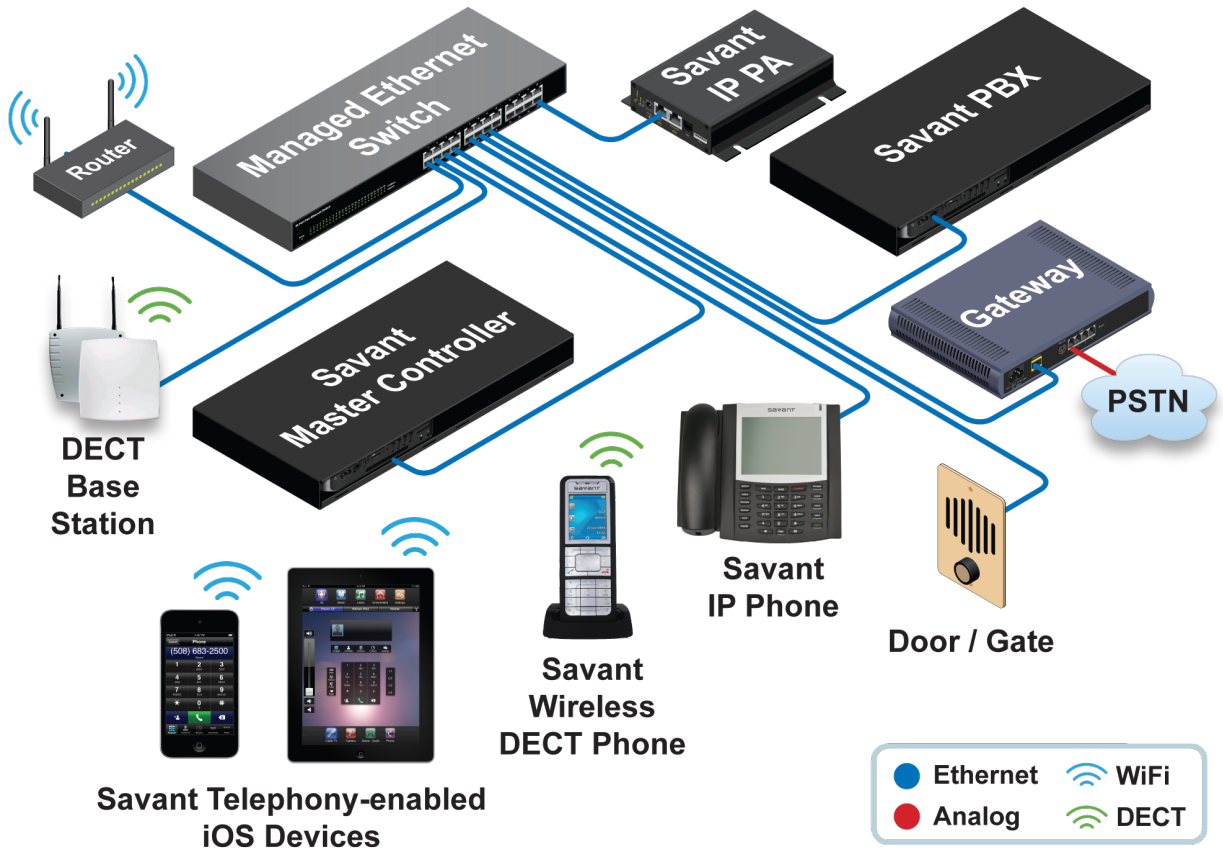
To access the link to the topics in this document, click the topic or topic page.

1. PREPARING FOR DEPLOYMENT

The Savant Telephony Solution Deployment Guide documents the options and processes involved in deploying the Savant PBX system. To ensure a successful deployment Savant Systems has developed a checklist, as well as a section on what is needed before you get started. These are both contained in Appendix 2. As you can see from this appendix the installer needs to have an IP plan which requires knowledge of the following:

- Specific IP addresses assigned to Savant PBX equipment
- MAC addresses of the Savant PBX equipment
- IPEI (IP Electronic Identifier) for wireless phones
- UID (unique identifier) for all the iOS devices

The checklist is a step-by-step instruction (as well as links to documentation describing those steps) on doing a full installation. There are also checklists for just adding a wired phone, wireless phone, iOS device, or adding a new base station to an existing system. Savant Systems encourages you to look at this appendix at this time to get acquainted with the type of information that it contains.This will help you in completing the various procedures in this deployment guide.



Savant PBX and Supported Components

IP Address Assignment

Savant Systems recommends you reserve the following IP addresses before installing any hardware. You must reserve IP addresses on your DHCP server for the following:

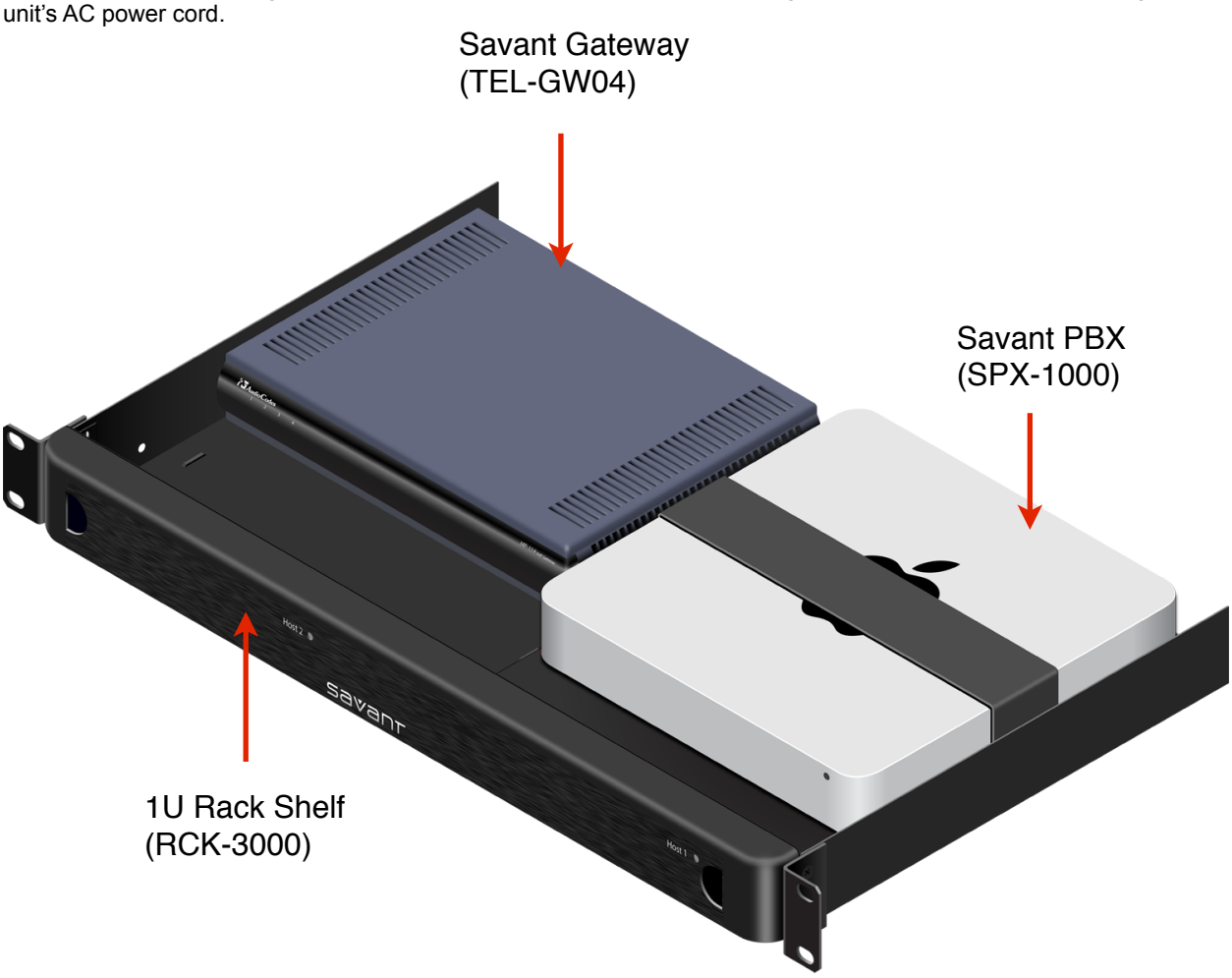
1. One for the Savant PBX (SPX-1000)
2. One for the Savant Gateway (TEL-GW04)
3. One per each access point used (SIP DECT base stations)

After the IP addresses are assigned you are ready to start installing and configuring the system.

Note that the network configuration can be changed. See Changing the PBX Network Configuration.

Savant PBX Hardware and Installation

To add the SPX-1000 to the PBX solution simply plug in one end of an Ethernet cable to the unit's single 10/100 Base-T Ethernet port, plug in the other end of the Ethernet cable to a managed Ethernet switch, and then plug in the unit's AC power cord.



Savant Phones

The phones supported by the Savant PBX Telephony solution are Savant products: TEL-HST01, TEL-HST02, and TEL-HSTW01. The usage of these phones is described in more detail in the *Savant Telephony Solution: Call Features Usage and Telephony-Enabled iOS Devices Deployment Guide.*

To install the TEL-HSTW01 battery, push the battery cover downwards until it disengages from the locking mechanism and lift off. Insert the battery with contacts downwards. Replace the battery cover and push upwards until it snaps into place.

To change the power adapter, push the OPEN button on the unit to pop off the existing plug. Insert the desired plug and press downwards until it snaps in place.

Plug in the power supply cord to the charger cradle and plug the other end into the wall. For more details on installing this phone, see Installing the Savant Wireless Phone: TEL-HSTW01.

Front View of TEL-HSTW01

To setup your TEL-HST02 phone turn the phone over and locate the handset port, and then plug in the handset cord until it clicks in place. Attach the handset to the other end of the handset cord. Next, on the phone locate the port marked **LAN** (not **PC**) and plug in an Ethernet cable. Plug in the other end of the Ethernet cable to the managed ethernet switch. For more details on installing this phone, see Installing the Savant Phone: TEL-HST02.

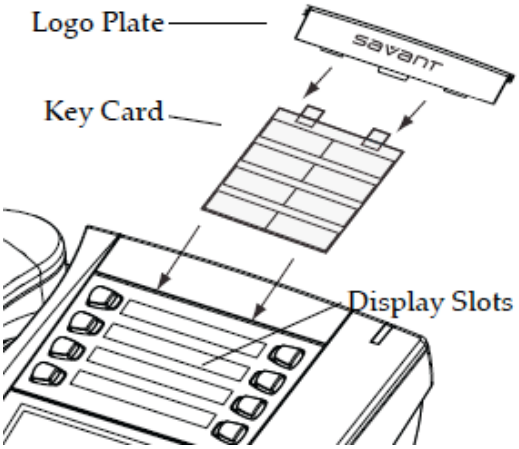
Top View of TEL-HST02 (above)

To setup your TEL-HST01 phone turn the phone over and locate the handset jack, and then plug in the handset cord until it clicks in place. Attach the handset to the other end of the handset cord. Next, on the phone locate the port marked **LAN** and plug in an Ethernet cable. Plug in the other end of the Ethernet cable to the managed ethernet switch. Insert the key card and label it to correspond to the keys function. For more details, see Installing the Savant Phone: TEL-HST01.

Top View of TEL-HST01 (above)

TEL-HST01 Key Card
To insert the key card that provides the labels for the eight keys shown in the diagram to the right, do the following.

1. Remove the logo plate as shown.
2. Slide the card into the slot.
3. Slide the logo plate back in place.



NOTE: You can make customized key cards using the templates provided in Appendix 1. Alternatively, you can purchase professionally-made key cards from a third-party supplier.

Savant PBX Software

The Savant PBX Server (SPX-1000) is developed on top of Asterisk®, a leading open source Internet Protocol (IP) telephony engine, which in tandem with Savant's IP solutions offers a completely integrated voice communications package. The SPX-1000 is communicating with the Savant Control System to allow for a truly integrated home, where the phone system and the control system are unified. The SPX-1000 also comes with an intuitive user interface to simplify the installation and reduce the overall setup time.

Refer to the *PBX 5.2.1 ER2- Release ReadMe* notes to verify the correct software version.

One-Click Software Update in Savant Configurator

For post-Release 5.0 releases, users must update the Savant PBX system software using an option available in Savant Configurator. This option is located in the **System** sidebar on the **Overview** page—**Software Update**.

Passwords

The next table specifies the default user names and passwords for logging in to the various applications/devices used to configure the Savant PBX solution. The entries are case-sensitive.

User Interface	User Name	Password
Savant Gateway*	Admin	Admin
Savant Configurator	admin	savant
Savant phones	admin	22222
Savant PAS-1000	admin	0000 (zeros)
Savant PBX (SPX-1000)	RPM	RPM
OpenMobility Manager (for base stations)	omm (must be changed after initial login)	omm (must be changed after initial login)

*To access the settings of the Savant Gateway you must use a web browser other than Safari.

Supported Hardware List

The Savant PBX solution supports the hardware described in the next table.

Model Number	Telephony Hardware
SPX-1000	Savant PBX (includes 1 RCK-3000—1U Rack Shelf)
TEL-GW04	4-port VoIP Gateway
TEL-IAD2	Integrated Access Device (IAD)
TEL-HST01	Entry Level IP Handset
TEL-HST02	High-End IP Handset
TEL-HSTW01	Wireless DECT Handset
TEL-HSTPWR	Universal Power Supply for Desktop Handsets
TEL-BST11	Indoor DECT Base Station
TEL-BST01I	Indoor International DECT Base Station
TEL-BST12	Outdoor DECT Base Station
TEL-BST02I	Outdoor International DECT Base Station
TEL-BSTMMT	Mast Mount for Outdoor Base Station
TEL-BSTWMT	Wall Mount for Outdoor Base Station
TEL-BSTPWR	Universal Power Supply for Indoor Base Station
PAS-1000	Public Announcement System
TEL-PASPWR	Universal Power Supply for PAS-1000

Note the following:

- Savant Wired Handset with Color Touch Screen LCD, Model TEL-HST02, AC Wall Adapter not included—number of handsets dependent on specific configuration; check packing list.
- Savant Wired IP Handset with LCD Display, Model TEL-HST01 AC, Wall Adapter included—number of handsets dependent on specific configuration; check packing list.
- Savant Wireless DECT Handsets, Model TEL-HSTW01 includes charging cradle—number of handsets dependent on specific configuration; check packing list.
- Savant DECT over IP Base Station, Model TEL-BST11 (indoor access point)—number of base stations dependent on specific configuration; check packing list.
- Savant DECT over IP Base Station, Model TEL-BST12 (outdoor access point)—number of base stations dependent on specific configuration; check packing list.
- Public Announcement System, Model PAS-1000—number of Public Announcement Systems dependent on specific configuration; check packing list.

PBX Support of Call Features

Important! You should avoid using iOS devices and full duplex (two-way) PBX functions with in-wall docks. Otherwise, the iOS devices will experience acoustic issues. Instead, half duplex (one-way) **Push-To-Talk** intercom functions must be used with in-wall docks.

The next table shows call features supported or not, by the Savant PBX components and iOS devices.

Feature	TEL-HST01	TEL-HST02	TEL-HSTW01	iOS Devices	Notes
Conference	Yes	Yes	No	No	
Transfer	Yes	Yes	Yes	No	
SLA	Yes	Yes	Yes	Yes	DECT handsets cannot display the status of the SLA lines they belong to.
SLA Status	Yes	Yes	No	Yes	DECT handsets cannot display the status of the SLA lines they belong to.
SLA Join	Yes	Yes	Yes	Yes	
Hold	Yes	Yes	Yes	Yes	
Resume	Yes	Yes	Yes	Yes	
Call Forward	Yes	Yes	Yes	No	
Paging	Yes	Yes	Yes	Yes	
Receiving Paging	Yes	Yes	No	Yes	DECT handsets will always ring
Distinctive Ringing	Yes[1]	Yes[1]	Yes[2]	Yes	[1] Only rings supported by the phone. No custom mp3 support. [2] Only rings supported by the phone. No custom mp3 support. slightly different to the ones for wired phones.
MWI	Yes	Yes	Yes	Yes	
Caller ID	Yes	Yes	Yes	Yes	Provided the phone line does support Caller ID.
Mute	Yes	Yes	Yes	Yes	
Call Waiting (Network Side)	Yes	Yes	Yes	Yes	Only iOS devices will present the Caller ID of the new call.
Call Waiting (Multi Call)	Yes	Yes	Yes	Yes	
SpeakerPhone	Yes	Yes	Yes	Yes	
Redial	Yes	Yes	No	Yes	
Global Contacts/ Directory	No	No	No	No	Contacts are local to the endpoints.
Global Missed calls Indication	No	No	No	No	The indication is kept independent in each device.
Speed Dial					
DND	Yes	Yes	Yes	Yes	No global—is individual to the device.

Headphone					
BLF	No	Yes	No	Yes	
Auto Answer	No[1]	No[1]	Yes	Yes	[1] Does not support auto-answer for non-intercom calls.

2. SAVANT GATEWAY

The Savant Gateway manages the interworking between the traditional Plain Old Telephone Service (POTS) lines—or Central Office lines—and the Savant Systems network.

Savant Systems supports a maximum of four wired lines coming into the gateway.

This section describes the Savant Gateway—TEL-GW04 (AudioCodes™ MP-114) which supports the Savant PBX system.

Gateway Hardware

The front and rear views of the Savant Gateway are shown in the next images.

Front View of Savant Gateway (TEL-GW04)

Rear View of TEL-GW04

Disabling Local Ringback on PBX Endpoints

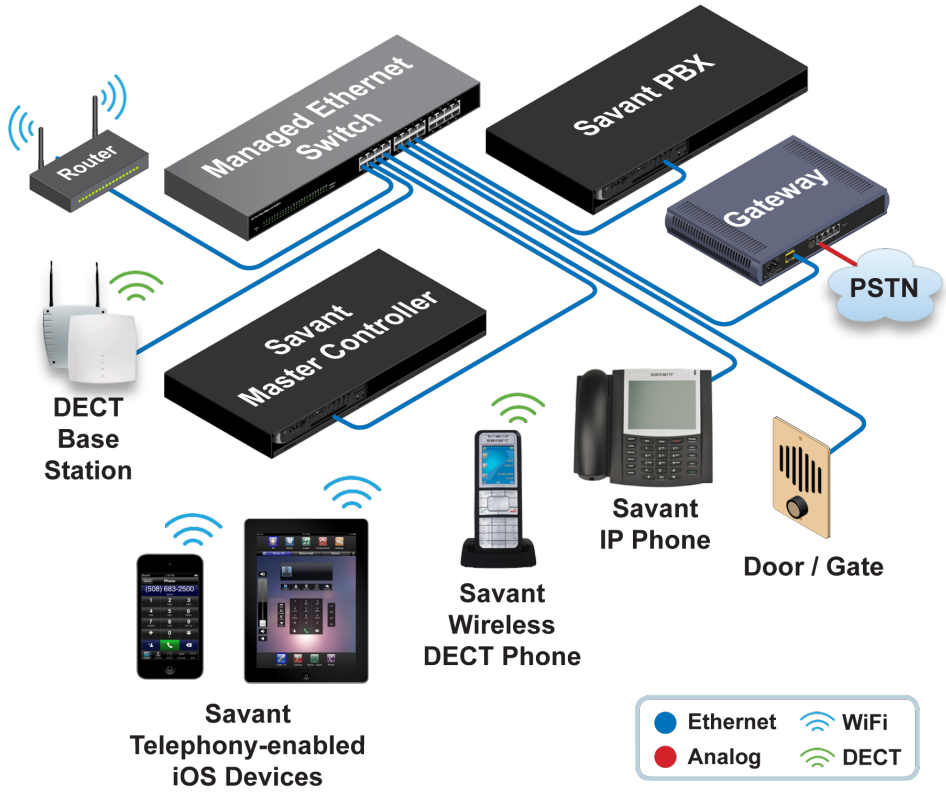
Local ringback from the endpoints can be disabled using the Savant Gateway web user interface. The Savant PBX will relay 183 from the gateway to endpoints so that no local ringback is played from endpoints.

To disable local ringback on PBX endpoints, do the following.

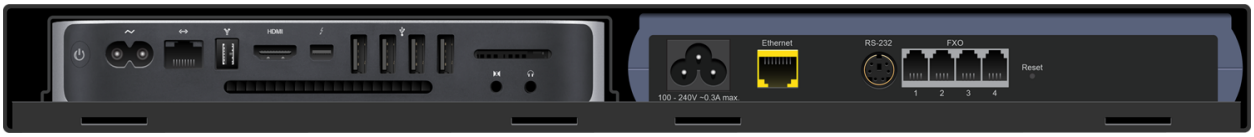
4. Open your web browser and enter the IP address of the gateway—for example, http://10.5.200.45—to open the gateway's web interface. Note that it may be necessary to use a web browser other than Safari.
5. Click **Full** instead of **Basic**.
6. Go to **Configuration** (tab) > **VoIP** > **SIP Definitions** > **General Parameters** > **Enable Early Media to Enable**.
7. Click **Submit**.
8. Go to **Configuration** (tab) > **VoIP** > **SIP Definitions** > **Advanced Parameters** >**Progress Indicator to IP.** Select the value: **PI=1**.

9. Click **Submit**.
10. Click **Burn** to store the new configuration, in case of a gateway reset.

Application Diagram



Mounting the Savant Gateway



The Savant Gateway (shown above on right) is mounted in the 1U Shelf (RCK-3000), beside the Savant PBX Server (SPX-1000).

Hardware Installation

To add the TEL-GW04 to the PBX solution simply plug in one end of an Ethernet cable to the unit's single 10/100 Base-T ethernet port, plug in the other end of the ethernet cable to a managed Ethernet switch, and then plug in the unit's AC power cord.

In addition, plug in a phone cable with an RJ-11 connector to at least one of the four FXO analog ports, and then plug in the other end of the phone cable to the telephone service provider's equipment.

You are now ready to configure your Savant PBX system using RacePoint Blueprint™. Please refer to the section, RacePoint Blueprint™Procedures.

3. SAVANT RACEPOINT BLUEPRINT™

Use the next section to setup your Savant PBX using the Savant RacePoint Blueprint™ tool.

RacePoint Blueprint™ Procedures

To access the link to the topics in this document, click the topic or topic page number in the following table of contents.

Configuring a Savant PBX in RacePoint Blueprint™

To configure your Savant telephony solution, you must first add the Savant Private Branch Exchange (PBX) component and supporting devices to an existing configuration in RacePoint Blueprint™ configuration window which includes these components: Savant PBX, Savant Gateway, and door entry system (optional). When the RacePoint Blueprint™ configuration is complete, you must do the following:

- Load the gateway configuration generated by RacePoint Blueprint™ to the gateway.
- Using the Savant Configurator load the telephony endpoints.plist generated by RacePoint Blueprint™.
- Configure phones, Savant Public Announcement (PA) system, using configuration files generated by Savant Configurator.

Before You Begin

If the current RacePoint Blueprint™ configuration contains a Call Server and Intercom Service, do the following:

1. In RacePoint Blueprint™select the Call Server component and delete it.

Important! A plist will not be generated unless the call server has been deleted.

2. Click **Generate Services**, and then synchronize the services.

NOTE: Ensure the Intercom Service has been removed from the realized services.

To ensure that the IP addresses of the Savant PBX and Savant Gateway are reserved permanently in the DHCP server, you must configure a DHCP reservation in your DHCP server. The Savant PBX is shipped with DHCP enabled.

The following procedures must be performed in the sequence shown below:

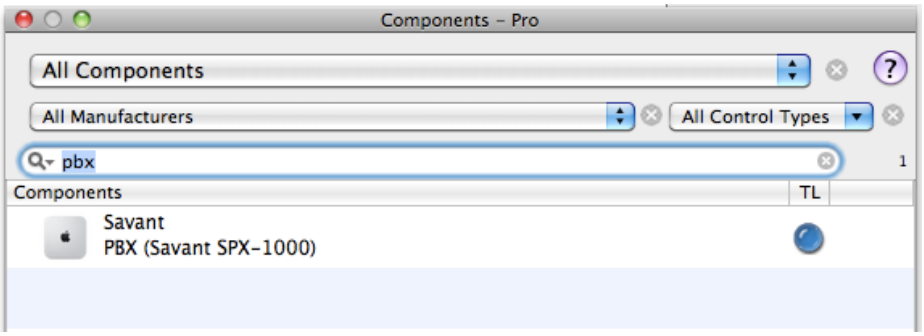
1. Adding a Savant PBX Component
2. Adding a Savant Gateway Component
3. Exporting Savant Gateway *.ini File
4. Exporting Telephony plist File
5. Adding a Savant Public Announcement (PA)

Adding a PBX Component

Before adding a Savant PBX component to your RacePoint Blueprint™ configuration, read this first: Configuring a Savant PBX in RacePoint Blueprint™.

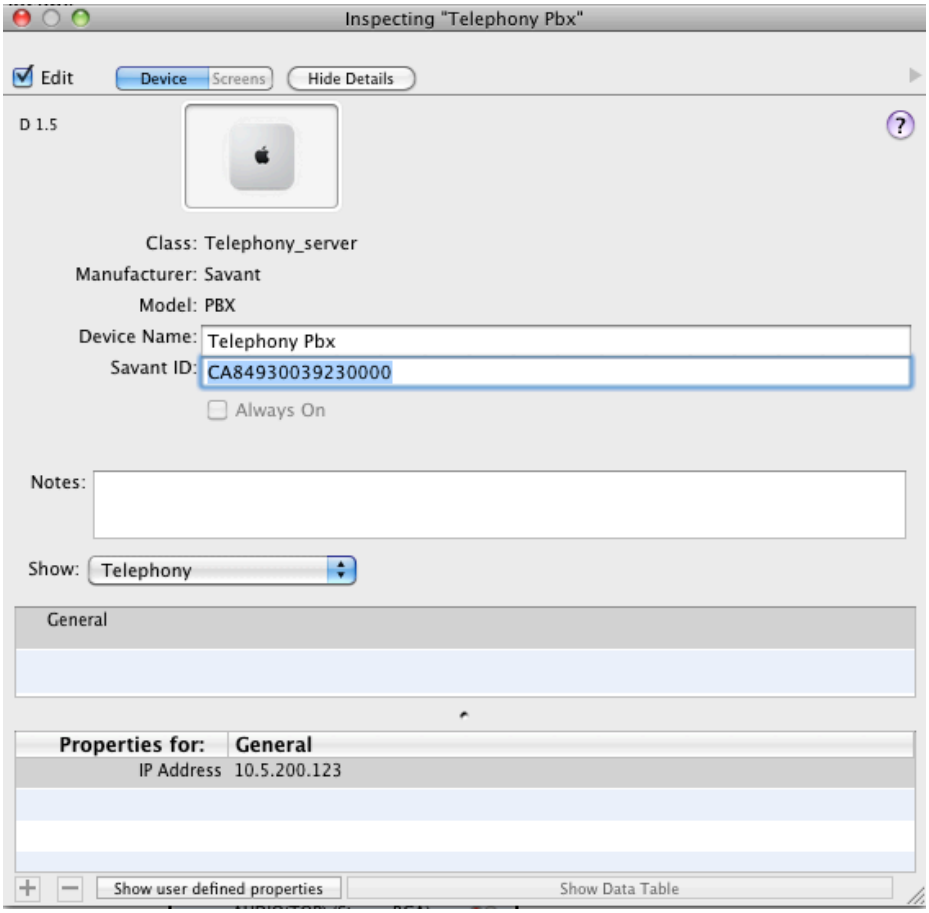
To add a Private Branch Exchange (PBX) component to your RacePoint Blueprint™ configuration, do the following.

1. In RacePoint Blueprint™ click **Show Library**.
2. From the **Components** window, select the **PBX (Savant SPX-1000)** component and drag it to the configuration window.



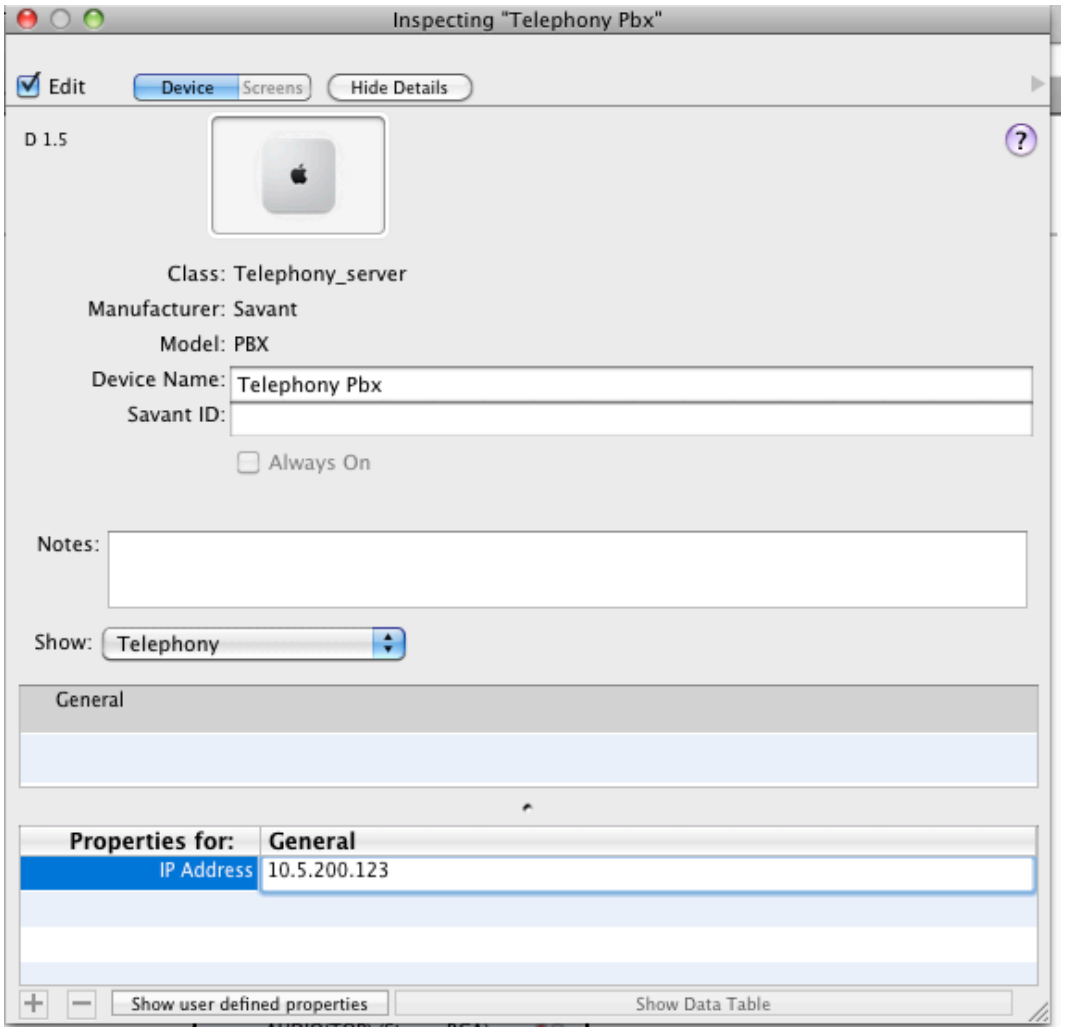
3. Click **Show Inspector.**
4. From the **Inspecting** <*name*> window, enter the PBX **Savant ID**.

NOTE: The PBX Savant ID will not display in Apple Remote Desktop but will appear in System Monitor.



5. Select telephony properties and enter the PBX IP address.

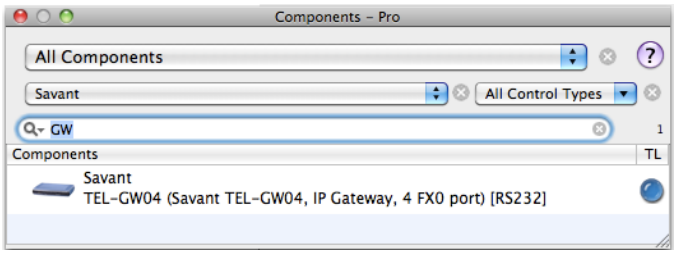
NOTE: Savant recommends that this IP address be reserved in the DHCP server so that the PBX will always get the same DHCP address when a power cycle is performed. The Savant PBX is shipped with DHCP enabled.



Adding a Gateway Component

To add a gateway component to your RacePoint Blueprint™ configuration, do the following.

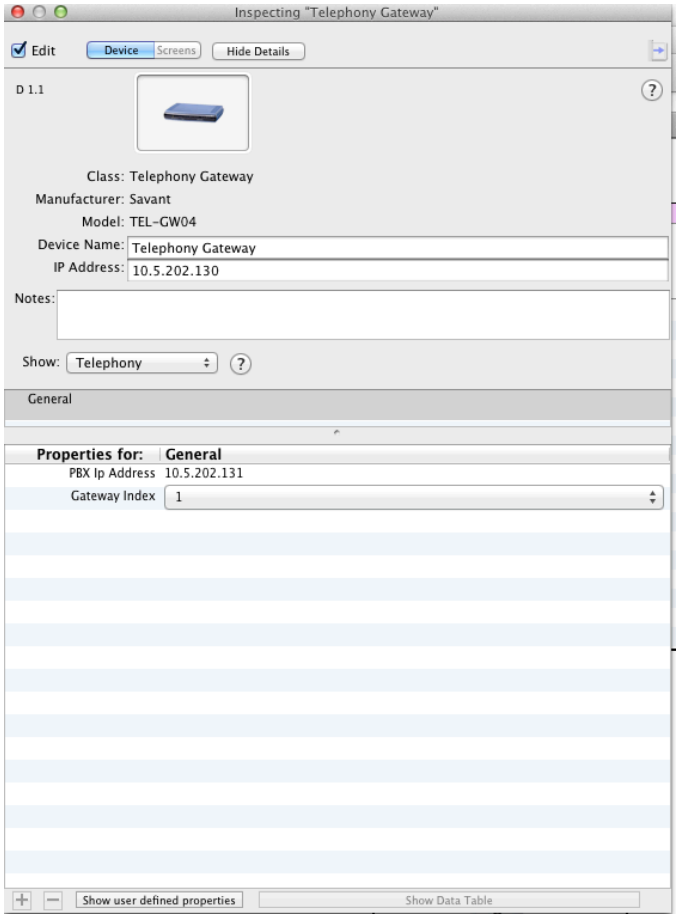
1. From the **Library** window, using the search text “GW” find the **Savant** gateway component (TEL-GW04), select it, and drag it into the configuration window.



2. Drag the gateway component to the configuration window.
3. Enter a unique name for the component and click **Create**.

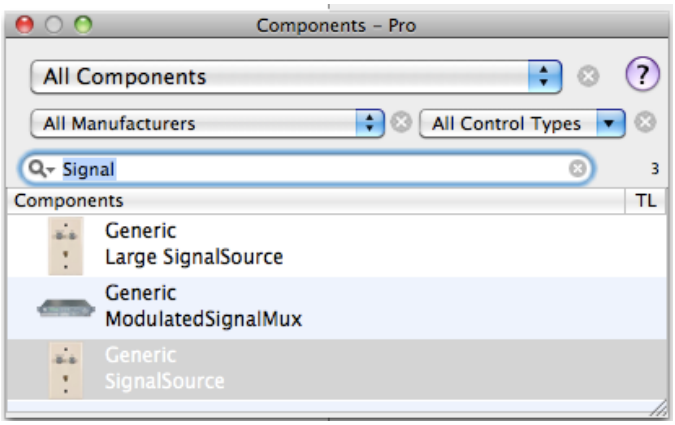
   NOTE: The name of the gateway must not exceed 20 characters—a minus sign or dash is not a valid character.

4. Click **Show Inspector**.
5. From the Inspecting window enter the gateway **IP address**.

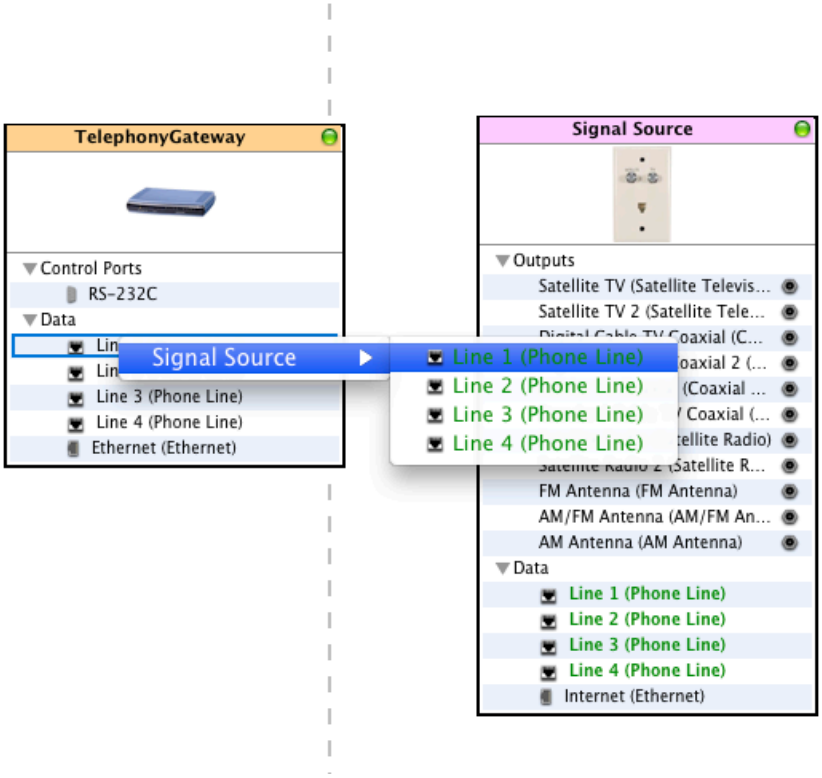


6. From the **Show** drop-down list, select **Telephony**.
7. Select **General** option.

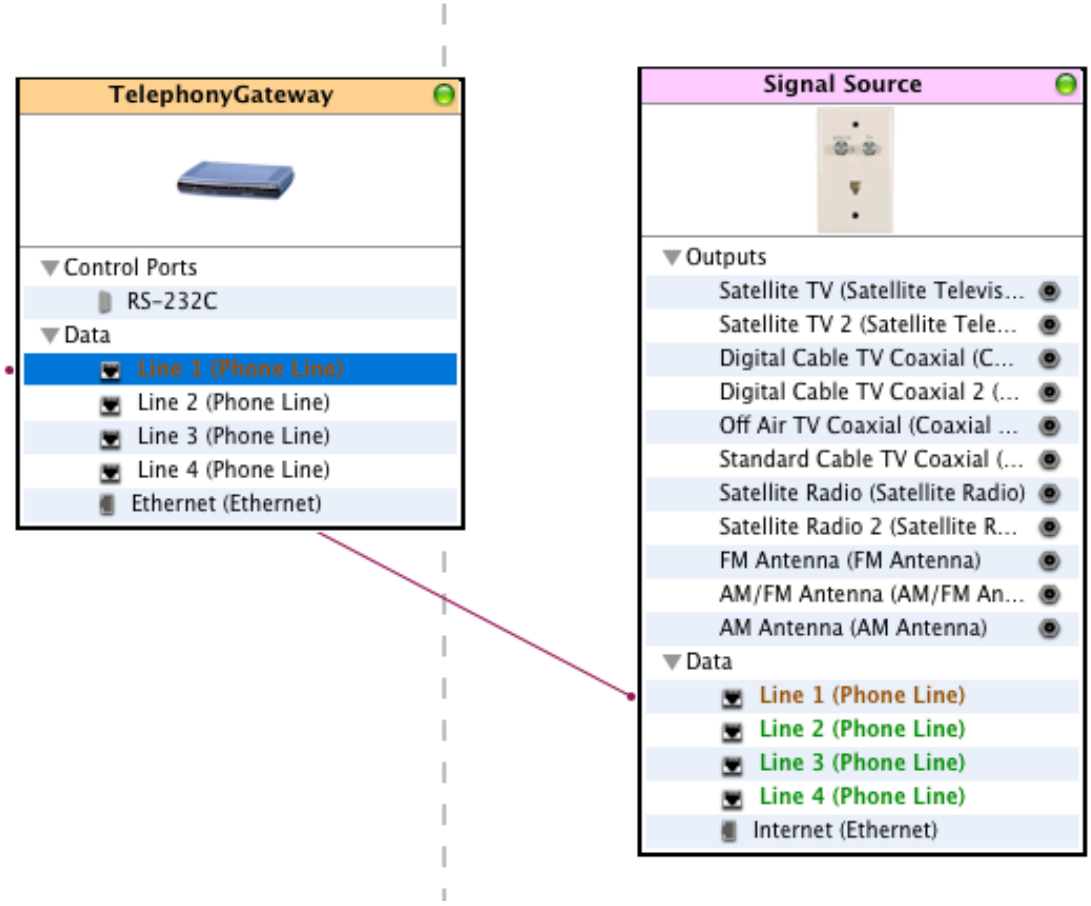
8. Enter the Savant **PBX IP Address**.
9. For Release 5.1 and later, you must set the **Gateway Index** to 1.
10. Click **Show Library** and highlight the **Generic SignalSource** component.



11. Drag **Generic SignalSource** to the configuration window and enter a unique name for the component.
12. In the **TelephonyGateway** configuration window, select the gateway component.
13. Under the **TelephonyGateway** right click Line 1 and select the corresponding **Signal Source** Line 1.



14. Repeat the previous step for each external phone line (POTS) required. A maximum of four lines is supported in the current release.



15. Next, click **Generate Services** and then **Save** the configuration. Saving the configuration also generates two important files that are needed to configure the Savant Gateway and the Savant PBX.
16. Synch with services, if required.
17. Upload the configuration to your Savant system.

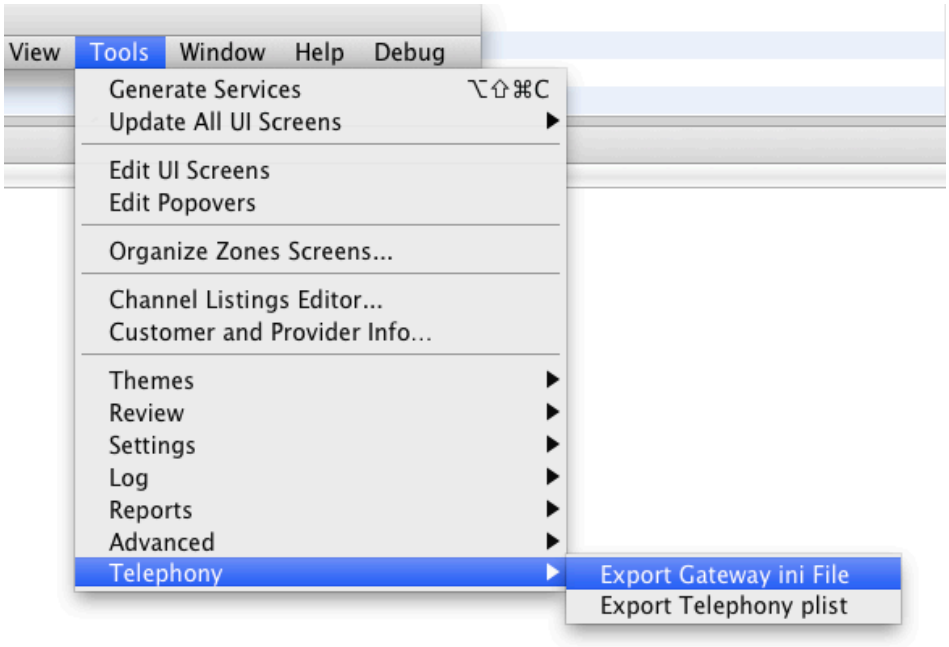
NOTE: Ensure the telephony service is enabled in all the zones of interest.

If more gateways must be added, see *Configuring Multiple Gateways*.

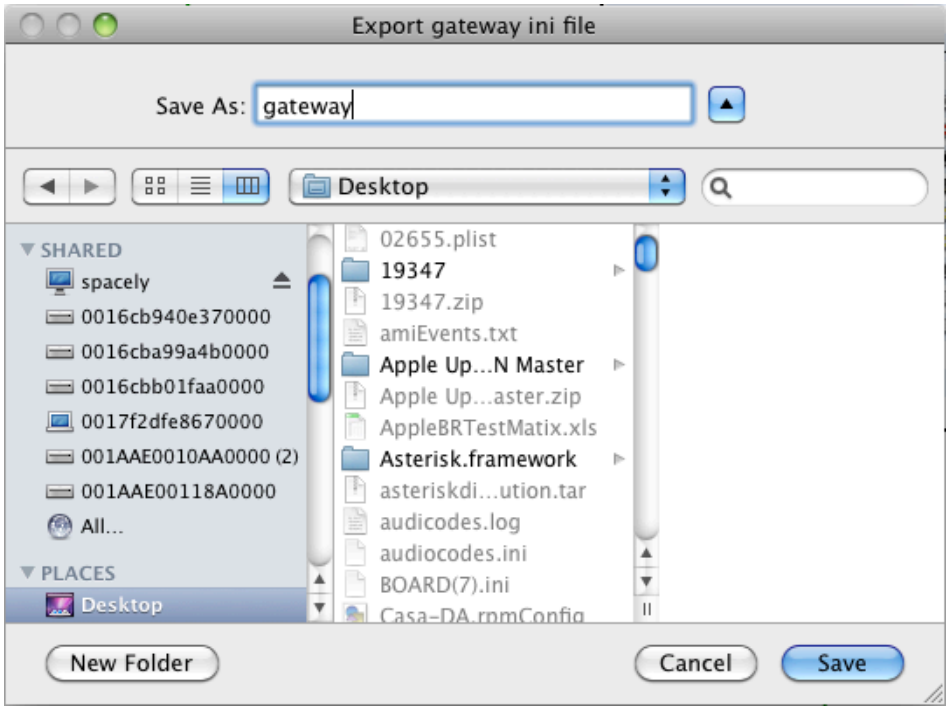
Exporting Savant Gateway *.ini File

To load the Savant Gateway configuration generated by RacePoint Blueprint™ to the gateway, you must export the gateway initialization (*.ini) file. To export the *.ini file, do the following.

1. From the **Tools** menu go to **Telephony** and select **Export Gateway ini File**.



2. The **Export Gateway ini File** window opens. See the next screenshot.



3. Select the destination folder and the name of file and click **Save**.

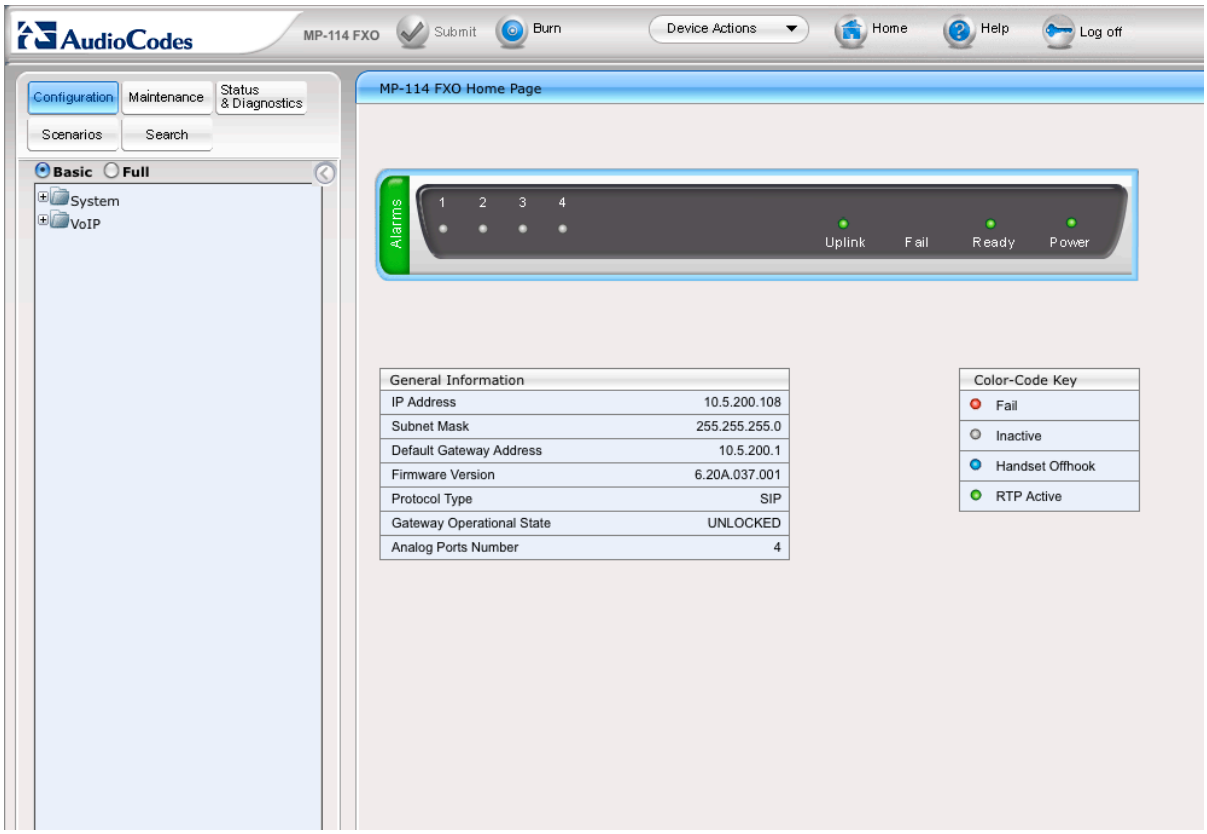
Uploading the *.ini file to the Savant Gateway

This procedure assumes you are using the gateway interface version: 6.20A.037.001 (factory default.)

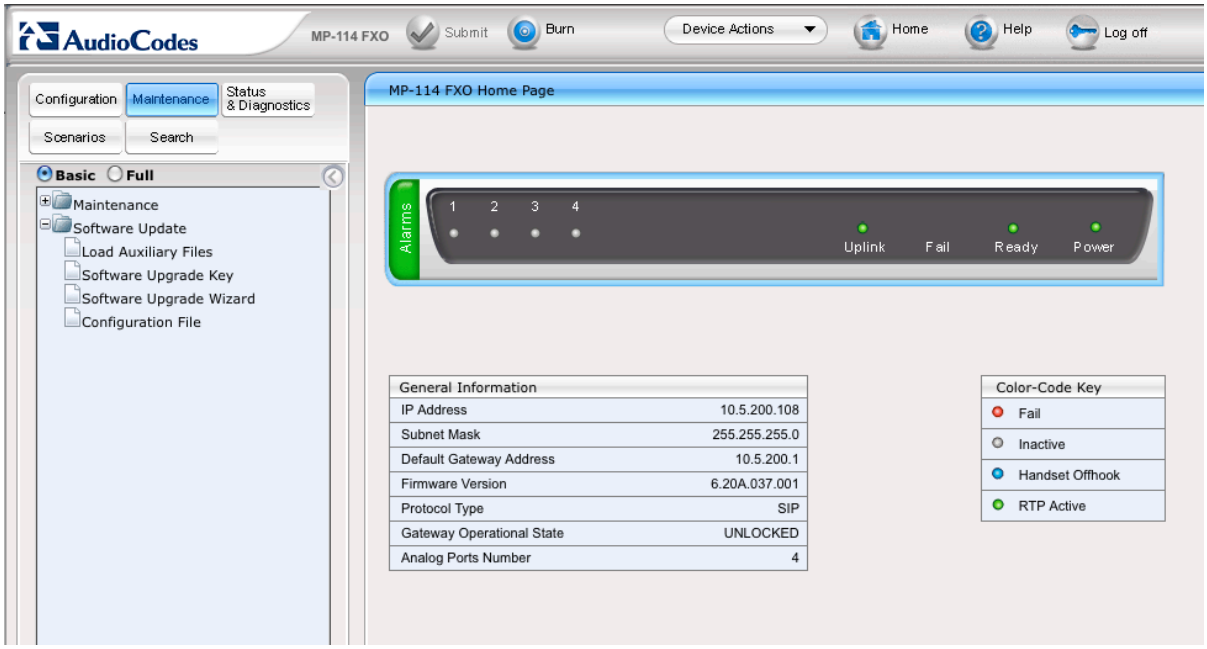
To upload the *.ini file to the Savant Gateway, do the following.

1. Open your web browser and enter the IP address of the gateway—for example, http://10.5.200.45—to open the gateway's web interface. Note that it may be necessary to use a web browser other than Safari.

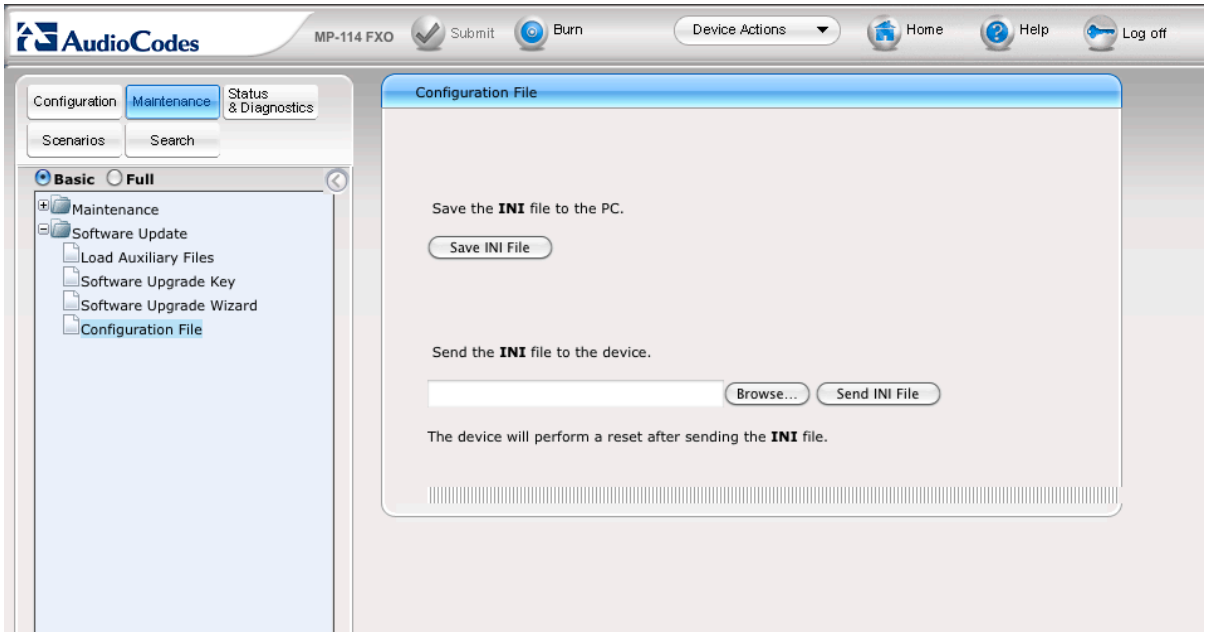
NOTE: This step assumes the gateway already has been set up to use DHCP and its IP address has been properly reserved on the DHCP server.



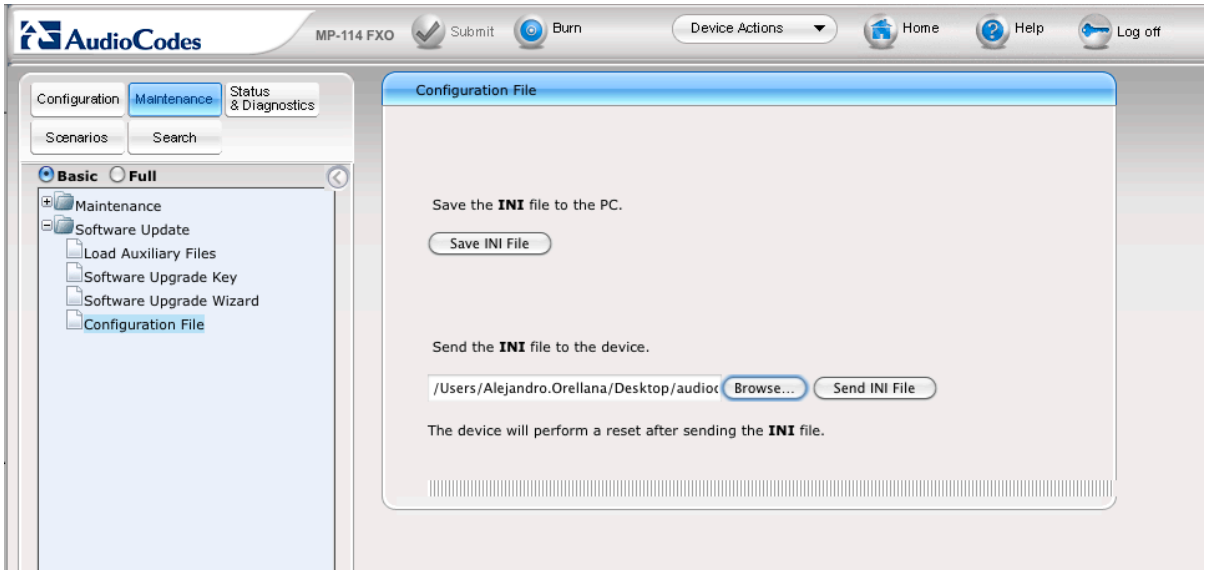
2. Select **Maintenance** button and then expand **Software Update**.



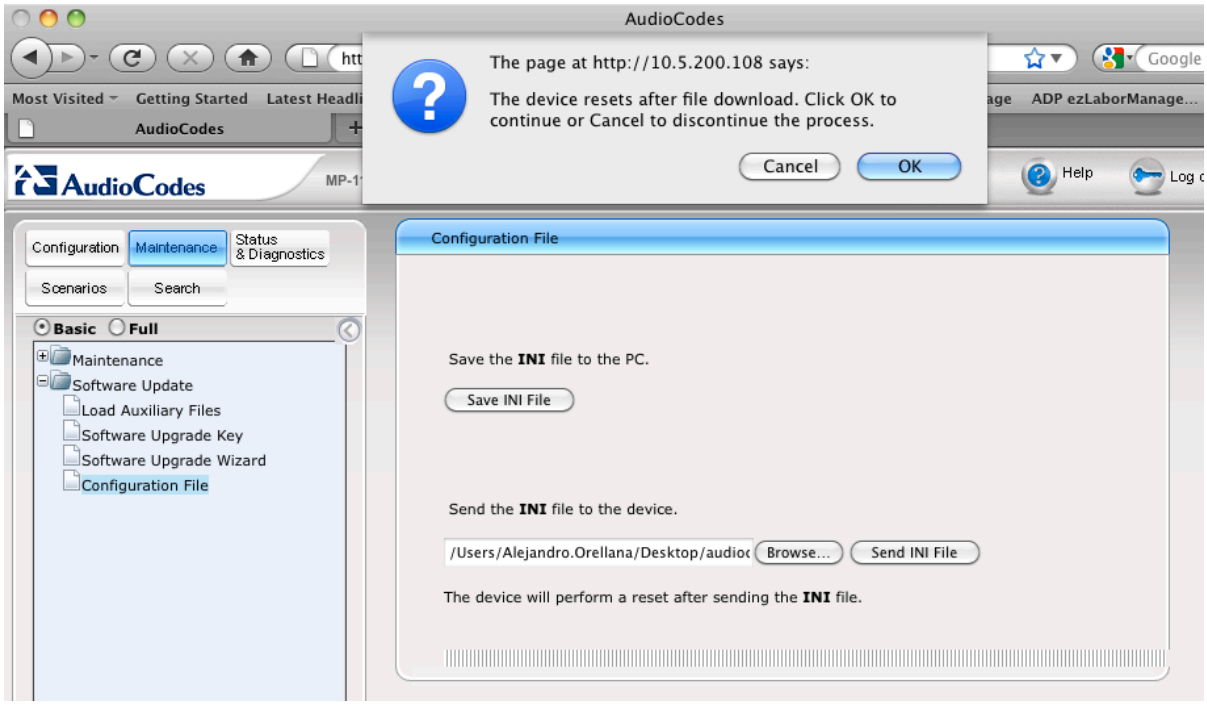
3. Select **Configuration File**.



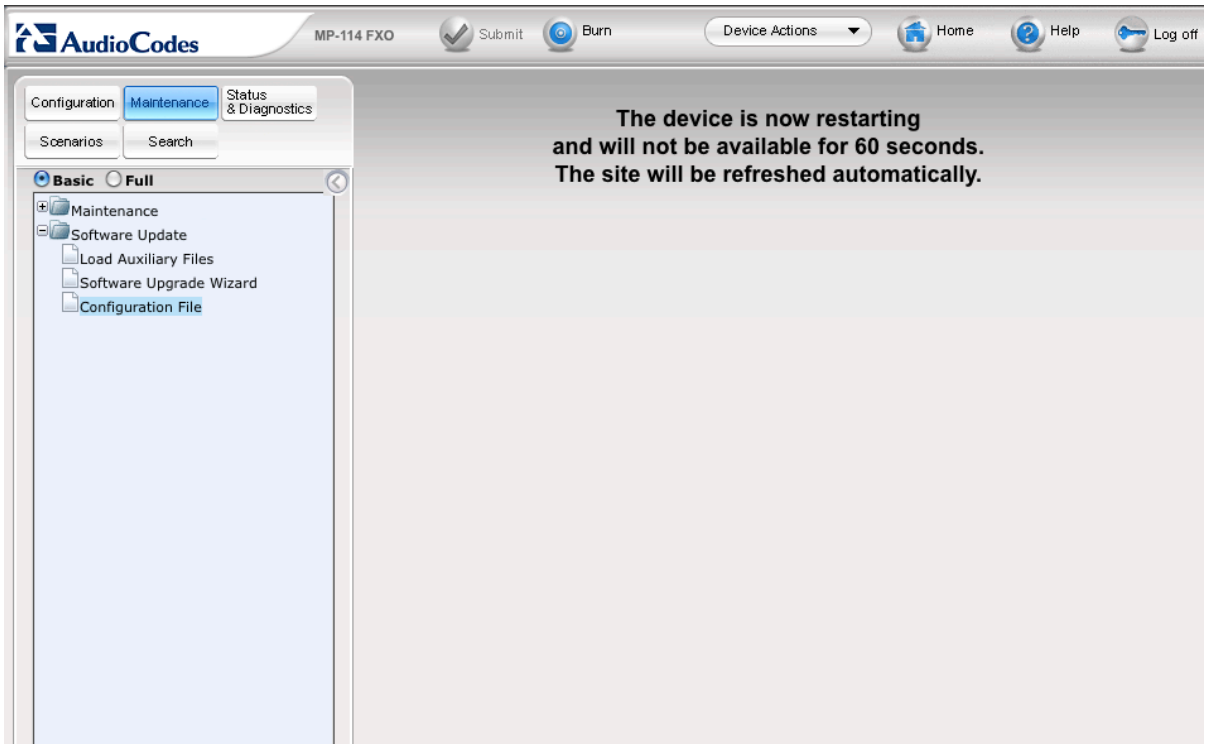
4. Browse and select the ***.ini** file



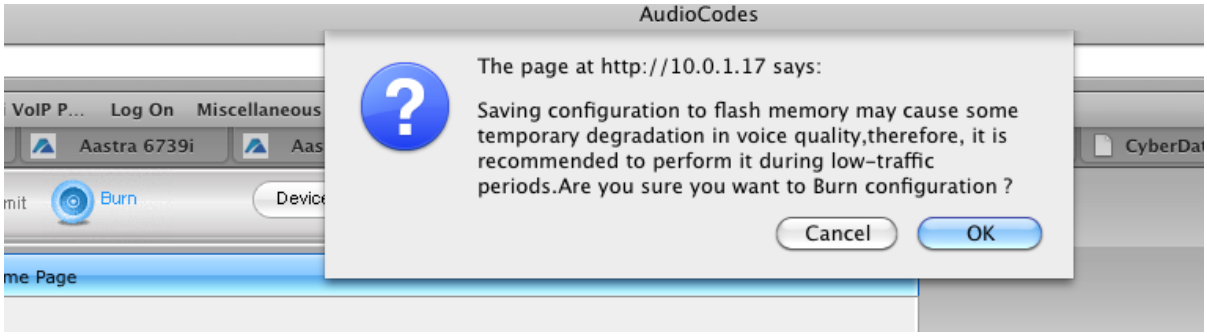
5. Click **Send INI File**.



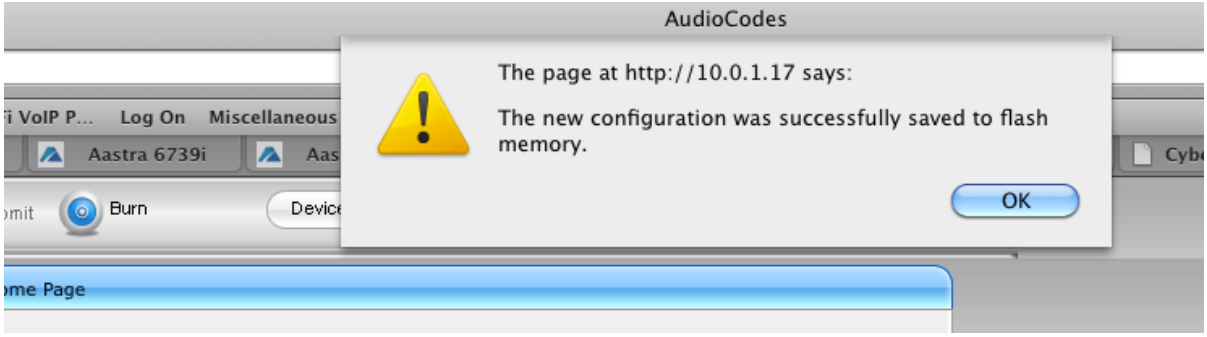
6. Click **OK**. Wait until the device restarts. This could take as long as 60 seconds.



7. Click **Burn**.



8. Click **OK.** Then, you should see a message saying the new configuration was saved.



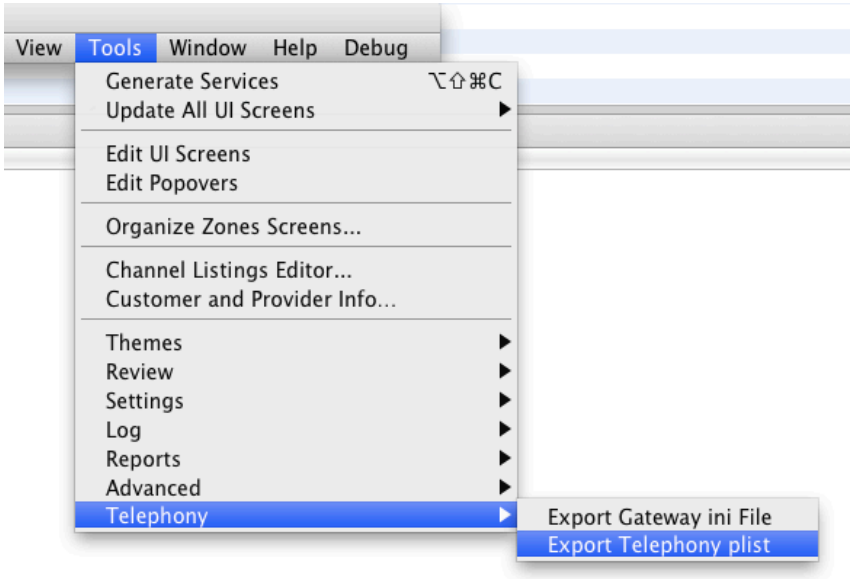
9. Click **OK**.

Exporting Telephony plist File

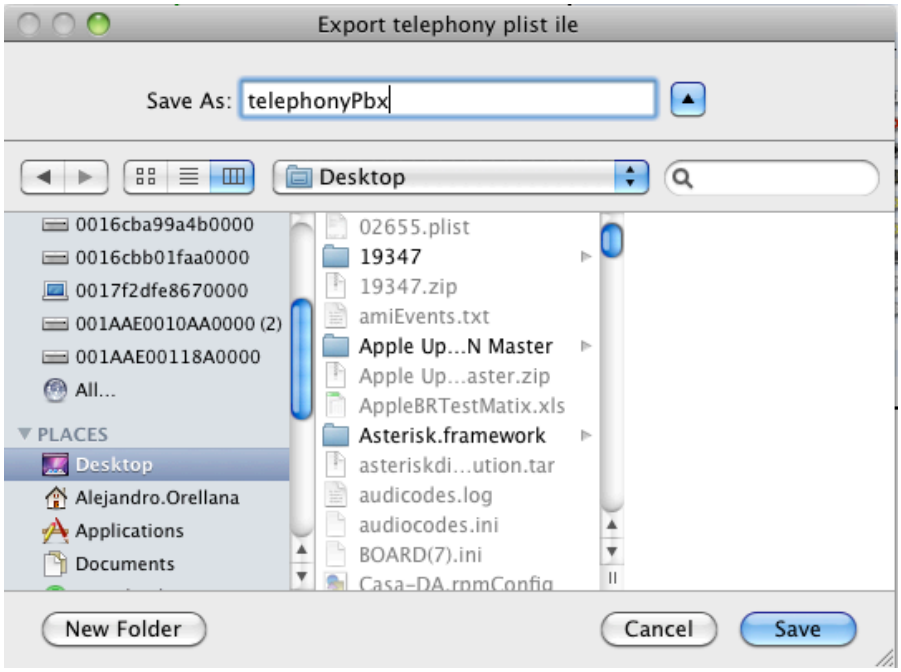
If you do not have a gateway as part of your Savant PBX system, exporting of the telephony plist is not required—please skip this procedure.

To load the telephony property list files (Endpoints.plist) generated by RacePoint Blueprint™ to the Savant Configurator, do the following.

1. From the **Tools** menu select **Telephony** and then select **Export Telephony plist**.



The **Export telephony plist file** window opens.



2. Select the destination folder and the name of file, and then click **Save**. This file will later be used in the Savant Configurator.

Adding Endpoints to the PBX System

iOS Devices

iOS devices can be added to the Savant PBX system with or without a shareable UID. Savant Systems recommends the use of shareable UID. For more details see the Technical Application Note, How To Guide: Setting Up Guest Access. To view this document, go to http://www.savantsystems.com and navigate as follows:
> **Dealer Login** > **Knowledge Base** > **Products**

1. From the **Library** window select the iOS device.
2. Click **Show Inspector**.
3. In the **Inspector** window, enter the Device Name.
4. If required, insert a check mark for the field **Sharable UID** (in the **Inspector** window).
5. Add a user.

IP Phones

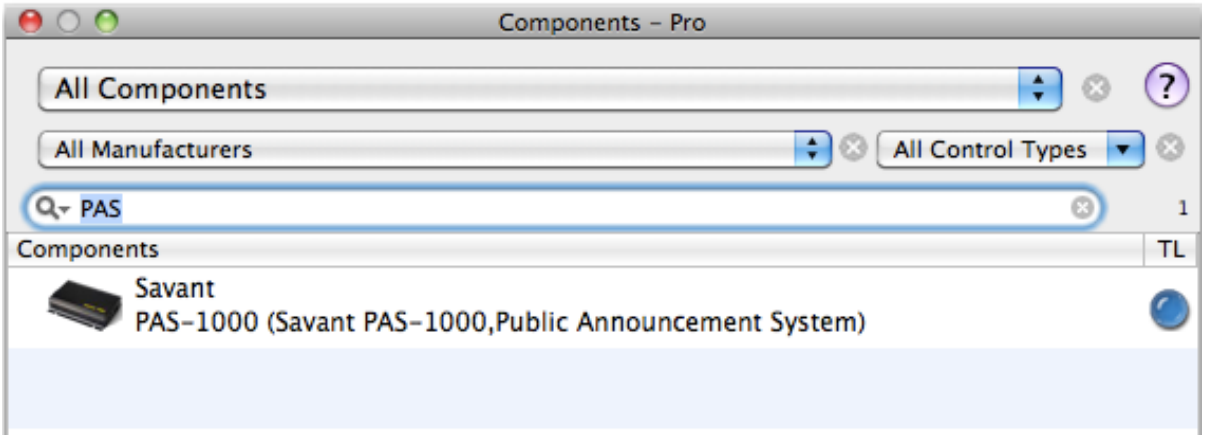
IP phones are configured for a Savant PBX system using the Savant Configurator. See the *section, Savant Configurator.*

Adding the Savant PA System

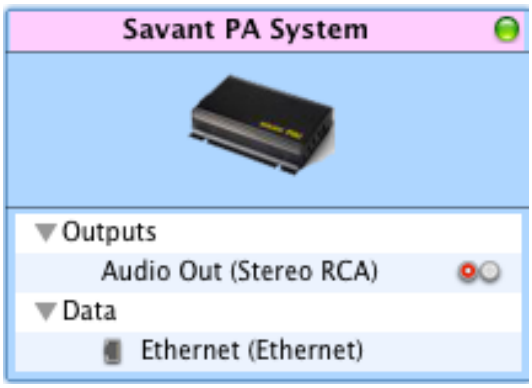
The Savant Public Announcement (PAS-1000) system—also used as a paging system—can activate an Audio Interrupt Service, similar to the door bell service, providing two workflows: PageCallStart and PageCallStop. These workflows allow all zones to pause the current audio source, send the output of the PA system, and then resume the audio source.

To add the Savant PAS-1000 component to the RacePoint Blueprint configuration, do the following.

1. Open your RacePoint Blueprint™ configuration.
2. Click **Show Library**.
3. From the **Components** library window, type Savant PA in the search field to display Savant PA (PAS-1000).

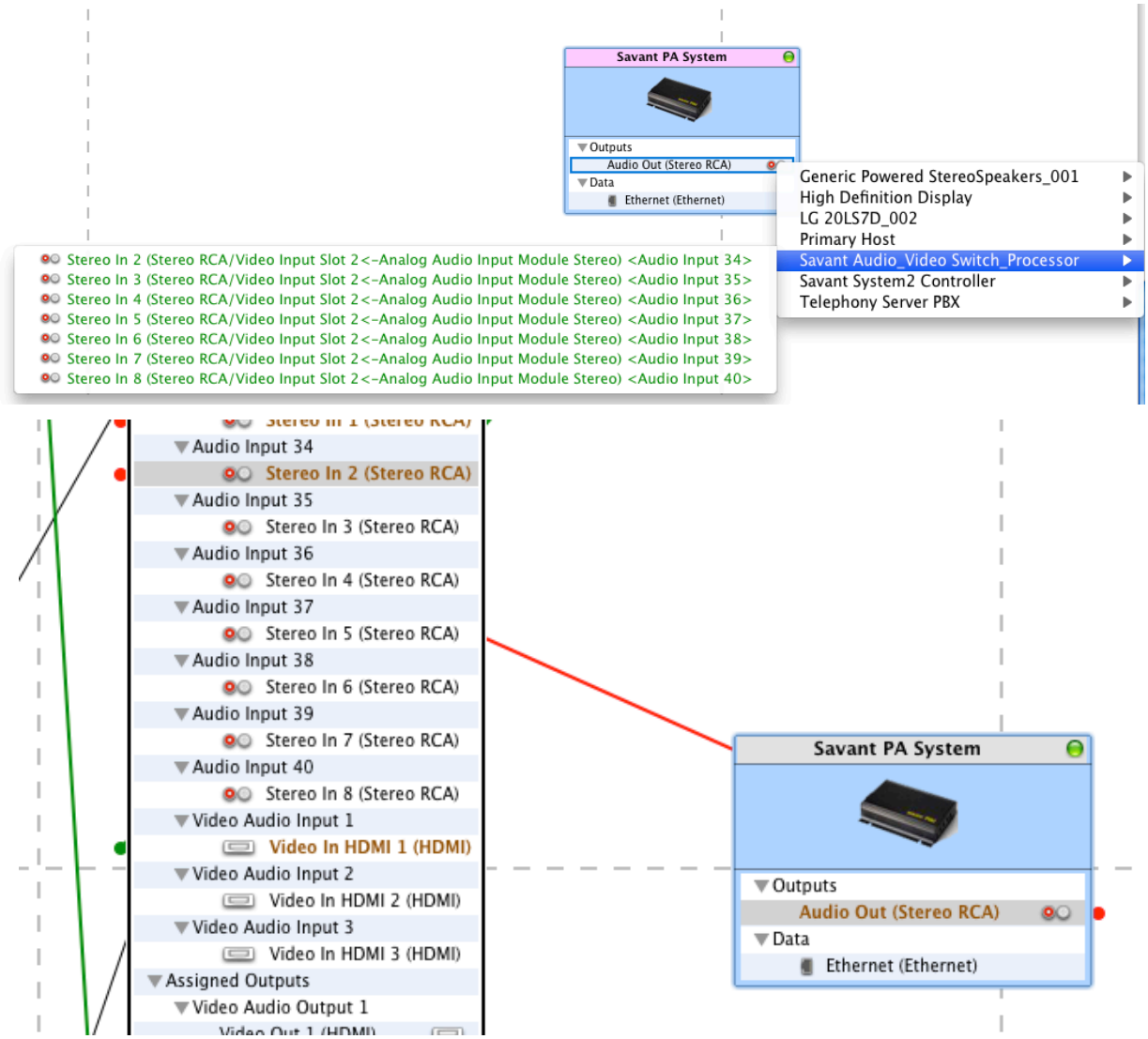


4. Select and drag the **PAS-1000** component to the configuration window.
5. Select the zone and the name, then assign the component to a global zone.

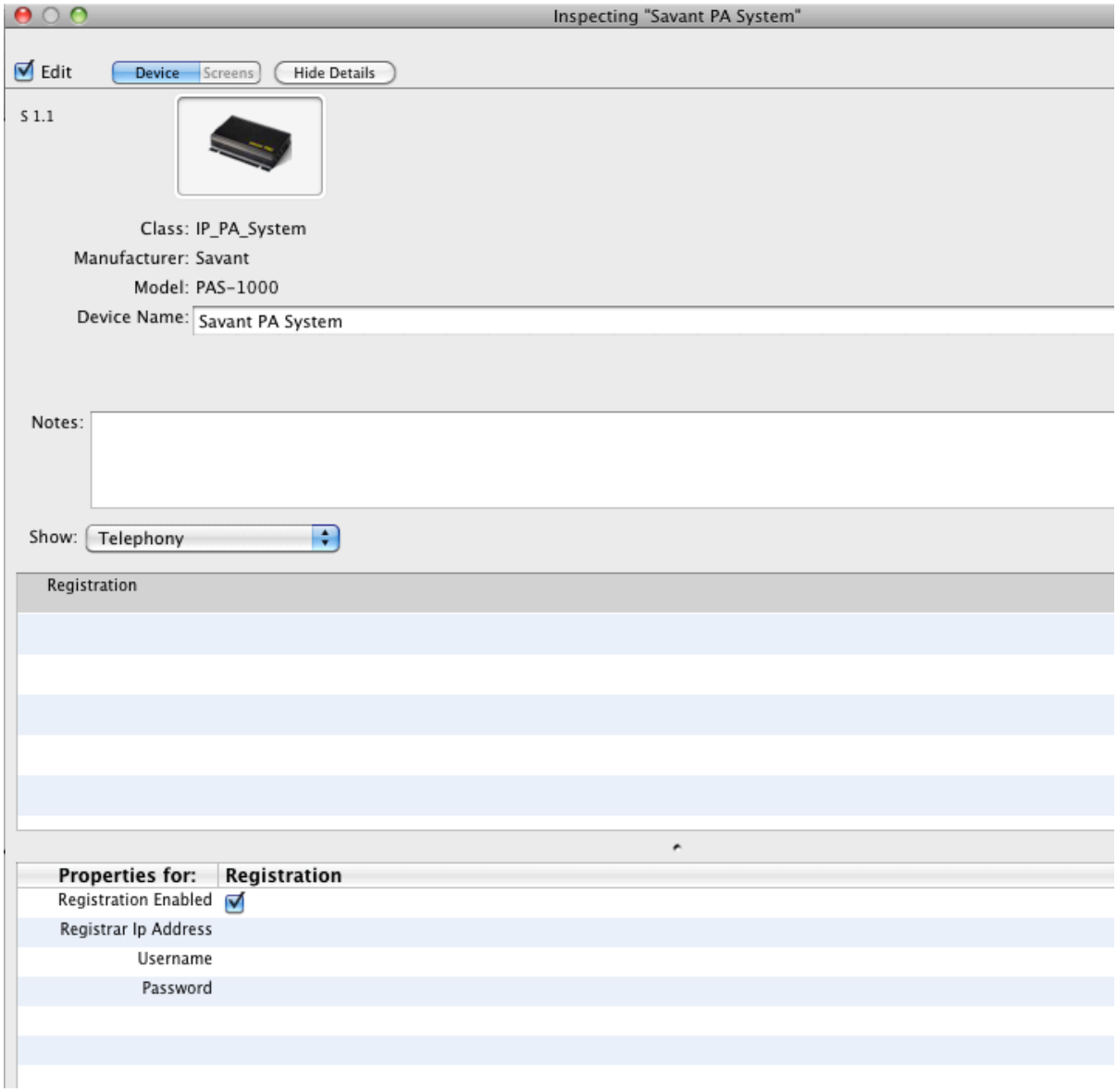


NOTE: To configure the Savant Public Announcement (PA) system, a Savant audio/video matrix switcher is required.

6. Connect the RCA audio output to the Savant Audio-Video Switch Processor stereo input. Ensure that an audio connection is assigned to an input on the matrix switcher.

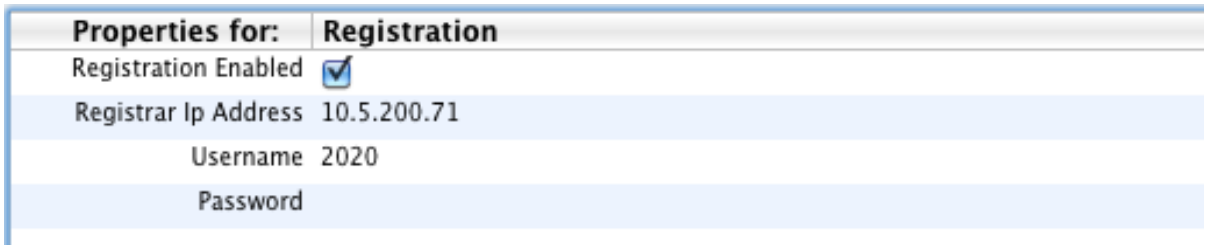


7. Click **Show Inspector** and inspect the **Savant PA System** component.
8. View the telephony properties and select **Registration Enabled** by inserting a check mark. See the next screenshot.

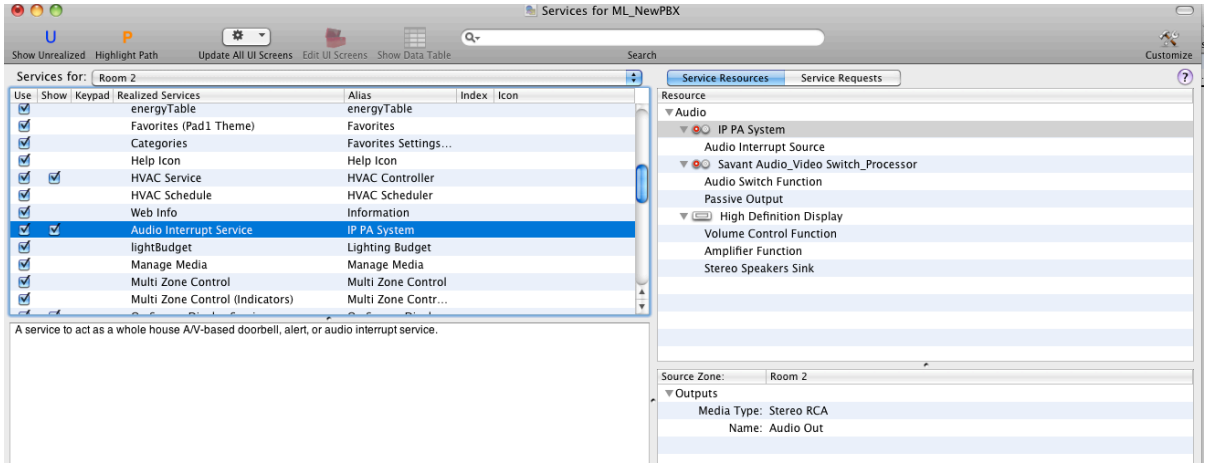


9. Double-click **Registrar Ip Address** on the **Properties for: Registration** pane and enter the correct IP address for the Savant PBX (SPX-1000)—for example, 10.5.200.71.

10. Double-click **Username** and enter a user name—for example: 2020. Write down this user name for use in the Savant Configurator. This value matches the one used to add the Savant Public Announcement System (PAS-1000) while configuring the Savant PBX in Savant Configurator.



11. Leave the **Password** blank.
12. Click **Generate Services**.
13. Confirm that an Audio Interrupt Service is configured for all zones. See the next screenshot.



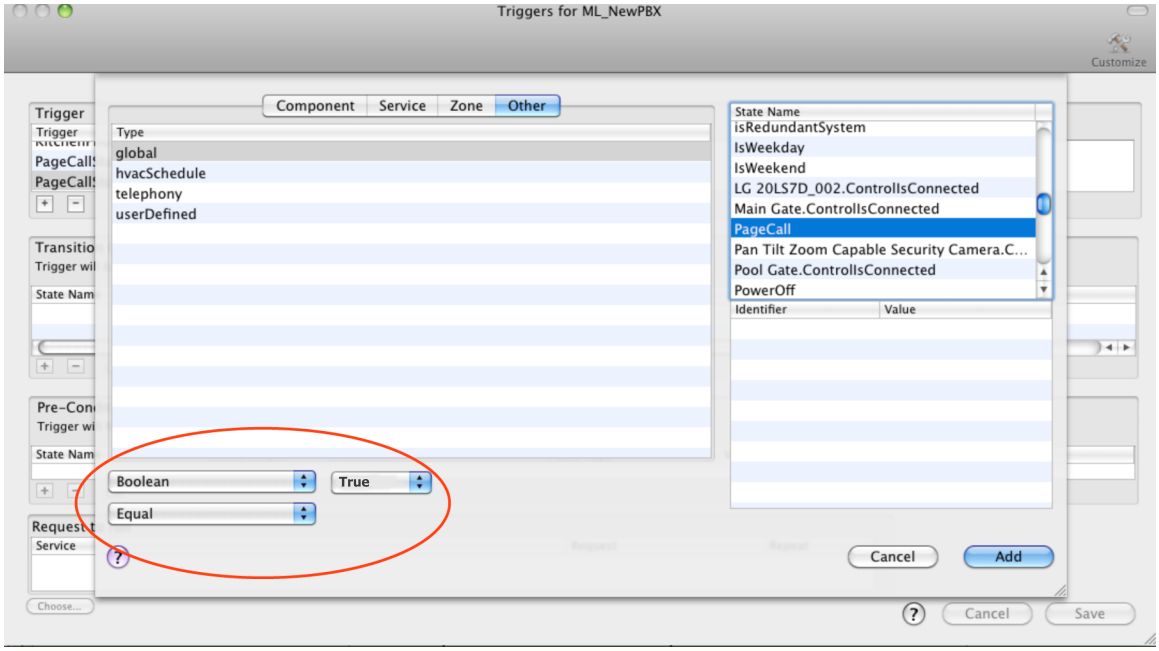
Configuring Triggers for Savant PA System

The triggers, PageCallStart and PageCallStop, must be configured for the Savant PA (paging) system (PAS-1000).

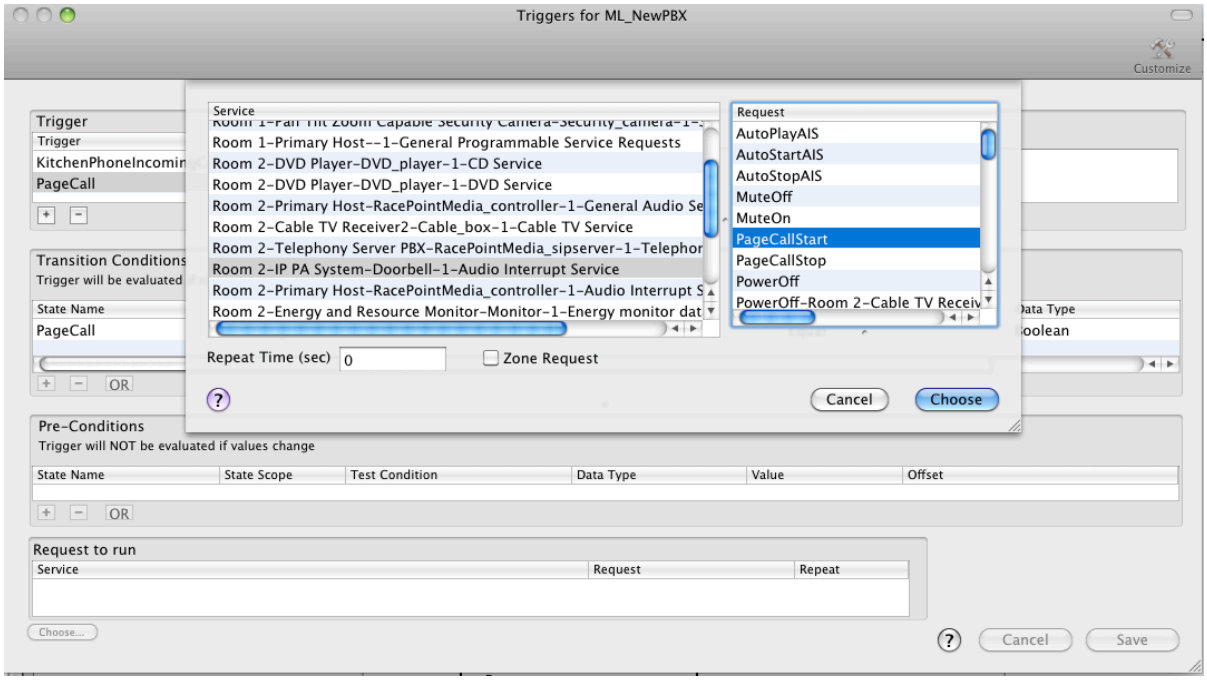
When global.PageCall is TRUE, this triggers the PageCallStart workflow.
When global.PageCall is FALSE, this triggers the PageCallStop workflow.

To configure the triggers so the paging system workflows can be executed, do the following.

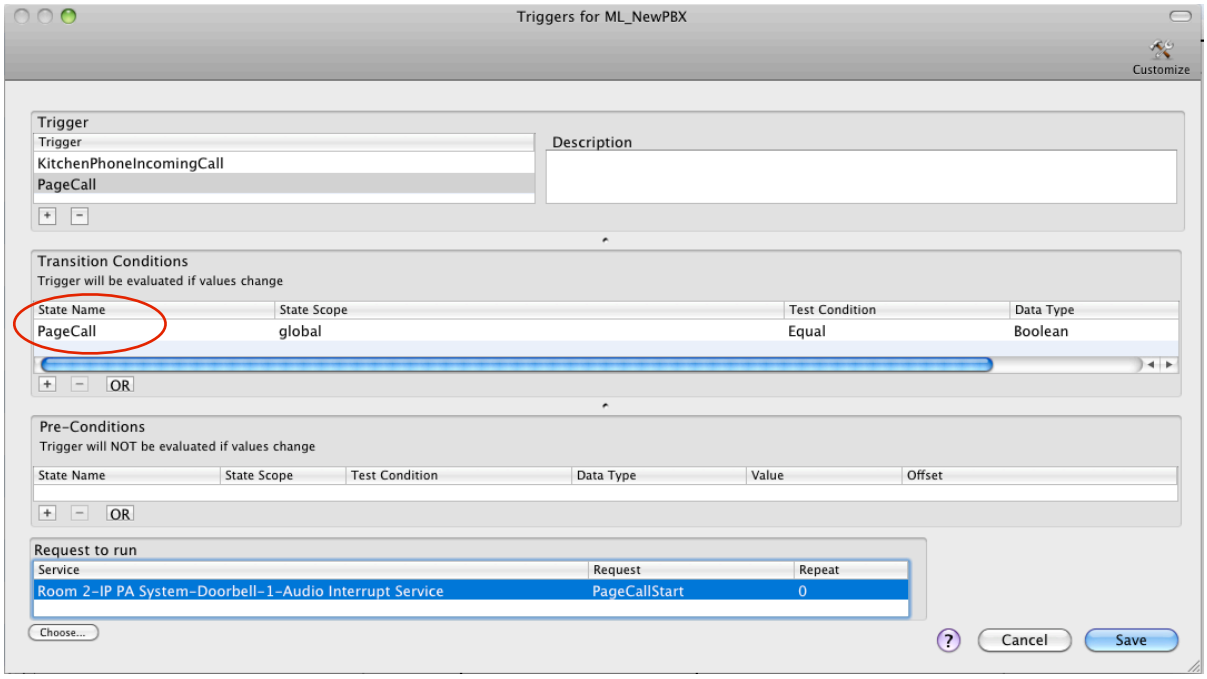
1. In RacePoint Blueprint™ navigate to **Tools**-> **Review**-> **State Triggers**.
2. Create a new trigger, *PageCallStart* by clicking the **+** button in the **Trigger** group.
3. Create the **Transition Conditions** by clicking the **+** button.
4. In the **Triggers for**… window, select **Other** (tab).
5. Under **Type** select **global.**
6. Under **State Name** select **PageCall.**
7. Assign the state: **Boolean Equal True**. See the circled area of the next screenshot.
8. Click **Add**.



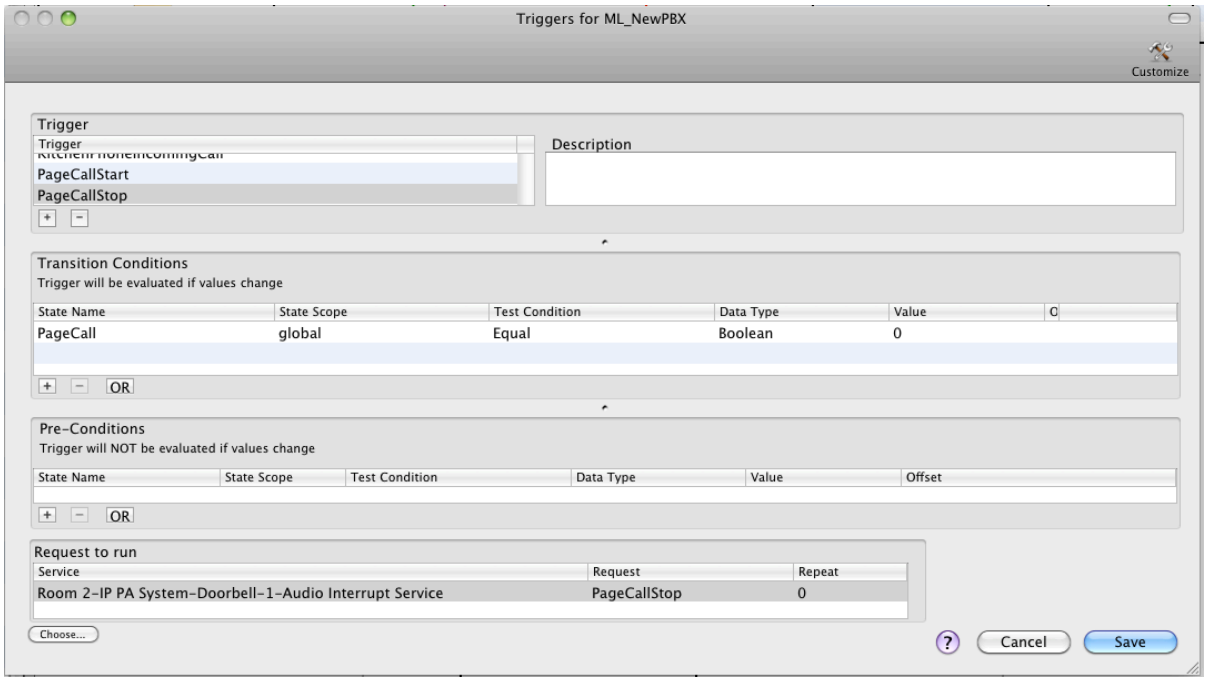
9. In the **Request to run** group (bottom) click the **+** button.
10. Select the **Service**—a doorbell audio interrupt service, and then select the **Request**—*PageCallStart*.
11. Click **Choose**.



12. To create the second trigger, PageCallStop, under **State Name** select **PageCall.**



13. Assign the state: **Boolean Equal False**.
14. Click **Add**.

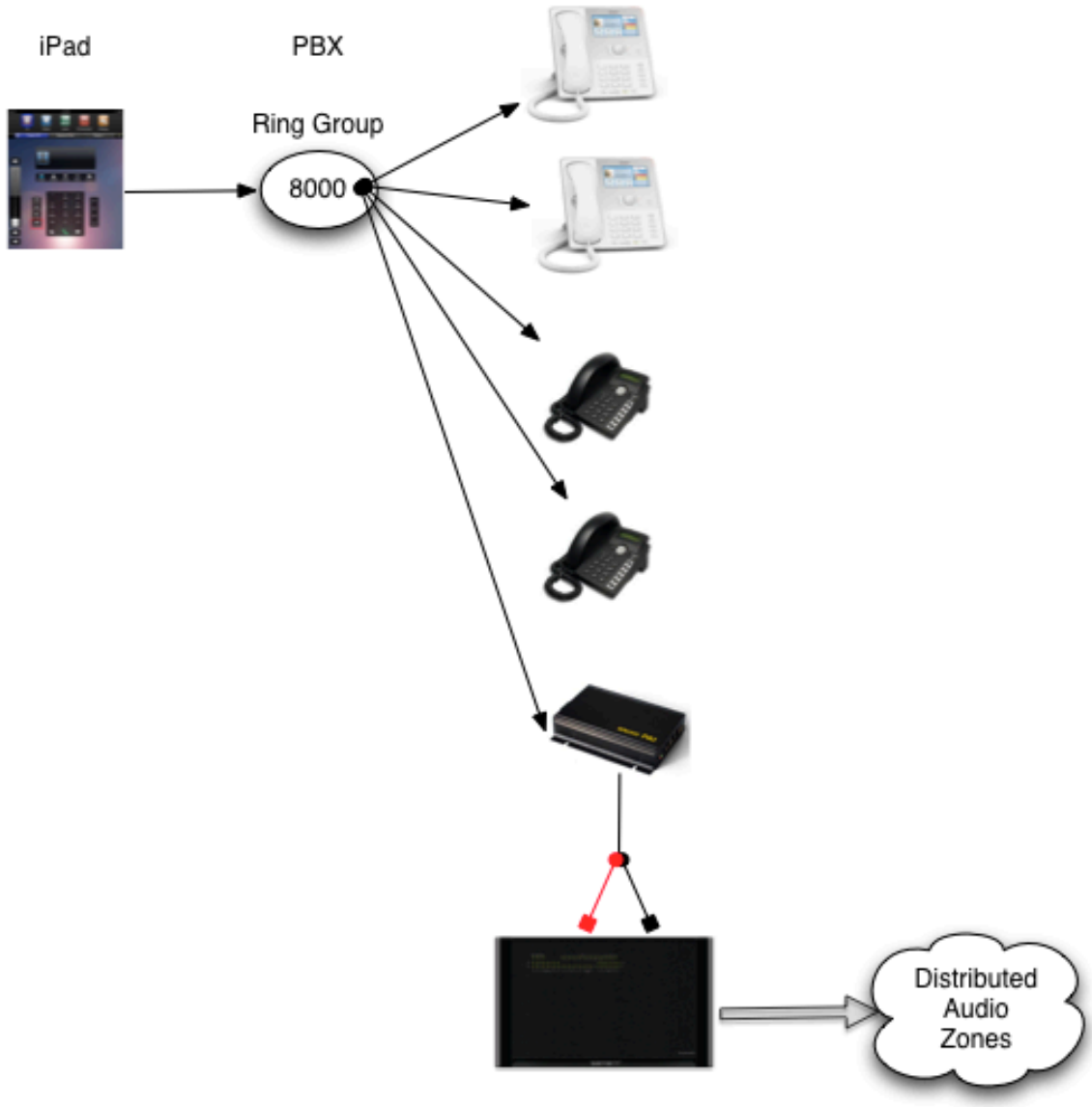


15. Click **Save.**
16. Upload the configuration.

Configuring the Whole-House Paging Feature

The Whole House Page Feature uses the Savant PA system in a Calling Group set as a Paging Group. Ensure that you have a Calling Group set as Paging Group with extension 8000. The Paging Group must be configured using the Savant Configurator.

If you dial a Paging Group extension, all the devices in that group will auto-answer and be placed in a conference bridge. The audio will then flow in one direction only from the caller device to the devices in the group, see the figure below:



By default, the iPad® **Page** button uses extension 8000 for paging. See the next screenshot.

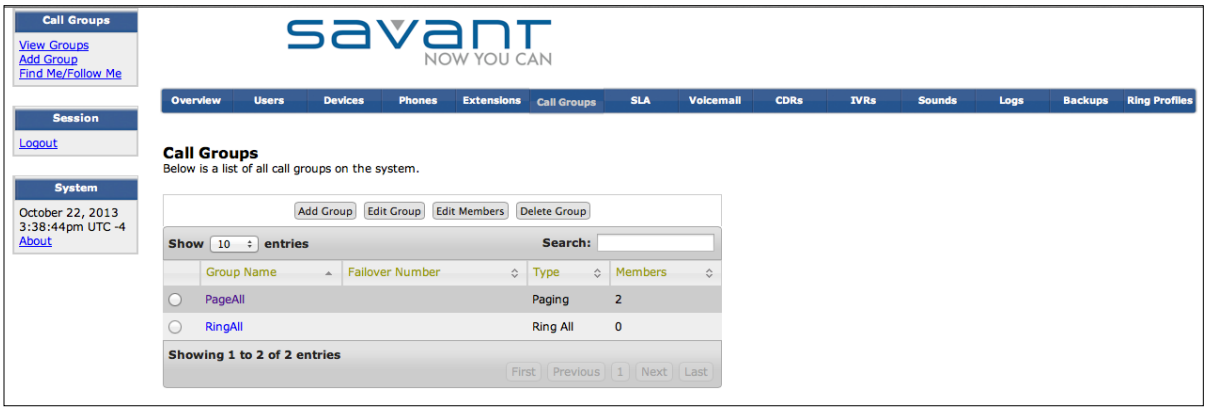
From a phone, simply dial the extension 8000 or use the **Page** button configured for this purpose.

Triggering Distributed Audio Zones

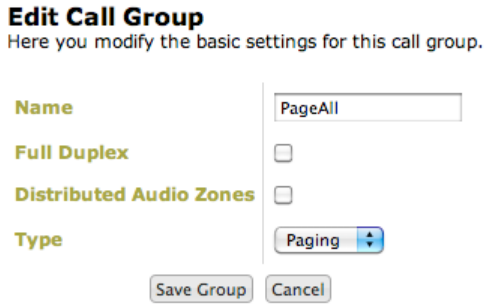
The system by default creates an empty calling group called *PageAll* for the purpose of paging.

For the PageAll calling group to be able to trigger the distributed audio zones, do the following in Savant Configurator.

1. Click the **Call Groups** tab.



2. Select the **PageAll** group.
3. Click the **Edit Group** button to open the **Edit Call Group** page.



4. Insert a check mark in the **Distributed Audio Zones** checkbox.
5. Click **Save Group**.

Now you need to add the Savant Public Announcement system corresponding device to this group.
For more details, see Adding a Savant PA System.

Using Telephony Advanced Configuration

To provide seamless integration between the Savant PBX system and Savant control systems, actions or workflows based on telephony events can be triggered with the use of the Telephony Advanced Configuration.

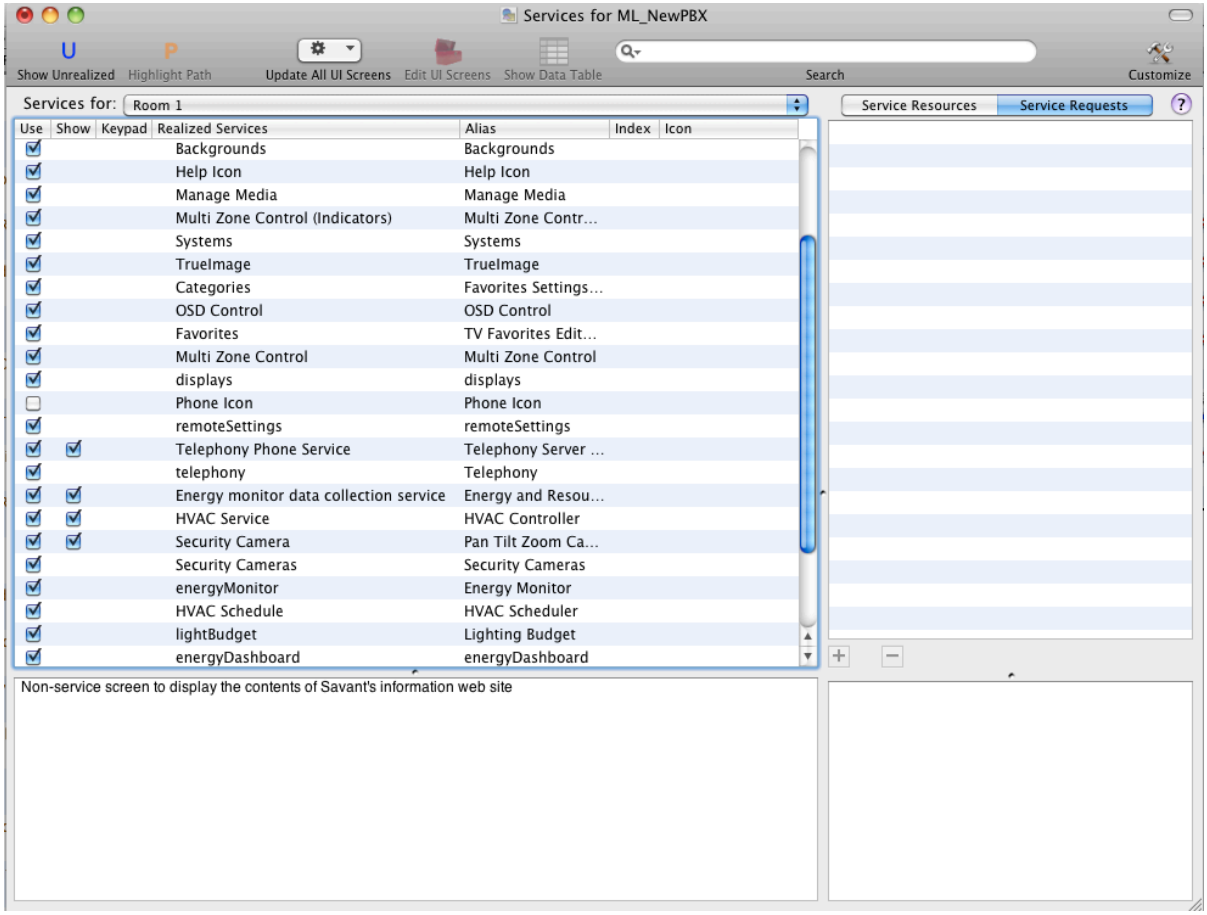
This advanced configuration is required because the endpoint information that is entered in Savant Configurator, does not get synchronized with RacePoint Blueprint™ which does not know in advance the names of these events and thus is not able to use them as triggers. To solve this, Savant provides a component in RacePoint Blueprint™ called the Telephony Advanced Configuration. The advanced configuration allows telephony related information to be entered in the Blueprint telephony configuration.

The Savant Telephony Advanced Configuration allows you to do the following:

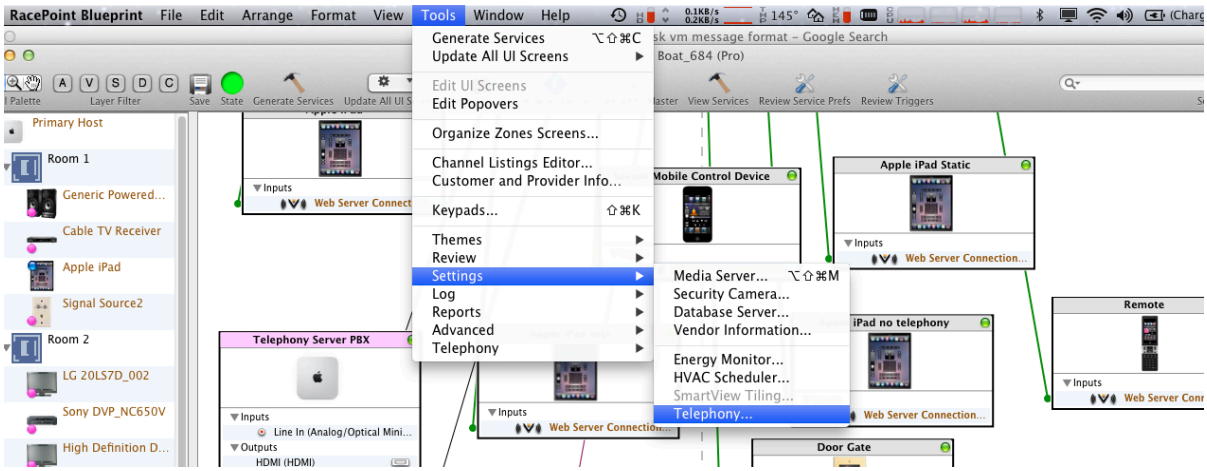
- Enter the names of telephony devices (endpoints) in the system
- Use endpoint telephony events as triggers.
- Associate control commands to extension numbers—that is, telephony endpoints such as wired and wireless phones called by dialing extension
- Execute control commands, providing another level of integration between the telephony system and the control system.

To perform the Telephony Advanced Configuration in Blueprint, do the following.

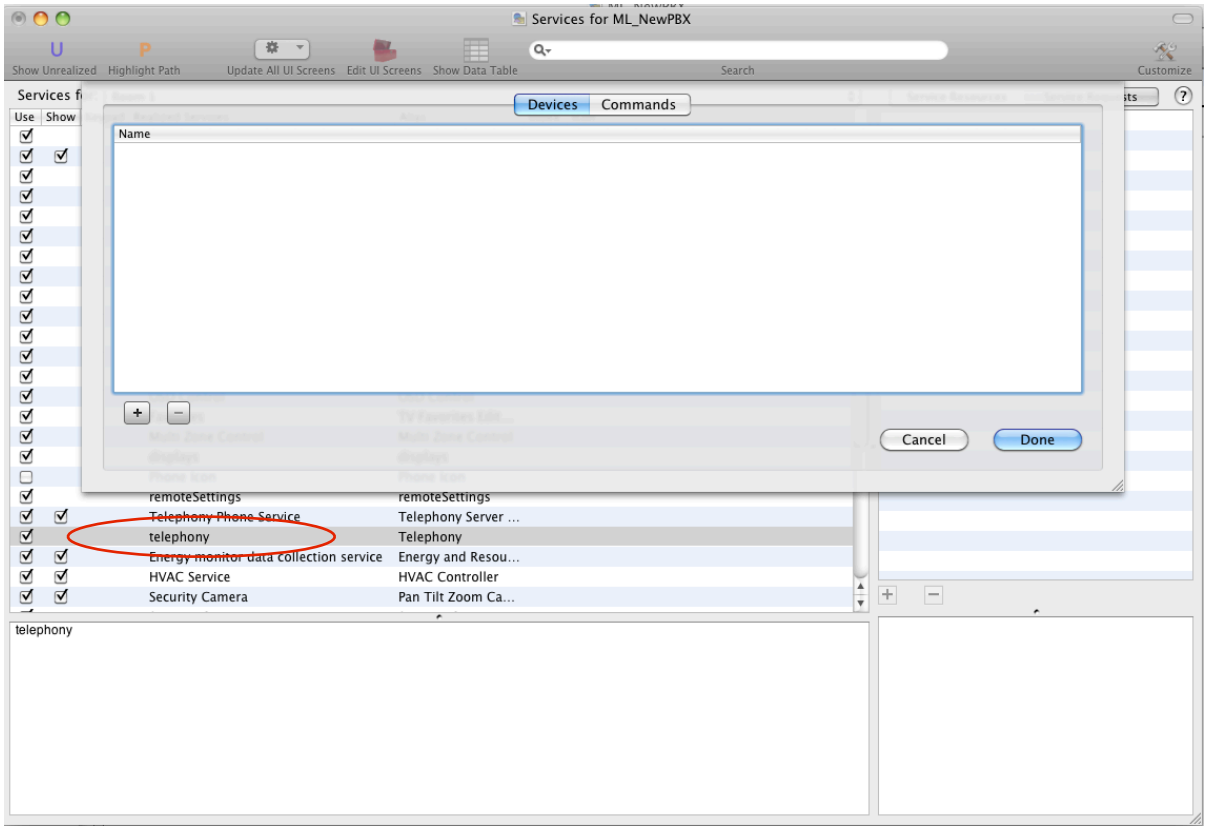
1. In RacePoint Blueprint click **Generate** services, to see the **Realized Services** window.



2. To open the Telephony Advanced Configuration, from the main menu select **Tools** > **Settings** > **Telephony**. See the next screenshot.



If you are using a pre-Release PBX 5.1.1 software version, double click **telephony** (as circled in the next screenshot) to open the services window for devices**.**



From the telephony services window you can set up events for devices (or endpoints) and commands for those endpoints.

3. Under **Devices** click **+.**

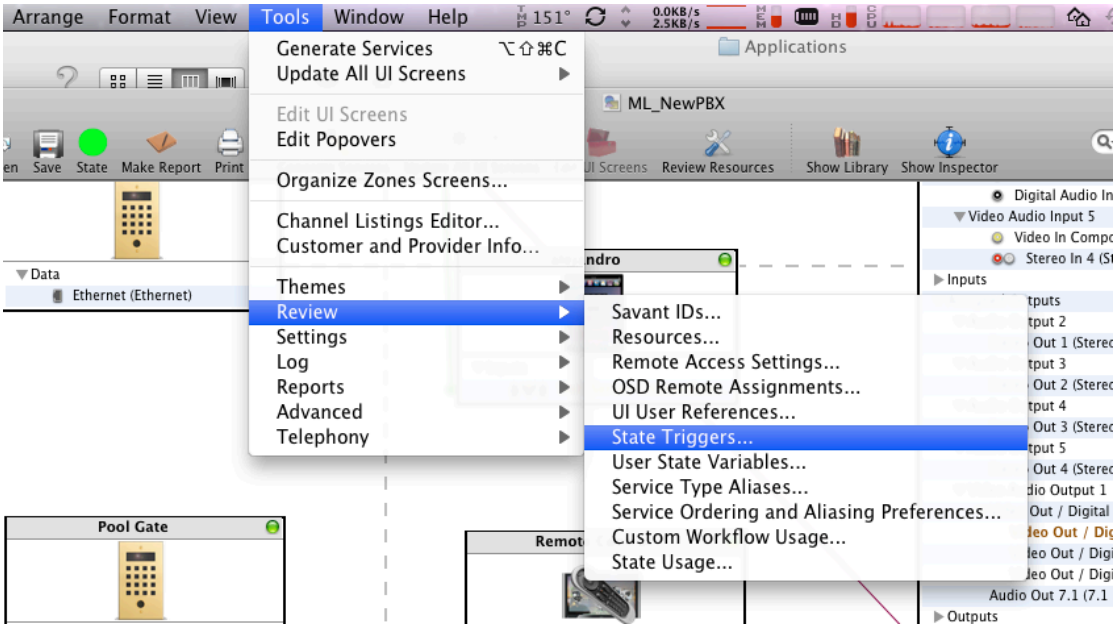
4. Enter the name of the device (endpoint). You must ensure that the name entered matches a user **Friendly Name** used when you add the device in Savant Configurator. For every name entered the following (events) states are generated to use as triggers. See the next table.

Telephony Events

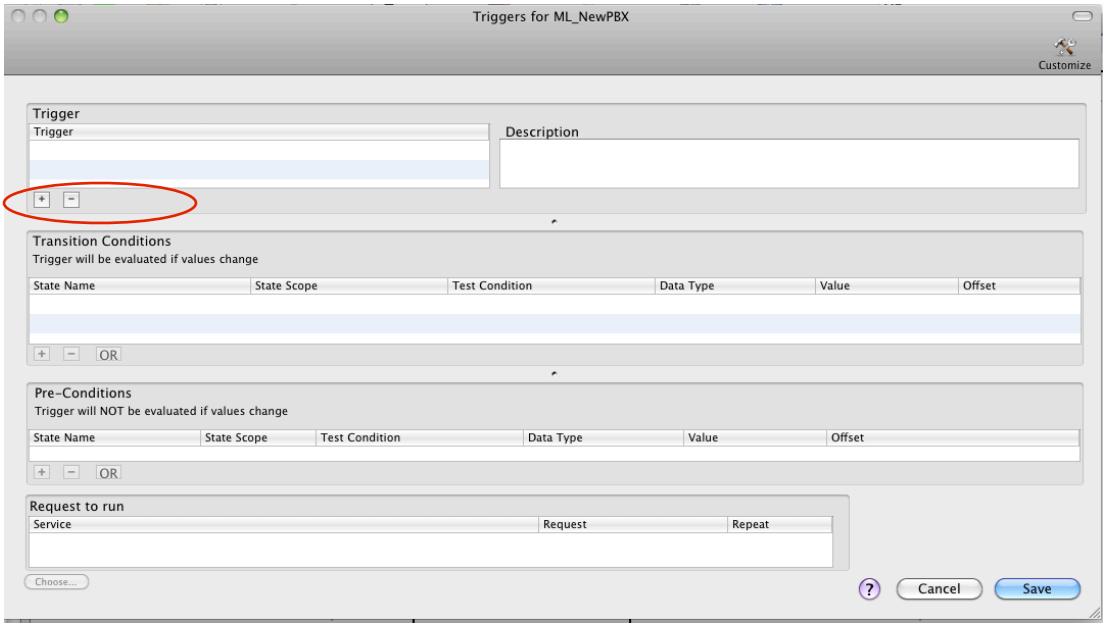
Event	Description	Possible Values
CallState	State the Call	Incoming Call Ringing Connected Call Ended Call In Progress
CallingIdNumber	Extension or number of the initiator of the call	Only applicable when the device is receiving the a call
CurrentDialNumber	Dialed number or extension	Only applicable when the device is initiating a call
ReleaseReason	Protocol level (SIP) reason why the call ended.	For details on possible values see RFC3261.
CallingIdName	Caller ID Name	For external incoming calls is depending of the line having this service. For internal calls this value is the user **Friendly Name** entered in Savant Configurator.
SharedLine1.State	State of the CO Line 1	Could be: Busy or Idle. This only applies to the gateway device
SharedLine1.Users	Number of endpoints currently in the call	Possible values are 1-72
SharedLine2.State	State of the CO Line 2	Could be: Busy or Idle. This only applies to the gateway device
SharedLine2.Users	Number of endpoints currently in the call	Possible values are 1-72
SharedLine3.State	State of the CO Line 3	Could be: Busy or Idle. This only applies to the gateway device
SharedLine3.Users	Number of endpoints currently in the call	Possible values are 1-72
SharedLine3.State	State of the CO Line 3	Could be: Busy or Idle. This only applies to the gateway device
SharedLine4.Users	Number of endpoints currently in the call	Possible values are 1-72

5. After you have finished entering the name of the endpoints. Click **Done**.

6. Next, go to **Tools**->**Review**->**State Triggers**.

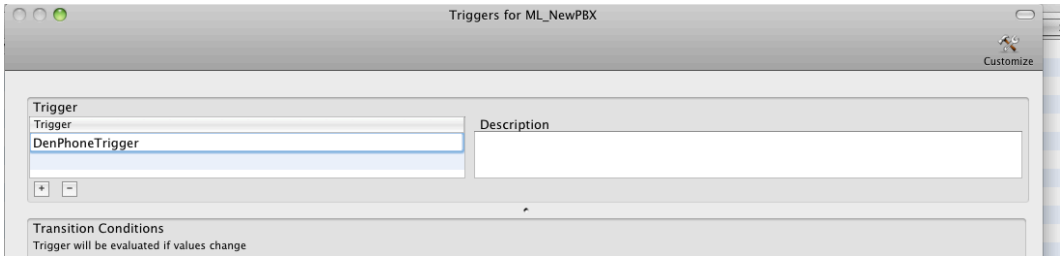


7. Select **State Triggers** to open the triggers window.

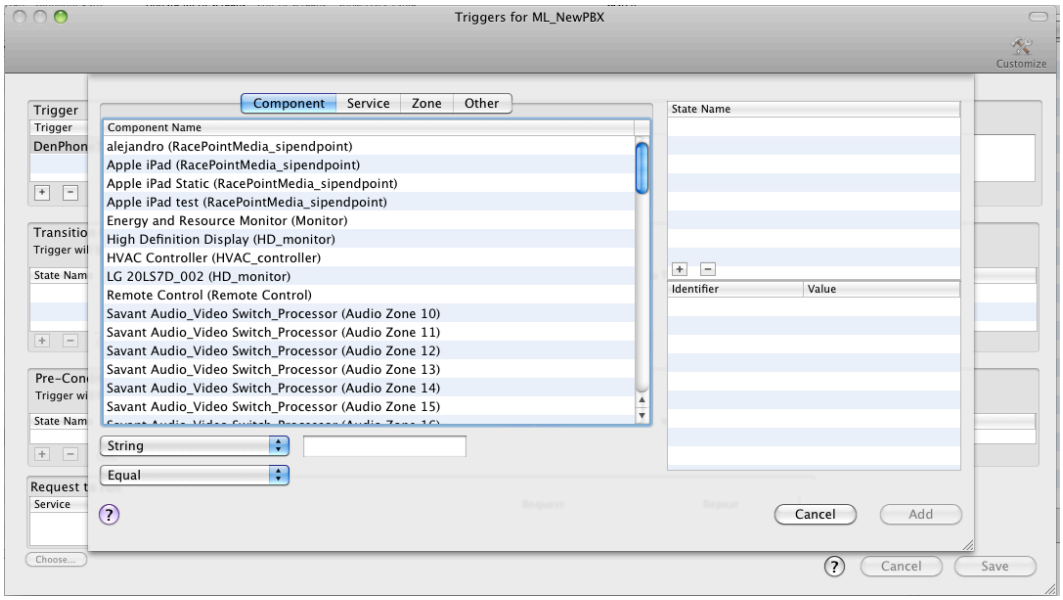


8. Under the **Trigger** group add a new trigger by clicking the **+** button (circled in the previous screenshot).

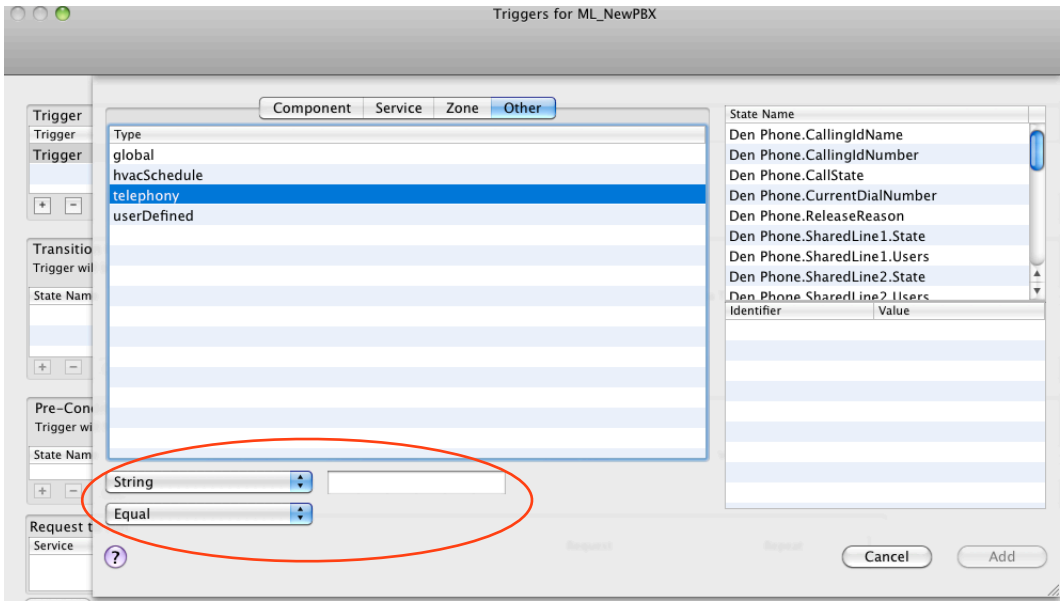
9. Enter the trigger name.



10. Under **Transition Conditions** click the **+** button.

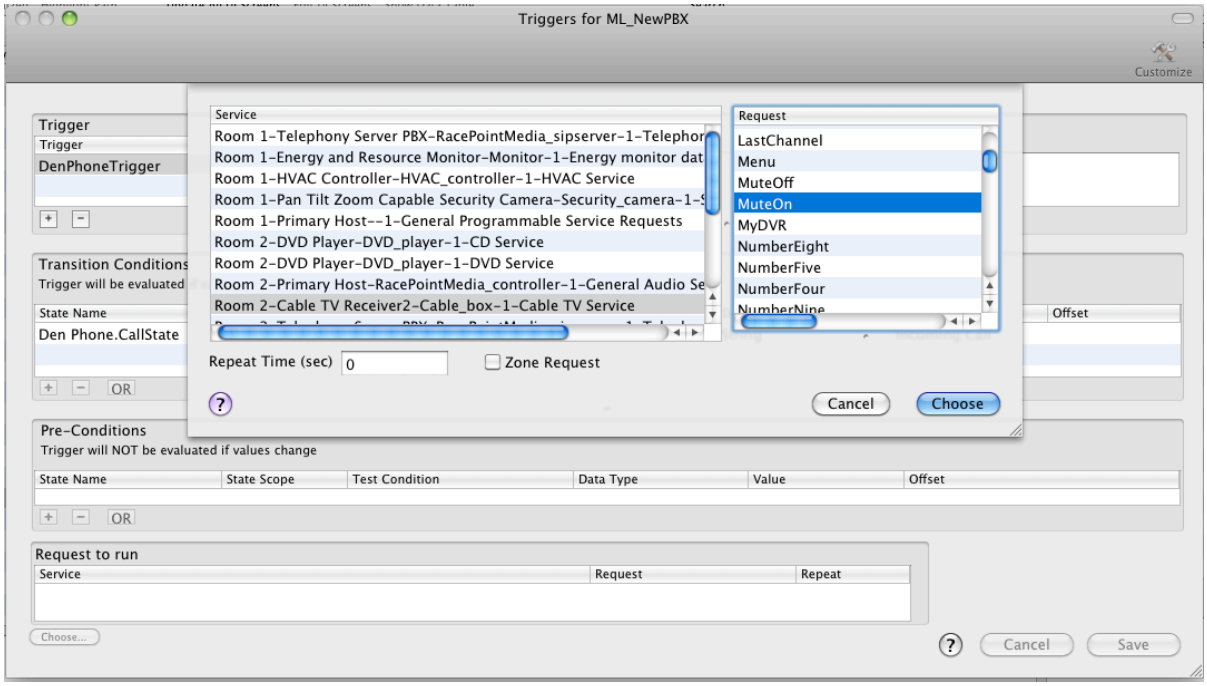


11. Select the **Other** (tab), and then select telephony. For each telephony device you have entered previously, the available state will display under **State Name** on the right side of the window.

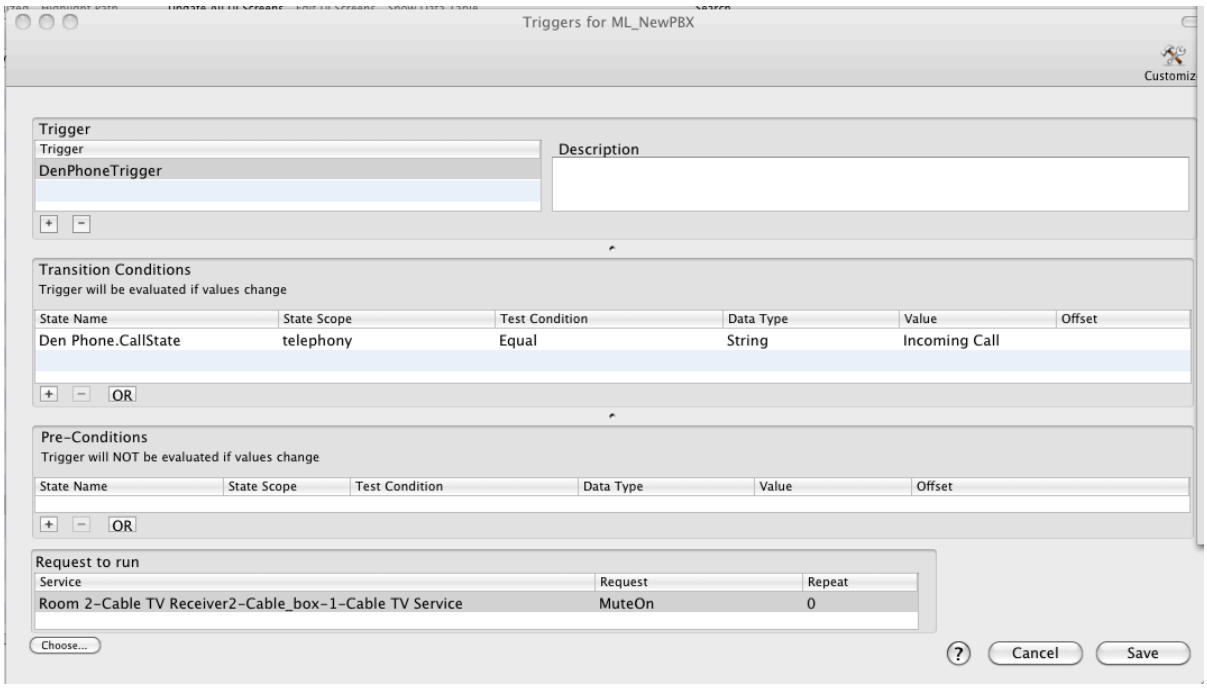


12. Select the state under **State Name** that you want to use as a trigger.

13. Complete the fields related to the state's values (circled in the previous screenshot) Use the values that match the state as described in the previous table, see *Telephony Events*.
14. Under **Request** select the request you want to execute.



15. Click **Choose**. See the next screenshot.



16. Repeat the previous steps for each state trigger you want to add. When done click **Save**.

You are now ready to associate commands with extension numbers.

Commands

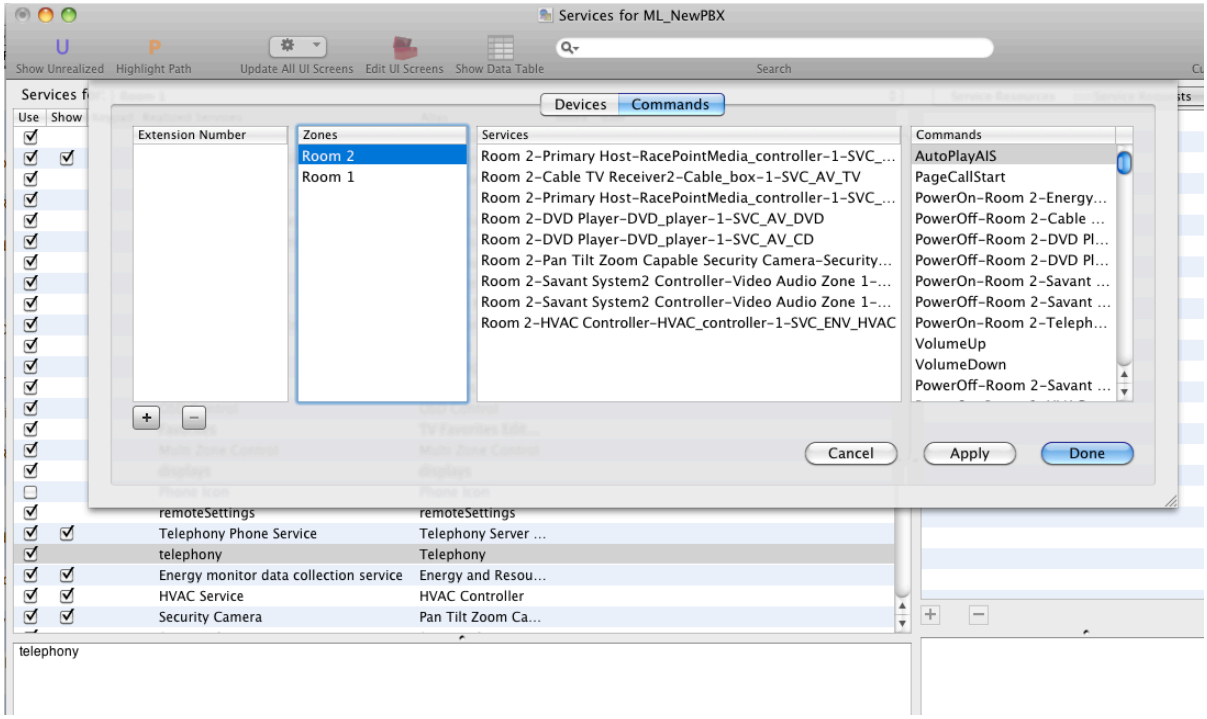
Telephony endpoints such as wired and wireless phones called by dialing the extension, can execute control commands, providing another level of integration between the telephony system and the control system exists.

NOTE: The extensions you enter here must be unique and therefore must not conflict with extensions you have already assigned to your telephony system.

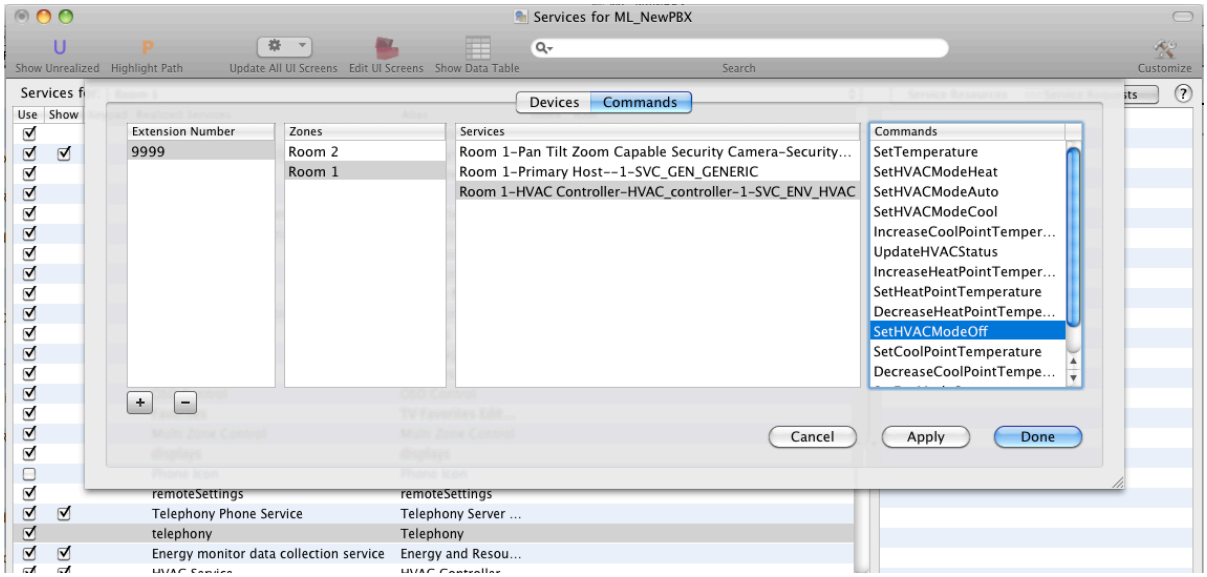
It is recommended that you define a high range for example, 9500-9599.

To associate control commands to extension numbers, do the following.

1. From the **Commands** window select the **Extension Number**.



2. Add the extension by clicking the plus (+) button.
3. Select an option under **Zones**.
4. Select an option under **Services**.
5. Select an option under **Commands**.



6. Click **Apply.**
7. Repeat this process for each extension you want to bind to commands.
8. Click **Done**.

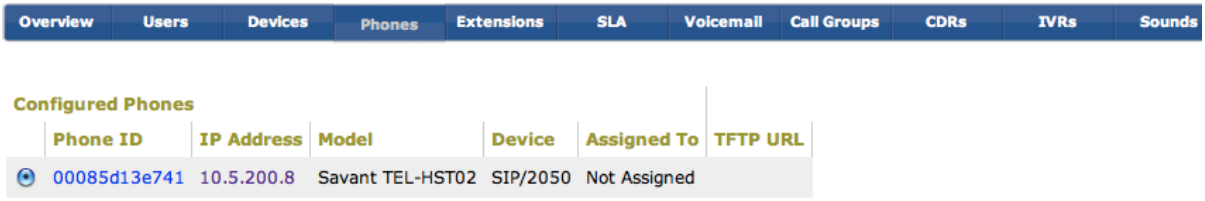
The telephony devices and command will now become part of your system after the configuration is downloaded to the Savant host controller (master).

TEL-HST02 Configuration

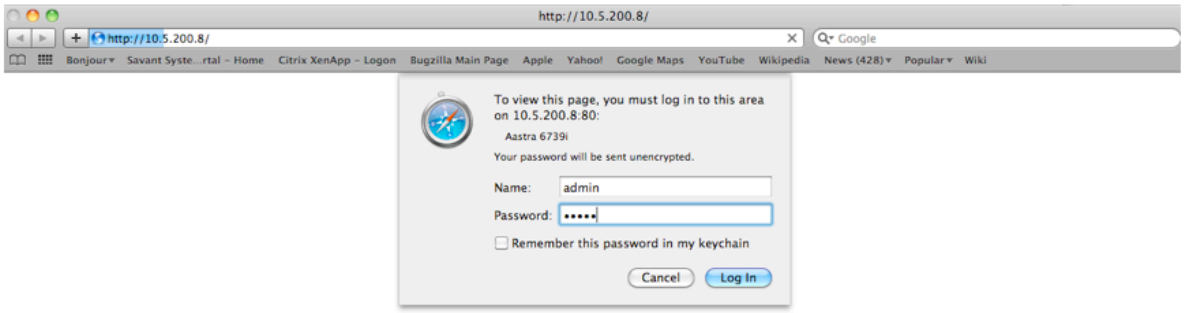
A TEL-HST02 phone must be made aware of the extension. For this, softkeys can be programmed to allow the phone to send commands to the system.

The softkeys must not be programmed before the procedure, Uploading the Configuration to the Wired Phone, is performed. The command that is used to program the softkeys is described in step 9 of the next procedure.

1. From the Savant Configurator click the **Phones** tab.



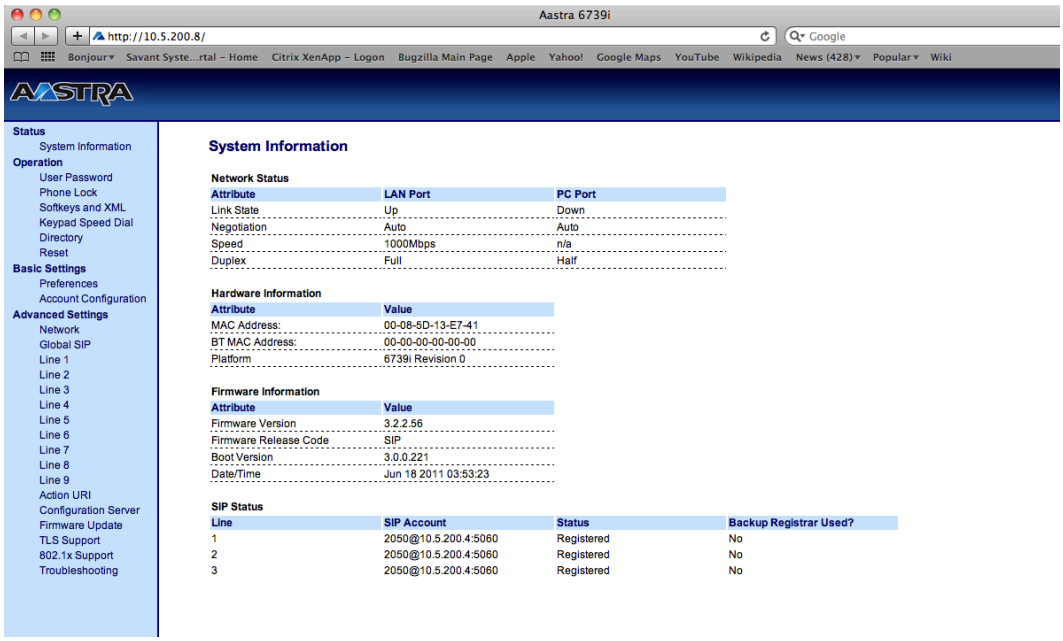
2. Click the IP address of the phone to which you want to add this functionality (which is only valid for TEL-HST02).



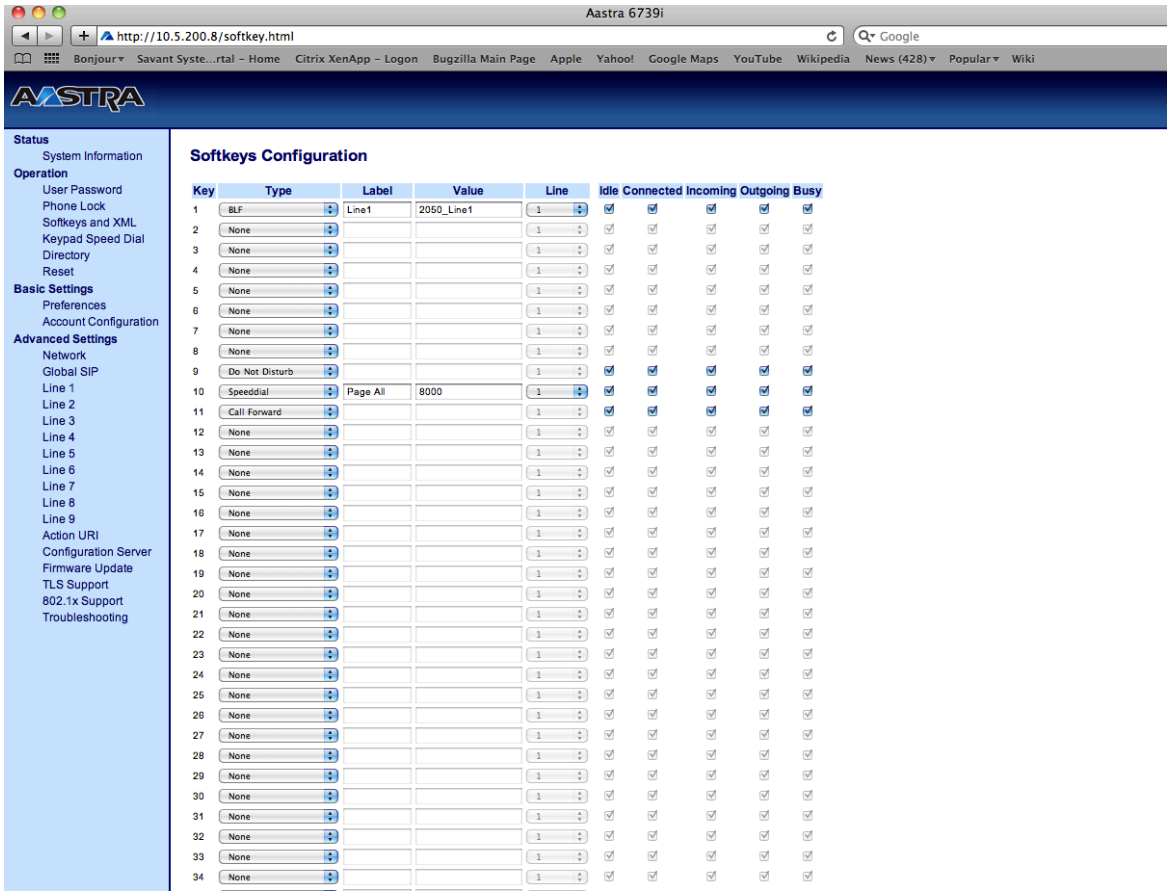
3. Enter the user name and password:

   Name: admin
   Password: 22222

4. Click **Log In**. The phone web interface (Aastra) opens.



5. Under **Operation**, click **Softkeys and XML** to open the **Softkeys Configuration** page.



6. Under **Type,** choose the available **Key** that you want to program. An available type is shown as **None**. The next screen shot shows **2** as the key being programed, for example.

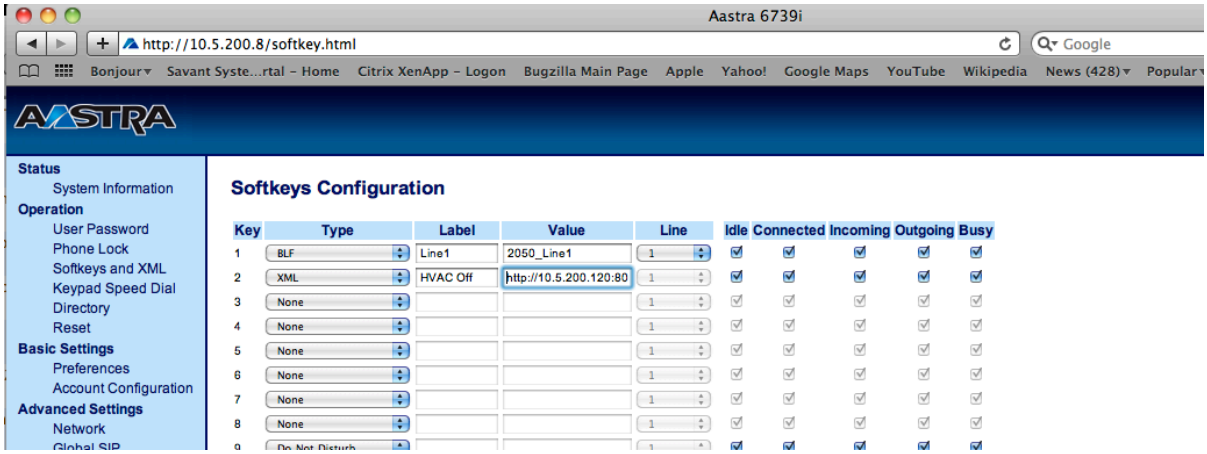
7. From the drop-down list under **None** select **XML**.

8. For **Label**, type in something meaningful to indicate what the command does. The next screenshot shows HVAC Off, for example.

9. For **Value** you need to paste the command described in this step. Savant Systems recommends the command be copied and pasted to a text file first, and then edited to reflect the customer master_ip and extension. Note that the command must not include any spaces or line breaks—that is, the command must be one continuous line before being pasted. It could also be helpful to increase the font size for editing. The command is as follows:

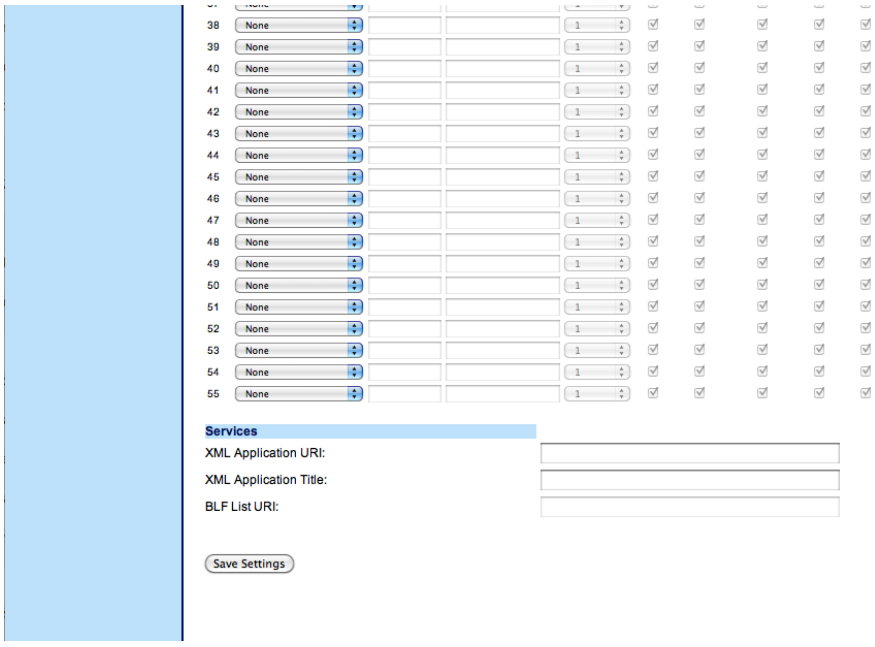
   http://master_ip:8080/assets/state/disReq.pl?command={%22disApp%22:%22Telephony%22,%22command%22:%22telephonyPhoneCommand%22,%22extension%22:%22XXXX%22}

   Where:
   master_ip is the IP of your Savant master
   XXXX is the extension for which the associated command is to be executed, for example, 9999.



10. Repeat the above step for each softkey you want to program on this phone.

11. Scroll down and click **Save Settings**.



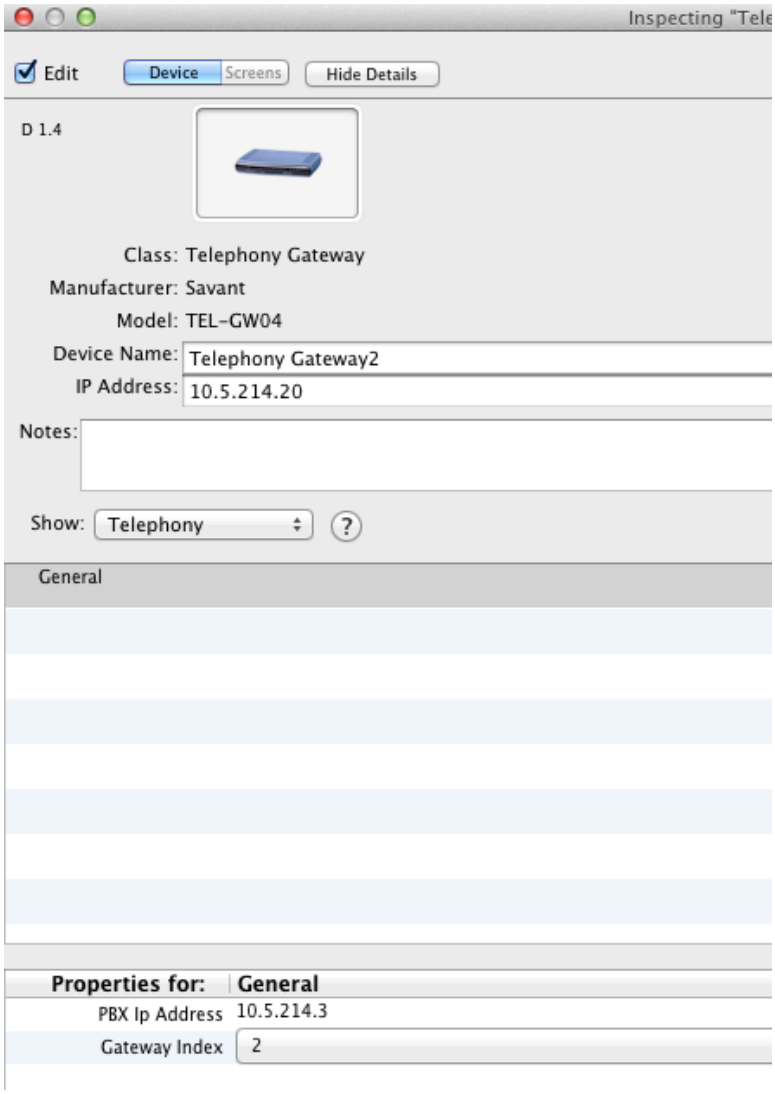
Your phone should now have a new button and when pressed will execute the command associated with the extension (for example, **HVAC Off**). See the next screenshot.

Configuring Multiple Gateways

The Savant PBX supports up to six gateways, totaling port capacity of 24. The next procedure assumes one gateway has already been added. See Adding a Gateway Component.

To add more gateways to the PBX system using RacePoint Blueprint™, do the following.

1. From the **Library** window drag a Savant Gateway (TEL-GW04) to the layout view.
2. Highlight the gateway component and click **Show Inspector**.



   2.1. Enter the **IP Address** of the gateway.

   2.2. From **Show** select the **Telephony** properties.

   2.3. Enter the **PBX IP Address**.

   2.4. Select the **Gateway Index**. This value is important and allows the system to identify the gateway from which a call is coming. Savant recommends selecting the next available index.

3. Repeat steps 1and 2 for all the gateways.
4. After all the gateways have been added, **Generate Services**.
5. Sync with services.

6. Save the configuration.
7. Next, export the gateways configuration file to a folder.
8. From **Tools** >**Telephony**, select **Export Gateway ini file**.
9. Enter the name of the file. When multiple gateways are configured the name entered will be used as a prefix for the gateway file names. For convenience the files names will be generated with the following format:

   prefix-GatewayIndex-GatewayIPAddress.ini

   where:
   prefix is the name entered by the user
   GatewayIndex is the index associated to this gateway (entered in RacePoint Blueprint)
   GatewayIPAddress is the IP address of the gateway
10. Upload the configuration files to the corresponding gateway, repeat the procedure described in this *Savant Telephony Solution Deployment Guide* (009-0406-XX) for each gateway.
11. Next configure the gateways using Savant Configurator. See *Configuring Additional Gateways*.

What to Do Next

To continue the configuration of your Savant PBX, you must next use the Savant Configurator. See the next section*:* *Savant Configurator Procedures.*

4. SAVANT CONFIGURATOR

Use the next section to setup your Savant PBX system using the Savant Configurator tool.

Savant Configurator Procedures

The procedures included in this document should be performed using Savant Configurator in the order in which they are presented, unless the configuration object is not required. You may skip a procedure that is not applicable to your configuration.

Savant Configurator Overview

The Savant Configurator is a web-based graphical user interface for setting up and maintaining Savant Systems' telephony solution—an integrated IP-based Private Branch Exchange (PBX). Savant Configurator simplifies administration of objects such as users, extensions, and devices, which would include the following:

- Savant PBX server
- gateways
- telephone handsets
- telephony-enabled iOS devices such as the iPhone®, iPod touch® and iPad®.

The objects described in the next table can be configured using the Savant Configurator:

Objects	Description
Users	Individuals identified to the PBX for assignment of permissions and access to various functions
Devices	Configures iOS devices, IP phones, gateway, Integrated Access Device (also referred to as an ATA device), and door entry (paging) system
Phones	Supports Savant wired IP handsets: TEL-HST01 and TEL-HST02 Supports Savant wireless SIP-DECT handset: TEL-HSTW01
Extensions	Creates and edits time-based routing rules for Direct Inward Dials— (DID)s
Call Groups	Configures call group to be hunt, ring all, or paging
SLA	Shared Line Appearance (SLA) allows a station to be mapped to a SIP telephony gateway (device). The SLA feature allows extensions to share an external Central Office (CO) line—or sometimes referred to as POTS (plain old telephone service). Calls coming from the CO line will ring all member extensions assigned to the line. Answering from one member extension will stop ringing on all other extensions. The call can be easily transferred from one member extension to another by putting it on hold and picked up from the other. It also allows one to join the active call from a member extension, so that a two party conversation becomes a multi-party conference.
Voicemail	Modify voice mail settings
CDRs	Call Detail Records and Logs
IVRs	Interactive voice response (IVR) files
Sounds	Not applicable in the current release
Logs	View PBX log files live using the Log Viewer
Backups	Create configuration backups automatically or manually
Ring Profiles	Create custom rings for an iOS device or phone

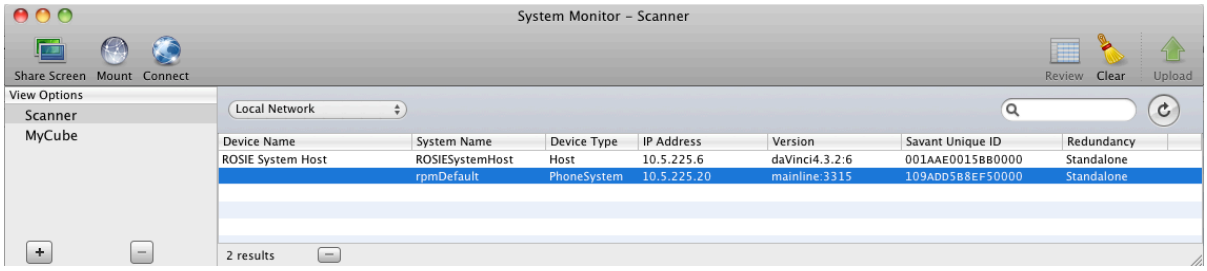
Starting Savant Configurator

To start the Savant Configurator you must use a web browser and then log in.

To log in to the Savant Configurator for the first time do the following.

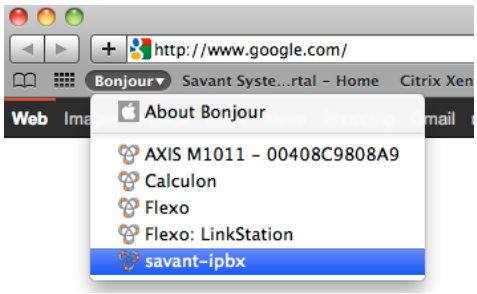
1. Open Savant Configurator using either **System Monitor** or **Bonjour** (described below).

   In **System Monitor** select the row with the **Device Type**: *PhoneSystem.*



   This will launch Savant Configurator.

   Alternatively, to have your Apple® Safari® web browser launch Savant Configurator, select the **Bonjour** pull-down menu.



   NOTE: If Bonjour is not showing on your Bookmarks Bar, go to:
   Safari > **Preferences** > **Bookmarks**. Insert check marks for **Include Bonjour**.

2. Click the **savant-ipbx** option to open the login window for Savant Configurator. See the next screenshot.

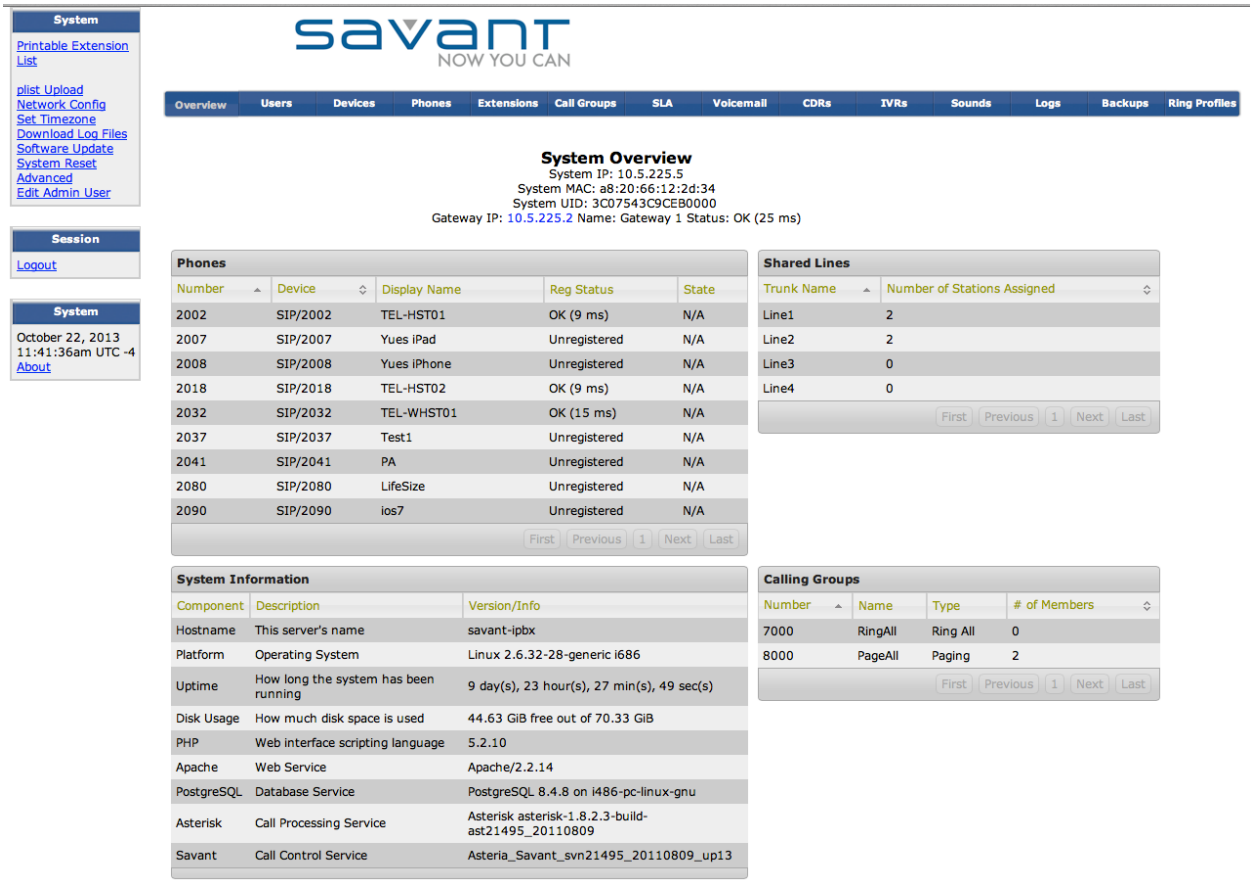
3. Enter the user name and password as follows:

   Username: admin
   Password: savant

4. Click **Submit**.

Main Page in Savant Configurator

After you log in to the Savant Configurator the interface opens with the focus on the **Overview** tab. The first time you log in, the System Overview will only display data in the System Information table. Data will be displayed in other tables as other entities are configured.



Savant Configurator Terminology

Before using the Savant Configurator tool, review the terms shown in the next table.

Term	Description
CDRs	Call Detail Records are server details of each call stored in a data format.
Call Groups	Groups of devices on a specific ring plan. Groups can be Ring All, Hunt, or Find Me/Follow Me type groups. A Ring All group rings all members' devices simultaneously. A Hunt Group dials devices serially, attempting to get an answer until the call terminates to a voicemail (if not answered). A Find Me/Follow Me group is a personal call group where different devices belonging to the same user can ring in a hunt-type fashion.
Devices	Physical handsets (telephones), iOS device, gateway, ATA device (Integrated Access Device—TEL-IAD2), or Public Announcement (PA) system (door entry system).
Direct Inward Dials	Direct Inward Dials (DID)s are numbers that may be dialed from outside the business to access the PBX. (DID)s are associated with an extension. For example, even though there may be four connections to the PBX from the service provider, the service provider may supply a block of numbers (such as, 555-1001 through 555-1020) that will be routed to the four connections on the PBX. This example would allow 20 telephone sets to have their own unique number outside the business.
Extensions	Numbers that identify where a call should go. Extensions may point to a device or some entity of the PBX (such as, a call group).
SIP	Session Initiation Protocol (SIP) is a standard protocol for initiating, modifying, and terminating an interactive user session.
Users	Individuals identified to the PBX for assignment of permissions and access to various functions.

Uploading the plist

To complete this procedure you must have already created a plist using RacePoint Blueprint™ (see RacePoint Blueprint™ Procedures.)

If you do not have a gateway as part of your Savant PBX system, uploading of the telephony plist is not required—please skip this procedure.

To load the initial configuration generated from RacePoint Blueprint™, do the following.

1. Click the **Overview** tab.

2. Under the **System** sidebar, click **plist Upload**.

3. Click **Browse** to find and select the plist file you created in the procedure, *Exporting Telephony plist File*, for example, **pbxTelephony.plist**.

4. Click **Upload.** The Savant Configurator will display the configured telephony properties.

Adding a User to the Savant PBX

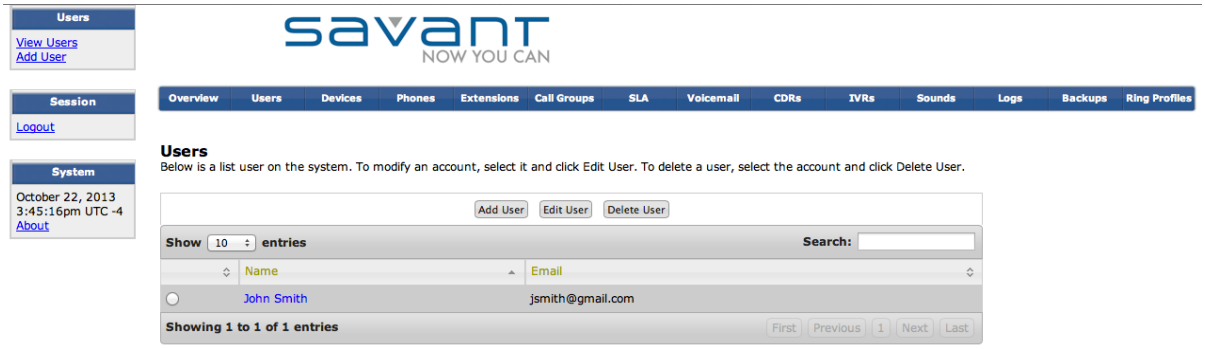
If an individual voice mail box will be used in the Savant PBX system, a user must be created for each voice mail box.

If a global voice mail box will be used or voice mail will not be enabled in the system, there is no need to create a user—you can skip this procedure.

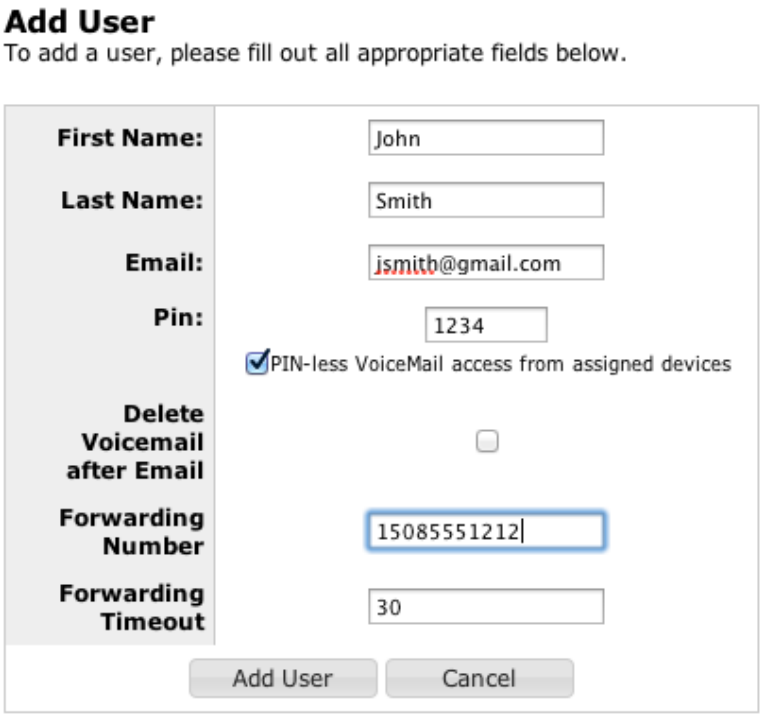
Important! Before installing any hardware or software, a thorough and detailed network analysis should be completed to create an ideal network design and implementation. Because of the technical complexity of setting up networks, Savant recommends that the installer of a Savant system have a general understanding of networks.

To add a user for an individual Savant PBX voice mail box, do the following.

1. Click **Users** (tab) to open the **Users** page.



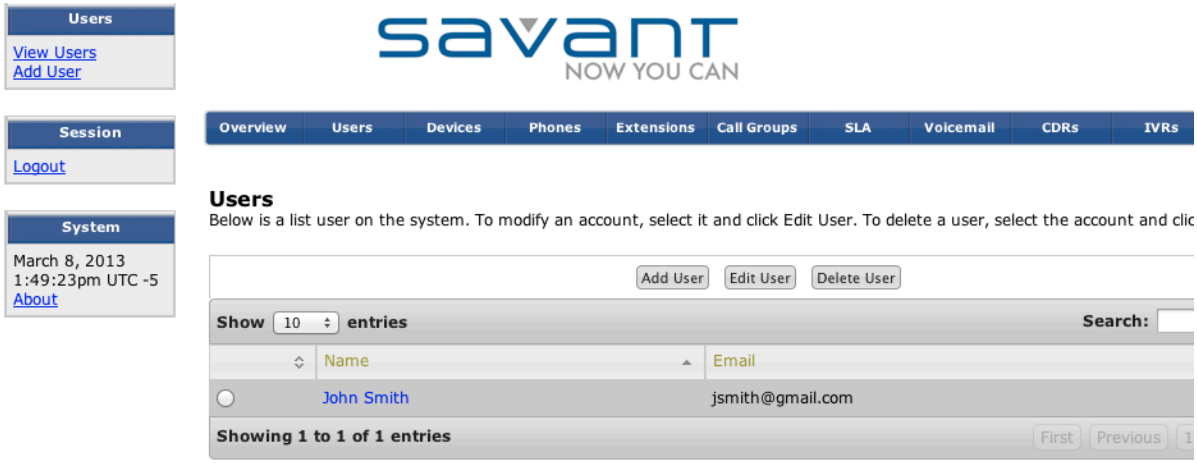
2. Click **Add User** to open the **Add User** page.



3. Use the next table to enter or select values for the fields on the **Add User** page.

Field	Description
First Name	User's first name.
Last Name	User's last name.
Email	Email address to notify when there is a new voice mail message in the system. Leave it blank if email notification is not wanted.
Pin	PIN used to access the voicemail box and to do sound recording.
Pin-less Voicemail access from assigned devices	If PIN access is not required from assigned device, insert a check mark in the box.
Delete Voicemail after Email	To delete voicemail after sending email notification, insert a check mark in the box. There will be no message waiting indicator on the assigned device is this box is checked.
Forwarding Number	A number that the call can be forwarded to before failover to voicemail. Leave it blank if forwarding is not wanted.
Forwarding Timeout	Time to try the forwarding number before failover to voicemail.

4. Click **Add User.**

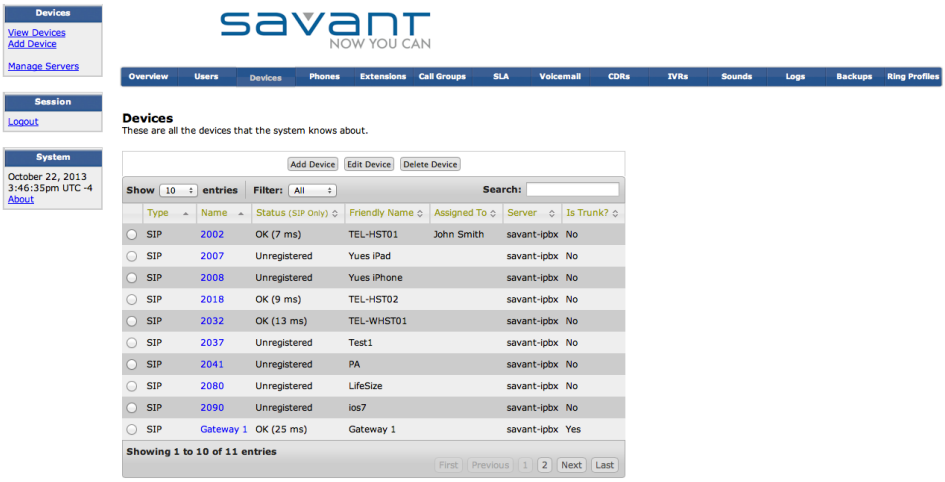


5. If more voice mail users must be added, repeat this procedure.

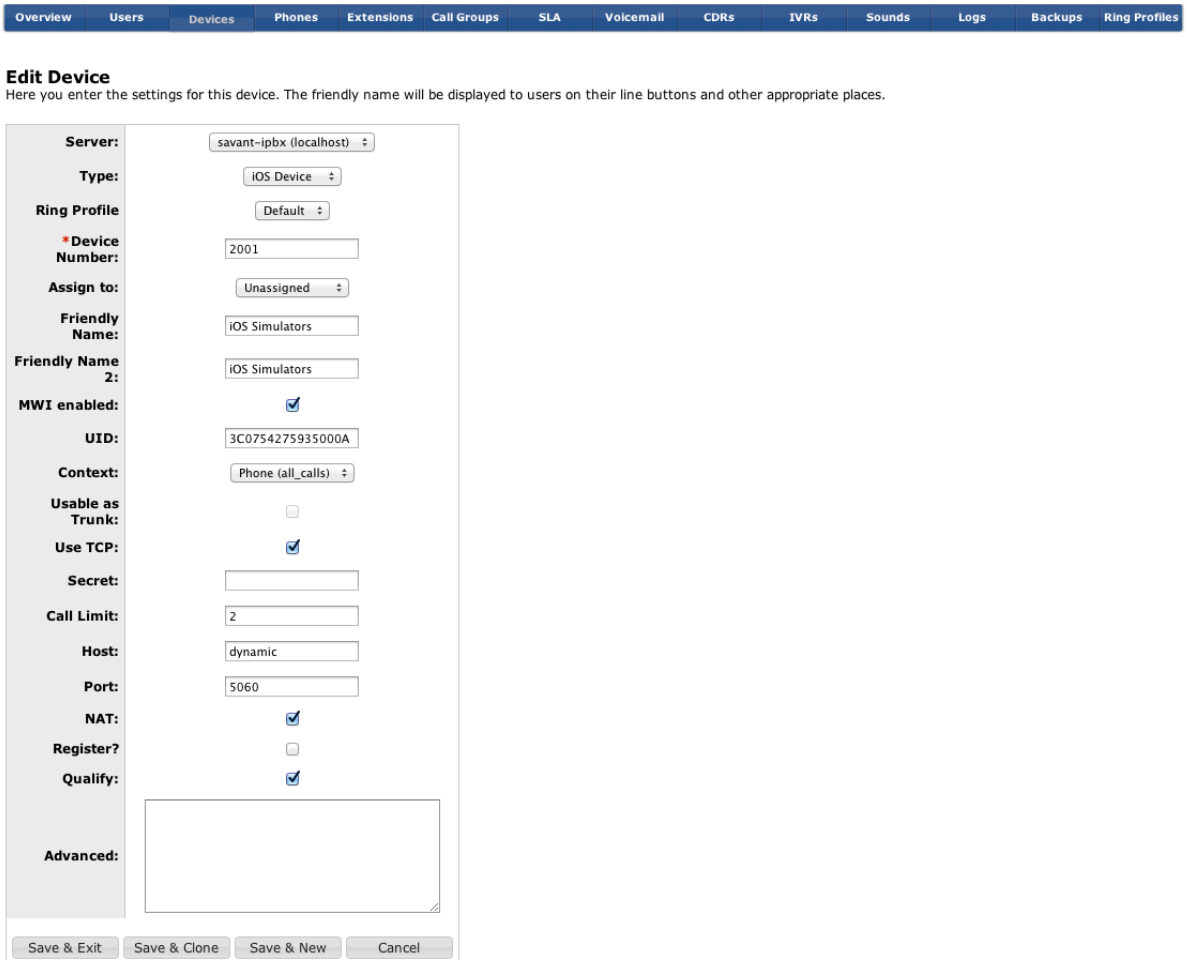
Adding an iOS Device to the Savant PBX

To add an iOS device (iPhone®, iPad® or iPod® touch), do the following.

1. Click **Devices** (tab) to open the **Devices** page.



2. Click **Add Device** to open the **Add Device** page.



3. Use the next table to enter or select values for the fields on the **Add Device** page.

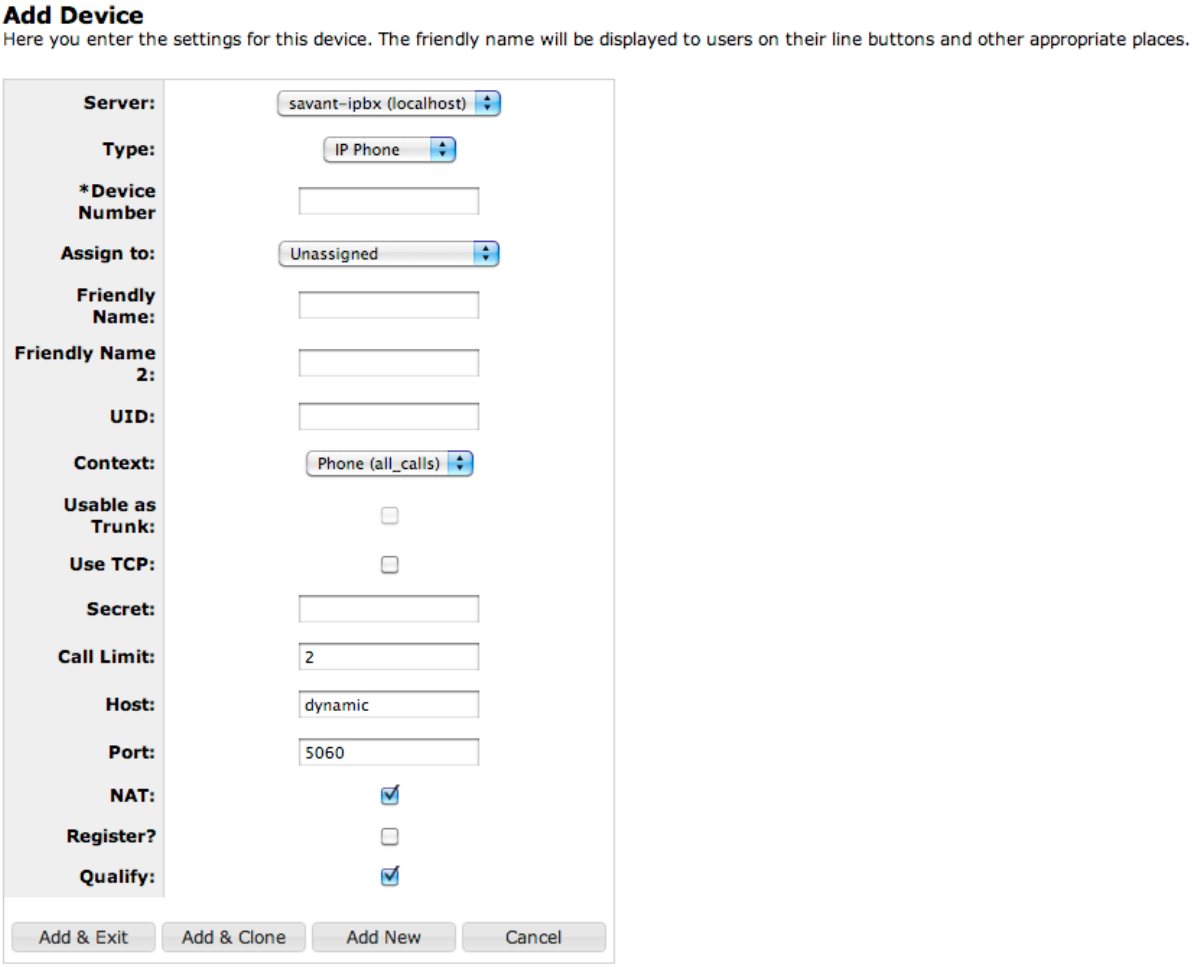
Field	Description
Server	Available servers are shown in the drop-down list. Choose the server to which the new device should register. There should only be one (leave as is).
Type	Provides a drop-down list of the available types of devices that can be added to the server. Select this option: **iOS Device**.
Device Number	Enter a four-digit number (in the range 2000-2500) for the iOS device.
Assign to	Provides a drop-down list of all users that the device can be assigned to. If individual voicemail box is going to be used in the system and this device should have voicemail access, assign it to a user. In all other cases, Savant Systems recommends this field be unassigned. Leave as is.
Friendly Name	Name that displays when a call is made from this device. This is only applicable if a static UID is entered.
Friendly Name 2	Leave blank.
MWI enabled	This is enabled by default— allows device to receive Message Waiting Indicator.
UID	Enter the Savant UID for the iOS device. Use the default value (dynamic) only when you want to allow guest access into your telephony system.
Context	A collection of extensions on the Savant PBX server. Default is **Phone (all_calls)**. Use the default value.
Usable as Trunk	Do not insert a check mark.
Use TCP	Insert a check mark in the check box since the device is an iOS device.
Secret	Leave it blank.
Call Limit	Enter **2**.
Host	Use the default: **dynamic**.
Port	Use the default value: 5060.
NAT	Network Address Translation (NAT) helps determine whether this device is on the internal network or outside the firewall. Since you are adding an iOS device, you must insert a check mark in the check box.
Register?	Determines whether the device registers to the carrier to tell them where it is. This is only for carriers. Since you are adding an iOS device, the check box should be blank.
Qualify	Determines whether the system periodically checks to see if the device is still available. Use the default value: **YES**.
Advanced	See the section *Performing Advanced Configuration*.

4. Click **Add & Exit**, or **Add & Clone** if adding another device.
5. Launch the Savant phone service from the device.
6. Click the **Devices** (tab) to check the status of the iOS device just added. If it shows **OK**, the device is ready to make and receive internal calls. For external calls, see *Adding an iOS Device or Phone to an SLA.*

Adding a Phone to the Savant PBX

To add a wired phone, or wireless phone to the Savant PBX as devices, do the following.

1. Click the **Devices** tab.
2. Click **Add Device** to open the **Add Device** page.



3. Use the next table to enter or select values for the fields on the **Add Device** page.

Field	Description
Server	Available servers will be in a drop-down list. Choose the server in which the new device should register. There should only be one (leave as is).
Type	Provides a drop-down list of the available types of devices that can be added to the server. Select this option: **IP Phone**.
Device Number	Enter the four-digit number of this IP phone (in the range 2000-2500).
Assign to	Provides a drop-down list of all users that the device can be assigned to. If individual voicemail box is going to be used in the system and this device should have voicemail access, assign it to a user. In all other cases, Savant Systems recommends this field be unassigned. Leave as is.
Friendly Name	Name that displays when a call is made from this phone. This is the Caller ID name. This field allows a maximum of 20 alphanumeric characters (including spaces).
Friendly Name 2	Leave blank.
UID	This is auto-assigned. No action is needed.
Context	A collection of extensions on the Savant PBX server. Default is **Phone (all_calls)**. Use the default value. Leave as is.
Usable as Trunk	Since a SIP phone is being configured do not insert a check mark.
Use TCP	Place a check mark in the check box if the device is an iOS device. When adding a SIP phone or an analog media gateway leave check box blank.
Secret	Leave it blank.
Call Limit	Enter **2**.
Host	Use the default: **dynamic**.
Port	Use the default value: 5060.
NAT	Network Address Translation (NAT) helps determine if this device is on the internal network or outside the firewall. Turn NAT to register devices outside the internal network. Since you are adding a phone, you must insert a check mark in the check box.
Register?	Determines whether the device registers to the carrier to tell them where it is. This is only for carriers. Since you are adding a phone, the check box should be blank.
Qualify	Determines whether the system periodically checks to see if the device is still available. Use the default check mark.

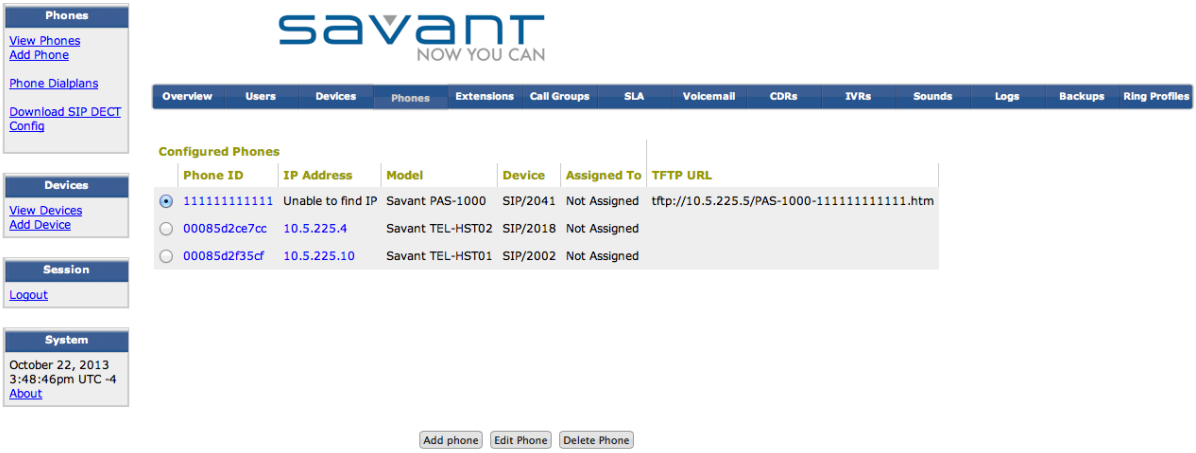
7. Click **Add & Exit,** or if adding another phone you can click **Add & Clone,** and then proceed with the next procedure. Or, you can repeat this procedure for each phone to be added. After adding all phones, continue with the next procedure.

Adding a Savant Wired IP Phone as a Phone

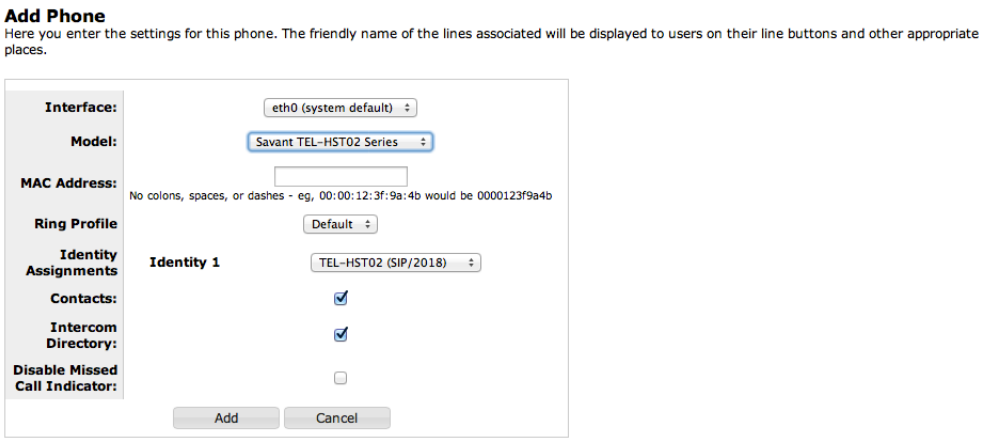
It is important to confirm that your Savant IP phones have the most recent firmware. When this procedure is completed check the version of the firmware on the phone. If the firmware needs to be updated, see *Updating Savant IP Phone Firmware*.

To add a Savant wired IP phone as a phone, do the following.

1. Click the **Phones** tab to open the **Configured Phones** page.



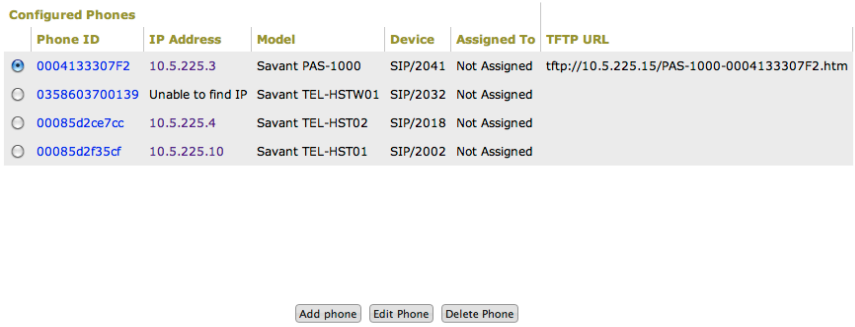
2. Click **Add Phone** to open the **Add Phone** page.



4. Use the next table to enter or select values for the fields on the **Add Phone** page.

Field	Description
Interface	Use the default value.
Model	Select a model:TEL-HST01, TEL-HST02, or TEL-HSTW01
MAC Address	Enter the MAC address from the phone (located on a sticker on a phone).
Ring Profile	Select a ring profile from the list. If no ring profile created, leave it as Default.
Identity Assignments	Select one from the device list that matches the one added in the previous procedure.
Contacts	For TEL-HST01 and TEL-HST02 models only. Insert a check mark if you want all the devices in the system are shown in this phone's directory.
Intercom Directory	For TEL-HST02 models only. Insert a check mark if you want soft Busy Lamp Field (BLF) buttons are created for every device in the system on this phone.
Disable Missed Call Indicator	For TEL-HST01 and TEL-HST02 models only. Insert a check mark if you don't want the phone to show there is missed call at all.

4. Click **Add**.
5. To open the phone's server settings in the phone's user interface, on the **Configured Phones** page click the IP address of the phone.



To upload the Savant Configurator configuration to the wired phone, see the next procedure *Uploading the Configuration to the Wired Phone.*

Uploading the Configuration to the Wired Phone

This procedure must be performed using the Safari web browser.

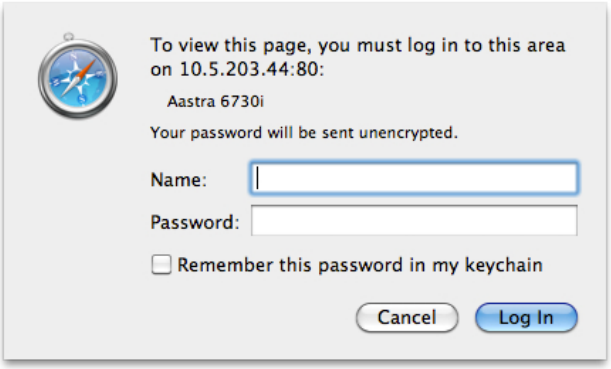
To upload the Savant Configurator configuration to the wired phone, do the following.

1. Open the Savant phone user interface (Aastra) using one of these methods:

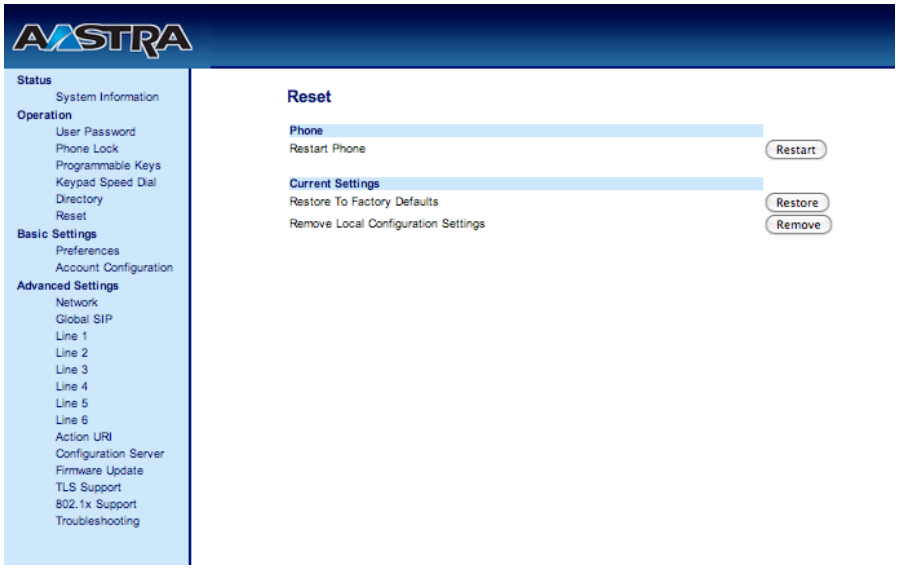
   Enter the IP address of the phone in the web browser, or
   From the list of **Configured Phones** under the **Phones** tab in Savant Configurator, click the IP address of the phone to which the configuration will be uploaded.

2. Log in to the Savant phone user interface, if you have not already done so. The default user login is:

   Name: admin
   Password: 22222

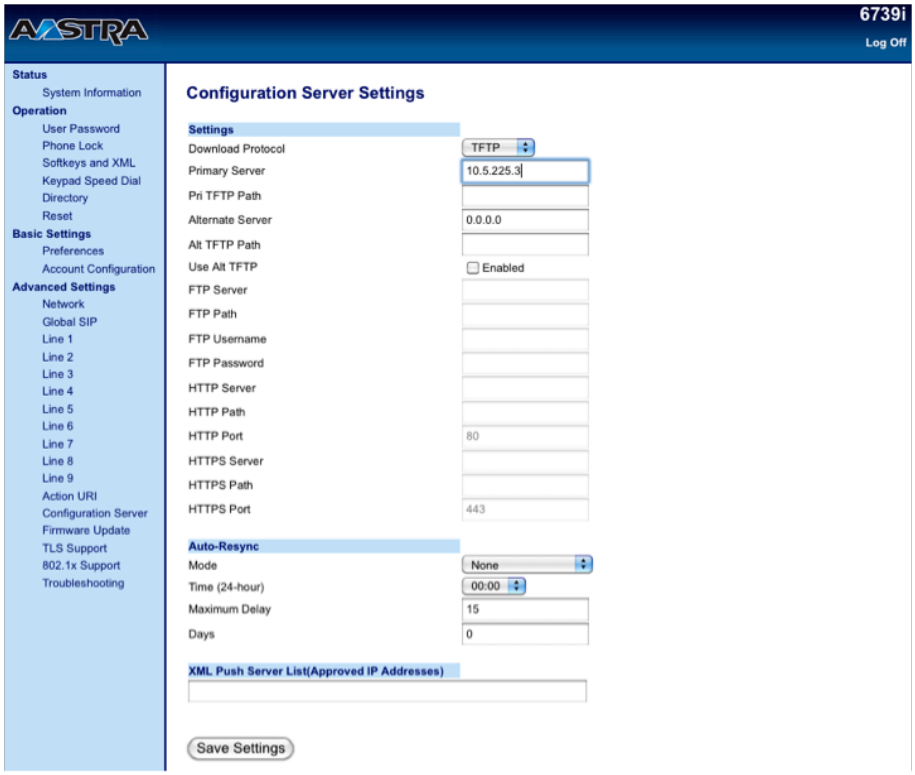


3. To ensure that the phone is in the factory default mode—which is necessary to load the configuration properly—from the main window under **Operation** in the left pane click **Reset**. See the next screenshot of the Reset page from the Aastra web-based user interface.

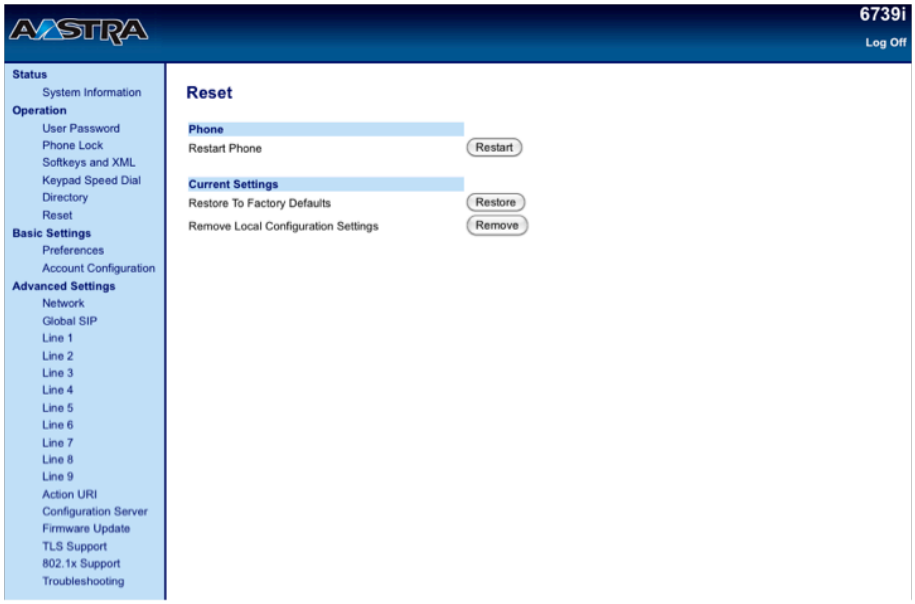


4. Click **Restore**.
5. Log in again to the phone user interface.
6. In the left pane under **Advanced Settings**, click **Configuration Server**.

7. For the **Download Protocol**, select **TFTP**.
8. In the **TFTP Server** field, enter the Savant PBX IP address.



9. Click **Save Settings**.
10. In the left pane under **Operation**, click **Reset**.



11. Click **Restart** to restart the phone.
12. After the phone restarts from reboot, in Savant Configurator click the **Devices** (tab) to check the status of the phone just added. If it shows **OK**, the phone is ready to make and receive *internal* calls. To configure the phone to handle external calls, go to the procedure *Adding an iOS Device or Phone to an SLA*.

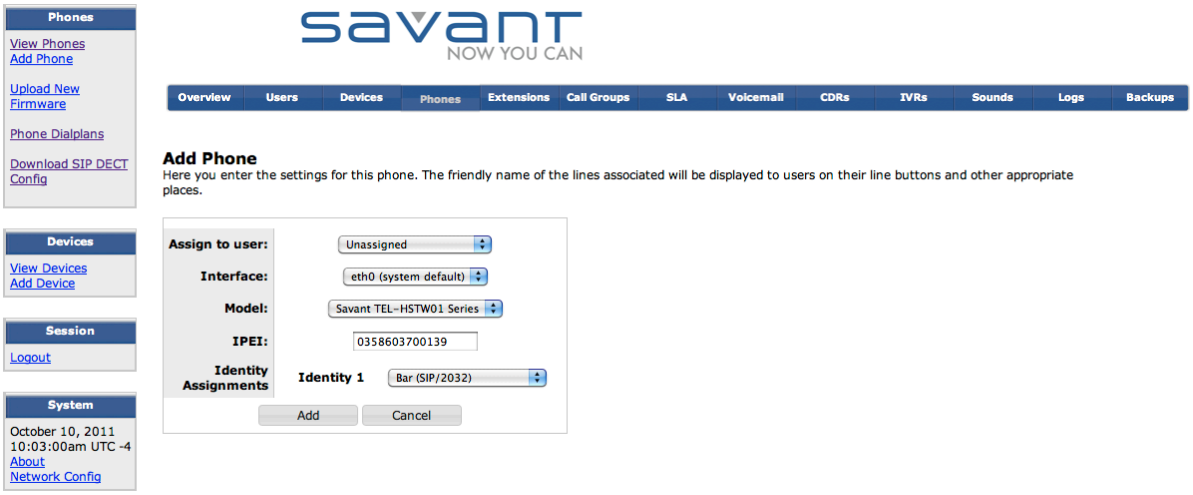
Adding a Savant Wireless Phone

This procedure assumes you have added the Savant wireless phones as devices—see *Adding a Phone to the Savant PBX.*

After you have added Savant wireless phones as phones (described in this procedure), you must configure the base station to activate the handsets. See the section, *Savant DECT Base Stations*.

To add a Savant wireless handset (TEL-HSTW01) do the following.

1. Click the **Phones** tab open the **Configured Phones** page.

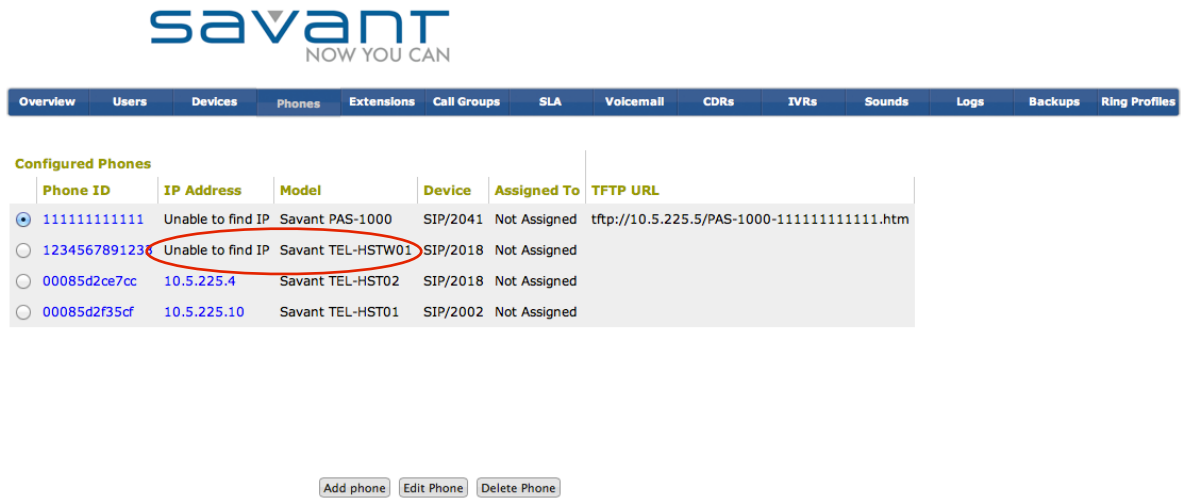


2. Click **Add Phone** to open the **Add Phone** page.
3. Use the next table to enter or select values for the fields on the **Add Phone** page.

Field	Description
Assign to user	Select **Unassigned**.
Interface	Use the default value.
Model	Select TEL-HSTW01.
IPEI	Enter the 13 IPEI characters that can be displayed from the handset: **system**-> **show IPEI**.
Identity Assignments	Select one from the device list that matches the one added in the procedure: *Adding a Phone to the PBX System.*

4. Click **Add**. See the next screenshot.

   NOTE: It is normal that Savant Configurator shows *Unable to find IP* for these handsets.



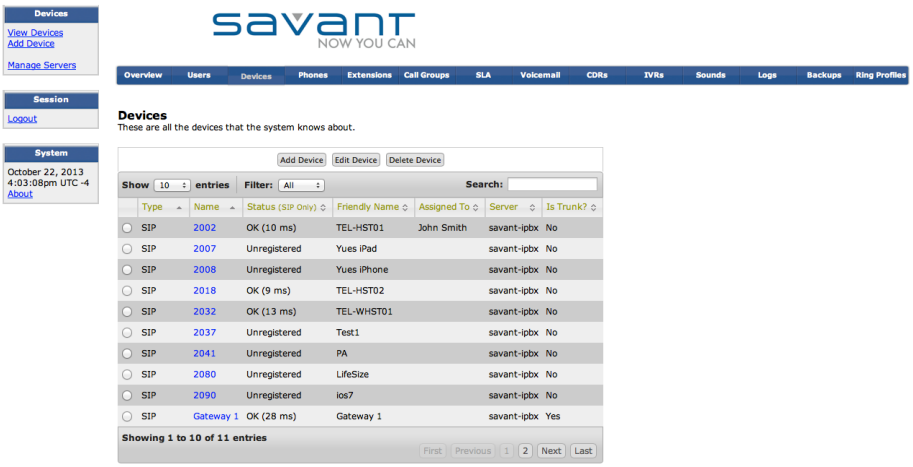
5. Repeat this procedure for each Savant wireless handset that is added.
6. Click **Download SIP DECT Config** from the **Phones** sidebar to download *sip_dect.cfg*. You will need this file when you configure the base station and add handsets to the base station.

Adding a Savant PA System

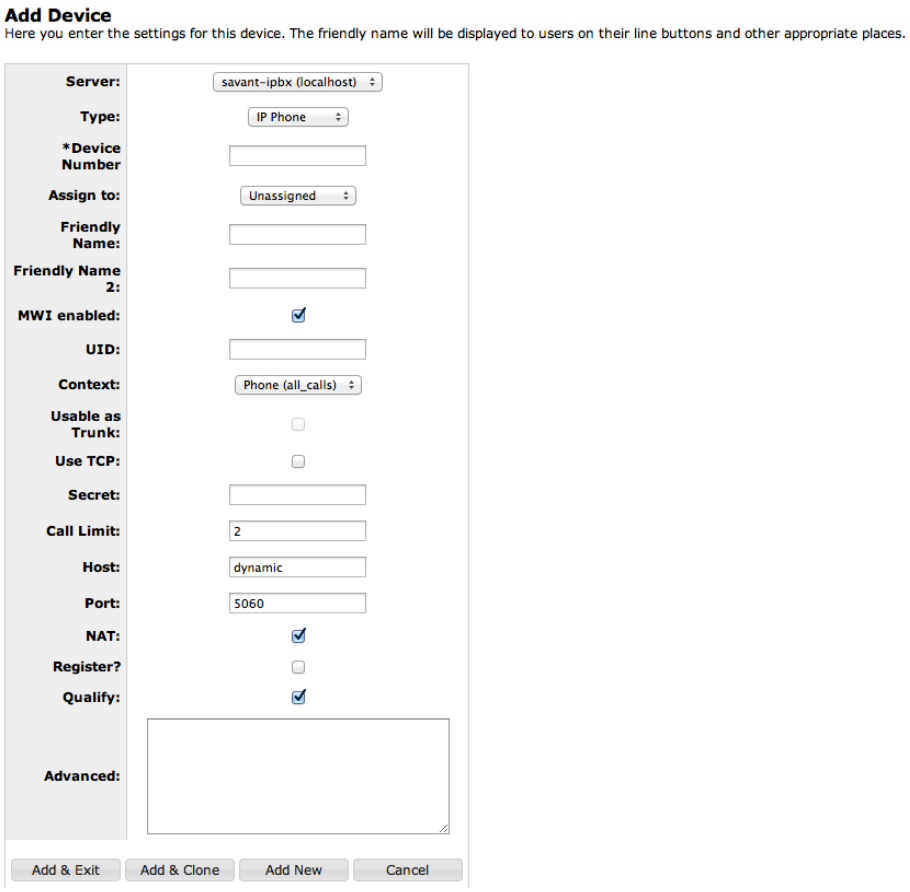
The Savant public announcement (PA) system—also a paging system—is added to the Savant PBX configuration similar to the method used to add a phone.

To add the Savant PA system to the Savant PBX system, do the following.

1. Select the **Devices** tab to open the **Devices** page.



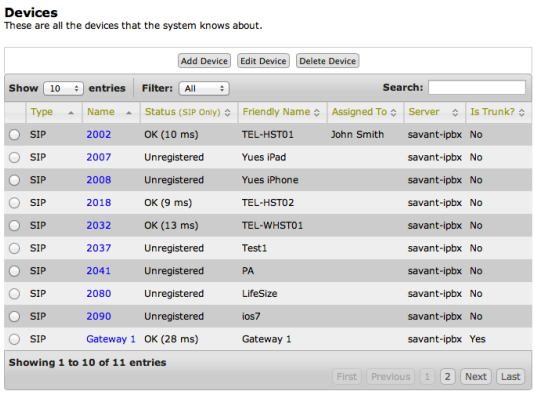
2. Click the **Add Device** button to open the **Add Device** page.



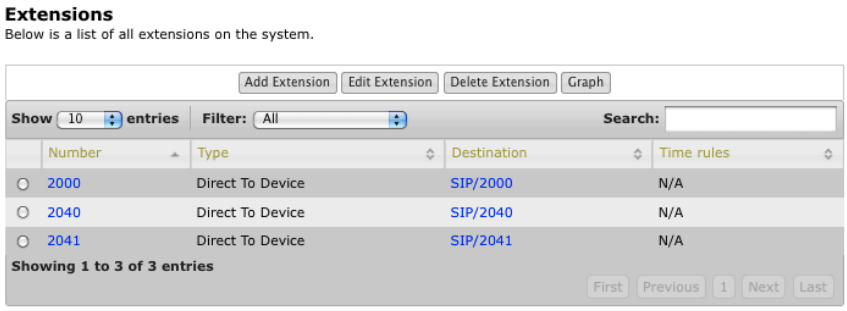
3. The fields must be completed as shown in the next table:

Field	Description
Server	Available servers will be in a drop-down list. Choose the server to which the new device should register. There should only be one (leave as is).
Type	Select ***PA System*** from the drop-down list of the available types of devices.
Device Number	Enter the extension associated with this device. The range is 2000-2500. The next screenshot shows 2041 as an example.
Assign to	Provides a drop-down list of all users that the device can be assigned to. It can also be unassigned. Savant Systems recommends this field be unassigned.
Friendly Name	Name that displays on the phones when the device registers to the server. This name will be displayed on the iOS devices when engaged in a call.
UID	The Savant user identifier is automatically populated by the **Device Number.**
Context	A collection of extensions on the Savant PBX server. Default is **Phone (all_calls)**. Use **Phone (all-calls)** when adding a phone, PA system, or iOS device including, iPhone, iPad or iPod touch.
Usable as Trunk	This field is disabled—no input is required.
Use TCP	Leave check box blank.
Secret	Leave it blank.
Call Limit	Enter **2**.
Host	Use the default value: **dynamic**.
Port	Use the default value of 5060.
NAT	Network Address Translation (NAT) helps determine if this device is on the internal network or outside the firewall. Turn NAT to register devices outside the internal network. When adding a phone, iOS or analog media gateway device you must insert a check mark in the check box.
Register?	Determines whether the device registers to the carrier to tell the carrier where the device is. This is only for carriers. When adding a phone, iOS device or analog media gateway device, the check box should be blank.
Qualify	Determines whether the system periodically checks to see if the device is still available. Insert a check mark in the box.
Advanced	Leave blank.

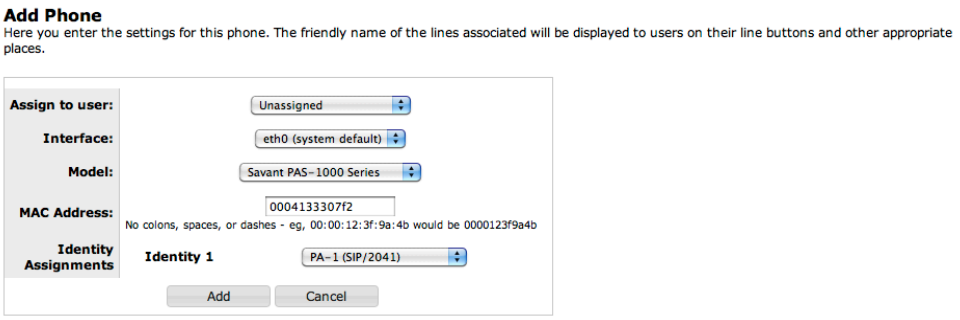
4. Click A**dd & Exit** and then you should see the new example device named 2041 on the **Devices** page.



5. Click the **Extensions** tab and confirm that the extension has been added.



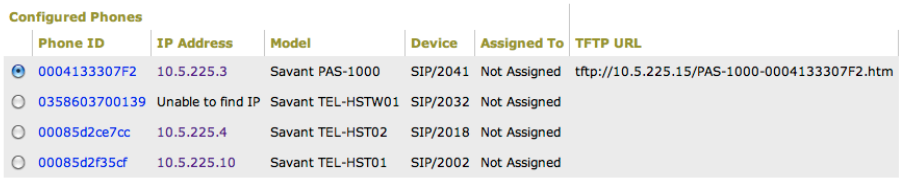
6. Click **Phones** tab to open the **Phones** page.
7. Click **Add Phone**. See the next screenshot.



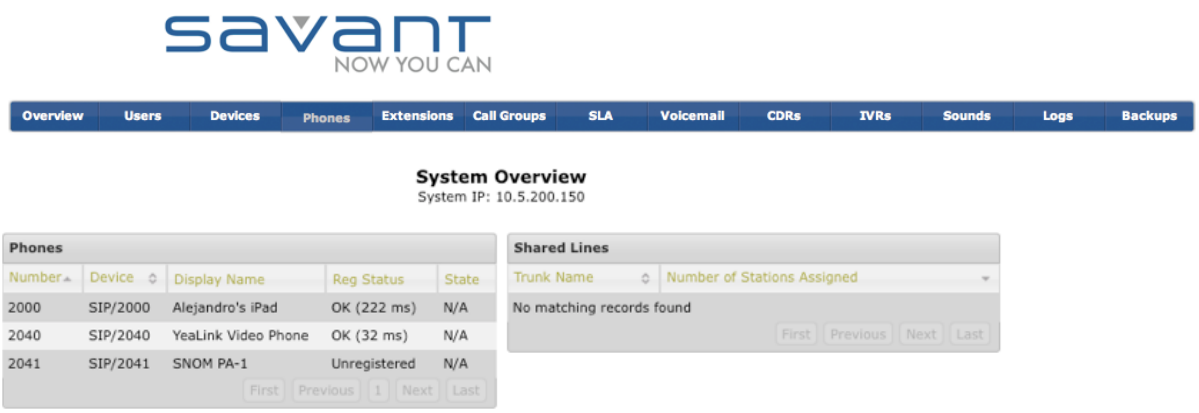
8. Use the next table to enter or select values for the fields on the **Add Phone** page.

Field	Description
Assign to User	Select Unassigned
Interface	Use the default value
Model	Select Savant PAS-1000
MAC Address	Enter the MAC address of the PA system (located on a sticker on the PAS-1000).
Identity Assignments	Select the device created for the PA system for the field, **Identity 1**

9. Click **Add**. The Savant PAS-1000 is added and there is an IP address and a TFTP URL displayed on the **Configured Phones** page.



10. Write down the IP address of the Savant PAS-1000 for future reference. This will be used to upload the configuration file to the Savant PAS-1000.
11. Copy the entire TFTP URL which will later be used in the **Advanced Settings** configuration (in the next procedure: *Uploading Configuration File to the Savant PA System*).
12. Confirm the Savant PAS-1000 exists in the **System Overview** by selecting the **Overview** tab. The Savant PAS-1000 is shown as a phone extension in the list of **Phones** as *Unregistered*.



After the next procedure (*Uploading Configuration File to the Savant PA System*) is completed the Savant PAS-1000 registration status should change to **OK**.

Uploading Configuration File to the Savant PA System

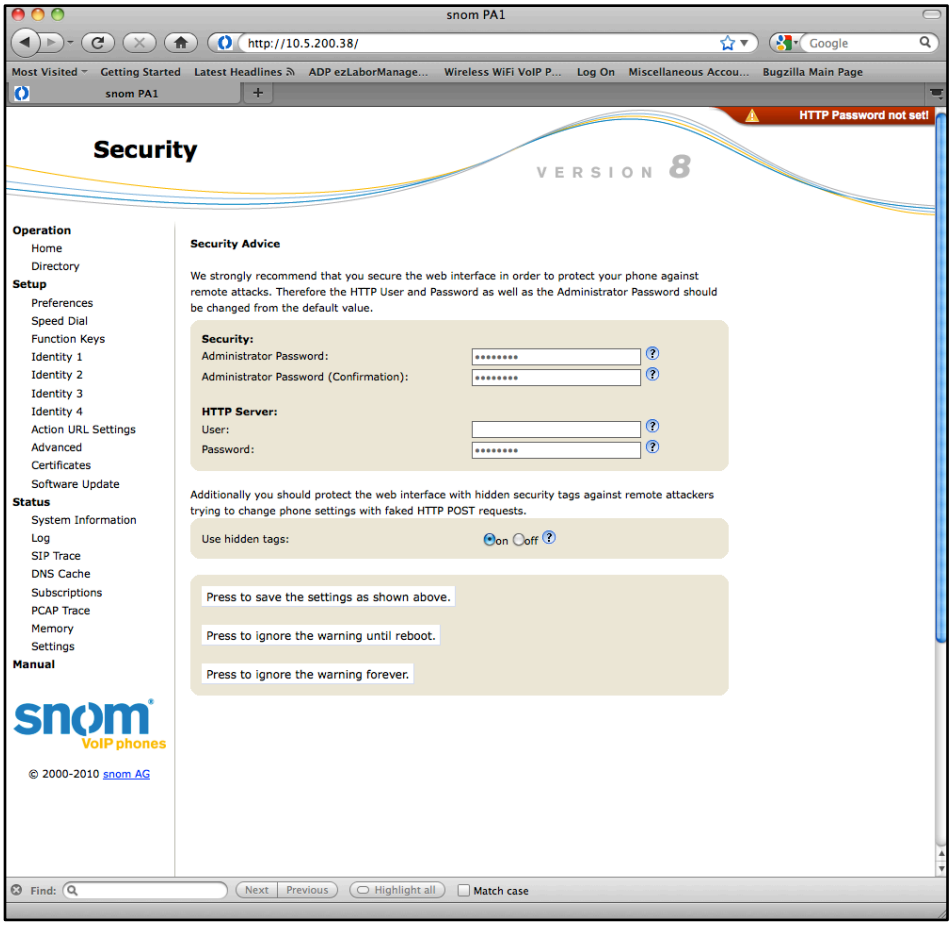
For the Savant Public Announcement System (PAS-1000) the default user name and password are as follows:

User: admin
Password: 0000

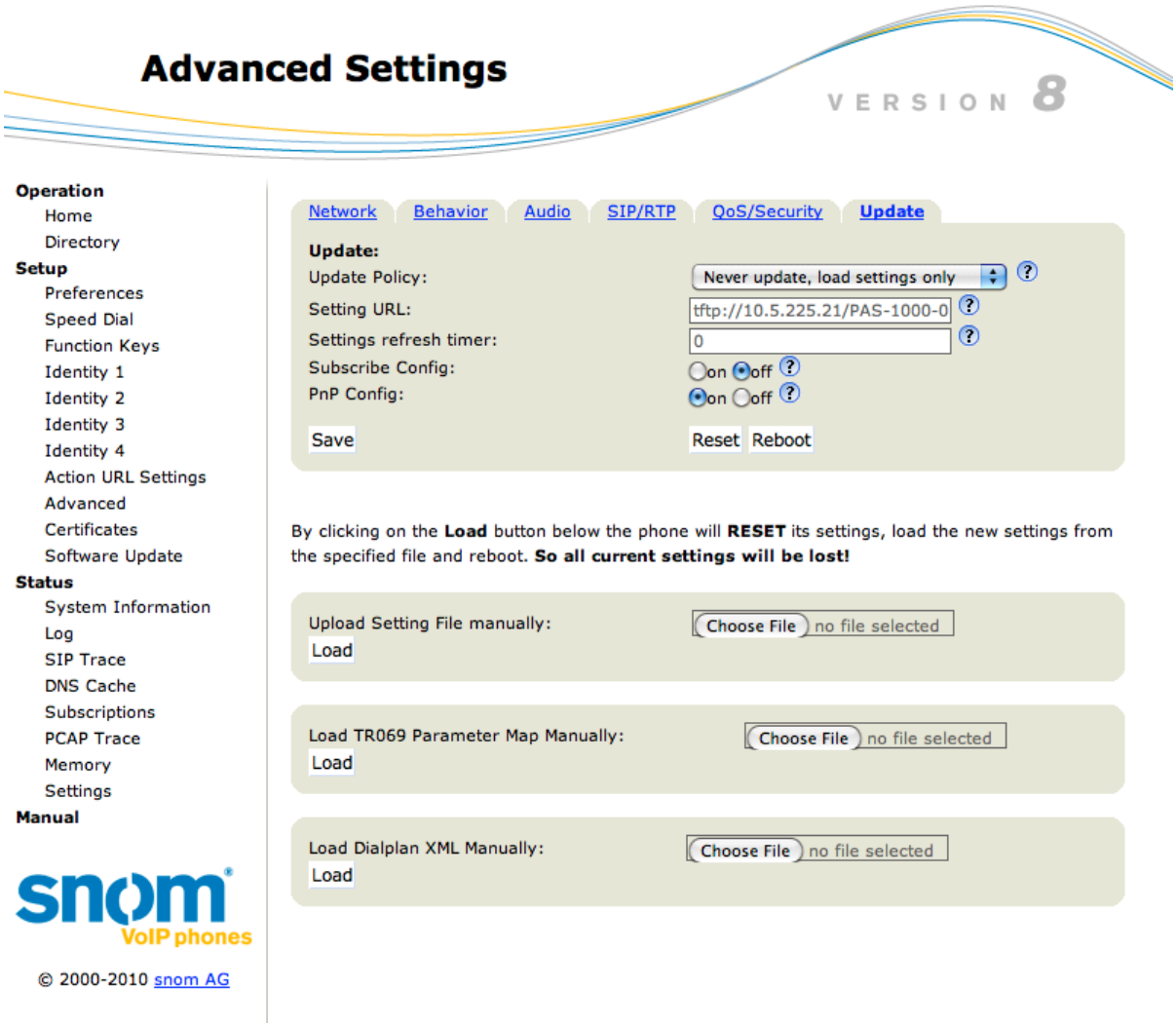
Note that the password uses zeros.

To upload a configuration file to the Savant PAS-1000, do the following.

1. Open a web browser and type in the IP address you wrote down from the previous procedure. This will open the main page of the Savant PAS-1000 web-based user interface. See the next screenshot.

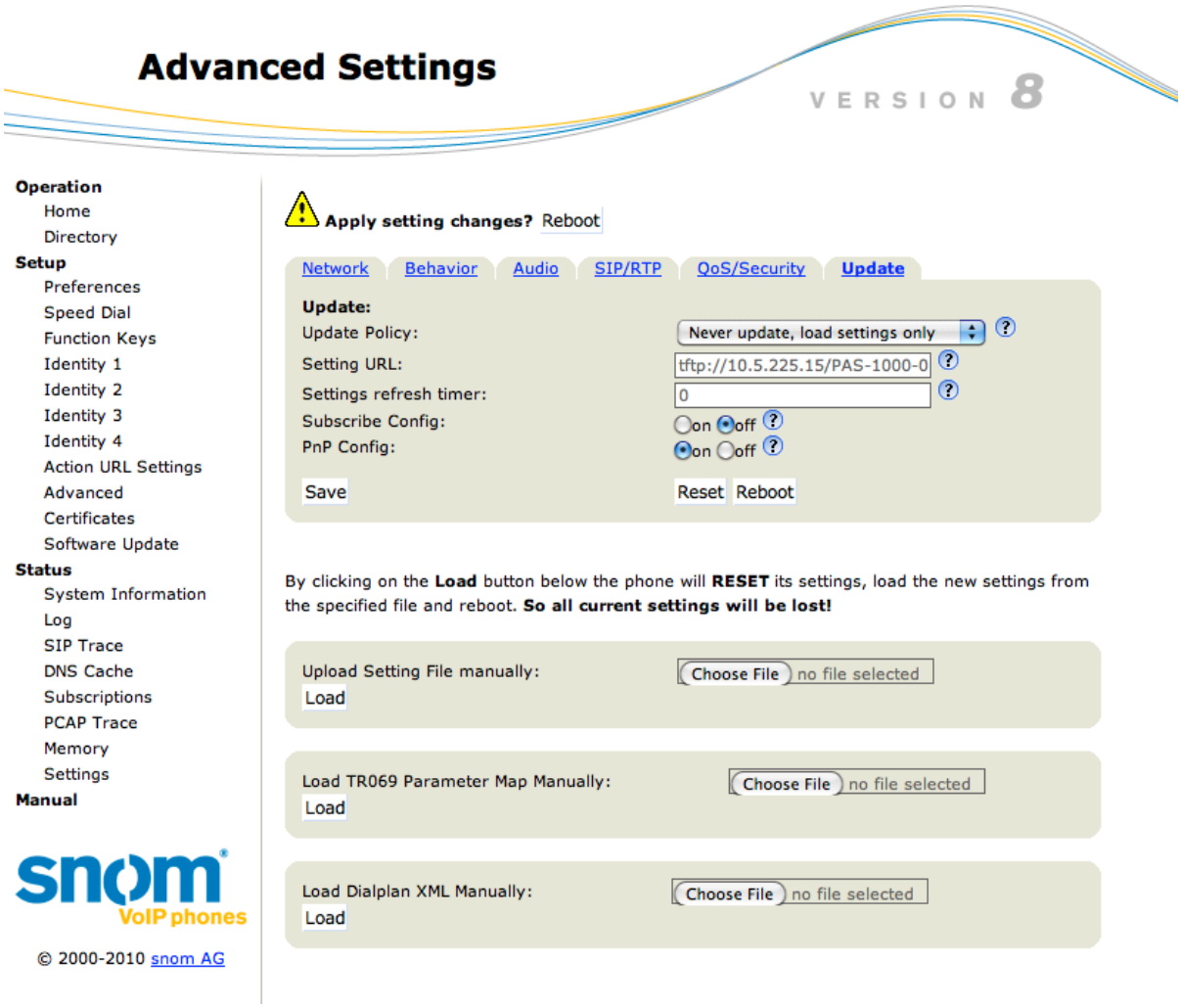


2. Select **Advanced** under **Setup** in the side bar, then click **Update**.



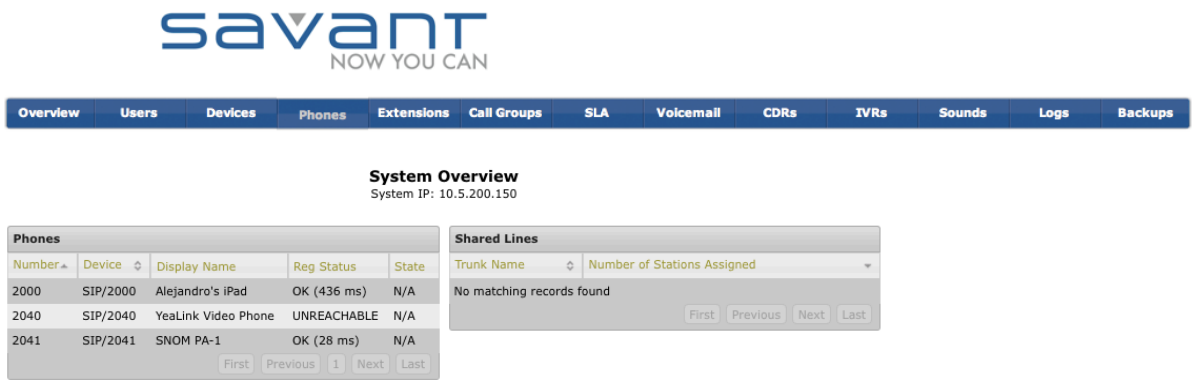
3. Paste the TFTP URL copied above into the **Setting URL** field.

4. Click **Save**.



5. Click **Reboot**.

6. After the Savant PAS-1000 boots up it should be registered with the Savant PBX. You can check the registration status by viewing the Savant Configurator system **Overview** page (accessed from the **Overview** tab). See the next screenshot.



Configuring the Door Entry Systems

The Savant PBX can be integrated with the following door entry systems:

- Holovision 404
- Siedle

Both of these are analog systems, hence they need an Integrated Access Device (TEL-IAD2)—also referred to as a Linksys PAP2T or ATA device—to be able to connect to the Savant PBX system.
For more details on configuring door entry systems, see the section on *Third-Party Door Entry Systems Integration*, which also includes VoIP door entry systems.

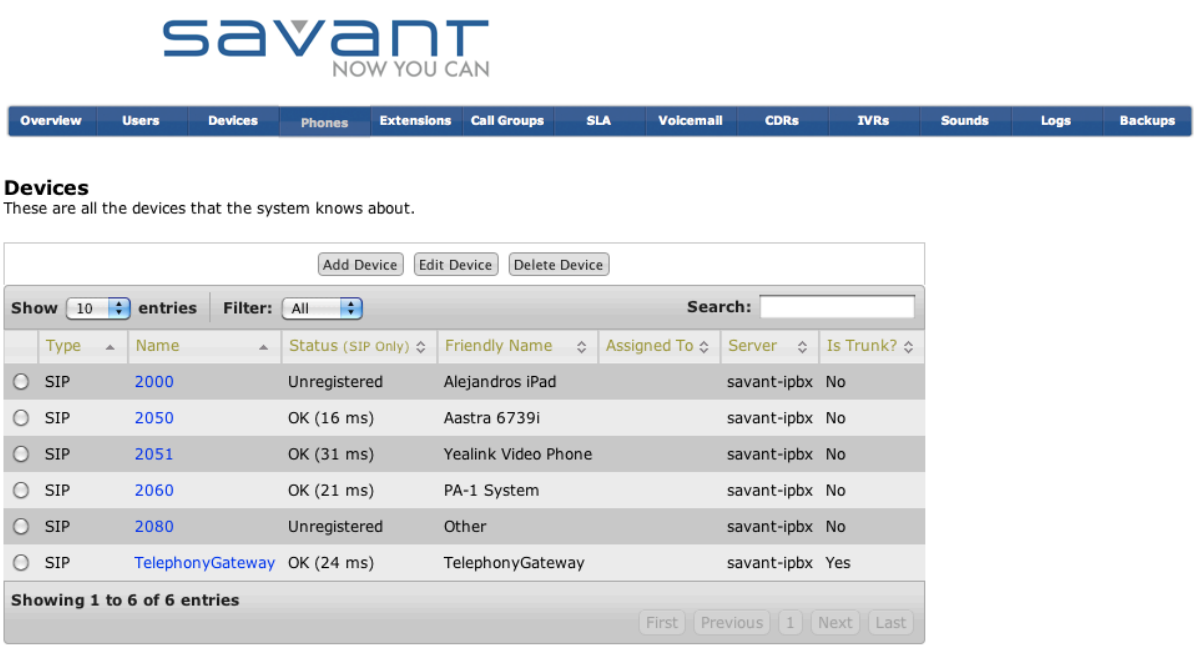
This procedure describes the configuration of the Holovision 404 but the steps are also applicable to the Siedle. The only configuration required for the entry unit is the TEL-IAD2.

NOTE: The door entry system requires no configuration in RacePoint Blueprint™.

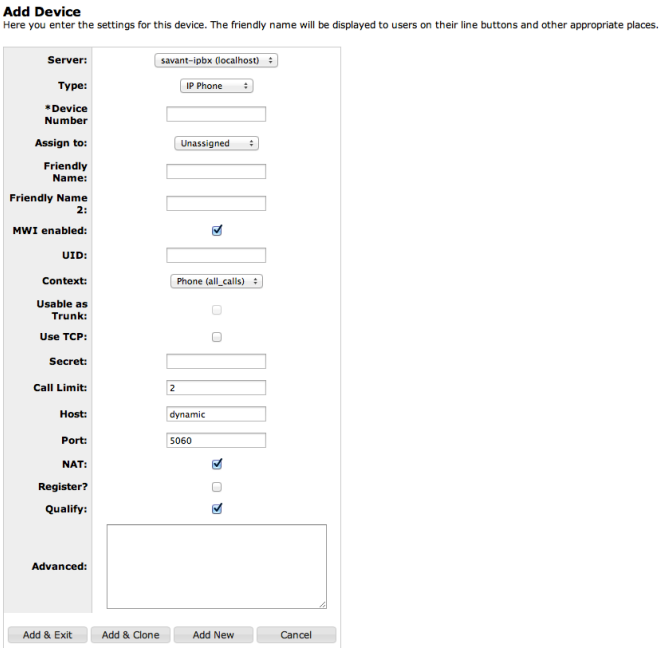
After the TEL-IAD2 is configured, this device must be added to the Savant PBX configuration.

To add the TEL-IAD2 to the Savant PBX configuration, do the following.

1. Open your web browser and enter the IP address of the Savant PBX. This opens the Savant Configurator.
2. Select the **Device** tab to open the **Devices** page.



3. Select **Add Device** to open the **Add Device** page. See the next screenshot.



4. Use the next table to enter or select values for the fields on the **Add Device** page.

Field	Description
Server	Available servers will be in a drop-down list. Choose the server in which the new device should register. There should only be one (leave as is).
Type	Provides a drop-down list of the available types of devices that can be added to the server. Select this option: **ATA Device**.
Device Number	Enter the value you used when the TEL-IAD2 was initially configured.
Assign to	Provides a drop-down list of all users that the device can be assigned to. It can also be unassigned. Savant Systems recommends this field be unassigned.
Friendly Name	Name that displays when a call is made from this phone.
UID	This is auto-assigned. No action is needed.
Context	A collection of extensions on the Savant PBX server. Default is **Phone (all_calls)**. Use the default value.
Usable as Trunk	Leave the check box blank.
Use TCP	Leave the check box blank.
Secret	Leave it blank.
Call Limit	Enter **2**.
Host	Dynamic
Port	5060
NAT	Network Address Translation (NAT) helps determine if this device is on the internal network or outside the firewall. Turn NAT to register devices outside the internal network. Insert a check mark in the check box.
Register?	Leave the check box blank.
Qualify	Insert a check mark in the check box.
Advanced	Leave blank.

4. Click **Add & Exit**.

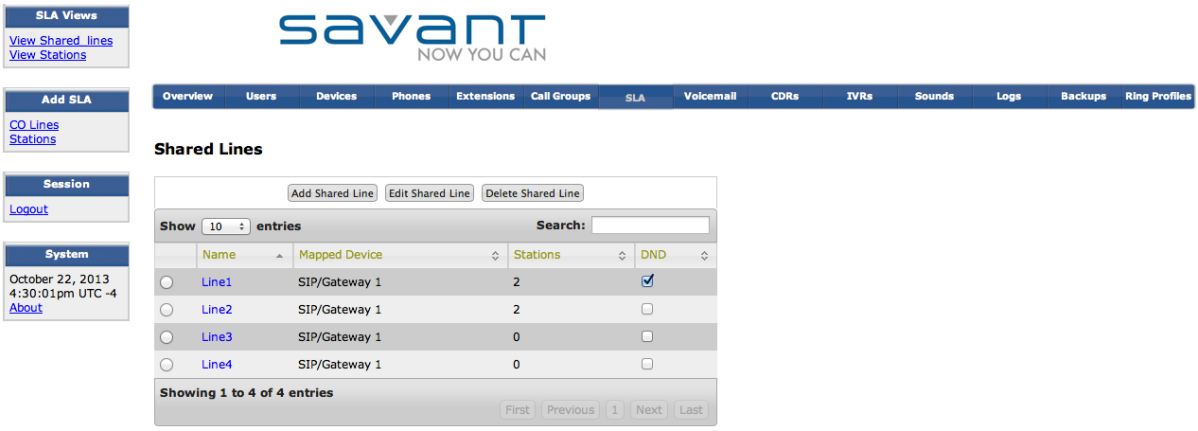
Adding an iOS Device or Phone to an SLA

Shared Line Appearance (SLA) allows a station to be mapped to a SIP telephony gateway (device). The SLA feature allows extensions to share an external Central Office (CO) line—sometimes referred to as POTS (plain old telephone service). Calls coming from the CO line will ring all member extensions assigned to the line. Answering from one member extension will stop ringing on all other extensions. The call can be easily transferred from one member extension to another by putting it on hold and picked up from the other. It also allows one to join the active call from a member extension, so that a two-party conversation becomes a multi-party conference.

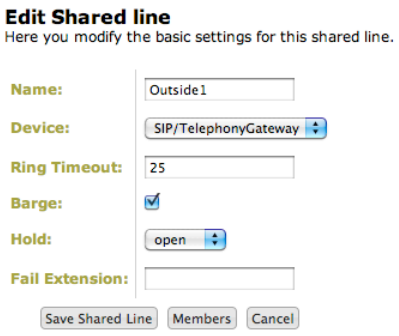
Your system is pre-configured with up to four SLA lines. These lines are named "Line1", "Line2", "Line3" and "Line 4". Please do not modify the names of these SLA lines.

To add a previously configured phone or iOS device (iPhone/iPad/iPod touch) to an existing Shared Line Appearance (SLA) line, do the following.

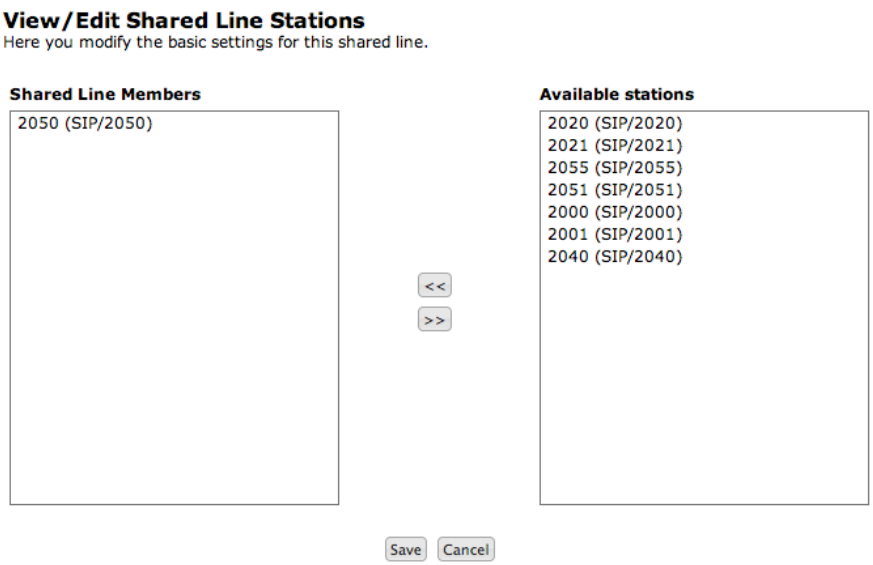
1. Click the **SLA** tab to open the **Shared Line**s page.



2. Select the radio button for the SLA line to which you want to add a phone or iOS device.
3. Click **Edit Shared Line** to open the **Edit Shared Line** page.



4. Click **Members** (no changes are required).
5. From the **Available Stations** list box, drag a selected station number (phone or iOS device) or click the arrow (<<) for a selected station number to be added to the **Shared Line Members** list box.

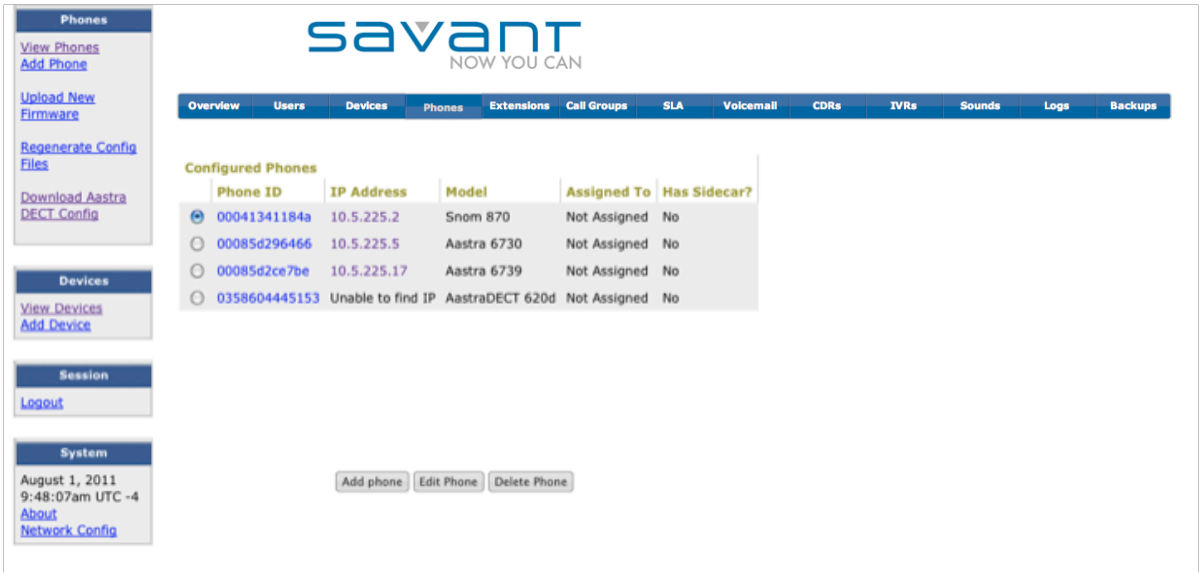


6. Click **Save**.
7. Click **Save Shared Line**.
8. For iOS devices, reload the instance on the device so that the SLA data is updated.
9. For wired Savant phones follow the next procedure, *Regenerating a Configuration File for a Savant Phone*.

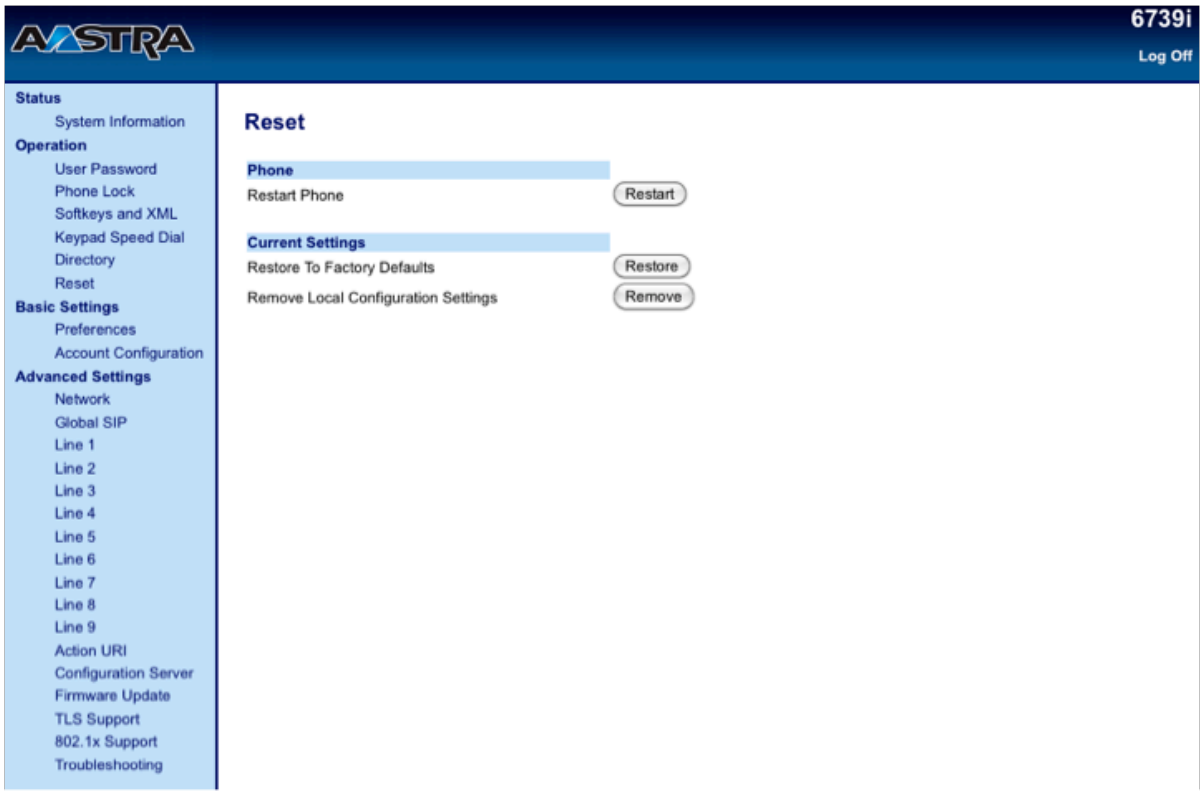
Regenerating a Configuration File for a Savant Phone

To regenerate a configuration file for a Savant phone after the phone has been added to a shared line (SLA), do the following.

1. Click the **Phone** tab to open the **Configured Phones** page.
2. Select the radio button for the phone you want to add to the shared line.
3. Click **Edit Phone**.
4. Click **Save**, since there is no need to change anything.
5. To reload the configuration to the phone, you must open the Savant phone web-based user interface (Aastra). On the **Configured Phones** page click the IP address of the phone.



6. Under **Operation** in the left pane, click **Reset**. See the next screenshot.



7. Click **Restart** to reboot the phone.
8. After the phone restarts from reboot, in Savant Configurator click **Devices** to check the status of the phone for which a configuration file has been regenerated. If the **Devices** page shows OK, the phone is ready to make and receive calls.

Adding Voice Mail to a Savant PBX

Voice mail in a Savant PBX system can work in two different ways:

- **Use one global voice mail box.**
  There is only one voice mail box in the system, and all devices in the system can share the voice mail box. When a voice mail is left, all devices sharing the voice mail box would receive notification, unless Message Waiting Indicator (MWI) is disabled for the device (see *Adding Endpoints to the Savant PBX*). The message can be retrieved from any device without entering a PIN when the PIN-less access is enabled, and once it is retrieved the MWI on all devices would reflect the change.

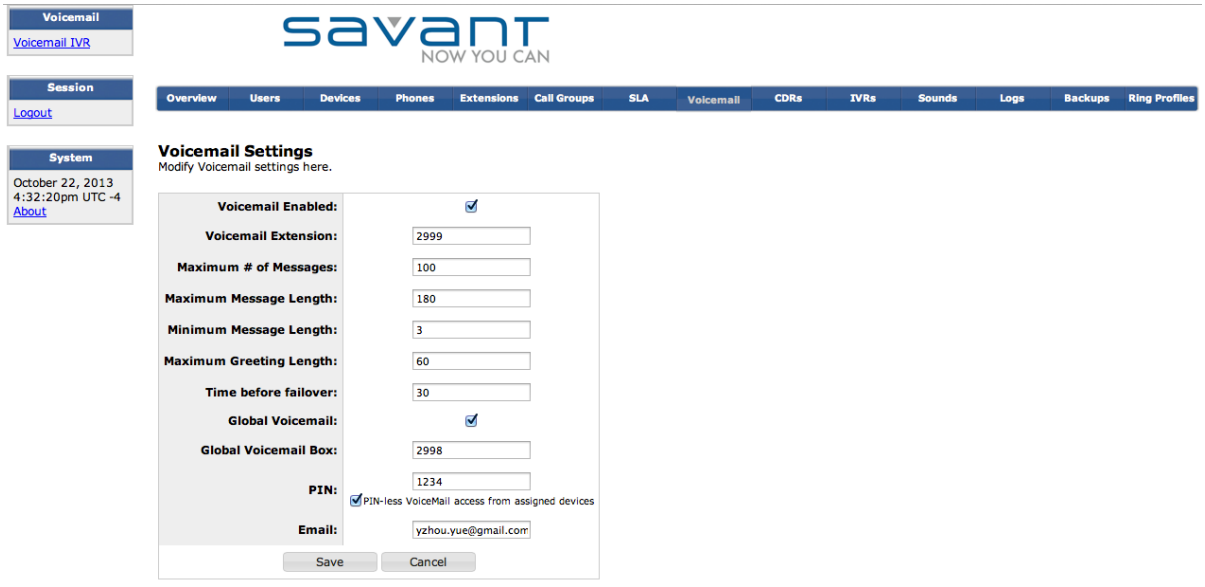
- **Use individual voice mail boxes**.
  There is one voicemail box per user, and one device needs to be assigned to each user. When voice mail is invoked, the caller can select to which person he/she wants to leave a message through an Interactive Voice Response (IVR) so that the message will be left to that person's voicemail box. Only the device assigned to the person who is left a message receives notification. PIN-less access to voicemail, if enabled for a user, can only be done through the device assigned to the user.

NOTE: You can either enable global voicemail box or individual voicemail box, but not both in the same system.

Global Voice Mail Boxes

To add global voice mail functionality to the Savant PBX for individual mailboxes, do the following.

1. Click the **Voicemail** tab to open the **Voicemail Settings** page.
2. Insert a check mark in the **Voicemail Enabled** check box.



3. Use the next table to enter or select values for the fields on the **Voicemail Settings** page.

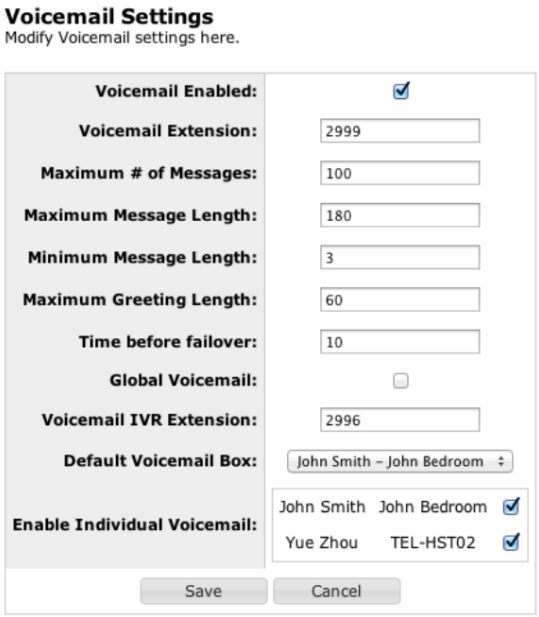
Field	Description
Voicemail Extension	Extension number to access voice mail system. Use the default value.
Maximum # of Messages	Maximum number of messages stored in the system. Enter a value from 1-100. Default is 100.
Maximum Message Length	Maximum number of seconds an incoming message can be recorded. Enter a value from 120–300. The default value is 180 seconds.
Minimum Message Length	Minimum number of seconds an incoming message must before notification is generated by the voice mail system.
Maximum Greeting Length	Maximum number of seconds that an outgoing greeting message can be recorded. Enter a value from 30–120. The default is 60 seconds.
Time before failover	Number of seconds to ring before failover to voice mail system. Enter a value from 10–60. The default is 30.
Global Voicemail Box	Default is 2998.
PIN	PIN used to access the global voicemail box. PIN-less voice mail access is available from assigned devices. If PIN access is not required, insert a check mark in the box.
Email	Email address to notify when there is a new voice mail message in the system. **NOTE:** If you are not receiving email, likely your Internet Service Provider (ISP) has implemented messaging restrictions. Please contact the Technical Assistance Center.

4. Click **Save**.

Individual Voice Mail Boxes

To add individual voice mail functionality to the Savant PBX, do the following.

1. Create a user for each person who wants to have a voice mail box. If you have not done so, please refer to the procedure: *Adding a User to the Savant PBX*.
2. Assign a device to each user. Ensure that it is one user per one device. If you have not done so, please refer to these procedures: *Adding an iOS Device to the Savant PBX* or *Adding a Phone to the Savant PBX*.
3. Insert a check mark in the **Voicemail Enabled** check box.



4. Use the next table to enter or select values for the fields on the **Voicemail Settings** page.

Field	Description
Voicemail Extension	Extension number to access voice mail system. Use the default value.
Maximum # of Messages	Maximum number of messages stored in the system. Enter a value from 1-100. Default is 100.
Maximum Message Length	Maximum number of seconds an incoming message can be recorded. Enter a value from 120–300. The default value is 180 seconds.
Maximum Greeting Length	Maximum number of seconds that an outgoing greeting message can be recorded. Enter a value from 30–120. The default is 60 seconds.
Time before failover	Number of seconds to ring before failover to voice mail system. Enter a value from 10–60. The default is 30.
Global Voicemail	Uncheck the box.
Voicemail IVR Extension	Default is 2996.
Default Voicemail Box	Select a default voicemail box from the drop down list. This will be used when there is no selection made on the IVR.
Enable Individual Voicemail	A table with all the users and their assigned devices. Insert a check mark in the box to enable voicemail for a user. By default, it's enabled .

5. Click **Save**.

Adding Voice Mail IVR to a Savant PBX

If individual voice mail boxes are used in the Savant PBX system, voice mail Interactive voice response (IVR) must be set up. If a global voice mail box is used or voice mail is not enabled in the system, you can skip this section.

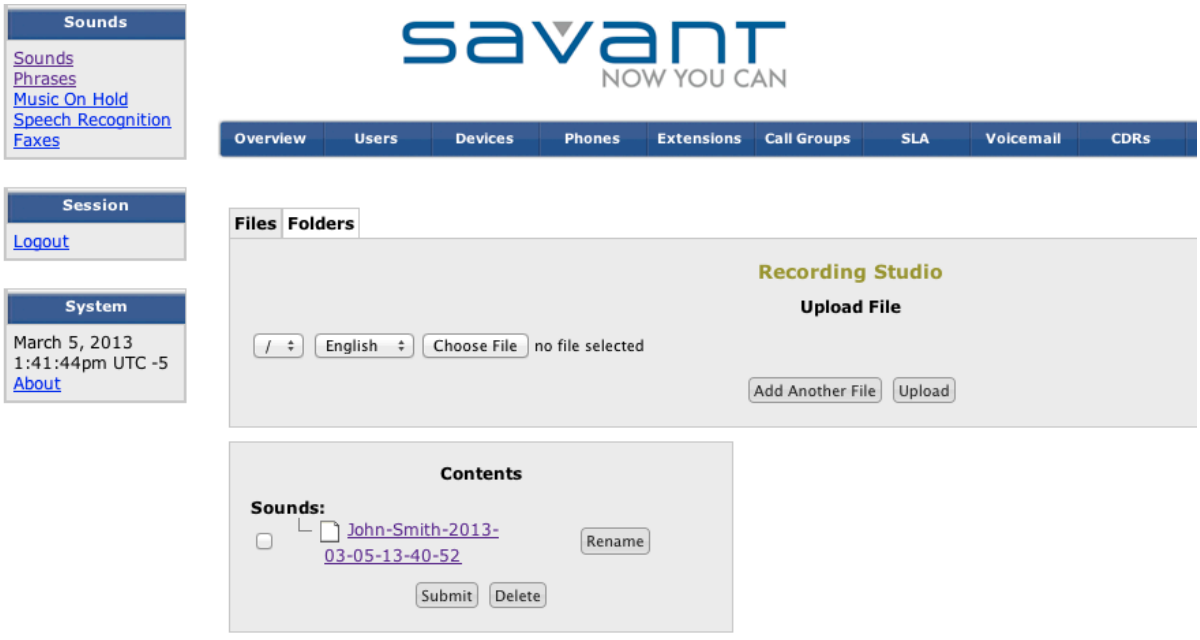
To set up the IVR, a sound file for greeting and a sound file for each user's name need to be in the system. For example, if individual voice mail is used for the "Smith family" that has three members, John, Joanne, and Tom, there are four sound files needed. One greeting "Thank you for calling the Smith home", and three for names John, Joanne, and Tom. The IVR will be "Thank you for calling the Smith home. For John press 1, for Joanne press 2, for Tom press 3".

The sound files can be recorded through PBX or uploaded to the PBX.

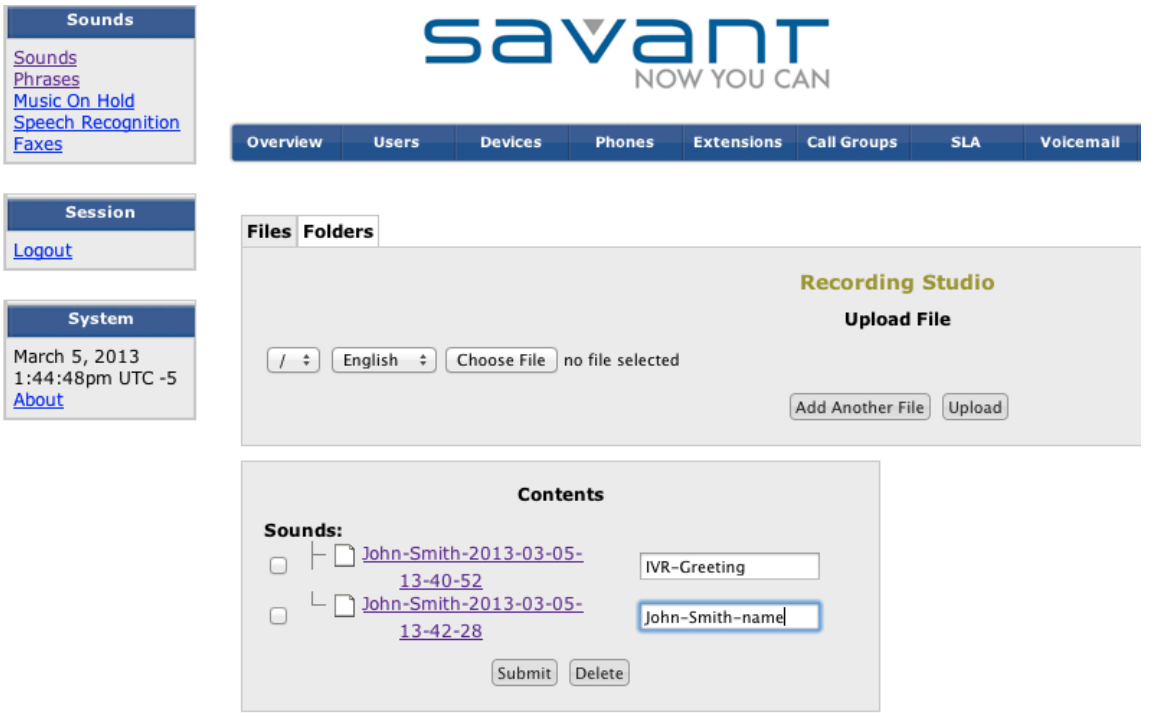
Recording Sound Files

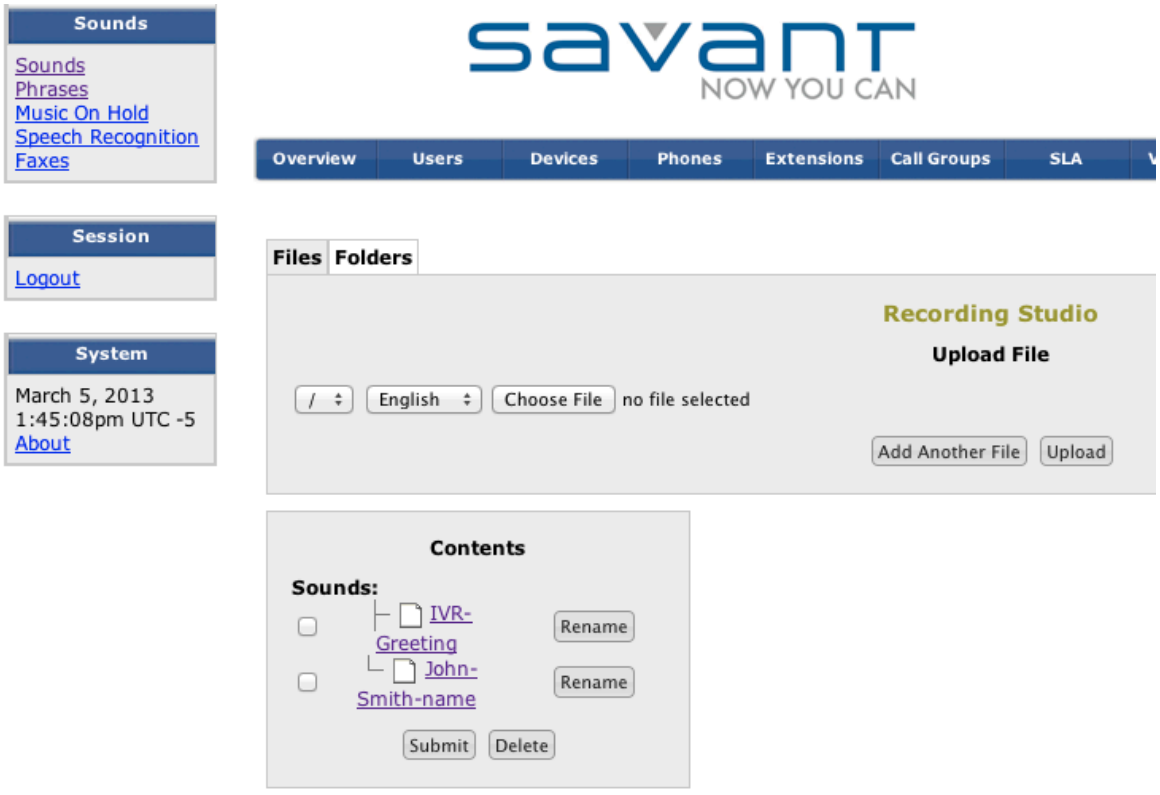
To record a sound file through Savant PBX, do the following:

1. Choose a user.
2. Dial 2995.
3. When prompted to enter agent number, enter the number of the device that is assigned to the user—for example, 2010.
4. When prompted to enter password, enter the PIN number assigned to the user.(PINs must be assigned and you can customize PINs.)
5. Follow the prompt to record and save sound file.
6. Click **Sounds** tab. The sound just recorded will be shown under the **Contents**, with the <first name>-<last name>-<year-month-day-hour-minute-second> as the file name.

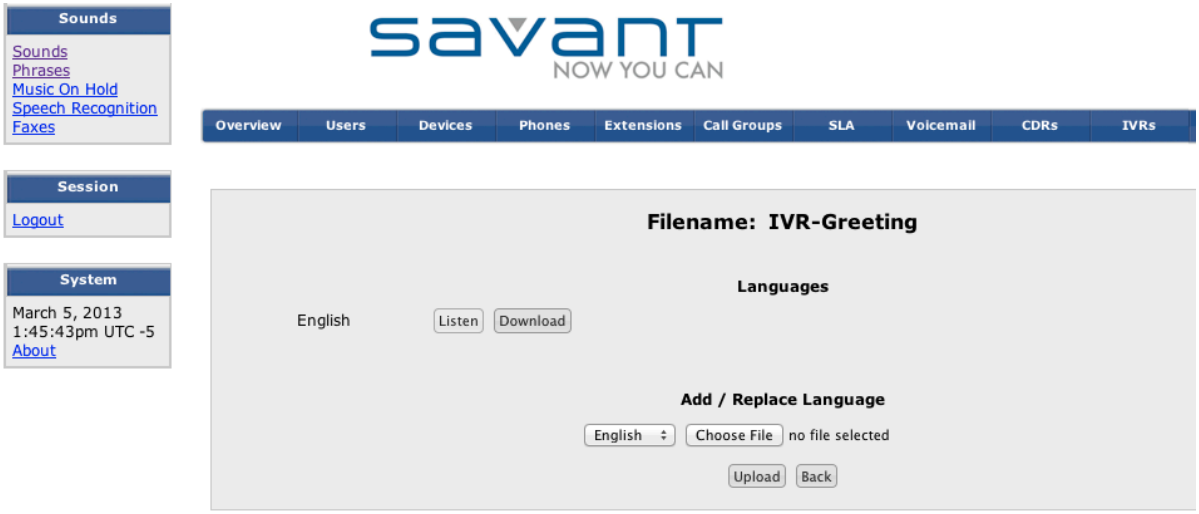


7. The file name can be changed by click **Rename** button, enter new name then click **Submit**.


Sounds
Sounds
Phrases
Music On Hold
Speech Recognition
Faxes
Session
Logout
System
March 5, 2013
1:44:48pm UTC -5
About
savant
NOW YOU CAN
Overview
Users
Devices
Phones
Extensions
Call Groups
SLA
Voicemail
Files
Folders
Recording Studio
Upload File
/
English
Choose File
no file selected
Add Another File
Upload
Contents
Sounds:
John-Smith-2013-03-05-13-40-52
IVR-Greeting
John-Smith-2013-03-05-13-42-28
John-Smith-name
Submit
Delete


Sounds
Sounds
Phrases
Music On Hold
Speech Recognition
Faxes
Session
Logout
System
March 5, 2013
1:45:08pm UTC -5
About
savant
NOW YOU CAN
Overview
Users
Devices
Phones
Extensions
Call Groups
SLA
Files
Folders
Recording Studio
Upload File
/
English
Choose File
no file selected
Add Another File
Upload
Contents
Sounds:
IVR-Greeting
John-Smith-name
Rename
Rename
Submit
Delete

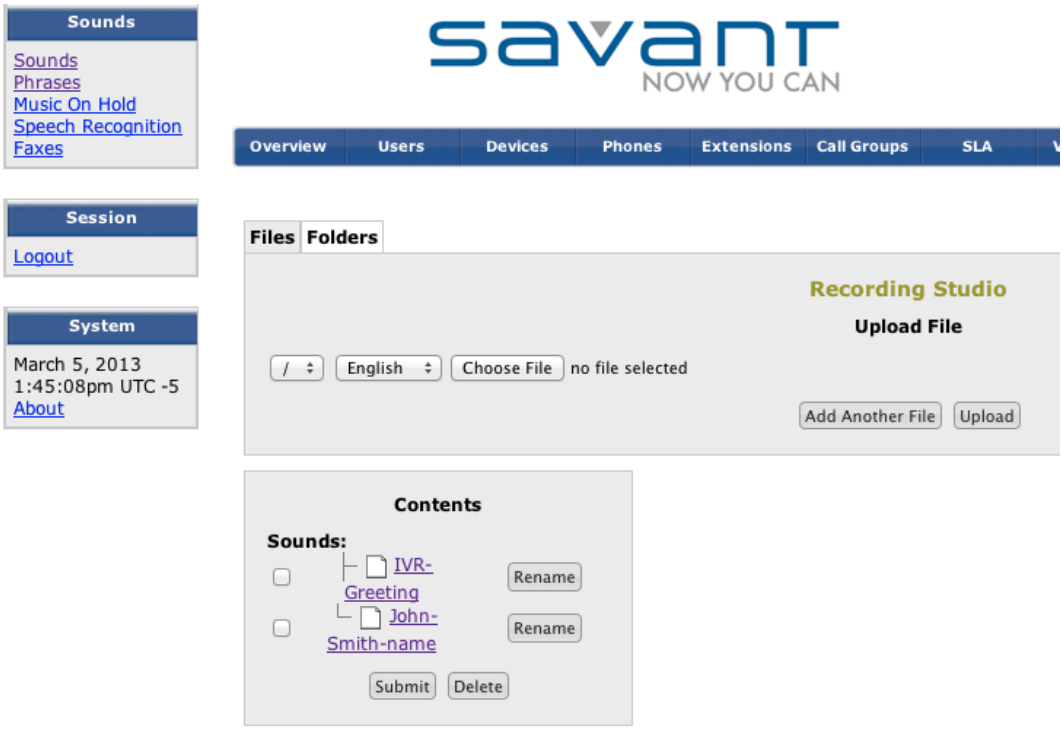
8. The content of a file can be listened by click the name, then click the **Listen** button.



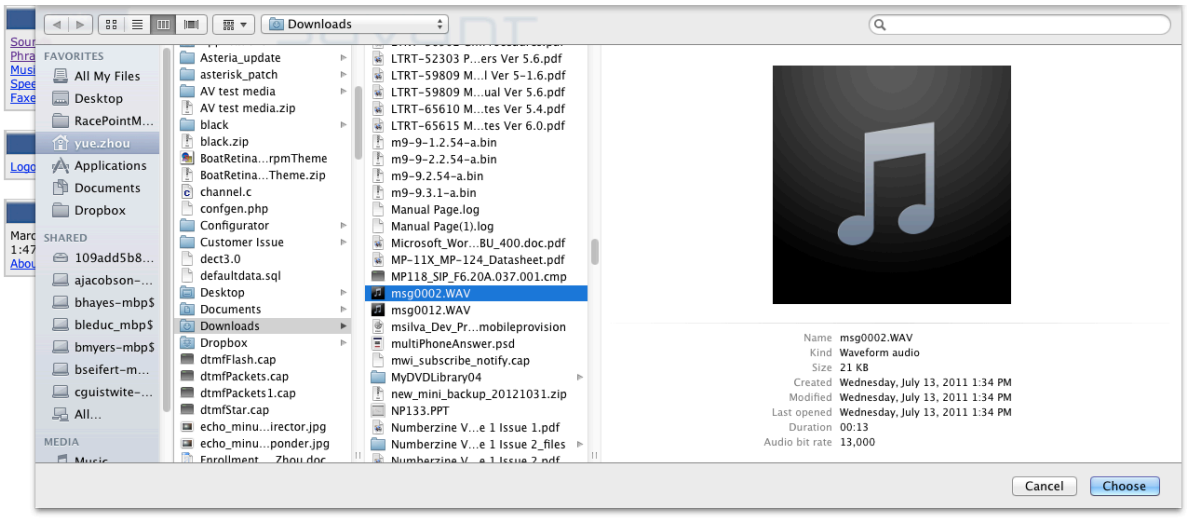
Uploading Sound Files

To upload IVR sound files to Savant PBX, do the following:

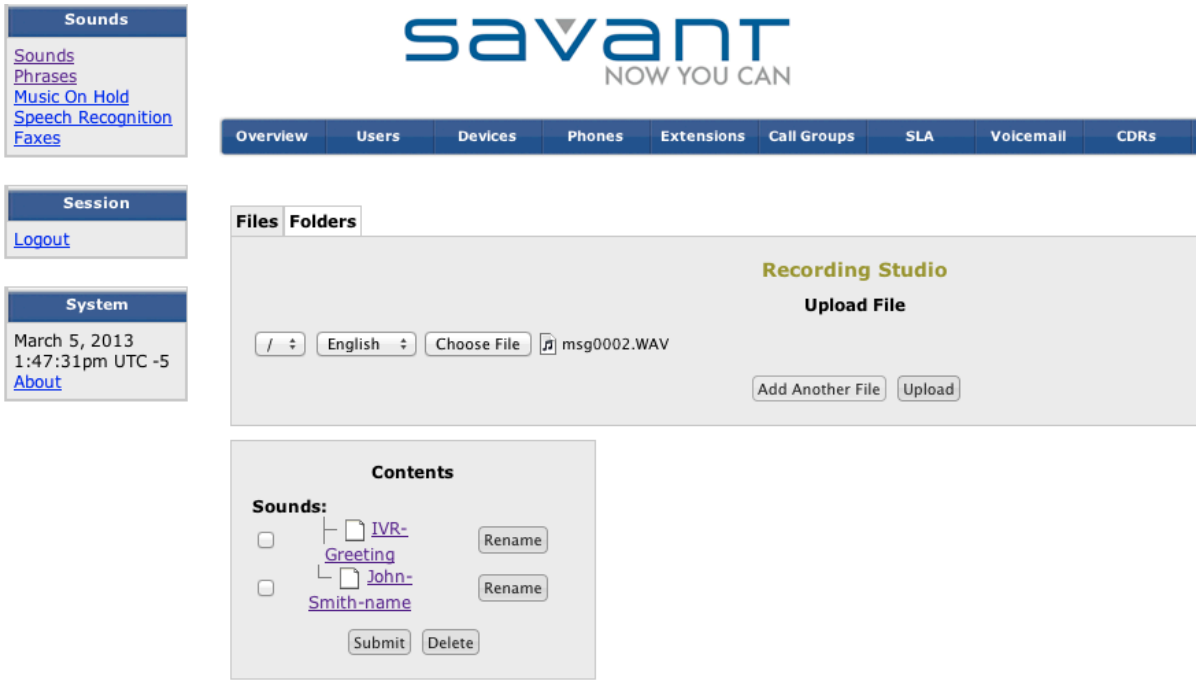
1. Have sound files ready on SDE, they can be in .mp3, .wav or .aiff format.
2. Click **Sounds** tab, then click **Choose File**



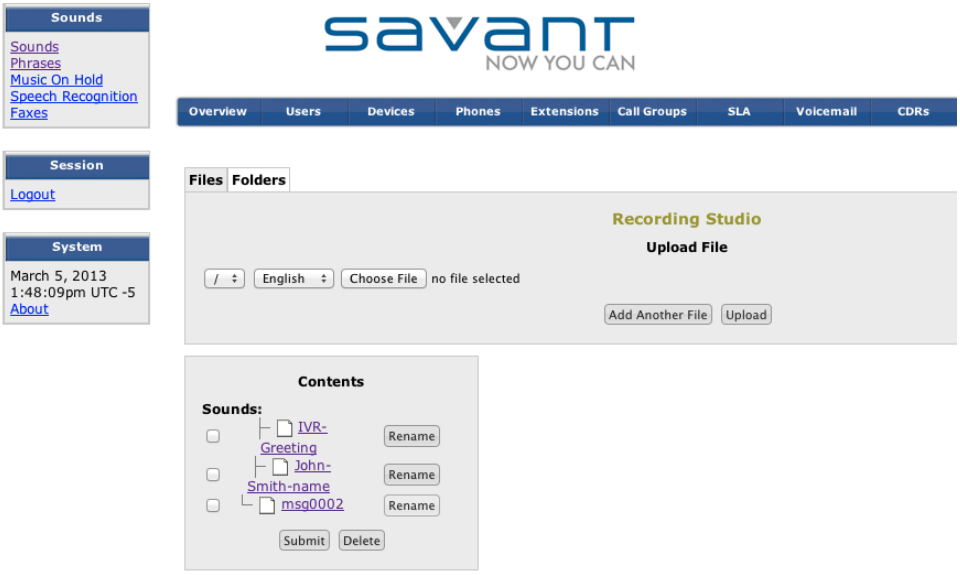
3. Select the file then click **Choose**.



4. Click **Add Another File** to add more files. When done click **Upload**.



5. Uploaded sound file appears under **Contents**.



Assigning Sound Files to IVR

To assign sound files to voicemail IVR, do the following.

1. Click the **Voicemail** tab, then click **Voicemail IVR** from the left. **Greeting** and all the voicemail box number and it's user will be displayed.

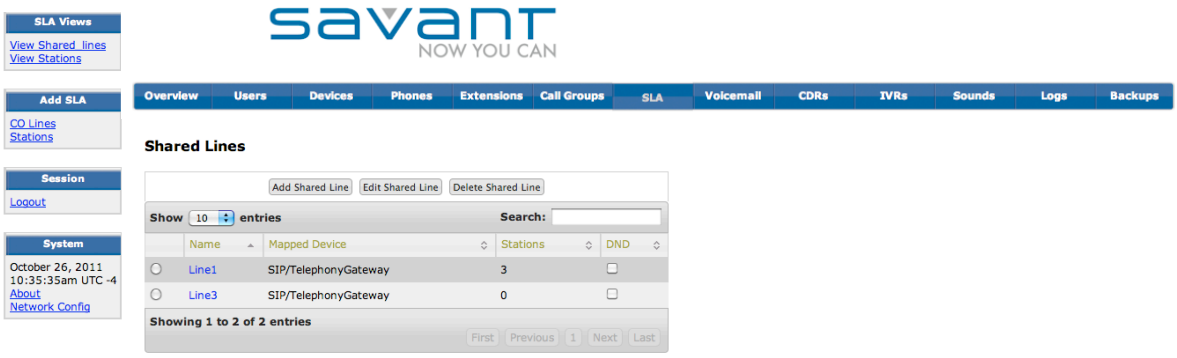
2. Select the correct sound file from the drop down list for **Greeting** and all users, then click **Save**.

Adding Voice Mail to a Shared Line

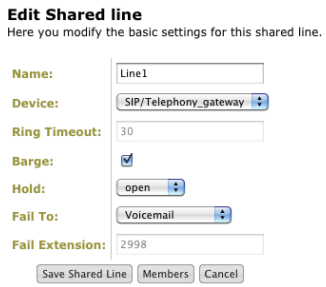
NOTE: Voice mail must be added to at least one phone or iOS device to complete this procedure.

To add voice mail to a shared line, do the following.

1. Click the **SLA** tab to open the **Shared Lines** page.



2. Select the radio button for the shared line (SLA) being associated with the voice mail.
3. Click **Edit Shared Line** to open the **Edit Shared line** page.



4. Use the next table to enter or select values for the fields on the **Add Extension** page.

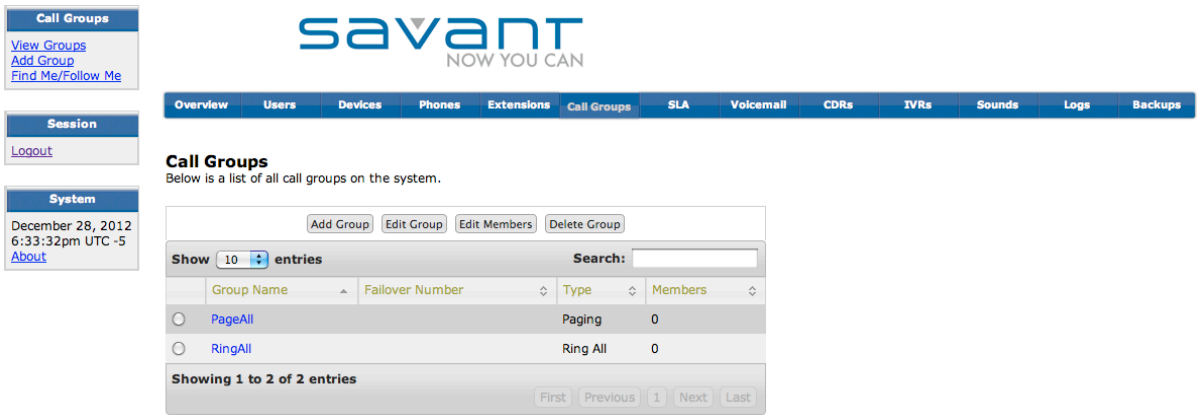
Field	Description
Name	Enter a name for this shared line.
Device	Leave as is.
Ring Timeout	Use the value (*time before failover*) that was entered on the **Voicemail Settings** page in the procedure: *Adding Voice Mail to a Savant PBX*.
Barge	Leave the check mark.
Hold	Use the default value: **open**
Fail To	Select **Voicemail**.
Fail Extension	Select the global voicemail box number entered on the **Voicemail Settings** page in the procedure: *Adding Voice Mail to a Savant PBX.*

5. Click **Save Shared Line**.

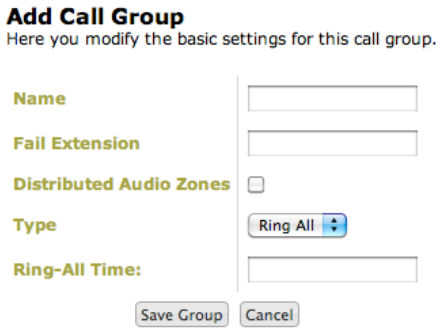
Adding the Paging Functionality

To add paging functionality to the Savant PBX system, do the following.

1. Click the **Call Groups** tab to open the **Call Groups** page. A call group should have been created automatically when you loaded the initial configuration in the procedure, *Uploading the plist*. If you want to use that group, continue this procedure at step 5.



2. Click **Add Group** to open the **Add Call Group** page.

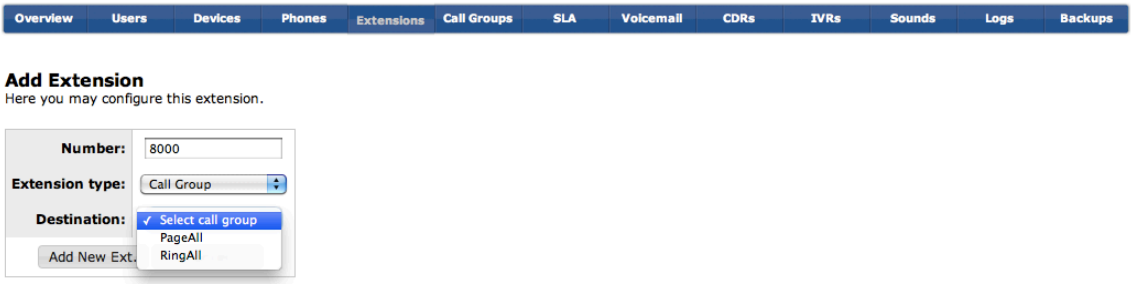


3. Use the next table to enter or select values for the fields on the **Add Call Group** page. Note that when you select *Paging* as the **Type**, the **Fail Extension** field is not available.

Field	Description
Name	Enter the group name.
Full Duplex	Insert a check mark in the Full Duplex check box if two-way communication is required. (This field is enabled after you select the **Type**: Paging.
Distributed Audio Zones	Insert a check mark if you want to use paging with the PAS -1000 system.
Type	Select the **Paging** from the drop-down list.

4. Click **Save Group.**
5. Select the radio button for the call group you want to modify, and then click **Edit Members**.
6. From the **Available Devices** list box—which shows all of the devices added previously— drag a selected device or click the arrow (<<) for a selected device to the **Group Members** list box.

7. Click **Save**.
8. **NOTE**: The call group that was created automatically when you loaded the initial configuration in the procedure, *Uploading the plist*, includes the paging extension number 8000. If you want to add another group with a different extension number, continue with the next steps.
9. Click the **Extensions** tab to open the **Extensions** page.
10. Click **Add Extension** to open the **Add Extension** page.



11. Use the next table to enter or select values for the fields on the **Add Extension** page.

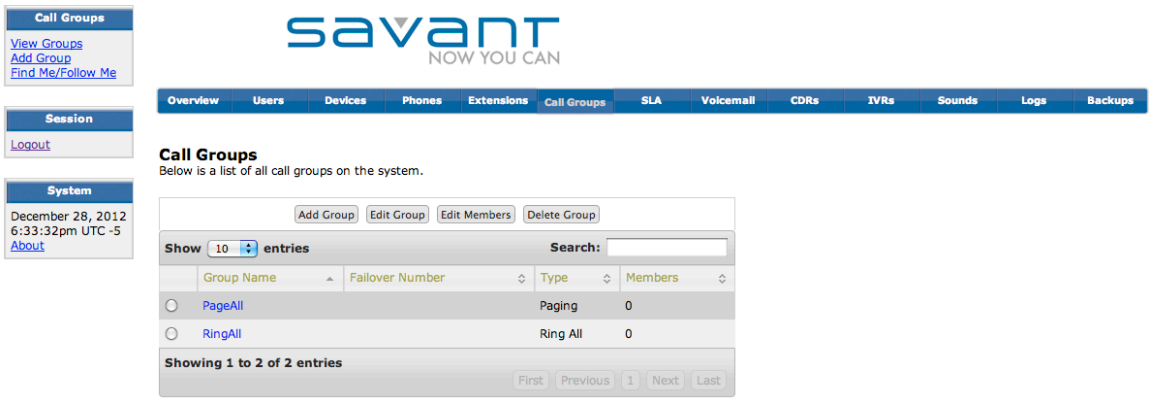
Field	Description
Number	Enter an extension number from this range: 8001-8499.
Extension Type	Select **Call Group**
Destination	Select the call group you created previously in this procedure.

12. Click **Add New Ext.**

Adding a Phone or iOS Device to a Paging Group

To add a phone or an iOS device to a paging group, do the following.

1. Click the **Call Groups** tab to open the **Call Group** page.



2. Select the group to which the newly added phone or iOS device is to be added.
3. Click **Edit Group**.
4. From the **Available Devices** list box, drag a selected device (phone or iOS device) or click the arrow (<<) for a selected device to the **Group Members** list box.
5. Click **Save**.

Editing a Dial Plan

A dial plan describes the number and pattern of digits that a user dials to reach a particular telephone number. Access codes, area codes, specialized codes, and combinations of the number of digits dialed are all part of a dial plan. For example, the North American Public Switched Telephone Network (PSTN) uses a 10-digit dial plan that includes a three-digit area code and a seven-digit telephone number.

For Savant wired phones—TEL-HST01 and TEL-HST02—if the user picks up a handset or presses the speaker key to get dial tone and then starts to enter a destination number, the phone will initiate the call when an exact match is found in the dial plan. In this case, there is no need to press the Dial key or wait for a timeout. Note that if a user enters the destination number directly when the phone is on-hook the dial plan will not take effect—in which case, the user has to press the Dial key or pick up the handset to initiate the call.

An administrator can use the custom dial plan field on the **Phone** page in Savant Configurator to create a dial plan that fits the needs of users.
The custom dial plan field accepts up to 512 characters. If a user enters a dial plan longer than 512 characters, or a parsing error occurs, the phone uses the default dial plan of “xx+#|xx+*”.

The symbols available to create a dial plan are as follows:

Symbol	Description
1, 2, 3, 4, 5, 6, 7, 8, 9, 0	digit symbol
X	match any digit symbol
*, #, .	other keypad symbol
|	Expression inclusive OR
+	0 or more of the preceding digit symbols or [] expression
[]	Symbol inclusive OR
-	Used only with [], represent a range of acceptable symbols. For example: [2-8]

Dial Plan Example

An example of a custom dial plan is as follows:

[23]XXX|[4-8]XXXX|1XXXXXXXXXX|*XX

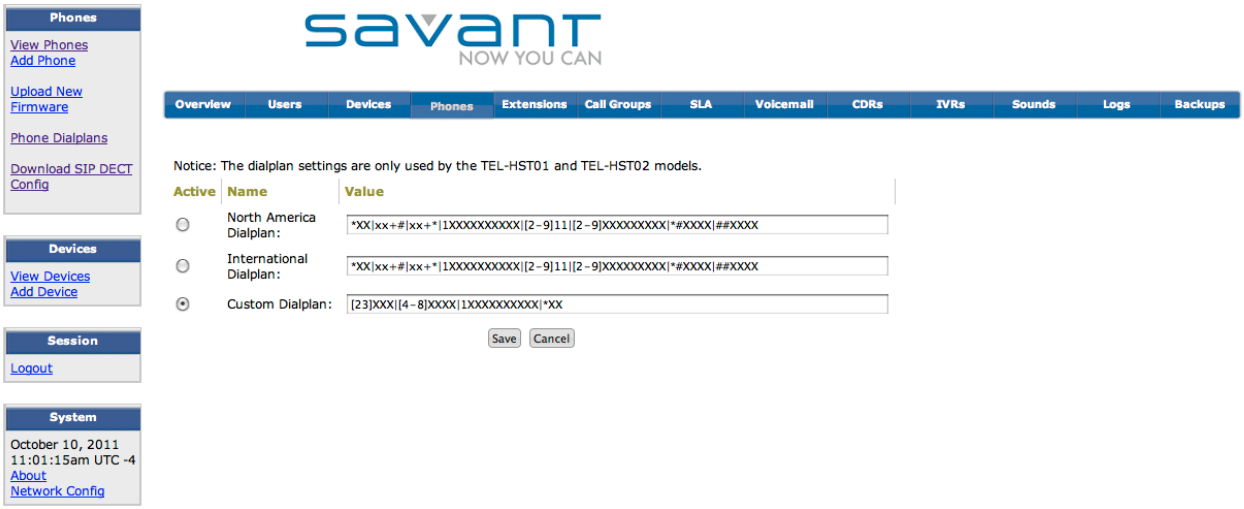
The dial plan in the above example can accept the following:

- Any four-digit dial strings that begins with a 2 or 3
- Any five-digit dial strings that begin with a 4 up to 8
- Any 11-digit dial strings that begin with 1
- Any two-digit code that begins with an asterisk (*).

NOTE: A conflict in the dial plan will cause a call to the wrong destination or even failure. For example, if 2XXX and 202XXXXXX co-exist in the dial plan, the call can never be made to 202XXXXXX destinations.

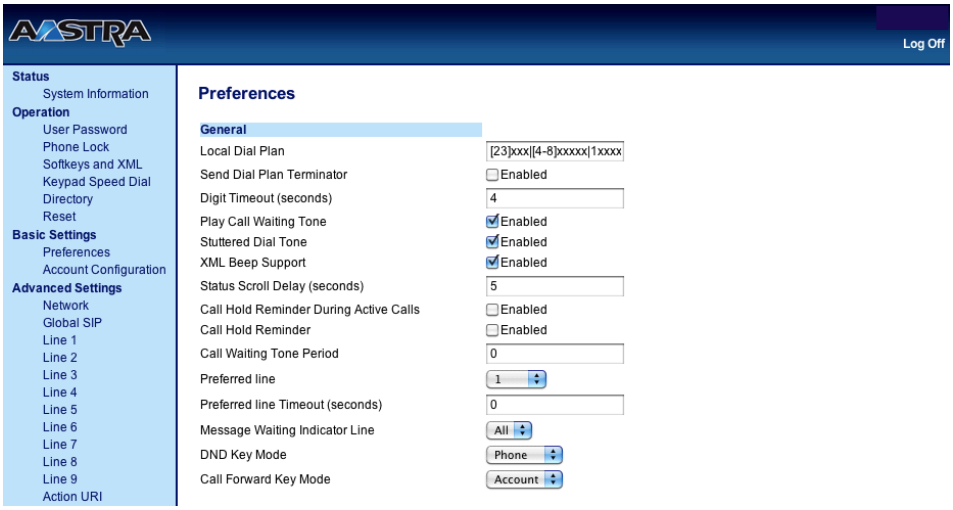
Customization

To access the **Custom Dialplan** field, in Savant Configurator select the **Phones** tab and then click **Phone Dialplans** from the **Phones** side bar on the left. See the next example screenshot.



For **Custom Dialplan** enter the characters applicable to the dial plan and then click **Save**.

You can verify the dial plan from phone's web user interface under **Basic Settings**->**Preferences**. (for login details see *Adding a Savant Wired IP Phone as a Phone*.

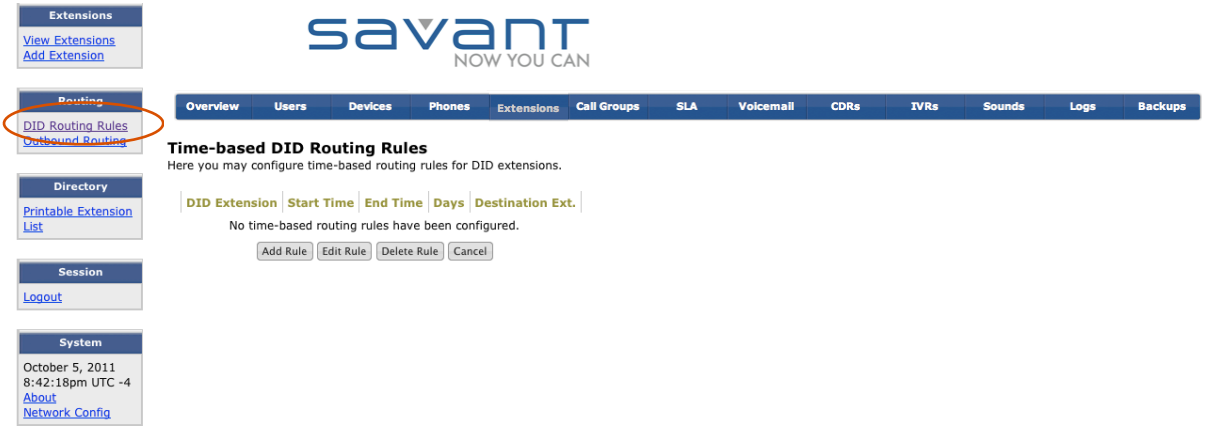


Setting Up Time-of-Day Routing

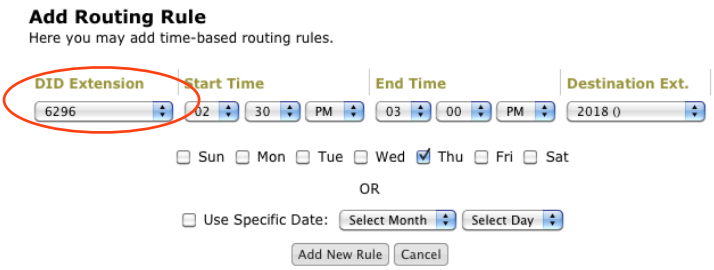
Time of the day routing allows a user to direct incoming calls from Central Office (CO) lines to different destinations based on the time of the day.

To set up the time-of-day routing in Savant Configurator, do the following.

1. Click the **Extensions** tab.
2. Click **DID Routing Rules** from the **Routing** side bar on the left.



3. Click **Add Rule** button to open the **Add Routing Rule** page.
4. From the **DID Extension** drop-down list (circled in the next screenshot), select a value.

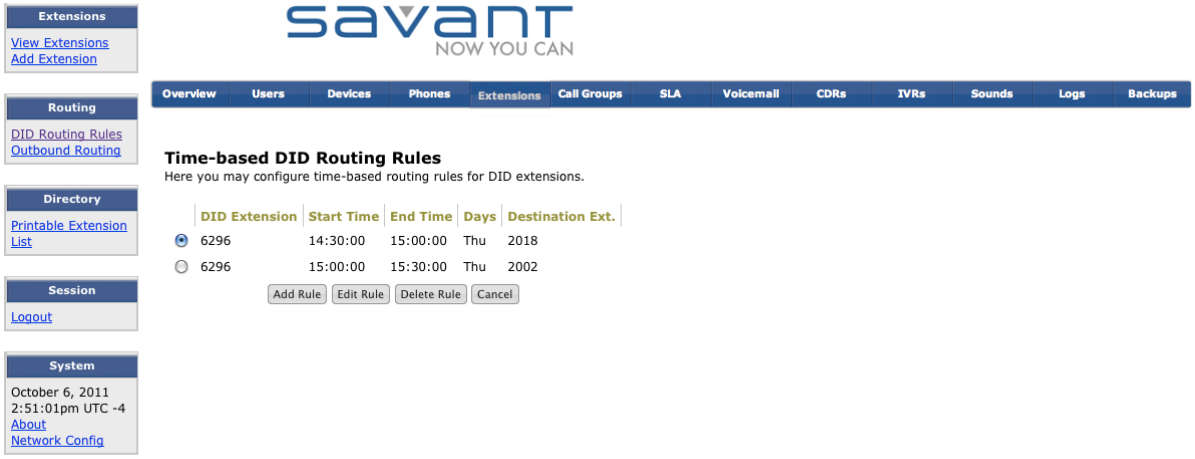


5. Use the next table to enter or select values for the fields on the **Add Routing Rule** page.

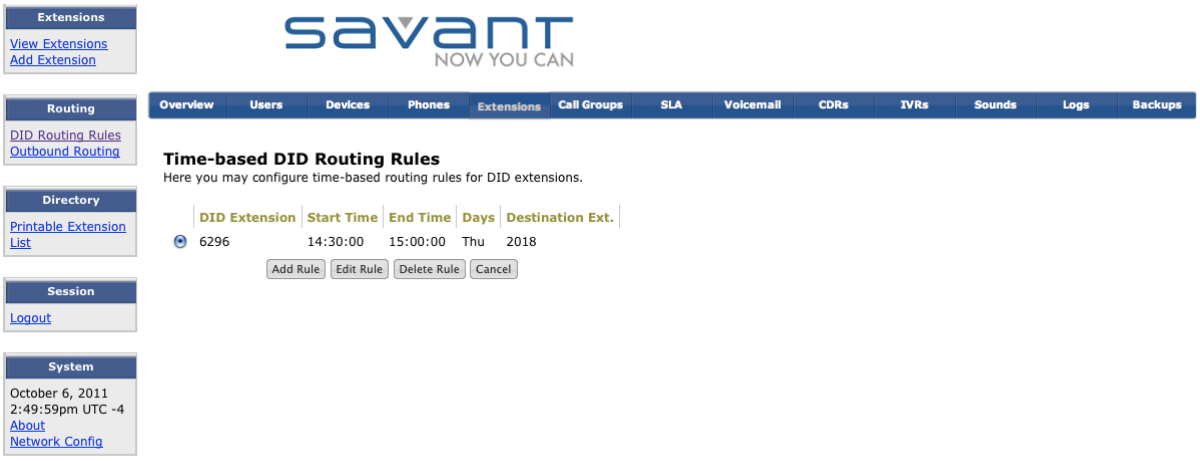
Field	Description
DID Extension	Select from the list the incoming CO line to which the rule should apply. Choose 6296 for line 1, 6297 for line 2, 6298 for line 3, or 6299 for line 4.
Start Time	Select the desired start time.
End Time	Select the desired start time.
Destination Ext.	Select a desired destination extension.

6. Check the box for the day or specific date the rule should take effect.
7. Click **Add New Rule.**

8. Confirm the rule has been added by clicking **DID Routing Rules** from the **Routing** side bar on the left. The new rule should be displayed on the **Time-based DID Routing Rules** page.



9. Repeat steps 3-7 to add more rules, if required.
10. For the example shown in the next screenshot, on every Thursday from 2:30 PM to 3:00 PM, the call coming from CO line 1 will terminate on extension 2018 only. On every Thursday from 3:00 PM to 3:30 PM the call incoming from CO line 1 will terminate on extension 2002 only. The rest of the time the call will be routed normally as indicated from **Extensions** page.



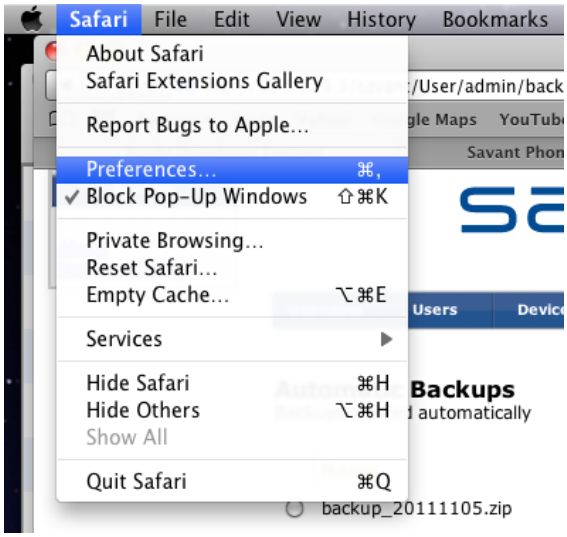
Performing a Backup for the Savant PBX

The backup function allows you to save your Savant PBX configuration. If the system needs to be reset to the factory default settings or the hardware itself needs to be replaced, a backup file allows you to restore the system as it was at the time the backup file was generated.

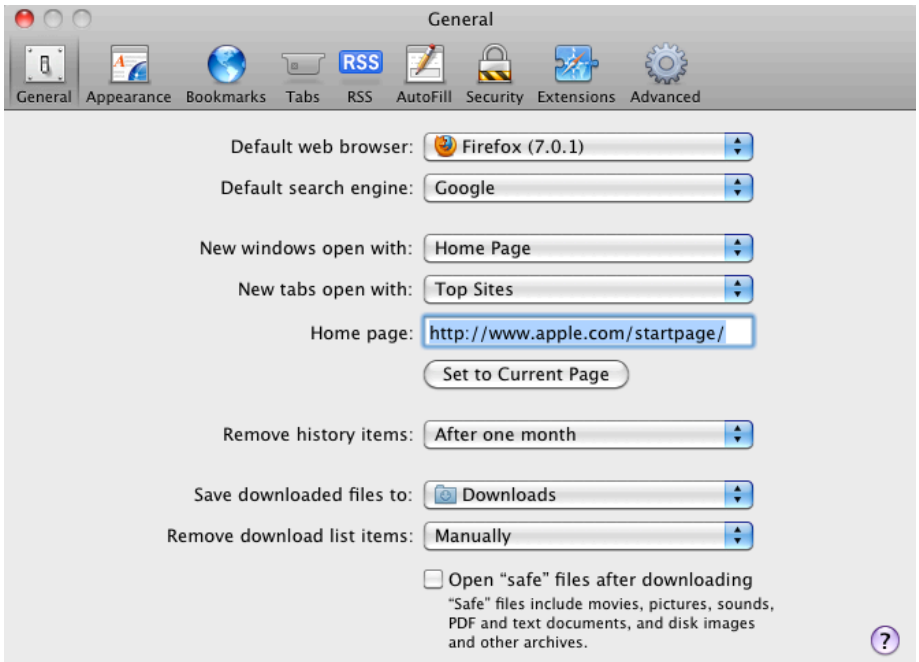
This procedure assumes you have been using Safari as your web browser to open Savant Configurator.

To create a backup of your Savant PBX configuration, do the following.

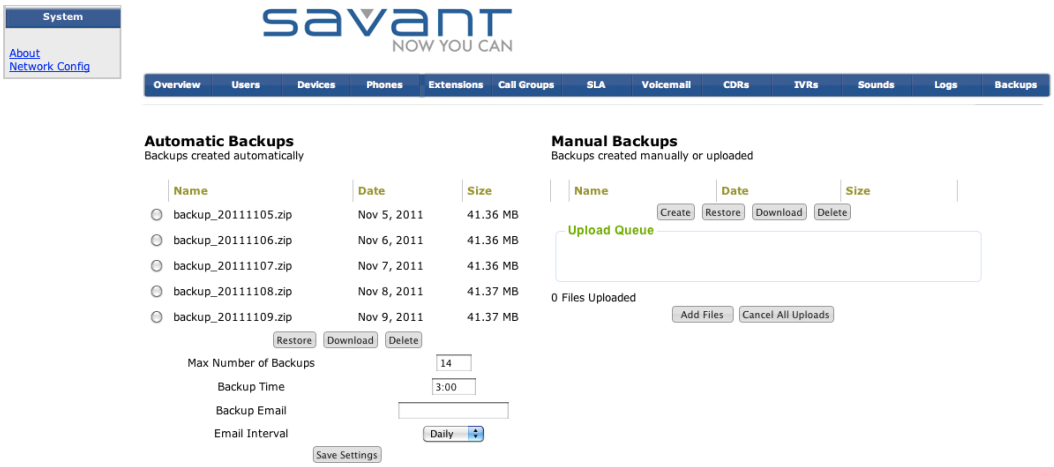
1. In Safari go to the menu: **Safari** > **Preferences**.



2. On the **General** window, ensure the checkbox for **Open "safe" files after downloading** is unchecked (blank). See the next screenshot.



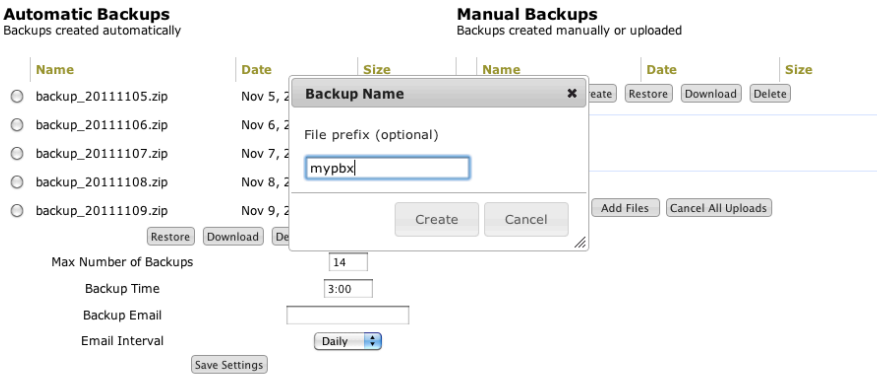
3. Click the **Backups** tab from Savant Configurator.



The left side of the page shows backups automatically generated by the system. By default, a backup file is generated everyday at 3:00 AM, and the system keeps the backups for the last 14 days. If you want to download a automatically generated backup file, go to step 8.

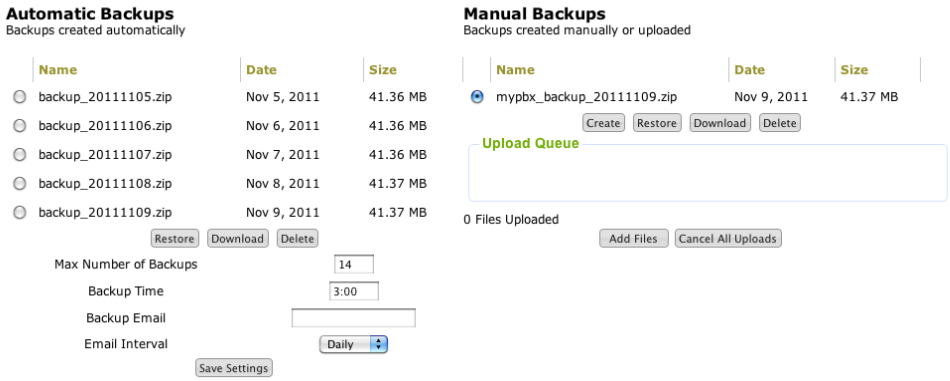
4. If you want to manually generate a backup file, click **Create** button under **Manual Backups.**
5. On the pop up window, enter a name that you want to use as a prefix on the backup file, which will be named <*name*>_backup_<date>.zip.

   For example, if you create a backup on November 9, 2011 and enter *mypbx* as the prefix then the backup file name will be *mypbx_backup_20111109.zip*.



6. Click **Create**. The new backup file will display on the backups page in Savant Configurator in a few minutes.

7. Confirm that the backup file is shown under **Manual Backups**.



8. Select the backup file you want to download by clicking the radio button beside the file.
9. If an automatic backup is selected, click **Download** under **Automatic Backups**. If a manually generated backup is selected click **Download** under **Manual Backups.**
10. The file should be downloaded to the Downloads folder of the computer running Savant Configurator.

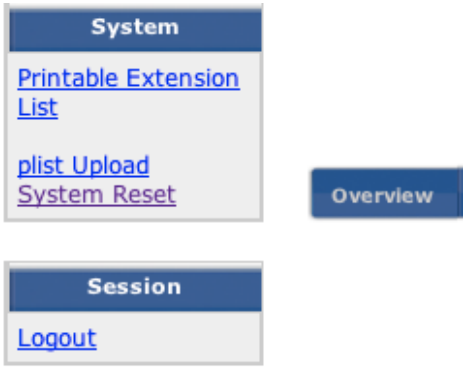
Restoring the Savant PBX Configuration

The restore function allows you to restore the Savant PBX with a previously saved configuration using the backup function described in Performing a Backup for the Savant PBX. The Savant PBX can be set up with minimal configuration effort if the system has to be reset to the factory default settings or the hardware itself has to be replaced. Note that the restore is intended to work on the same installation from which the backup file is generated.

When performing a restore of a Savant Configurator configuration, ensure that you are applying the restore to a clean system.

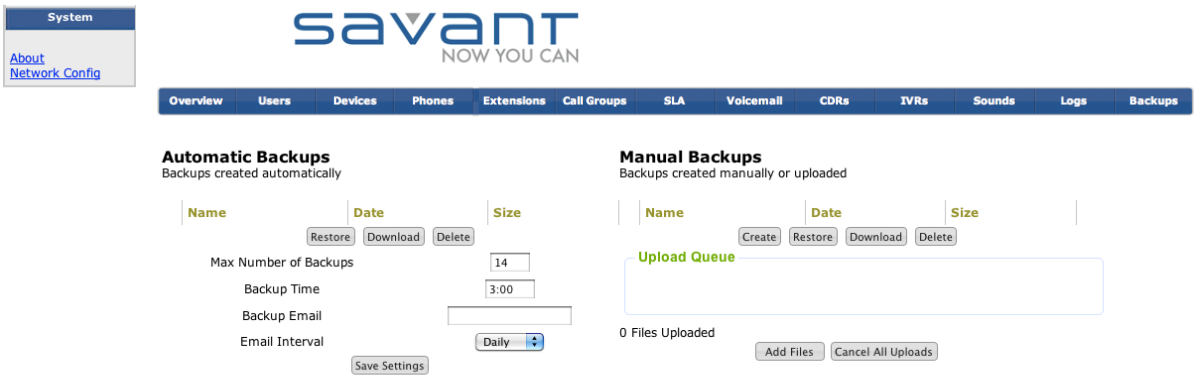
To restore your Savant PBX configuration, do the following.

1. Select **System Reset** from the side bar on the **Overview** page.

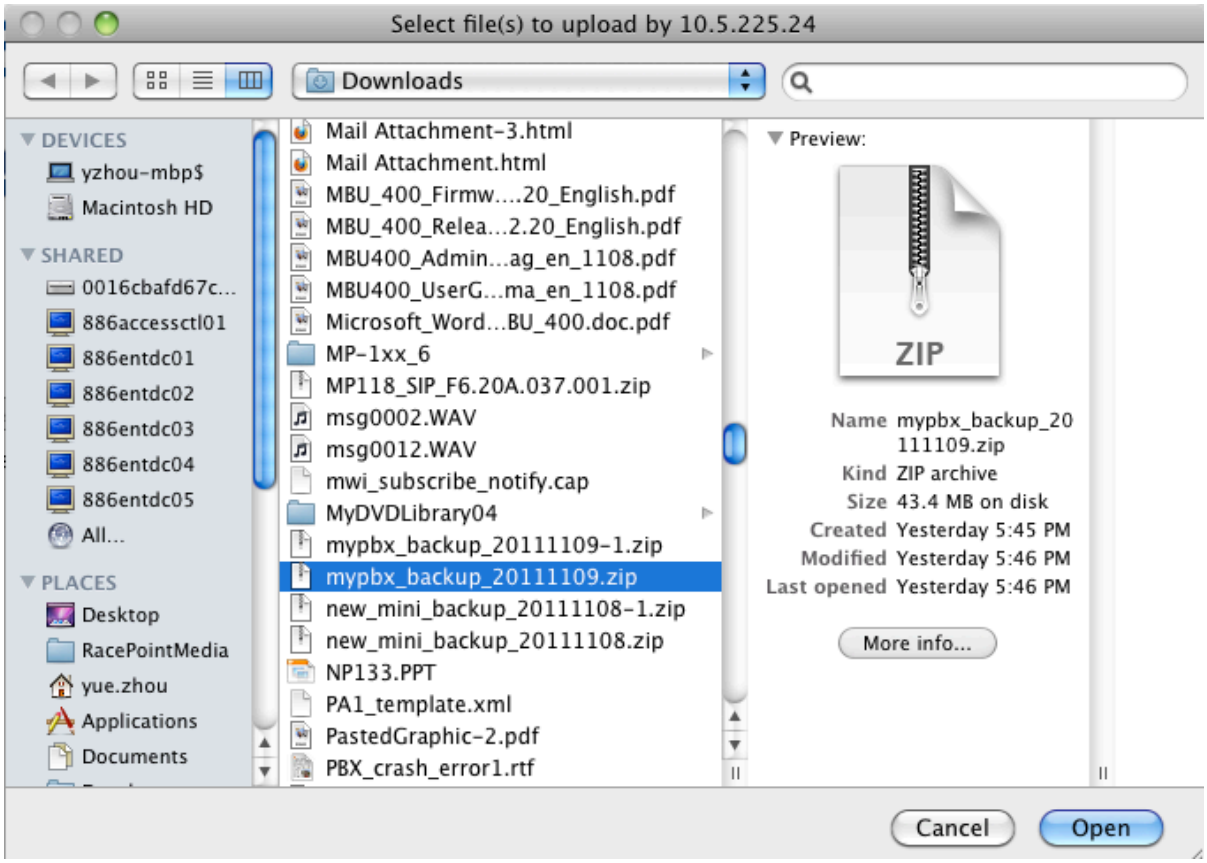


   If the physical PBX is changed, ensure that the new PBX has the same IP address as the one it replaces.

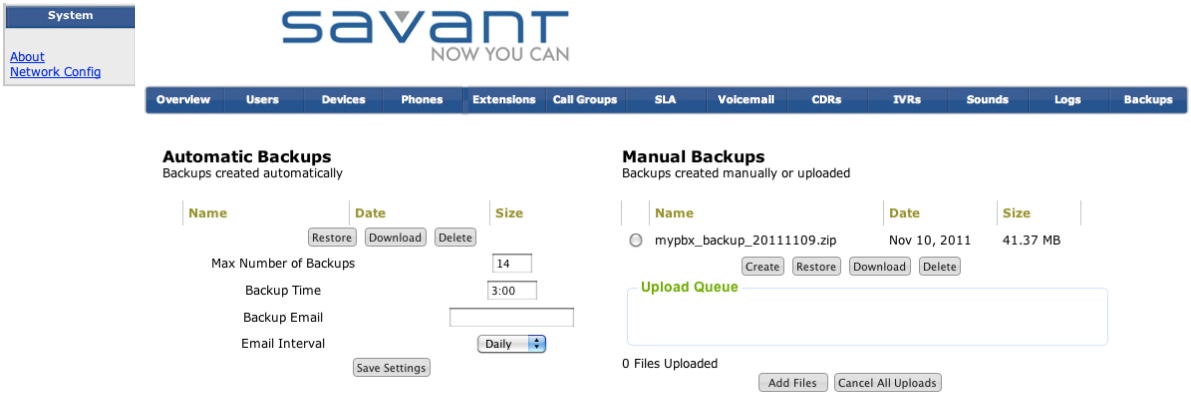
2. Click the **Backups** tab.



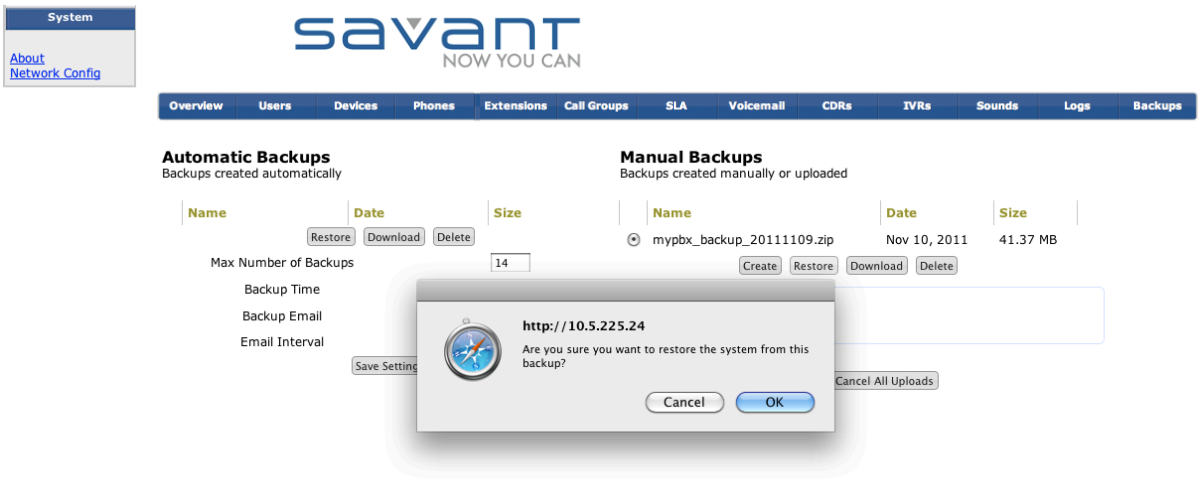
3. Click the **Add Files** button.
4. Select the file you want to use to restore then click **Open** button. See the next screenshot.



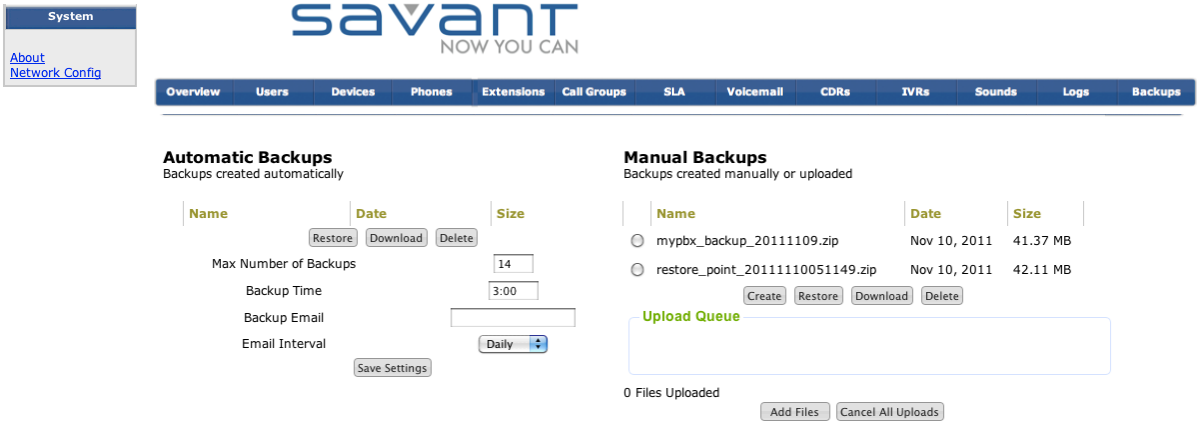
There should be a progress bar showing the upload process and the file should show up under **Manual Backups** after the upload completes.



5. Under **Manual Backups** click the radio button for the backup file you want to use to restore the system, then click **Restore**. See the next screenshot.

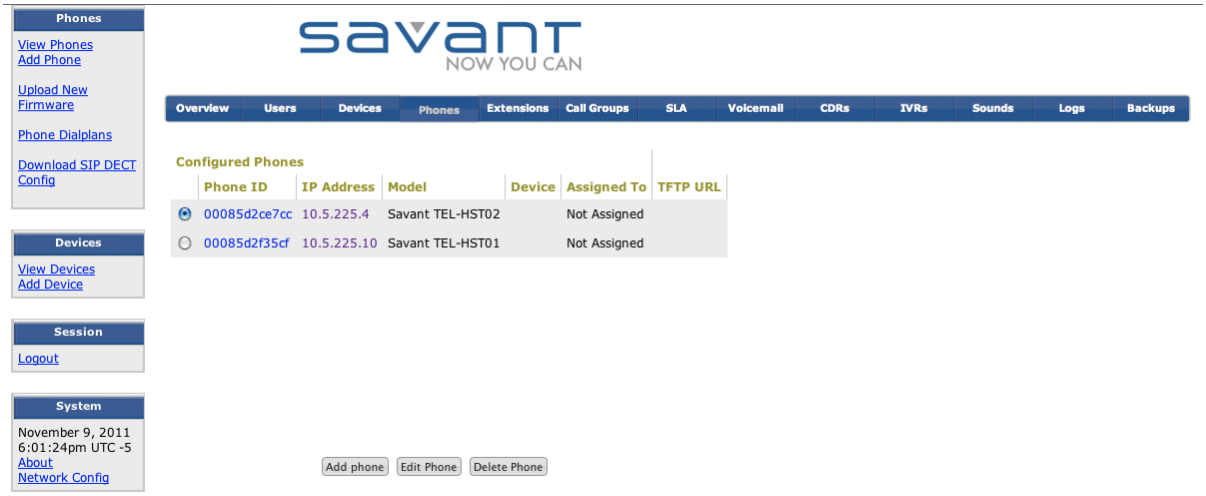


6. Click **OK** on the pop up window.
7. Wait until a restore_point_<date> file shows up under **Manual Backups**.



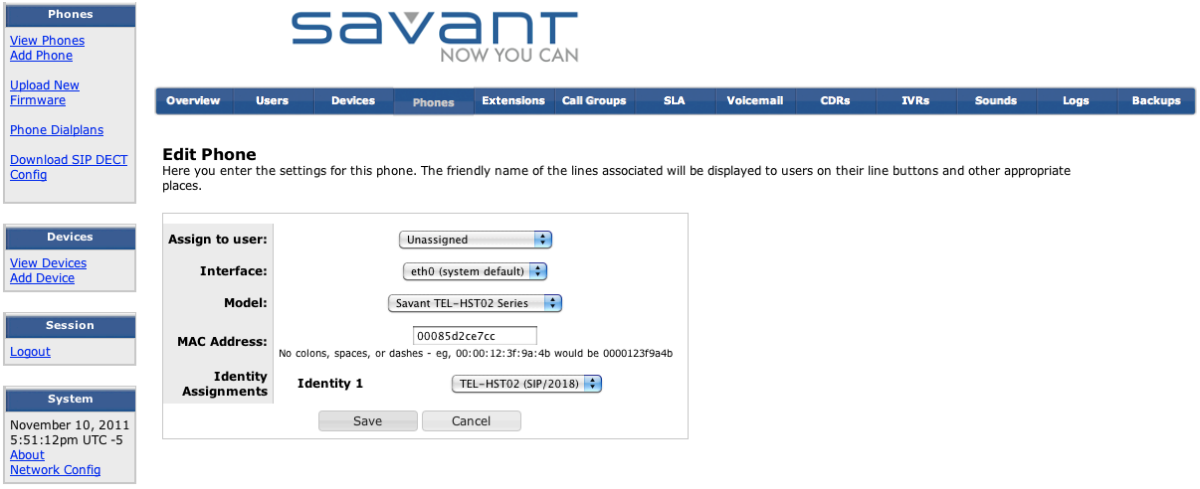
8. Check **Devices**, **Extensions**, **SLA**, **Voicemail** and **Call Groups** page, ensure the configurations are what you expect.

9. Click **Phones.**



Note that the **Device** field is empty. After performing a restore, a device must be assigned to each phone listed on this page.

10. Click the radio button beside a phone, then click **Edit Phone.**



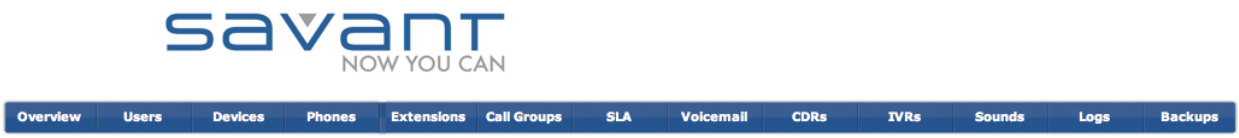
11. Select one device from **Identity 1** selection list, click **Save**.

12. Restart the phone. For details on restarting the phone, see the procedure, *Uploading the Configuration to the Wired Phone*.

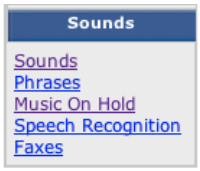
Configuring Music-On-Hold

The only sound format that the Savant PBX supports for the music-on-hold feature is ***MP3***.
To change or customize the music played while a call is on hold, do the following using Savant Configurator.

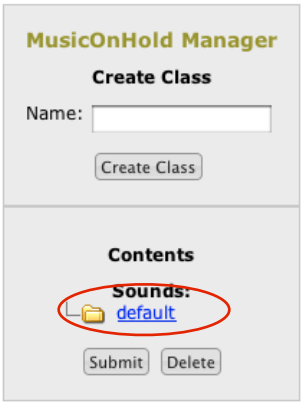
1. Click the **Sounds** tab.



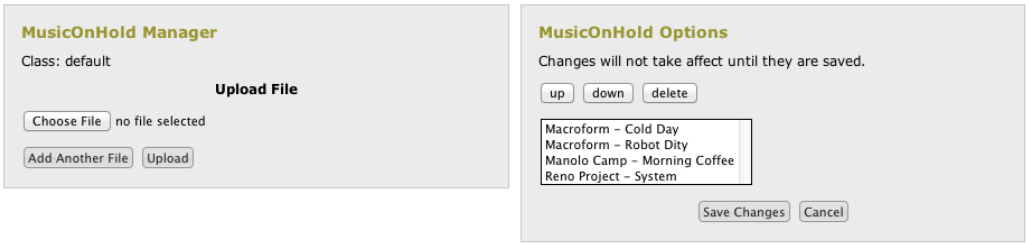
2. From the **Sounds** sidebar on the left click **Music On Hold**.



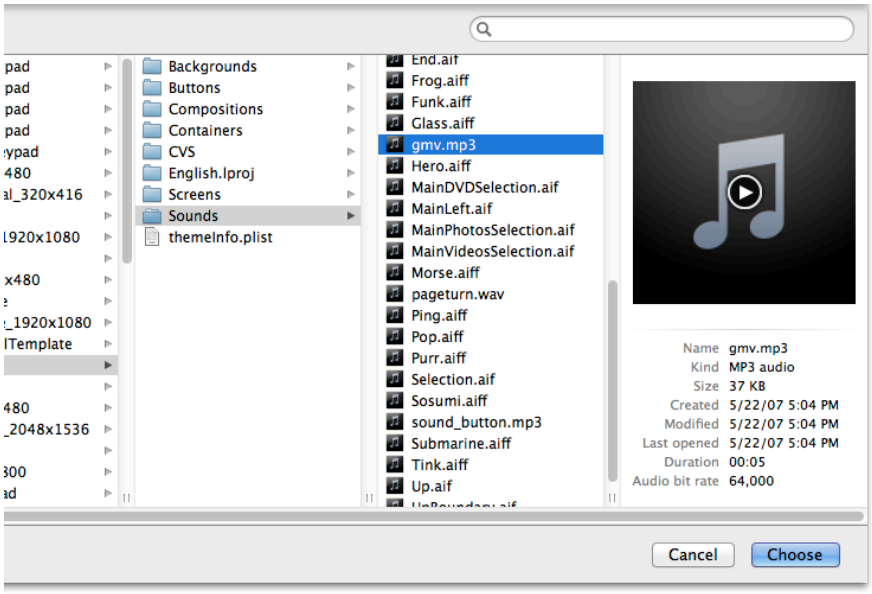
3. Click **default** (circled in the next screenshot).



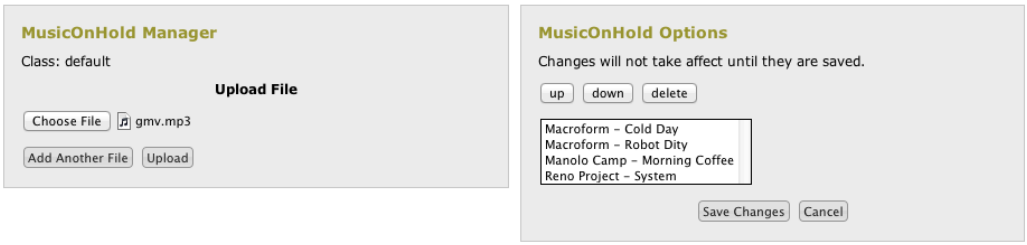
4. Under **MusicOnHold Manager**, click **Choose File**.



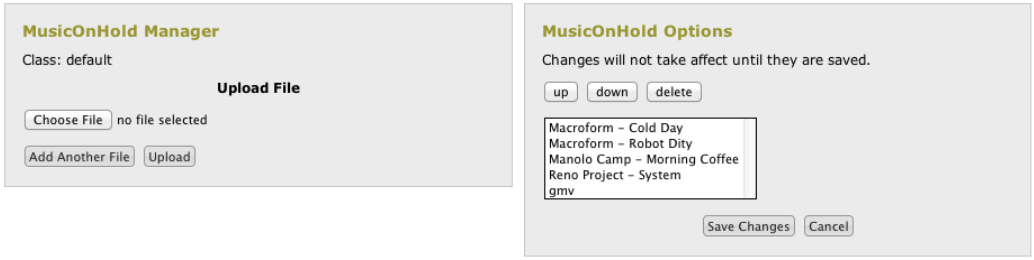
5. Highlight the music file you want to use for music-on-hold. *Note that the file must be an *.mp3 file*.



6. Click **Choose**.



7. If more music files are required, click **Add Another File**, repeat steps 4 and 5.
8. Click **Upload**.
9. All music files, including just added ones, should show up under **MusicOnHold Options.** Highlight one then click the **up**, **down**, or **delete** button to change the order or delete it from the system.



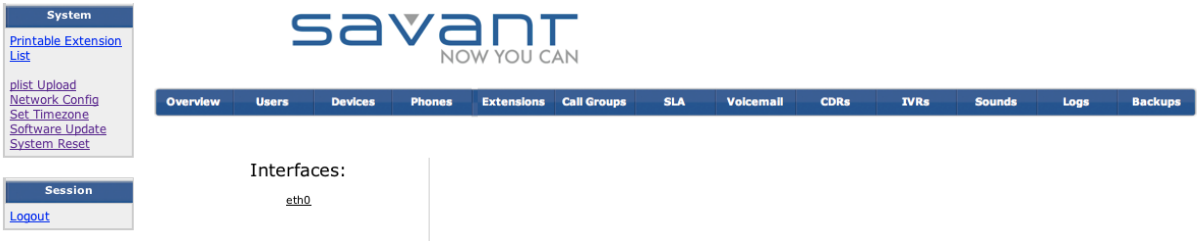
10. Click **Save Changes**.
11. Wait for a couple of minutes and then verify that the music file has been changed.

Changing PBX Network Configuration

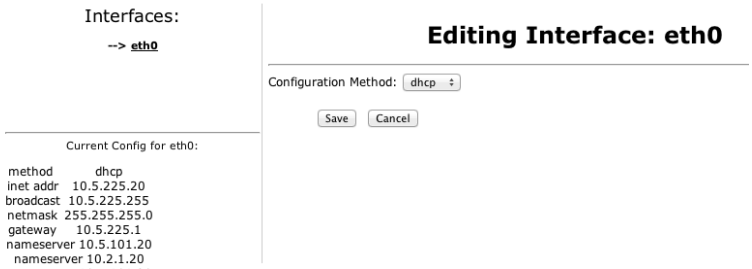
The Savant PBX network configuration can be changed using Savant Configurator. A Dynamic Host Configuration Protocol (DHCP) IP address or static IP address can be assigned to the PBX.

To change the PBX network configuration, do the following.

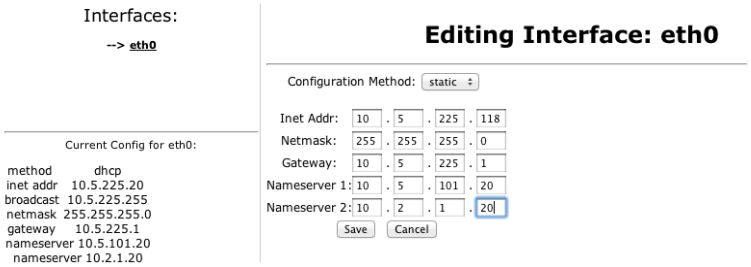
1. On the **Overview** page, click the **Network Config** from **System** sidebar on the left.



2. Click **eth0**. Note that the current network configuration is displayed on the left side.
3. For the **Configuration Method** select an option from the drop-down list. In the next example screenshot the IP address can be changed from Dynamic Host Configuration Protocol (DHCP) to a static assigned IP address.



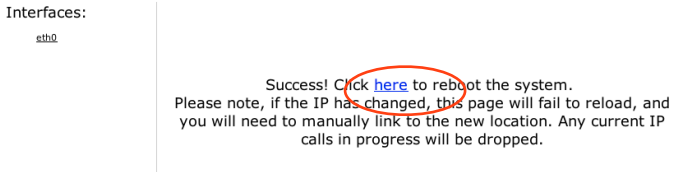
4. Select **static** for **Configuration Method** to open more options on the **Editing Interface** page. See the screenshot on the next page.



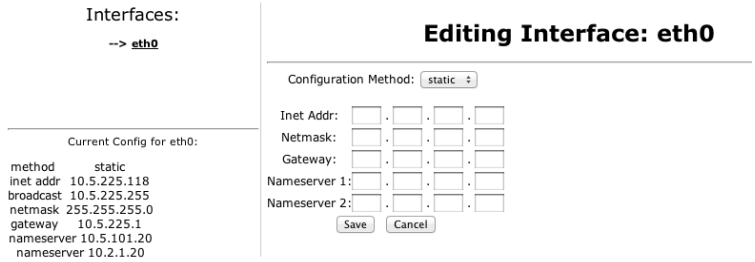
5. Use the next table to enter or select values for the fields on the **Editing Interface** page.

Fields	Value
inet addr	IP address to be assigned to Savant PBX
netmask	Netmask in your network. Check with your network administrator. (Typically this will be the same as displayed in current configuration.)
gateway	Gateway IP in your network. Check with your network administrator. (Typically this will be the same as displayed in current configuration.)
nameserver 1	DNS server in your network. Check with your network administrator. (Typically this will be the same as displayed in current configuration.)
nameserver 2	Second DNS server in your network. Check with your network administrator.(Typically this will be the same as displayed in current configuration.)

6. Click **Save.**
7. Read the message on the page then click **here** (as shown in the next screenshot) to reboot the system.



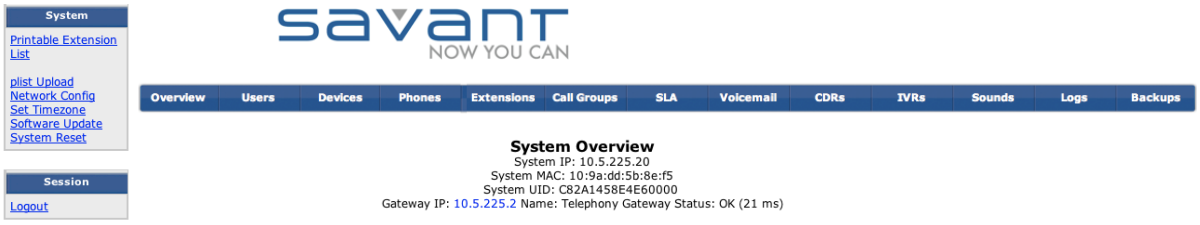
8. After the system reboot, open Savant Configurator and verify the change by navigating to the **Overview** page, clicking **Network Config** from the **System** sidebar on the left, and then clicking **eth0**.



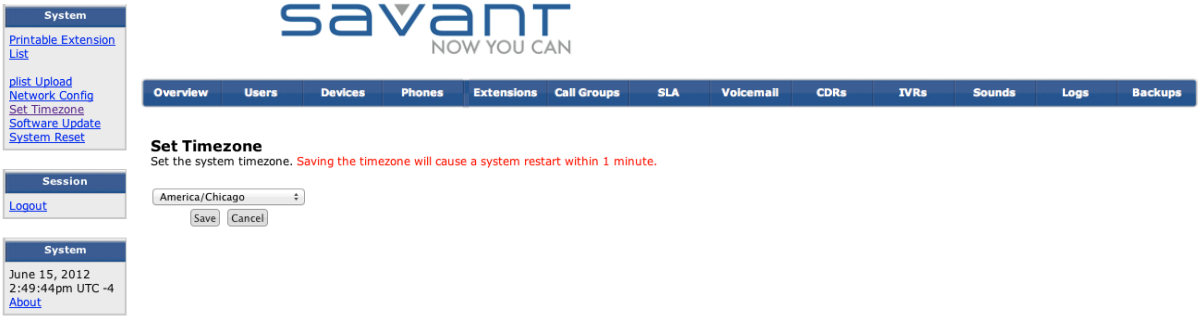
Setting Local Time Zone on PBX and Wired Phones

To set the local time zone for the Savant PBX and TEL-HST01 and TEL-HST02 phones using Savant Configurator, do the following.

1. On the **Overview** page, click **Set Timezone** from **System** panel on the left.



The current time zone information is displayed, as shown in the next screenshot.



2. From the drop-down list select the city that is in your local time zone. For example, choose America/New_York for the US Eastern time zone, or America/Los_Angeles for US Pacific time zone.

3. Click **Save.** This will cause the system to restart.
4. If the time zone is changed after the wired phones—TEL-HST01 and TEL-HST02—are configured, restart the TEL-HST01 and TEL-HST02 phones to enable the time zone change on the phones.

Configuring Additional Gateways

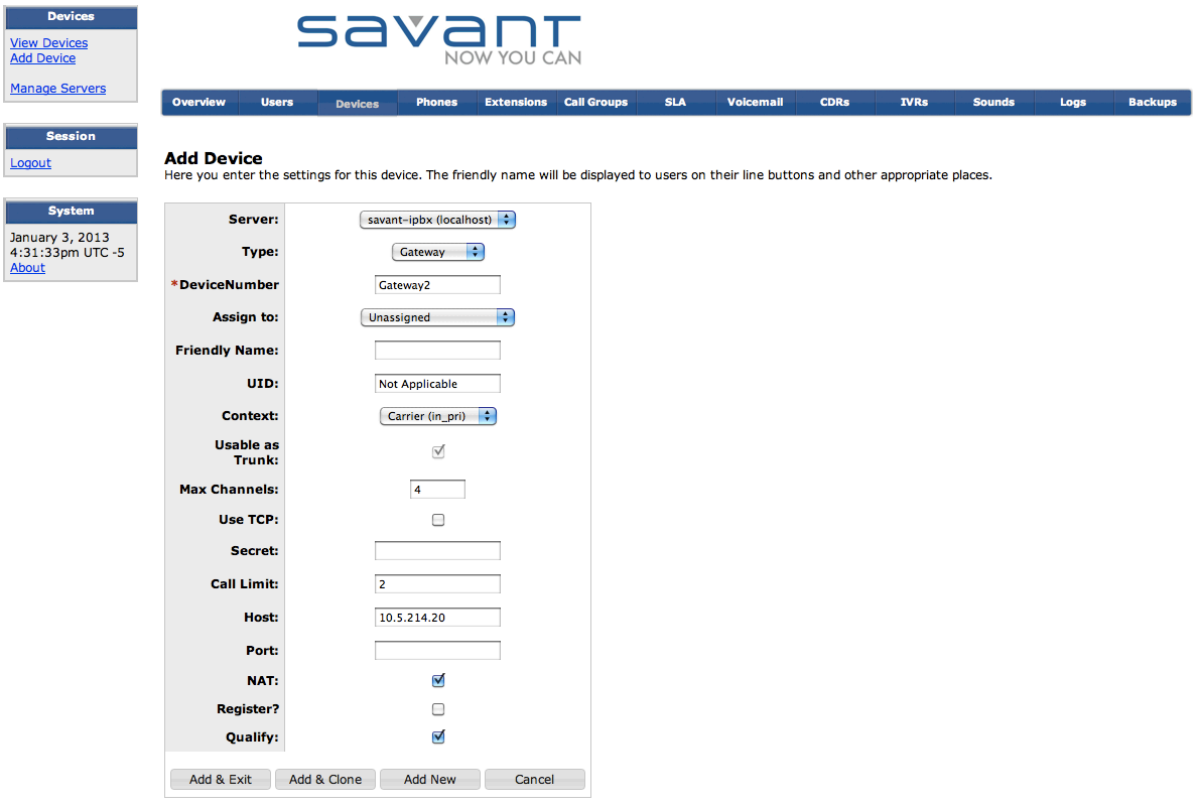
Use the information in the next table as a reference when adding the Savant gateways as devices in the PBX system using Savant Configurator. Each gateway has the following lines and Shared Line name assignments. Note that the Gateway Index is the index associated with the gateway in RacePoint Blueprint™.

Gateway Index Assignment

Gateway Index	Physical FXS Port	SLA Name
1	1	Line1
1	2	Line2
1	3	Line3
1	4	Line4
2	1	Line5
2	2	Line6
2	3	Line7
2	4	Line8
3	1	Line9
3	2	Line10
3	3	Line11
3	4	Line12
4	1	Line13
4	2	Line14
4	3	Line15
4	4	Line16
5	1	Line17
5	2	Line18
5	3	Line19
5	4	Line20
6	1	Line21
6	2	Line22
6	3	Line23
6	4	Line24

To add additional gateways to a Savant PBX system that already has a gateway configured, do the following.

1. Click the **Devices** tab.
2. Click **Add Devices** to open the **Add Device** page.



3. Use the next table to enter or select values for the fields on the **Add Device** page. See the previous screenshot with the example data.

Fields	Value
Type	Select Gateway
DeviceNumber	Enter a unique name for this gateway. Savant recommends using the gateway index and the end of the name , for example Gateway2.
Friendly Name	For **Friendly Name** enter the same value you entered for the **Device Name**
Max Channels	Enter 4.
Host	Enter the IP address of the gateway

4. Click **Add & Exit**.

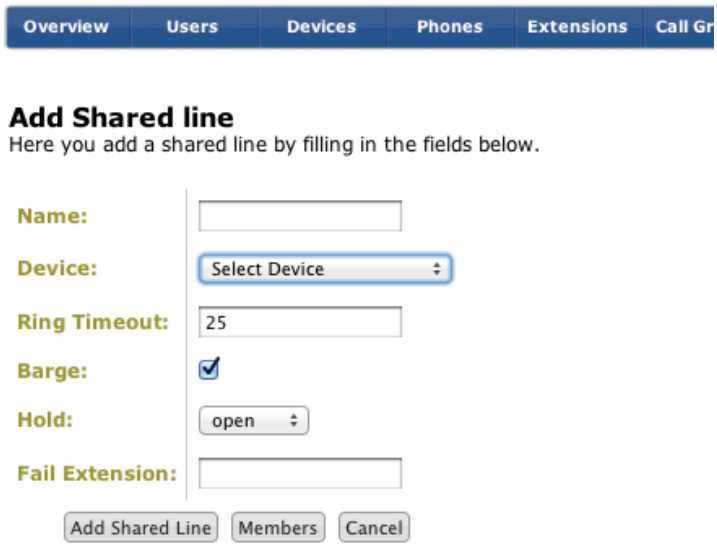
If a Shared Line Appearance Group (SLA) group must be assigned to multiple gateways, see *Adding an SLA to Multiple Gateways*.

Adding an SLA to Multiple Gateways

Depending on the gateway index and lines you want to add , the corresponding Share Line Appearance (SLA) groups must be assigned. Using the table, Gateway Index Assignment enter the associated SLA names when creating the SLA Group.

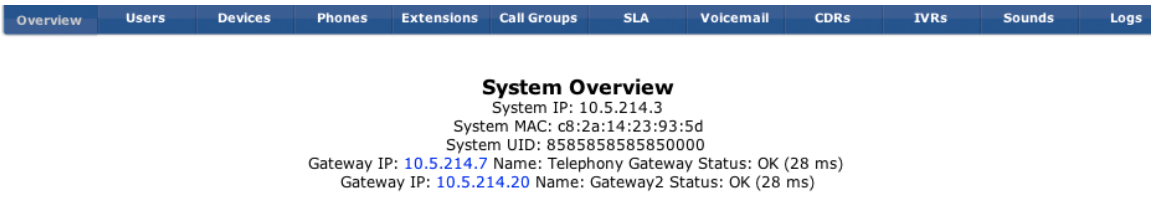
To add an SLA to multiple gateways, do the following.

1. Click **SLA** tab.
2. Click **Add SLA**.



3. For **Name** use the table, Gateway Index Assignment. Ensure that the name is typed correctly.
4. For **Device** select the required gateway from the drop-down list.
5. Click **Add Shared Line**.

   After adding at least one SLA group to the gateway the **Overview** page will show the gateway.



After all the SLA lines and associated gateways have been added, you can add endpoints to different SLA groups. See *Adding an iOS Device or Phone to an SLA*.

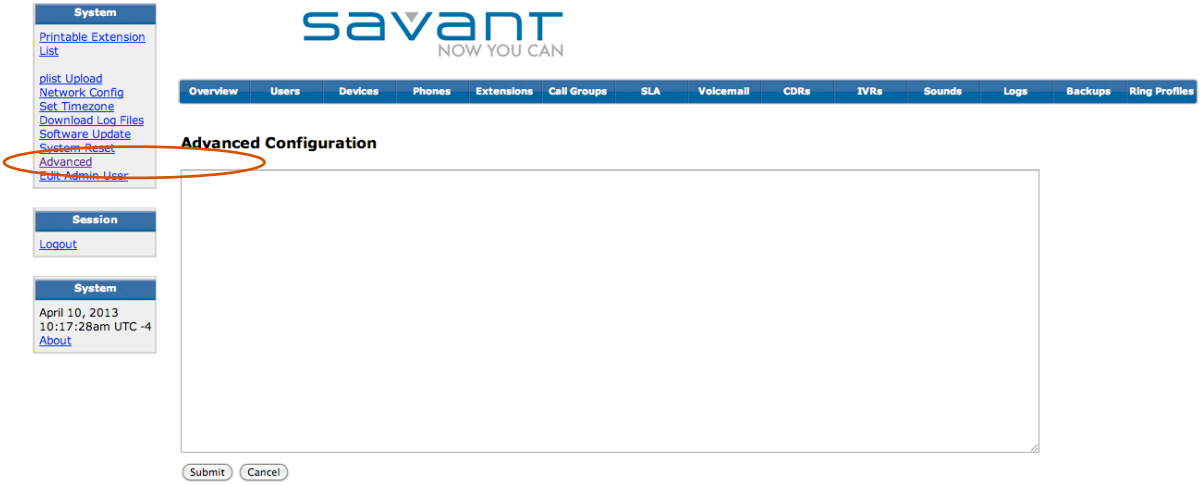
Performing Advanced Configuration

This feature is intended to simplify configuring additional parameters on a global basis or per device using Savant Configurator. By using Advanced Configuration you avoid the need to manually change configuration files. This feature is not to be used without previously consulting with Savant Technical Support. An incorrect parameter could negatively affect the Savant PBX behavior.

Global

To change a global parameter in a Savant PBX configuration, do the following.

1. Click the **Overview** tab.
2. In the left pane, click **Advanced**.

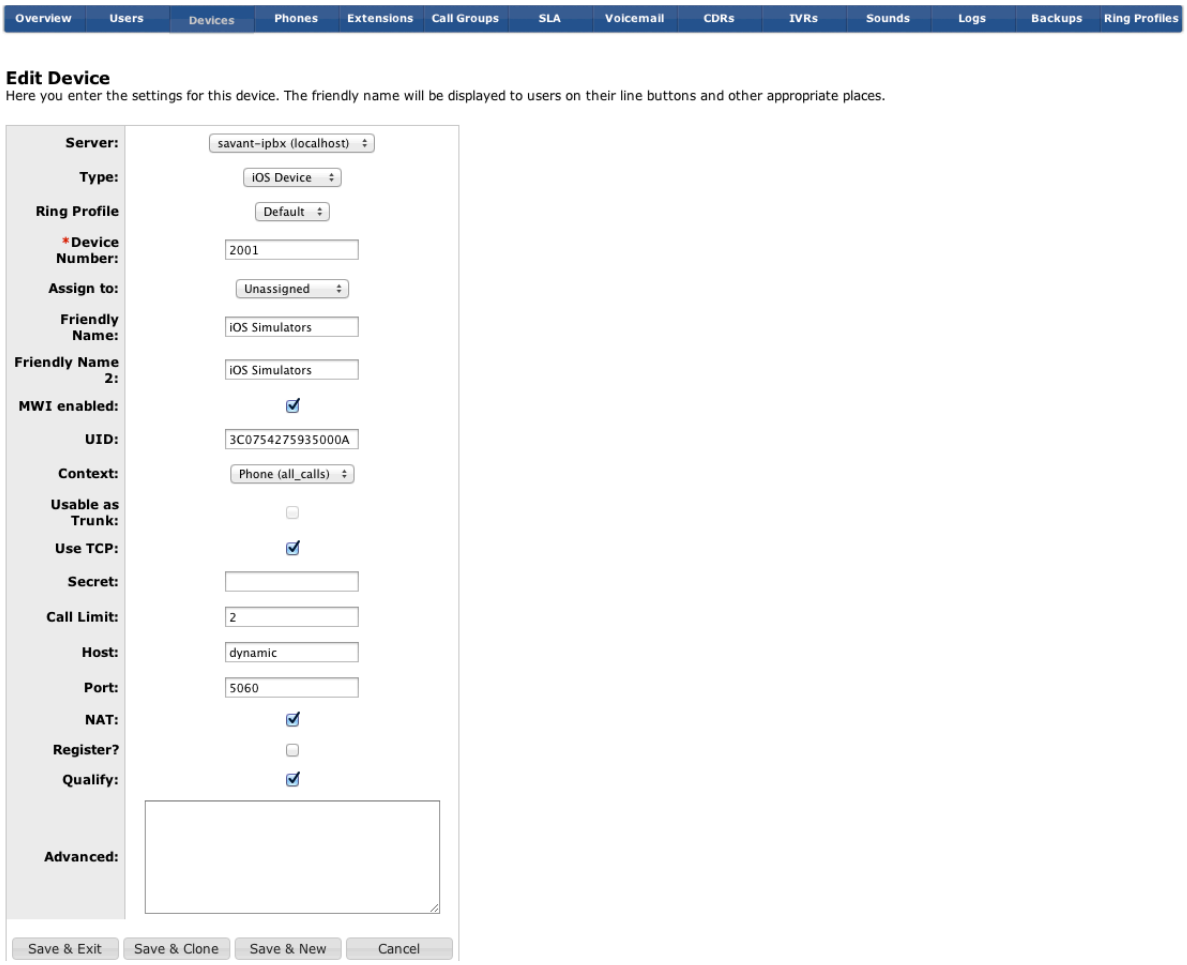


3. After consulting with Savant Technical Support enter the appropriate parameters.
4. Click **Submit.**

Device Configuration

To change a device parameter in a Savant PBX configuration, do the following.

1. Click the **Devices** tab.
2. Select the appropriate device.
3. Click **Edit.**



4. With the supervision of the Savant Technical Assistance Center enter the appropriate parameter for the device being configured.

5. Click **Save.**

Configuring Distinctive Ringing

Distinctive Ringing allows you to set different ringing tones on your devices (phones and iOS devices). The Savant phones—TELHST01 or TEL-HST02—are the only hardware phones that support this Distinctive Ringing feature.

With Distinctive Ringing, for example, the ring could be used to differentiate external calls and calls that are originated at the gate (door entry) stations.

Savant Systems offers five stock ringtones including a silent one. The iOS devices also allow the creation of up to four custom mp3 files that can be used as ringtones.

The Distinctive Ringing feature is configured in a Savant system using the following procedures:

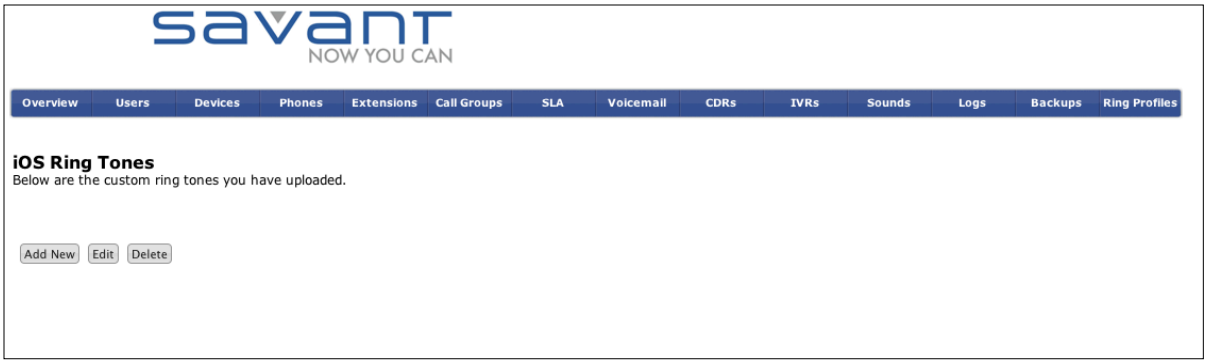
- Configuring a Configuring a Custom *.mp3 File as a Ring Tone
- Creating a Ring Profile
- Assigning a Ring Profile to a Phone or iOS Device
- Configuring Priority Alerting for an SLA Group
- Configuring Priority Alerting for a Call Group
- Distinctive Ring Configuration Examples

Configuring a Custom mp3 File as a Ring Tone

To add custom rings for an iOS device, do the following.

1. Click the **Ring Profiles** tab.
2. In the left pane, click **iOS Ring Tones**.

The **iOS Ring Tones** page opens.



3. Click **Add New**.

4. Use the next table to enter or select values for the fields on the **Upload Ringtone** page.

Field	Description
Name	Name of Custom RingTone. This name will be displayed to the user on the iOS Savant app.
File	Actual audio file. Note that only mp3 files are supported any other audio format will result in no audio being played.

5. Click **Save**.

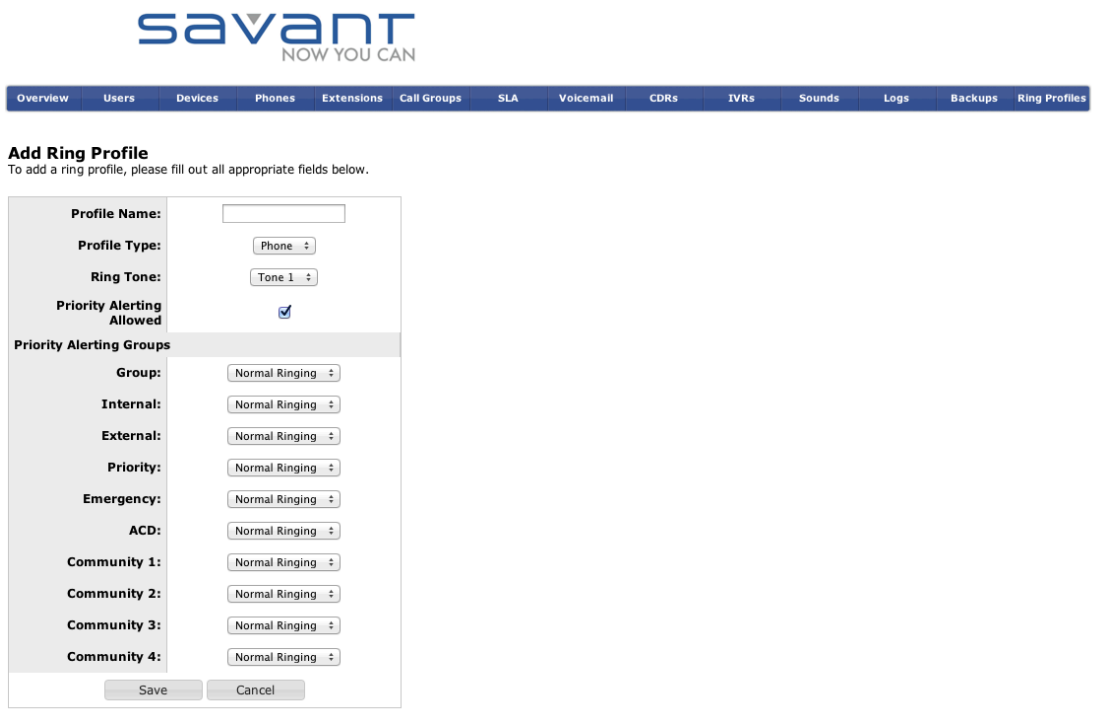
Repeat this procedure for every custom ringtone you want to use.

Creating a Ring Profile

This procedure assumes you have completed the procedure *Configuring Distinctive Ringing*. To create a ring profile, do the following.

1. Click **Ring Profile Tab**.

2. Click **Add New**.



3. Use the next table to enter or select values for the fields on the **Add Ring Profile** page.

Field	Description
Profile Name	Name of group.
Profile Type	Leave as is.
Ring Tone	Select an option from the drop-down box.
Priority Alerting Allowed	Enter the length of time that you want the devices to ring. Recommended: 30 seconds.
Priority Alerting Groups	In here for the group you intent to use , select the proper ring behavior

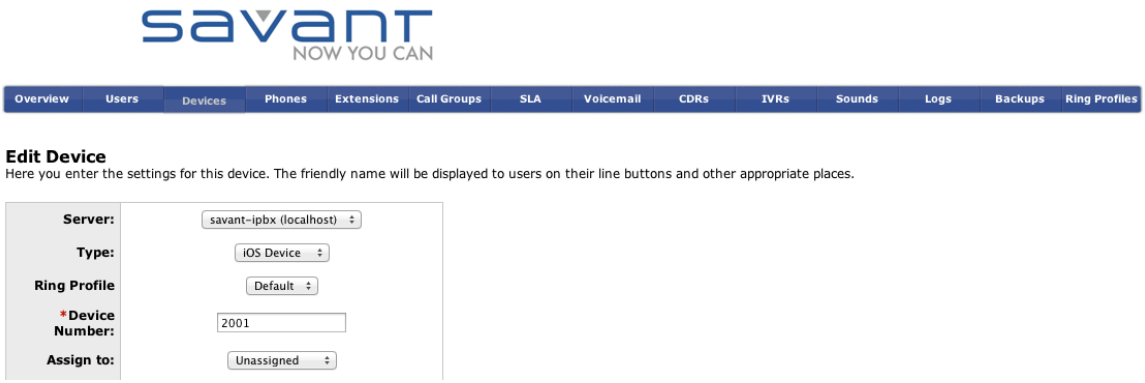
4. Click **Save**.

Assigning a Ring Profile to a Phone or iOS Device

This procedure assumes you have completed the procedure *Creating a Ring Profile*. After ring profiles have been created, you can assign them to a particular iOS device or phone. To assign a ring profile to an iOS device, do the following.

iOS Device

1. Click the **Devices** tab.
2. Select a device from the **Devices** page to open the **Edit Device** page.
3. For **Ring Profile**, select an option from the drop-down list.

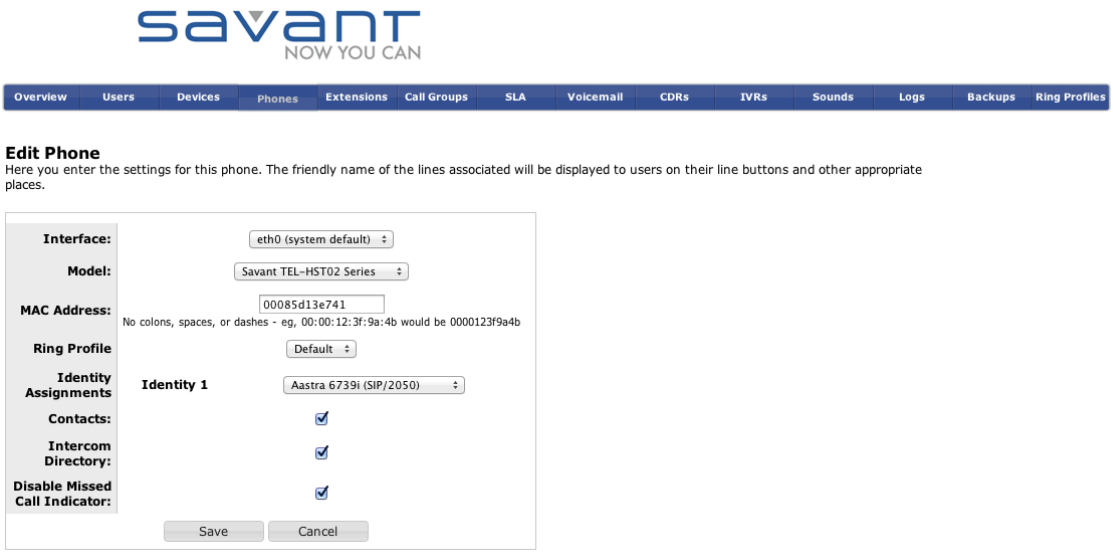


4. Click **Save**.

Phone

To assign a ring profile to a phone, do the following.

1. Click the **Phones** tab.
2. Select a phone from the **Phones** page to open the **Edit Phone** page.
3. For **Ring Profile**, select an option from the drop-down list.



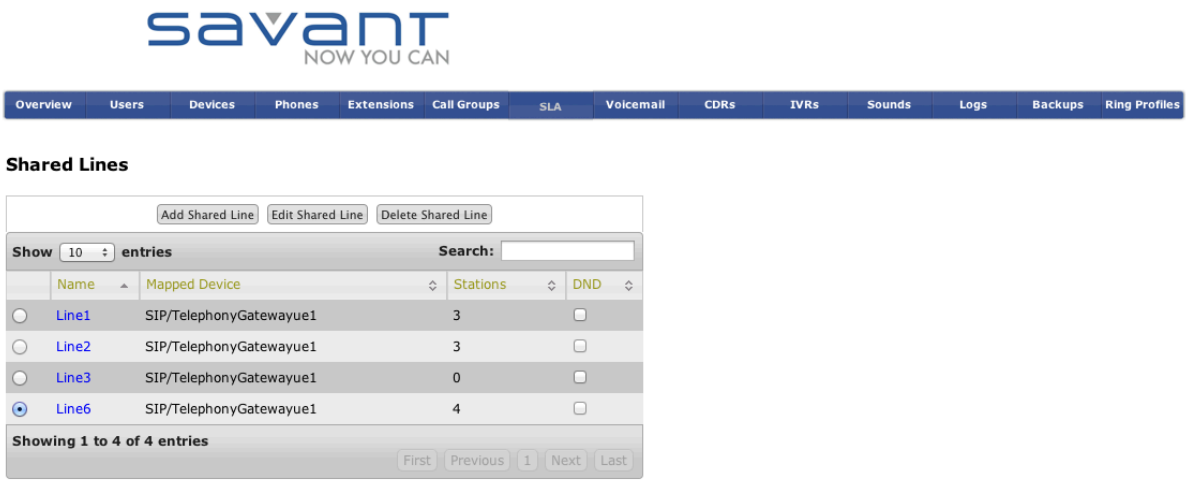
4. Click **Save**.

Configuring Priority Alerting for an SLA Group

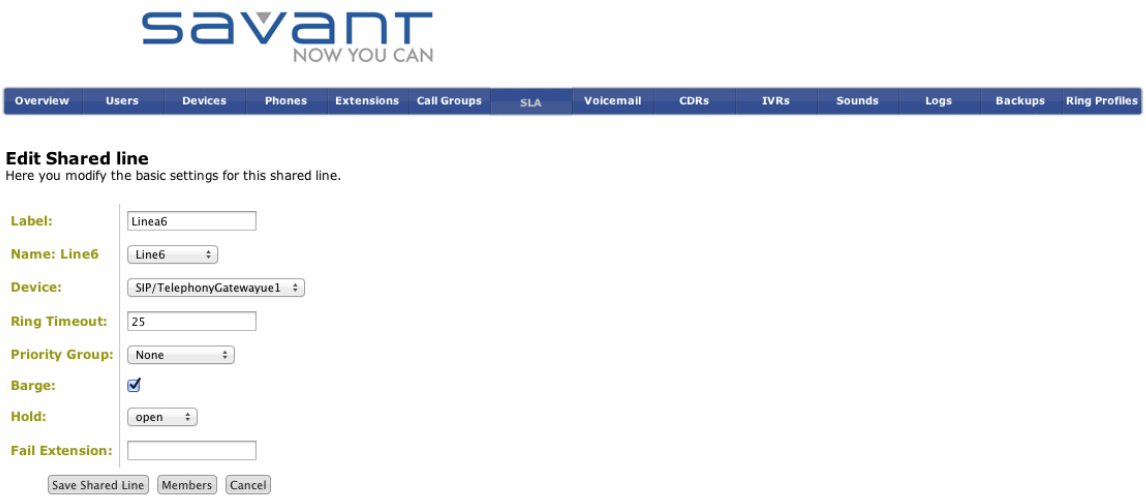
Priority alerting allows certain incoming calls to trigger distinctive ringing. This is done by associating a priority group (alerting group) to either a call group and/or an SLA group, so that member devices will use the applicable ring associated with that call group or SLA group.

To configure priority alerting on an SLA group, do the following.

1. Click **SLA** tab.



2. Select the proper SLA Line and click **Edit Shared Line**.



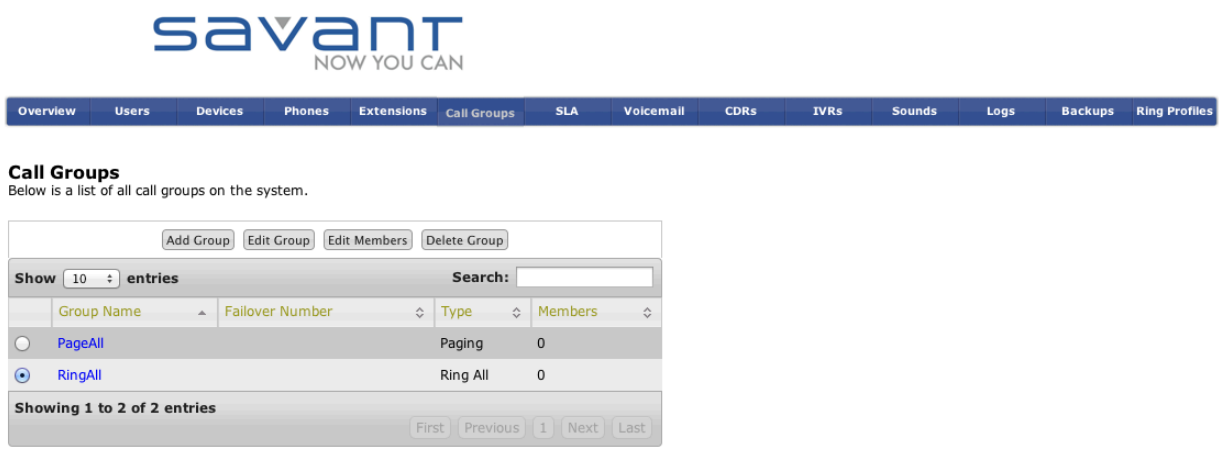
3. Select the Priority Group from the list and click **Save Shared Line**.

Configuring Priority Alerting for a Call Group

Priority alerting allows certain incoming calls to trigger distinctive ringing. This is done by associating a priority group (alerting group) to either a call group and/or an SLA group, so that member devices will use the applicable ring associated with that call group or SLA group.

To configure priority alerting on a call group, do the following.

1. Click **Call Groups** tab.



2. Select the appropriate **Call Group**.

3. Select the **Priority Group** from the drop-down list.
4. Click **Save Group.**

Distinctive Ring Configuration Examples

The following are some examples which demonstrate the use of the Distinctive Ring feature.

Differentiate Calls from the Gate Station with a Different Ring

To differentiate calls from the door entry (gate) station with a different ring, do the following in Savant Configurator.

1. Create a ring profile of **Type**: Phone.
2. Choose a priority alerting group—**Internal**: for example *Bellcore-dr2*.
3. Save the phone profile.
4. Assign this profile to every phone you want to ring differently when the call is coming from the gate station.
5. Open the page for the Call Group associated with the gate station.
6. Edit the Call Group and select *Internal* for the **Priority Group** field.
7. Save.

Now when you receive a call from the door station the phones use a different ringtone.

Differentiate between Two SLA Lines

To differentiate calls between two SLA lines with a different ring, do the following in Savant Configurator.

1. Create a ring profile of **Type**: Phone.
2. Choose a group for SLA 1 and another for SLA 2.
3. Select the applicable tone for each SLA group.
4. Save the ring profile.
5. Assign this profile to all the phones.
6. Open the edit page for SLA 1 and SLA 2 and assign the applicable Priority Group to each SLA.

Now when calls come in from SLA 1 and from SLA 2 the phones will ring differently.

No Ring for a Particular Phone when Calls are Coming from SLA 2

To avoid a phone ringing when a call comes in from a specific SLA group, do the following in Savant Configurator.

1. Create a ring profile of **Type**: Phone
2. Choose a priority alerting group, for example, **Internal** and select the option *Silent*.
3. Save the ring profile.
4. Select the **Phones** tab.
5. Select the phone that should not ring when the call is coming from SLA 2 and assign this profile to that device.
6. Set the **SLA** tab and open the page to edit SLA 2.
7. For the **Priority Group** field, select *Internal* from the drop-down list.
8. Save the ring profile.

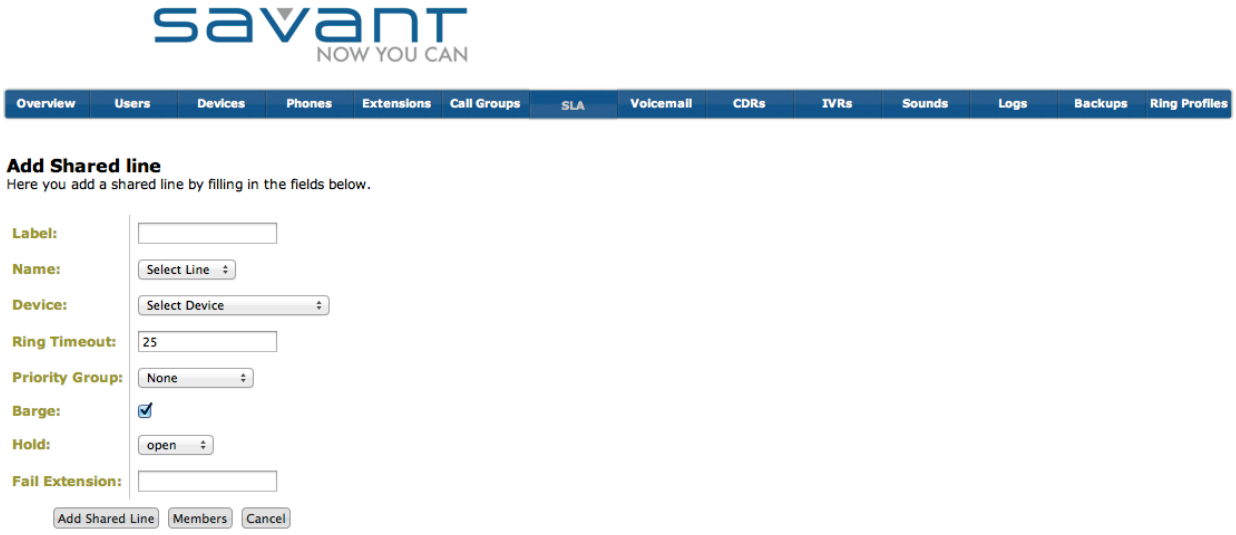
Now when calls are coming in on SLA 2 (which is associated with phone line 2) all the phones but one will ring. However, in any other scenario phones will ring normally.

Shared Lines Label

The name of the Shared Line is separate from the actual Label (displayed name on the devices). Also the SLA Name is provided in a selection list to avoid potential errors on the name of the SLA.

For an SLA created prior to Release PBX 5.2.1 the **Label** field is defaulted to the SLA Name for backward compatibility.

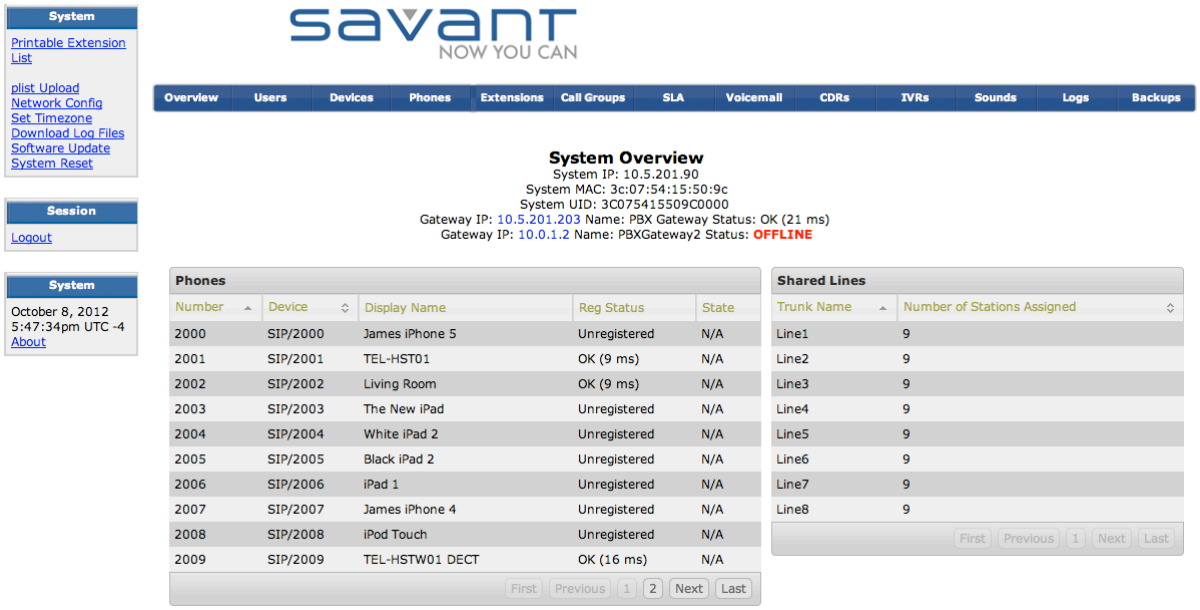
For Release PBX 5.2.1 and later the **Label** is a user defined field, see below:



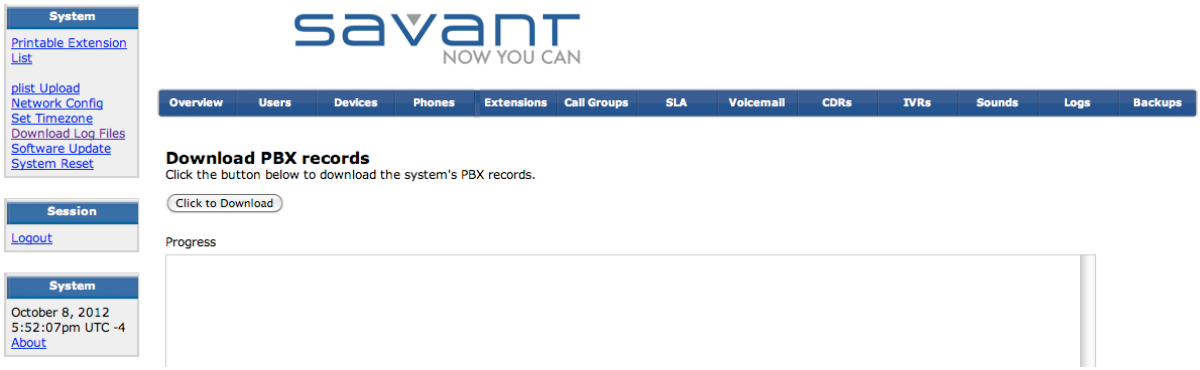
Downloading Log Files to an SDE

To download log files to a Savant Development Environment (SDE), do the following in Savant Configurator.

1. Click the **Overview** tab.



2. From the left sidebar, click **Download Log Files**.



3. Press the button **Click to Download**.
4. To open the files within the tar file, for example—*savantSystemLog-savant-ipbx-1349733434.tar*—use <*specify application*>.

What To Do Next

Unless you require some optional devices as part of your Savant PBX system, your PBX system is now configured.

The optional devices that can be added to your Savant PBX system, are as follows:

- Savant Public Announcement System —click this link here.
- Door Entry System—click this link here.

5. SAVANT DECT BASE STATIONS

Use this section to set up your wireless phone system and base station with your Savant PBX system.

Important! The following procedures included in this section apply when adding newer base stations to your Savant PBX system—that is, base station models TEL-BST11 and/or TEL-BST12. If you are adding the older base station models,TEL-BST01 and/or TEL-BST02, as the only base stations to be used with your Savant PBX system, the procedures presented in this guide are not applicable. You must use the relevant procedures included in the Savant Telephony Solution Deployment Guide (009-0406-06), which refers to OpenMobility Manager SIP-SECT 2.1SP4.

If the newer base stations are being added to a PBX system that already has older base stations installed using a previous software release, you only need to perform this procedure:

Hardware Considerations

The following information will help you determine what procedures to use when installing hardware.

- If installing only new base station models (TEL-BST11/TEL-BST12) use the procedures in this section (pages 108-132).
- If integrating new base station models (TEL-BST11/TEL-BST12) with older models already in use, perform the procedure on page 133, *Integrating TEL-BST11/TEL-BST12 with TEL-BST01/TEL-BST02.*
- If installing only old base station models (TEL-BST01/TEL-BST02) use the Release PBX 5.1.1 Savant Telephony Solution Deployment Guide (009-0406-06).

The model numbers referred to in this section include the following:

Model Number	Description
TEL-HSTW01	Wireless DECT Handset
TEL-BST01	Indoor DECT Base Station for integrating with TEL-BST11
TEL-BST11 (new)	Indoor DECT Base Station
TEL-BST01I	Indoor International DECT Base Station
TEL-BST02	Outdoor DECT Base Station for integrating with TEL-BST12
TEL-BST12 (new)	Outdoor DECT Base Station
TEL-BST02I	Outdoor International DECT Base Station
TEL-BSTMMT	Mast Mount for Outdoor Base Station
TEL-BSTWMT	Wall Mount for Outdoor Base Station

Installing Base Stations

Employing DECT wireless technology, the Savant SIP-DECT mobility solution offers superior levels of interference-free performance and reliability in a cordless SIP telephone system.

The Savant DECT—Digital Enhanced Cordless Telecommunications— base stations comprises the following:

- Savant Base Stations (SIP-DECT Access Points) being distributed over an IP network and offering DECT wireless and IP interfaces
- Savant PBX platform
- Savant DECT Handsets Savant TEL-HSTW01—also known as Portable Parts (PP)
- OpenMobility Manager (OMM) SIP-DECT 3.0: Management interface for the DECToverIP using SIP solution, which runs on one of the base stations (Radio Fixed Parts)
- OpenMobility Configurator—a Java tool used to do the initial boot up. Available on the OMM Activation CD

The Savant PBX server and the Savant Gateway, OpenMobility Manager (OMM) and the base stations communicate through the IP infrastructure. The base stations and the Portable Parts communicate over the air, where the DECT GAP protocol or DECT GAP with proprietary enhancements is used.

Savant Telephony DECT wireless handsets are available with indoor (TEL-BST11) and outdoor (TEL-BST12) DECT base stations.

Both DECT base stations are the Radio Fixed Parts for the Savant TEL-HSTW01 handset solution and are directly connected to the LAN. The indoor base station TEL-BST11 enables the complete integration of DECT radio networks into the IP infrastructure and provides eight simultaneous call connections. It is powered either via a separate power supply unit or using Power over Ethernet (PoE).

The outdoor base station TEL-BST12 performs the outdoor operating requirements and is powered using Power-over- Ethernet.

On the base station locate the port marked **LAN** and plug in an Ethernet cable. Plug the other end of the Ethernet cable in to the managed ethernet switch. Savant recommends using Power Over Ethernet. Standards-based (802.3af compliant) Power Over Ethernet affords a one-wire solution for connecting Ethernet devices, delivering power and data over a single CAT5/6 network cable. Using 802.3af compliant PoE injectors or PoE Ethernet Switches, there is no need to install a separate power supply at the device location. The PoE injector or PoE Ethernet Switch can simply be mounted at any convenient location up to 100 meters (328 feet) from the device.
Due to the inherent voltage drop over copper wire, a maximum of 12.9 W is guaranteed to be received by the PoE powered device over a cable run length of 328 feet (100 meters) per specification.

The figure above shows the Outdoor (right) and Indoor Base Station

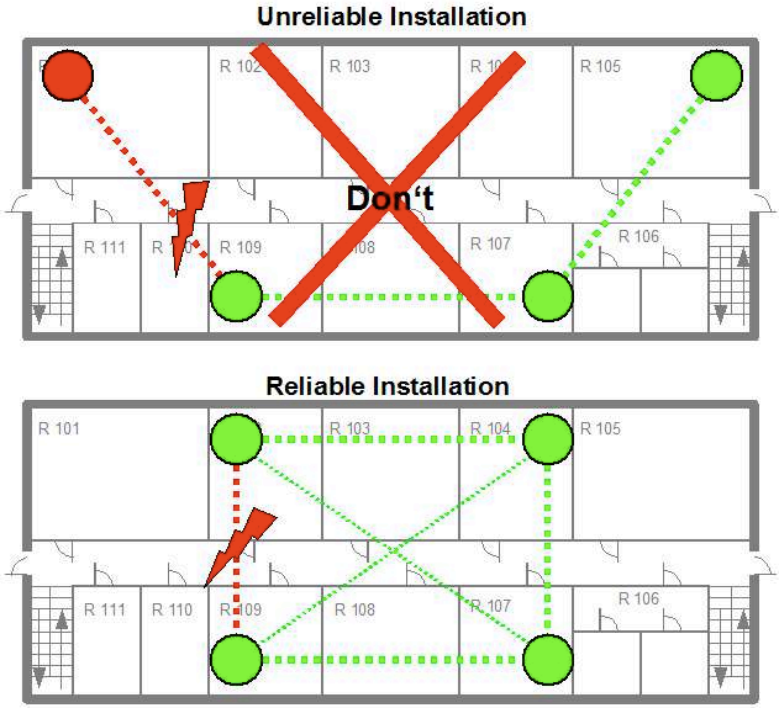
Mounting the Base Station

An indoor base station can be mounted on a wall or ceiling, or placed on a flat surface. Outdoor base stations can be mounted on a wall or mast (2.55 in. or 65 mm or larger). The outdoor base stations can be used for indoor areas with difficult radio characteristics. For example, when equipped with beam antennas it can the ideal solution for long corridors or elevator shafts.

A base station installation is more reliable if a base station can receive the signal from more than only one base station, because the other signals are also used for synchronization.

The sync-over-air solution is very reliable, because all existing redundant paths are used for synchronization. Thus, hardware tolerances have only very little influence. No base station has a key position. Only unfavorable setups without redundant synchronization paths can cause problems.

Sometimes base stations do not need to be synchronized, for example, if they are in different buildings. These base stations can be put into different clusters. Base Stations in different clusters will not be synchronized with each other. Different clusters start-up at the same time independently. See the next diagrams.



For optimum range performance, wall mounting is recommended.
Location of the base station can have significant impact on performance.
It is recommended that the base station be located:

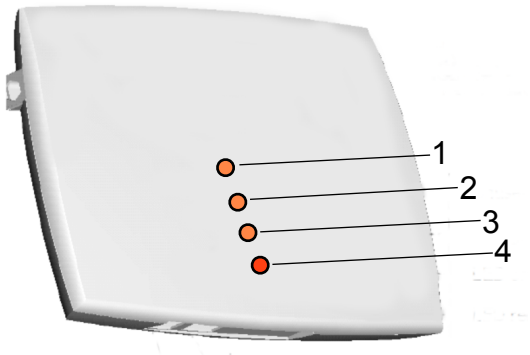
- Away from metal objects such as filing cabinets, metal blinds or other metal support structures
- Away from other electronic devices such as CRT’s, desktop computers and other cordless products
- As high as possible with the antennas pointing up in a vertical position.
- The antenna used for the base station transmitter must be installed to provide a separation distance of at least 20 cm from all persons.

Signal Loss Guidelines

Signal loss related to the building materials which exist at an installation is determined in detail by a site survey, but the following table provides some guidelines. For more details on these guidelines see the DECT site survey document: http://www.aastra.com/cps/rde/aareddownload?file_id=6023-13550-_P06_XML&dsproject=aastra&mtype=pdf

Building materials	Range loss as a % of the free radio hop
Glass, timber, untreated	approx. 10
Timber, treated	approx. 25
Plasterboard	approx. 27 – 41
Brick wall, 10 to 12 cm	approx. 44
Brick wall, 24 cm	approx. 60
Aerated concrete wall	approx. 78
Armoured glass partition	approx. 84
Steel-reinforced concrete ceiling	approx. 75 – 87
Metal-coated glass	approx. 100

LEDs for Indoor Base Station



The figure above shows the LEDs for the Indoor Base Station (TEL-BST11)

The next table describes the callouts in the previous figure.

LED 1	LED 2 (DECT)	LED 3 (OMM)	LED 4
UNUSED	Orange: DECT not configured	Orange on/off every second: connecting to OMM	Red: power on
	Green with short off every two seconds: DECT inactive (not synchronized yet)	Orange on with a quick off every two seconds: OMM connecting failure	Orange: booting
	Green: DECT ready	Green: OMM connected	Green: ready
	Green with quick flashing of orange every two seconds: call active on this Radio Fixed Part	Green with quick flashing of orange every 2 seconds: OMM running with warning	Green with quick flashing of orange every two seconds: ready and the Radio Fixed Part houses OMM.

OpenMobility Manager: Before You Begin

The application used to configure a wireless phone system and base station is the OpenMobility Manager (OMM). The login details for this application are described in *Booting the Base Station*. Before you start configuring your wireless phone system and base station associated with your Savant PBX system, ensure that you have the following files or information available, or procedures completed. Note that the OMM CD is included with the Savant PBX (SPX-1000).

- OM_Configurator.jar – Java tool to do the initial boot up, is available on the OMM Activation CD. Copy OM_Configurator.jar from the CD to your Savant Development Environment (SDE) machine.
- PARK – Portable Access Rights key (PARK) is a unique key to configure the base station and add a handset, included the OMM Activation CD. Save this key for future reference. You must enter this key (without hyphens) during configuration.
- Reserve an IP address for each base station
- You must have already added wireless handsets in Savant Configurator, see the section on the Savant Configurator, *Adding a Savant Wireless Phone*. To summarize, this procedure assumes you have added a device, adds a phone, and exports the *sip_dect.cfg* file.
- TAD – Transaction Data used to generate license file, shown on the OMM Activation CD. Only needed if there will be three or more base stations in the system.

OMM Display of Model Numbers

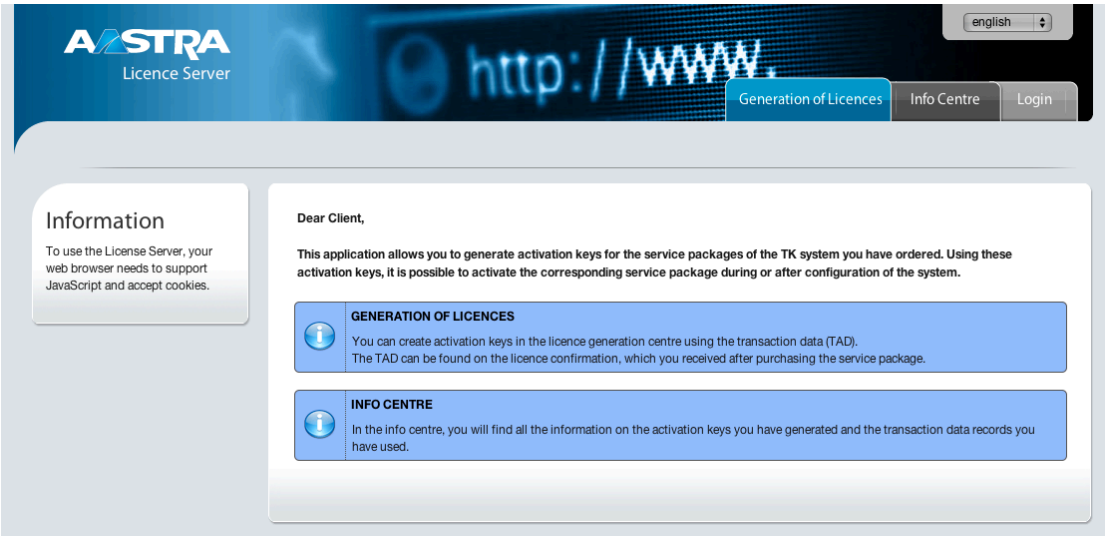
The OpenMobility Manager (OMM) displays model numbers that are different from the Savant model numbers of the base stations.

Savant Model Number	OMM displays...
TEL-BST01	RFP L32
TEL-BST02	RFP L34
TEL-BST11	RFP L35
TEL-BST12	RFP L36

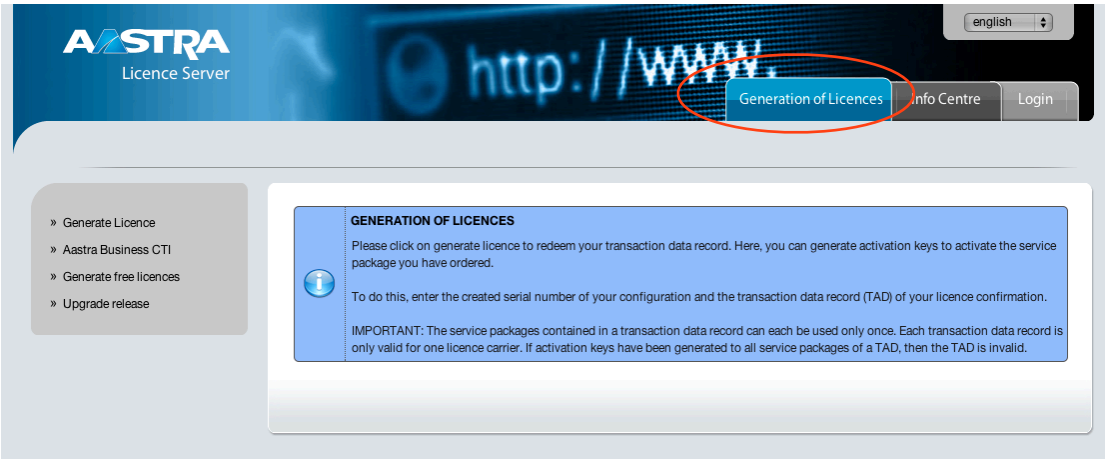
Generating a License for Multiple Base Stations

Perform the following procedure only if there will be three or more (up to 20) base stations in the wireless system. Before starting this procedure, the OpenMobility Manager (OMM) Activation CD and MAC addresses of three base stations must be available.

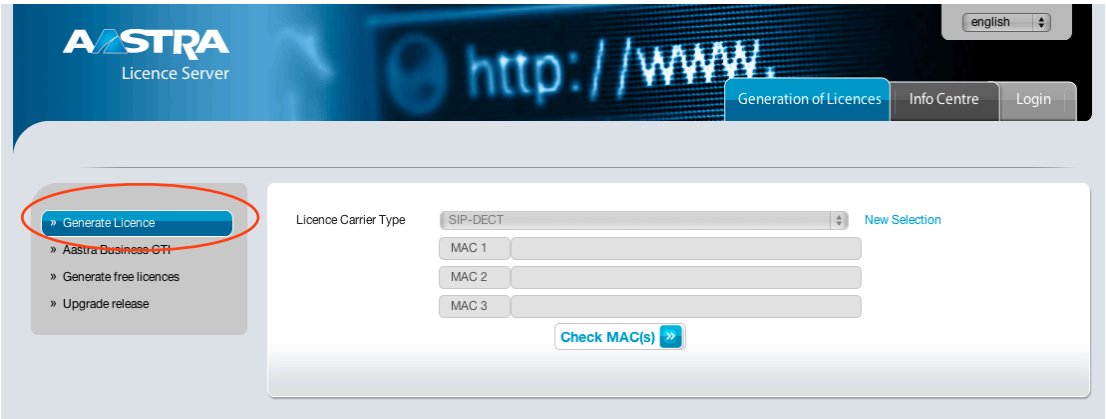
1. Open a web browser, and go to http://license.aastra.de



2. Click **Generation of License** tab (circled in the next screenshot).



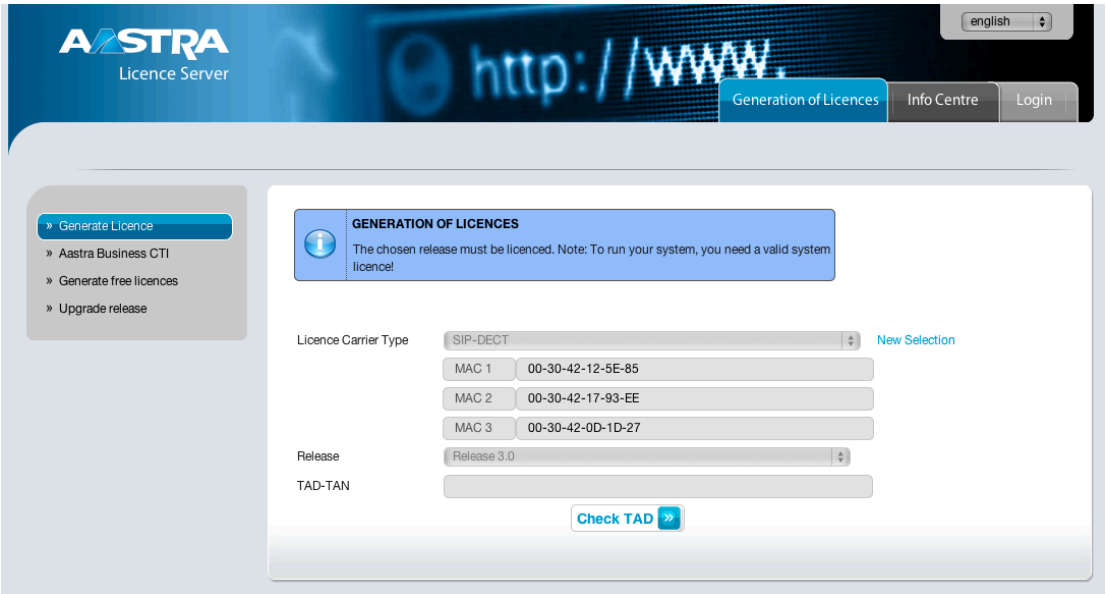
3. Click **Generate License** in the left sidebar. See the next screenshot as circled.



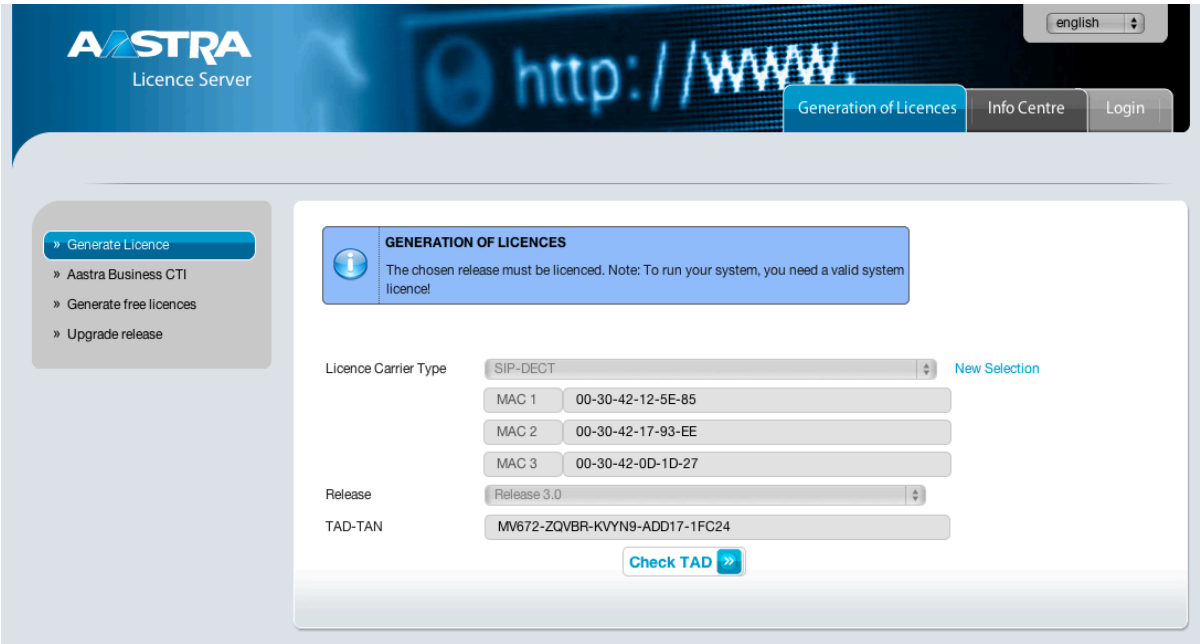
4. For **License Carrier Type**, select *SIP-DECT*. Enter the MAC address for each base stations in the format of 00-30-42-xx-xx-xx. Then click **Check MAC(s)**.

   NOTE: Only three base stations need to be entered here to generate the license. If your system will contain various models—TEL-BST01, TEL-BST02, TEL-BST11, or TEL-BST12 base stations—use at least two TEL-BST11, and/or TEL-BST12 base stations here. Once the license file is uploaded, up to 20 base stations can be added to the system.

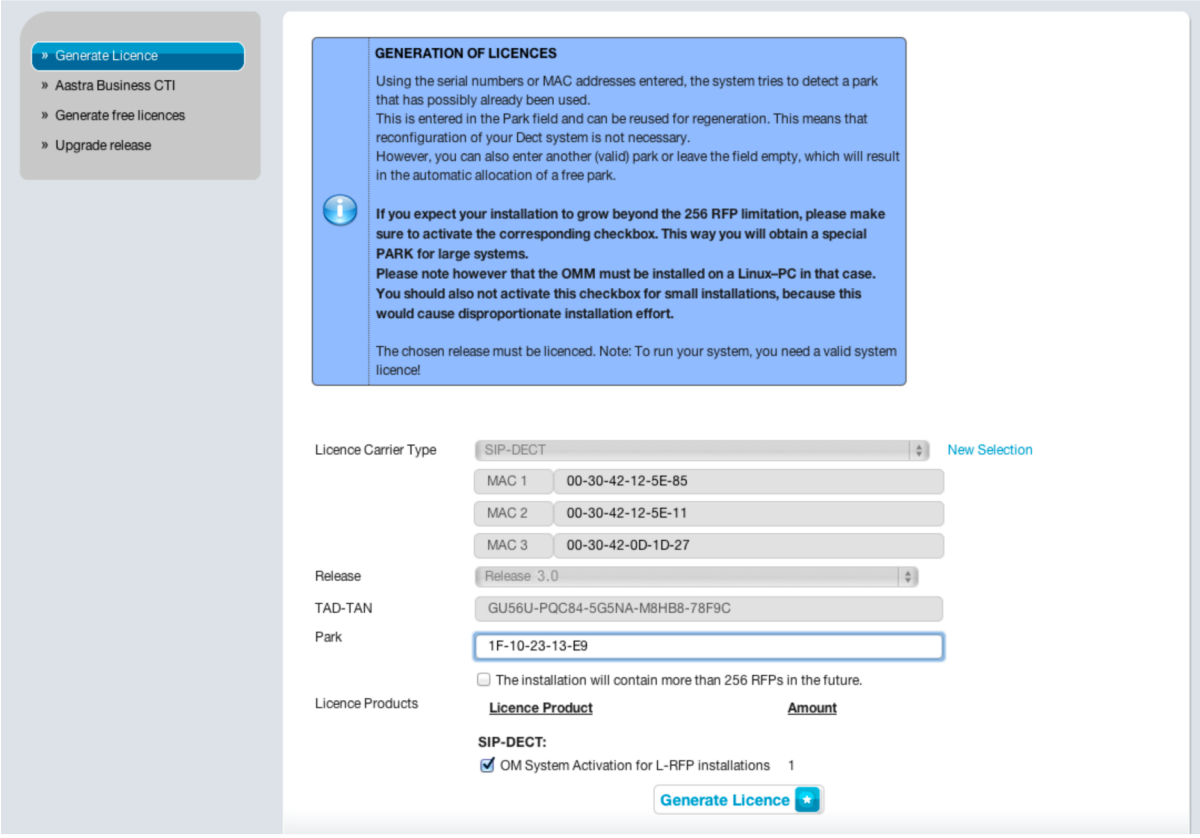
5. The **Release** field will show up if MAC(s) are verified. Select Release 4.0 for release.



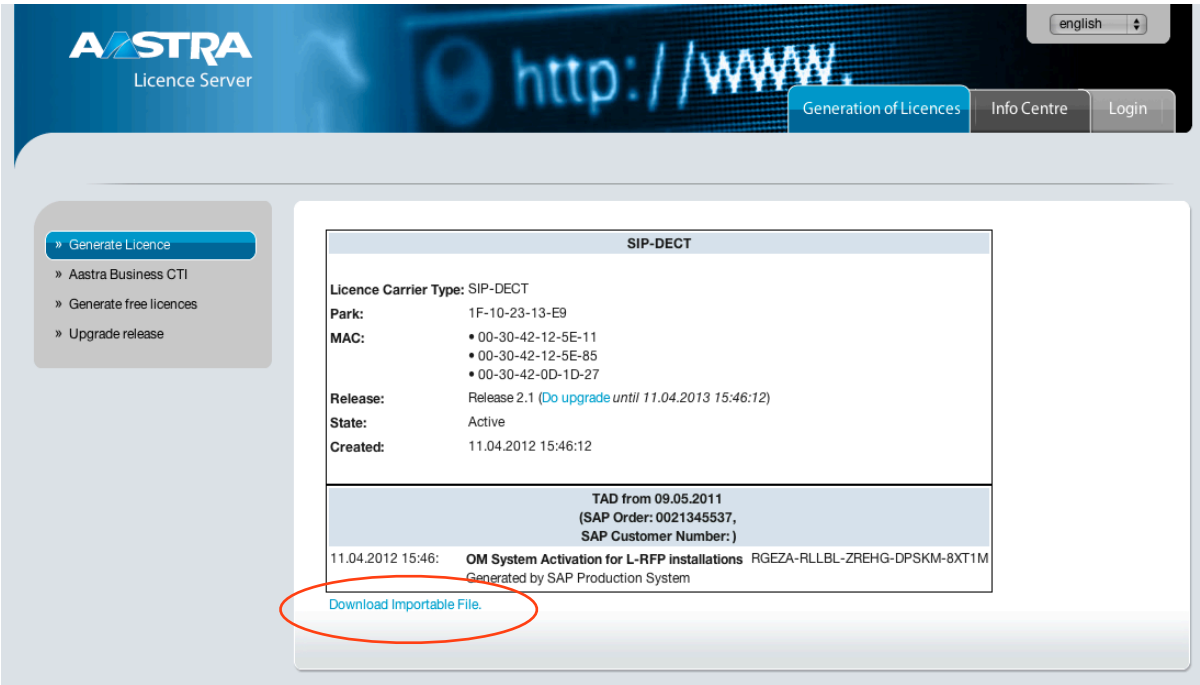
6. In the **TAD-TAN** field, enter the TAD that can be found on the OMM Activation CD. Then click **Check TAD**.



7. In the **Park** field, enter the Portable Access Rights key (PARK) that can be found on the OMM Activation CD. Then click **Generate License** button at the bottom of the page. These will be displayed in the OpenMobility Manager—see *Booting the Base Station*, step 16.



8. Click the link: **Download Importable File** circled in the next screenshot. A file named *ommsip.xml* should be saved in the Downloads folder. Please keep this file with other important information about your installation, in case there is a need to reset to the factory default in the future.

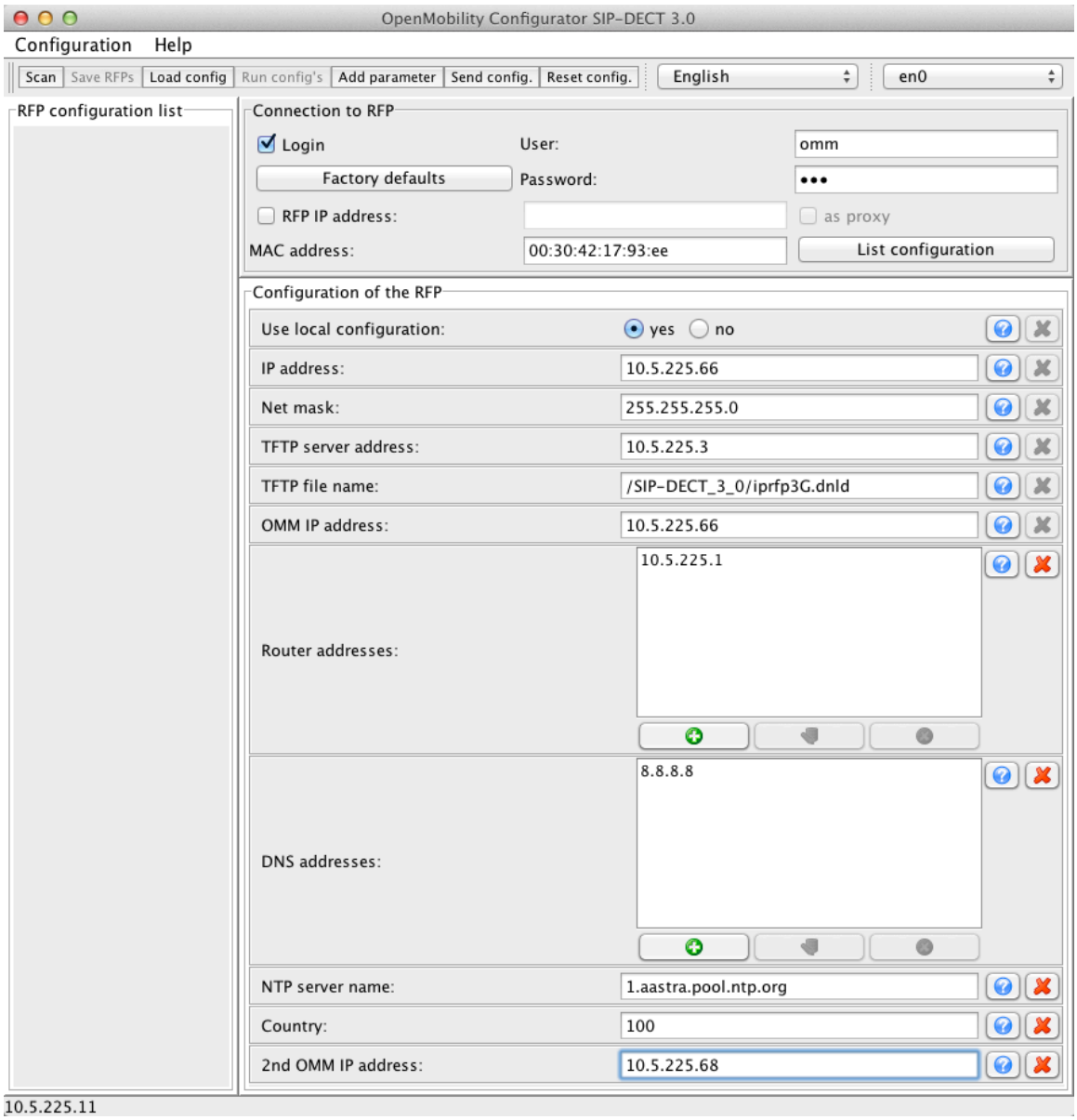


Booting the Base Station

The Savant PBX includes support for the access point base stations: Savant TEL-BST11, or TEL-BST12. The Savant documentation refers to these devices as SIP DECT. If a license file was generated in the previous procedure, *Generating a License for Multiple Base Stations*,start with the base stations used to generate the license, and run the primary and secondary OpenMobility Manager (OMM) on two of them.

To boot the SIP-DECT, do the following.

1. Run OM_Configurator.jar from your SDE.
2. Click **Add parameter** (tab), select **Country** then click **Add**. Repeat to add **DNS addresses**, **NTP server name** and **2nd OMM IP address** (when there are at least two base stations in the system). The next screenshot shows example values. See the next table for help on entering values.



3. The fields in the Radio Fixed Part (RFP) configuration page should be set as shown in the next table. Fields that are not shown in the table do not need to be set or modified.

Field	Description
Login	Insert check mark
User	Enter omm
Password	Enter omm
MAC address	Enter MAC address of the base station with format: 12:34:56:78:ab:cd
Use Local Configuration	Insert check mark beside **yes**
IP address	IP address that you have reserved for this device (the base station).
Net mask	Enter your network mask
TFTP server address	Enter Savant PBX IP address

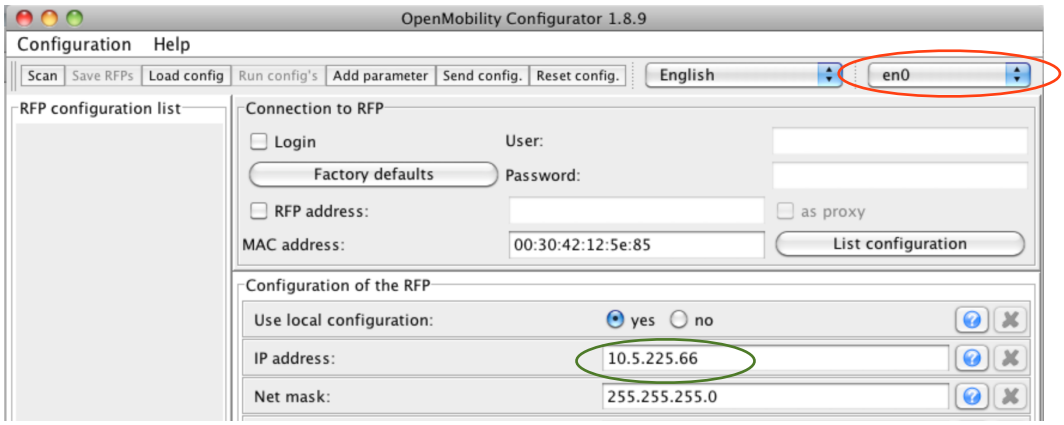
TFTP file name	Enter Trivial File Transfer Protocol (TFTP) file name:
	`/SIP-DECT_4_0/iprfp3G.dnld`
	
	If you are configuring base station models TEL-BST01 or TEL-BST02, the following Trivial File Transfer Protocol (TFTP) file name name should be used (for more details see the *Savant Telephony Solution Deployment Guide 009-0406-06)*:
	`/omm_ffsip.tftp`
	
	Ensure the file path and name is exactly as shown above.
	
	Important! Do not cut and paste this file name. You must type the file name in the field.

OMM IP address	IP address of the first base station. If there is only one base station or this is the first base station, enter the IP address of the base station. This is where the primary OMM will be running. Make sure you use the same address in this field for each base station that you add later.
Router address	Click plus button then enter the gateway IP address of local network.
Country	Click question button to find out proper country code. United States is 100.
DNS addresses	Enter Domain Name Server (DNS) address. You should be able to find your DNS server address from the router of your local network. Use your router's web user interface which should display general router information, including DNS. You can also choose to use Google Public DNS instead, for example: 8.8.8.8
NTP server name	Enter Network Time Protocol (NTP) server name: `1.aastra.pool.ntp.org`
2nd OMM IP address	If there is more than one base station, enter the IP address of a base station where the secondary OMM is to run. Ensure that you use the same address in this field for each base station that you add later.

4. If you have not done so already and you have more than one network interface, verify your network interface on your SDE by using the **Terminal** utility and the command `ifconfig`.

   The base station and the Savant Development Environment (SDE) must be on the same network. Typically, the first three octets of the broadcast IP address will match those of the base station IP address. See the next two screenshots.

   Select the network interface from the drop-down list (circled in red in the next screenshot) that has a broadcast IP address with the same first three octets as the base station IP address. Use the next two screenshots to help determine the correct network interface.



   Note that the IP Address circled in green in the previous screenshot is the base station IP address. Compare this to the broadcast IP address circled in the next screenshot taken from **Terminal**.

```
RPM@savant-ipbx: /usr/src/Asteria_Savant_svn21495_20110809/asterisk
Connection to 10.5.225.20 closed.
yzhou-mbp:telephony yue.zhou$ ifconfig
lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384
        inet6 ::1 prefixlen 128
        inet6 fe80::1%lo0 prefixlen 64 scopeid 0x1
        inet 127.0.0.1 netmask 0xff000000
gif0: flags=8010<POINTOPOINT,MULTICAST> mtu 1280
stf0: flags=0<> mtu 1280
en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
        ether 00:25:00:a5:95:70
        inet6 fe80::225:ff:fea5:9570%en0 prefixlen 64 scopeid 0x4
        inet 10.5.225.9 netmask 0xffffff00 broadcast 10.5.225.255
        media: autoselect (1000baseT <full-duplex>)
        status: active
fw0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 4078
        lladdr 00:25:00:ff:fe:a5:95:70
        media: autoselect <full-duplex>
        status: inactive
en1: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
        ether 00:23:6c:81:d4:22
        inet6 fe80::223:6cff:fe81:d422%en1 prefixlen 64 scopeid 0x6
        inet 10.5.210.27 netmask 0xffffff00 broadcast 10.5.210.255
        media: autoselect
        status: active
```

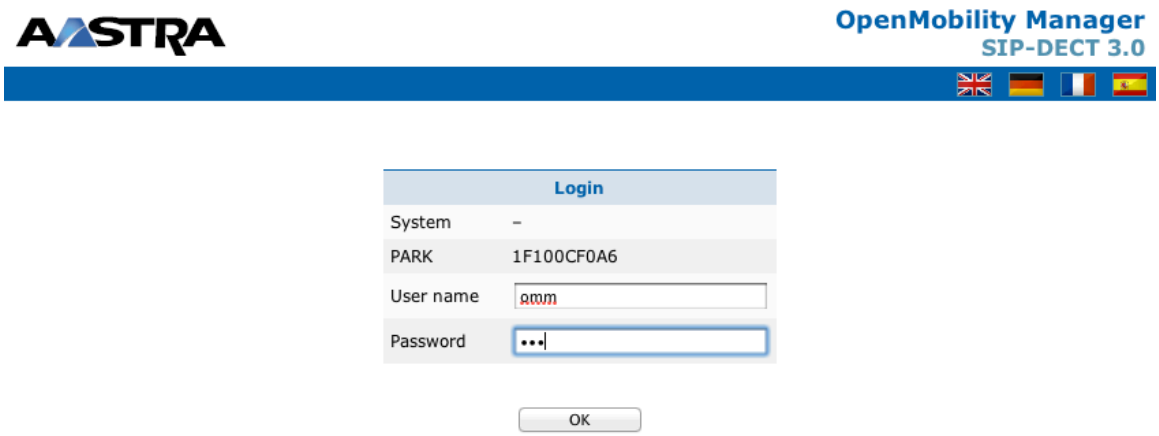
5. Click **Send Config**, check if status "**sending ok**" shows on the bottom left.

   All LEDs on the base station light up orange then off, wait until the bottom LED is up green and the second from bottom LED flashing orange.
6. If there will be more than one base station in the system, repeat steps 3 to 6 to boot up all base stations.
7. Open your web browser and type in the OMM IP address. Note that the OMM runs in active and standby mode (if a second OMM IP is configured), and the system will automatically switch to the active OMM. You can not open OMM on any other base stations in the system.

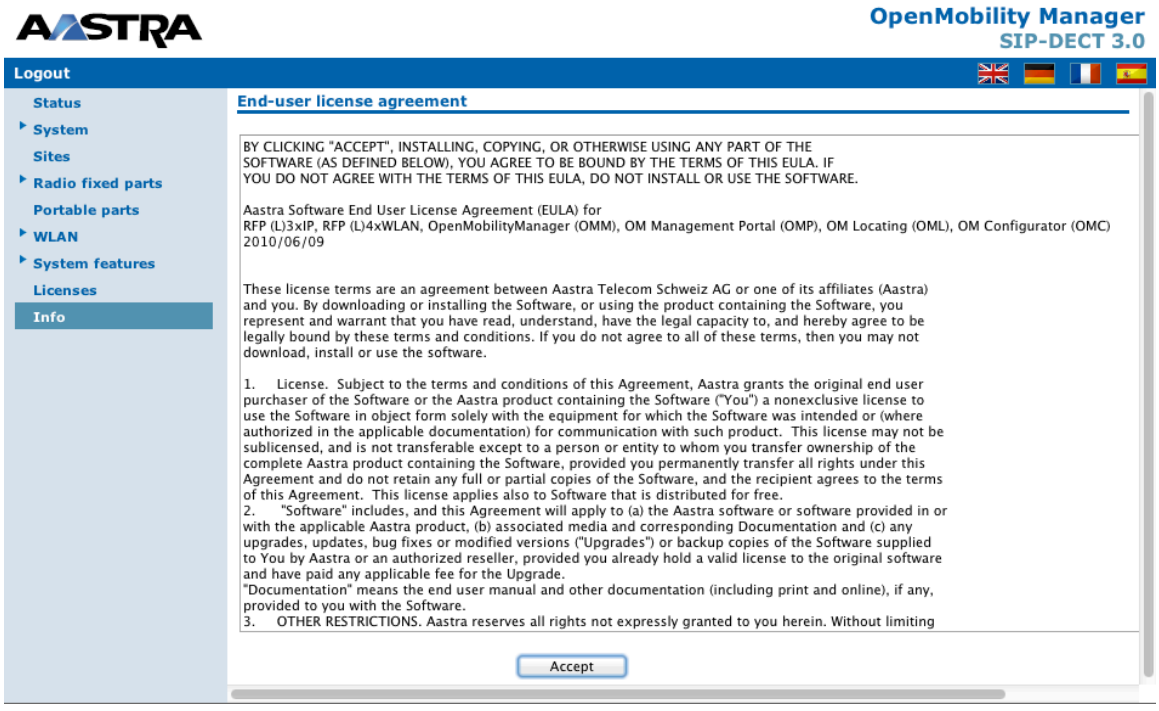
8. With initial installation enter the default user name and password:

   User Name: omm
   Password: omm

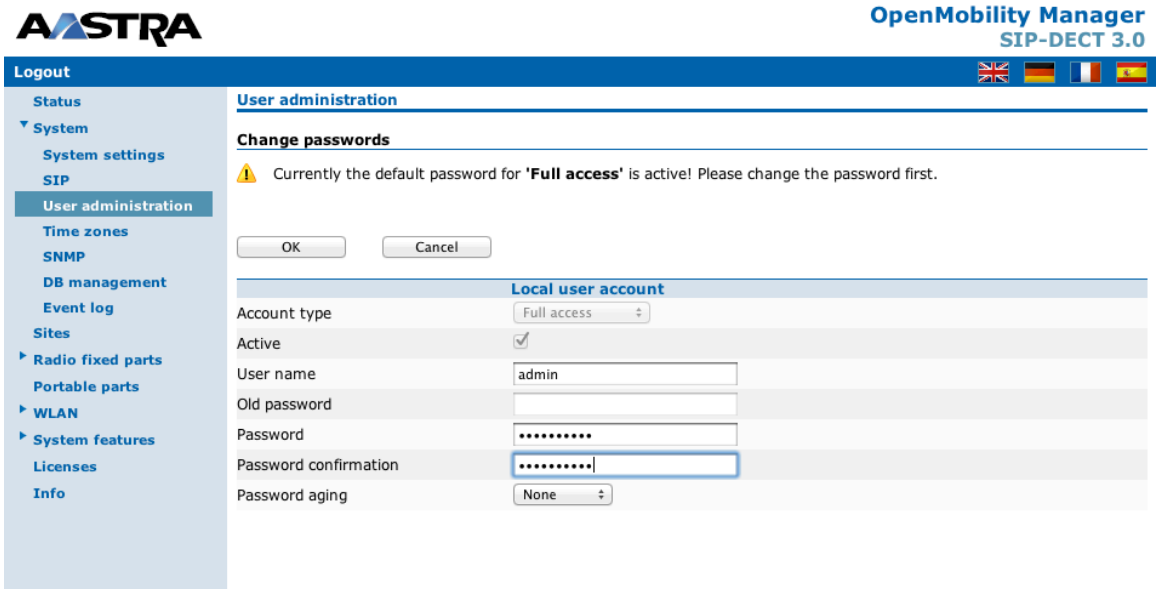
   Leave **System** blank. The value for **PARK** is populated by default as 1F100CF0A6. This is a demo license. It must be replaced by uploading a license file for a system containing 3 - 20 base stations, or by entering the PARK on the OMM CD for a system containing only one or two base stations.

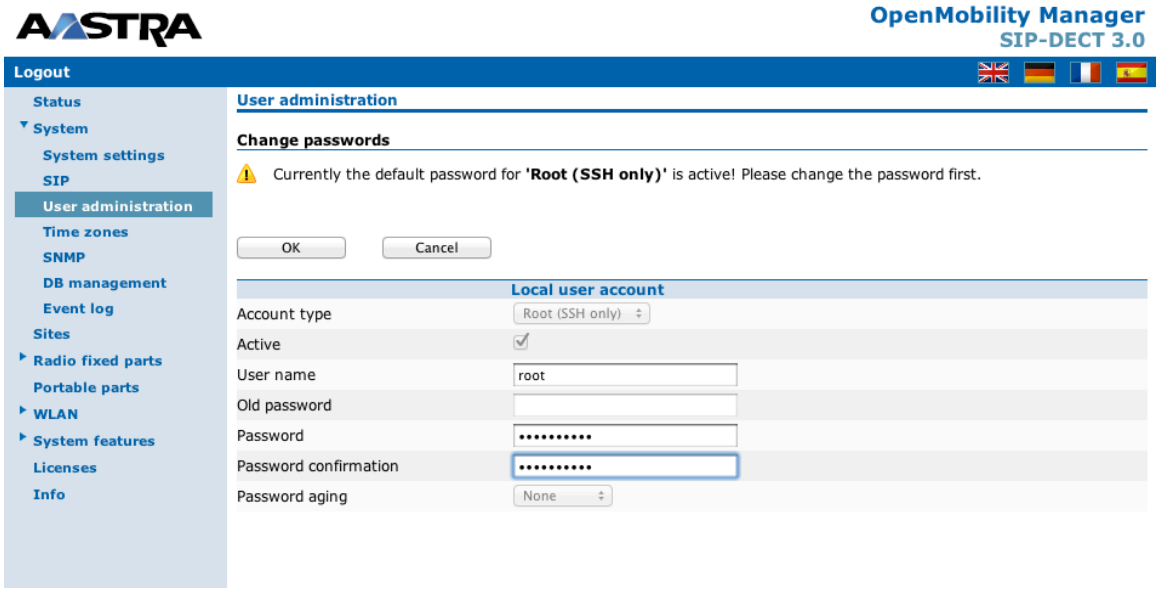


9. Read the end-user license agreement, and click **Accept** on the end-user license agreement page.

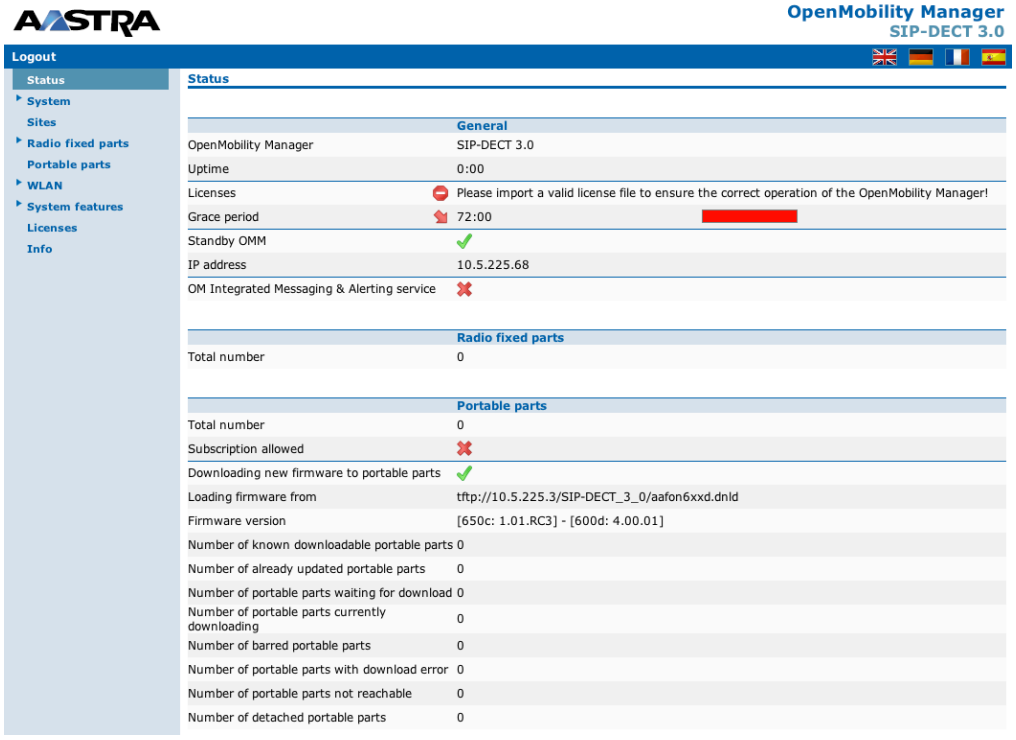


10. Change the **Full Access** and **root** account password, and then for future reference write down the user names and passwords. The password must be at least five characters, contain both upper and lower case characters, and include a numerical digit. If no user action takes place, the OMM logs out the user after five minutes. See the next two screenshots.

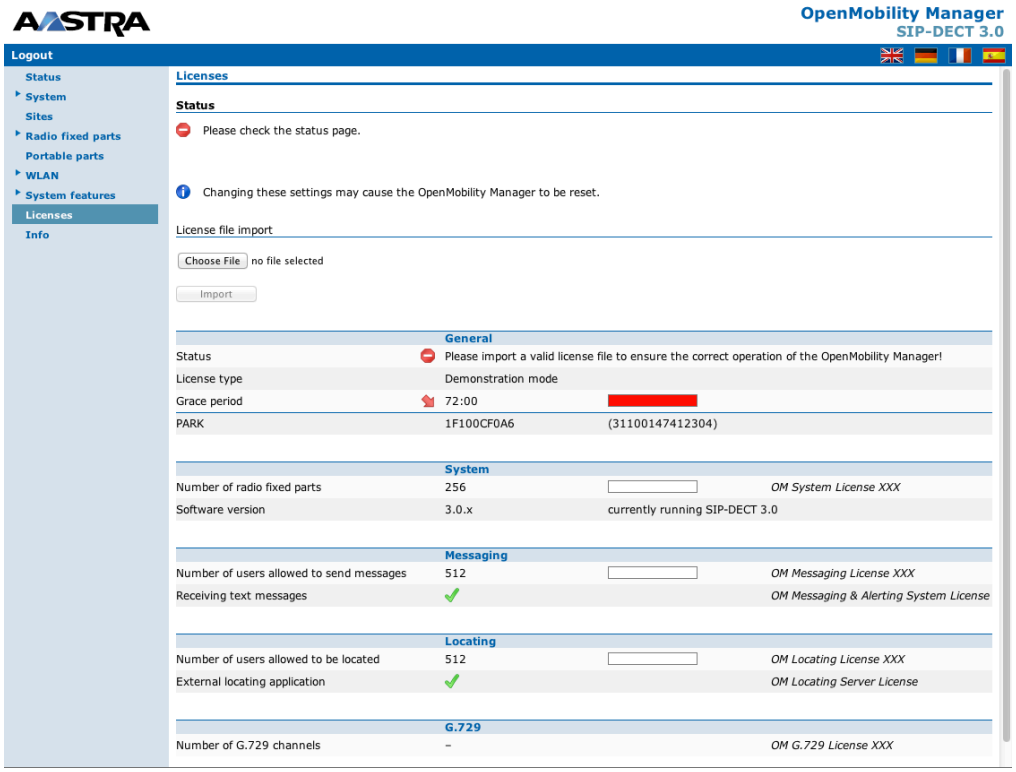




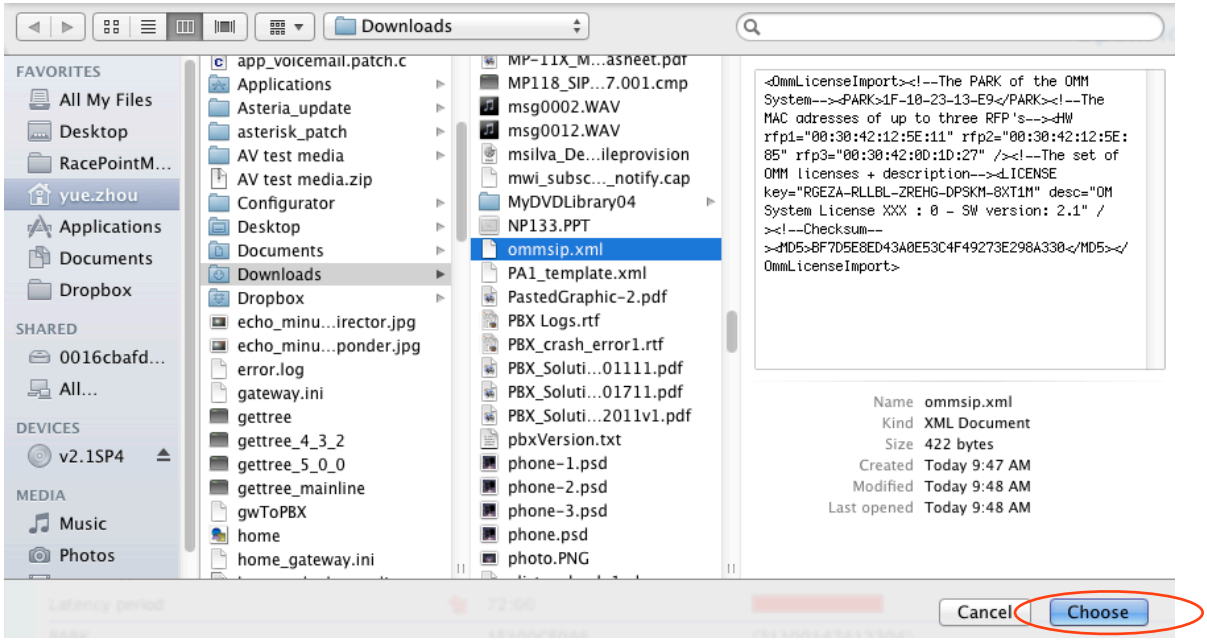
11. The system shows that it is running on a temporary license that is valid for 72 hours.This temporary status will change to a permanent license after you enter a Portable Access Rights key (PARK)—for a system that has one or two base stations—or upload a valid license file (for a system having 3-20 base stations). If a license is not needed, skip steps 14-17, and continue on **System** settings.



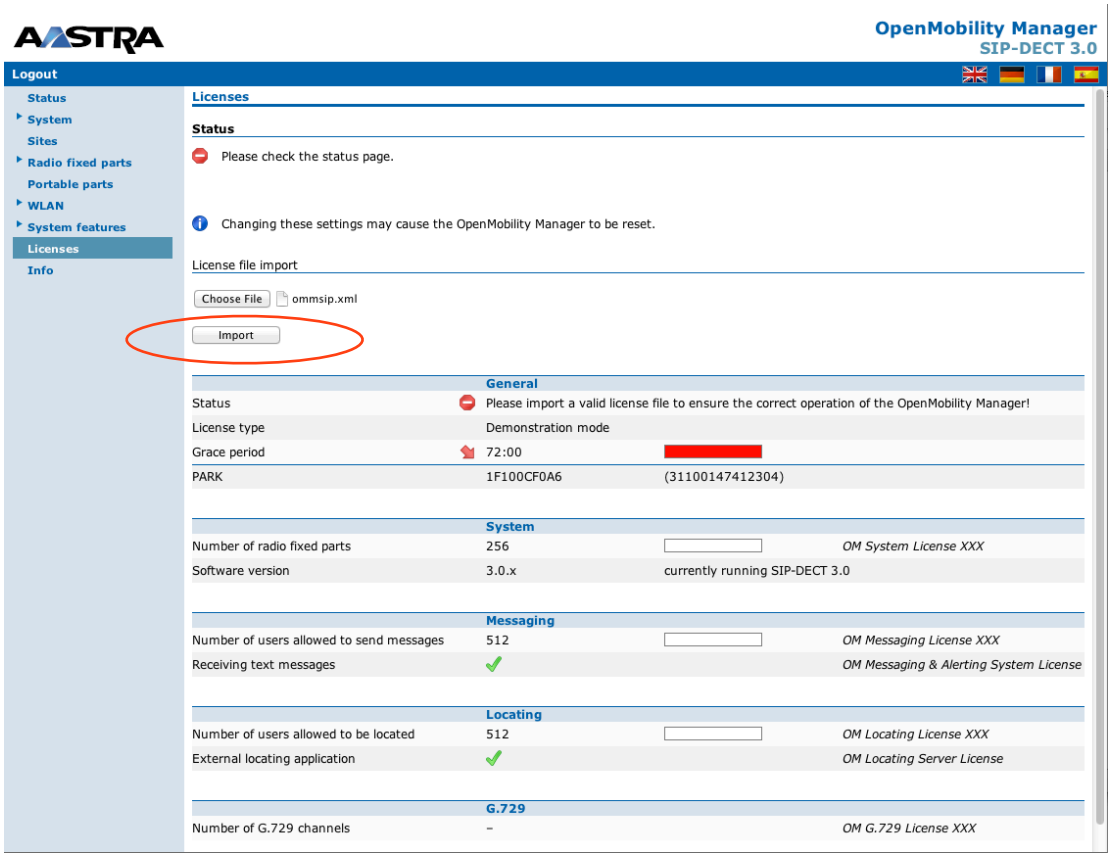
12. Click **Licenses** in the left sidebar.



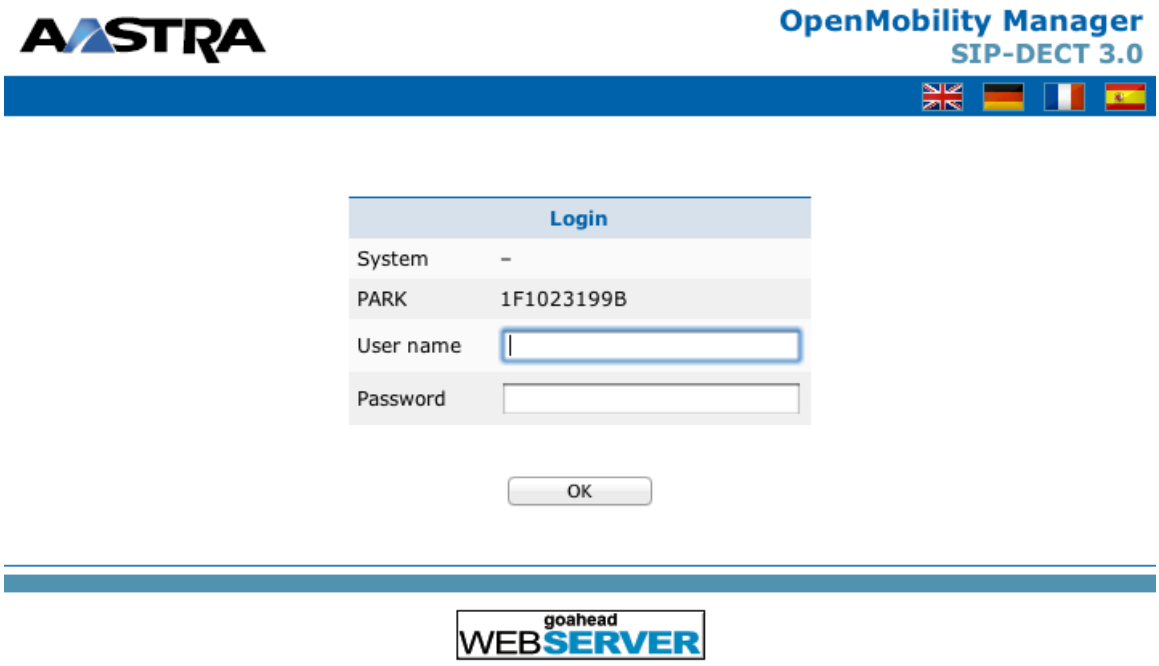
13. Click the **Choose File** button to open Finder.
14. Select the license file *ommsip.xml* that was downloaded when you generated the license. Click **Choose**, as circled in the next screenshot.



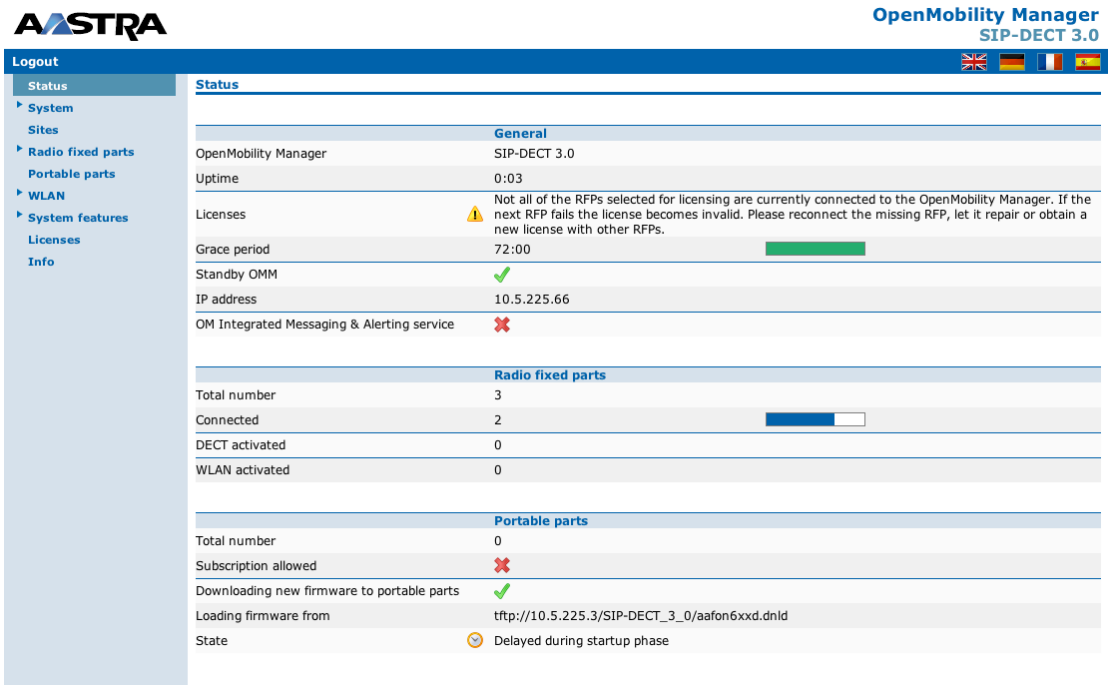
15. Click **Import**, as circled in the next screenshot.



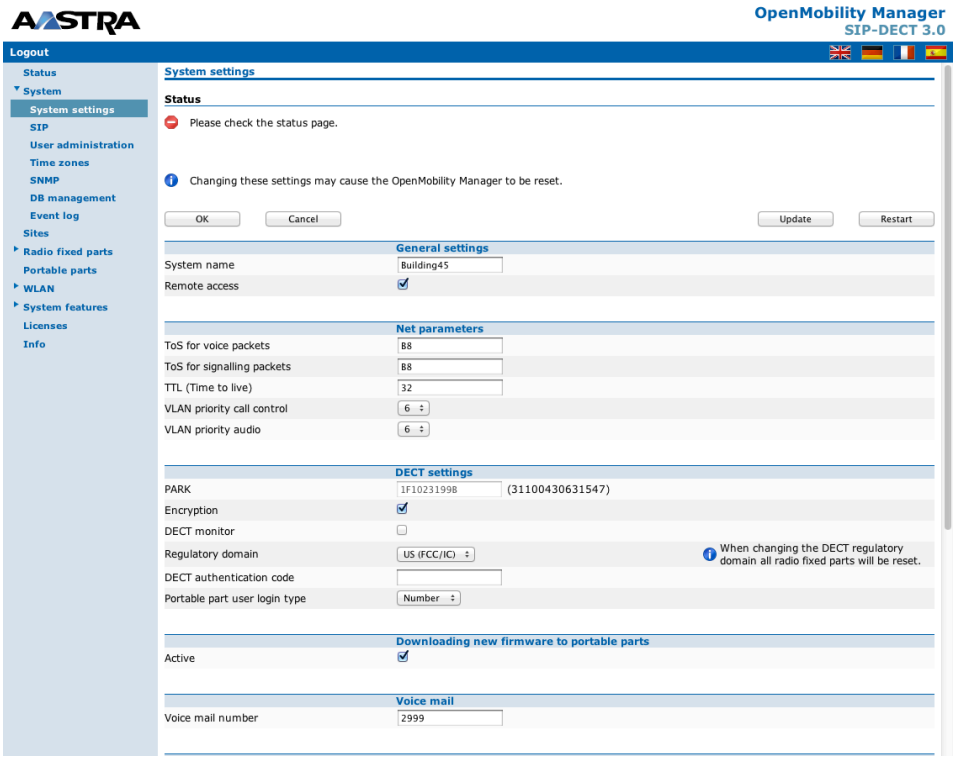
The system will restart after the license file is uploaded. Note that on the login page, the **PARK** field now displays the PARK values you used to generate the license file in the procedure, *Generating a License For Multiple Base Stations*.



16. Ensure that all three base stations used to generate the license are added to the system—these were entered in the **License Carrier Type** field, in the procedure *Generating a License For Multiple Base Stations*. Otherwise, a license violation will occur and lead to the system not working properly.



17. Under **System** click **System Settings** in the left pane.

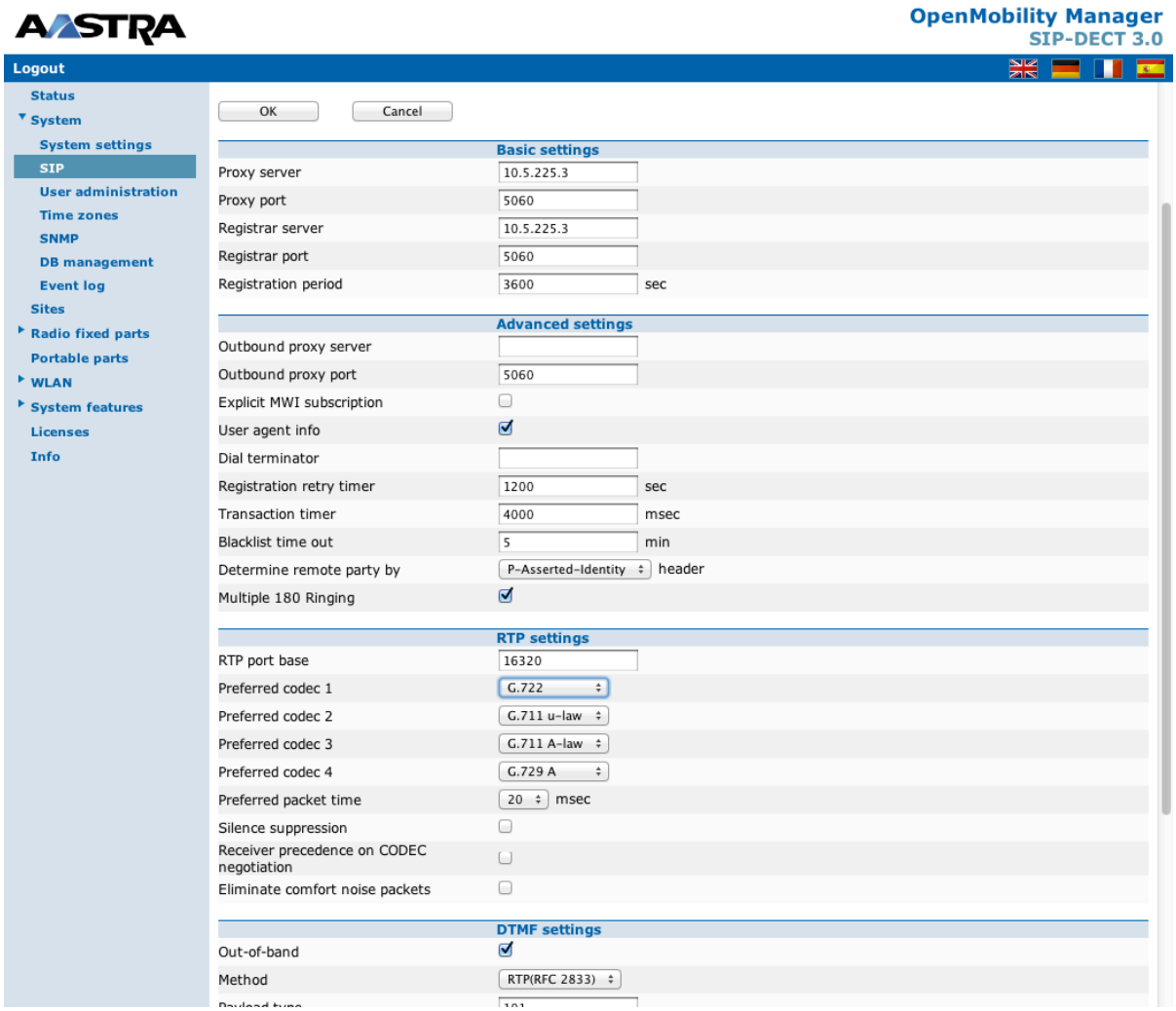


18. The fields on the **System Settings** page should be set as shown in the next table. Fields that are not shown in the table do not need to be set or modified.

Field	Description
System name	Enter a name for the DECT system. It will be displayed on the handsets after handsets have subscribed to the system successfully.
Remote access	Insert a check mark in the box.
PARK	Either of the following two scenarios will apply: ■ Enter the Portable Access Rights key (PARK) included with the OMM package (on the CD) if installing only one or two base stations. ■ If you uploaded a valid license for 3-20 base stations, the OMM user interface will display the PARK you used to generate the license.
Encryption	Insert a check mark the box.
Regulatory	Select the required value from the drop-down list.
Downloading new firmware to portable parts (Active)	Insert a check mark the box.
Voice mail number	Enter the Voicemail Extension number. Refer to the procedure, Adding Voice mail to Savant PBX. Leave it blank if there is no voicemail in Savant PBX.
Active (under Syslog)	Insert a check mark in the box.
IP address	Enter Savant PBX IP address.
Port number	Click the **Default** button, which adds 514.
Regulatory domain	Select the required value from the drop-down list.
Time zone	Select one. All available time zones are listed in alphabetical order. For users in the US, use Eastern, Central, Mountain, Pacific or Hawaii depending on the place of installation.

19. Click **OK**. The system may restart.

20. Log in with the **Full Access** user name and password after system starts up. See step 11 in the *Booting the Base Station* procedure.
21. Click **System** (circled in the next screenshot) in the left pane to expand the options.
22. Click **SIP** to open the **SIP** page.



23. The fields in the SIP settings page should be set as shown in the next table. Fields that are not shown in the table do not need to be set or modified.

Field	Description
Proxy server	Enter Savant PBX IP address
Proxy port	5060
Registrar server	Enter Savant PBX IP address
Registrar	5060
Dial terminator	Clear this field and leave blank

24. Click **OK**. The system will restart.
25. Log in after system starts up.

Next add a base station. See the next procedure, *Adding a Base Station*.

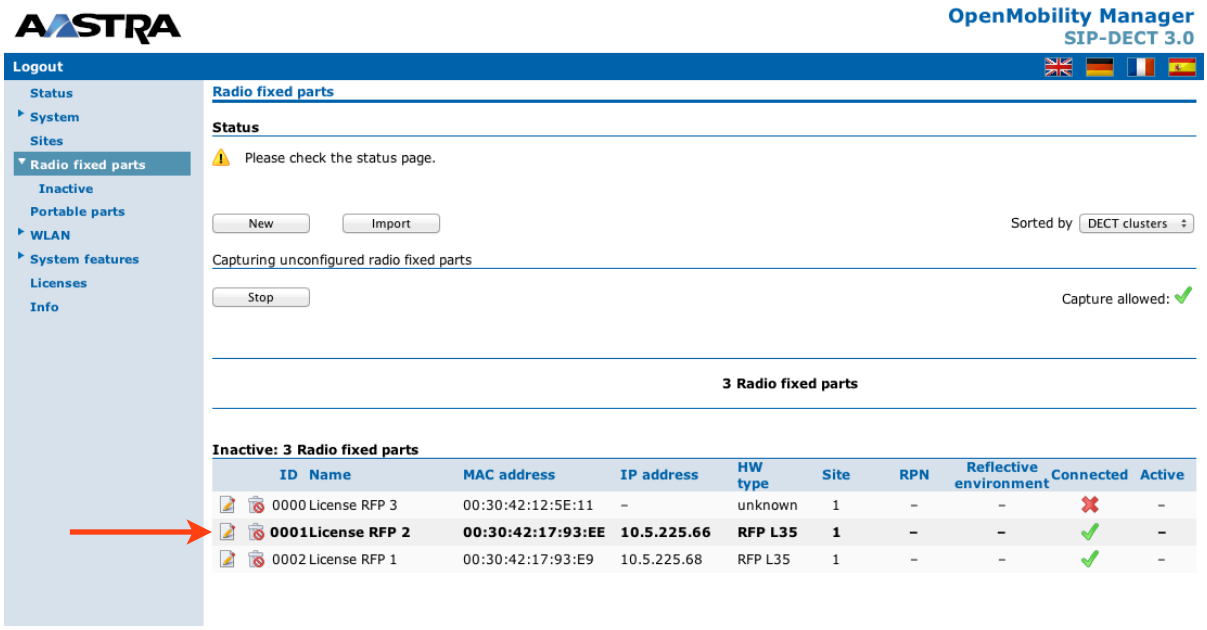
Adding a Base Station

This procedure is used for adding a single base station or adding multiple base stations. Repeat this procedure for each base station. When adding multiple base stations, it is assumed the procedure, *Generating a License for Multiple Base Stations,* has been performed.

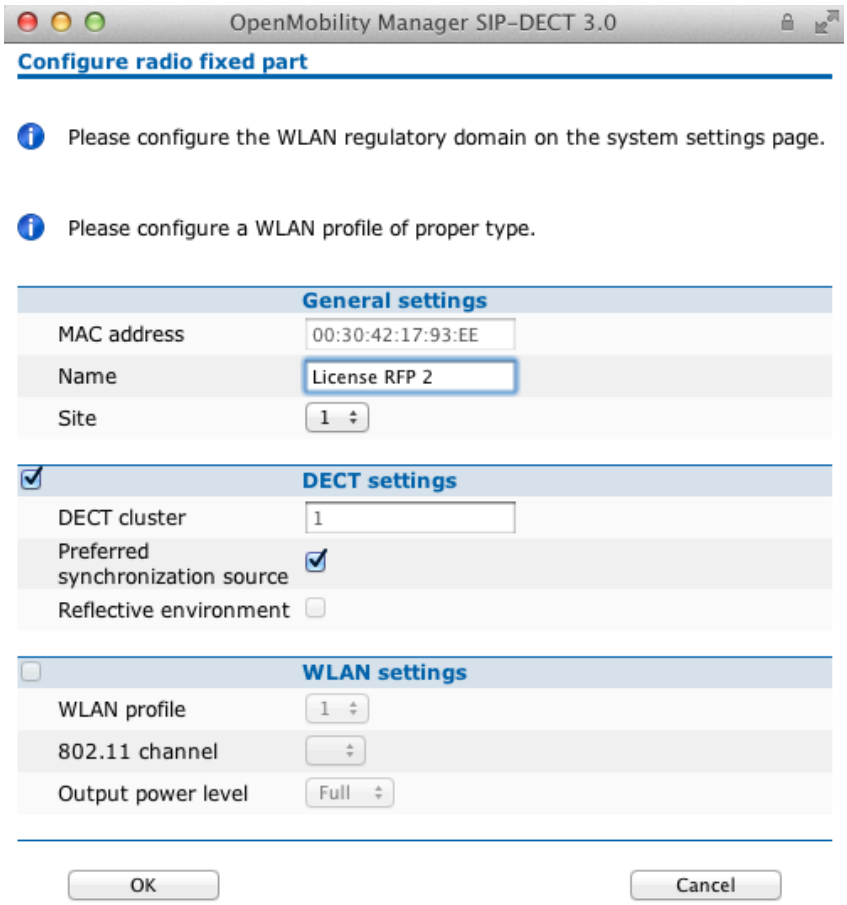
Whether a license is required (three to 20 base stations in the system) or not, this procedure is the same. All booted base stations are displayed here so they can be added to the system. However, if a license was uploaded to the system, all three base stations—based on their MAC addresses that were used to generate a license—will be displayed, even if they are not booted yet.

To add a base station, do the following in OpenMobility Manager.

1. Click **Radio fixed parts** in the left pane.
2. Click the **Start** button and wait for 10 seconds. All booted base stations should display on this page. If there is base station still missing, double check if that station is booted up with the correct OMM IP.



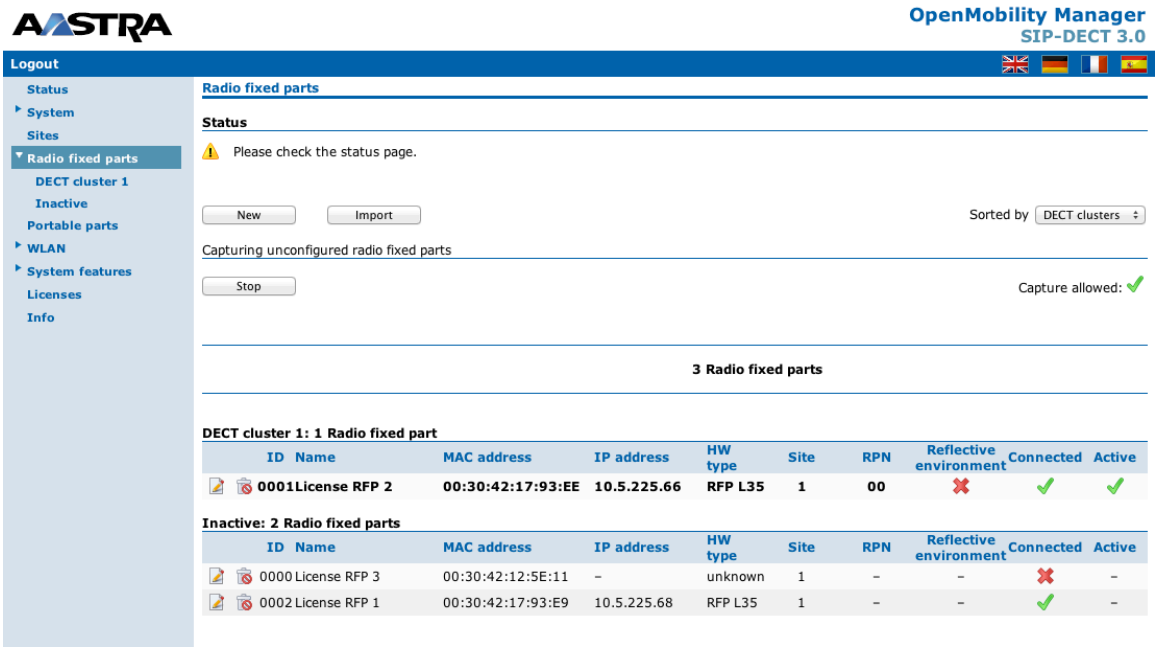
3. Select one base station. If a license file was uploaded, start with a base station that is used to generate the license file. Click the edit icon in front of the selected base station (shown by the red arrow in the previous screenshot), the **Configure radio fixed part** page opens. See the next screenshot.



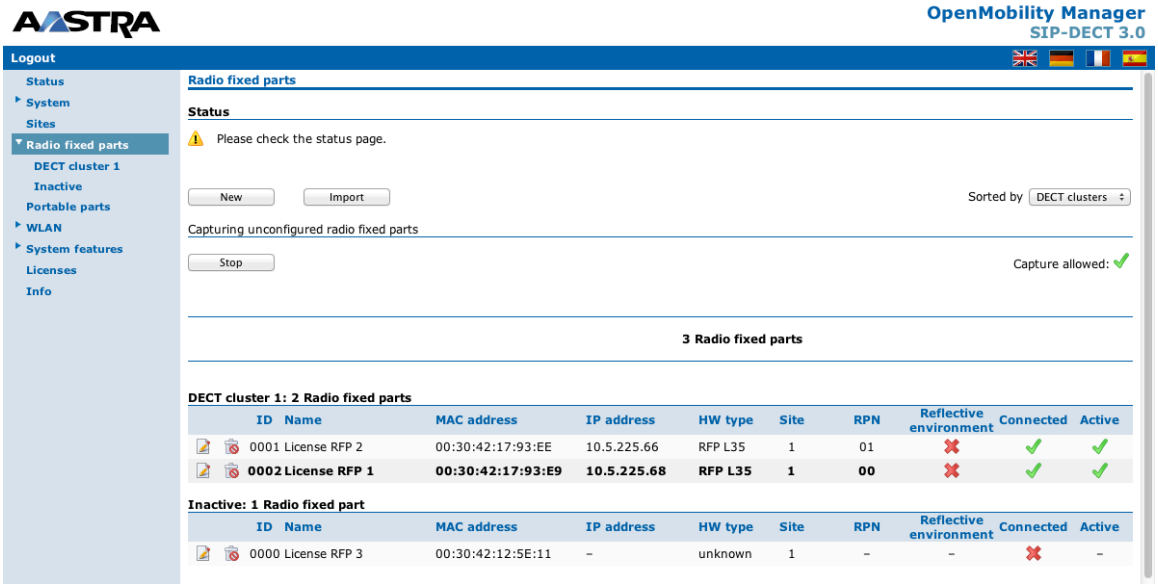
4. The fields in the **Configure radio fixed part** page should be set as shown in the next table. Fields that are not shown in the table do not need to be set or modified.

Field	Description
MAC address	Enter MAC address of the base station.
Name	Enter a name, for example, **House** (Inside).
DECT settings	Insert a check mark in the box.
DECT cluster	Enter: 1
Preferred synchronization source	Insert a check in the box if this is the base station you want to use as the synchronization source. For a system that has multiple base stations, the synchronization source should be the one in the middle.

5. Click **OK**. After a few seconds, the base station should show as active with a green check mark.



6. Repeat steps 3-5 to add all base stations to the system.

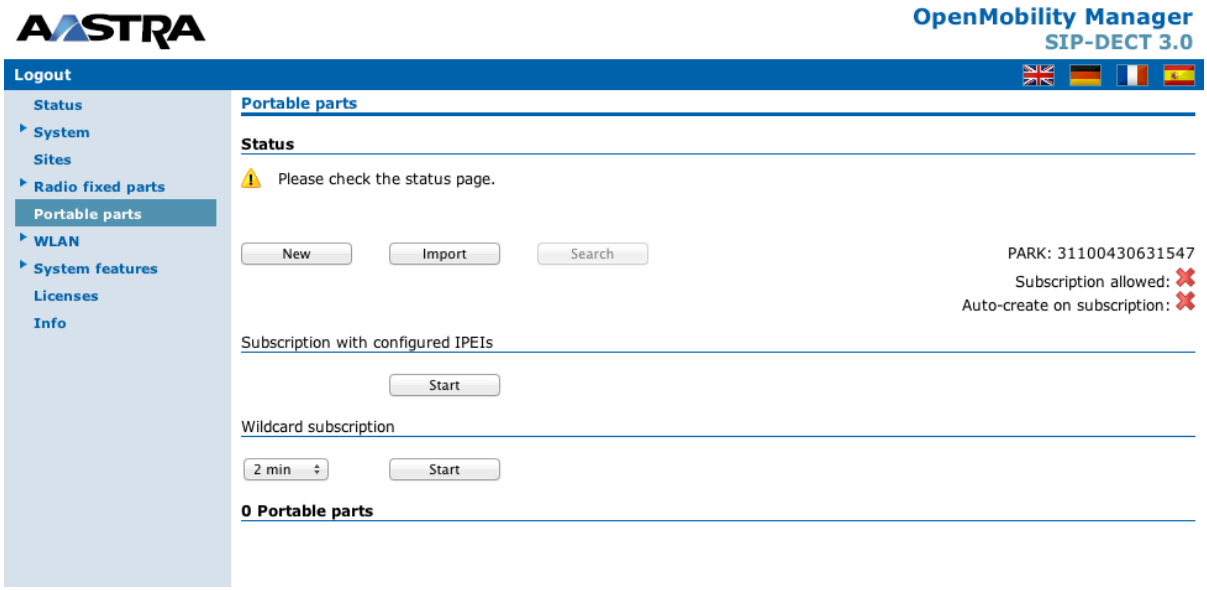


Now you can add handsets. See the next procedure, *Adding Handsets to the Base Station*.

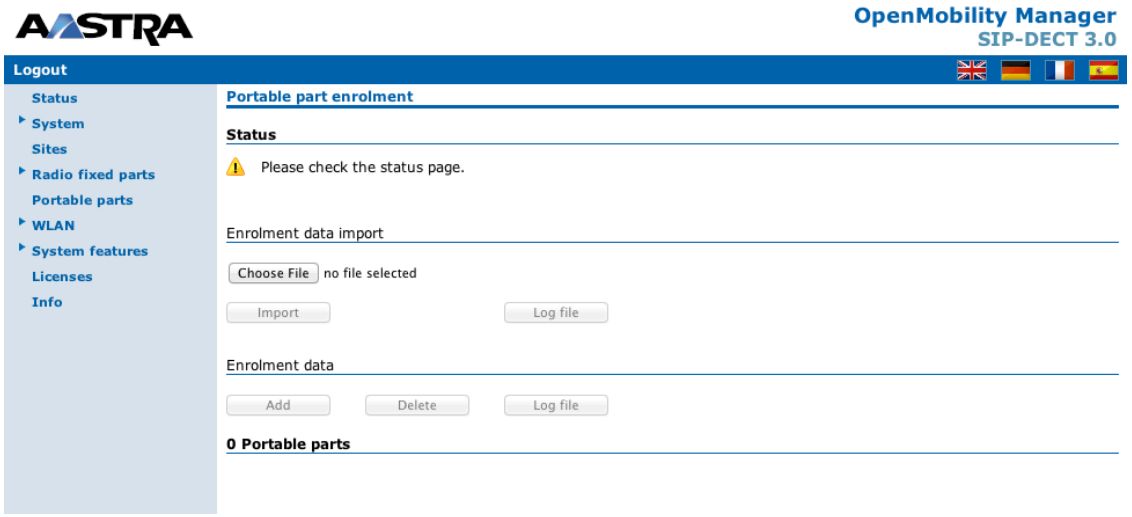
Adding Handsets to the Base Station

To add wireless handsets to the base station, do the following in OpenMobility Manager.

1. Click **Portable parts**.



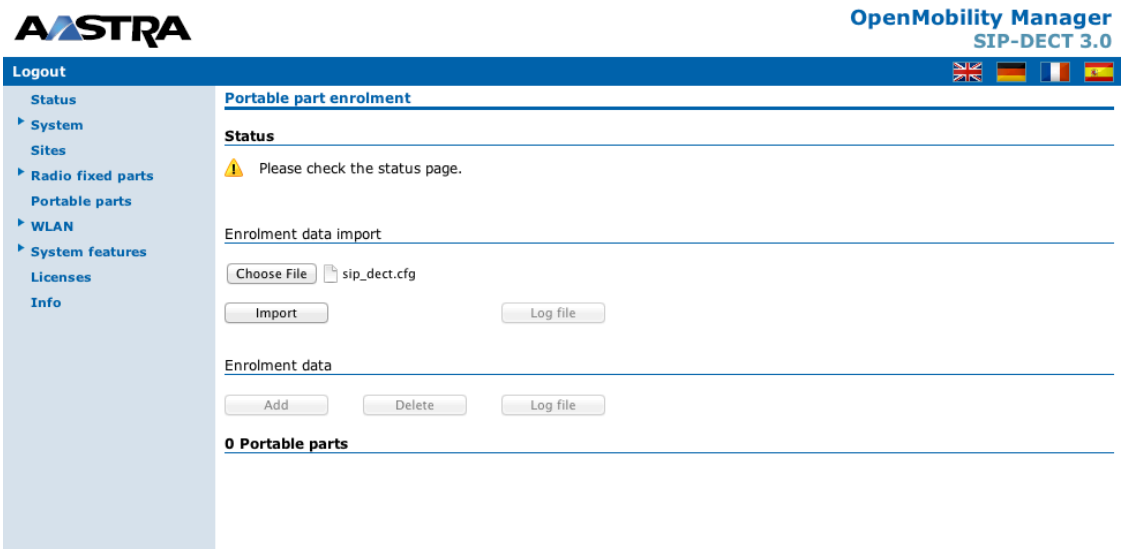
2. Click **Import**.



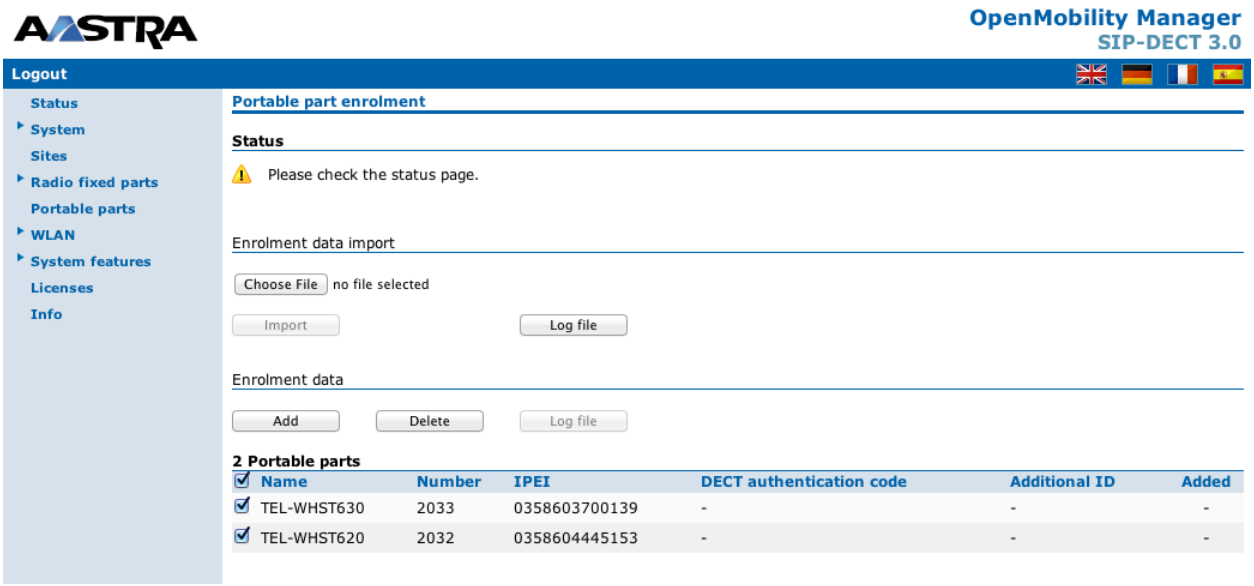
3. Click **Choose File**, there should be a pop up directory to allow you choose file.
4. Find *sip_dect.cfg*, click **Choose**. The file name displays on the page. See the next screenshot.

NOTE: The file, *sip_dect.cfg,* is the one that you saved when adding a Savant wireless phone using the Savant Configurator.

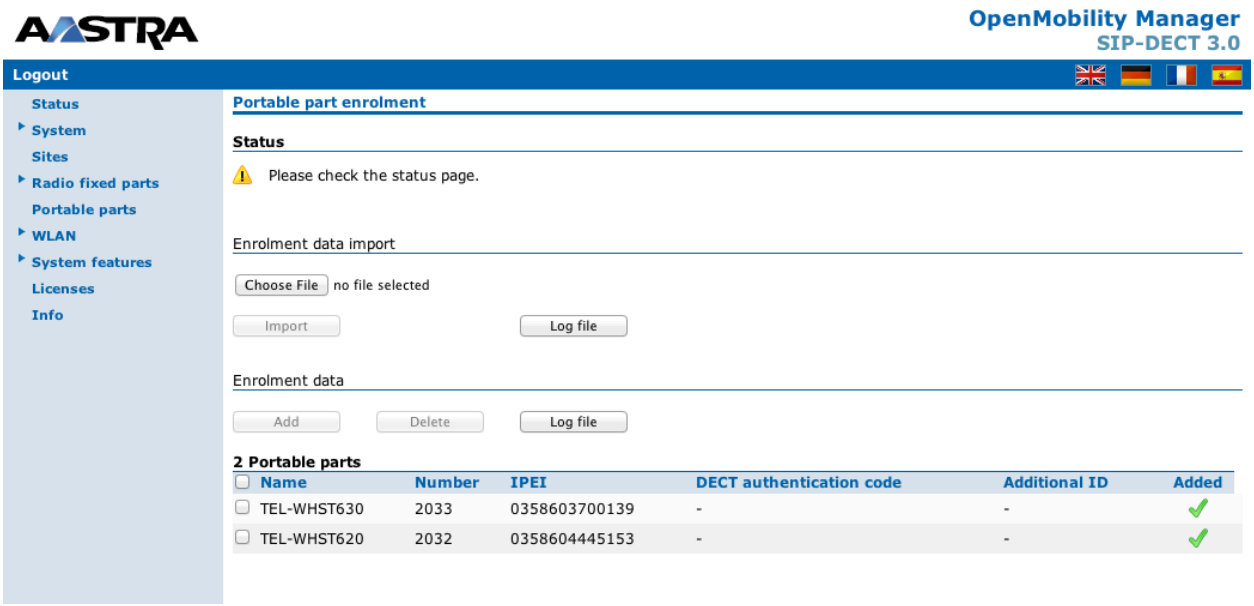
5. Click **Import**. Available handsets will be displayed. If the import fails, click the **Log file** button to get detailed information. You may need to go back to the procedure, *Adding Savant Wireless Phone*, and generate sip_dect.cfg file again.



6. Insert a check mark in each box beside the names of the required handsets. Insert a check mark beside **Name** to select all handsets.
7. Click **Add**.

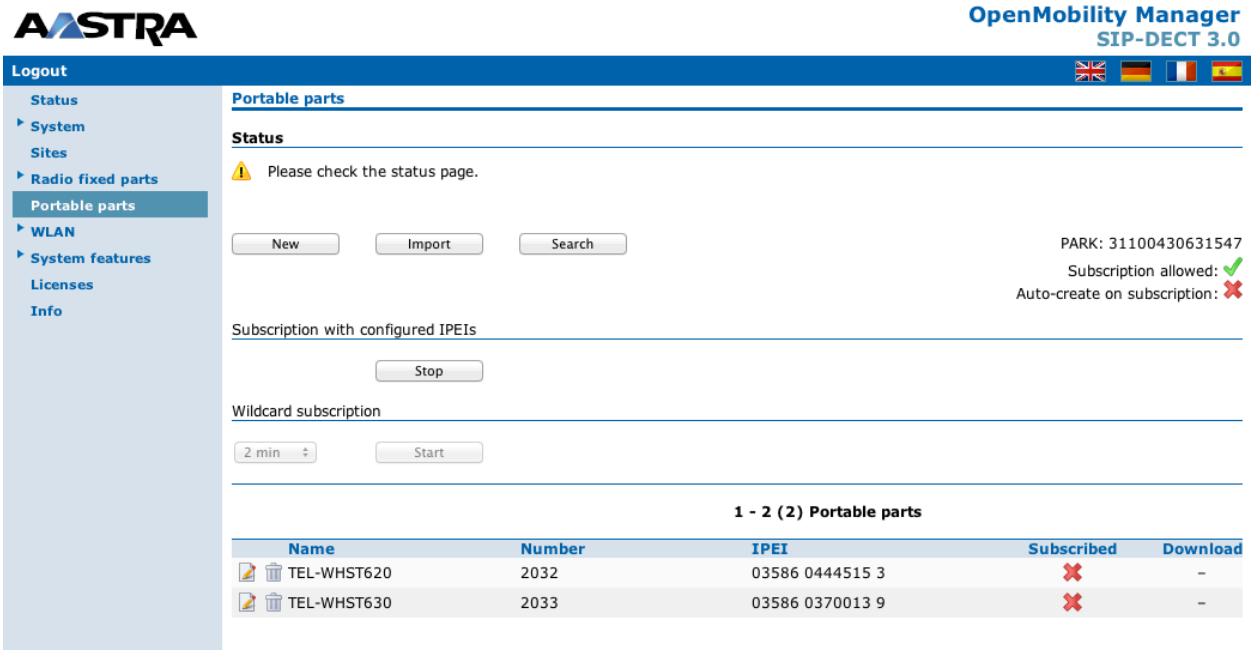


8. Confirm the handsets have been added (indicated by the green check marks).



9. Click **Portable parts** in left pane.

   Handsets are shown as not subscribed to the base station. See the next screenshot.

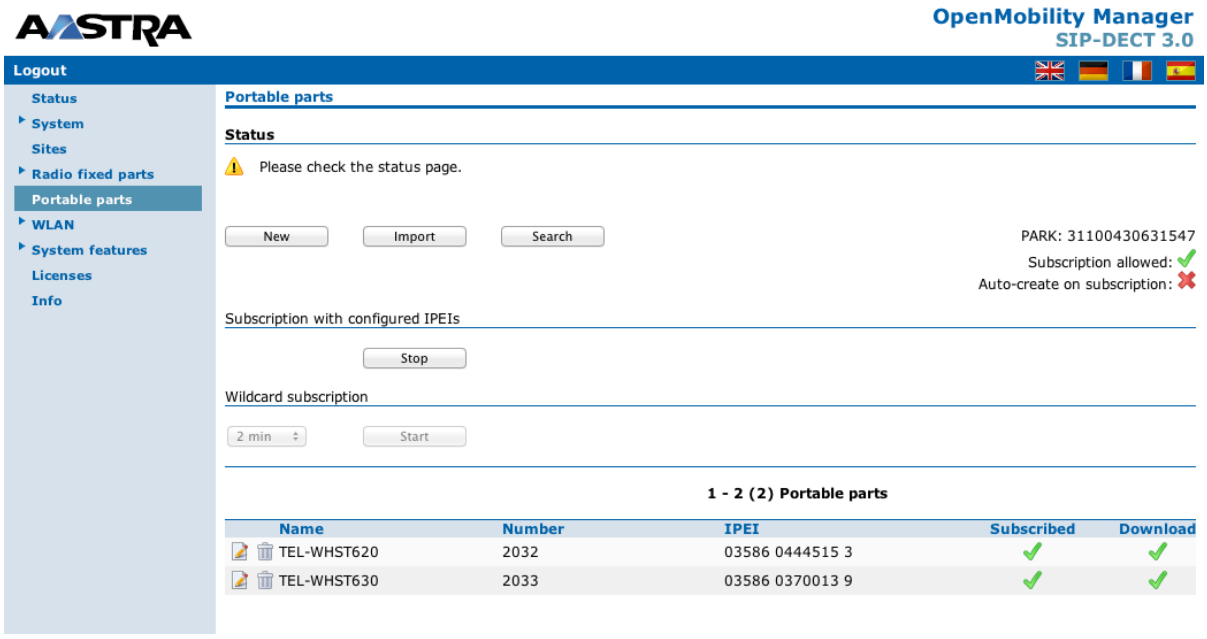


Next, subscribe wireless handsets to a base station. See the next procedure.

Subscribing Handsets to the Base Station

To subscribe handsets to the base station, do the following in OpenMobility Manager.

1. Ensure subscription is allowed and the handset is added to the system by checking the **OMM Portable parts** page. If subscription is allowed, you will see a green check mark for **Subscription allowed.** If added, you will see the handset's IPEI displayed. If subscription is not allowed, click the **Start** button under **Subscription with configured IPEI** to enable subscription."
2. From a handset, press right softkey to **Menu** screen.
3. Use ∇∆ to select **System**.
4. Press left softkey for ok to the **System** menu.
5. Use ∇∆ to select **Subscriptions**.
6. Press left softkey for ok to the **Subscriptions** menu.
7. Select **New system**. Press **ok**.
8. Leave **Auth. Code** blank.
9. Press left softkey for **Next** to the **New system** menu.
10. Select **Enter PARK**, press left softkey for **ok**.
11. Enter the numeric PARK number shown on the **Portable parts** page, circled in the next screenshot.



12. Press left softkey for **Next**.

    Screen displays **please wait**. After the subscription process is done, the screen will show handset's extension number, the system name and time. It is now ready to make and receive calls.

13. Confirm that the handset is subscribed by viewing the **Status** section in the **Portable parts** page. If subscribed, you will see a green check mark for **Subscribed**. Repeat to subscribe all handsets.

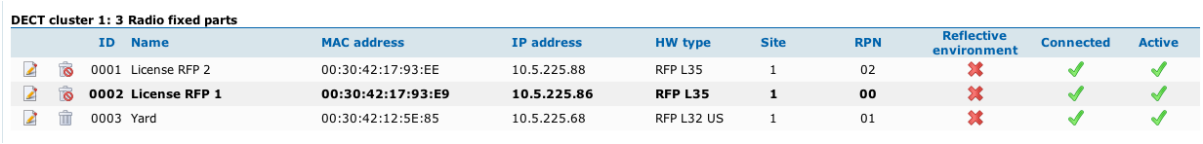
Integrating TEL-BST11/TEL-BST12 with TEL-BST01/TEL-BST02

If the Savant PBX system includes more than one base station, when a handset detects that another base station has a better signal strength, the handset starts the handover process, so that it will have better voice quality and extended coverage area.

Before You Begin

This procedure is only applicable if you are adding a TEL-BST11 or TEL-BST12 to a Savant PBX system already running with a TEL-BST01 or TEL-BST02.

1. In the left pane of OpenMobility Manager, click **Radio fixed parts**.
2. Under **HW type**, check the base station that OMM is running on—information is displayed in **Bold**.



DECT cluster 1: 3 Radio fixed parts

	ID	Name	MAC address	IP address	HW type	Site	RPN	Reflective environment	Connected	Active
	0001	License RFP 2	00:30:42:17:93:EE	10.5.225.88	RFP L35	1	02	✗	✓	✓
	0002	**License RFP 1**	**00:30:42:17:93:E9**	**10.5.225.86**	**RFP L35**	**1**	**00**	✗	✓	✓
	0003	Yard	00:30:42:12:5E:85	10.5.225.68	RFP L32 US	1	01	✗	✓	✓

If the base station running OpenMobility Manager (OMM) in the current system is a TEL-BST11 or TEL-BST12 follow the steps in the procedure *Booting the Base Station* and *Adding a Base Station*. Note if the current system does not have a license and the number of base stations is three or more (up to twenty) after expansion, a license is needed. Refer to the procedure, *Generating License for Multiple Base Stations*, to download a license file before adding a new base station to the system.

If the base station type in the current Savant PBX system is a TEL-BST01 or TEL-BST02, follow this procedure to add the TEL-BST11 or TEL-BST12 base station(s) to the existing system. For example, an existing system has two TEL-BST01 or TEL-BST02 base stations— running redundant OMM—with IP addresses: 10.5.225.66 and 10.5.225.68. Two TEL-BST11 or TEL-BST12 base stations will be added to the system, using IP addresses: 10.5.225.86 and 10.5.225.88.

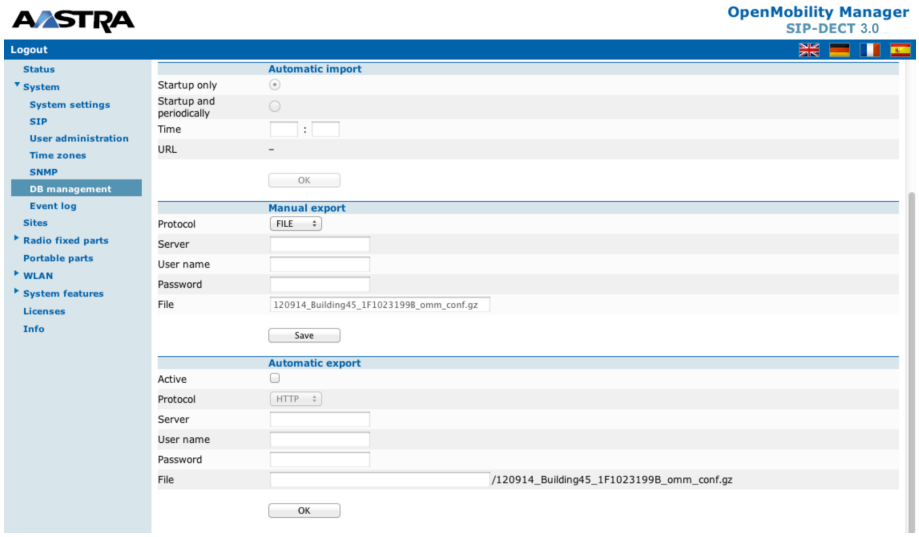
If the current system does not have a license and the number of base stations is three or more (up to twenty) after expansion, a license is needed. Refer to the section *Generating License for Multiple Base Stations* to download a license file.

NOTE: For more details on the way the OMM displays the base station model numbers, click here.

To add a TEL-BST11 or TEL-BST12 base station to a running system, do the following.

1. Open a web browser and log in to OMM.
2. To back up the current configuration, click **System** > **DB management** from the left pane.
3. Under **Manual export,** for **Protocol** select **FILE**. Leave the other fields blank.

   The file name is pre-defined as date_system name_PARK_omm_conf.gz and not changeable. The next screenshot shows an example filename, *120914_Building45_1F1023199B_omm_conf.gz*.

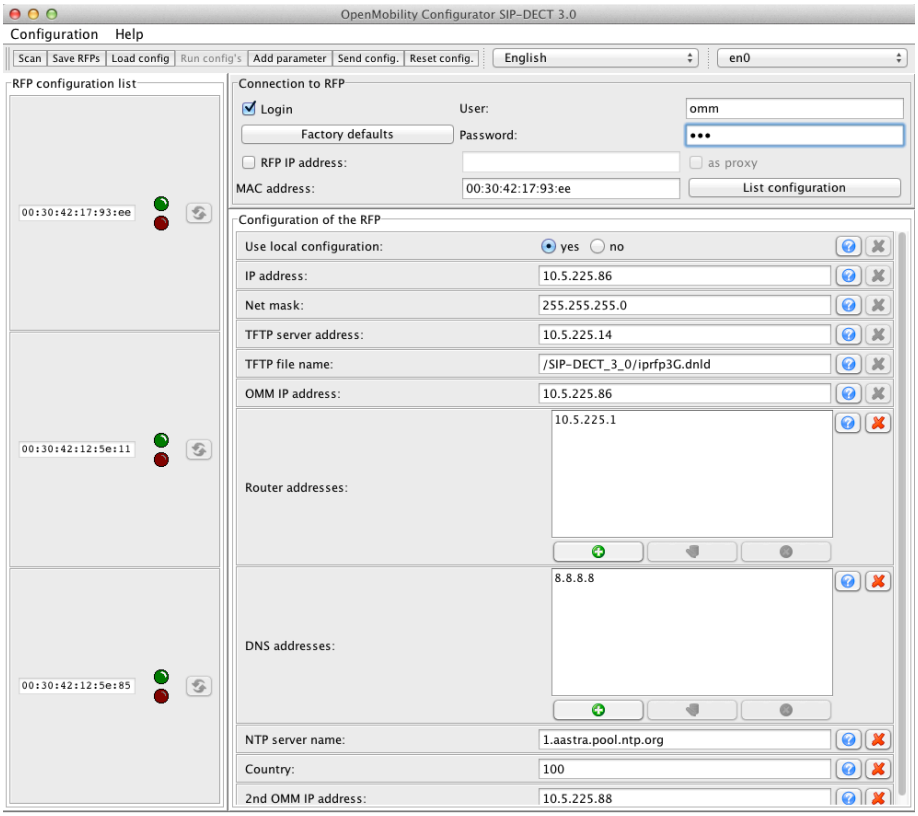


4. Click **Save**. This will download the system configuration to the *Downloads* folder under your user folder on your Savant Development Environment (SDE).

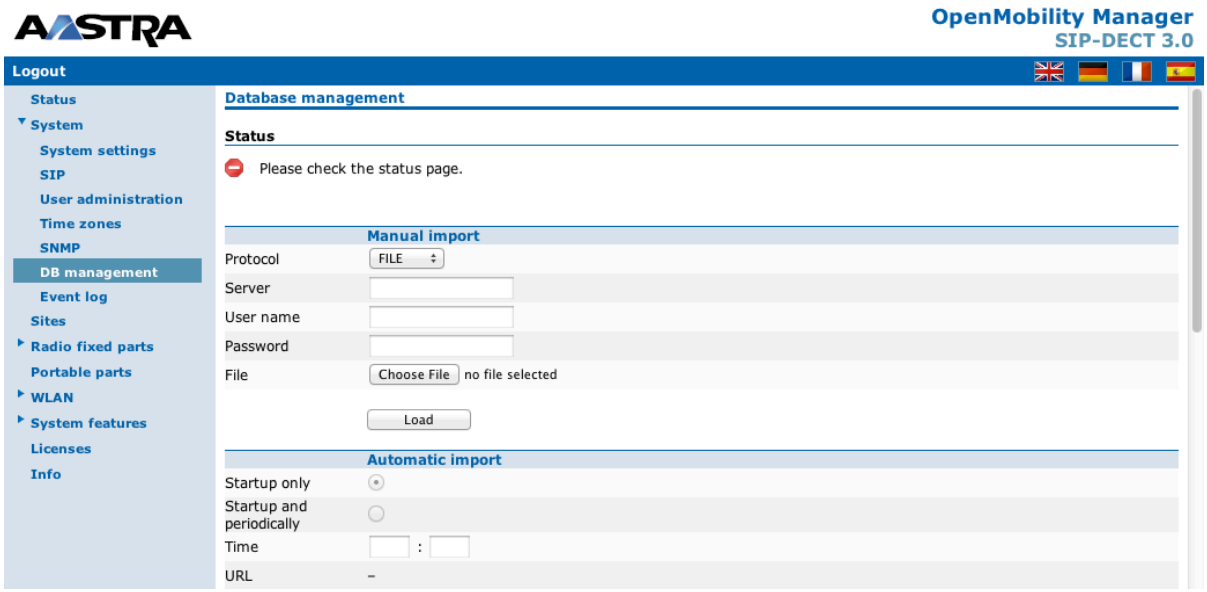
5. Perform the procedure, *Booting the Base Station* to boot up TEL-BST11 or TEL-BST12 base station(s).

Important! In a system running both TEL-BST01 or TEL-BST02, and TEL-BST11 or TEL-BST12 base stations, OMM must run on a TEL-BST11 or TEL-BST12 base station. If the system has a secondary OMM, OMM also must run on a TEL-BST11 or TEL-BST12 base station. As an example, the **OMM IP address** is set to 10.5.225.86 and **2nd OMM IP address** is set to 10.5.225.88.

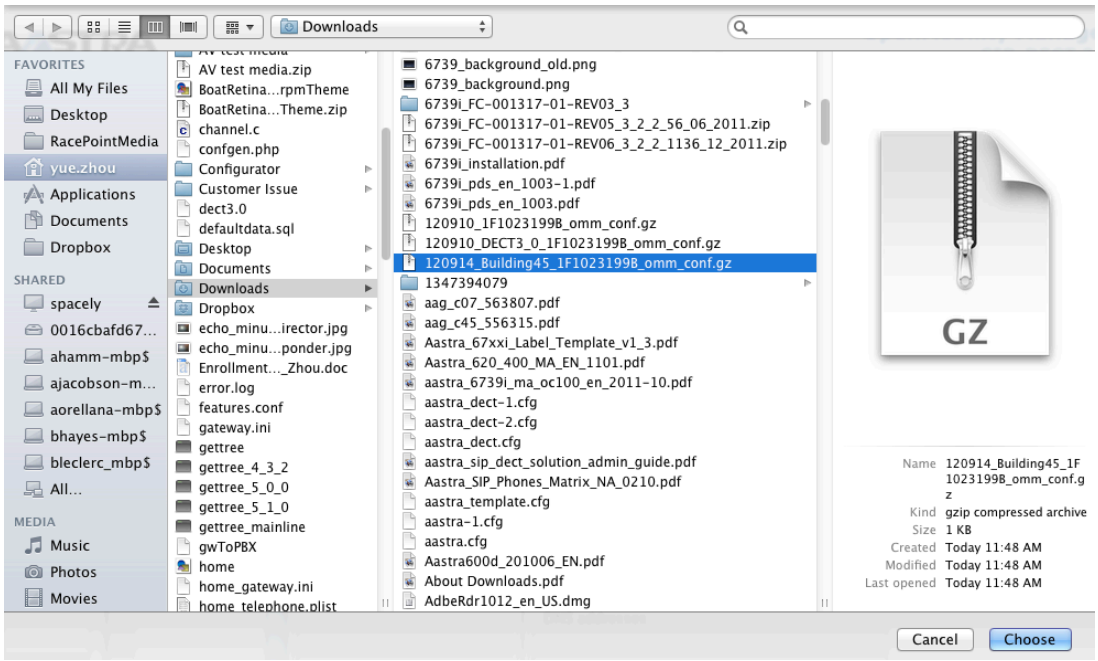
6. After booting up the new base stations, log in to a new OMM (the next screenshot shows 10.5.225.86 as an example) using omm/omm as the user name/password. Accept the end user license agreement. When you are asked to change Full Access and root user name and password, use the same as in the old OMM. Upload the license file, if needed. Keep the OpenMobility Configurator open for later use.



7. Load the configuration from the old OMM. Click **System** > **DB management** from the left.

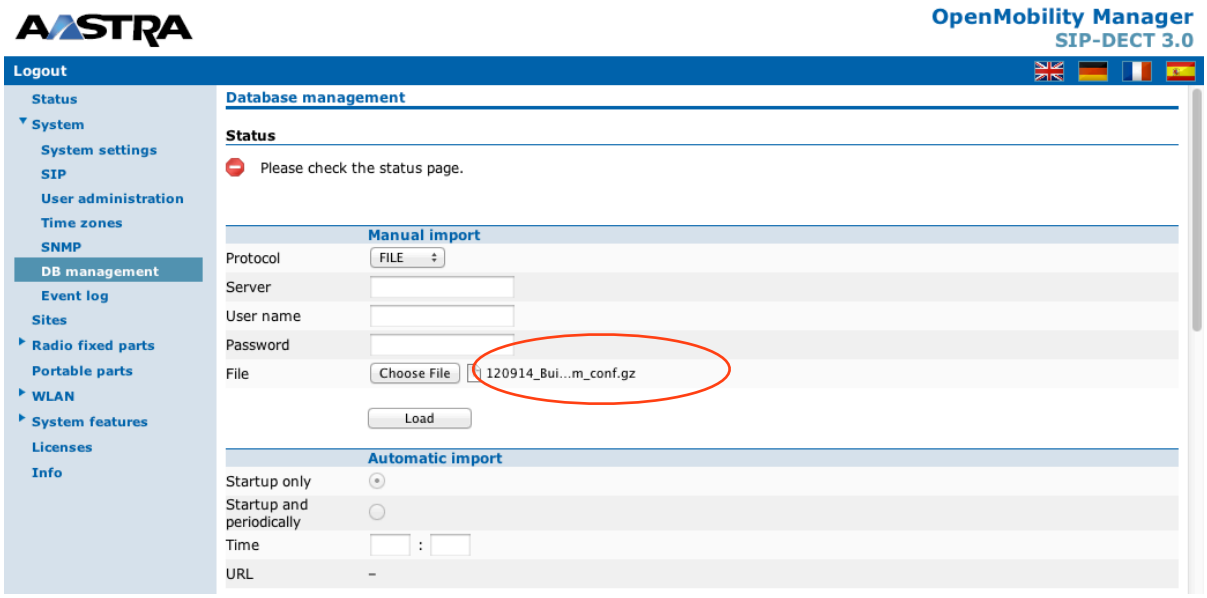


8. Under **Manual import**, select **FILE** for Protocol field, leave other fields empty then click **Choose File**. This will open a Finder window.



9. Select the file downloaded in step 3, click **Choose**.

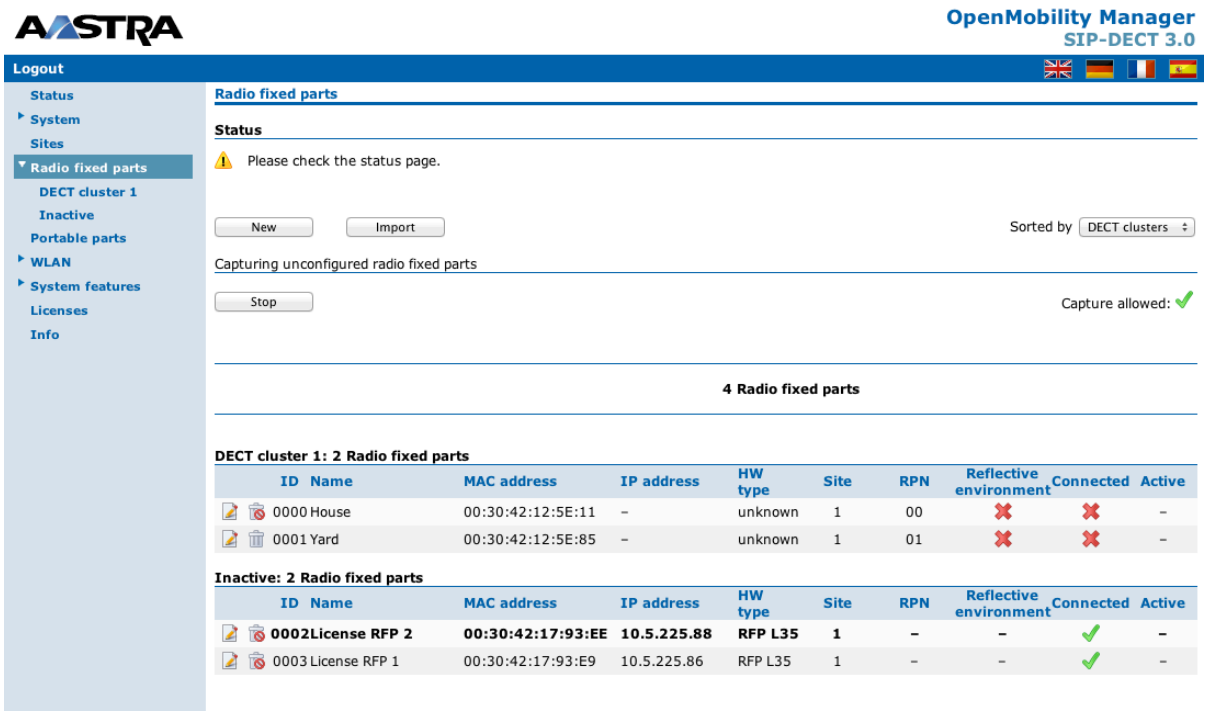
10. The file name selected displays (as circled in the next screenshot) on the **Database management** page.



11. Ensure that the pop-up window is not blocked. If using the Safari web browser, go to **Safari** > **Preference** > **Security**. Uncheck the box for **Block pop-up windows.**

12. Click **Load.** Click **OK** on the pop up window**.** This will restart OMM. After log in, you may be asked to accept end user license and change Full Access and root user name/password again. Use the same user name and password as in step 6.

13. Click **Radio fixed parts** from the left. Click **Start** so that there is a green check mark for **Capture allowed**.

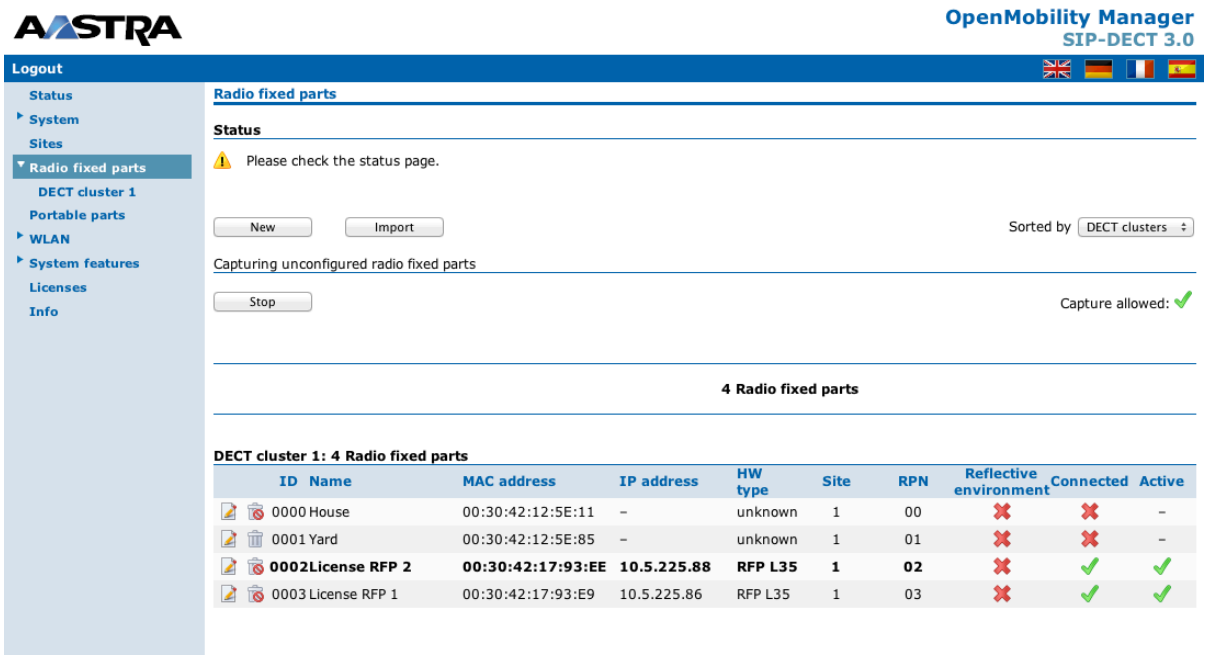


14. The TEL-BST01 or TEL-BST02 base stations in the original system should show up as not connected. The new TEL-BST11 or TEL-BST12 base stations booted in step 6 should show up as inactive.
15. Add new base stations to the system. Click the edit icon for each inactive TEL-BST11 or TEL-BST12 base station, configure following fields then click **OK**.

Field	Description
MAC address	Enter MAC address of the base station.
Name	Enter a name, for example, **House** (Inside).
DECT settings	Insert a check mark in the box.
DECT cluster	Enter: **1**
Preferred synchronization source	Insert a check in the box if this is the base station you want to use as the synchronization source. For a system that has multiple base stations, the synchronization source should be the one in the middle.

16. Wait a moment so that all newly added TEL-BST11 or TEL-BST12 base stations become connected and active.

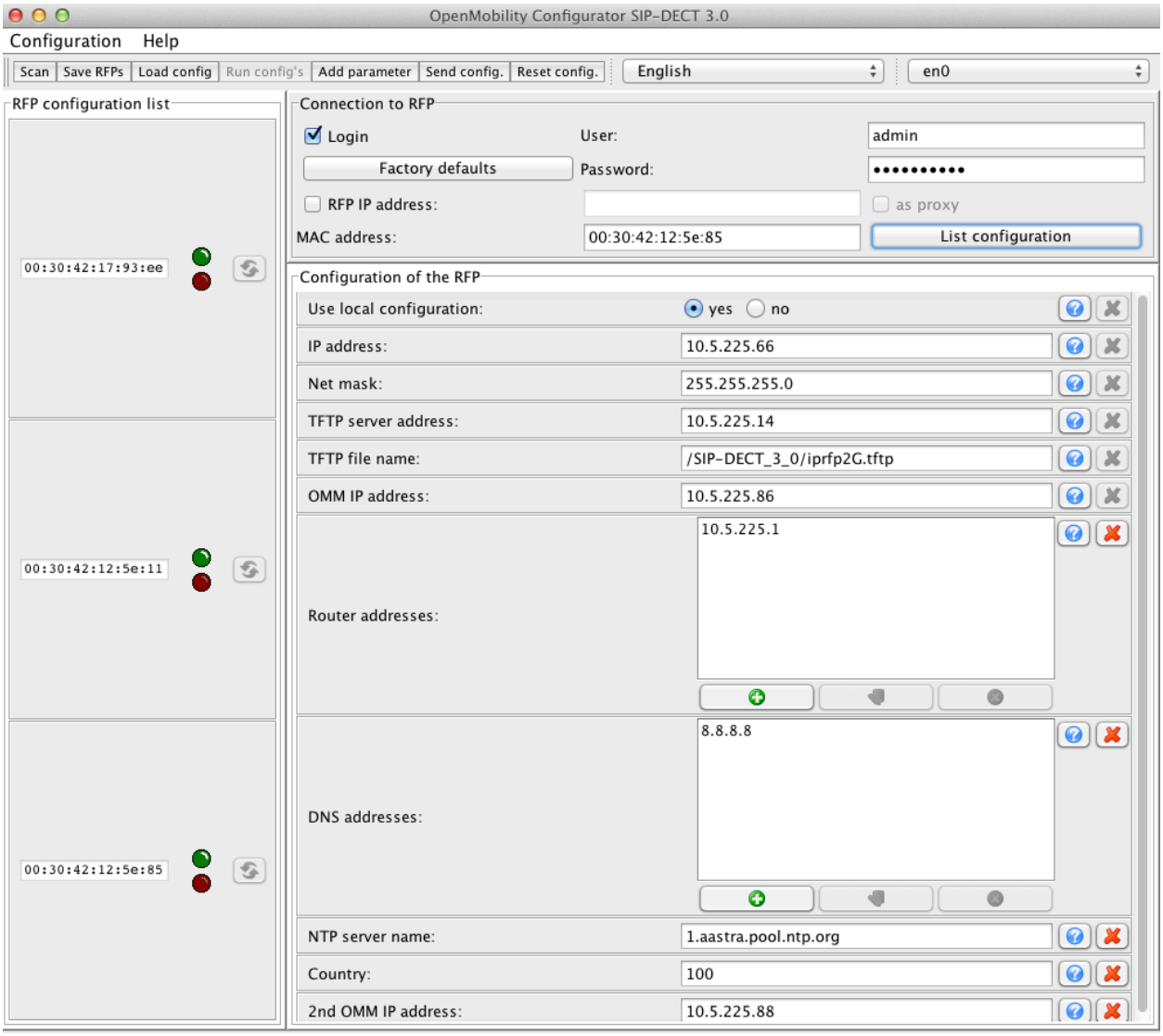
17. Confirm that all newly added TEL-BST11 or TEL-BST12 base stations are display as connected and active.



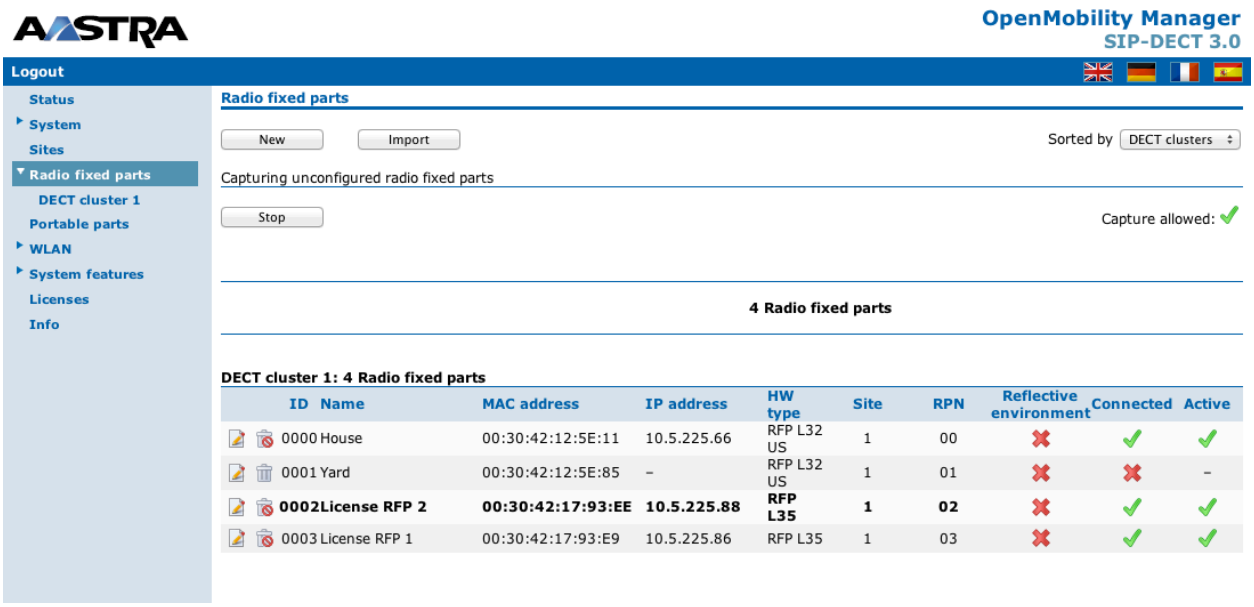
18. Move the base stations controlled by the old OMM to the new OMM. Go to the OpenMobility Configurator used in step 6.
19. For the **MAC address** field, enter the MAC address of one TEL-BST01 or TEL-BST02 base station.
20. In the **User** and **Password** fields, enter full access user name and password. Make sure the **Login** box is checked. Keep all other fields the same as in step 6 when you booted up TEL-BST11 or TEL-BST12 base stations, except the following:

Field	Description
IP address	IP address assigned to base station
TFTP file name	/SIP-DECT_3_0/iprfp2G.tftp

21. Click **Send config**.



22. Once the base station is booted up, it should show connected and active under the **Radio fixed parts** in OMM.
23. Repeat steps 17-21 to reconfigure all TEL-BST01 or TEL-BST02 base stations.



24. If voice mail is configured in the Savant PBX system, click **Systems > System settings.**

    Enter the voice mail extension number used in Savant Phone Configurator in the **Voice mail numbe**r field.

25. Click **OK**.

6. SAVANT PUBLIC ANNOUNCEMENT SYSTEM

This section describes the Savant Public Announcement (and paging) system (PAS-1000).

PAS-1000 Hardware

The Savant Public Announcement device requires the following cables for a proper installation: Power cable (sold separately), Ethernet cable and a 1/8 inch audio jack to RCA cable as is shown in the next image.

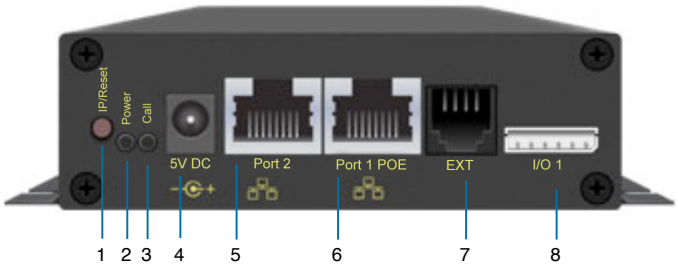
The view to the left shows the ethernet ports (Port 2 is Power Over Ethernet), the power supply and LEDs.

The view to the right shows the audio inputs/ outputs.

The audio control system PAS-1000 augments an existing SIP PBX as another communications component. An announcement, using the PAS-1000, is produced by initiating a call from a telephone or iOS Device. The PAS-1000 unites the functions of a telephone with a high-performance digital amplifier for broadcasting announcements. The PAS-1000 is used to add Whole House Page All functionality to the Savant PBX system. When a call is connected, the PAS-1000 output can be redirected back to the master controller on an RCA Stereo Input, which can then output to all the zones in the house.

PAS-1000 Ports and Connectors

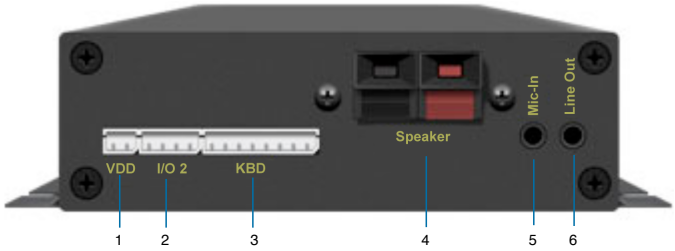
The callouts in the next image of one of the panels of the PAS-1000 relate to the descriptions provided in the next table.



The next table associates the callouts in the previous figure with the functionality of the PAS-1000.

Number	Function	Description
1	IP/Reset	Key for announcement of IP address (press once) Resets IP address (press and hold)
2	Power	Red LED indicates power is on
3	Call	Green LED indicates call is connected
4	5V DC	Optional port for 5V DC power
5	Port 2	RJ-45 port; 10/100 Mbps Base-T, auto-negotiating port
6	Port 1 POE	IEEE 802.3af Power Over Ethernet (PoE)
7	EXT	Not applicable
8	I/O 1	Not applicable

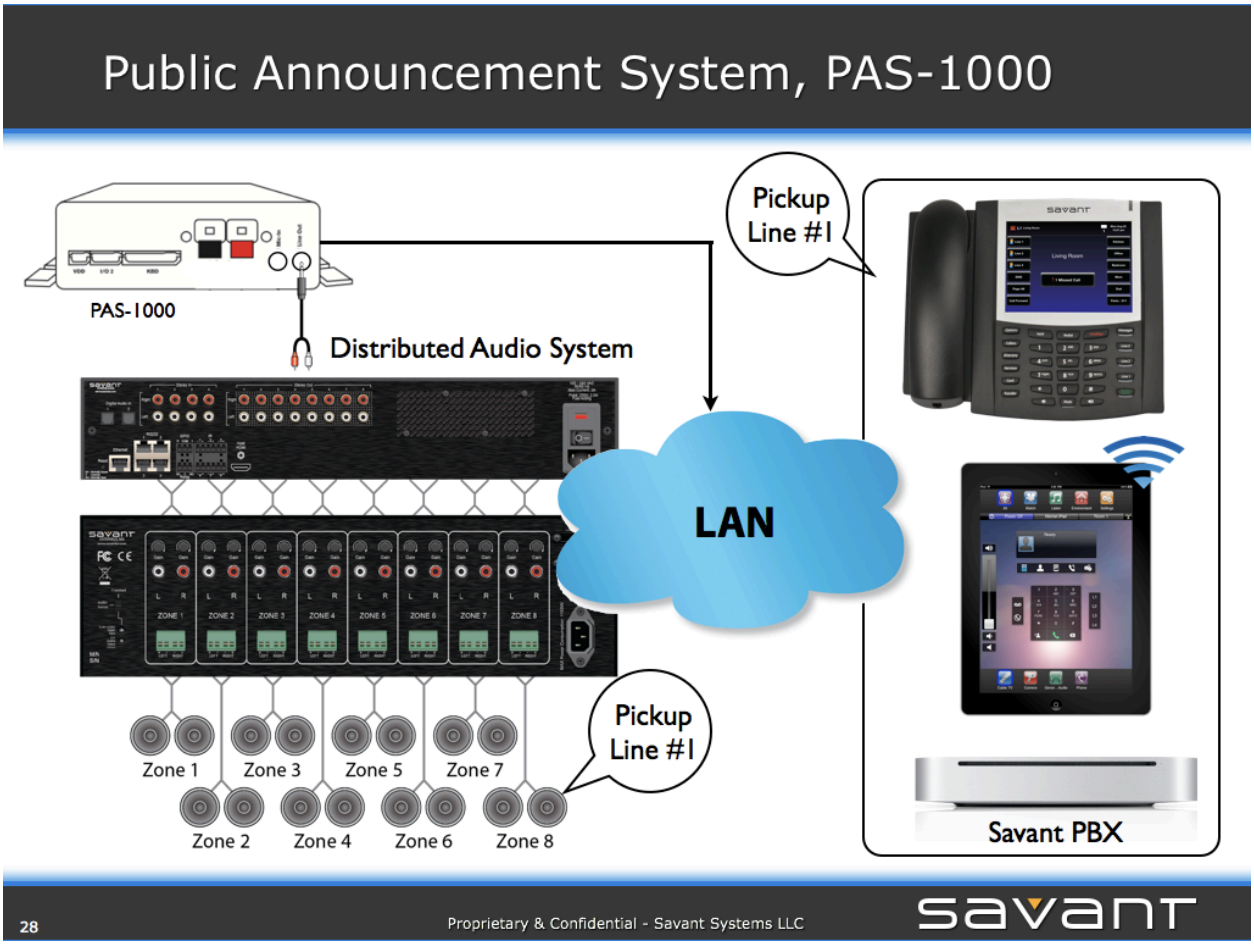
The callouts in the next image of one of the panels of the PAS-1000 relate to the descriptions provided in the next table.



The next table associates the callouts in the previous figure with the functionality of the PAS-1000.

Number	Function	Description
1	VDD	Not applicable
2	I/O 2	Not applicable
3	KBD	Not applicable
4	Speaker	Connects to a speaker—four-watt amplifier (8 ohm) is built-in
5	Mic-In	Used to connect headphone
6	Line Out	Used to connect to Savant controller using headphone to RCA adapter cable

The next diagram shows an overview of the components supported with the Savant PBX system.



Configuration of the PAS-1000

To configure the PAS-1000, ensure the following procedures have been completed:

1. Configure the PAS-1000 in RacePoint Blueprint™. See Adding the Savant PA System.
2. Configure the PAS-1000 in the Savant Configurator as a device to the Savant PBX. For details, see Adding a Savant PA System.
3. Upload the configuration file to the PAS-1000. For details, see Uploading Configuration File to the Savant PA System.

7. THIRD-PARTY DOOR ENTRY SYSTEMS INTEGRATION

This section describes the third-party door entry systems that can be integrated as endpoints into a Savant PBX system. The Savant PBX treats the door unit as an IP phone, thus if your door entry system is an analog one, a conversion is needed to successfully integrate it with the Savant PBX.

The Savant PBX supports the following door entry systems:

- Three Analog Door Entry Systems:

  Holovision 404 with Viking Dialer

  The Holovision 404 intercom system with Viking E-XX functions as a two way call speaker phone. Savant recommends using the Viking E-30 or Viking E-40.

  Siedle

  This system is set up with an-Integrated Access Device (TEL-IAD1 or TEL-IAD2), and includes a loud speaker, color camera, SIP interface, and PBX interface.

  DoorKing 1812 Access Plus

  The DoorKing 1812 requires an Integrated Access Device (TEL-IAD1 or TEL-IAD2) and can connect to your home network, program the system, and receive reports via the internet.

- Two VoIP Door Entry Systems:

  Holovision with Cyberdata

  The Holovision with Cyberdata SIP Intercom is already an integrated IP phone. You must configure the unit to register to the Savant PBX and dial the number that is associated with the Ring Group. The following Holovision models are supported by the Savant PBX:

All 400 Series	All 700 Series
Model 513	All 800 Series
All 600 Series	All 900 Series

  Mobotix T24

  The Mobotix T24 is a fully operational SIP phone with an IP camera included.

Procedures For Each Door Entry System

Use the following procedures (in the sequence shown) to set up an analog door entry system:

Holovision 404 with Viking Dialer

- Setting Up an Analog Door Entry System
- Adding the Holovision/Viking Dialer in Savant Configurator

Siedle

- Configuring a Siedle Unit using RacePoint Blueprint
- Configuring a Siedle Unit using Savant Configurator
- Setting Up a User for a Siedle Door Entry System

DoorKing

- Configuring a DoorKing Unit using RacePoint Blueprint
- Integrating a DoorKing 1812 with a Savant PBX

Use the following procedures (in the sequence shown) to set up the VoIP door entry systems:

Holovision 404 with Cyberdata Module

- Configuring Holovision with Cyberdata SIP Intercom Using Savant Configurator
- Configuring Holovision Cyberdata VoIP Intercom

VIO by Holovision VoIP Intercom

- Configuring VIO by Holovision VoIP Intercom

Mobotix T24

- Adding the Mobotix T24 Using RacePoint Blueprint
- Adding a Mobotix T24 Using Savant Configurator
- Configuring VoIP Settings for Mobotix T24 Intercom

Setting up an Analog Door Entry System

To operate an analog door entry system—Holovision 404 and Viking intercom module—within a Savant PBX, other hardware components are required, as specified in the next table.

NOTE: It is assumed that a Savant PBX and at least one iPad® are already configured and working properly with the Savant PBX, before adding the door entry system.

Hardware	Recommended Model	Description
Door Intercom Unit	Model 100 for Savant Systems	Order Model 100-VIK, plus the SIP adaptor and dialer
SIP Adapter	Cisco SPA112 (TEL-IAD2)	This is an analog telephone adapter (also referred to as an integrated access device) that connects a Viking dialer, such as an E-10, E30, or E-40 to an IP network, enabling SIP-supported VoIP communication. For more information on Cisco SPA112, see: http://www.cisco.com/en/US/products/ps11977/index.html
Dialer	Viking Programable Tone Dialer Model: K-1900-5	This generates a call to contact the Savant PBX server by dialing a preprogramed number. This number will trigger the PBX server to ring one or more iOS devices in the house or facility.
Analog phone	Any available analog phone	Needed to set up the dialer and helps with debugging.

To set up the door entry system, the analog RJ-11 cable from the Holovision 404 unit must be plugged into the Viking dialer phone port. The cable from the dialer must be plugged to the Integrated Access Device (TEL-IAD1 or TEL-IAD2) Phone 1 Port (Phone 2 will be disabled). See the next figure showing the cable connections.

Connections to Analog Door Entry System Holovision 404

Viking Programable Dialer

Perform the following steps to set the “hot” number that will be used when the user presses the intercom button in the Holovision unit.

Currently the Savant PBX has a preassigned number or extension of 7000 for this purpose. Therefore, assign 7000# —# signals end of digits to the Integrated Access Device (TEL-IAD1 or TEL-IAD2) to the Viking Dialer.

1. Call the phone connected to the Dialer
2. Answer phone. Enter *& and security code (Factory set to 845464)
3. Write your security code for future references.
4. Enter 7000*##00

For additional programming see www.vikingelectronics.com/products/view_product.php?pid=160.

Using Bonjour to Add Integrated Access Device to Network

The Integrated Access Device advertises itself via Bonjour®.

1. Connect the power adapter and Ethernet cable to the TEL-IAD2.
2. Open Safari and click **Bonjour**. If Bonjour is not included on your Bookmarks Bar, see the procedure for adding it by clicking here (see page 56).
3. Select **SPA112** from the list of devices that Bonjour has detected.

Reset Procedure for Integrated Access Device: TEL-IAD2

It can be helpful to reset your integrated access device to its factory default settings.
If you are using a used device, then resetting your device to factory default settings is highly recommended.

NOTE: The integrated access device is labelled as Cisco SPA112. In the Savant product line this device is referred to as an Integrated Access Device (TEL-IAD2). The Savant Configurator configures this device as an ATA Adapter. The user web interface refers to the Cisco SPA112.

To reset your TEL-IAD2, do the following.

1. Using a telephone cable, connect a telephone to the PHONE 1 port of the device.
2. Power up your device unit using its power adapter.
3. Unplug the Ethernet cable from the device.
4. Dial ****, and wait for the Interactive Voice Menu (IVM) to get activated.
5. After hearing IVM message, type in the following number with the # symbol: 73738#

   This number spells RESET.
6. Confirm the reset by pressing 1.

Registering Integrated Access Device to Savant PBX: TEL-IAD2

If you believe the settings of your TEL-IAD2 will interfere with the setup of your door entry system, reset the device to the factory defaults before continuing.

To reset your TEL-IAD2 back to its factory default settings, see the Reset Procedure for Integrated Access Device: TEL-IAD2.

To register to the Savant PBX the TEL-IAD2 will be assigned the extension number 2031 and the Savant PBX will be assigned the IP Address as the Registrar Server.

To set the device so that it can be properly registered to the Savant PBX, do the following.

1. Determine the IP address of your device. To do this, use your phone handset attached to the Line 1 jack and dial:**** (four asterisks)
   then dial: 110 #

   The interactive voice system will state the IP address of your device (for example, 192.168.0.100).

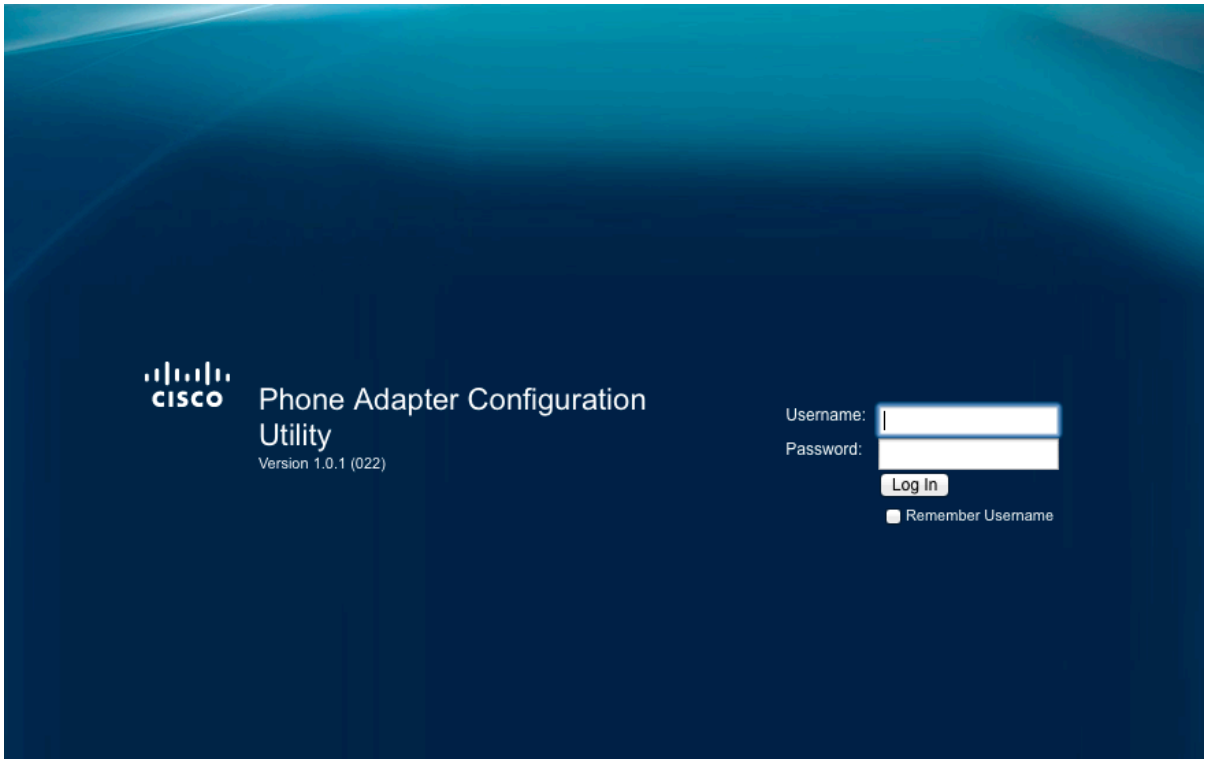
2. Write down the IP address.
3. Open your web browser and enter the IP address of your device:

   http://<IP ADDRESS>/
   (where <IP ADDRESS> is replaced by the address of your device.

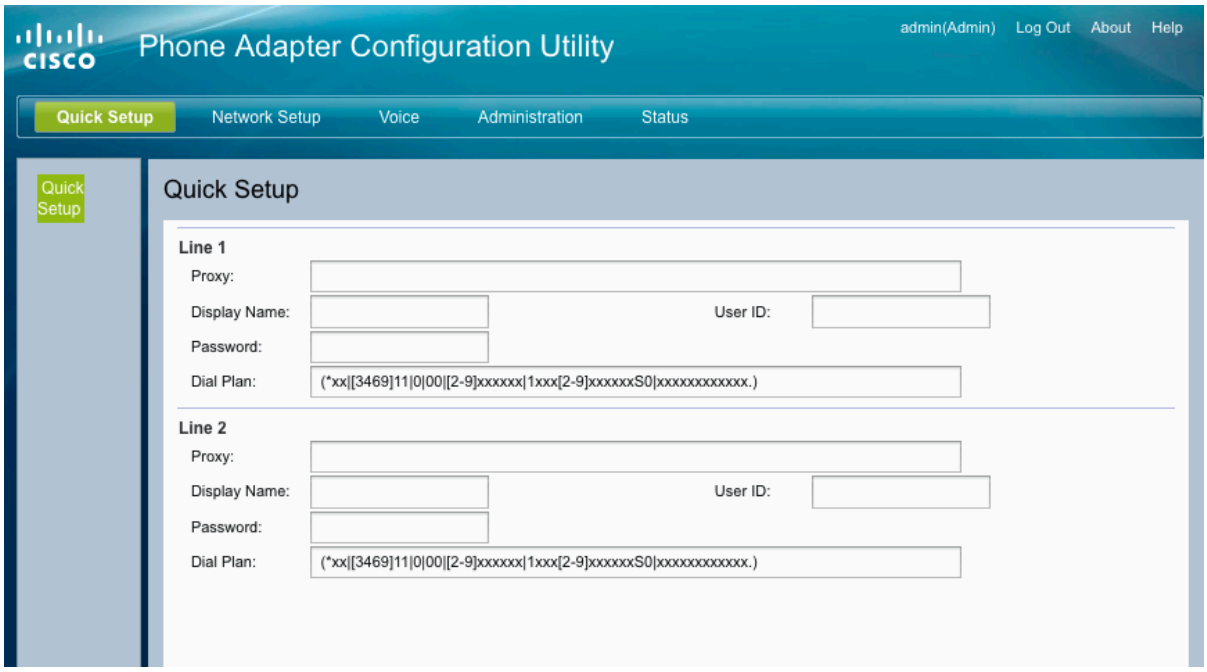
   The web user interface to your device opens.
4. Log in using the following:

   Username: admin

   Password: admin

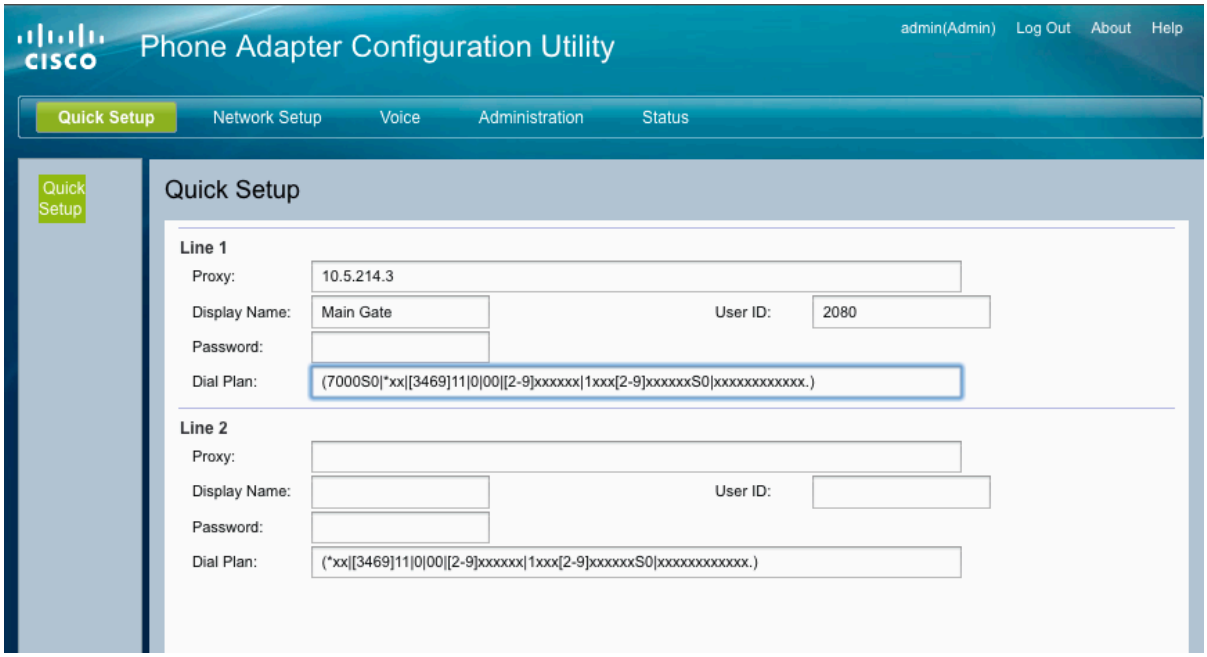


5. Click **Quick Setup** to configure **Line 1**.

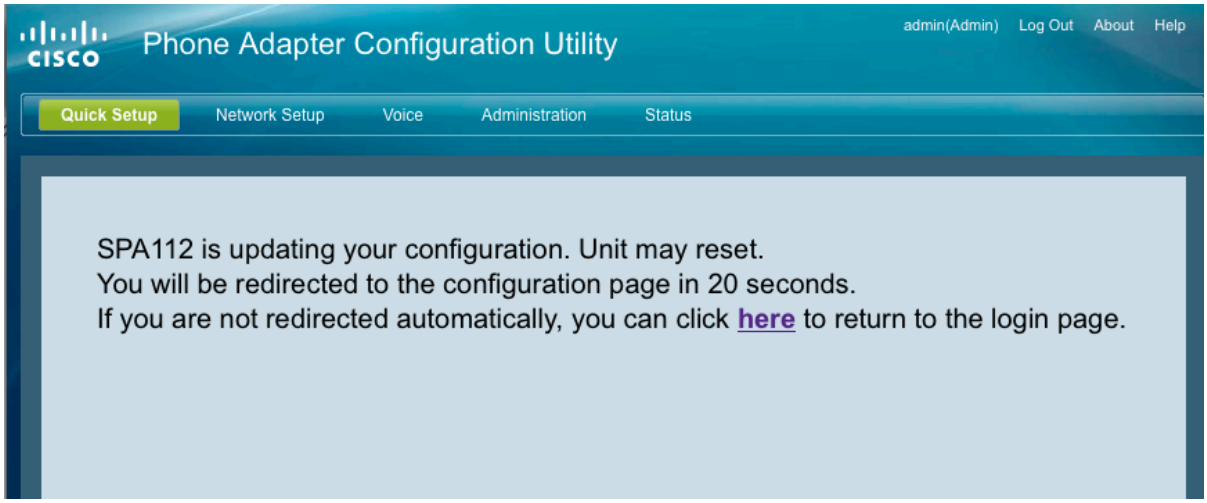


6. Use the next table to enter or select values for the specified fields on the **Quick Setup** for **Line 1** shown in the previous screenshot.

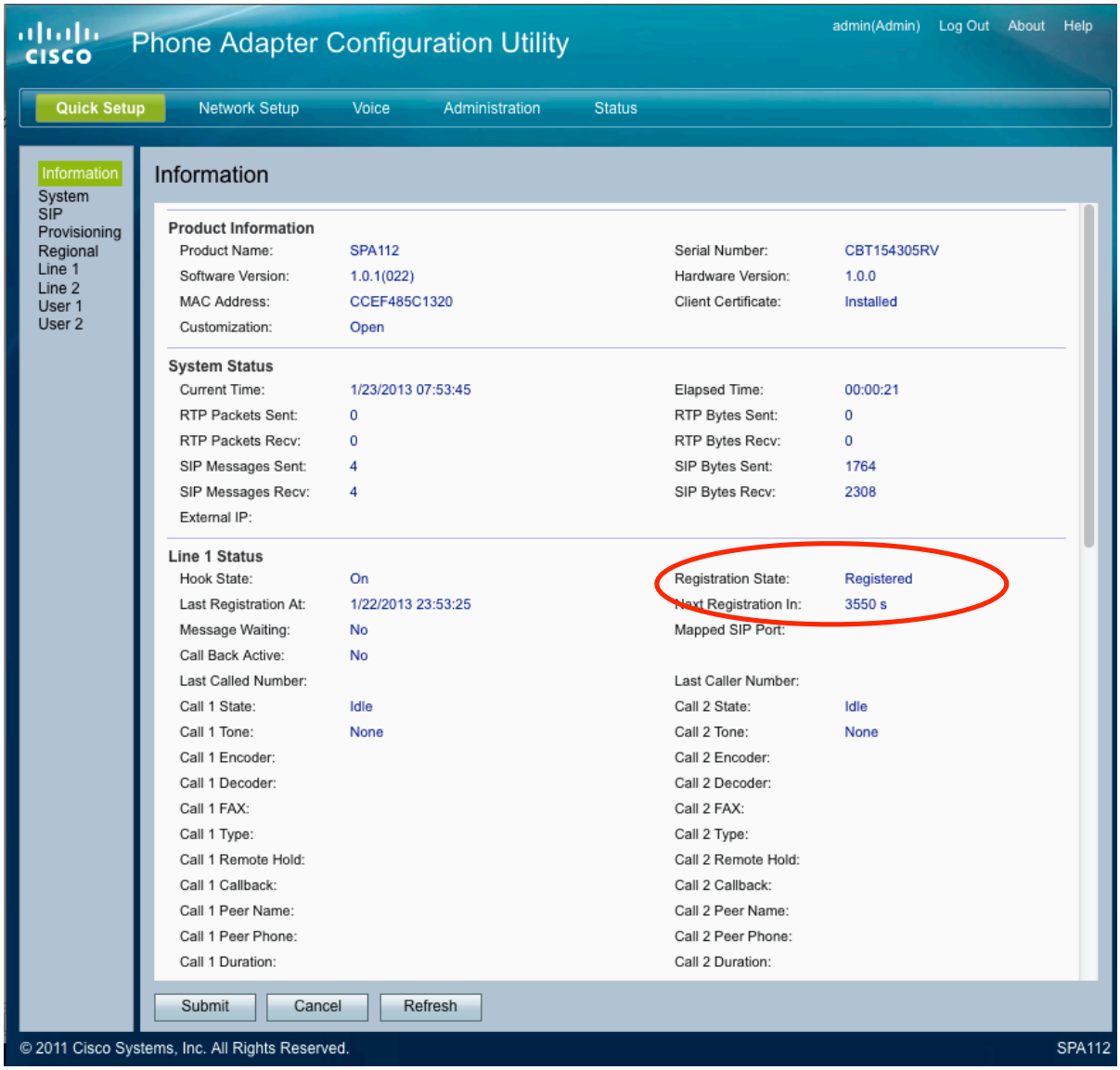
Field	Description
Proxy	The IP address of the Savant PBX in the example screenshot is 10.5.214.3
Display Name	Enter a meaningful name. This will be displayed on the iPads when a call is sent from the door entry system.
User ID	Enter the Device Number used when the ATA device (Integrated Access Device—TEL-IAD2) was added in Savant Configurator.
Password	Leave this blank.
Dial Plan	Replace *xx with 7000S0 | *xx 7000 is the extension associated with a *RingAll* call group defined in Savant Configurator.



7. Click **Submit**. You will see the following screen. Wait until the device is back.

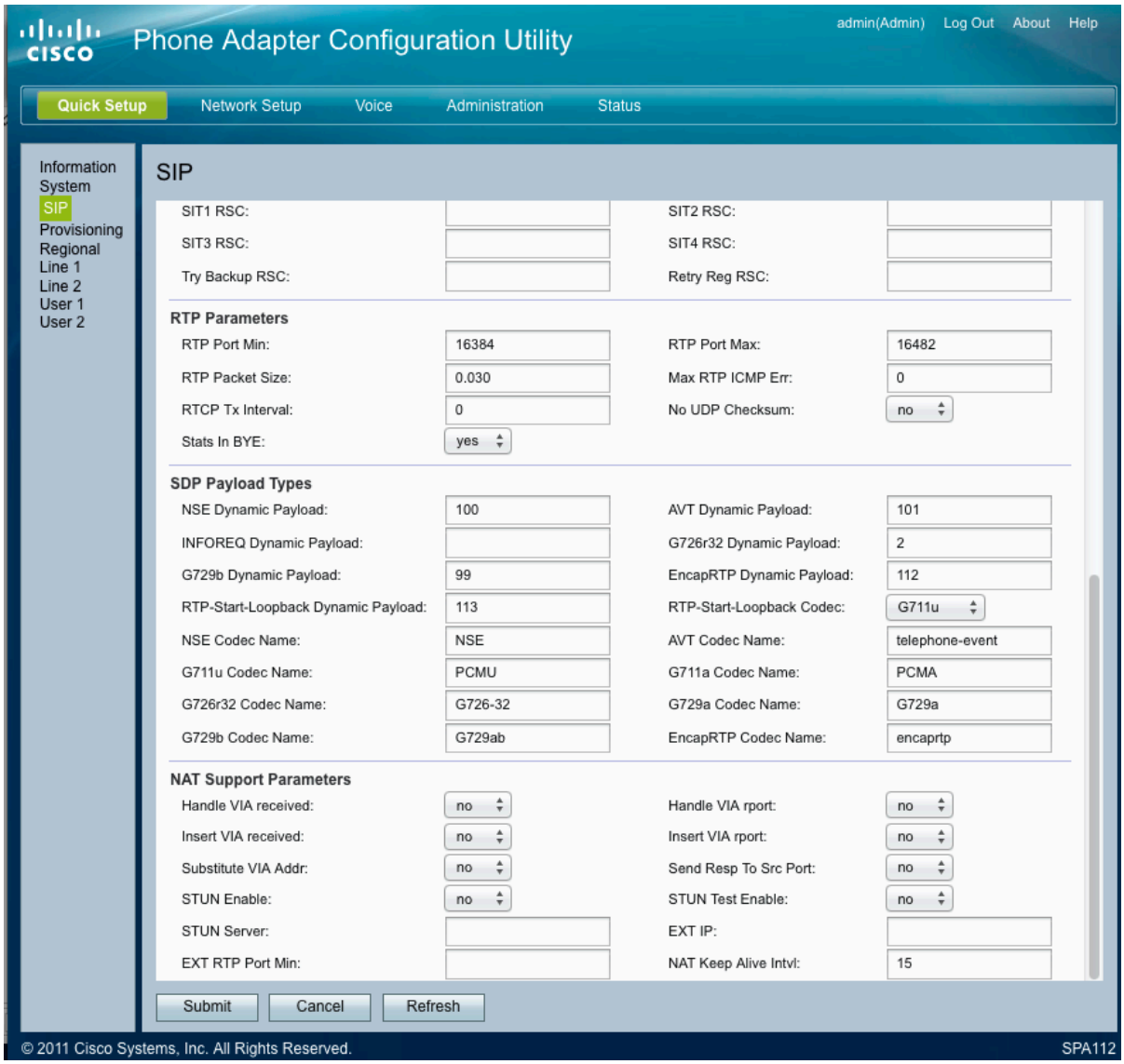


8. Check that the device is registered with the PBX.

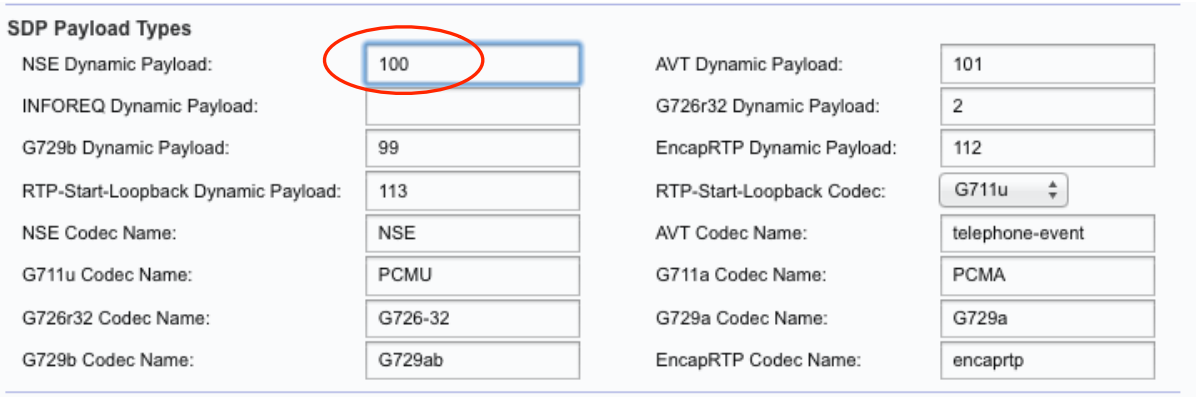


9. Click the **Voice** tab.

10. Click **SIP**.

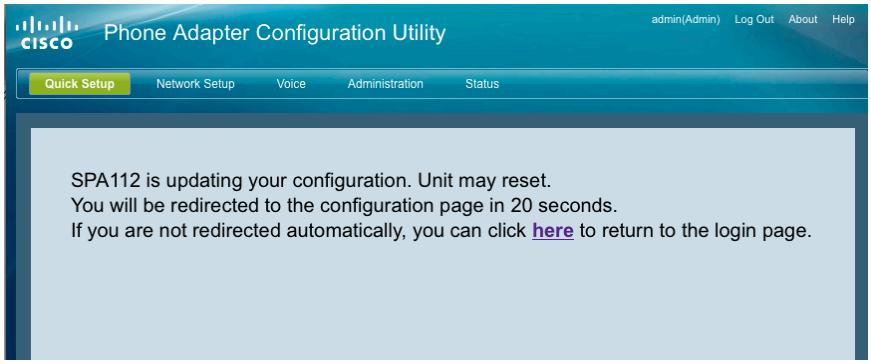


11. Scroll down to **SDP Payload Types** and delete the value—default is 100—for the **NSE Dynamic Payload** field. See the next screenshot (partial view).



12. Click **Submit**.

13. Wait for the device to reset.

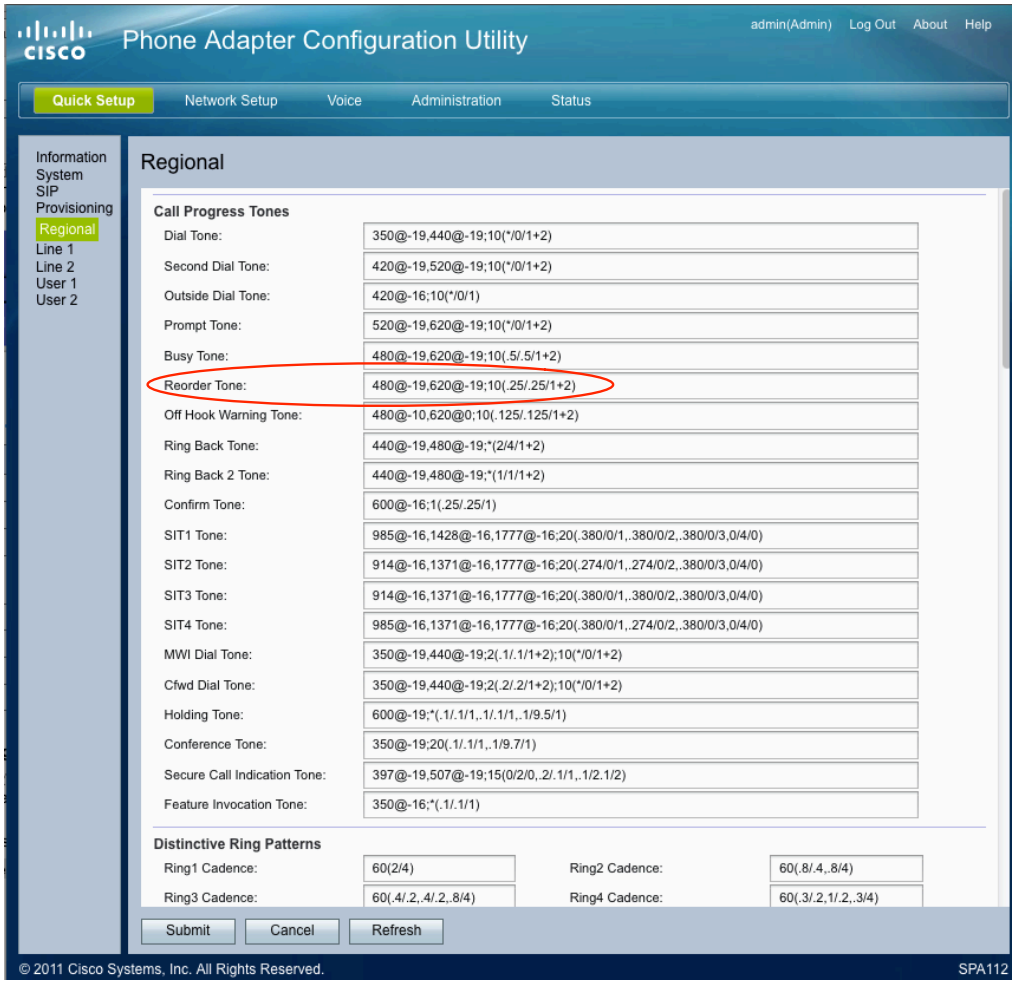


If you require another port to be configured for a second door entry station, click the **Quick Setup** tab and proceed to configure Line 2 to access the options of that line. Repeat Step 6. Ensure that the UserID is unique.

Inhibit Reorder/BusyTones: TEL-IAD2

If you need to inhibit Reorder/Busy tones (usually needed when using Holovision along with Viking Intercom units), do the following.

1. Click the **Voice** tab in the web user interface used in the previous procedure.
2. Click **Regional.**
3. In the **Call Progress Tones** section, find the **Reorder Tone** (as shown circled in the next screenshot).



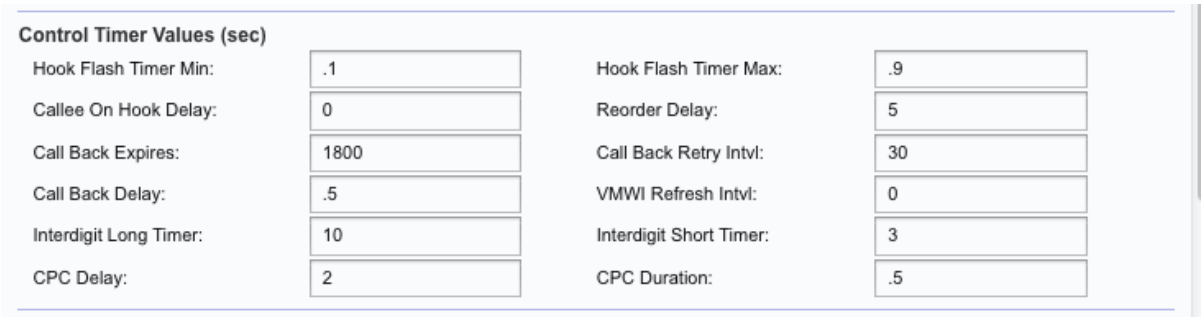
4. Modify the **Reorder Tone** string as follows:

   480@-19,620@-19;0(.25/.25/1+2)

5. In the **Call Progress Tone** section, modify the **Off Hook Warning** tone string as follows:

   480@-10,620@0;0(.125/.125/1+2)

6. Scroll down to the **Control Timer Values** section:



7. Change the **Reorder Delay** value to 0.
8. Click **Submit**. The line will detect “silence” this is enough for some device to go on-hook.
9. It may be necessary to add a device which will send a Calling Party Control (CPC) disconnect signal over an analog phone line. If this is the case, Savant Systems recommends installing a Viking CPC unit. This unit will disconnect the analog line upon detection of reorder tone and or silence. After setting up the proper wiring connections between the door entry unit, the Viking dialer and the integrated access device (TEL-IAD2), pressing the intercom button will start a call and the iPads will ring. The first person to answer the call will be connected to the door entry unit allowing a full duplex conversation. The other iPads will be disconnected.

Reset Procedure Integrated Access Device: TEL-IAD1

It can be helpful to reset your Integrated Access Device (TEL-IAD1) to factory default settings. If you are using a used TEL-IAD1, then resetting your adapter to factory default settings is highly recommended.

NOTE: This integrated access device is labelled as Linksys PAP2T. In the Savant product line this device is referred to as an Integrated Access Device (TEL-IAD1). The Savant Configurator configures this device as an ATA Adapter. The user web interface refers to the Linksys PAP2T.

To reset your TEL-IAD1, do the following.

1. Using a telephone cable, connect a telephone to the PHONE 1 port of the TEL-IAD1.
2. Power up your TEL-IAD1 unit using its power adapter.
3. Unplug the Ethernet cable from the TEL-IAD1.
4. Dial ****, and wait for the Interactive Voice Menu (IVM) to get activated.
5. After hearing IVM message, type in the following number with the # symbol: 73738#

   This number spells RESET.
6. Confirm the reset by pressing 1.

Registering Integrated Access Device to Savant PBX: TEL-IAD1

If you believe the settings of your TEL-IAD1 will interfere with the setup of your door entry system, please reset the device to the factory defaults before continuing.

To reset your TEL-IAD1 unit back to its factory default settings, see the Reset Procedure Integrated Access Device: TEL-IAD1

To register to the Savant PBX the TEL-IAD1 will be assigned the extension number 2031 and the Savant PBX will be assigned the IP Address as the Registrar Server.

To set theTEL-IAD1 (also referred to as Linksys PAP2T) so that it can be properly registered to the Savant PBX, do the following.

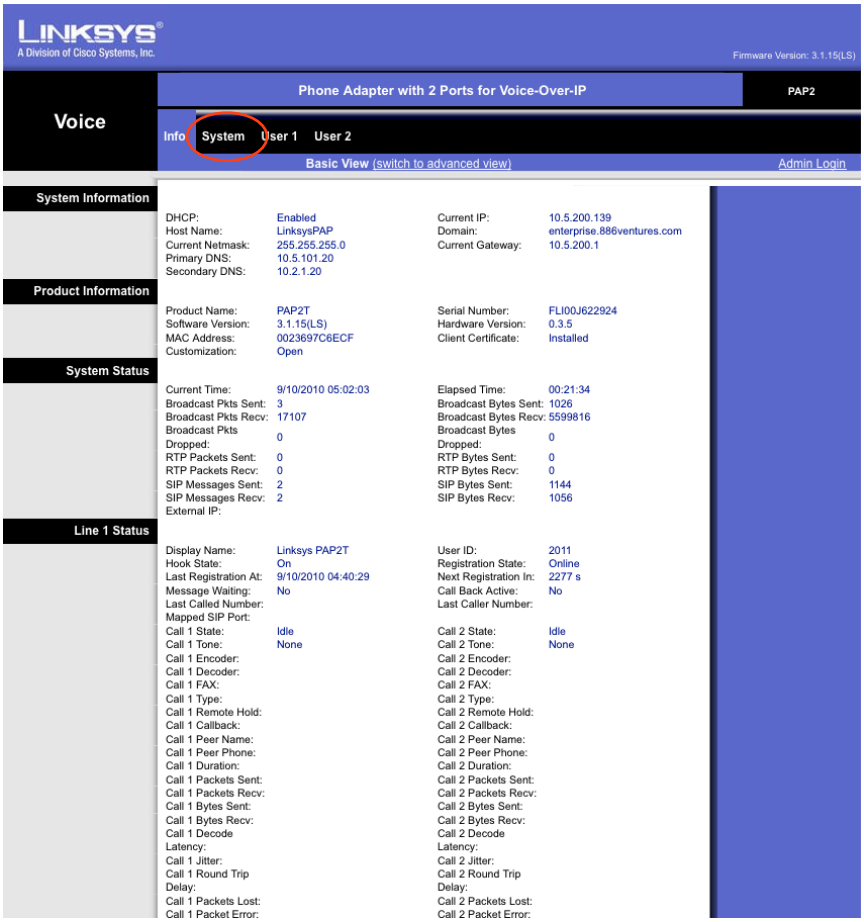
1. Determine the IP address of your TEL-IAD1. To do this, use your phone handset attached to the Line 1 jack and dial:**** (four asterisks)
   then dial: 110 #

   The interactive voice system will state the IP address of your device (for example, 192.168.0.100).

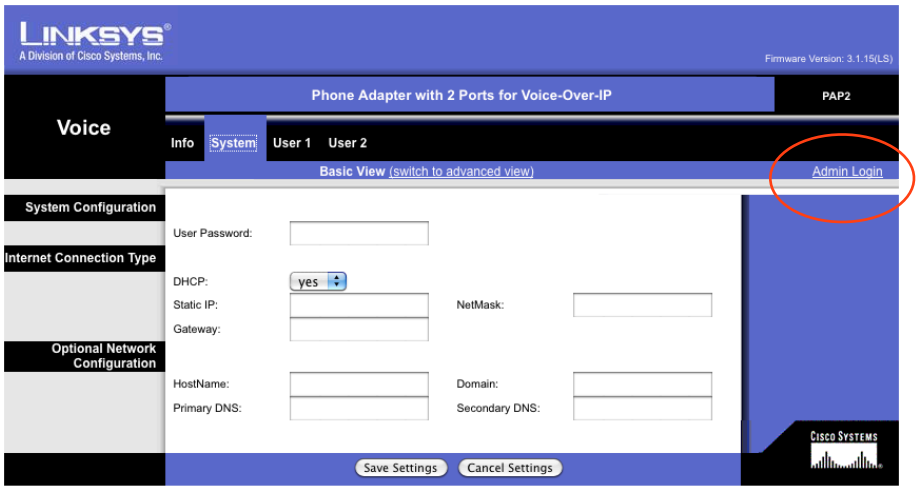
2. Write down the IP address.
3. Open your web browser and enter the IP address:

   http://<IP ADDRESS>/
   (where <IP ADDRESS> is replaced by the address that was provided in Step 1.

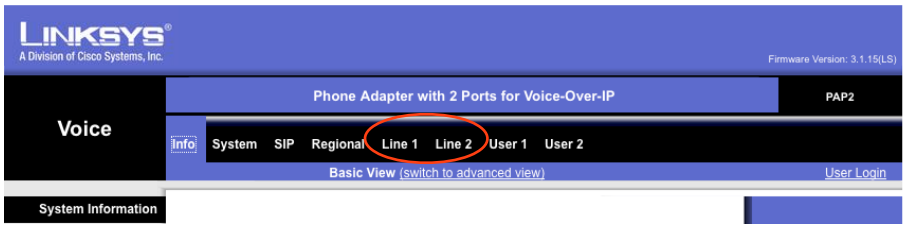
   The user interface to your TEL-IAD1 opens. See the next screenshot.



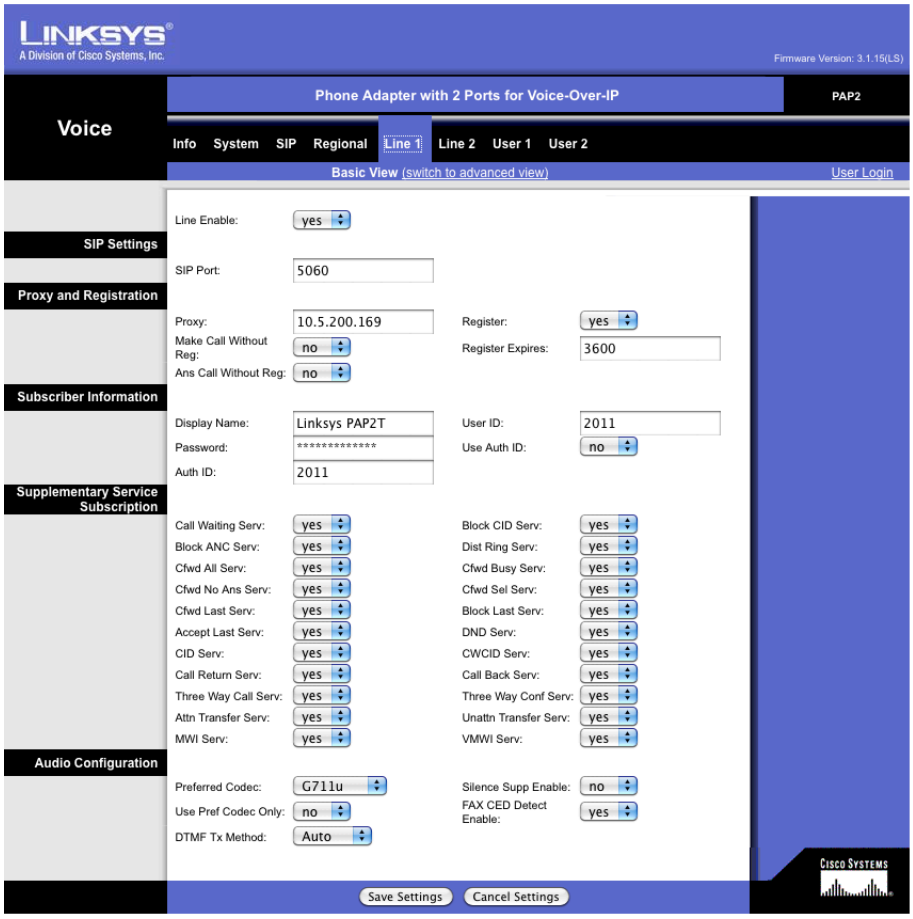
4. Click **System** (circled in the previous screenshot).
5. Ensure that DHCP is set to **yes**. See the next screenshot.



6. Save the settings. Repeat step 1-3 with the new IP address.
7. Click **Admin Login** (circled in the previous screenshot).
8. After you click **Admin Login** a view of the available lines displays. See circled area of next screenshot



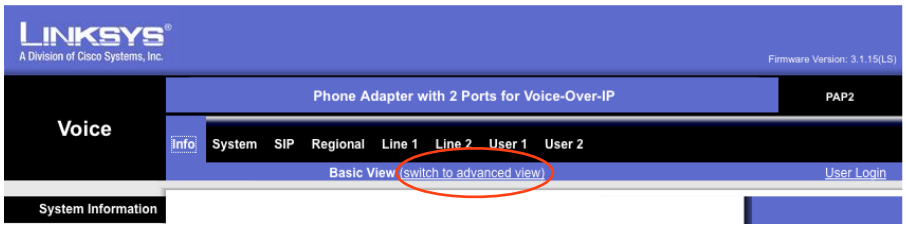
9. Click **Line 1** to access the options of that line. See the next screenshot.



10. Use the next table to enter or select values for the specified fields on the **Basic View** page shown in the previous screenshot.

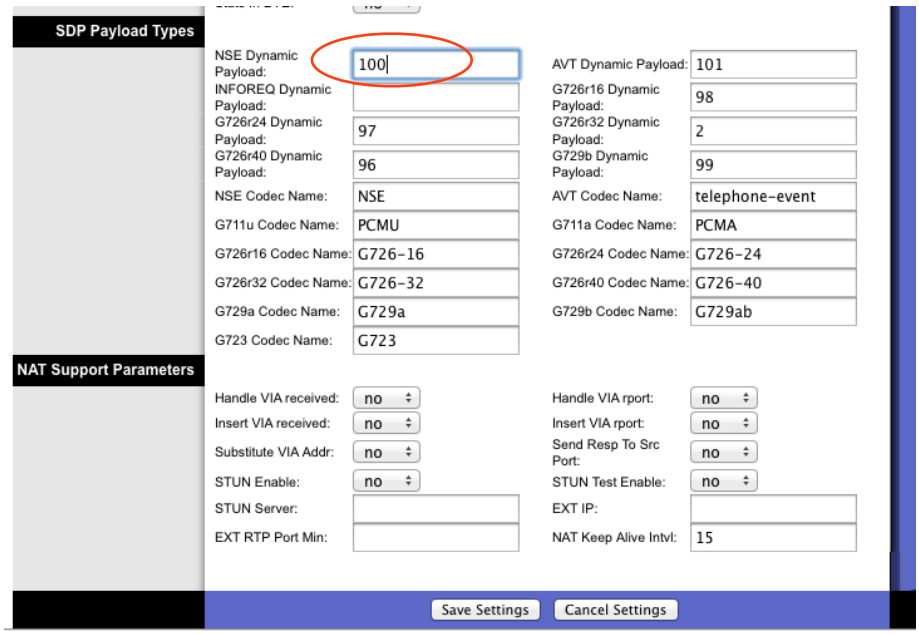
Field	Description
Line Enable	Set to **yes**.
SIP Port	Use 5060.
Proxy	The IP address of the Savant PBX in the example screenshot is 10.5.200.169
Display Name	Enter a meaningful name. This will be displayed on the iPads when a call is sent from the door entry system.
User ID	Enter the Device Number used when the TEL-IAD1 device was added in Savant Configurator.
Password	Leave this blank.
Auth ID	Enter the device number used when the TEL-IAD1 device was added in Savant Configurator.
Use Auth ID	Set to **no**.

11. Click **Save Settings**.
12. Click **switch to advance view**, as circled below.

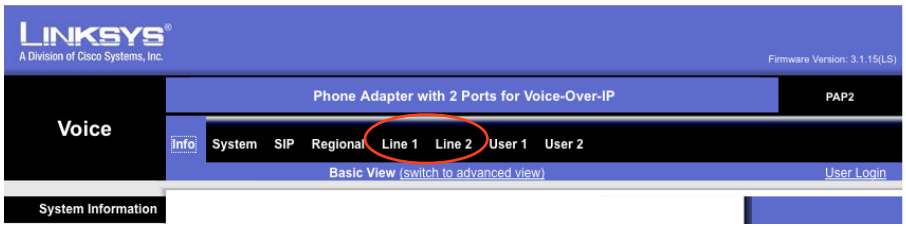


13. Click **SIP** tab.

14. Scroll down to **SDP Payload Types** and delete the value—default is 100—for the **NSE Dynamic Payload** field. See the next screenshot (partial view).



15. Click **Save Settings**.
16. If you require another port to be configured for a second door entry station, click Line 2 to access the options of that line. See the next screenshot. If you do not require a second port, skip this step and Step 17-18, and continue with Step 19.



17. Use the next table to enter or select values for the specified fields on the **Basic View** page for Line 2.

Field	Description
Line Enable	Set to **yes**.
SIP Port	Use 5061.
Proxy	Use the same IP address of the Savant PBX that you entered for Line 1.
Display Name	Enter a meaningful name. This will be displayed on the iPads when a call is sent from the door entry system.
User ID	Enter the Device Number used when the TEL-IAD1 was added in Savant Configurator.
Password	Leave this blank.
Auth ID	Enter the device number used when the TEL-IAD1 was added in Savant Configurator.
Use Auth ID	Set to **no**.

18. Click **Save Settings**.

Inhibit Reorder/BusyTones: TEL-IAD1

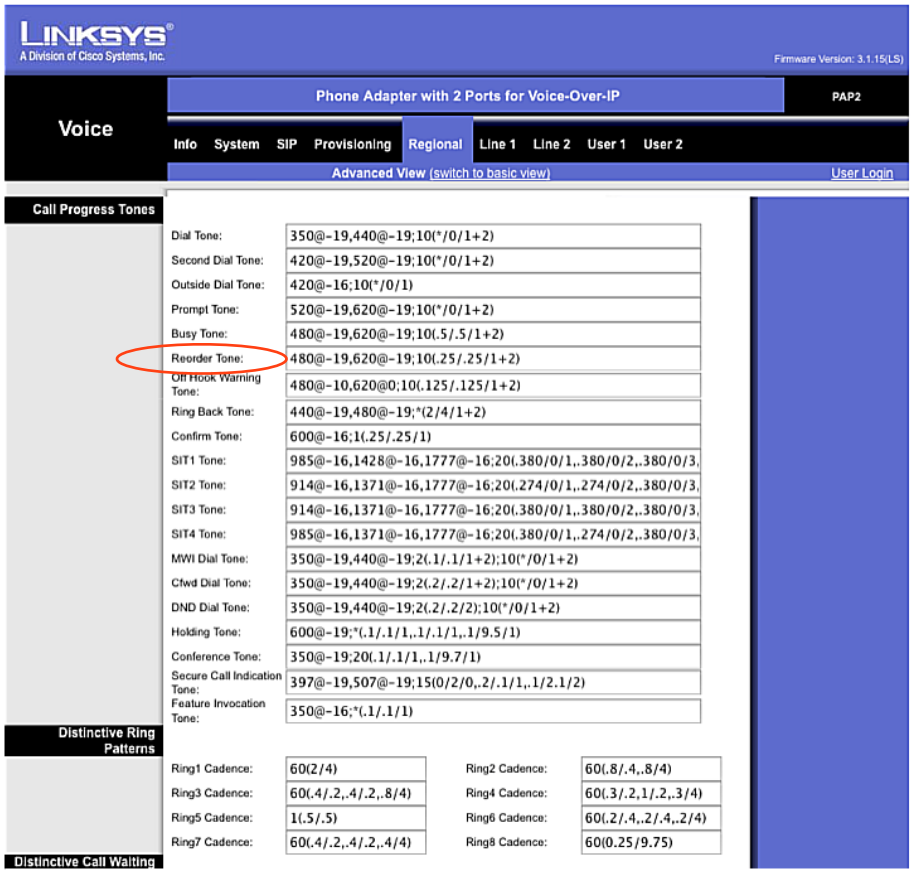
If you are integrating Siedle door units with your Savant PBX system, please skip this section.

The TEL-IAD1 does not go “on hook” immediately after the SIP side has been torn down. Instead, the device sends a reorder tone and an “Off Hook Warning” tone on the analog line after the SIP side has disconnected.

If you need to inhibit Reorder/Busy tones (usually needed when using Holovision along with Viking Intercom units), do the following.

1. To inhibit the tones, in the **Advanced View** click the **Regional** tab.

2. In the **Call Progress Tones** section, find the **Reorder Tone** (as shown circled in the next screenshot).



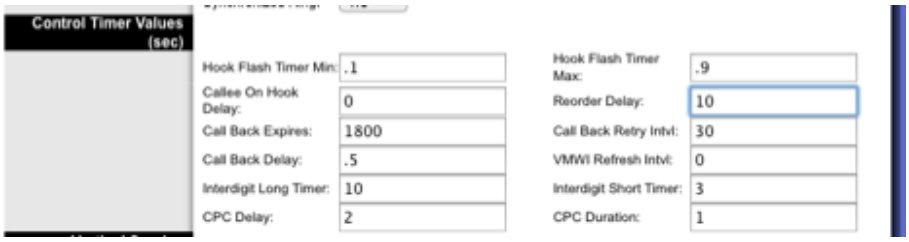
3. Modify the **Reorder Tone** string as follows:

   480@-19,620@-19;0(.25/.25/1+2)

4. In the **Call Progress Tone** section, modify the **Off Hook Warning** tone string as follows:

   480@-10,620@0;0(.125/.125/1+2)

5. Scroll down to the **Control Timer Values** section:



6. Change the **Reorder Delay** value to 0.

7. Save the settings. The line will detect “silence” this is enough for some device to go on-hook.

   It may be necessary to add a device which will send a Calling Party Control (CPC) disconnect signal over an analog phone line. If this is the case, Savant Systems recommends installing a Viking CPC unit. This unit will disconnect the analog line upon detection of reorder tone and or silence. After setting up the proper wiring connections between the door entry unit, the Viking dialer and the TEL-IAD2, pressing the intercom button will start a call and the iPads will ring. The first person to answer the call will be connected to the door entry unit allowing a full duplex conversation. The other iPads will be disconnected.

Adding Holovision 404 in Savant Configurator

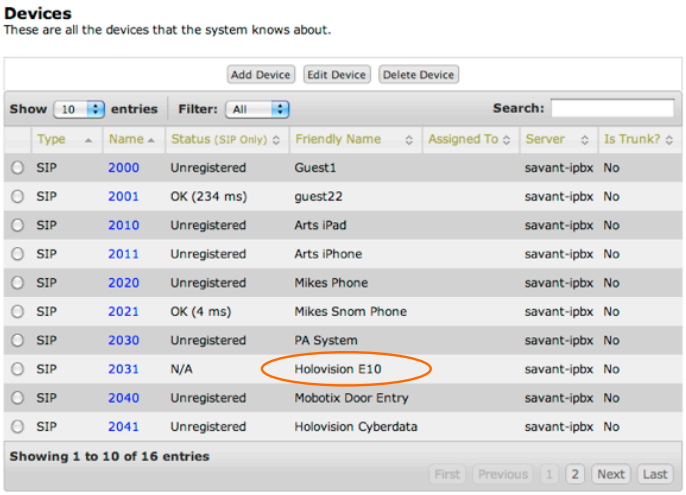
To add the Holovision 404 (with a Viking intercom module) as an endpoint to the Savant PBX using Savant Configurator, do the following.

1. Select the **Devices** tab and click **Add Device** to open the **Add Device** page.

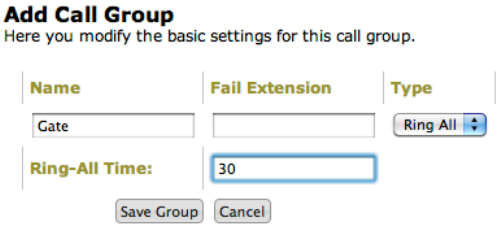
2. Use the next table to enter or select values for the fields on the **Add Device** page.

Field	Description
Server	Leave as is.
Type	Select this option: ATA Device.
Device Number	Enter a four-digit number (in the range 2000-2500) for this device. The previous screenshot uses **2031** as an example.
Assign to	Provides a drop-down list of all users that the device can be assigned to. It can also be unassigned. Savant Systems recommends this field be **Unassigned**.
Friendly Name	Name that displays when a call is made from this device. The previous screenshot uses **Holovision E10** as an example.
UID	The Savant user identifier is automatically populated by the **Device Number**.
Context	Default is **Phone (all_calls)**. Use the default value.
Usable as Trunk	Do not insert a check mark.
Use TCP	Do not insert a check mark.
Secret	Leave it blank.
Call Limit	Enter **2**.
Host	Use the default: **dynamic**.
Port	Use the default value: **5060**.
NAT	Network Address Translation (NAT) helps determine whether this device is on the internal network or outside the firewall. You must insert a check mark in the check box.
Register?	Do not insert a check mark.
Qualify	Insert a check mark.

3. Confirm that the device has been added correctly.



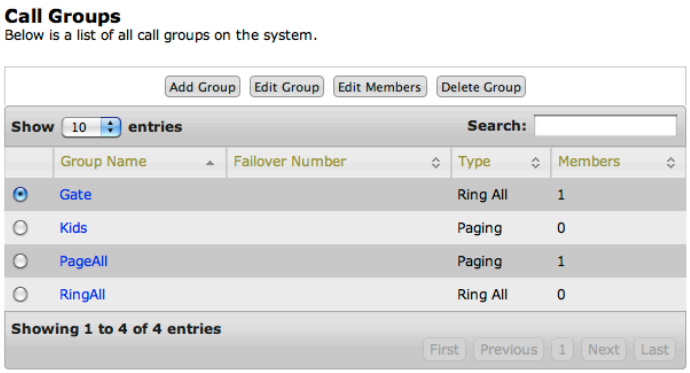
4. Click **Call Groups** and then click **Add Group** to open the **Add Call Group** page.



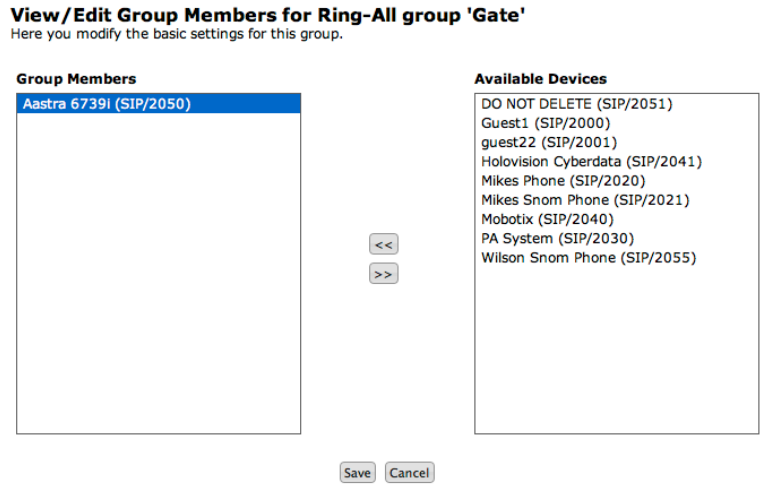
5. Use the next table to enter or select values for the fields on the **Add Call Group** page.

Field	Description
Name	Name of group.
Fail Extension	Leave as is.
Type	Select Ring-All.
Ring-All Time	Enter the length of time that you want the devices to ring. Recommended 30 seconds.

6. Click **Save**.
7. Click **View Groups** from the side bar on the left.
8. Select the group you just created.



9. Click **Edit Members**.

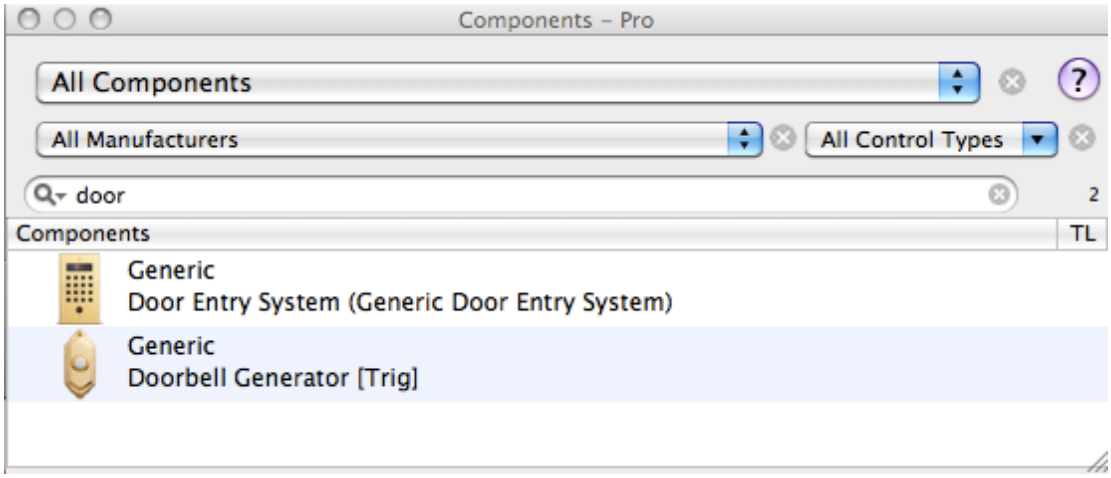


10. Select all the endpoints from the **Available Devices**—that you want to include in the Ring-All group—and use the arrow button to move the device to the **Group Members** area.
11. Click **Save**.

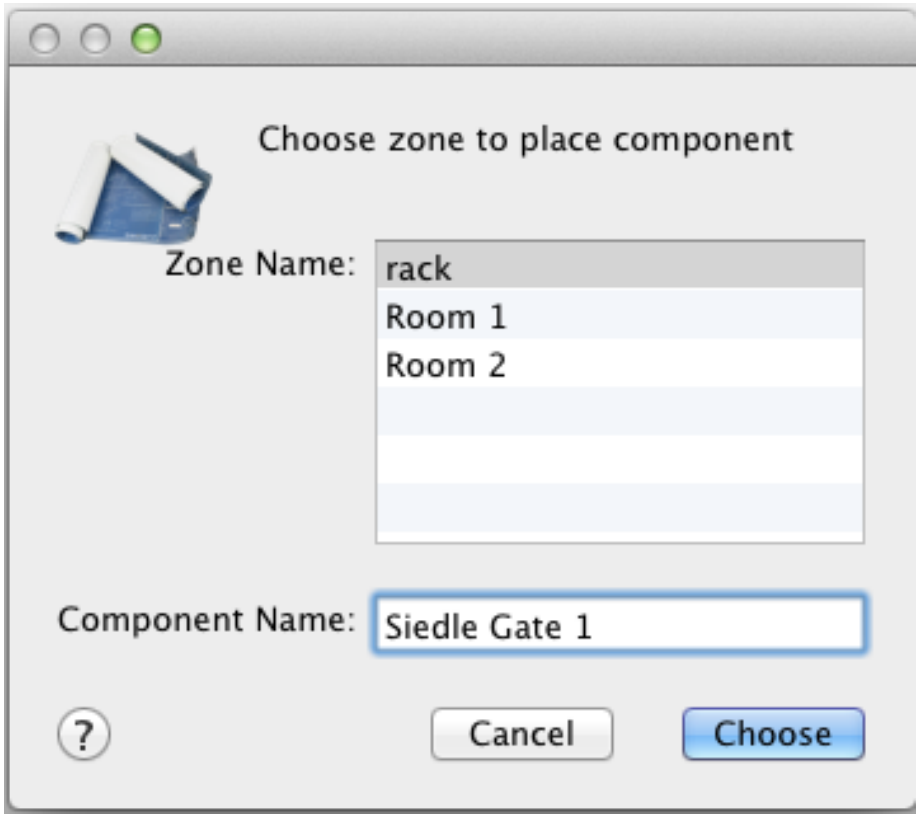
Configuring a Siedle Unit using RacePoint Blueprint

To add the Siedle door entry system to the Savant PBX configuration using RacePoint Blueprint, do the following.

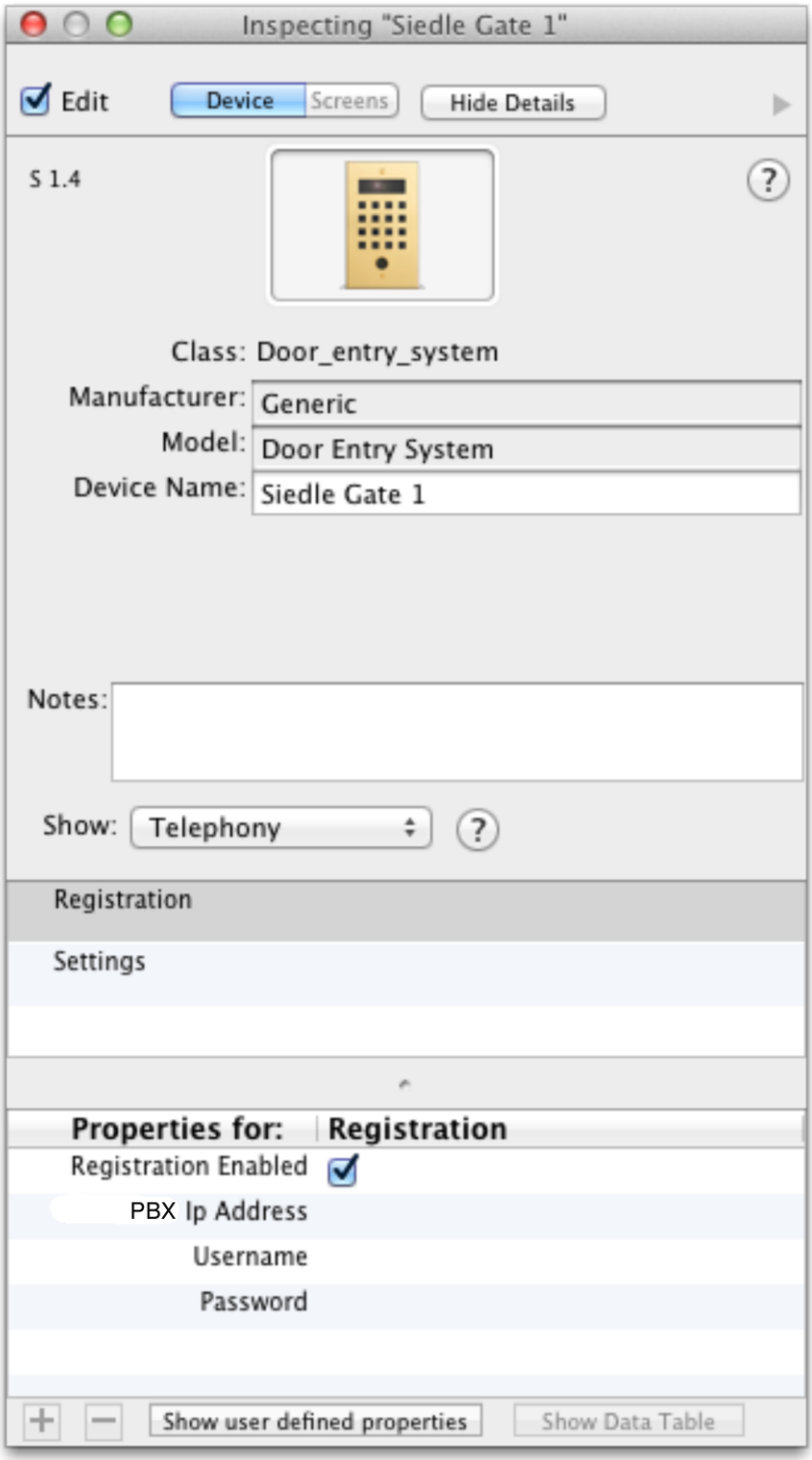
1. From the Library window, type **door** and select **Generic Door Entry System**. See the next screenshot.



2. Drag the component to main window and select the zone. Savant Systems recommends the global zone.



3. Click **Choose**.
4. From the **Show** drop-down list select **Telephony**. See the next screenshot.

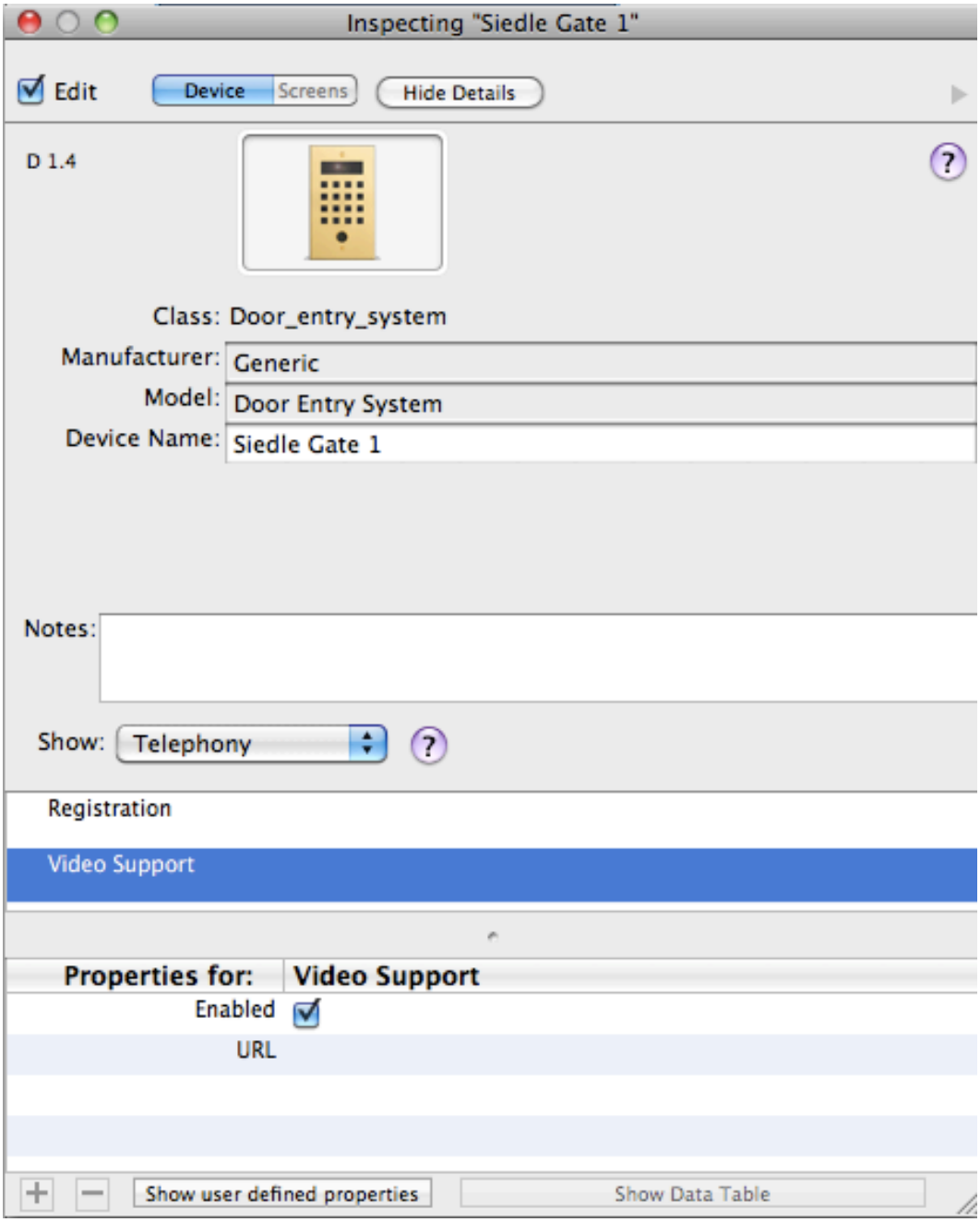


5. Select **Registration Enabled**.

6. Enter the following:
   - PBX IP address
   - Username—this must match the **Device Number** you enter in the Savant Configurator.
   - Password—leave this field empty.

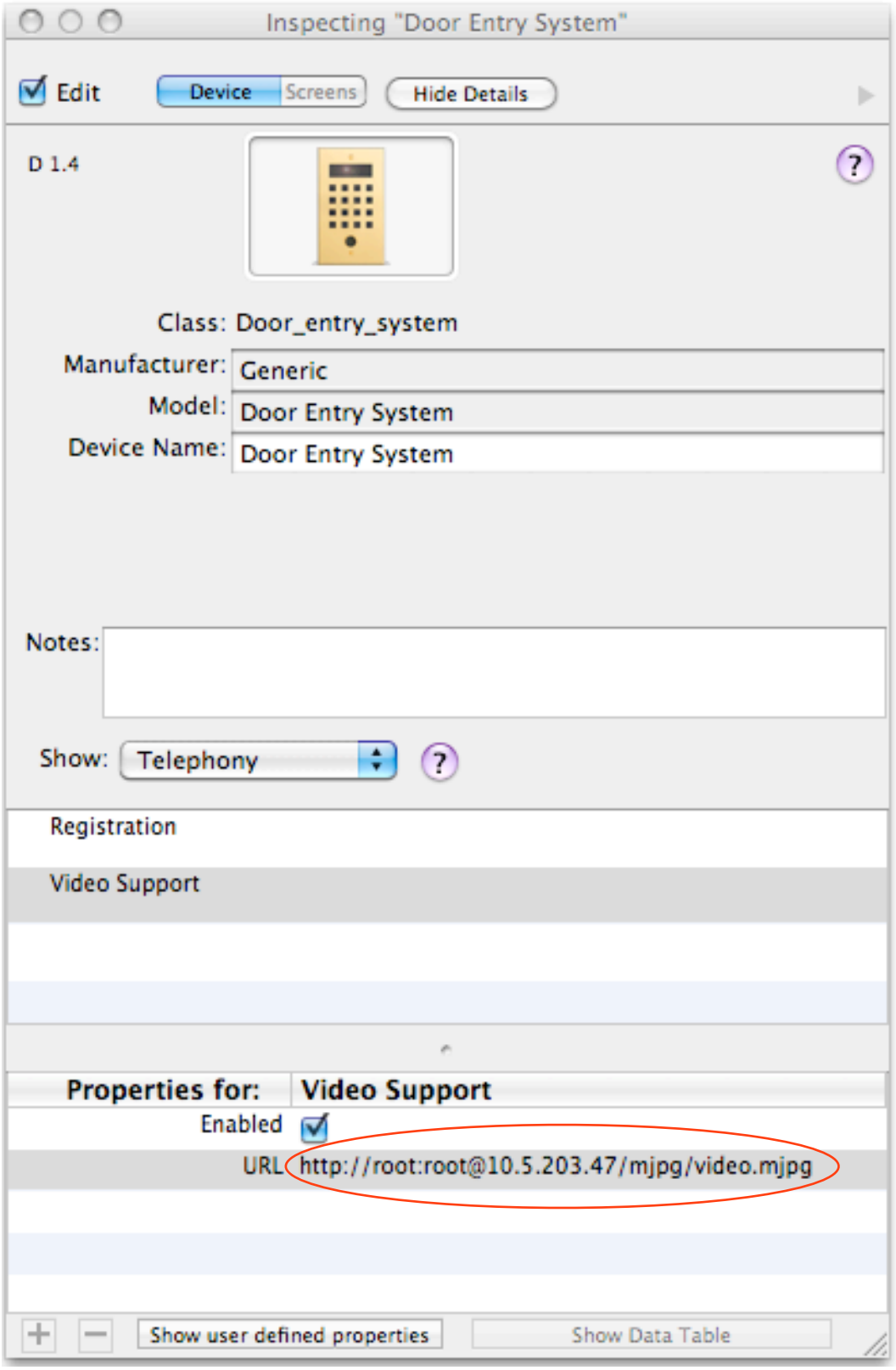
7. For **Video Support**, select **Enabled**.

   If there is no **Video Support** present in the unit, ensure that **Enabled** is unchecked.



8. If the door entry station has an IP camera, enter the URL. For Siedle units the URL is the following (as shown circled in the next screenshot):

   http://root:root@10.5.203.47/mjpg/video.mjpg



9. Next generate services, save and upload the configuration.

Configuring a Siedle Unit using Savant Configurator

Because the Siedle door entry system is analog and the Savant system is IP, the signaling must be converted from analog to IP and vice-versa by using an Integrated Access Device, also referred to as Analog Telephone Adapter (ATA). Before you begin configuring the Siedle unit in Savant Configurator, you must configure the ATA—see the procedure, *Registering Integrated Access Device to Savant PBX: TEL-IAD2.* Ensure that the registration credentials of the ATA match the ones you use when you add the ATA in Savant Configurator.

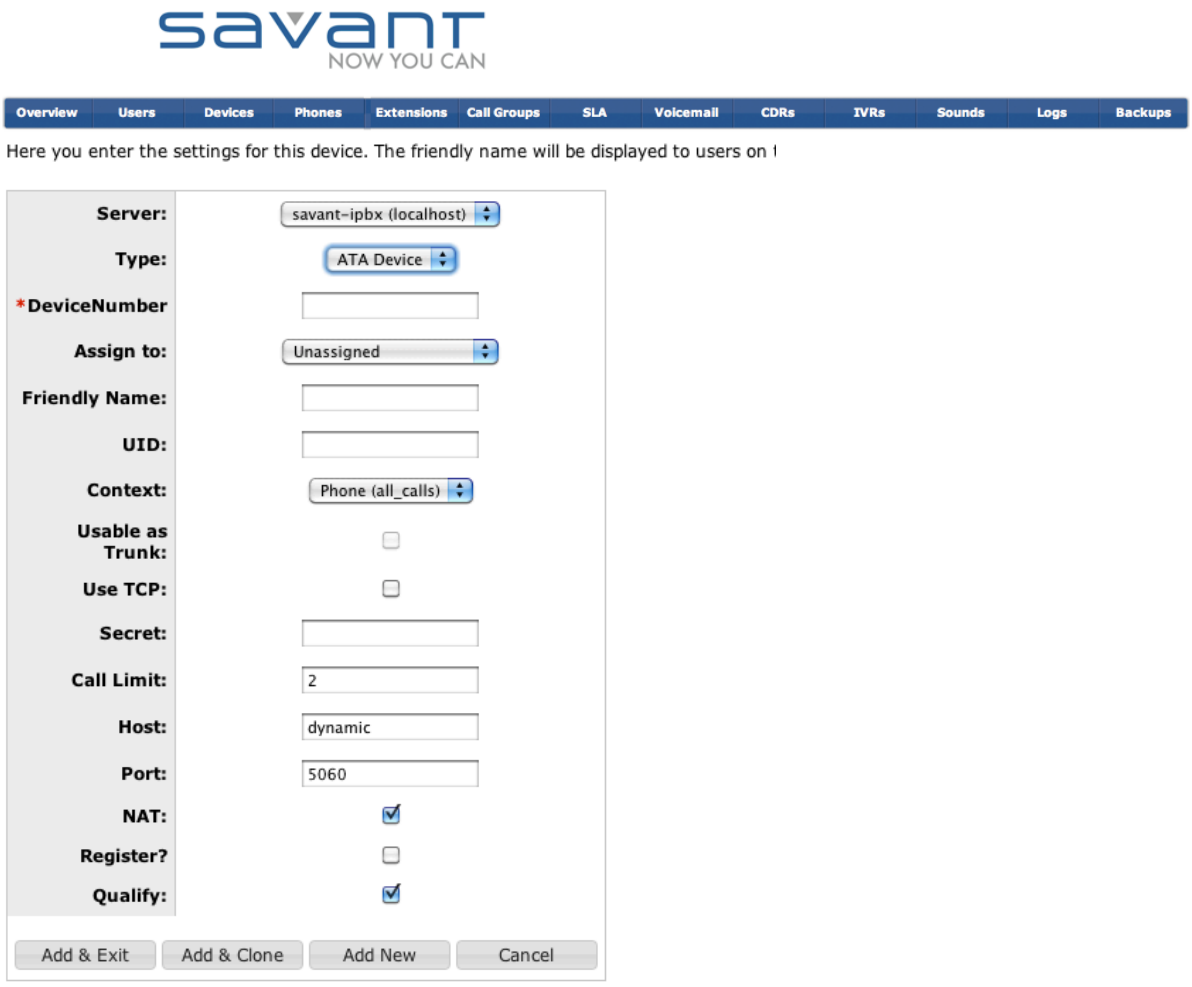
After the ATA is successfully registered and the Siedle door entry system is programed to dial the proper extension, the door entry system is ready.

The hardware parts included with the Siedle door system are as follows:

- BTLM650-04 LoudSpeaker
- BTM650-01 Call Button Module
- CMC612-1 Color Camera Module
- BNG650-1 Power supply
- DCA650-02 DoorCom PBX Interface
- DCA-SIP IP Interface
- IM7001 Video Encoder
- VNG602-1 Power Supply

To add the Siedle unit as an endpoint within a Savant PBX system using Savant Configurator, do the following.

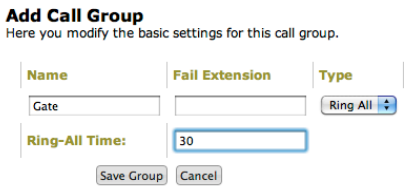
1. Select the **Devices** tab and click **Add Device** to open the **Add Device** page.



2. Use the next table to enter or select values for the fields on the **Add Device** page.

Field	Description
Server	Leave as is.
Type	Select this option: **ATA Device**.
Device Number	Enter a four-digit number (in the range 2000-2500) for this device.
Assign to	Provides a drop-down list of all users that the device can be assigned to. It can also be unassigned. Savant Systems recommends this field be unassigned.
Friendly Name	Name that displays when a call is made from this device.
UID	The Savant user identifier is automatically populated by the **Device Number**.
Context	Default is **Phone (all_calls)**. Use the default value.
Usable as Trunk	Do not insert a check mark.
Use TCP	Do not insert a check mark.
Secret	Leave it blank.
Call Limit	Enter **2**.
Host	Use the default: **dynamic**.
Port	Use the default value: 5060.
NAT	Network Address Translation (NAT) helps determine whether this device is on the internal network or outside the firewall. You must insert a check mark in the check box.
Register?	Do not insert a check mark.
Qualify	Insert a check mark.

3. Click **Add & Exit**.
4. Click the **Devices** tab to ensure the new device appears in the list.
5. Click the **Call Groups** tab.
6. Click **Add Group** to open the **Add Call Group** page.

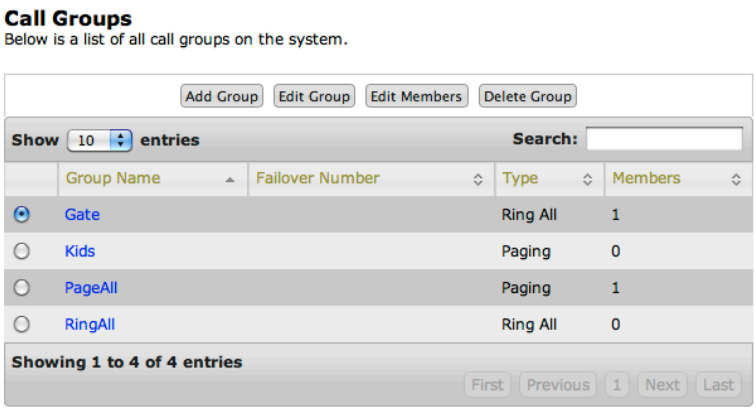


7. Use the next table to enter or select values for the fields on the **Add Call Group** page.

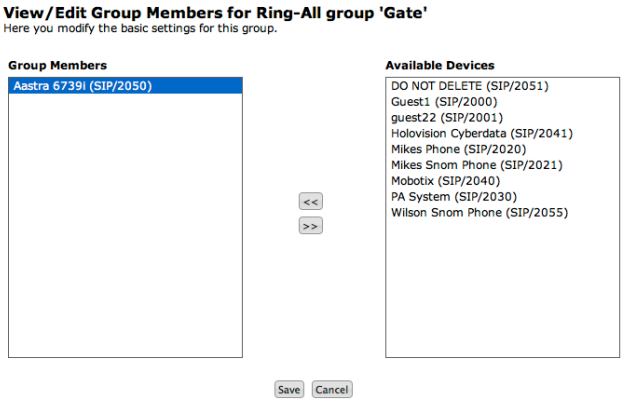
Field	Description
Name	Name of group.
Fail Extension	Leave as is.
Type	Select Ring-All.
Ring-All Time	Enter the length of time that you want the devices to ring. Recommended: 30 seconds.

8. Click **Save**.
9. Click **View Groups** from the side bar on the left.

10. Select the group you just created.



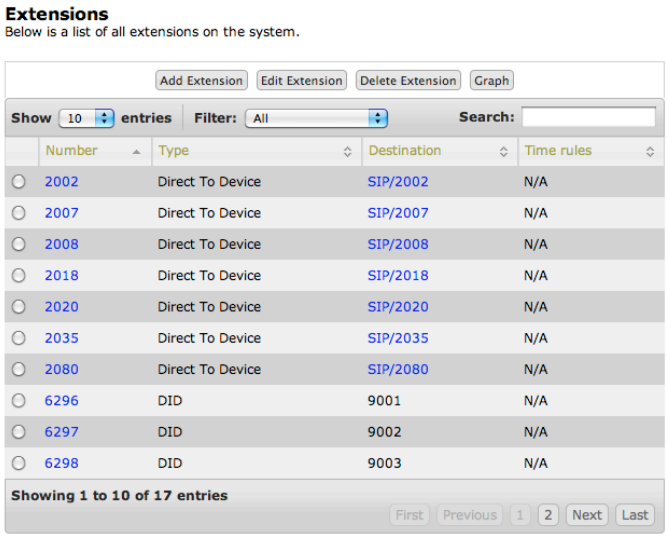
11. Click **Edit Members**.



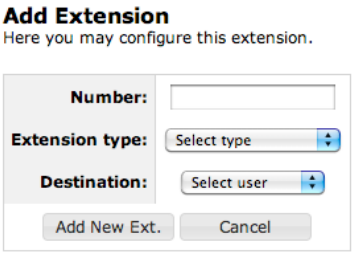
12. Select all the endpoints from the **Available Devices**—that you want to include in the Ring-All group—and use the arrow button to move the device to the **Group Members** area.
13. Click **Save**.

Next assign an extension to the call group just created. Note that the extension number is the number the Siedle unit will be dialing out.

14. Click the **Extensions** tab to open the Extensions page.



15. Click Add Extension.



16. Enter or select values as shown in the next table.

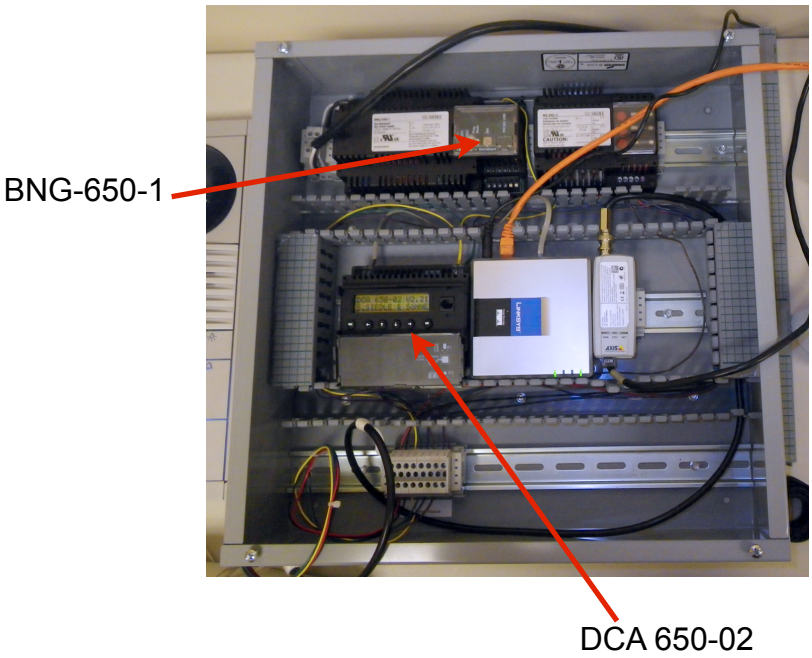
Field	Description
Number	Number of extension (do not enter the door station extension)
Extension Type	Select **Call Group** from the drop-down list.
Destination	Select the call group your created in steps 6-8.

17. Click **Add New Ext**.

Setting Up a User for a Siedle Door Entry System

To complete configuration of the Siedle door entry system as part of the Savant PBX, a user must be set up on the DCA 650-02 component.

The DCA 650-02 is a universal a/b interface which connects the Siedle door station (shown below on the left) and in-house telephony with the public network. For a view of the DCA 650-02, see the figure to the right.



To set up a user on the Siedle door entry system, do the following.

1. Open the cover on the DCA 650-02.
2. On the DCA 650-02 main menu, press the **OK** button.
3. Press ▼ (down) arrow until you see "**Register new user with <ok>**".
4. Press **OK** button.
5. Wait until "**Register user Please wait!**" message stops flashing.
6. Use the down/up arrows to change the number of users to be registered, for example 1.
7. Press **OK** button.
8. Wait until "**Register. running 01 new users**" stops flashing. This can take up to one minute.
9. When you see "**Switch on prog. mode at BNG/BVNG**" message flashing, using a pin press the "**Prog. Mode**" button on the BNG 650-1 power supply unit (as shown on the previous figure).
10. Next, you should see a "**Door loudspeaker enable**" message flashing on the DCA 650-02.
11. Go to the door station and press the top right button (lightbulb icon as shown in the door station figure on above left) until you hear a long tone.

12. "**Door loudspeaker activated**" should now be displayed. You will hear a quick tone every five seconds.
13. Press **OK** button.
14. You should now see "**Assign call btw. for user (***user number***)**"
15. Press and hold the second button from the top-right which shows a bell. You will hear a long tone then three quick tones.
16. You should now see "**Direct call** (*user number*)".
17. Using the arrows on the DCA 50-02, enter an extension number to be dialed when the Siedle button is pressed and then press **OK** button (**#** may be required at the end of the extension).
18. Press **OK** button.
19. Perform a quick press of the "**Prog. Mode**" button on the BNG 650-1 unit.
20. Press **ESC** on the unit to exit back to the top menu.
21. To communicate with the person who rang the doorbell at the door station, select the following from the DCA 650-02:

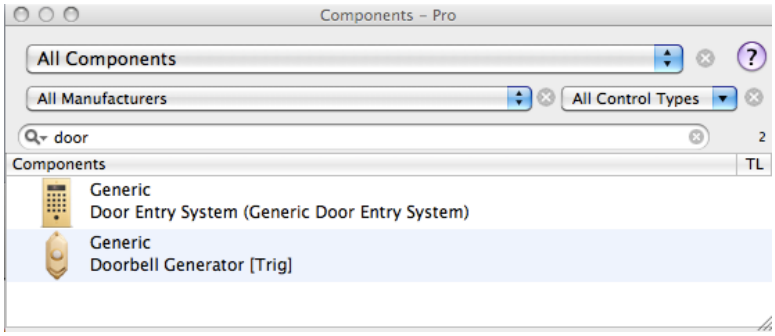
    service function > **door call acceptance** > **No DTMF**

    If you do not do this step, then you will only hear beeping when you answer the phone after someone rings the doorbell.

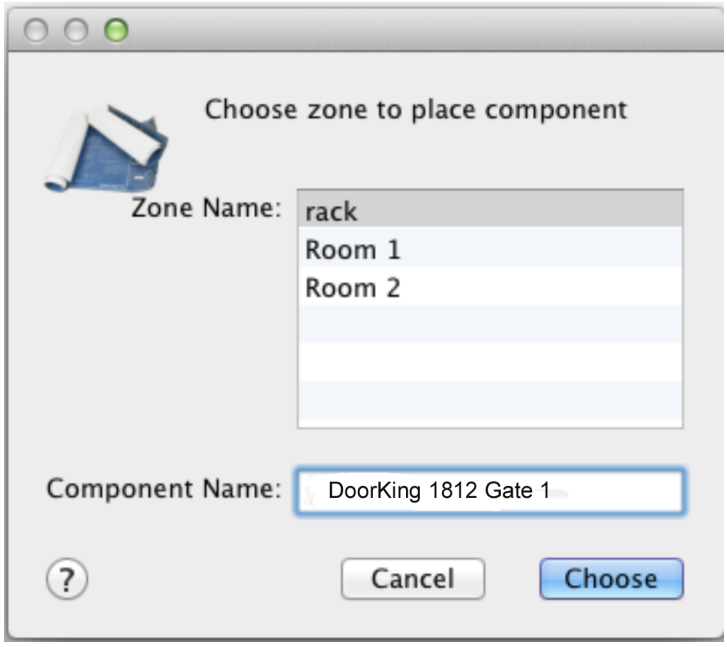
Configuring DoorKing 1812 using RacePoint Blueprint

To add the DoorKing 1812 door entry system to the Savant PBX configuration using RacePoint Blueprint, do the following.

1. From the Library window, type **door** and select **Generic Door Entry System**. See the next screenshot.

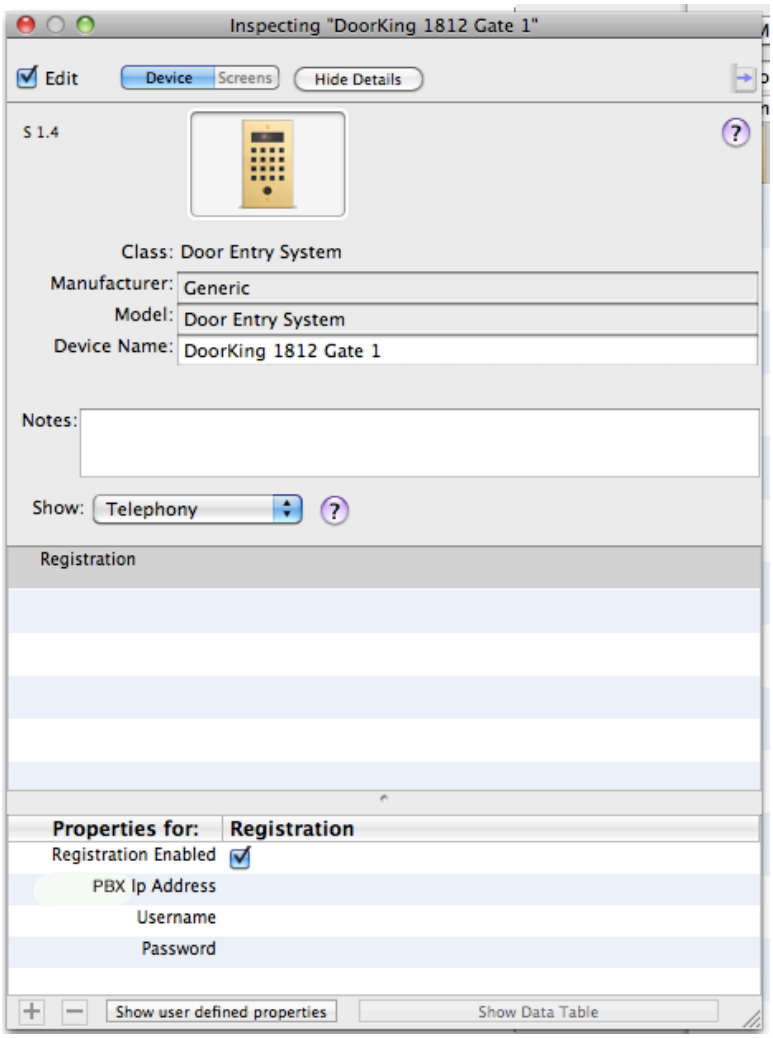


2. Drag the component to main window and select the zone. Savant Systems recommends the global zone.



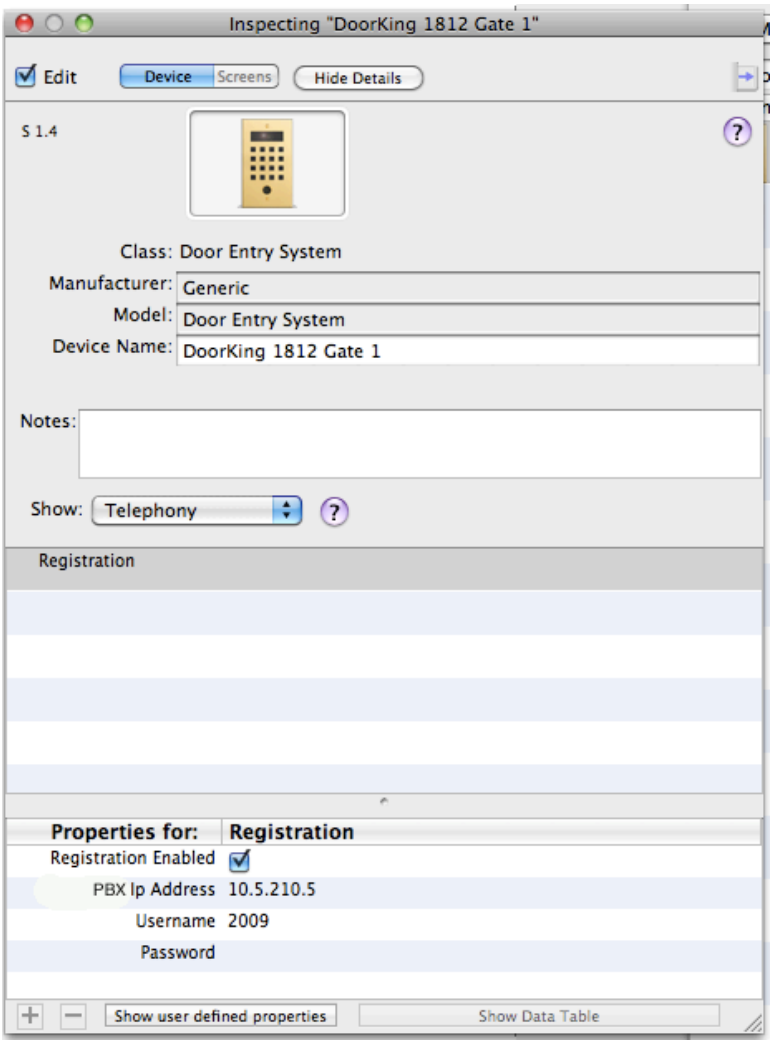
3. Click **Choose**.

4. From the **Show** drop-down list select **Telephony**. See the next screenshot.



5. Select **Registration Enabled**.

6. Enter the following:
   - PBX IP address
   - Username—this must match the **Device Number** you enter in the Savant Configurator.
   - Password—leave this field empty.



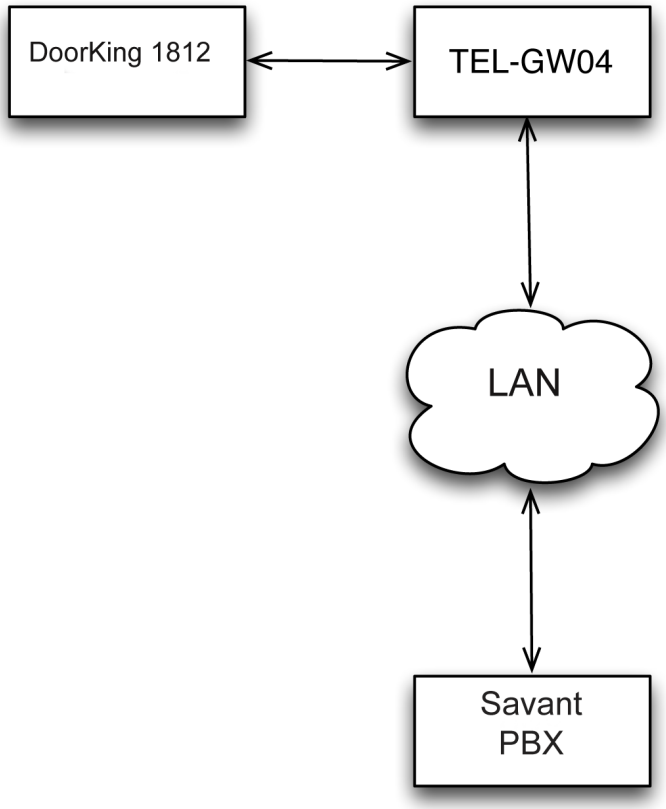
7. Generate services, save, and upload the configuration.
8. Next, follow the procedure, *Integrating a DoorKing 1812 with a Savant PBX.*

Integrating a DoorKing 1812 with a Savant PBX

This section provides an overview of the integration of a DoorKing 1812 with a Savant PBX.

To complete the configuration of the DoorKing 1812 refer to the product installation manual, which is available from the Web site: http://www.doorking.com/pages/dks-tel-1812.php

The next figure shows the gateway port (line) sending the gate calls into the Savant PBX system.



DoorKing 1812 uses Savant Gateway (TEL-GW04) with Savant Telephony Solution

The DoorKing 1812 allows two modes of operation:

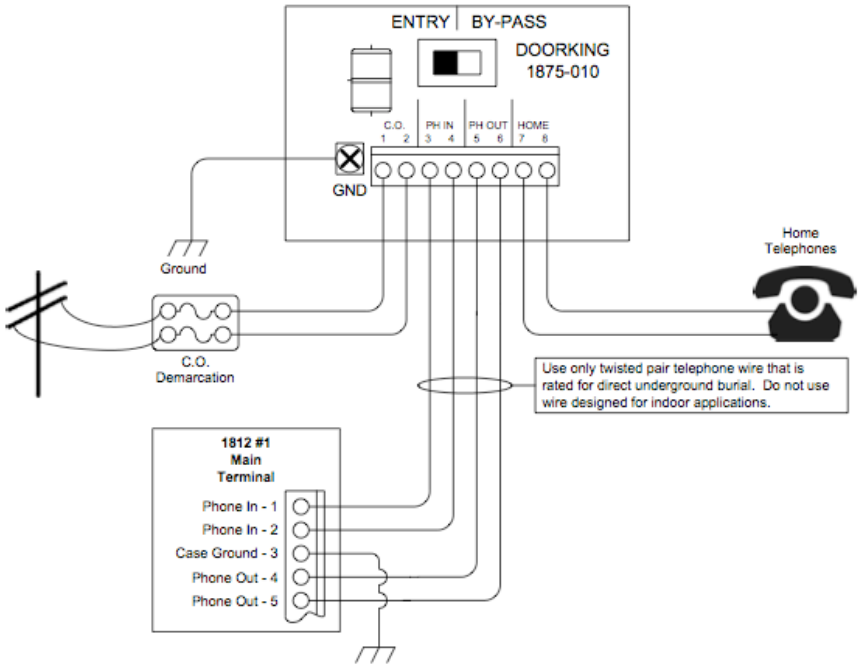
- Phone Mode
- Intercom Mode

Each mode has a different wiring scheme from the DoorKing 1812 to the Savant PBX system.

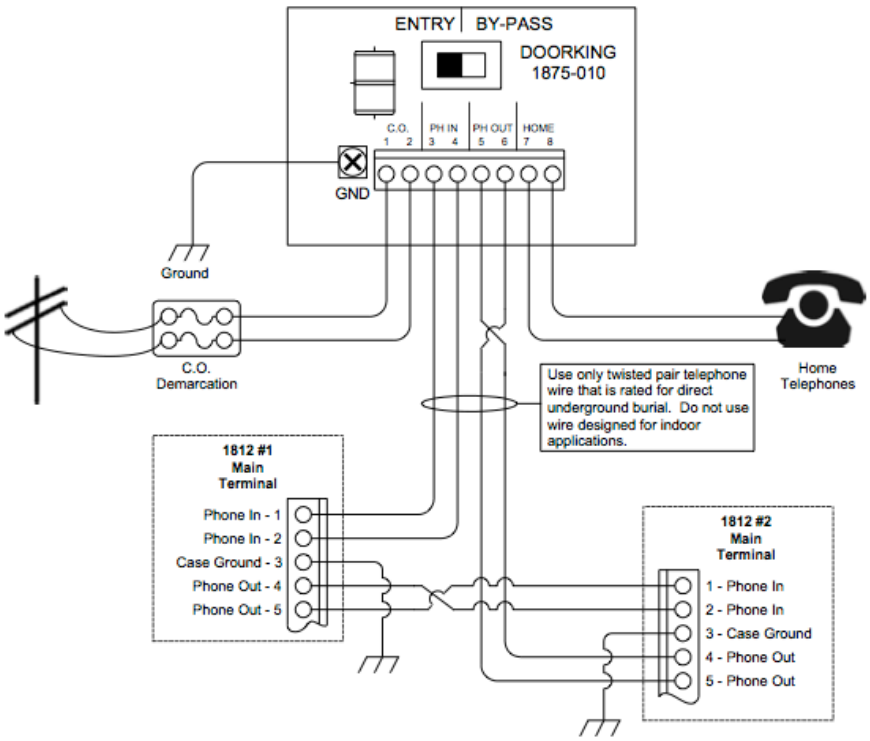
All devices that are to communicate with the DoorKing 1812 must be added to a Shared Line Appearance (SLA) group. By doing so, when the call button is pressed from the DoorKing 1812, all of these devices will ring. Also, since the devices are added to the relevant SLA, the devices can call the DoorKing 1812 using an *attention* number. If the device is a Savant phone (TEL-HST02), you can program a speed dial button to the DoorKing 1812.

Phone Mode

This mode assumes you will be using an existing phone line or you will have a dedicated phone line. After the wiring is done, refer to the DoorKing 1812 installation manual to complete the configuration.



Single DK1812 Wiring



Multiple DK1812 Wiring

Testing the DoorKing 1812 in Phone Mode

After you have completed your DoorKing 1812 installation and configuration, you must test the system.

To test making a call ***to*** your DoorKing 1812 system, do the following.

1. Connect an analog phone to the **Home** (**7 8**) line.
2. Lift the phone's handset to confirm there is dial tone.
3. Enter * and the attention number. For example, if you used 7 as the attention number, you would press ***7**. Now you should be connected and the audio should be two-way.

If you have programmed relay, now is the time to test the programming. See the DoorKing 1812 manual.

To test making a call ***from*** your DoorKing 1812 system, do the following.

1. Push the call button from the DoorKing 1812.
2. The analog phone should ring.
3. Answer the call. Now you should have two-way voice.

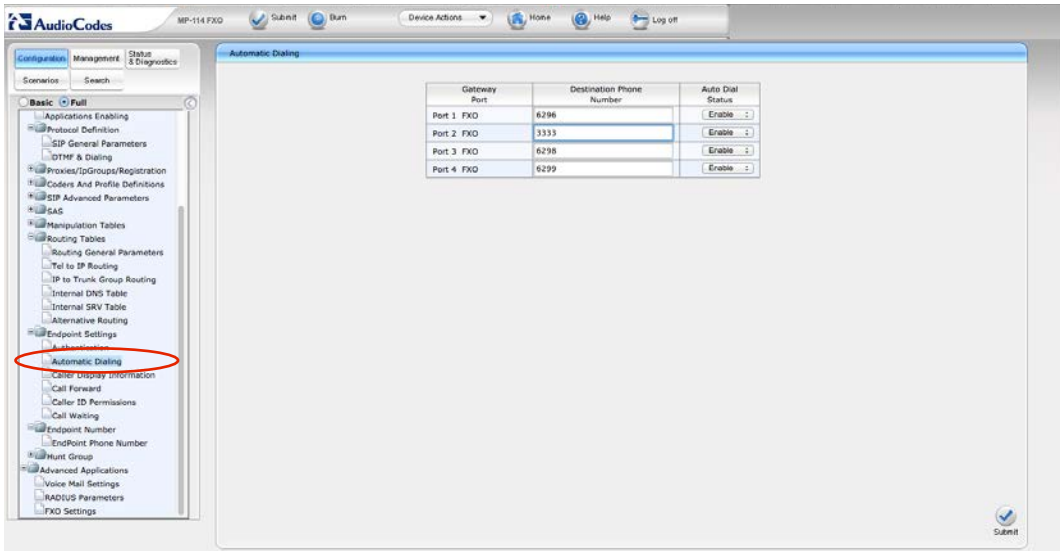
Test the relay codes, if you have them configured. See the DoorKing 1812 manual.

After you have successfully tested the DoorKing 1812, add the gateway to your DoorKing 1812 set up.

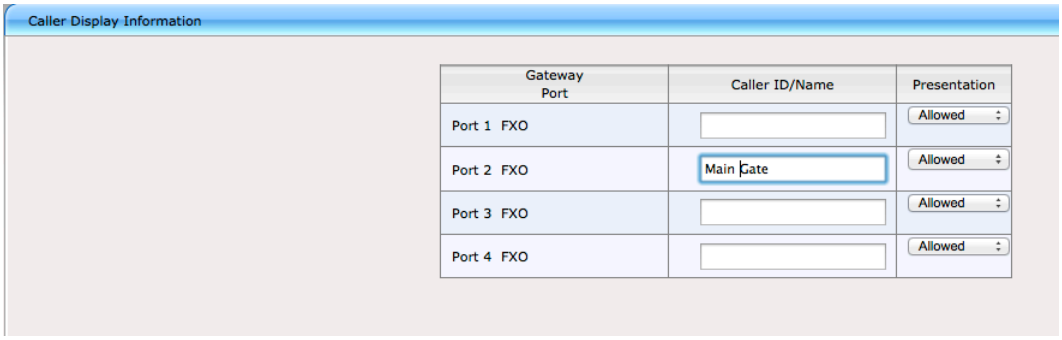
Adding Savant Gateway to DoorKing 1812 Configuration

To configure communication between the DoorKing 1812 and the Savant Gateway, do the following. This procedure applies whether you use Phone Mode or Intercom Mode.

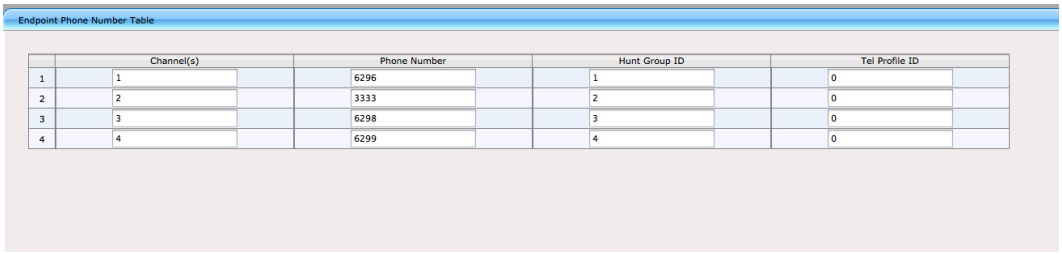
1. Open a web browser.
2. Enter the Savant gateway IP address and log in to the gateway's web interface.
3. Select the **Configuration** tab. and **Full**.
4. Go to **VoIP** > **GW and IP to IP** > **Analog Gateway** > **Automatic Dialing**.



5. For the **Destination Phone Number** field, enter 3333, and then select **Submit**.
6. From the left sidebar navigate to **VoIP** > **GW an IP to IP** > **Analog Gateway** > **Caller Display Information**.
7. For **Port 2 FXO** enter a meaningful name under **Caller ID/Name**, for example, *Main Gate*.



8. Click **Submit.**
9. Change the automatic dialed number for **Channel 2** to 3333.

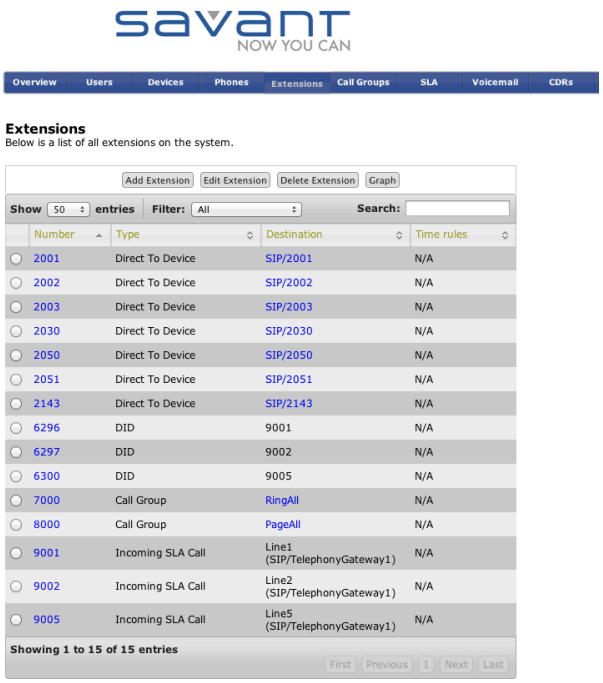


10. Go to **Voip** > **GW and IP to IP** > **Hunt Group** > **Endpoint Phone Number**.
11. Click **Submit.**
12. Save and burn the changes to flash memory.

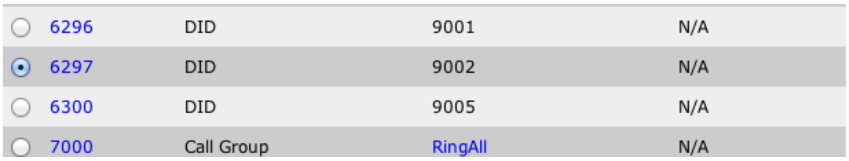
Setting up the DoorKing 1812 Extension in the SLA

Next set up the DoorKing 1812 extension in the Shared Line Appearance (SLA) group.

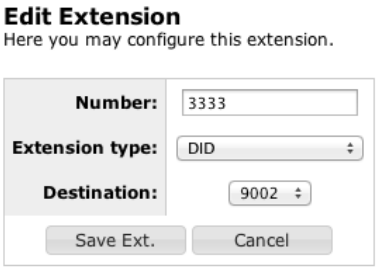
1. Open Savant Configurator and log in.
2. Click the **Extension** tab.



3. Select the extension associated with Line 2, that is, 6297.



4. Click **Edit Extension**.
5. For the **Number** field, enter 3333.



6. Click **Save**.

Next add all the devices to SLA Group 2 that are to ring when a call is sent from the DoorKing 1812. For details on adding devices to an SLA group, see *Adding an iOS Device or Phone to an SLA*.

Set up Speed Dial for Savant Phone to Connect to DoorKing 1812

Instead of using the “Attention” number to dial the DoorKing 1812 from a Savant phone (TEL-HST02), you can set up a speed dial button from the TEL-HST02.

To program Speed Dial from the TEL-HST02, do the following.

1. Open a web browser.
2. Enter the IP address of the phone and log in.
3. Click **Soft-keys and XML**.
4. Select any unassigned soft-key after the number 11. In the next screenshot 12 is used as an example.

5. Use the next table to enter or select values.

Field	Description
Type	Enter SpeedDial
Label	Enter Gate
Value	Enter: *7#
Line	Select 1

6. Click **Save**.

To call the DoorKing 1812 from a Savant Phone (TEL-HST02) using a speed dial button, do the following.

1. Tap the Line 2 button on the screen of the TEL-HST02.
2. After you hear the dial tone tap the *Gate* button on the screen.

Now you should be connected to the DoorKing 1812.

Intercom Mode

To complete the configuration of your DoorKing 1812—single unit or multiple units—in Intercom Mode, refer to the product installation manual, which is available from the Web site: http://www.doorking.com/pages/dks-tel-1812.php

Wiring for DoorKing 1812 Intercom Mode

Testing the DoorKing 1812 in Intercom Mode

After you have completed your DoorKing 1812 installation and configuration, you must test the system.

To test making a call ***to*** your DoorKing 1812 system, do the following.

1. Lift the phone's handset to confirm there is dial tone.
2. Enter * and the attention number. For example, if you used 7 as the attention number, you would press ***7**. Now you should be connected and the audio should be two-way.

If you have programmed relay, now is the time to test the programming. See the DoorKing 1812 manual.

To test making a call ***from*** your DoorKing 1812 system, do the following.

1. Push the call button from the DoorKing 1812.
2. The analog phone should ring.
3. Answer the call. Now you should have two-way voice.

Test the relay codes, if you have them configured. See the DoorKing 1812 manual.

After you have successfully tested the DoorKing 1812, add the gateway to your DoorKing 1812 set up. See the procedure, *Adding Savant Gateway to DoorKing 1812 Configuration.*

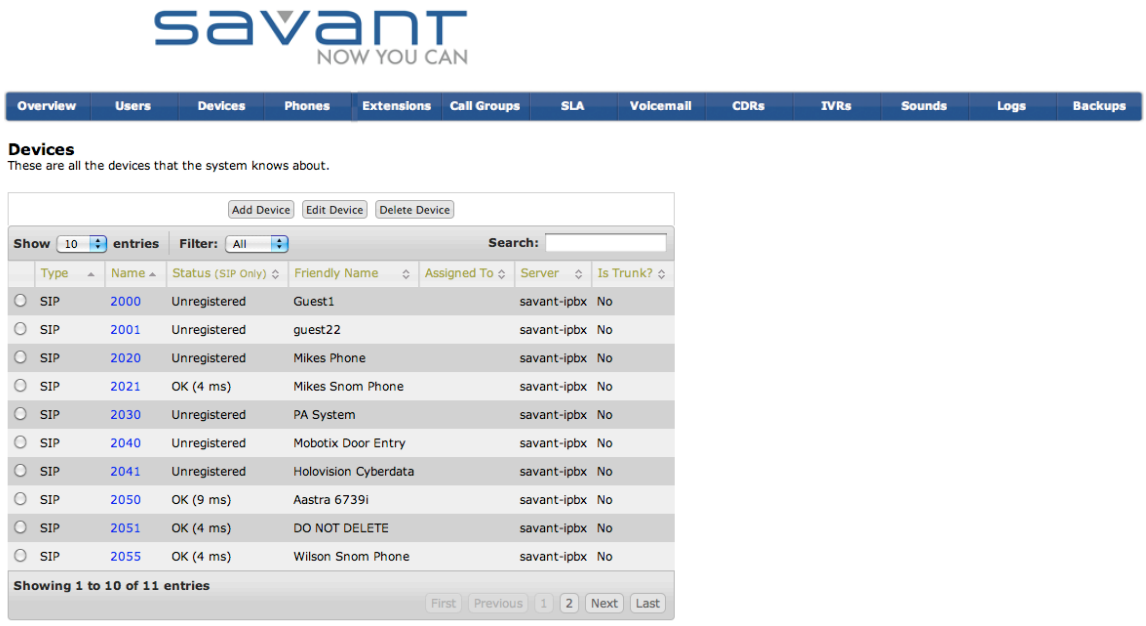
Configuring Holovision with Cyberdata SIP intercom Using Savant Configurator

The Holovision with Cyberdata unit operates as a fully-operational SIP IP phone—no ATA is required. The following Holovision models are supported by the Savant PBX:

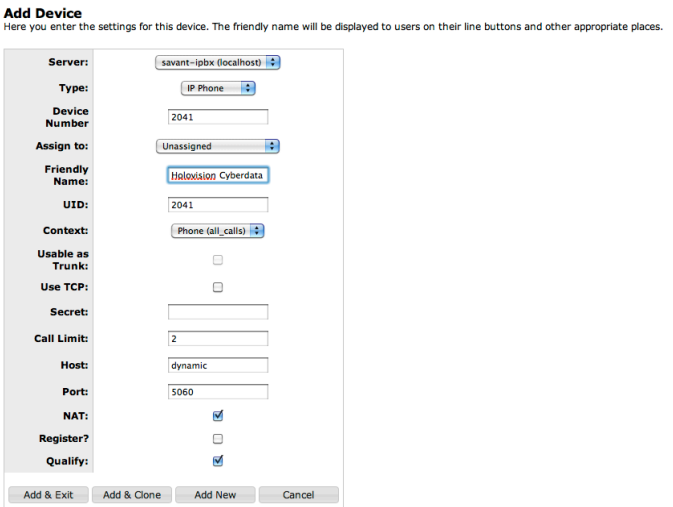
All 400 Series	All 700 Series
Model 513	All 800 Series
All 600 Series	All 900 Series

To add a Holovision with Cyberdata unit as an endpoint within the Savant PBX system, open Savant Configurator and do the following.

1. Click the **Devices** (tab) to open the **Devices** page.



2. Click **Add Device** (button).

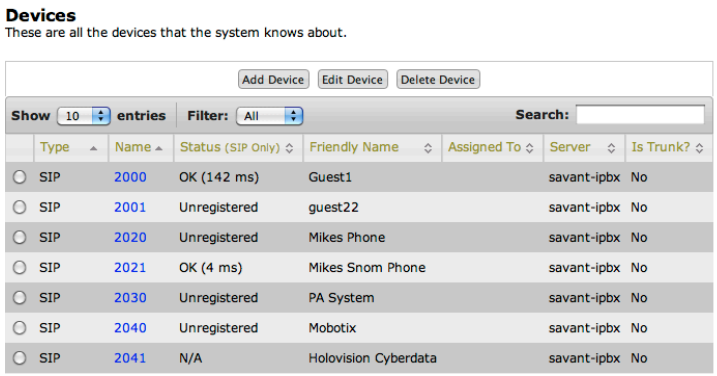


3. Use the next table to enter or select values for the fields on the **Add Device** page.

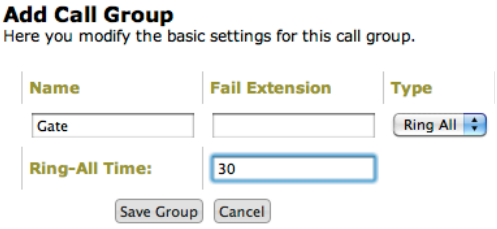
Field	Description
Server	Leave as is.
Type	Select this option: **IP Phone**.
Device Number	Enter a four-digit number (in the range 2000-2500) for this device. The previous screenshot uses 2041 as an example.
Assign to	Provides a drop-down list of all users that the device can be assigned to. It can also be unassigned. Savant Systems recommends this field be unassigned.
Friendly Name	Name that displays when a call is made from this device.
UID	The Savant user identifier is automatically populated by the **Device Number.**
Context	Default is **Phone (all_calls)**. Use the default value.
Usable as Trunk	Do not insert a check mark.
Use TCP	Do not insert a check mark.
Secret	Leave it blank.
Call Limit	Enter **2**.
Host	Use the default: **dynamic**.
Port	Use the default value: 5060.
NAT	Network Address Translation (NAT) helps determine whether this device is on the internal network or outside the firewall. Since you are adding an iOS device, you must insert a check mark in the check box.
Register?	Do not insert a check mark.
Qualify	Insert a check mark.

4. Click **Add & Exit**.

5. Click the **Devices** tab to ensure the new device appears in the list.



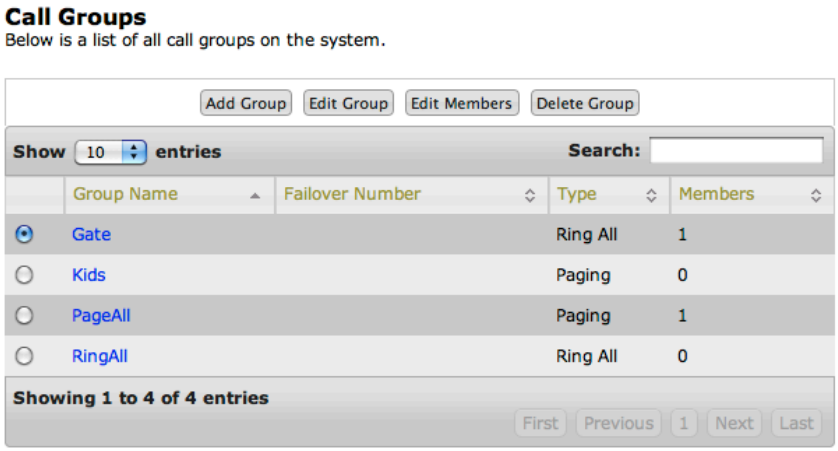
6. Click **Call Groups** (tab) and then click **Add Group**.



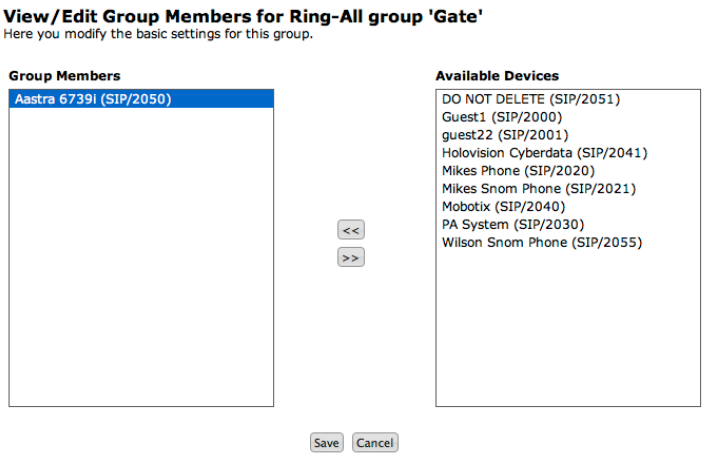
7. Use the next table to enter or select values for the fields on the **Add Call Group** page.

Field	Description
Name	Name of group.
Fail Extension	Leave as is.
Type	Select Ring-All.
Ring-All Time	Enter the number you want the devices to ring. Recommended: 30 seconds

8. Click **Save**.
9. Select **View Groups** from the side bar.
10. Select the group you just created.

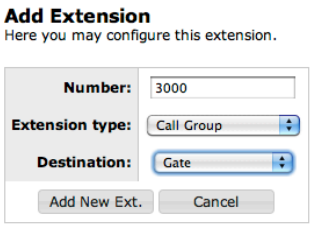


11. Click **Edit Members**.



12. Select all the endpoints from the **Available Devices**—that you want to include in the Ring-All group—and use the arrow button to move the device to the **Group Members** area.
13. Click **Save**.

14. Click the **Extension** (tab) and then click **Add Extension** to open the **Add Extension** page.



15. Use the next table to enter or select values for the fields on the **Add Extension** page.

Field	Description
Number	Number will be the number that the door entry will dial. In the previous screenshot **3000** is shown as an example.
Extension Type	Select **Call Group**.
Destination	Select the Call Group created in step 6. In the previous screenshot **Gate** is shown as an example.

16. Click **Add New Ext**.

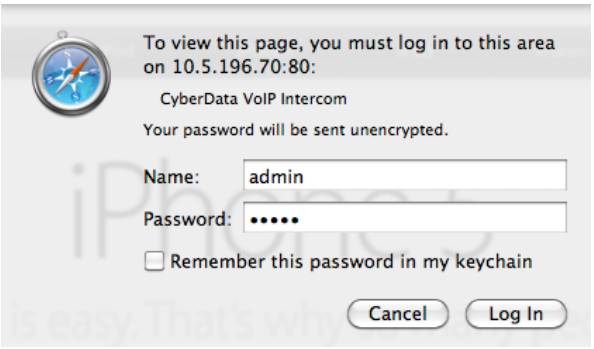
Configuring Holovision Cyberdata VoIP Intercom

This door entry system is configured as DHCP from the factory. Ensure that you reserve the DHCP-assigned IP address on your DHCP server. This procedure assumes you are installing the Cyberdata VoIP Intercom based on firmware version: 6.3.0.

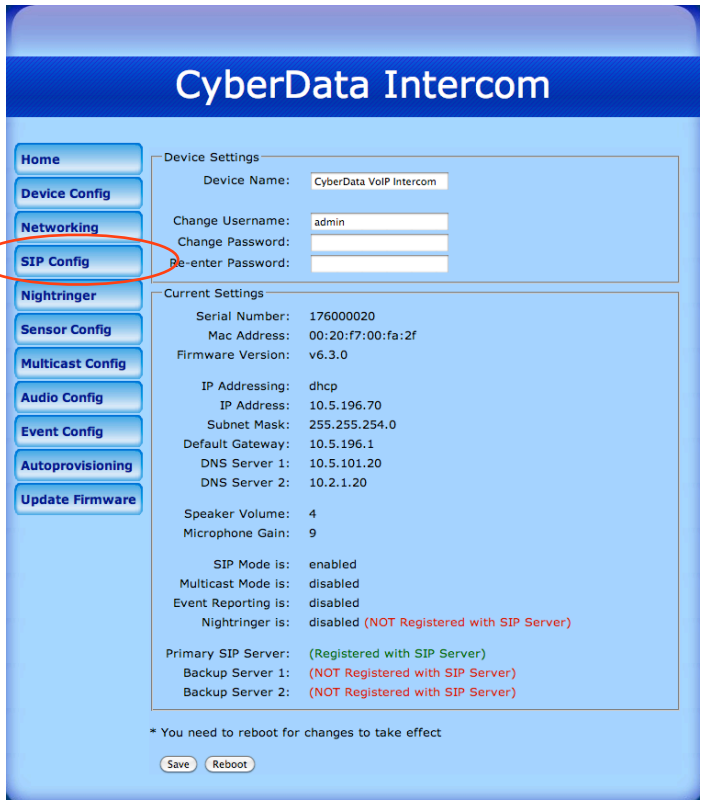
To configure the Cyberdata VoIP Intercom, do the following.

1. Open your web browser and enter the door entry system's IP address.
2. Log in using the following:

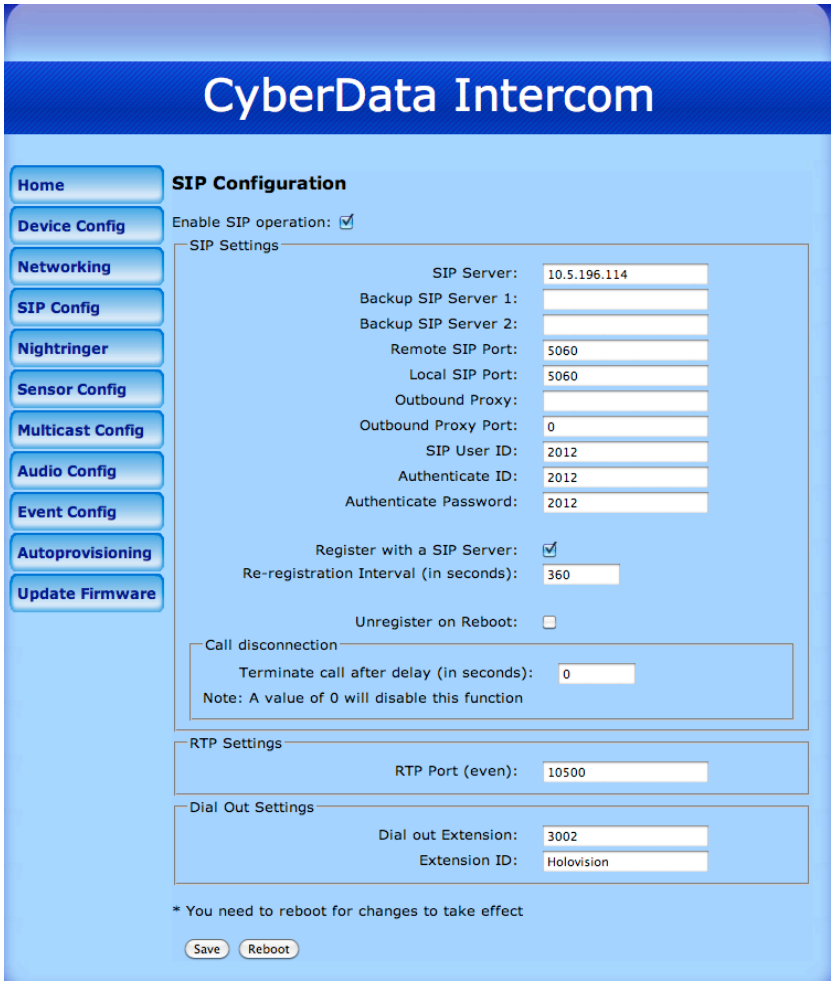
   User Name: admin
   Password: admin



3. Click **Log In**. The **Cyberdata Intercom** page opens. See the next screenshot.
4. Click **SIP Config**.



The **SIP Configuration** page opens.

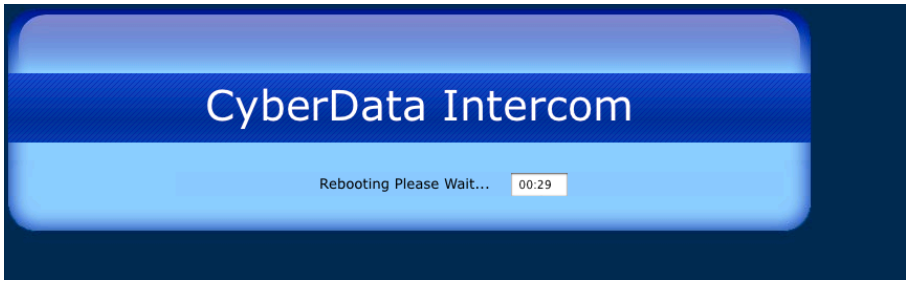


5. Use the next table to enter or select values for the relevant fields on the **SIP Configuration** page.

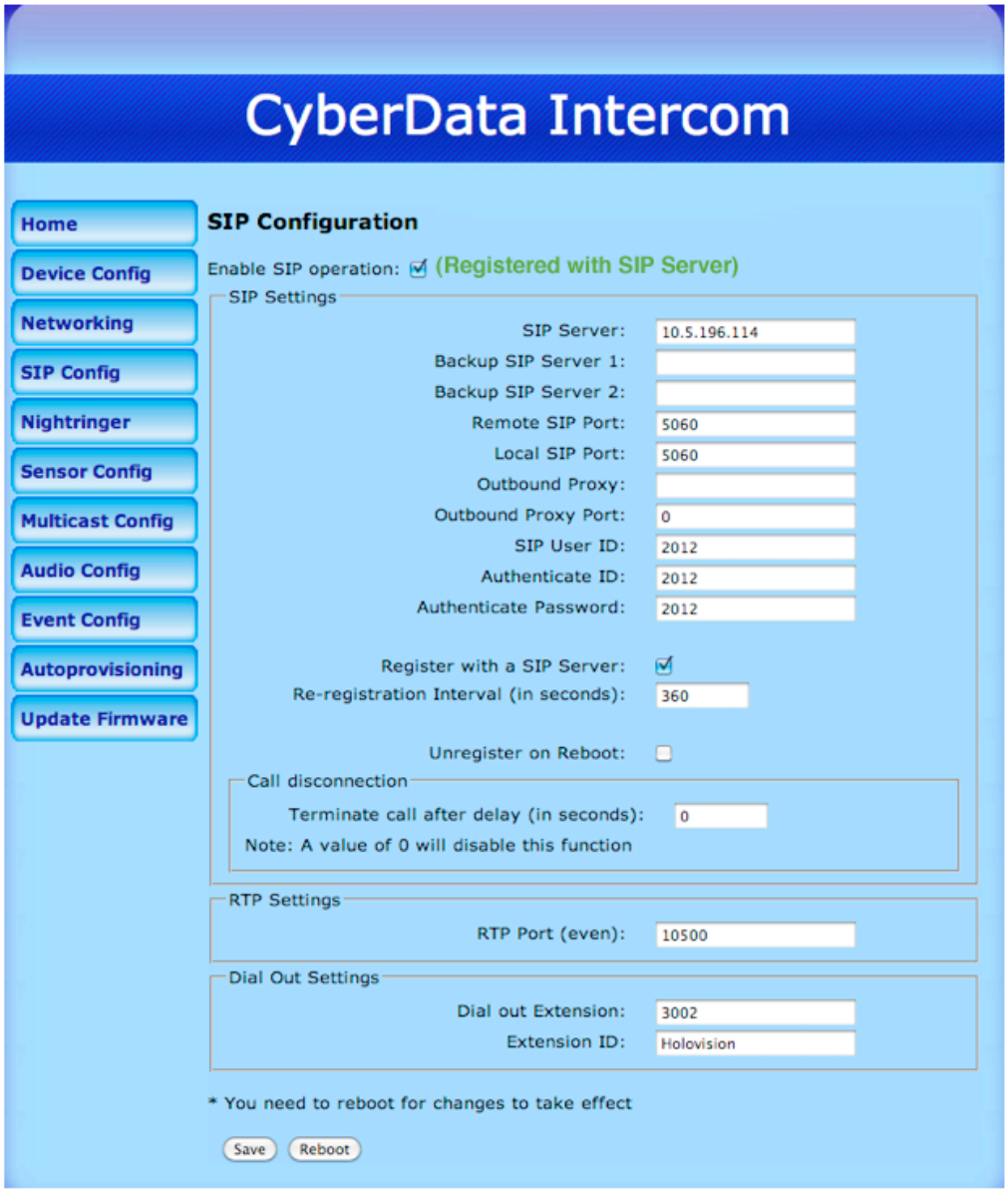
Field	Description
SIP Server	Enter the Savant PBX address
Remote SIP Port	Leave as is (5060)
Local SIP Port	Leave as is (5060)
Outbound Proxy	Leave blank.
Oubound Proxy Port	Leave blank.
SIP User ID	Enter the Device Number used when you added the device in Savant Configurator.
Authenticate ID	Enter the Device Number used when you added the device in Savant Configurator
Authenticate Password	Enter the Device Number used when you added the device in Savant Configurator.
Call disconnection	Change the value to 0 (zero) seconds.
Dial Out Extension	Enter the extension associated with the Ring group you added in Savant Configurator.
Extension ID:	Enter the user Friendly Name used when you added the device in Savant Configurator

6. Click **Save.**

7. Click **Reboot**. The next status message is displayed.



Next, the **Enable SIP operation** field is confirmed as **Registered with SIP Server**.



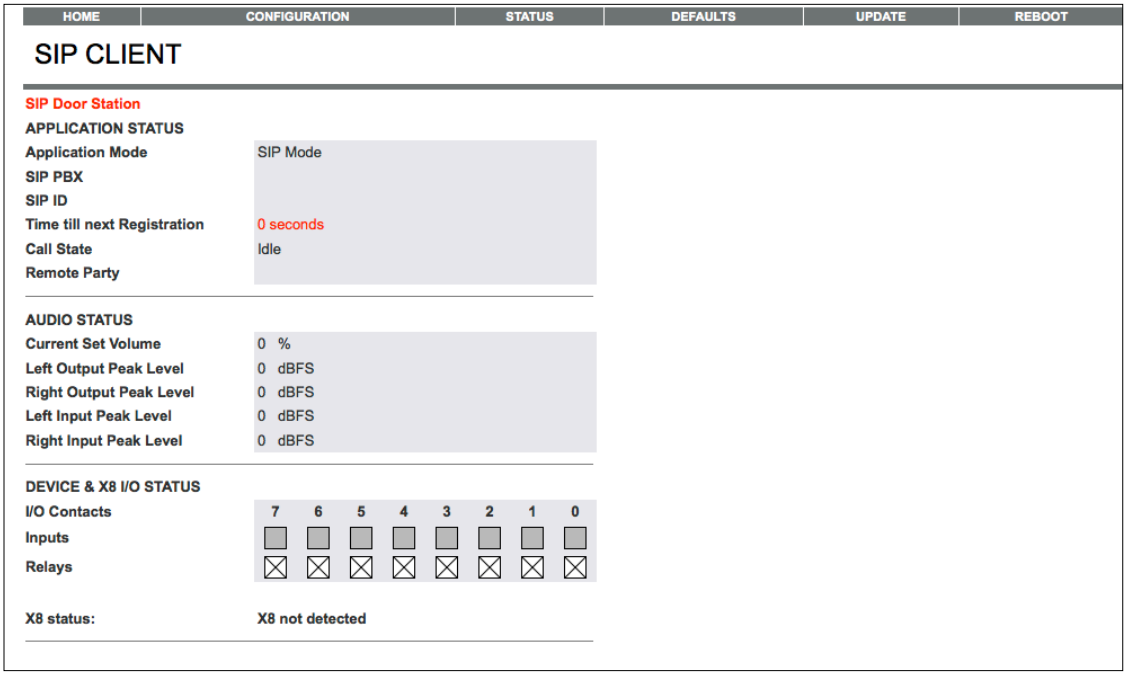
Now you are ready to make a call.

Configuring VIO by Holovision VoIP Intercom

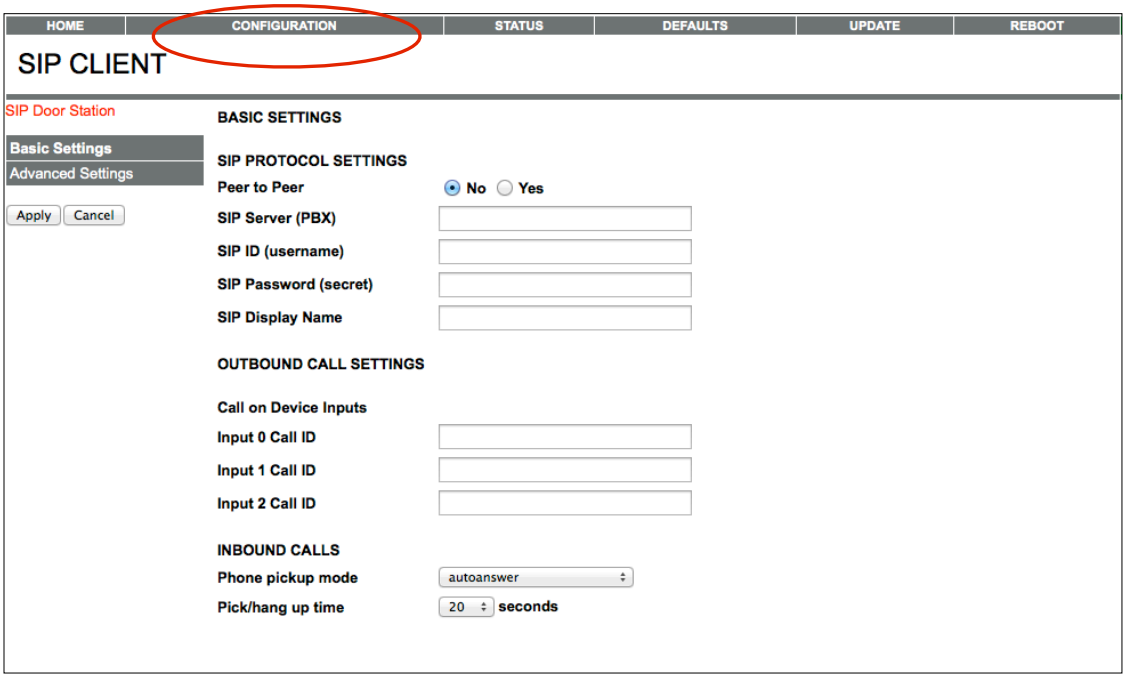
This door entry system is configured as DHCP from the factory. Ensure that you reserve the DHCP-assigned IP address on your DHCP server.

To configure the ViO by Holovision VoIP Intercom, do the following.

1. Open your web browser and enter the door entry system's IP address in the browser's address bar .



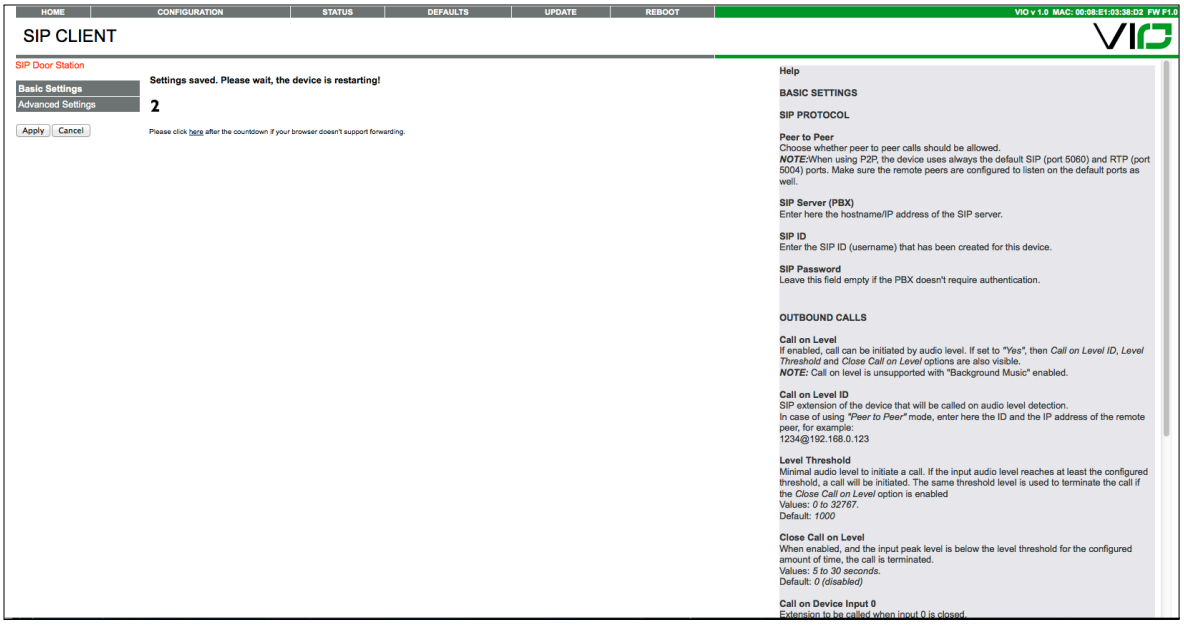
2. Click the **CONFIGURATION** tab. See the next screenshot.



3. Use the next table to enter or select values for the fields on the **SIP Client** page (Basic Settings).

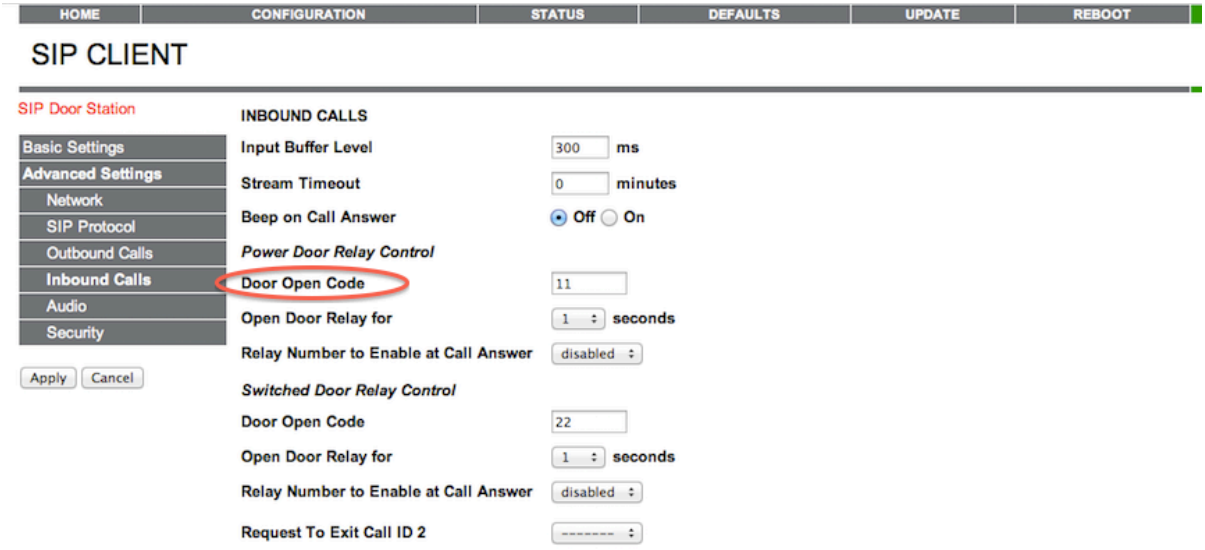
Field	Description
Peer to Peer	Use the default: **No**.
SIP Server (PBX)	Enter the IP address of the Savant PBX.
SIP ID (username)	Enter the device number used when you added the device in Savant Configurator
SIP Password (secret)	Enter the device number used when you added the device in Savant Configurator
SIP Display Name	Enter the user-friendly name used when you added the device in Savant Configurator.
Input 0 Call ID	Enter the extension associated with the ring group you added in Savant Configurator.
Input 0 Call ID	Leave blank
Input 1 Call ID	Leave blank
Input 2 Call ID	Leave blank
Phone pickup mode	Leave as is (autoanswer)
Pick/hang up time	Leave as is (20 seconds)

4. Click **Apply**. The unit will reset in 4 seconds, see next screenshot.



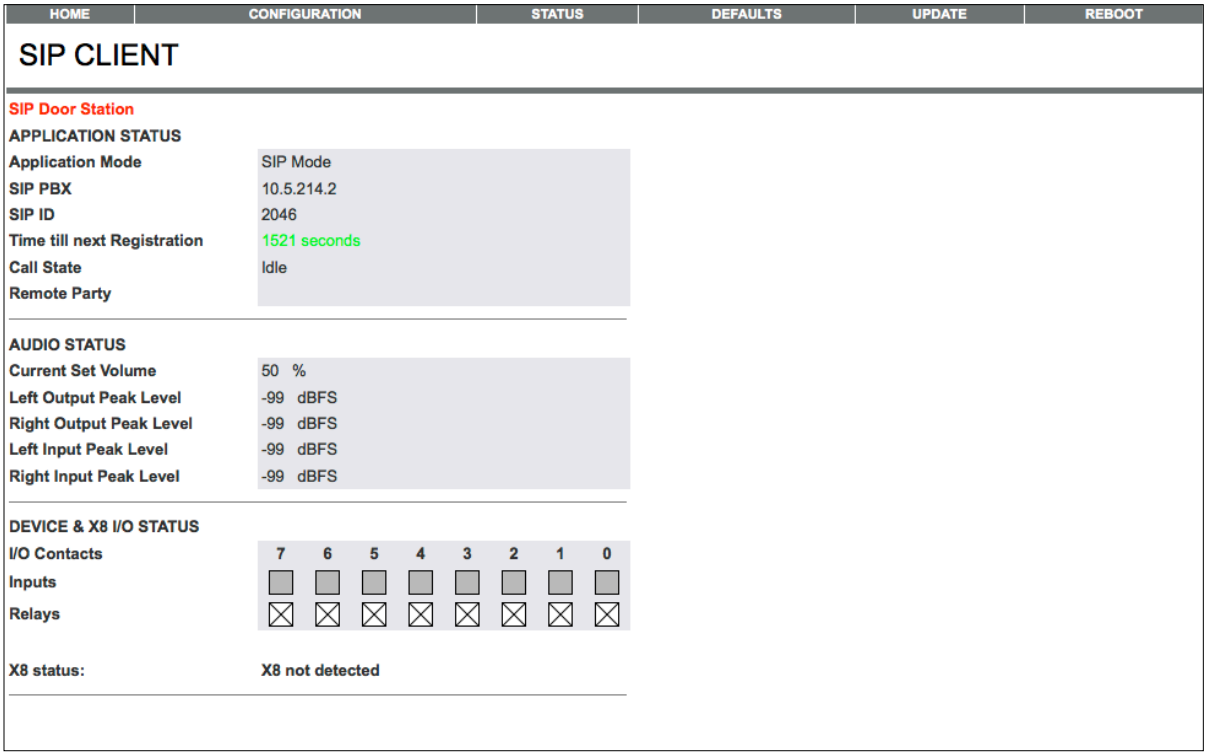
If required, a door code may be set using the **Advanced Settings**. The following example screenshot, shows the number **11** used to connect the gate to the relay. Pressing 11 will open the gate.

Enter the **Door Open Code** you wish to use to connect the gate to the relay. Click **Apply**.



5. Click the **Home** tab.

   The **Time till next Registration** field is confirmed in green text. See the next screenshot.



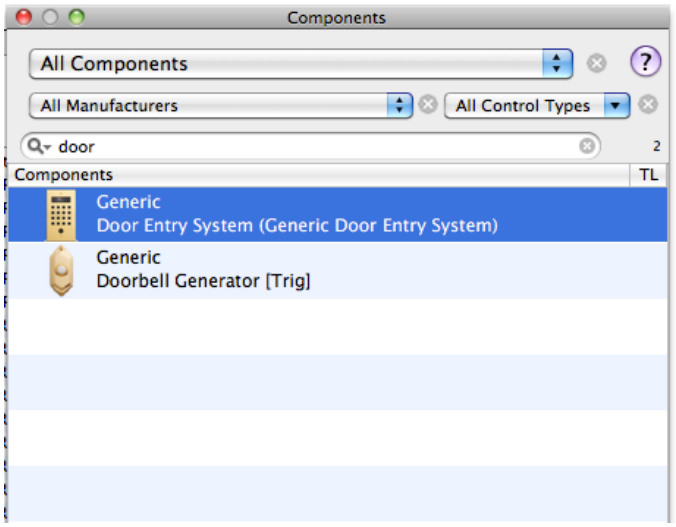
Now the unit is ready to make and receive calls.

Adding the Mobotix T24 Using RacePoint Blueprint™

The Mobotix T24 door entry unit is a fully operational SIP phone with an IP camera included.

To add the door entry unit as part of the Savant PBX configuration in RacePoint Blueprint, do the following.

1. From the **Library**, select **Generic Door Entry System**.

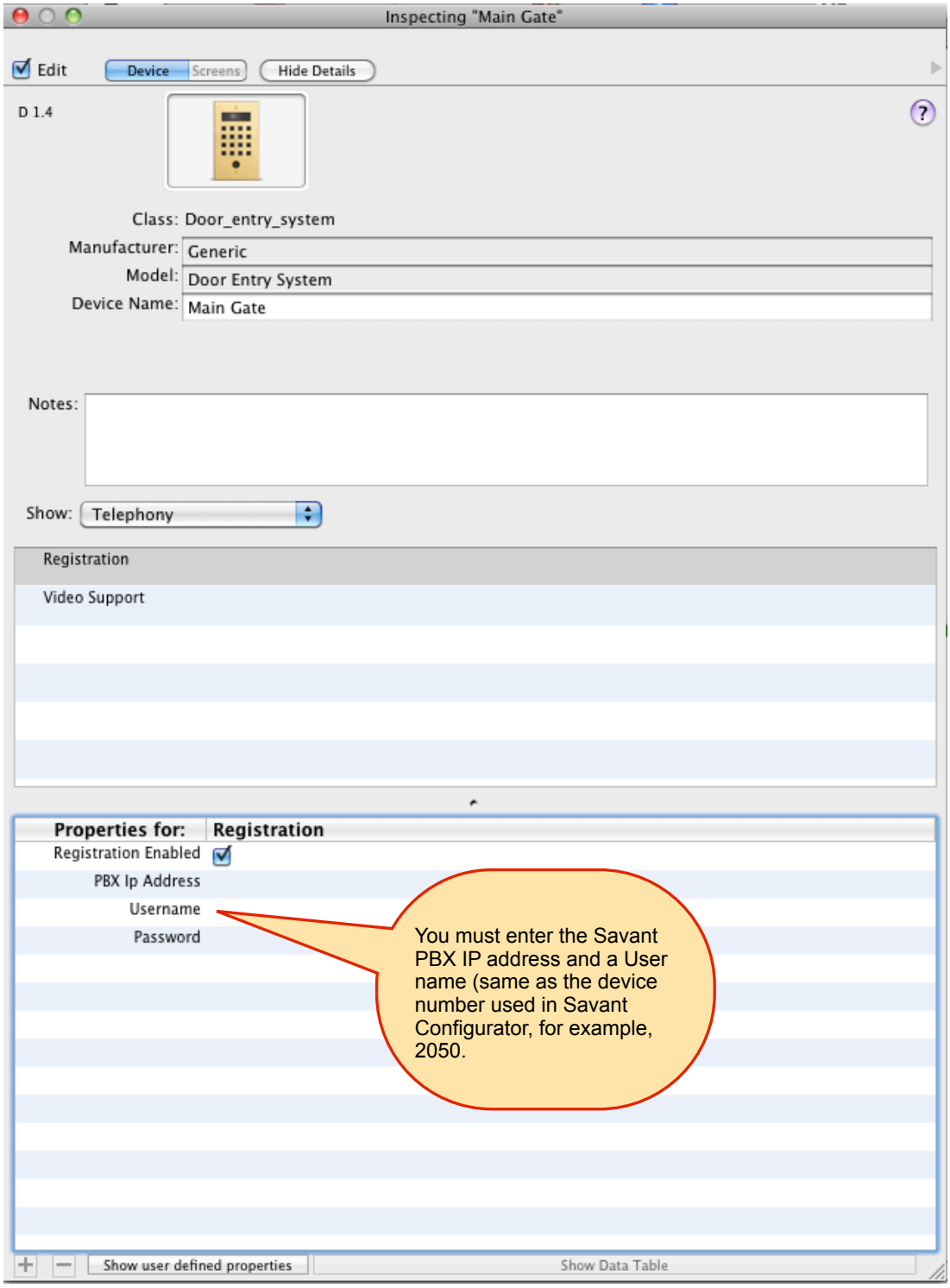


2. Drag the component to the **Layout** window.
3. Enter a unique name for the component.

4. Inspect the component.
5. Select **Telephony** from the **Show** popup menu.
6. Select **Registration**, on the **Detail** window, enter the following.
    - Savant PBX IP address
    - User name (same as the one used in Savant Configurator, for example, 2050)
    - Leave password blank.

See the next screenshot.

Important! The user name entered for this step match the one used when the device is added in Savant Configurator.

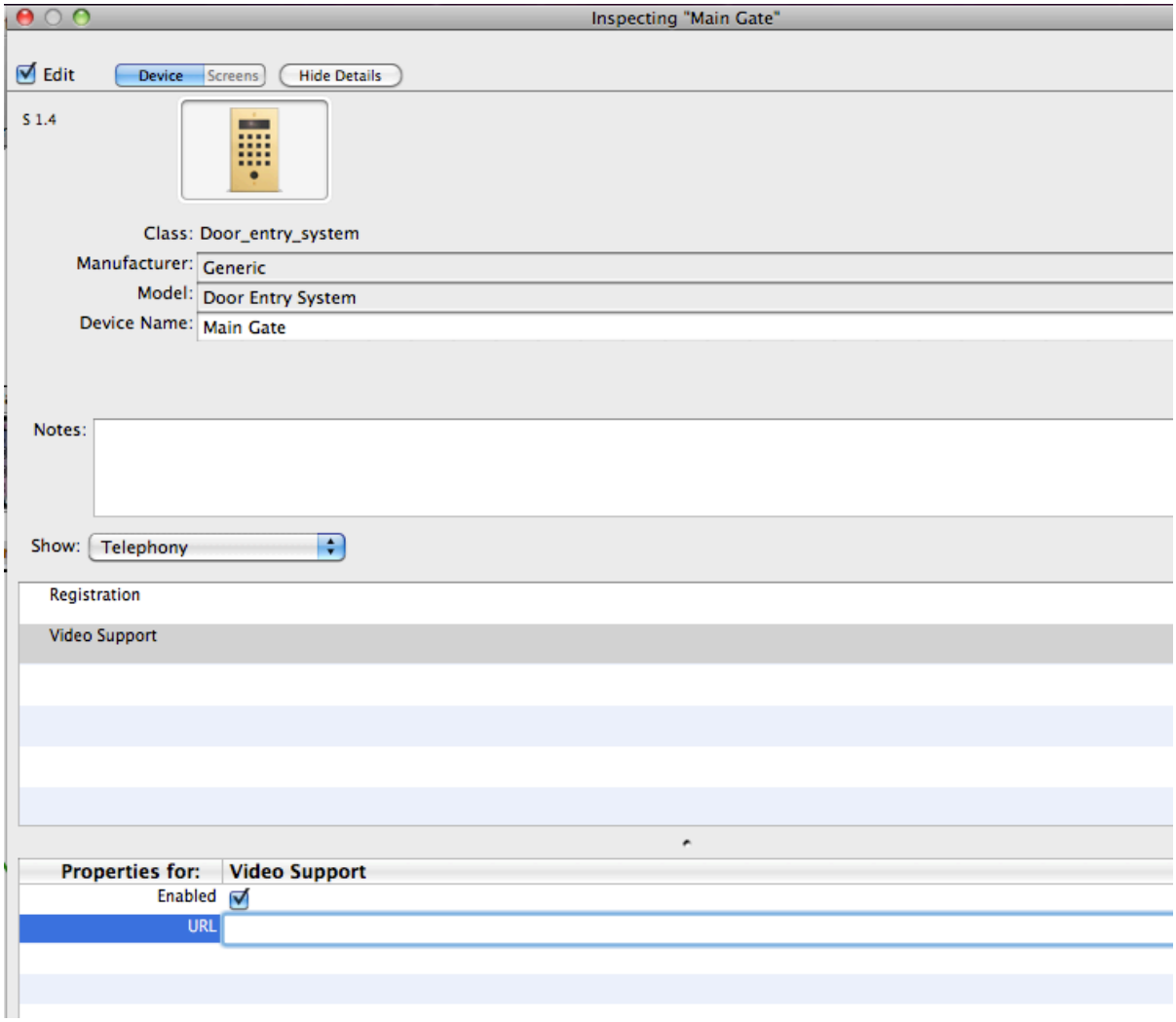


7. Select **Video** on the **Detail** window.

8. Enter the URL for the camera feed as follows:

   http://username:password@camera_ip/control/faststream.jpg?stream=full&fps=30

   Where:
   Username: the user name of the camera
   Password: password of the camera
   camera_ip: IP Address of the camera.



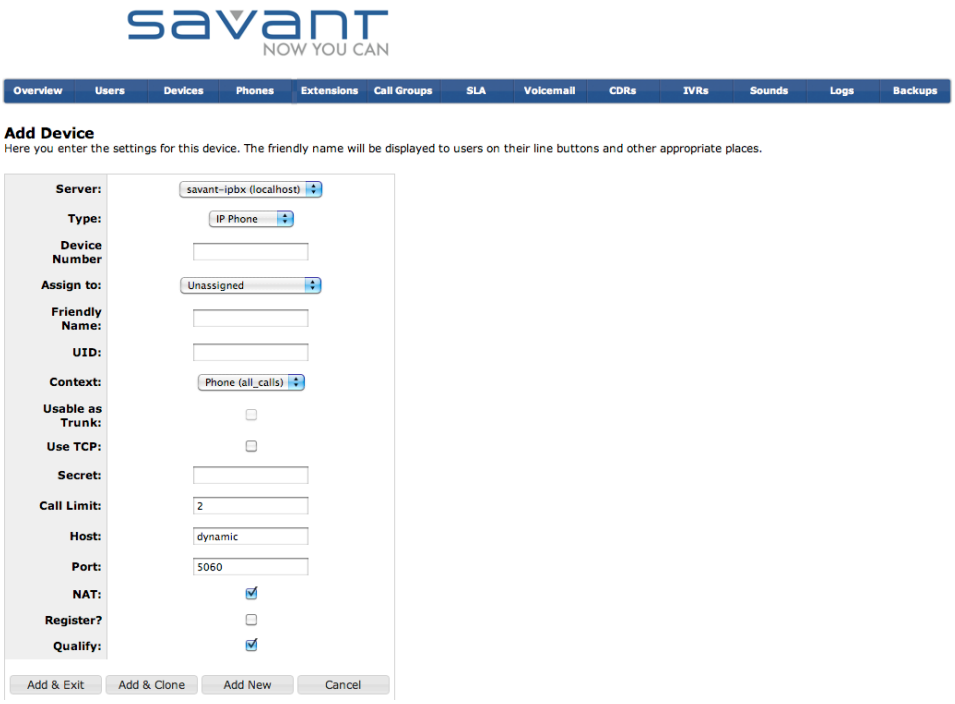
9. Generate services, save, and upload the configuration.

Next add the Mobotix T24 as a device in Savant Configurator. See the next procedure, Adding a *Mobotix T24 Using Savant Configurator*.

Adding a Mobotix T24 Using Savant Configurator

To add the Mobotix T24 unit as an endpoint within the Savant PBX using Savant Configurator, do the following.

1. Click the **Devices** tab.
2. Click **Add Device** to open the **Add Device** page.

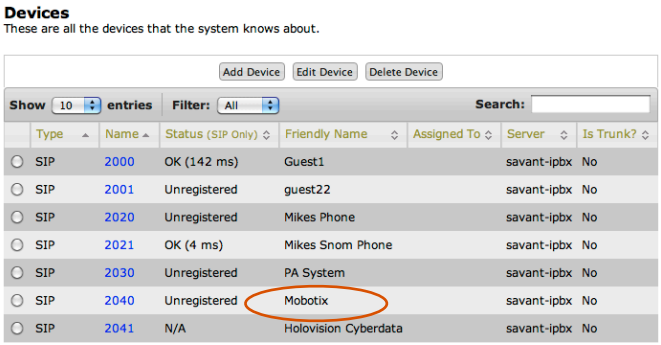


3. Use the next table to enter or select values for the fields on the **Add Device** page.

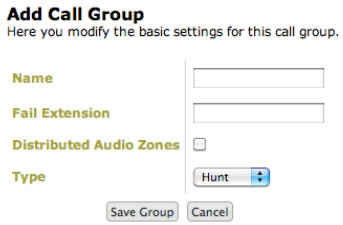
Field	Description
Server	Leave as is.
Type	Select this option: **IP Phone**.
Device Number	Enter a four-digit number (in the range 2000-2500) for this device.
Assign to	Provides a drop-down list of all users that the device can be assigned to. It can also be unassigned. Savant Systems recommends this field be unassigned.
Friendly Name	Name that displays when a call is made from this device.
UID	The Savant user identifier is automatically populated by the **Device Number.**
Context	Default is **Phone (all_calls)**. Use the default value.
Usable as Trunk	Do not insert a check mark.
Use TCP	Do not insert a check mark.
Secret	Leave it blank.
Call Limit	Enter **2**.
Host	Use the default: **dynamic**.
Port	Use the default value: 5060.
NAT	Network Address Translation (NAT) helps determine whether this device is on the internal network or outside the firewall. You must insert a check mark in the check box.
Register?	Do not insert a check mark.

Qualify	Insert a check mark.

4. Click **Add & Exit.**
5. Click **View Devices** from the left side bar and confirm the new device appears in the list. See the next screenshot with the Mobotix device circled.



6. Click **Call Groups** and then click **Add Group** to open the **Add Call Group** page.

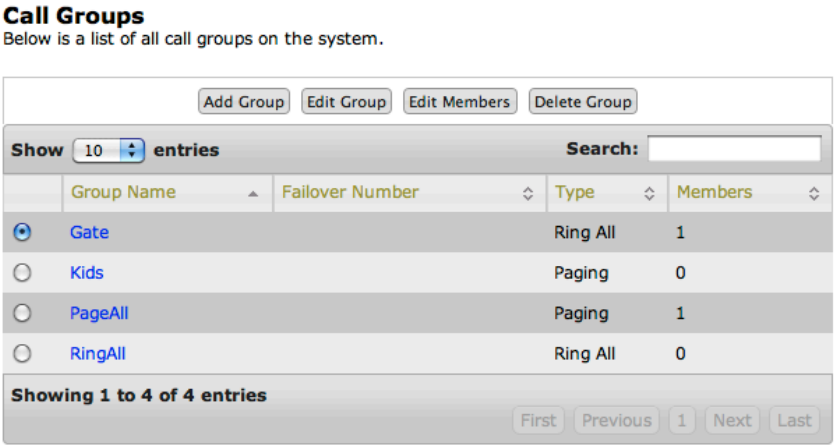


7. Use the next table to enter or select values for the fields on the **Add Call Group** page.

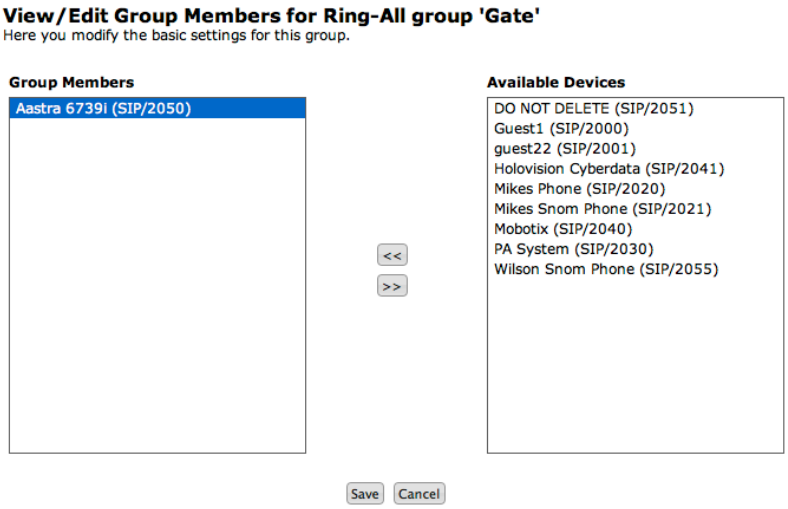
Field	Description
Name	Name of group.
Fail Extension	Leave as is.
Type	Select Ring-All.
Distributed Audio Zones	Insert a check mark in the box, if required.

8. Click **Save.**

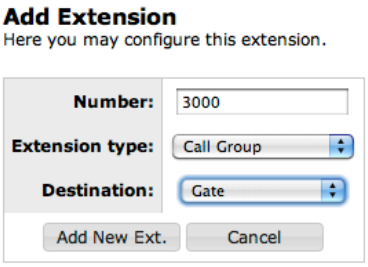
9. Click **View Groups** from the left side bar, and then from the list select the group you just created.



10. Click **Edit Members** to open the edit group members page. See the screenshot on the next page.



11. Select all the endpoints from the **Available Devices**—that you want to include in the Ring-All group—and use the arrow button to move the device to the Group Members area.
12. Click **Save**.
13. Click the **Extension** tab and click the **Add Extension** button to open the **Add Extension** page.

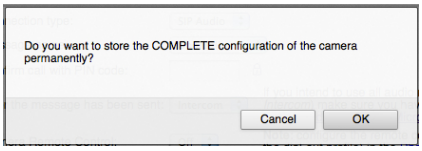


14. Use the next table to enter or select values for the fields on the **Add Extension** page.

Field	Description
Number	Number will be the number that the door entry will dial.
Extension Type	Select **Call Group**.
Destination	Select Ring-All.

Configuring the VoIP Settings for Mobotix T24 Intercom

The Mobotix T 24 intercom can be configured using the Mobotix web interface. When using this interface you may be prompted to store your configuration. If so, click OK to avoid losing data.

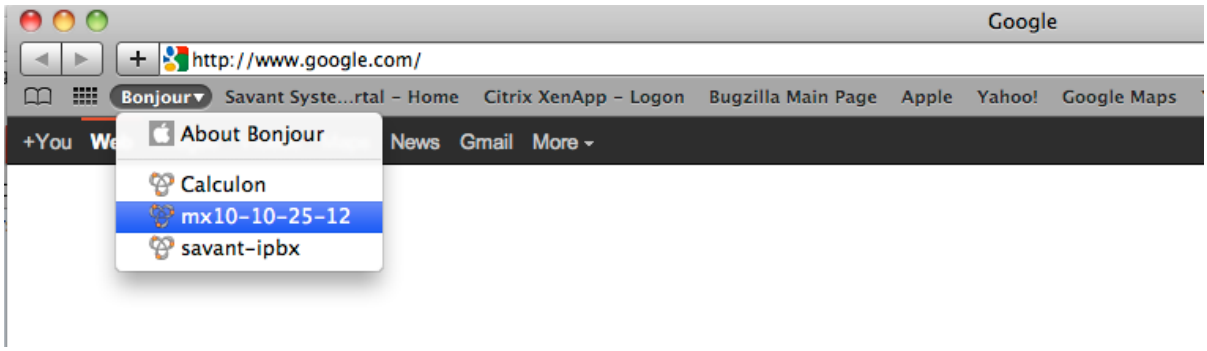


The Mobotix T24 advertises itself via Bonjour®.

NOTE: This procedure is based on the Mobotix web interface version: 4.1.1.21. If the Mobotix website is using a different version, please contact Mobotix customer support.

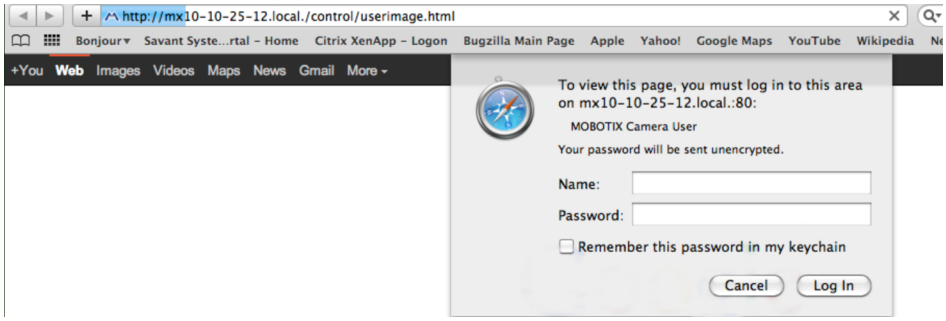
To configure the VoIP Settings for the Mobotix T24 Intercom, do the following.

1. Open Safari and click **Bonjour**. If Bonjour is not included on your Bookmarks Bar, see the procedure for adding it by clicking here (see page 56).



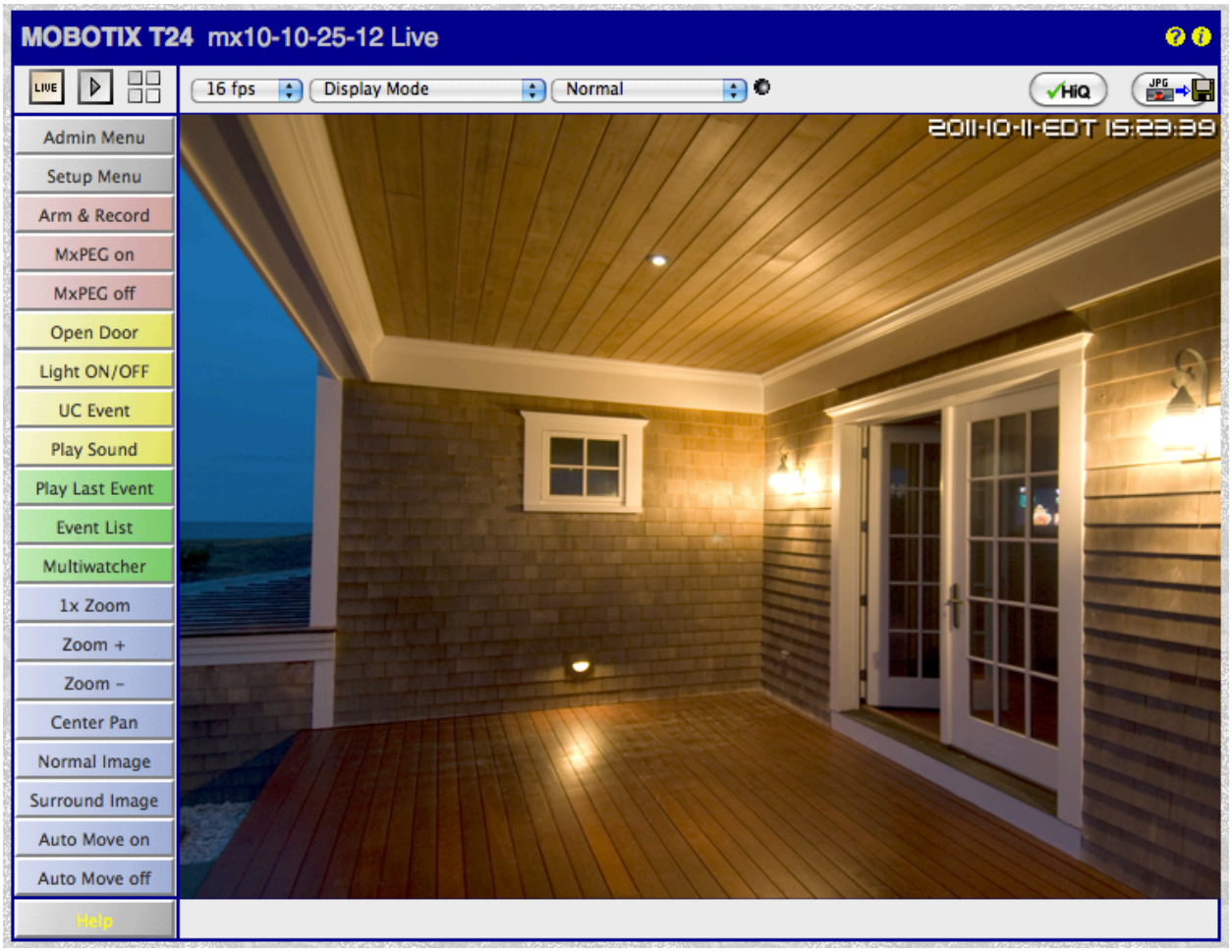
2. Enter the user name and password as follows:

   User: admin
   Password: meinsm



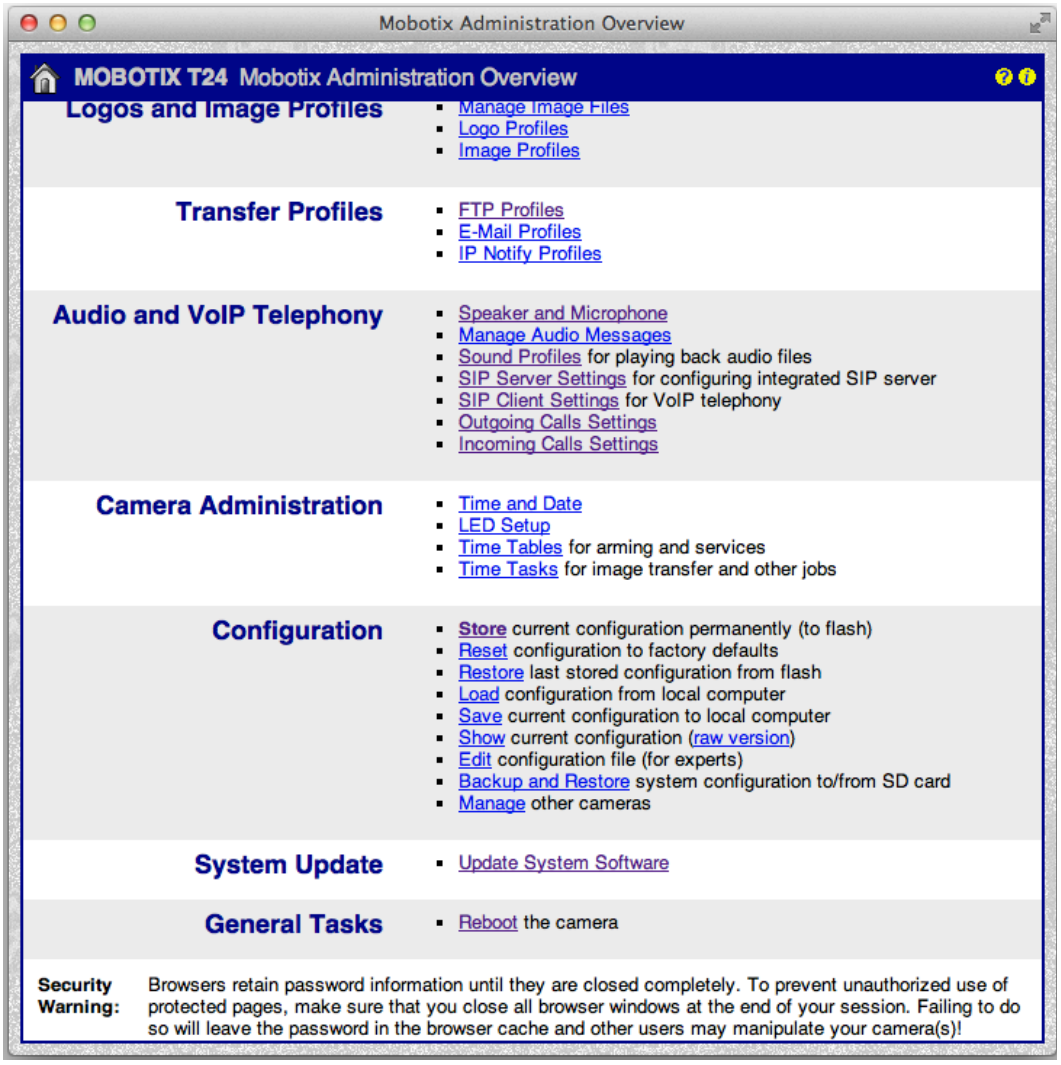
3. Click **Log in** to open the main page of the Mobotix web interface. See the next screenshot.

Main Page in Mobotix Web Interface

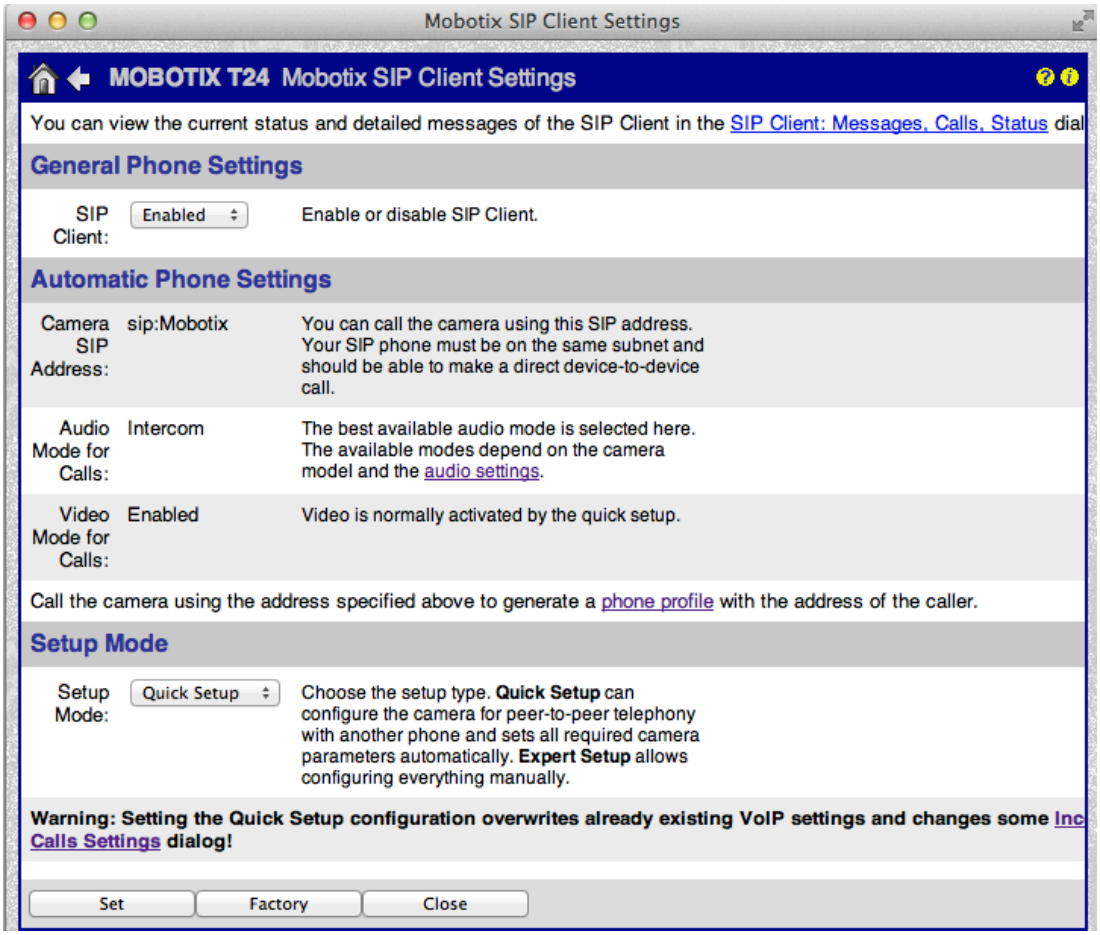


4. Click **Admin Menu** to open the **Mobotix Administration Overview** page in the web interface. See the next screenshot.

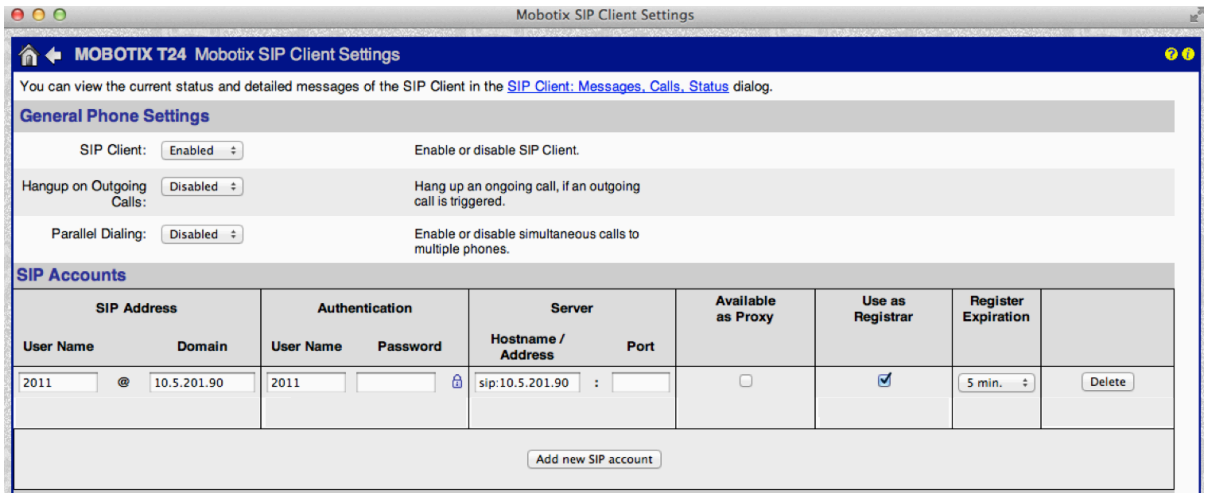
Administration Overview Page



5. In the **Audio and VoIP Telephony** group, click **SIP Client Settings** to open the page for these settings**.** See the next screenshot.



6. In the **Setup Mode** group, select **Expert Setup.** This enables more options for the **General Phone Settings** and shows the **Add new SIP account** button.

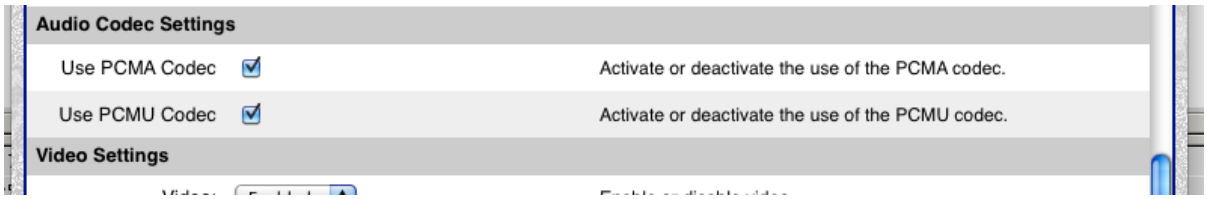


7. Click **Add new SIP account** once to add a blank row for entering a **SIP account**.

8. Use the next table to complete the fields shown in the previous screenshot.

Field	Description
SIP Client	Select Enabled
Hangup On Outgoing Calls	Select Disabled
Parallel Dialing	Select Disabled
SIP Address: User Name	Assigned Device Number of Mobotix system in Savant Configurator.
SIP Address: Domain	IP Address of the Savant PBX
Authentication: User Name	Assigned Device number of Mobotix system in Savant Configurator. This user name should match the SIP Address: User Name.
Authentication: Password	Leave field blank.
Server: Hostname/address	Make sure the Use as Registrar boxes are checked.
Server: Port	Leave field blank.
Available As Proxy	Leave field blank.
Use As Registrar	Add check mark.
Registrar Expiration	Use 5 minutes

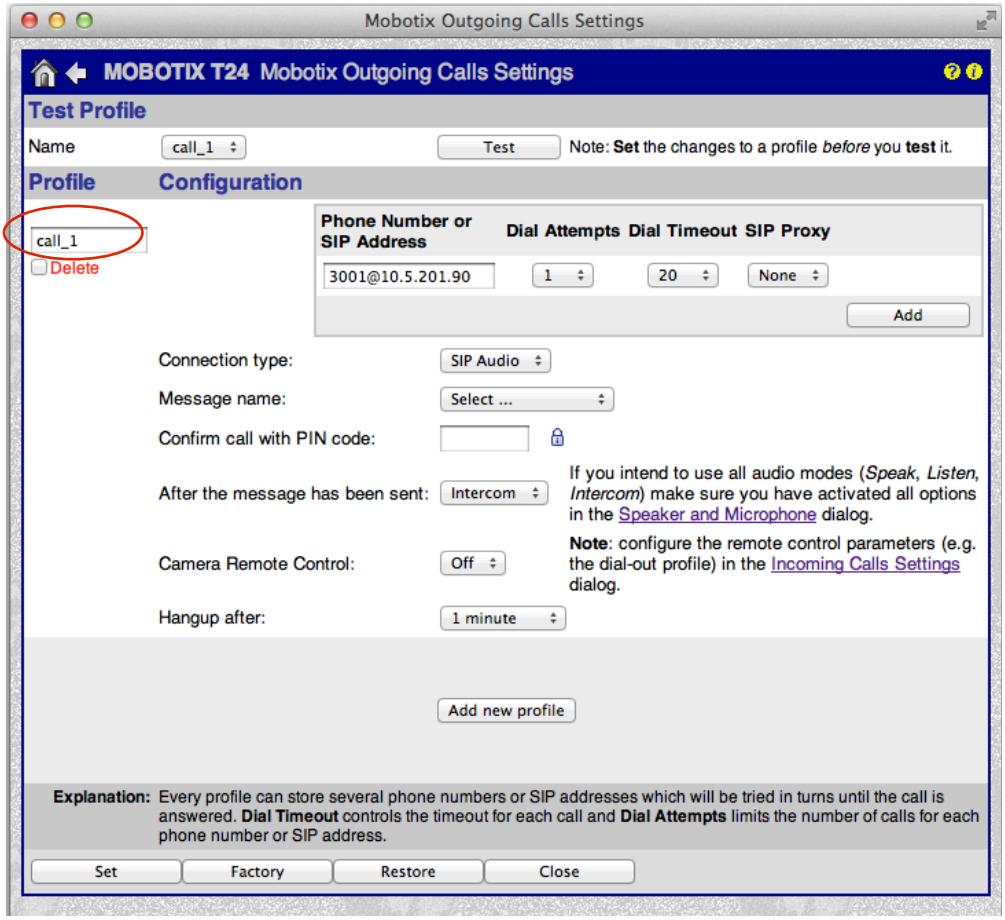
9. Scroll down to the **Audio Codec Settings** section and insert a check mark for **Use PCMA Codec** and **Use PCMU Codec**.



10. Scroll down and click **Set**.

    At this point the Mobotix unit should be registered with the Savant PBX.

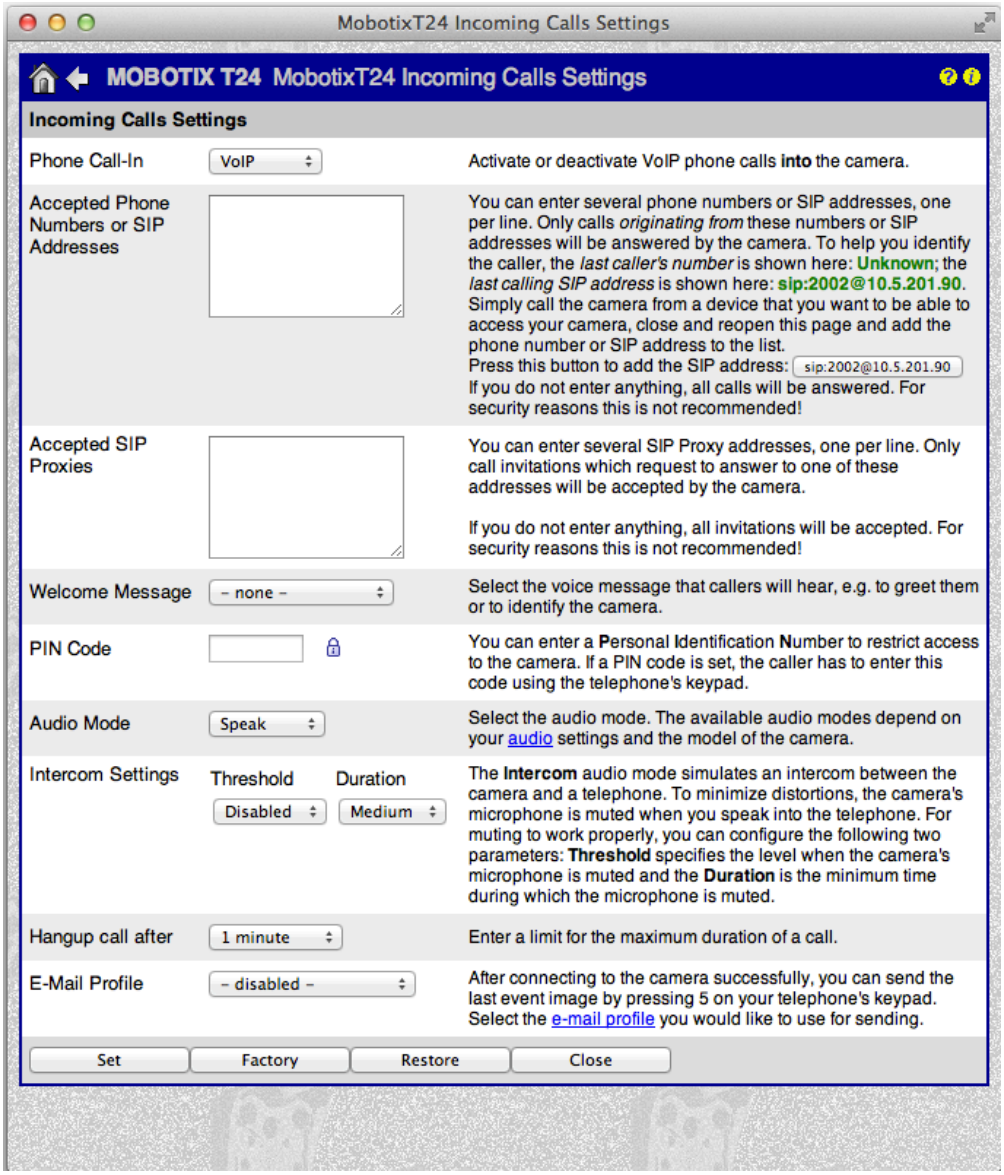
11. Go back to the Admin Menu by clicking the left arrow at the top of the page. See Administration Overview Page.
12. From the **Audio and VoIP Telephony** group select **Outgoing Calls Settings**.
13. Click the **Add** button to open the **Mobotix Outgoing Calls Settings** page.
14. Enter a **Profile** name in the field as circled in red in the next screenshot.



15. Use the next table to complete the fields shown in the previous screenshot.

Field	Description
Phone Number or SIP Address	Enter the extension you selected for the ring group followed by @ and the Savant PBX IP address.
Message Name	Leave as is.
Connection Type	Select **SIP Audio**.
Confirm call with PIN code	Leave blank.
After the message has been sent	Select **Intercom**.
Camera Remote Control	Select **On**.
Hangup after:	Select **1 minute**.

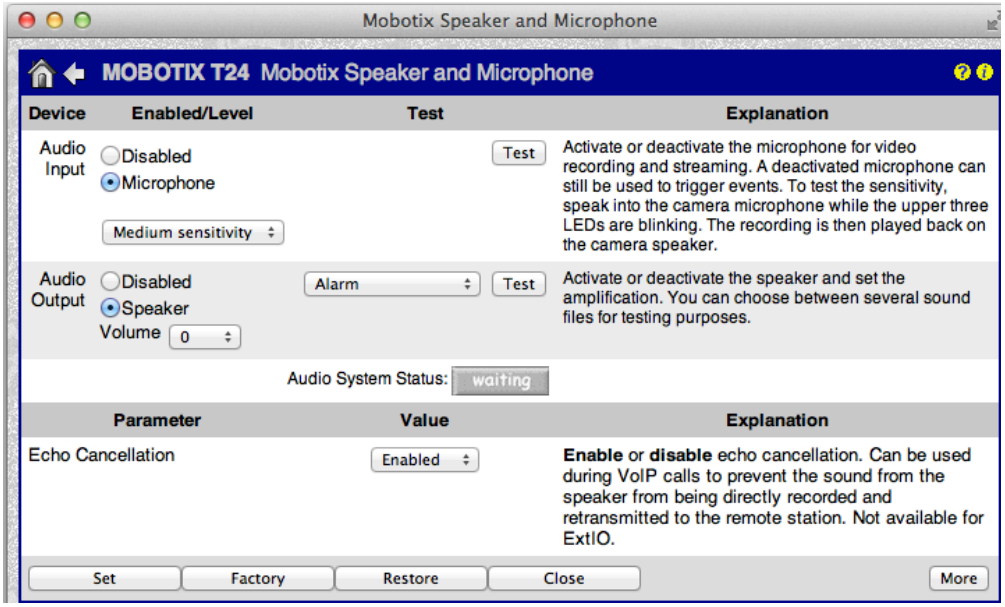
16. Click **Set.**
17. Go back to the Administration Overview page and click the **Incoming Calls Settings** option in the Audio and VoIP Telephony group. See the next screenshot.



18. Use the next table to complete the fields shown in the previous screenshot.

Field	Description
Phone Call-In	Select VoIP.
Accepted Phone Numbers or SIP addresses	Leave blank.
Accepted SIP proxies	Leave blank.
PIN Code	Leave blank.
Audio Mode	Select Speak
Intercom Settings	Threshold: Disabled | Duration: Medium
Hangup call after	Select 1 minute.
E-mail Profile	Select disabled.

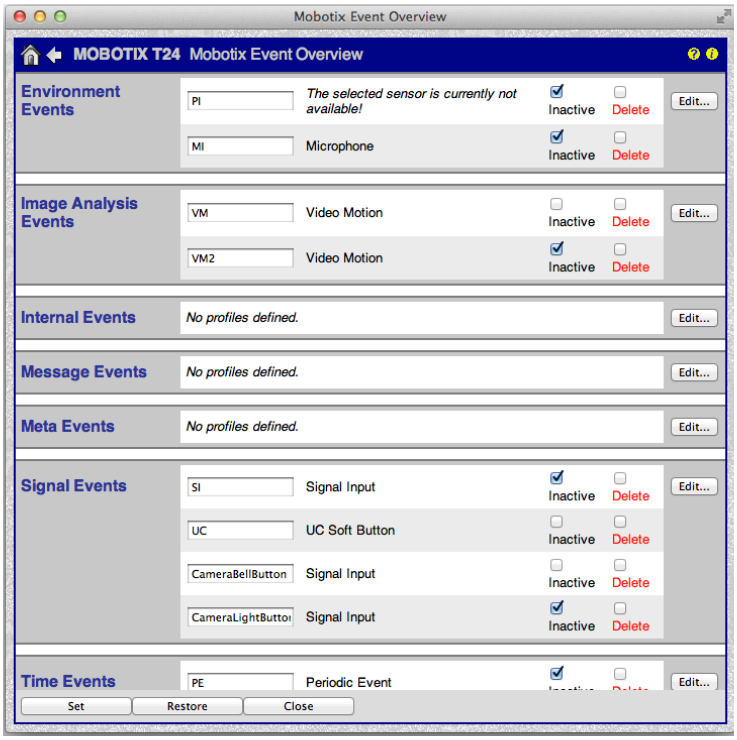
19. Click **Set.**
20. Go back to the Administration Overview page and click the **LoudSpeaker and Microphone** option in the Audio and VoIP Telephony group. See the next screenshot.



21. Use the next table to complete the fields shown in the previous screenshot.

Field	Description
Audio Input	Select **Microphone** and select **Medium sensitivity.**
Audio Output	Select **Speaker**.
Echo Cancellation	Select **Enabled**.

22. Click **Set.**
23. Go to the Mobotix T24 main web page by clicking  and then click **Setup Menu** (on the left).
24. From the **Event Control** group, click **Event Overview**.



25. Use the next table to complete the fields shown in the **Signal Events** group in the previous screenshot.

Field	Description
Signal Input	Select **SI** and add a check mark to **Inactive**
UC Soft Button	Select **UC**. Leave **Inactive** and leave **Delete** unchecked.
Signal Input	Select **CameraBellButton.** Leave **Inactive** and **Delete** unchecked.
Signal Input	Select **CameraLightButton.** Add a check mark to **Inactive** and leave **Delete** unchecked.

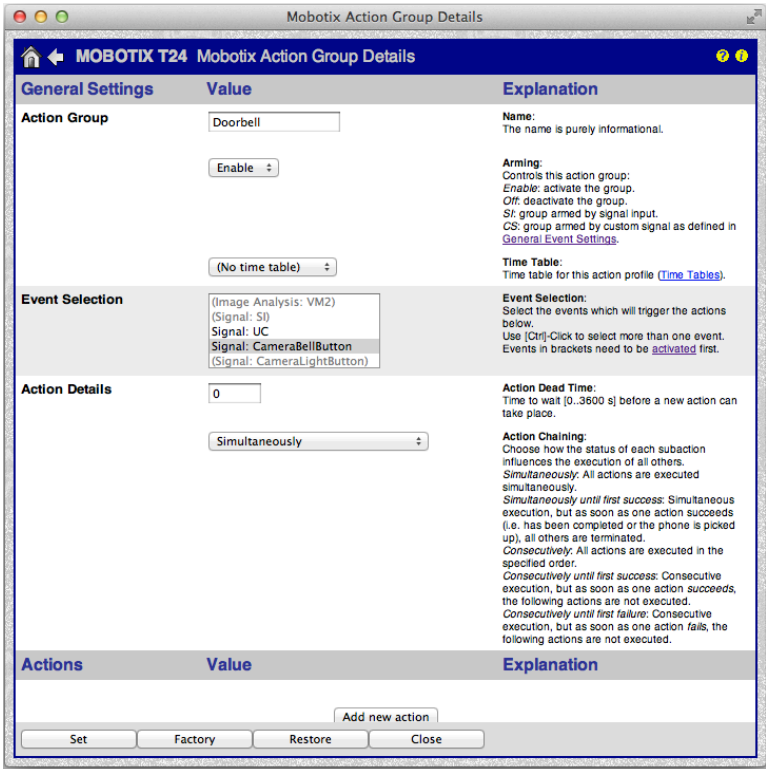
26. Click **Set.**

27. Go back to the **Mobotix Setup Overview** page.

28. From the **Event Control** group select the **Action Group Overview** to open the configuration settings for the **Action Group Overview** page.

29. Click **Add new group** to open the configuration settings for an action group.

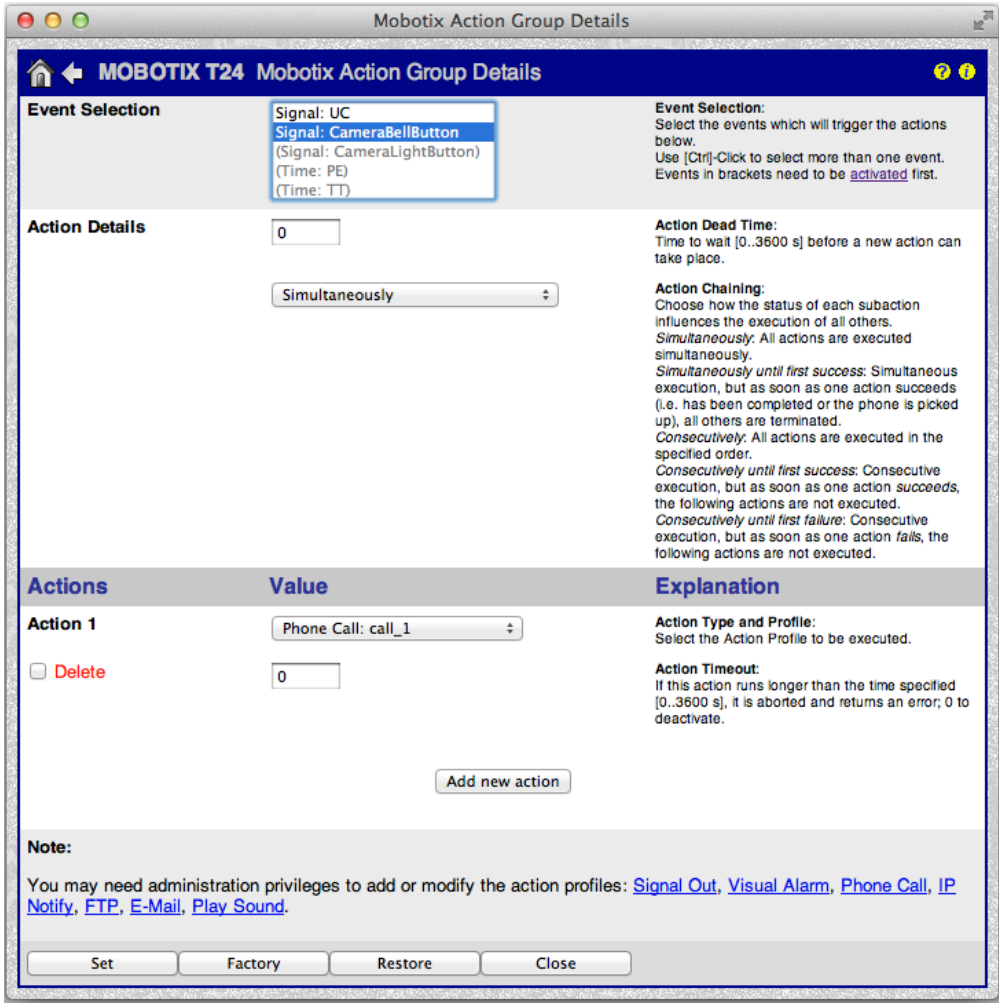
30. Enter a name for the action group and then click **Edit** to open the action group details.



31. Use the next table to complete the fields shown in the **Action Group Details** page in the previous screenshot.

Field	Description
Action Group: Name	Select the action group created in step 28. The previous screenshot shows for example, **Doorbell.**
Arming	Select **Enable**.
Event Selection	Select **SignalCameraBellButton**.
Action Details	Enter **0** Use **Simultaneously**

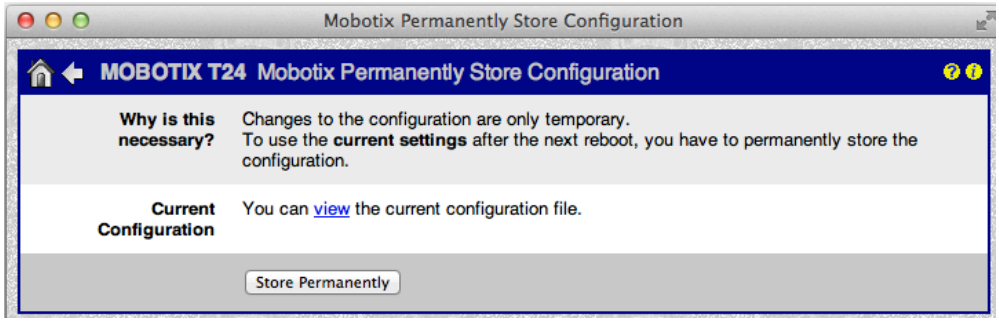
32. Click **Add new action** to open the ...**Action Group Details** page. See the next screenshot



33. Use the next table to complete the fields shown in the ...**Action Group Details** page in the previous screenshot.

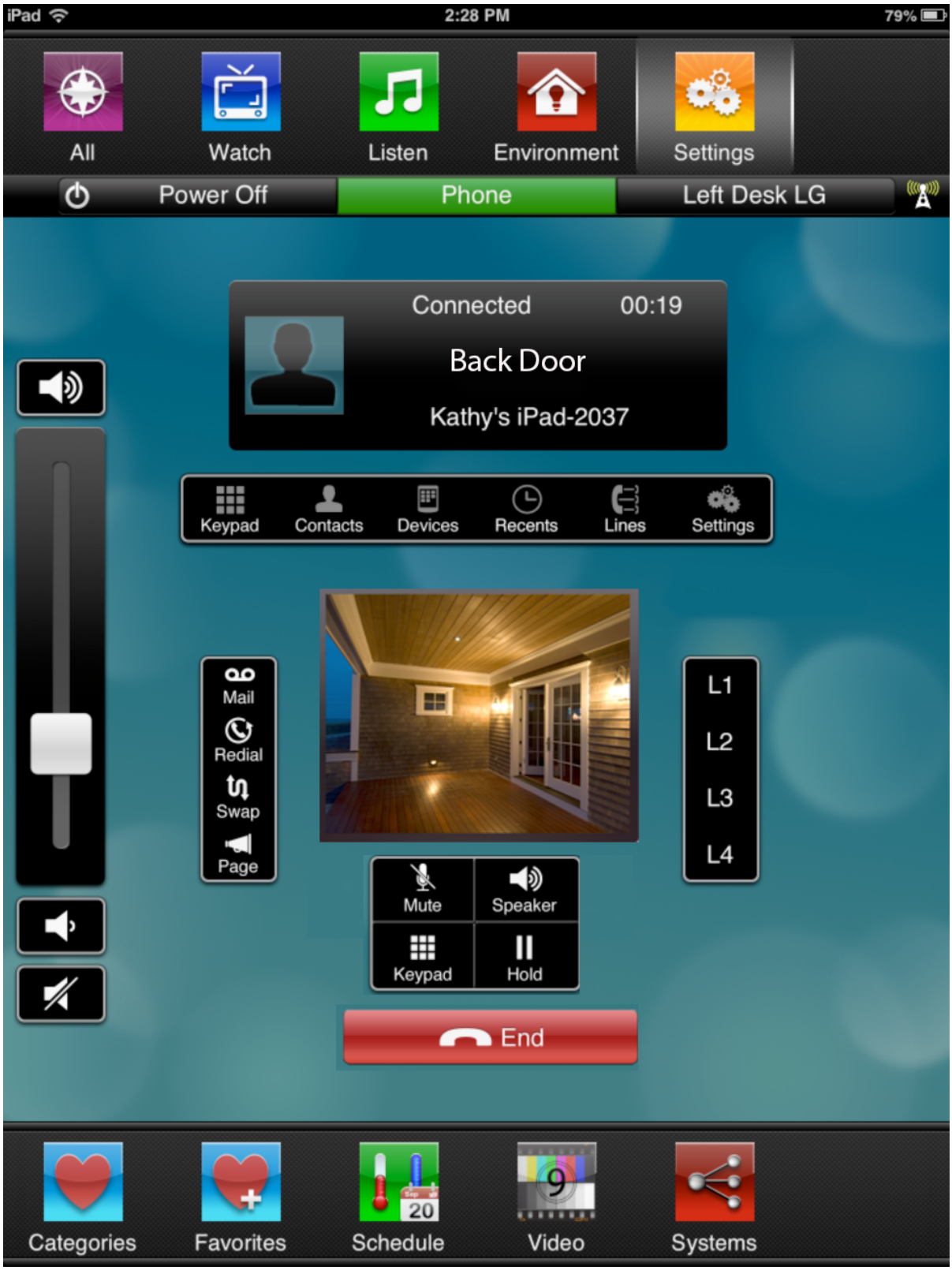
Field	Description
Action 1: Action Type and Profile	Select **Phone Call:call_1**
Action 1: Action Timeout	Select **0**

34. Click **Set**.
35. Go to the Mobotix T24 main web page by clicking  and then click **Admin Menu** (on the left).
36. From the **Configuration** group click **Store** to open the **Mobotix Permanently Store Configuration** page. See the next screenshot.



Now a call can be sent to the door entry unit. When you receive a call from the endpoint associated with the Mobotix T24, you will see the message, **Incoming Call**. See the next screenshot.

If answered, you will see the **Connected** message. See the next screenshot.



8. APPENDIX 1

Use this appendix to update the Savant IP Phone Firmware, and to install the Savant phones: TEL-HSTW01, TEL-HST01, TEL-HSTW02.

Updating Savant Phone Firmware using PBX 6.0

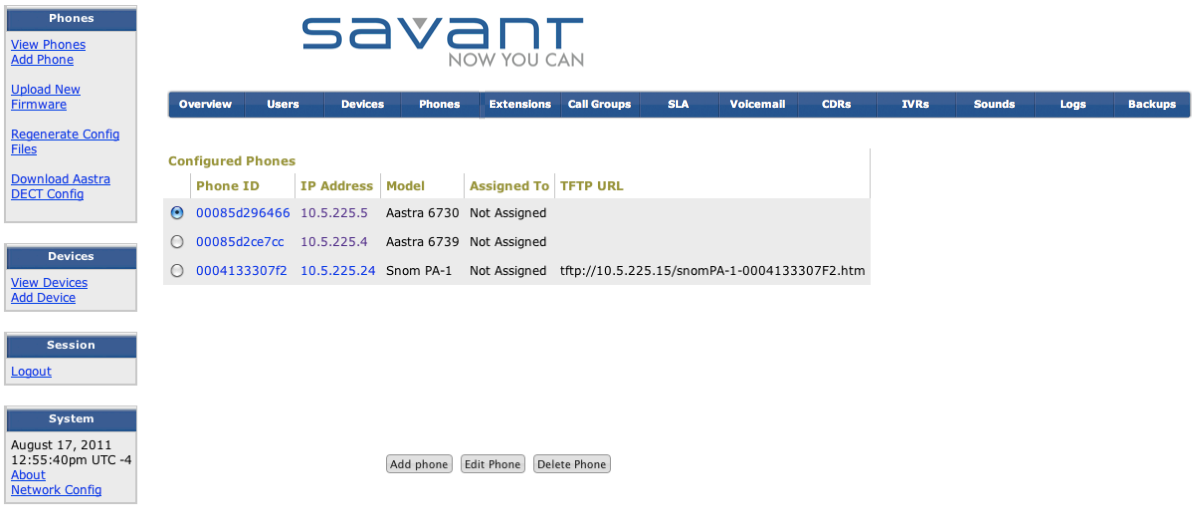
If you are using pre-Release PBX 5.2 software, see - Savant Phone Firmware using Pre PBX 5.2.

The table below represents the PBX Releases and coordinating Firmware that should be used for them.

PBX Release	Use This Firmware
Pre 5.2.1.13:1	3.2.2.56 or higher
Post 5.2.1.13:1	3.2.2.2112 or higher

If you are using Release PBX 5.2.1 or later to update the firmware on the wired Savant IP phones—TEL-HST01 and TEL-HST02—do the following.

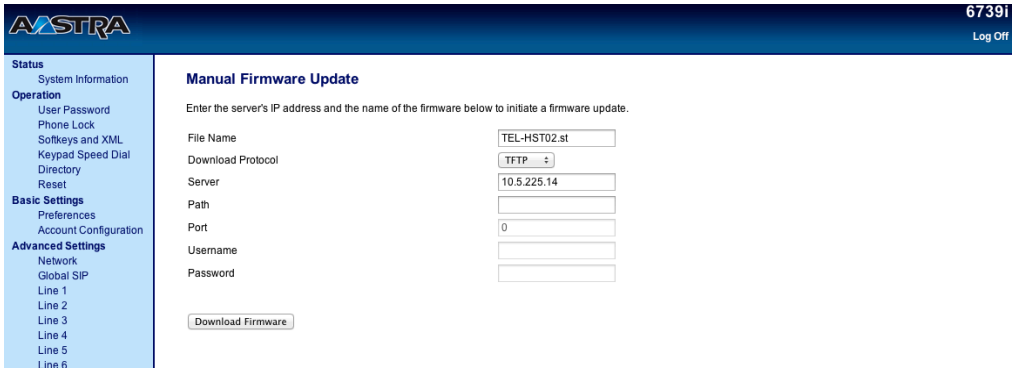
1. Open Savant Configurator and click the Phone tab.
2. Click the IP address of the phone for which the firmware is to be updated. This opens the web user interface of that phone.



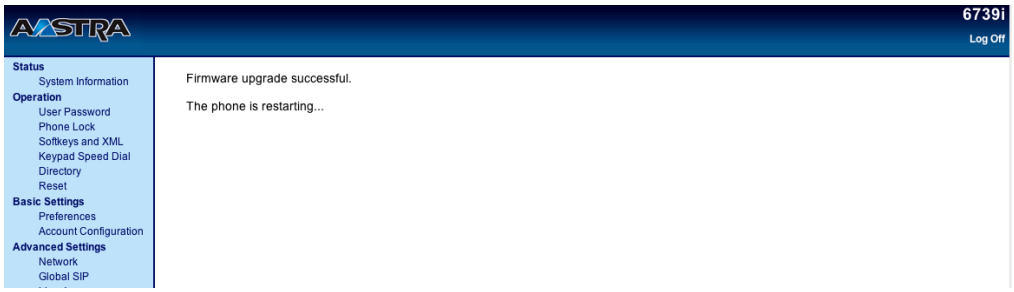
3. Under **Advanced Settings,** click **Firmware Update**.
4. Use the next table to modify the fields on the **Manual Firmware Update** page.

Field	Description
File Name	Enter TEL-HST01.st if the phone is TEL-HST01 model, or TEL-HST02.st if the phone is the TEL-HST02 model. Double check the file name and phone model is correct.
Download Protocol	TFTP
Server	Enter the IP address of PBX
Path	Leave it empty
Port	Use the default: zero (0)
Username	This is not required
Password	This is not required

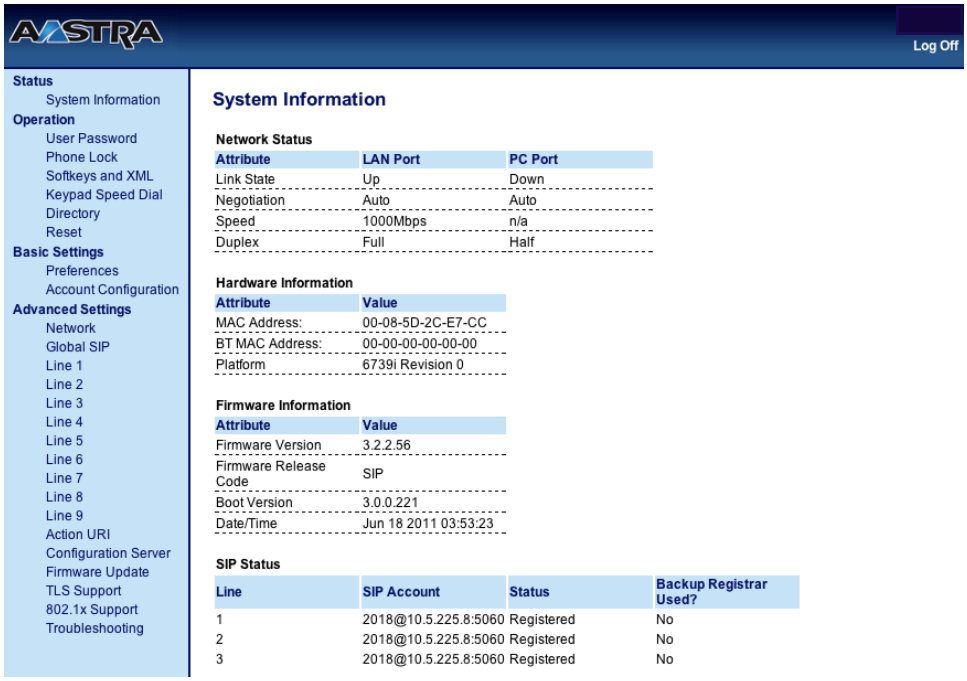
See the next screenshot.



5. Click **Download Firmware**. Wait for a couple of minutes.
6. Confirm that the web interface displays: "*Firmware upgrade successful*. *The phone is restarting*." See the next screenshot.



7. After the phone restarts, under **Status** click **System information**. Confirm the **Firmware Version** under **Firmware information**.



Updating Savant Phone Firmware using Pre-PBX 5.2

If you are using pre-Release PBX 5.2. software to update the firmware on the wired Savant IP phones—TEL-HST01 and TEL-HST02—see the Release PBX5.2 Savant Telephony Solution Deployment Guide (009-0406-08).

If you are using Release PBX 5.2.1 to update the firmware on the wired Savant IP phones—TEL-HST01 and TEL-HST02—see the procedure Updating Savant Phone Firmware using PBX 5.2.1.

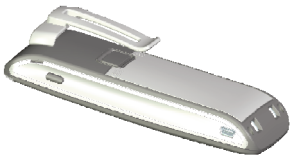
Installing the Savant Wireless Phone: TEL-HSTW01

Inserting the Standard Battery

Push the battery cover downwards until it disengages from the locking mechanism and lift off. Insert the battery with the contacts downwards. Replace the battery cover and push upwards until it snaps into place.

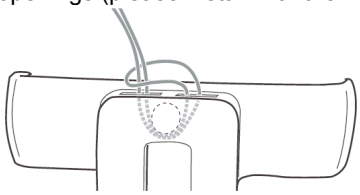
Installing the Mounting Bracket

Place the supplied fixing bracket on both openings at the upper end of the handset and snap in place by pressing downwards. To remove the fixing bracket, press into the small cutouts at the edge of the bracket and pull the two sides slightly apart.



Attaching the Carrying Strap

There are two openings in the upper part of the fixing bracket. Feed the lower end of the carrying strap through these openings (please install with the fixing bracket removed).



Headset Connection: Bluetooth®

All handsets have a 2.5 mm jack plug at the bottom left for connecting a headset. Only use the recommended headsets

The TEL-HSTW01 mobile handset has a Bluetooth interface (2.0) for corresponding headsets. With a headset only audio data can be transferred via the Bluetooth interface.

Headset Safety Information

Headsets (earphones and headphones) can produce very loud and high-pitched feedback. Exposure to such feedback can damage hearing. Before using a headset, set the volume as low as possible. For wired headsets, you can adjust the settings in the menu ››› Audio > Volume > Headset (wire). In the case of Bluetooth headsets, adjust the setting on the device (please consult the User's Guide for the device). If you are making a call with the headset, adjust the volume slowly if necessary.

USB and External Charging Connection

A mini USB connection (2.0) is located at the bottom right. This has two functions:

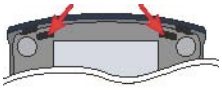
- as an interface for connecting to a PC to load data from or to the device, for example. If the handset is connected to a PC, the battery is charged at the same time. The charging process is, however, slower than if the handset is charged in the charging unit.
- as a connection socket for a USB charging device to charge the handset even when it is in a leather pouch. The charging process is also slower here than charging in the charger cradle.

Only use a shielded USB cable of the type "USB 2.0 A on USB Mini B".

Connecting the Charging Unit

This handset can be used without any changes to the charger cradle.

The plastic guides can also be removed, by pushing a suitable screwdriver into the slits on the bottom of the charger.



Connect the plugin power supply to the charger cradle and place the connection cable through the cable guide. Place the charger cradle on a nonslip surface. Change the plug of the power supply unit if necessary.

Power Supply

The power supply unit is designed for 100V to 240V AC (50-60 Hz). It is supplied with four change adapters enabling virtually worldwide use. Where necessary, connect the plug normally used in your country to the power supply unit. There are two versions of the plug-in power supply unit that are connected slightly differently:

> **Version 1**: Set the switch on the power supply unit to OPEN and push out the existing plug upwards. Then insert the new plug required into the power supply unit and lock it with the switch (LOCK).
>
> **Version 2**: Remove any existing plug by pressing OPEN. Then insert the required new plug into the power supply unit at a slight angle with the label TOP upwards. Press downwards until it snaps into place.

Micro SD Card

There is a slot for a micro SD card under the battery in the Savant TEL-HSTW01 handset. This is not used in the current delivery condition and is available for future applications. Please make sure that the card slot is not damaged when inserting the battery.

Important Information about the Battery

The devices are powered by a Li-ion battery (both standard and power battery). It is vital that you read the safety regulations before using the battery for the first time. Keep these safety regulations and all instructions for use at hand for future reference.

- Dispose of used batteries in accordance with local regulations.
- Failure to heed any of the following precautions when using the battery can lead to overheating, fire and danger of explosion.
- CAUTION: Risk of explosion if the battery is replaced by an incorrect type.
- Never try to use the battery for the power supply of any device other than these handsets.
- Never use or leave the battery close to a naked flame.
- Never put the battery into a microwave oven, do not throw it into a fire and do not expose it to high temperatures by any other means.
- Never carry or store the battery together with electrically conducting objects (neck chains, pencil leads, etc.)
- Never attempt to open the battery, never modify it in any way or subject it to severe blows.
- Never immerse the battery in fresh or salt water.
- Never use or leave the battery in direct sunlight, in a vehicle parked in blazing sunlight or in any other location with high temperatures.

- If you ever notice liquid leaking out, unusual odor, build-up of heat, discoloration, deformation or any other abnormal condition when you use, charge or store the battery, remove the battery immediately from the handset and keep it away from naked flames.
- The battery fluid can damage your sight. If at any time battery fluid accidentally gets into your eyes, rinse your eyes immediately with clean tap water and contact a doctor.
- If the battery is to be used by children, make sure a responsible adult instructs the children in the precautions and proper handling, and make sure the children handle the battery correctly.
- If battery fluid accidentally gets onto your clothing or skin, rinse the affected place immediately with pure tap water. Prolonged contact with battery fluid can lead to skin inflammation.

Precautions During Use:

- The battery is designed for use with these handsets only.
- Only use the charger cradle supplied for charging.
- A new battery is not charged so you need to charge it before using for the first time.
- Using the battery in a cold environment can shorten the expected operating life of a full charge. Charge the battery at a location with a temperature between 10° C and 35° C. Charging outside this temperature range can lead to a longer-than-usual charging time or even to failure of the charging process.
- An extremely short operating time after a full charge indicates that the lifetime of the battery has expired. Replace the battery.
- Never wipe the battery with thinners, benzene, alcohol, or other volatile substances, or chemically treated cloths. These can cause deformation of the battery and malfunction.
- If you need to send your handset with an installed LI-ion battery or LI-ion batteries separately, make sure you comply with the applicable laws and regulations with regard to the shipment of hazardous goods.

Installing the Savant Phone: TEL-HST02

The Savant TEL-HST02 communicates over an IP network allowing you to place and receive calls in the same manner as a regular business telephone. The Savant TEL-HST02 is capable of supporting the SIP IP protocol.

Requirements

The Savant TEL-HST02 requires the following environment:

- SIP-based IP PBX system or network installed and running with a SIP account created for the TEL-HST02 phone.
- Access to a Trivial File Transfer Protocol (TFTP) server, File Transfer Protocol (FTP) server, Hypertext Transfer Protocol (HTTP) server or access to Hyper Text Transfer Protocol over Secure Sockets Layer (SSL) (HTTPS) server.
- Ethernet/Fast Ethernet LAN (10/100 Base-T), Gigabit Ethernet LAN (1000 Base-T) recommended
- Category 5/5e straight through cabling
- Power source

For Ethernet networks that supply in-line power to the phone (IEEE 802.3af):

For power, use the Ethernet cable (supplied) to connect from the phone directly to the network for power. (No 48v AC power adapter required.)

Standards-based (802.3af compliant) Power over Ethernet affords a one-wire solution for connecting Ethernet devices, delivering power and data over a single CAT5/6 network cable. Using 802.3af compliant PoE injectors or PoE Ethernet Switches, there is no need to install a separate power supply at the device location. The PoE injector or PoE Ethernet Switch can simply be mounted at any convenient location up to 100 meters (328 feet) from the device.

NOTE: Due to the inherent voltage drop over copper wire, a maximum of 12.9 W is guaranteed to be received by the PoE powered device over a cable run length of 328 feet (100 meters) per specification.

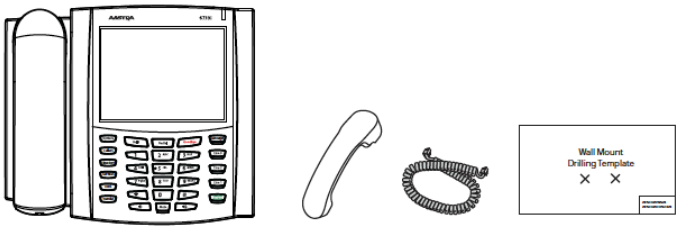
For Ethernet networks that DO NOT supply power to the phone (*optional*):

For power, use the 48V AC Power Adapter (optional accessory) to connect from the DC power port on the phone to a power source.

Phone Parts (TEL-HST02)

When you unpack your phone, you should ensure that you have all of the following items. If any part is missing, contact the supplier of your phone.

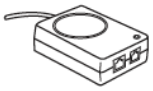
Savant Phone (TEL-HST02)



Optional Accessories (Not Included)

Additional Ethernet Cable (category 5/5e straight through cable)

Power Adapter



PoE (Power over Ethernet) Inline Power Injector

A PoE (Power over Ethernet) inline power injector supplies 48v power to the HST-02 through the Ethernet Cable on pins 4 & 5 and 7 & 8.

Warning: Do not use this PoE inline power injector to power other devices.

Installation and Setup

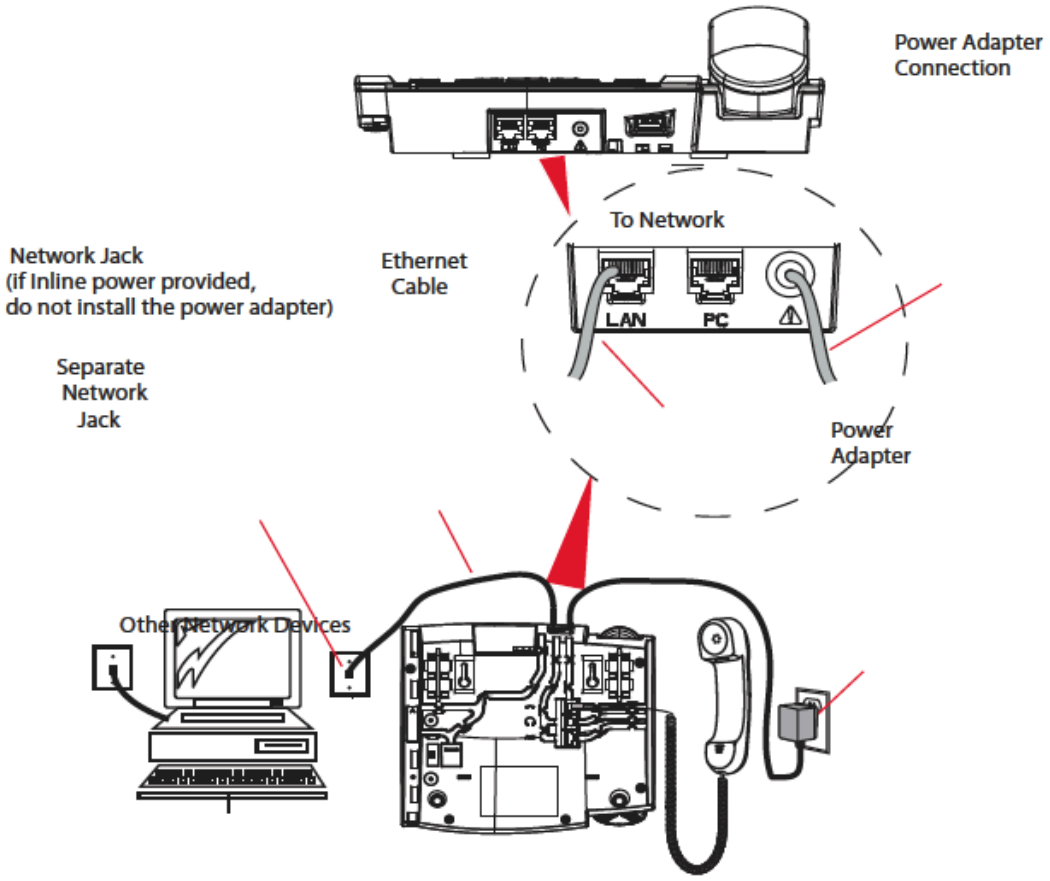
The HST02 can be setup to share a network connection with another network device. Power can be provided by an AC adapter (optional accessory), an 802.3af compliant network power source, or with a PoE inline power injector (optional accessory). It can also be installed on a desk or mounted on the wall.

Direct or Shared Network Connection

The phone can be set up as a direct network connection to the Ethernet wall jack or as a shared network connection as a pass-through if connecting a computer or another network device to the phone.

Direct Network Connection

Located at the top of the phone are two fully switched 10/100/1000 Mbps Ethernet cable ports. The port marked with LAN is used to connect the phone to the network, as well as provide power to your phone (if required).



Shared Network Connection

To connect a network device (such as a computer) to the phone, connect an Ethernet cable into the network port on the top of the phone marked PC. Plug the other end of the Ethernet cable into the network port on the network device with which you are sharing the network connection.

Note: The **PC** jack on the HST02 does not supply inline power onto other network devices. All Ethernet cables used must be category 5/5e straight-through cables, such as the cable provided with your phone

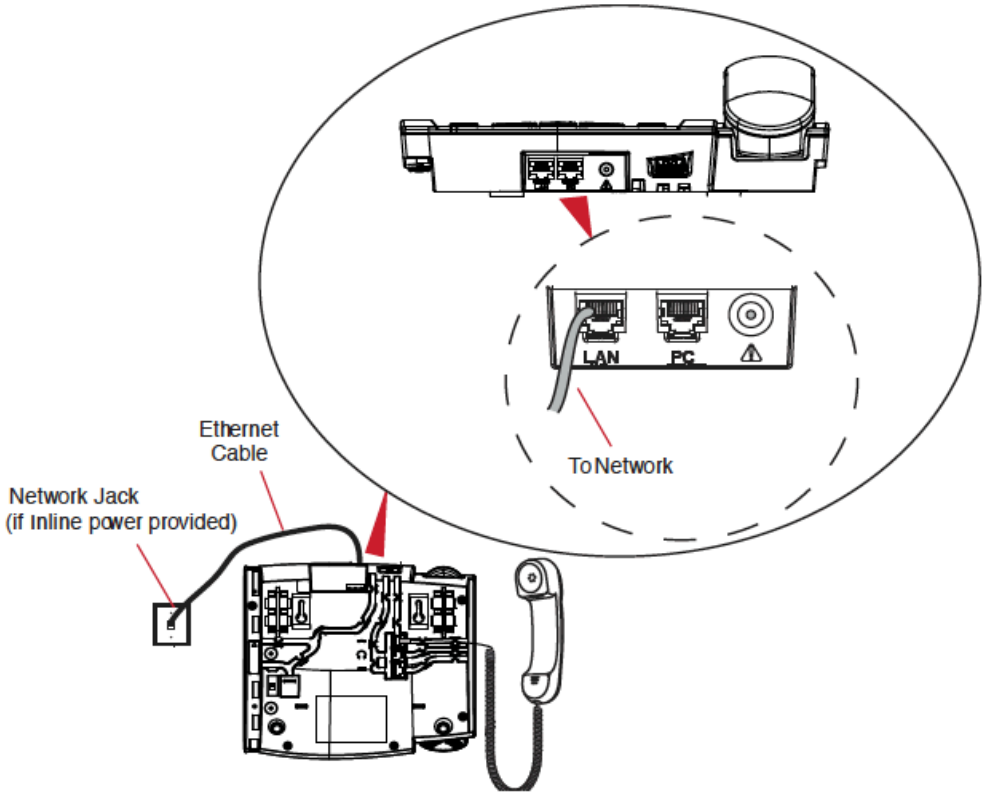
Connecting to the Network and to Power

Inline Power Provided

If your network provides 802.3af compliant in-line power, the phone is powered through the network.

1. On the top of your phone, connect the Ethernet cable (provided with your phone) into the network port marked with **LAN**.

2. Plug the other end of the Ethernet cable directly into the network jack on the wall.



Inline Power Not Provided

If your network does not provide 802.3af compliant in-line power, you need to install the supplied AC adapter or the PoE inline power injector (optional accessory).

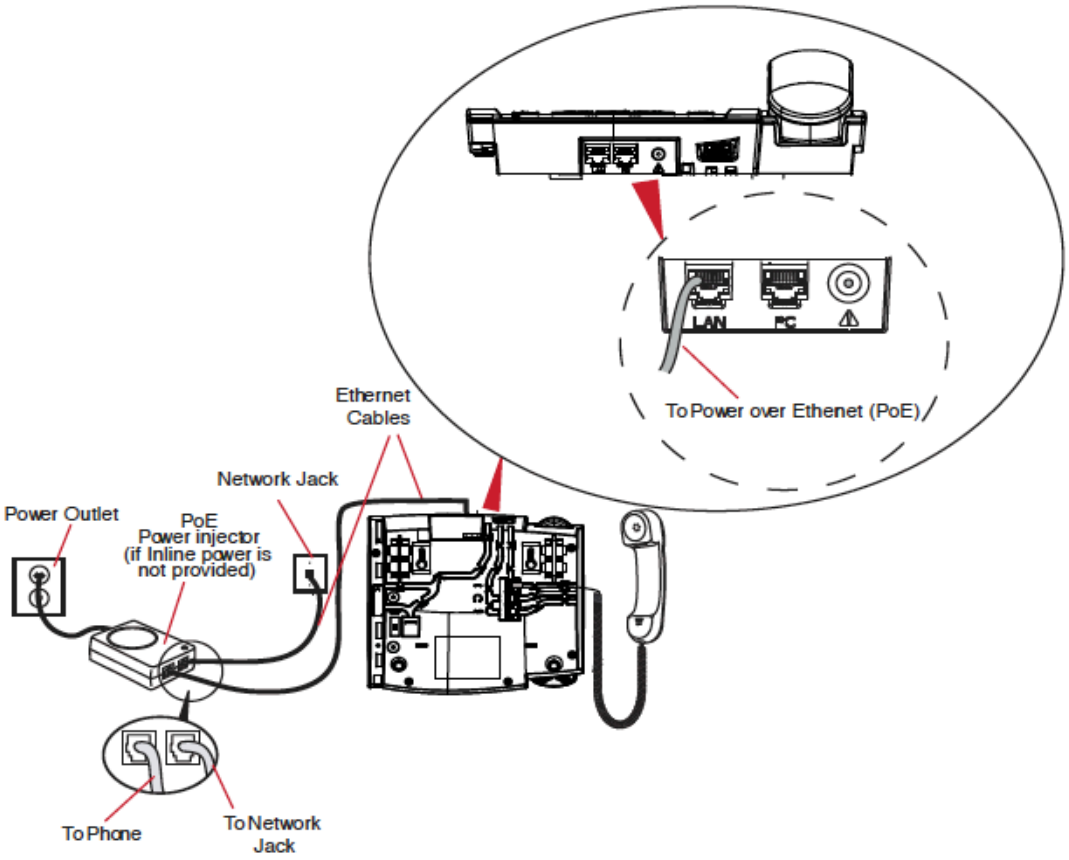
1. On the top of your phone, connect the Ethernet cable (provided with your phone) into the network port marked with **LAN**.

2. On the PoE power injector, plug the other end of the Ethernet cable into the network jack marked as indicated in the following illustration.

3. On the PoE power injector, connect an additional Ethernet cable into the network port as indicated in the following illustration.

4. Plug the other end of the Ethernet cable into the network jack on the wall.

5. Plug the PoE power injector into a power outlet.



Note: You should connect the power supply to a surge protector or power bar. All Ethernet cables used must be category 5/5e straight-through cables, such as the cable provided with your phone.

Connecting a Handset, Headset, or DHSG Headset

Handset

To connect the handset to the phone:

1. On the back of the phone base, locate the handset port marked .
Insert one end of handset cord into the port until it clicks into place.

2. Route the handset cord through the channel as shown in the illustration on the next page.

3. Attach the handset to the other end of the handset cord.

Headset (Optional)

To connect a headset to the phone:

1. On the back of the phone base, locate the headset port marked .
Insert the headset cord into the port until it clicks into place.

2. Route the headset cord through the channel as shown in the above illustration on on the next page.

DHSG Headset (Optional)

You can attach an optional DHSG headset to the HST02 Phone if required.

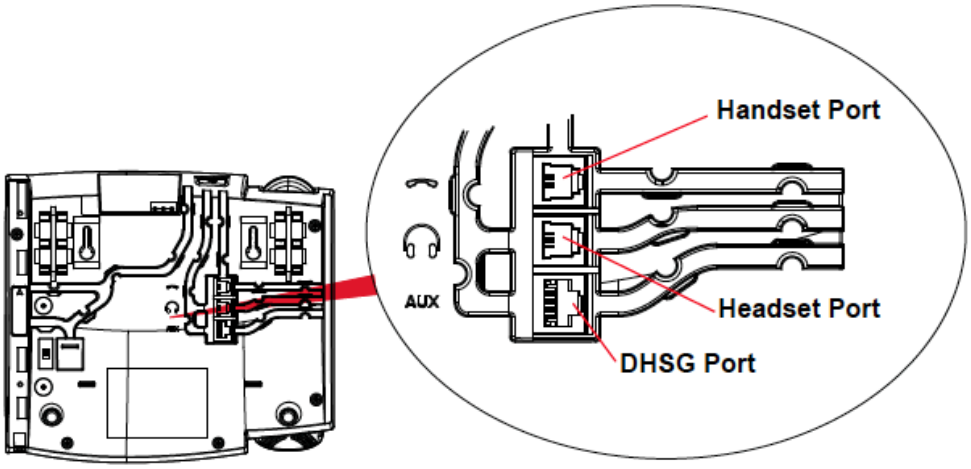
To connect a DHSG headset to the phone:

1. On the back of the phone base, locate the DHSG port marked **AUX**.

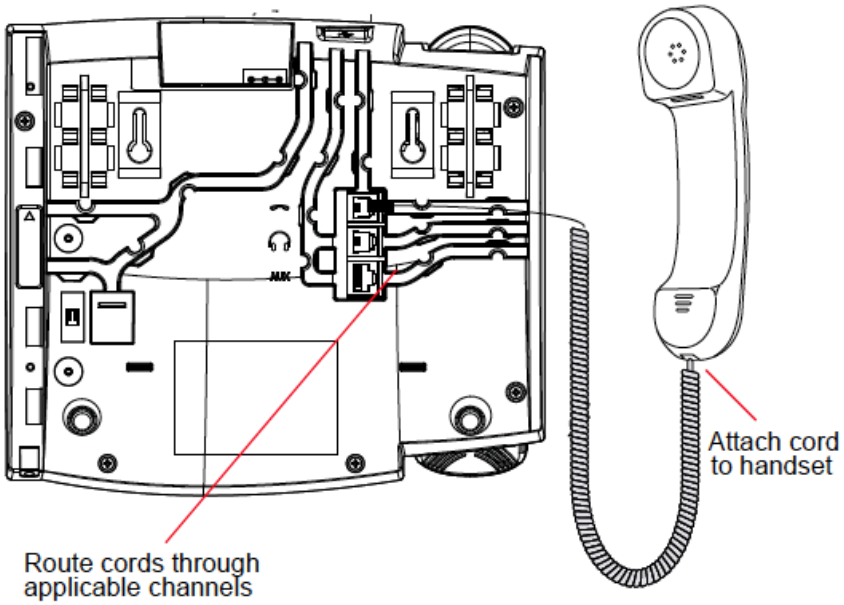
2. Attach your 3rd party DHSG headset cable to Savant's DHSG jack.

Note: DHSG headsets may require further configuration before use. Refer to your headset documentation or contact your headset vendor for more information.

Attaching Cords and Cables



Ports on Back of Phone Base



Attaching Cords to the Phone Base

Desk or Wall Installation

Install on the Desk

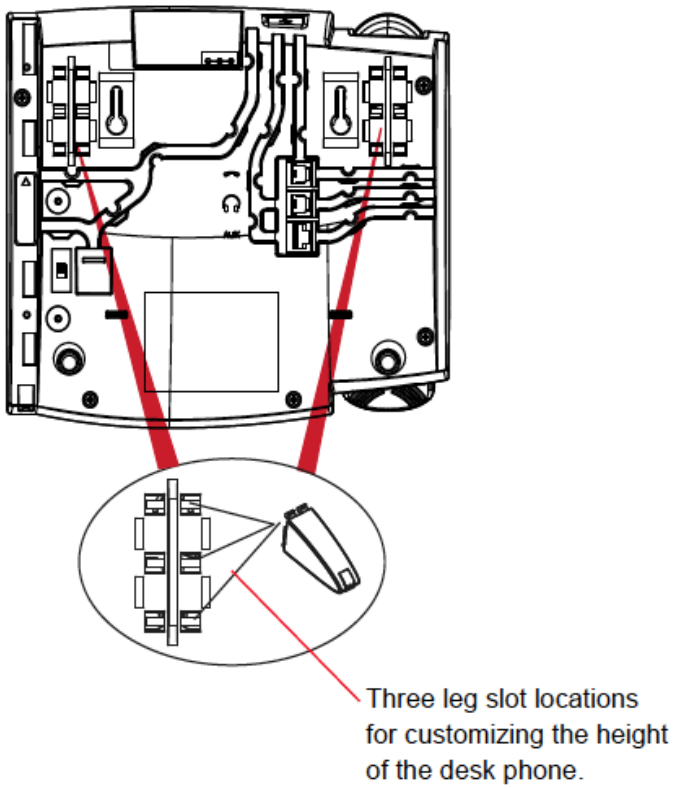
The desk installation for the HST01 consists of two legs that attach to the back of the phone near the top corners. A total of four different viewing angles allows users to personalize their phone viewing preference.

1. Attach each leg by inserting the tabs on the leg into the slots on the bottom of the phone. There are three pair of leg slots on each corner of the phone; each leg uses two pairs (1&2, or 2&3) giving two leg positions designating different viewing angles. Furthermore, the legs can be reversed which offer two additional viewing angles.

2. For a higher viewing angle, use the second and third slots from the top.

3. For a lower viewing angle, use the first and second slots from the top.

4. Push the stand towards the phone until it snaps into place.



Total 4 Viewing Angles

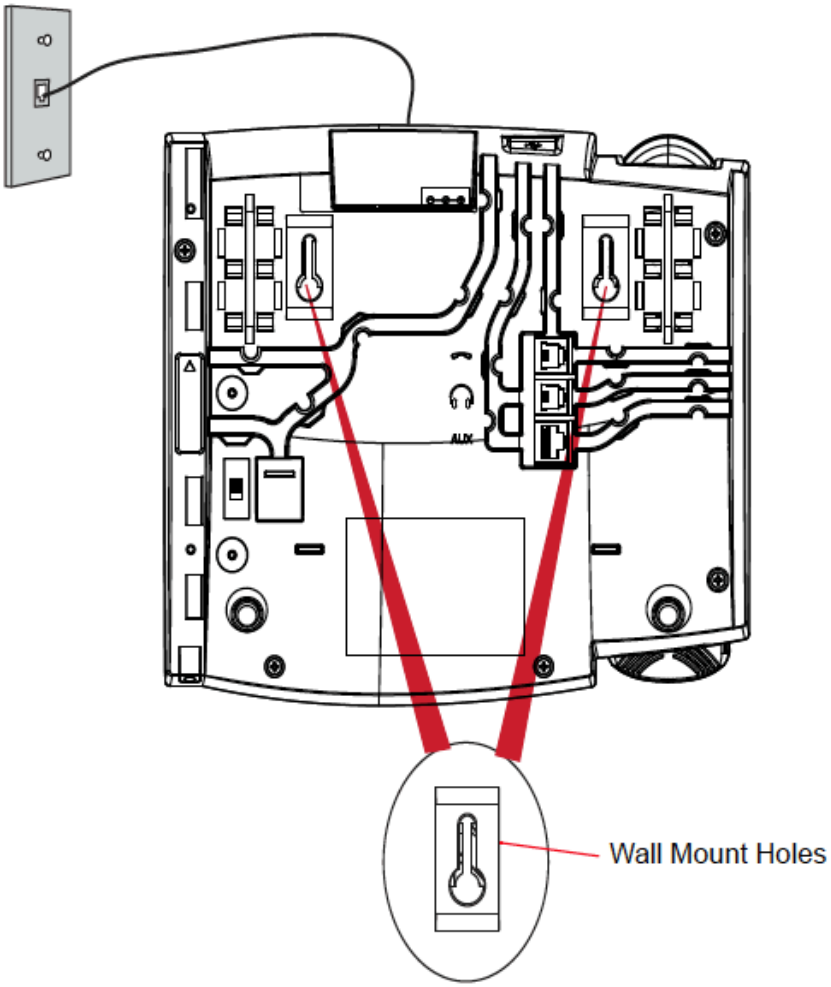
Install on the Wall

The HST02 phone has two pre-drilled wall mounting holes on the back of the phone.

1. Using the provided wall mount drilling template, locate and mark the position for the mounting screws on the wall. Depending on the wall type, you may need to use wall anchors. Both the screws and wall anchors are included with your phone.

2. Place the wall mount holes on the phone over the screw heads on the wall and pull down to lock the phone in.

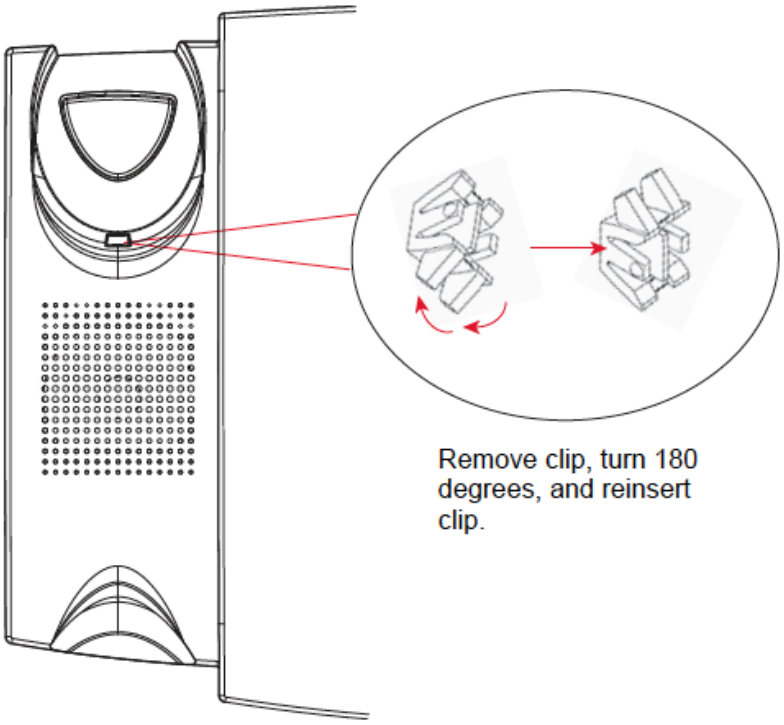
Note: You may wish to purchase a short Ethernet cable from a local supplier for a wall installation. Also, if 802.3af compliant in-line power is not provided on your network, and you are installing the 6739i on a wall using a PoE in-line power injector, you may also wish to use an equivalent flat Ethernet cable rather than the one provided.



3. In the handset cradle, there is a small clip that sits flush with the cradle surface. Using a small flathead screwdriver, pull the clip up and remove it from the phone.

4. With the arms on the clip facing you and the flat side of the clip towards the phone, turn the clip 180 degrees and reinsert it back into the clip cavity in the phone's cradle.

5. Push the clip in until it snaps into the slot flush with the surface and only the legs on the clip are sticking up.



6. Place the handset into the phone's cradle, inserting the legs on the clip into the square hole on the handset. This allows the handset to rest in the cradle in a vertical position without slipping off when the phone is installed on the wall.

Installing the Savant Phone: TEL-HST01

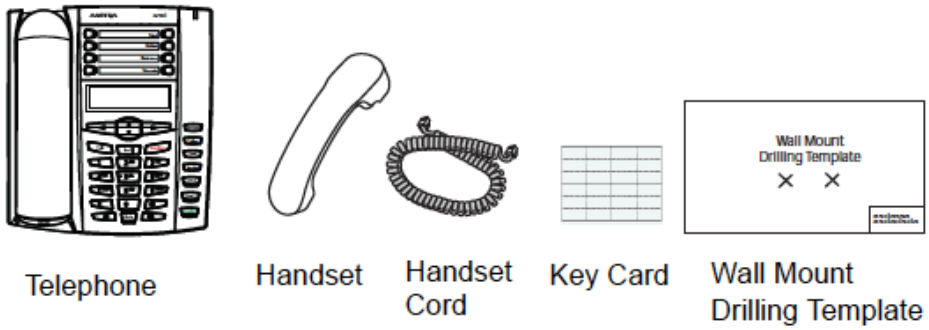
The Savant TEL-HST01 phone communicates over an IP Network, allowing you to receive and place calls in the same manner as a regular business telephone.

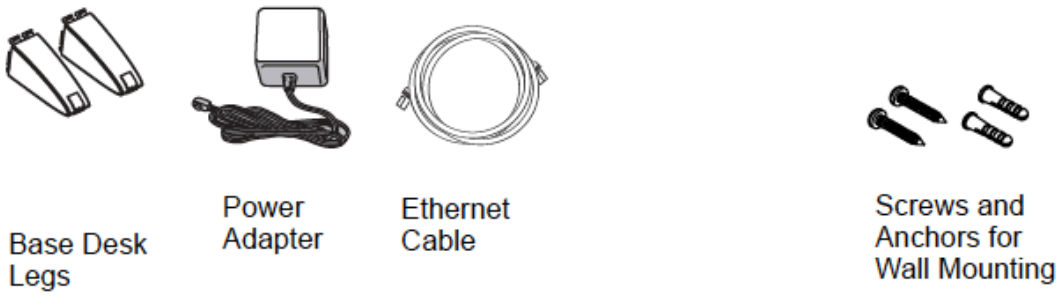
Requirements
The following are required to operate a TEL-HST01

- SIP-based IP PBX system or network installed and running with a SIP account created for the TEL-HST01 phone.
- Access to a Trivial File Transfer Protocol (TFTP), File Transfer Protocol (FTP), Hypertext Transfer Protocol (HTTP) server, or Hyper Text Transfer Protocol over Secure Sockets Layer (SSL) (HTTPS).
- Ethernet/Fast Ethernet LAN (10/100 Base-T)
- Category 5/5e straight through cabling
- Power source

Phone Parts (TEL-HST01)

When you unpack your phone, you should ensure that you have all of the following items. If any part is missing, contact the supplier of your phone.



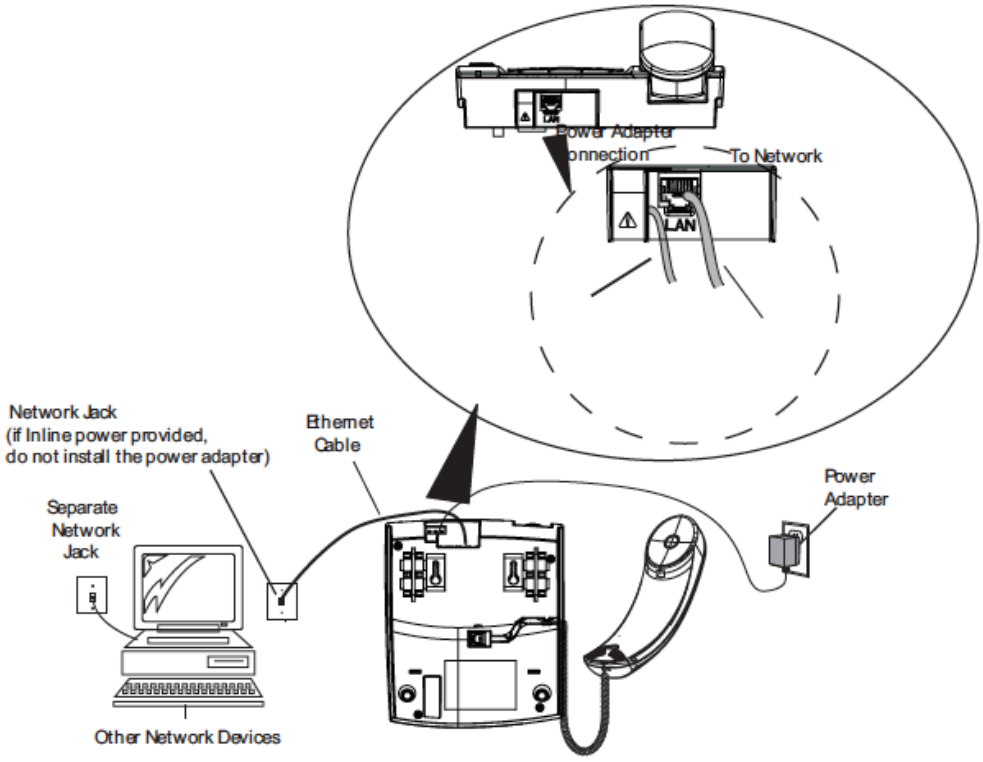


Network Connection

The port marked with LAN is used to connect the phone to the network.

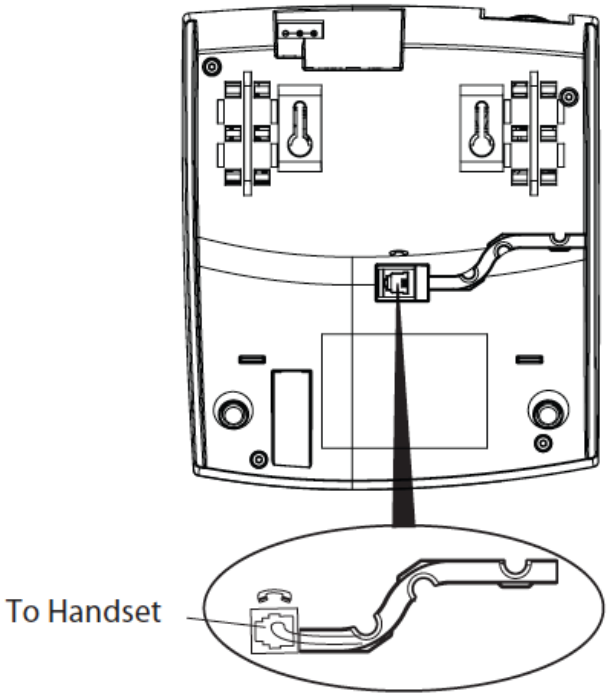
Power Adapter

Use the power adapter (provided) with your phone and plug your phone into a power source.



Connecting a Handset

Turn the phone over and locate the handset jack marked . Insert one end of handset cord into the jack until it clicks into place. Then route the handset cord through the groove as shown in the illustration below. Attach the handset to the other end of the handset cord.



Desk or Wall Installation

Install on the Desk

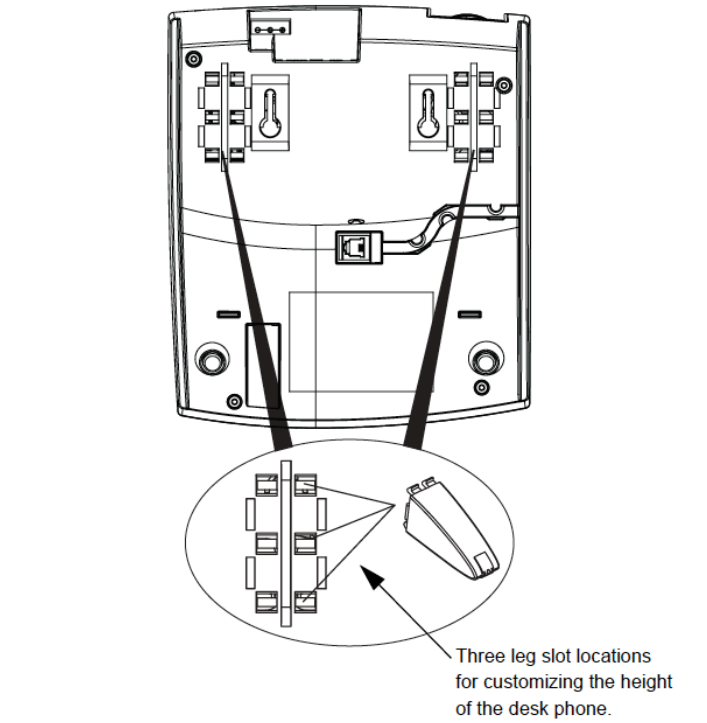
The desk installation for the HST01 Phone IP phone consists of two legs that attach to the back of the phone near the top corners. A total of four different viewing angles allows users to personalize their phone viewing preference.

1. Attach each leg by inserting the tabs on the leg into the slots on the bottom of the phone. There are three pair of leg slots on each corner of the phone; each leg uses two pairs (1&2, or 2&3) giving two leg positions designating different viewing angles. Furthermore, the legs can be reversed which offer two additional viewing angles.

2. For a higher viewing angle, use the second and third slots from the top.

3. For a lower viewing angle, use the first and second slots from the top.

4. Push the stand towards the phone until it snaps into place.



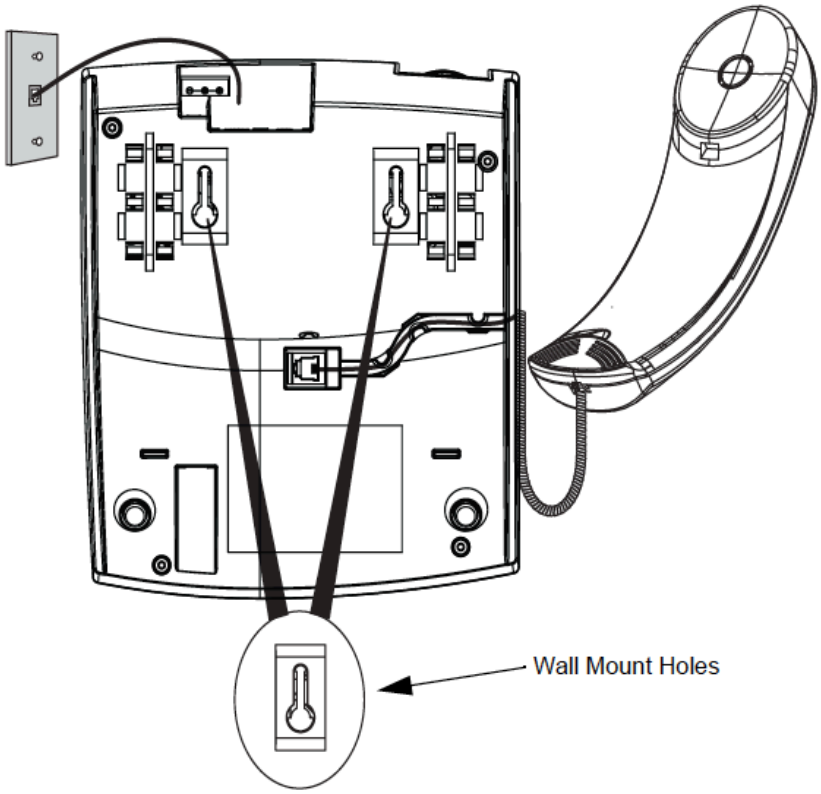
Four Different Viewing Angles

Install on the Wall

The HST01 IP phone has two pre-drilled wall mounting holes on the back of the phone.

1. Using the provided wall mount drilling template, locate and mark the position for the mounting screws on the wall. Depending on the wall type, you may need to use wall anchors. Both the screws and wall anchors are included with your phone.

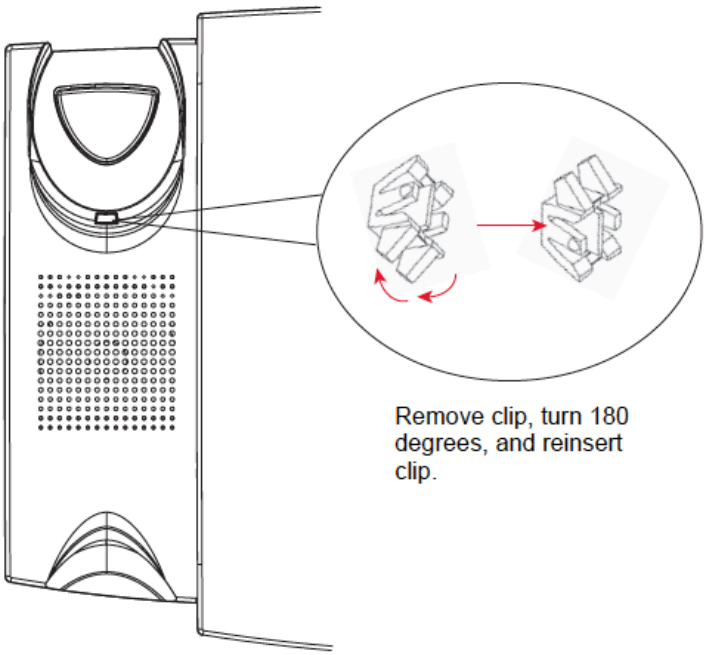
2. Place the wall mount holes on the phone over the screw heads on the wall and pull down to lock the phone in.



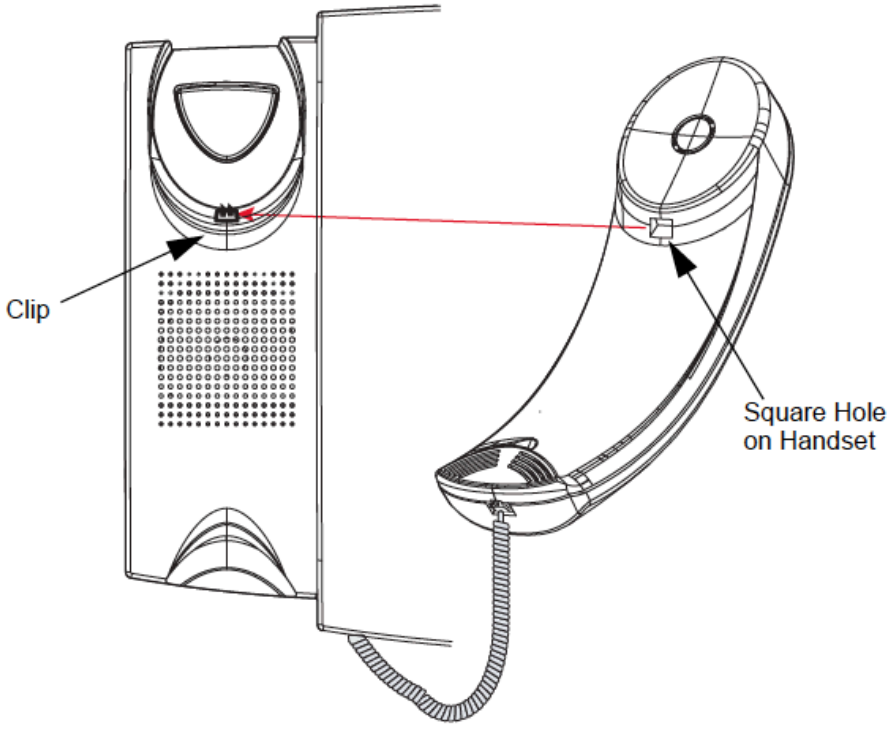
3. In the handset cradle, there is a small clip that sits flush with the cradle surface. Using a small flathead screwdriver, pull the clip up and remove it from the phone.

4. With the arms on the clip facing you and the flat side of the clip towards the phone, turn the clip 180 degrees and reinsert it back into the clip cavity in the phone's cradle.

5. Push the clip in until it snaps into the slot flush with the surface and only the legs on the clip are sticking up.



6. Place the handset into the phone's cradle, inserting the legs on the clip into the square hole on the handset. This allows the handset to rest in the cradle in a vertical position without slipping off when the phone is installed on the wall.



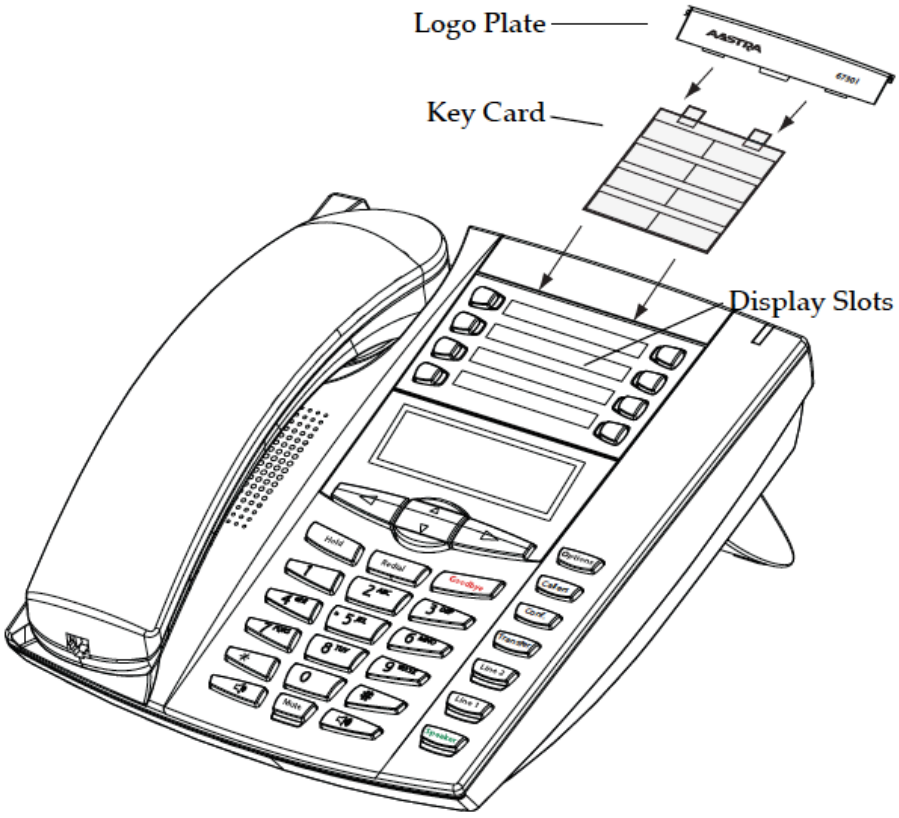
Inserting the Key Card

This card contains the label identification spaces for 8 programmable keys.

1. Remove the logo plate from the top front panel of the telephone by gently pressing down and sliding upward.

2. Slide the card into the programmable key card slot on the top front panel of the telephone using the display slots for alignment. Ensure the tabs are sticking out for future removal of the card.

3. Gently slide the logo plate back in place, covering the paper tabs.



Key Cards for TEL-HST01

The next page includes printer-ready labels (key cards) for the Savant phone (TEL-HST01).

Labels for Savant TEL-HST01 (Letter)

Note: Do not scale - print labels 1:1 (page adjustment for printing: none)

Line 1	Save	Line 1	Save	Line 1	Save
Line 2	Delete	Line 2	Delete	Line 2	Delete
Voice Mail	Do Not Disturb	Voice Mail	Do Not Disturb	Voice Mail	Do Not Disturb
Page All	Directory	Page All	Directory	Page All	Directory

Line 1	Save	Line 1	Save	Line 1	Save
Line 2	Delete	Line 2	Delete	Line 2	Delete
Voice Mail	Do Not Disturb	Voice Mail	Do Not Disturb	Voice Mail	Do Not Disturb
Page All	Directory	Page All	Directory	Page All	Directory

Line 1	Save	Line 1	Save	Line 1	Save
Line 2	Delete	Line 2	Delete	Line 2	Delete
Voice Mail	Do Not Disturb	Voice Mail	Do Not Disturb	Voice Mail	Do Not Disturb
Page All	Directory	Page All	Directory	Page All	Directory

Line 1	Save	Line 1	Save	Line 1	Save
Line 2	Delete	Line 2	Delete	Line 2	Delete
Voice Mail	Do Not Disturb	Voice Mail	Do Not Disturb	Voice Mail	Do Not Disturb
Page All	Directory	Page All	Directory	Page All	Directory

9. APPENDIX 2: SAVANT PBX INSTALLATION

Print this section to track the progress of your Savant PBX configuration.

Checklist

Print this checklist and check off each task as it is completed.You can also use the hyperlinks to open the procedure associated with a task in the PDF version of this document.

Task	✓
Complete the Savant PBX On-Line Training.	
Enter information in the Savant PBX Worksheets that follow this checklist.	
Router Configuration	
Reserve IP Address for Savant PBX. See page 7.	
Reserve IP Address for Gateway. See page 7.	
Reserve IP Address for each Base Station. See page 7.	
Physical Configuration	
Install Savant PBX. See Page 7.	
Install Gateway. See Page 13.	
Install the Wired Phones: TEL-HST01, See page 252 or TEL-HST02 See page 242.	
Install the Wireless Phones: TEL-HSTW01 See Page 239.	
Install the Base Stations See page 130.	
Savant PBX Configuration in RacePoint Blueprint (BP)	
Add the Savant PBX in your BP Configuration. See page 18.	
Add the Gateway Component (TGW-004) to BP configuration. See page 20.	
Add the Public Announcement System (PAS-1000) See page 29.	
Configure Triggers for Savant PA. See page 33.	
Export the Savant Gateway.ini file. See page 23.	
Export the Telephony.plist. See page 28.	
Upload the BP Configuration and Test.	
Savant Gateway	
Uploading the *.ini file to the Savant Gateway. See page 24.	
Continued on next page	

Savant Configurator	
Upload the plist. See page 60.	
Add all the iOS devices to the PBX. See page 63.	
Add the Wired and Wireless Savant Phones as devices. See page 65.	
Add a Savant PA System (PAS-1000). See page 73.	
Add all iOS devices and Phones to the SLA. See page 82.	
Configure the Voice Mail. See page 86.	
Add Voice Mail to Shared Line. See Page 94.	
Add a Savant Wired Phone as a Phone. See page 67.	
Add the Wireless Savant Phones as phones. See page 71.	
Uploading the Configuration to the Wired Phone. See page 69.	
Update Firmware of Wired Savant Phones. See page 236.	
SIP-Dect Base Station Configuration	
Generating a License for Multiple Base Stations. See page 134.	
Boot the Base Station. See page 138.	
Add each Base Station. See page 148.	
Add the Wireless Handsets to the Base Station. See page 151.	
Subscribe the Wireless Handsets to the Base Station. See page 154.	
PAS-1000 Configuration	
Upload Configuration File to the Savant PA System. See page 77.	
Emergency Call Testing	
Savant Systems recommends performing a test of emergency calls. See page 271.	

MAC Addresses and IP Addresses

All the MAC Addresses can be found on stickers that are on the box or the equipment. The IP addresses depend on how you would like to configure the network at this particular location.

Item	Model	Name	Mac Address	IP Address
1	SPX-1000		____-____-____-____-____-____	_____._____._____._____
2	TGW-0004		____-____-____-____-____-____	_____._____._____._____
3	TEL-HST0_		____-____-____-____-____-____	
4	TEL-HST0_		____-____-____-____-____-____	
5	TEL-HST0_		____-____-____-____-____-____	
6	TEL-HST0_		____-____-____-____-____-____	
7	TEL-HST0_		____-____-____-____-____-____	
8	TEL-HST0_		____-____-____-____-____-____	
9	TEL-HST0_		____-____-____-____-____-____	
10	TEL-HST0_		____-____-____-____-____-____	
11	TEL-HSTW_		____-____-____-____-____-____	
12	TEL-HSTW_		____-____-____-____-____-____	
13	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
14	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
15	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
16	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
17	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
18	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
19	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
20	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
21	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
22	TEL-BST0_		____-____-____-____-____-____	_____._____._____._____
23	PAS-1000		____-____-____-____-____-____	_____._____._____._____
24				
24				
26				
27				
28				
29				
30				

Wireless Handset Information

Enter the 13-digit IPEI characters (they can include *) that can be displayed from the handset:
Menu->System->Show IPEI

Item	Model	Name	IPEI
1	TEL-HSTW01		
2	TEL-HSTW01		
3	TEL-HSTW01		
4	TEL-HSTW01		
5	TEL-HSTW01		
6	TEL-HSTW01		
7	TEL-HSTW01		
8	TEL-HSTW01		
9	TEL-HSTW01		
10	TEL-HSTW01		

iOS Device Information

On the iOS device, the device UID is a 16-digit number accessed as follows:
Settings -> **Systems** -> **Settings** -> **Device Info**-> **Device UID**.

Item	Model	Name	UID
1	WIA-		
2	WIA-		
3	WIA-		
4	WIA-		
5	WIA-		
6	WIA-		
7	WIA-		
8	WIA-		
9	WIA-		
10	WIA-		
11	WIA-		
12	WIA-		
13	WIA-		
14	WIA-		
15	WIA-		
16	WIA-		
17	WIA-		
18	WIA-		
19	WIA-		
20	WIA-		

Other SIP Base Station General Information

These are general network guidelines based on how the network is setup at the particular installation.

Item	Name	Description	Value
1	Net Mask	This will determine your IP Subnet, default is 255.255.255.0	
2	Router Address	This is the IP Address of the Router	
3	DNS Address	Using Google DNS Address is fine “8.8.8.8” and “8.8.4.4”	
4	NTP Server Name	You can use “1.aastra.pool.ntp.org”	
5	Primary OMM	The IP Address of the Primary Base Station	_____._____._____._____
6	Secondary OMM	The IP Address of the Secondary Base Station	_____._____._____._____
7	Park	This is a unique key to configure the base station and add a handset. The key is shown on the OMM package (on the CD).	

Add a Wired Phone to an Existing Configuration Checklist

Open Savant Configurator to perform the following tasks. Print this checklist and check off each task as it is completed.You can also use the hyperlinks to open the procedure associated with a task in the PDF version of this document.

Tasks	✓
Add a Wired Phone as a Device See page 65.	
Add the Wired Phone Device to the SLA. See page 82.	
Add the Wired Phones as a Phone. See page 67.	
Optionally, add the Wired Phone to the Page Group. See page 97.	
Update to the latest firmware version. See page 236.	
Reset the Phone.	

Add a Wireless Phone to an Existing Configuration Checklist

Open Savant Configurator to perform the following tasks. Print this checklist and check off each task as it is completed.You can also use the hyperlinks to open the procedure associated with a task in the PDF version of this document.

Tasks	✓
Add a Wireless Phone as a Device. See Page 65.	
Add the Wireless Phone Device into the SLA. See Page 82.	
Add the Wireless Phones as a Phone. See page 71.	
Optionally, add the Wireless Phone to the Page Group. See page 97.	
Export the sip_DECT.cfg file. See Page 71.	
Add the wireless handsets to the Base Station. See Page 151.	
Subscribe the wireless handsets. See Page 154.	

Add an iOS device to an Existing Configuration Checklist

Open Savant Configurator to perform the following tasks. Print this checklist and check off each task as it is completed.You can also use the hyperlinks to open the procedure associated with a task in the PDF version of this document.

Tasks	✓
Add an iOS device as a device. See Page 63.	
Add the iOS device into the SLA. See Page 82.	
Optionally, add the iOS device to the page group. See page 97.	
Update to the latest Savant app version. Refer to the da Vinci 6.0-Release ReadMe notes to verify the correct software version.	
Relaunch the Savant app on the iOS device.	

Add a new Base Station to an Existing Configuration Checklist

Open Savant Configurator to perform the following tasks. Print this checklist and check off each task as it is completed.You can also use the hyperlinks to open the procedure associated with a task in the PDF version of this document.

Tasks	✓
Configure each Base Station. See page 155.	

10. TESTING EMERGENCY CALLS

Savant Systems recommends that after installing any Savant PBX system the emergency call functionality be tested. Savant also recommends testing this functionality regularly as a preventative measure. The test procedure for verifying emergency call services is different from one country to another. The next procedure applies to the United States. Outside of the United States, Savant dealers can contact local agencies to determine how emergency calls should be tested.

In the United States to test that calls to 911 are working properly using the Savant PBX system, do the following.

1. Find your local public safety answering point (PSAP): http://www.fcc.gov/pshs/services/911-services/enhanced911/psapreg...
2. Call the PSAP administrator (non emergency) and ask how to perform a 911 test in your area.
3. Schedule a 911 test.
4. Call 911 at the scheduled time.
5. During the call confirm the following:
   - the Automatic number identification (ANI) and Automatic Location Identification (ALI) that is shown on the screen of the call taker
   - the PSAP to which the call was routed
   - that answer supervision was received by looking at the call duration timer on the IP phone—an active call timer is an indication that answer supervision is working properly.

11. DOCUMENT CHANGE HISTORY

The next table outlines the changes that have been included in this document for Release 6.0.

Page Number	Description
202	Added new step 4: Go to VoIP > GW and IP to IP > Analog Gateway > Automatic Dialing.
213	Added procedure Configuring VIO by Holovision VoIP Intercom.

The next table outlines the changes that have been included in this document for Release 6.0.

Page Number	Description
	Removed obsolete procedure, *Configuring a DoorKing 1812 using Savant Configurator*
12	Added *PBX Support of Call Features* table
59	Updated screenshot for Main Page in Savant Configurator
183	Added statement: If you are integrating Siedle door units in your Savant PBX system, please skip this section.

The next table outlines the changes that have been included in this document for Release 5.2.1 ER2.

Page Number	Description
65	In Step 3 added the following information to the table: MWI enabled—Insert checkmark to enable Message Waiting Indicator. Advanced— See the section *Performing Advanced Configuration*.
88	Added note to Step 3 description of **Email**.
90	Added more detail to Step 4: Step 4. When prompted to enter password, enter the PIN number assigned to the user.(PINs must be assigned and you can customize PINs.)

The next table outlines the changes that have been included in this document for Release 6.0.

Page Number	Description
12	Added “Important! You should avoid using iOS devices and full duplex (two-way) PBX functions with in-wall docks. Otherwise, the iOS devices will experience acoustic issues. Instead, half duplex (one-way) Push-To-Talk intercom functions must be used with in-wall docks.”
184	Updated Table to reflect image options more precisely.
225	Updated image to show one SIP account as only one is necessary.
236	Added Firmware data details.