

8ix Zenith Community Edition

Basic PBX Administration Manual

v1.0

**Team 8lien
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Basic PBX Administration Manual

1. INTRODUCTION

A very helpful tool and will be visited, checked and updated most often when the 8ix Zenith is implemented is the 8ix Zenith GUI. This is an easy road for the telephony administrator to effectively manage and setup 8ix Zenith's inherent features.

Since 8ix Zenith is Asterisk-derived, conventions used in the system may be a bit Greek to a non-Asterisk user. However, this manual will discuss all the configurations needed to make your 8ix Zenith up and working.

2. SPECIFIC GUIDELINES (DO'S AND DONT'S)

- 2.1. There are fields and sections in the 8ix Zenith GUI that won't be discussed here in the Basic PBX Administration Manual. It doesn't mean though that these have nothing to do with your 8ix Zenith setup. It is just the exact opposite. Changing these settings (blank or in default values) may greatly affect your 8ix Zenith network.

We therefore recommend that unless you intimately know and is deeply acquainted with administering your 8ix Zenith, follow the basic configurations that will be discussed here.

- 2.2. Everytime you make changes (ex. added an extension, edited a field, deleted a user), aside from clicking the Submit button, 8ix Zenith must "confirm and apply" these changes in your IP-PBX network. There will be a prompt on the upper right portion of your 8ix Zenith panel: **Reload Required | Apply Configuration Changes** (will be referred as **Apply Changes** in this documentation) link whenever changes have been made. Click this link to accept and apply any changes made in your 8ix Zenith setup.

2.3. Do not, or better, NEVER share your username and password.

3. BASIC 8IX ZENITH SETTINGS

These are the basic settings that you can configure in 8ix Zenith:

- 3.1. **EXTENSIONS.** These are the numbers or locals that can be dialed from any other extension. Conventionally, this is a three to four digit number, although any length is possible (if and only if you want to delay calls).
- 3.2. **INBOUND ROUTE.** This configures the destination of your incoming trunk calls.
- 3.3. **OUTBOUND ROUTE.** This configures your outgoing trunk calls.
- 3.4. **CALL QUEUES.** This allows you to manage high volume incoming calls.
- 3.5. **RING GROUP.** This also manages your incoming calls, like Call Queue does, only that it defines a group of phones or extensions. This can also be called as a “virtual extension”.
- 3.6. **CONFERENCING.** In 8ix Zenith, this is defining a local number to be used as a “Conference Room”.
- 3.7. **PIN SET.** This allows you to define a set of PINs to allow users to make outgoing calls, if enabled in the Outbound Route.
- 3.8. **PAGING AND INTERCOM.** This allows you to set a number (or a paging group) to dial and the phones (that supports paging feature) automatically picks it up, go hands free and play through their speakers what the caller “paged”.
- 3.9. **MUSIC ON HOLD.** This allows you to configure the music to be played when a caller is on hold or waiting for the call to be picked up.
- 3.10. **SYSTEM RECORDING.** This allows you to use your phone or extension to record an announcement that you can use as a voice prompt.
- 3.11. **INTERACTIVE VOICE RESPONSE (IVR) or DIGITAL RECEPTIONIST.** This allows you to setup your auto-attendant or that which your callers hear when dialling your trunkline/s.
- 3.12. **CALL RECORDING.** This allows you to configure what calls from or to an extension is recorded. A conference call can also have this feature since a conference room is treated as an extension number.
- 3.13. **LOGS AND REPORTS.**
 - 3.13.1. **CALL DETAILS RECORD.** This shows the summary of call logs: the date, the source, the destination and the duration of the call.
 - 3.13.2. **ASTERISK RECORDING INTERFACE (ARI).** When the call recording is enabled or activated, this is where you can retrieve the recorded calls.

4. BASIC 8IX ZENITH PBX SETUP

4.1. **EXTENSIONS (PBX Admin > Setup > Basic > Extensions)**

4.1.1. **Adding an Extension.** Set up the following fields:

- **Device.** From the dropdown, select **Generic SIP Device** or **Generic IAX2 Device** depending on what you are setting up, then select **Submit**.

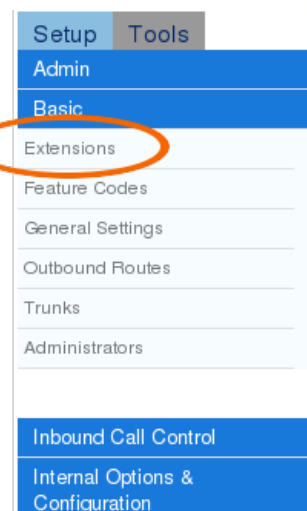
Add an Extension

Please select your Device below then click Submit

Device

Device

Generic SIP Device
 Generic SIP Device
 Generic IAX2 Device
 Generic ZAP Device
 Other (Custom) Device



- Under the **Add Extension** section, define the following:
 - **User Extension.** This is the extension number that you are assigning to the user.
 - **Display Name.** This is the user's caller ID. Do not include the assigned user extension here.
- Under the **Device Options** section, define:
 - **Secret.** This is the password used to authenticate the device.
- Under the **Recording Options** section, set the following:
 - **Record Incoming.** Select **Never**.
 - **Record Outgoing.** Select **Never**.
- Click **Submit** when done and **Apply Changes**.

Add Extension
SIP Phone 100 <100>
SIP Phone 101 <101>
SIP Phone 102 <102>
SIP Phone 103 <103>
SIP Phone 104 <104>
SIP Phone 105 <105>
IAX2 Phone 200 <200>
IAX2 Phone 201 <201>
IAX2 Phone 202 <202>
IAX2 Phone 203 <203>
IAX2 Phone 204 <204>
IAX2 Phone 205 <205>
Jaja <301>
Fax <1000>

Extensions List

4.1.2. Editing an Extension.

- Click the extension you want to edit from the extensions list.
- This will open the **Edit Extension** page.
- Edit the values or information related to the accessed extension.
- Click **Submit** and **Apply Changes**.

Extension: 301

[Delete Extension 301](#)
[Add Gabcast Settings](#)
[Add Follow Me Settings](#)

Edit Extension

Display Name:
 CID Num Alias:
 SIP Alias:

Extension Options

Outbound CID:

Edit Extension Page

4.1.3. Deleting an Extension.

- Select the extension from the extensions list.
- This will open the **Edit Extension** page.
- Click the **Delete Extension** link.
- **Apply Changes** after deletion.

4.2. INBOUND ROUTE (PBX Admin > Setup > Inbound Call Control > Inbound Routes)

- As initial setting, skip all settings and go to the **Set Destination**

Set Destination

Terminate Call:

Extensions:

Voicemail:

Phonebook Directory:

Custom Destinations:

Setup	Tools
Admin	
Basic	
Inbound Call Control	
Inbound Routes	
Zap Channel DIDs	
Announcements	
Blacklist	
CallerID Lookup Sources	
Day/Night Control	
Follow Me	
IVR	
Queue Priorities	
Queues	
Ring Groups	
Time Conditions	
Time Groups	
Internal Options & Configuration	

section.

- Click the **Extensions** radio button and from the dropdown, select an extension number to answer your incoming calls.
- **Submit and Apply Changes.**

4.3. OUTBOUND ROUTE (PBX Admin > Setup > Basic > Outbound Routes)

By default, 8ix Zenith configures that all your outgoing trunk calls has a dial pattern of 9+phone number (of unlimited digits), thus the Asterisk convention of 9|. on the **Dial Patterns** box. You can also add outbound routes for fall-through and multiple paths.

4.3.1. Adding an Outbound Route.

- Click **Add Route**.
- Set these fields:
 - **Route Name.** Describe the outbound route that you want to set up, i.e. Local, Long Distance, Toll-free
 - **Route Password.** This is the password that users need to key in to make the outbound call.
 - **PIN Set:** If already created, select the PIN set that will have access to the Outbound Route.

Note: Leave the Route Password blank if you will implement PIN set to unrestrict users of an outbound route.

- **Music On Hold:** Select an MOH if you want to enable this feature.
- **Dial Patterns:** This is unique set of digits that is used to match the numbers that will be dialled out by the user. The dial pattern follows this rule:

X – matches any digit from 0-9.

Z – matches any digit from 1-9.

N – matches any digit from 2-9.

[1237-9] – matches any digit or letter in the brackets, which in the given example are 1, 2, 3, 7, 8 and 9.

. (“period” as wildcard) – matches one or more characters

| - separates a dialling prefix from the number like for example, 9|NXXXXXX would match when someone dials “97380394” but would only pass “7380394” to the trunks.

- **Trunk Sequence.** This will be the order of where the call will be routed after the dial patterns are matched.

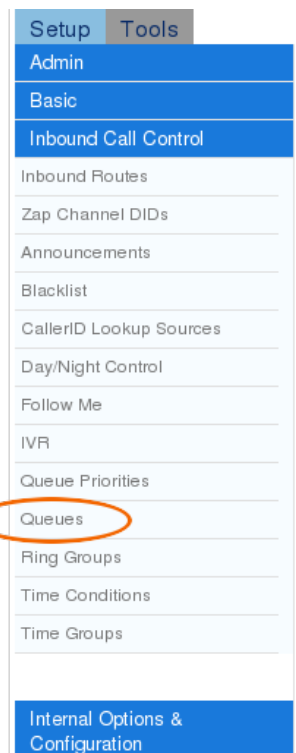
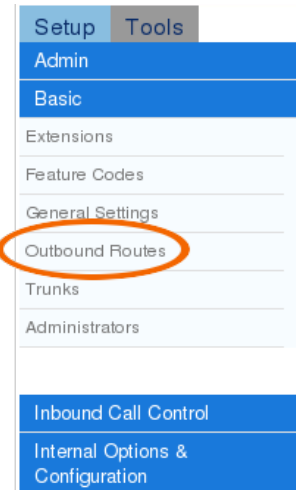
- **Submit and Apply Changes.**

4.4. CALL QUEUES (PBX Admin > Setup > Inbound Call Control > Queues)

This is another intelligent feature as it allows you to handle high-volume of incoming calls like you would expect from a Call Center or a Customer Service division.

4.4.1. Adding a Call Queue.

- Click **Add Queue**.



- Set these fields:
 - **Queue Number:** This is the number that users (or in a call center setup, agents) dials to be put in the queue. To log in to the queue, dial the Queue Number followed by an asterisk; two asterisks to log out. (Ex. 903* to log in, 903** to log out)

This also acts as an extension number that callers dial to be received by users/agents who are in the queue.
 - **Queue Name:** This is a descriptive name for the queue and is used for ease of identification.

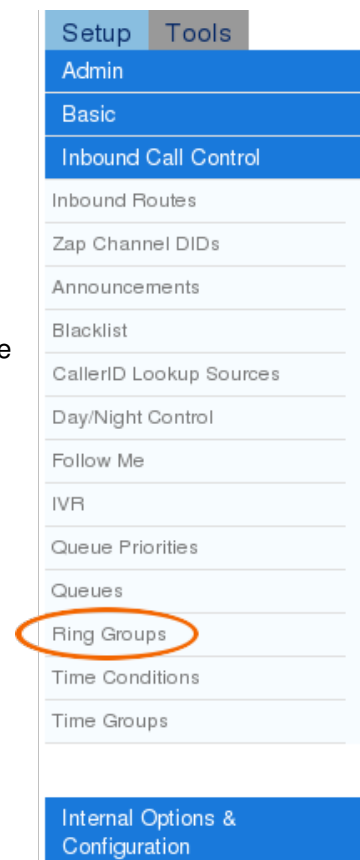
Static Agents. These are the devices (or extensions) that are always logged in the queue (and cannot log out, unless removed from the list).
 - Select a **Ring Strategy** under the **Queue Options** section.
 - **ringall.** Ring all available agents until one answers. (Default)
 - **roundrobin.** Take turns ringing each available user/agent.
 - **leastrecent.** Ring agent which was least recently called.
 - **fewestcalls.** Ring the agent with fewest completed calls.
 - **random.** Ring users/agents in no particular order.
 - **rrmemory.** Round robin with memory. Remember the last one rung and let it pass.
- **Submit and Apply Changes.**

4.5. RING GROUP (PBX Admin > Setup > Inbound Call Control > Ring Groups)

This is just like the Queue feature without the extra functionality like being able to log in and out of the queue.

4.5.1. Adding a Ring Group.

- Click **Add Ring Group**.
- Set these fields:
 - **Ring Group Number:** This is the number to be dialed to reach the group.
 - **Group Description:** This is the descriptive name of the group.
 - **Ring Strategy:** Select from the following:
 - **ringall.** Ring all channels at the same time until one picks up.
 - **hunt.** Take turns ringing all available extensions.
 - **memoryhunt.** Ring first extension in the list, then ring the 1st and 2nd extensions, then 1st 2nd and 3rd extensions... etc.
 - **Extension List:** List all the extensions that are members of this group.
- **Submit and Apply Changes.**

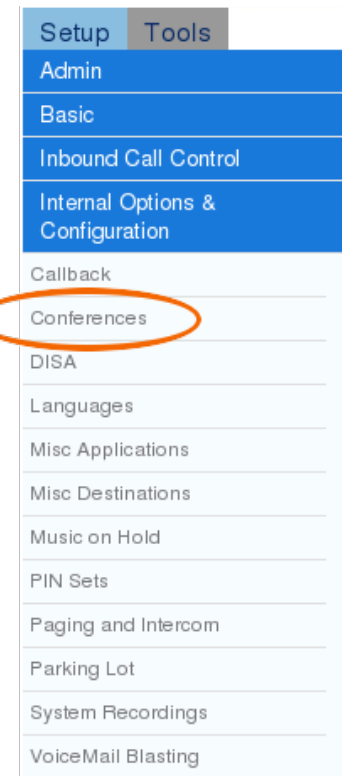


4.6. CONFERENCING (PBX Admin > Setup > Internal Options & Configurations > Conferences)

This lets you define a single extension or a number that users can dial in to have a conferencing facility.

4.6.1. Add a Conference.

- Click **Add Conference**.
- Set these fields:
 - **Conference Number:** This is the number that users dial to join the conference.
 - **Conference Name:** A descriptive name for the conference.
 - **User PIN:** If set, callers have to enter the PIN to join the conference.
 - **Admin PIN:** If set, and if the **Leader Wait** option is set to **Yes**, then conference won't start unless the Admin PIN is entered. Also, callers will hear the **Music on Hold** (also if MOH is set to **Yes**).
 - **Conference Options:**
 - **Join Message:** Select what callers will hear upon joining the conference. To add another option to this list, go to **System Recordings**.
 - **Leader Wait:** Choose **Yes** to wait for the "leader" to arrive before starting the conference.
 - **Quiet Mode:** Do not play any sound when a caller enters/leaves the conference.
 - **User Count:** Caller, upon joining the conference, hears an announcement of how many are in the conference.
 - **User Join/Leave:** Make an announcement when a caller joins/leaves the conference.
 - **Music on Hold:** When set to **Yes**, an MOH will be played when there is a single caller in the conference.
 - **Record Conference:** Set to **Yes** to record the conference.
- **Submit and Apply Changes.**

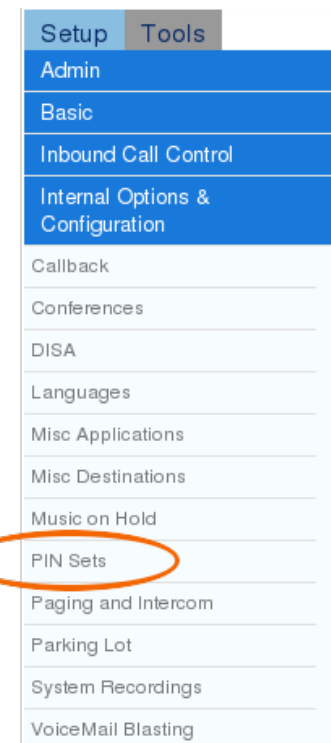


4.7. PIN SET (PBX Admin > Setup > Internal Options & Configurations > PIN Sets)

4.7.1. Adding PIN Set.

If you want to restrict outbound calls, you can create a range of PIN sets and distribute each to users authorized to make outbound calls (as defined in your outbound routes).

- Click **Add Password Set**.



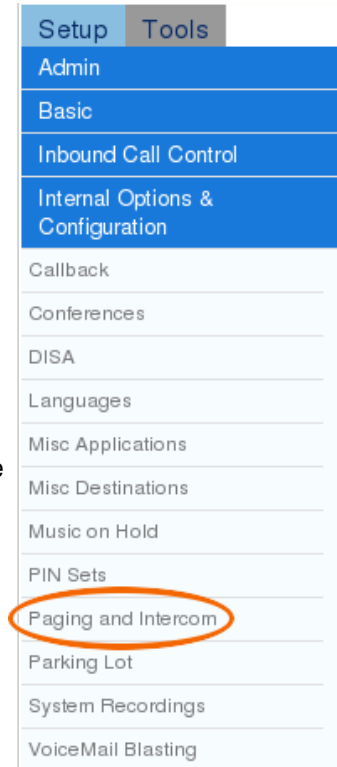
- Set these fields:
 - **PIN Set Description:** Set a descriptive name for your PIN set.
 - **PIN List:** This is the list of PINs or phone passwords.
- **Submit and Apply Changes.**

4.8. PAGING AND INTERCOM (PBX Admin > Setup > Internal Options & Configurations > Paging and Intercom)

This can be utilized if and only if the phone supports the “paging” functionality and its feature enabled. This is useful in a small office environment where the phones are used as “intercom”.

4.8.1. Add a Page Group.

- Click **Add Paging Group.**
- Set these fields:
 - **Paging Extension:** This is the paging number to be dialed.
 - **Group Description:** This is the descriptive name of the group being paged.
 - **Device List:** Select from this list members of the paging group.
 - Options:
 - **Force if busy.** If checked, this means that the system won't check if the device is in use.
 - **Duplex.** If checked, the receiver of the page may use his/her device to answer the page.
- **Submit and Apply Changes.**



4.9. MUSIC ON HOLD (PBX Admin > Setup > Internal Options & Configurations > Music on Hold)

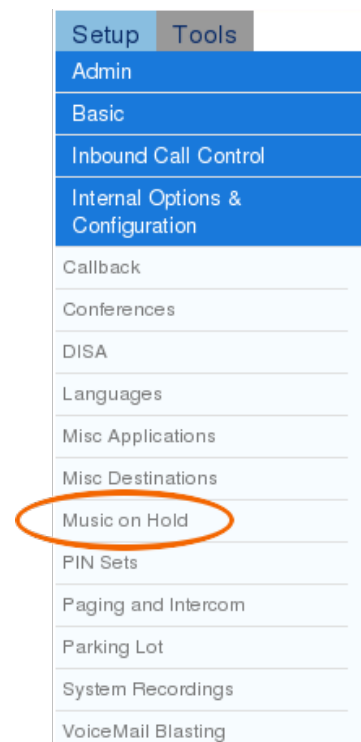
4.9.1. **The default MOH.** This is the default Music on Hold in 8ix Zenith.

4.9.2. Adding Music Category.

You can personalize or customize your MOH. So that you can organize your MOH, it is advisable to add music categories which you can also use set as MOH when a caller, for example, dials a queue number or joins a conference.

- Click **Add Music Category**
- Assign a **Category Name**
- **Submit and Apply Changes.**

Note: After adding a music category, you can then upload music files under this category.



4.9.3. Deleting a Music Category. From the MOH menu, select the Music Category to be deleted and click:

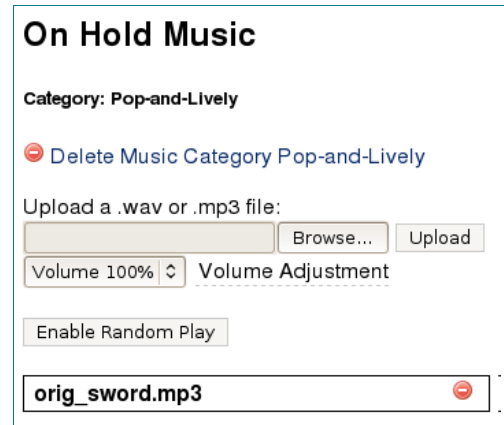
 [Delete Music Category \[Name of Music Category\]](#)

Note: All the music files under that category will also be deleted (but not deleted from the server.


- Click **Apply Changes** after deletion.

4.9.4. Uploading music files

- Select the **Music Category** where you want to upload your music file/s.
- Click **Browse** to locate the music files that you want to upload. Repeat this procedure if you want to upload additional music files.
- Click **Enable Random Play** if you want your MOH to play music under this category in no particular order.
- **Apply Changes.**



4.9.5. Deleting a music file

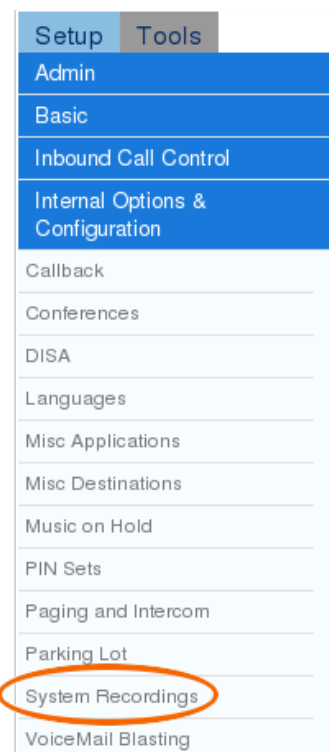
- Select the **Music Category** where the music file is located.
- Click the **delete** icon  beside the filename of the music file that you want to delete.
- **Apply Changes.**

4.10. SYSTEM RECORDINGS (PBX Admin > Setup > Internal Options & Configurations > System Recordings)

In 8ix, you can do a recording using any device defined in your 8ix, or upload an audio/record file. The recordings can be used as announcements in IVR, Conference, Queue and Ring Group.

4.10.1. Add a Recording

- Click **Add Recording.**
- Define the extension where you will do the recording and click **GO.**
- Lift the extension's handset, dial ***77** to start recording.
- To finish recording, dial ***** (asterisk) then **#** (pound).
- Dial ***99** to listen to the recording.
- To re-record, dial ***77.**
- To save, dial ***** (asterisk) followed by **#** (pound).
- Define **Name this Recording:** A descriptive name for the recording, and must be unique for ease of identification when used.



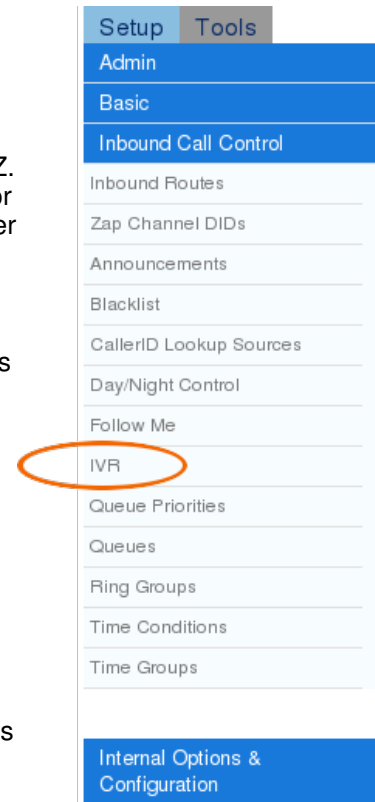
- Click **Save** and **Apply Changes**.

4.11. INTERACTIVE VOICE RESPONSE (IVR) or DIGITAL RECEPTIONIST (PBX Admin > Setup > Internal Options & Configurations > IVR)

You have experienced calling a company and hearing an automated voice prompt saying, “Thank you for calling TelcoXYZ. For billing concerns, press 1... blah blah”. This is called an IVR or the Digital Receptionist. You can set up instructions so your caller can select his/her own destination.

4.11.1. Add an IVR

- Click **Add IVR**. There are two main sections in this page, the IVR details and the Options configuration.
- Set these fields:
 - IVR Details
 - **Change Name:** Define how you want to call your IVR.
 - **Announcement:** This is the **System Recording** that will be played when callers enter the IVR. You can also set this field to **None**.
 - **Options.** This configures the destination of the call when invoking the settings that you have defined.



Return to IVR

- Custom Destinations: Video Conference
- Conferences: Marketing Briefing <905>
- IVR: InvalidExtension
- Queues: Customer Service <903>
- Phonebook Directory: Phonebook Directory
- Terminate Call: Hangup
- Extensions: <100> SIP Phone 100
- Voicemail: <100> SIP Phone 100 (busy)
- Ring Groups: Sales and Marketing <900>

IVR Options

- **Option Box.** This is the box on the left where you can enter numbers 0 – 9, * and #. Other options are “i” and “t”.
 - **i:** This is the destination used when a caller enters an invalid option. For example, only 1, 2 and 3 have destinations. If a caller press 4, it will jump to this destination. By default, if there's no set “i” destination, the current menu will be replayed. After the third attempt, the call is hung up.
 - **t:** This is the destination used when a caller does nothing. Usually, this call goes to the operator. By default, when “t” is invoked, the current menu will be replayed thrice, then the call is hung up.

- Settings. This is the destination of the call when your set option is invoked.
- Click **Save** and **Apply Changes**.

4.12. CALL RECORDING

4.12.1. Recording Incoming/Outgoing Calls

You can record ALL INCOMING and ALL OUTGOING calls of an extension when this feature is activated. To enable this feature:

- Go to **PBX Admin > Setup> Basic > Extensions**
- Select the extension from the extensions list.
- Go to **Recording Options**.
 - To record all Incoming Calls, select **Always** for **Record Incoming** field.
 - To record all Outgoing Calls, select **Always** for **Record Outgoing** field.
- Click **Submit** and **Apply Changes**.

4.12.2. Recording Conference Calls

You can record all the calls made during a Conference. To enable this feature:

- Go to **PBX Admin > Setup > Internal Options & Configuration > Conferences**
- When adding a new conference, Select **Yes** to **Record Conference** under the **Conference Options** section.
- Click **Submit Changes** and **Apply Changes**.

5. LOGS AND REPORTS.

5.1. CALL DETAILS RECORDS (Main Panel: CDR | PBX Admin > Reports Panel)

This shows the summary of call logs: the date, the source, the destination and the duration of the call.

Call Logs Compare Calls Monthly Traffic Daily load	
<input checked="" type="radio"/> Selection of the month	<input checked="" type="checkbox"/> From : <input type="text" value="July-2009"/> <input type="button" value="v"/> <input checked="" type="checkbox"/> To : <input type="text" value="August-2009"/> <input type="button" value="v"/>
<input type="radio"/> Selection of the day	<input type="checkbox"/> From : <input type="text" value="01"/> <input type="button" value="v"/> <input type="text" value="August-2009"/> <input type="button" value="v"/> <input type="checkbox"/> To : <input type="text" value="01"/> <input type="button" value="v"/> <input type="text" value="August-2009"/> <input type="button" value="v"/>
DESTINATION	<input type="text"/> <input checked="" type="radio"/> Exact <input type="radio"/> Begins with <input type="radio"/> Contains <input type="radio"/> Ends with
SOURCE	<input type="text"/> <input checked="" type="radio"/> Exact <input type="radio"/> Begins with <input type="radio"/> Contains <input type="radio"/> Ends with
CHANNEL	<input type="text"/>
DURATION	<input type="text"/> <input type="radio"/> > <input type="radio"/> > = <input checked="" type="radio"/> = <input type="radio"/> < = <input type="radio"/> < <input type="text"/> <input type="radio"/> > <input type="radio"/> > = <input type="radio"/> < = <input type="radio"/> <
	<input type="button" value="Search"/> Result : Minutes <input checked="" type="radio"/> - Seconds <input type="radio"/>

This is the filter options window in CDR.

You can view, print and save reports on the Call Detail Record menu. Customized report can also be generated using these filter options.

- **Selection of the month/day.** Select a month or day range.
- **Destination:** This is the number or the extension called.
- **Source.** This is the extension or the number where the call originated.
- **Channel:** This is where the call went through. (SIP/IAX2/Local)
- **Duration:** Can be defined as minutes or seconds.

Here is an example of a Call Detail Record report, with filtering options supplied:

Selection of the month From : July-2009 To : July-2009
 Selection of the day From : 01 August-2009 To : 01 August-2009
DESTINATION Exact Begins with Contains Ends with
SOURCE Exact Begins with Contains Ends with
CHANNEL
DURATION > > = = < = < > > = < = <
 Result : Minutes - Seconds

Number of calls : 4

Calldate	Channel	Source	Clid	Dst	Disposition	Duration
1. 2009-07-29 18:51:25	SIP/103-b7...	103	"SIP Phone 103" <103>	8	ANSWERED	00:00
2. 2009-07-29 18:27:03	SIP/103-b7...	103	"SIP Phone 103" <103>	104	NO ANSWER	00:08
3. 2009-07-29 16:44:45	SIP/103-09...	103	"SIP Phone 103" <103>	202	ANSWERED	00:10
4. 2009-07-29 16:43:59	SIP/103-09...	103	"SIP Phone 103" <103>	202	ANSWERED	00:33

1 / 1

TOTAL				
ASTERISK MINUTES				
DATE	DURATION	GRAPHIC	CALLS	ACT
2009-07-29	00:51		4	00:12
TOTAL	00:51		4	00:12

[Export PDF file](#)

[Export CSV file](#)

*Note: In the report above, the **Clid** column refers to Caller ID. To show the number of incoming trunk calls (column **Source**), you must be subscribed to the telco's caller ID feature.*

The report generated can be exported and saved as PDF or CSV file.

5.2. ASTERISK RECORDING INTERFACE or ARI (RECORDINGS). When the call recording enabled or activated, this is where you can retrieve the recorded calls.

Just a refresher, when you configured or added an extension (Section 4.1.1), there were two fields there that you set up: (a) User Extension, and (b) Secret. You will use these as your login information in ARI. This means that to retrieve or listen the recordings for User Extension 103, you need to enter the password or that which you setup as "secret" in the **Extensions** menu for extension 103.

Voicemail for SIP Phone 103 (103)

delete move_to Folder ↕ forward_to Results
0

select: [all](#) [none](#)

Date▼	Time	Caller ID	Priority	Orig Mailbox	Duration	Playback	Download
-------	------	-----------	----------	--------------	----------	----------	----------

6. SUPPORT and FEEDBACK

For any suggestions or comments regarding this documentation, please email us at feedback@8layertech.com.

If you need technical support with regard 8ix Zenith, email us at support@8layertech.com.

You may also want to be in the 8ix Zenith loop:

- 8ix Zenith CE Microsite <http://www.8layertech.com/projectsdetails.php?id=6>
- Bugs, Fixes and Feature Requests <http://www.8layertech.com/8ix/bugs/>
- Forum and Discussion <http://www.8layertech.com/8ix/forum/>
- Mailing List <http://groups.google.com/group/8ixzenith/>