



Alcatel-Lucent Enterprise

8328 & 8368 SIP-DECT configuration guide

Provisioning for Rainbow Hub

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www.al-enterprise.com

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Content

1	Introduction	3
2	Documentation	4
3	Rainbow SIP parameters configuration	4
4	SIP-DECT Base station configuration.....	5
4.1	Search of the base station's IP address	6
4.2	Connection to the Base Station interface	6
4.3	Base station network	8
4.3.1	Dynamic DHCP IP addressing	9
4.3.2	Static IP addressing	10
4.4	Country.....	11
4.5	Management download parameter.....	12
4.6	Firmware upgrade.....	13
4.6.1	Firmware Update with an https Server.....	13
4.6.2	Firmware update with a TFTP Server.....	14
4.7	Base station configuration concerning Rainbow Hub server.....	15
4.8	8328 – DECT device configuration	17
4.8.1	8328 – Handset configuration.....	17
4.8.2	8328 – Extension configuration	20
4.9	8368 – DECT device configuration	21
4.9.1	8368 Base station configuration	21
4.9.2	8214 device registration with 8368 base station.....	22
4.10	Central directory	24
4.11	8328 - Dual Cell	25
4.12	8368 - Multi Cell.....	26
4.12.1	Configuration of primary base station	27
4.12.2	Configuration of additional base stations.....	28
4.13	DECT base station database backup	28
4.14	DECT base station database restore	28
4.14.1	Configuration executed on the base station.....	28
4.14.2	Actions to be done on the DECT device.....	31
4.15	Logging	32

4.15.1	Syslog	33
4.15.2	SIP log.....	33
5	Restrictions & limitations.....	33

Revision history

Edition 1: April 25, 2023	Creation of the document
Edition 2: August 10, 2023	Update of the document for firmware update
Edition 3: October 20, 2023	Update of the document for 8368 base station and 8214 device
Edition 4: January 16, 2024	Update of the document for central directory
Edition 4: September, 2024	Update of the document for DM URL and backup

1 Introduction

This document gives an overview of 8328 & 8368 SIP-DECT configuration when used in Rainbow Hub environment. The Base Station acts as SIP gateway.

8328 base station supports 8212 and 8214 DECT handsets. But 8368 base station only supports 8214 handsets.

Configuration on Rainbow Hub side (user creation, license allocation, retrieve of SIP account password and domain) is not covered by this document. Please refer to the following Help Center links

<https://support.openrainbow.com/hc/en-us/articles/4407688115986-Configure-company-members>

<https://support.openrainbow.com/hc/en-us/articles/360016387260-Configure-the-telephone-numbers-of-company-members-in-a-Cloud-PBX>

<https://support.openrainbow.com/hc/en-us/articles/360021940099-Generic-SIP-devices>

A DECT system setup can be deployed as follows:

Single cell setup: Telephony network composed of one base station

8328 Dual cell setup: Telephony network composed of two base stations

8368 Multi Cell setup: Telephony network composed of several base stations

The base station only supports Europe/ETSI frequency band which is 1.88 GHz – 1.90 GHz.

2 Documentation

ALE Documentation: (available on MyPortal with Business Partner access)

- Reference 8AL91449ENAA: 8328 SIP-DECT System Guide
- Reference 8AL91459ENAA : 8368 SIP-DECT System Guide
- Reference 8AL90874USAA: DECT and IP-DECT Engineering Rules and Site Survey Kit Manual
- Reference 8AL91447ENAA: 8212 DECT Handset - SIP User Manual
- Reference 8AL91453ENAA: 8214 DECT Handset - SIP User Manual
- Reference 8AL91448USAA: SAFETY AND REGULATORY INSTRUCTIONS – Alcatel-Lucent Enterprise 8328 SIP-DECT SINGLE BASE STATION

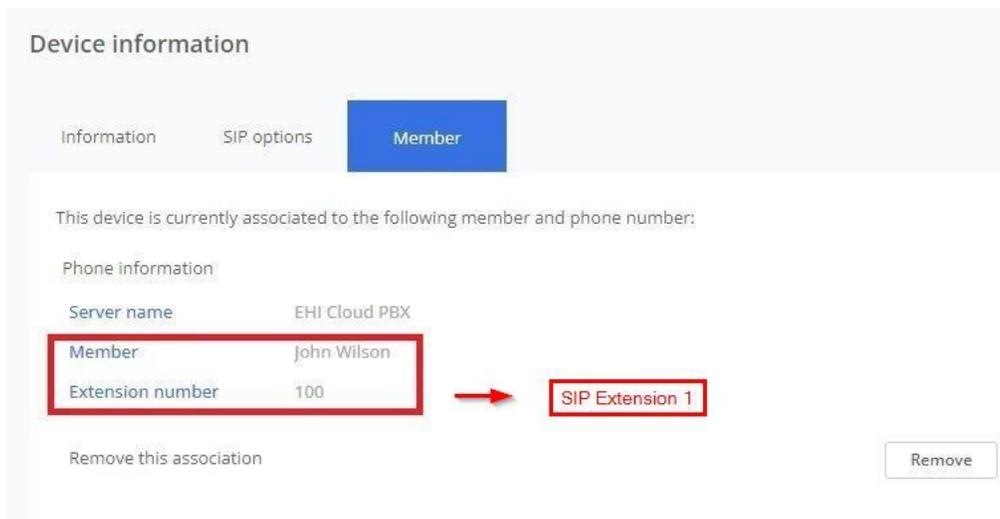
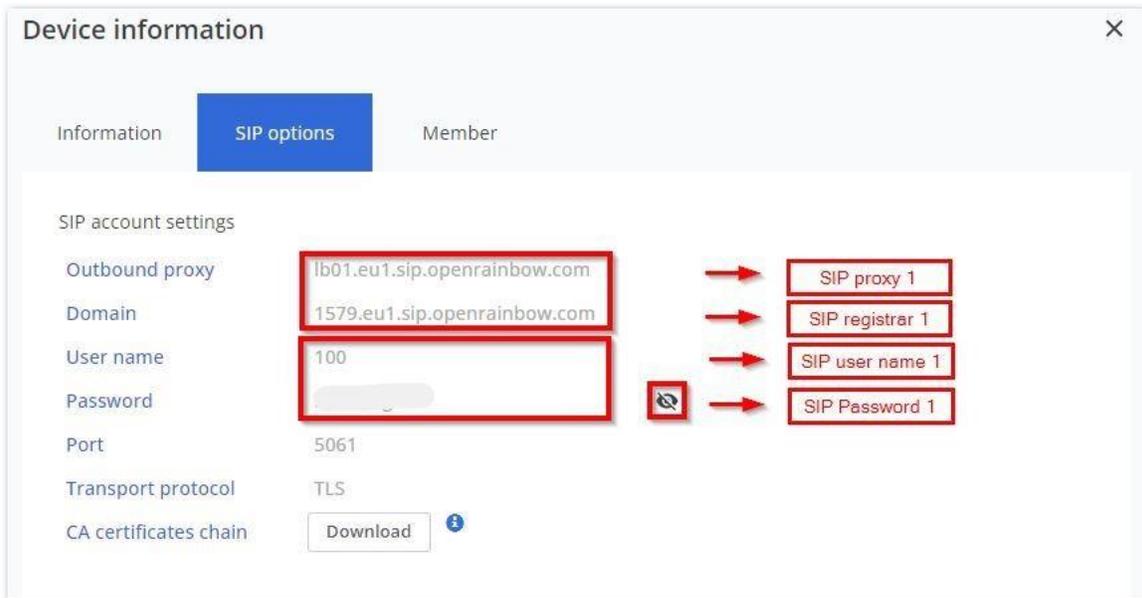
3 Rainbow SIP parameters configuration

Generic devices must be configured manually. So you must create the device under Rainbow Administration interface -> *Communication* -> *Devices* -> *Create (a new device)* -> *Generic type = Generic SIP*

Then you just have to associate the new device to a Rainbow user.

There is a number of provisioning parameters related to Rainbow that needs to be configured in the IP-DECT 8328 or 8368. Below information must be obtained per each connected DECT device from Rainbow Company *Administration interface* -> *Communication* -> *Devices* -> *SIP options* :

- **SIP registrar domain name** (e.g. *1579.eu1.sip.openrainbow.com*) and port (e.g. *5061*)
- **SIP proxy domain name, outbound proxy** (e.g. *lb01.eu1.sip.openrainbow.com*) and port (e.g. *5061*)
- **SIP User name** (e.g. *100*) – usually equals to extension number
- **SIP Password**



4 SIP-DECT Base station configuration

The SIP-DECT configuration interface is a web-based administration platform used for configuring and programming the base station.

- To enter the user interface of the base station, you first need to connect the base to a private network with a DHCP server.

Important note:

The DHCP parameter must be configured with the following mandatory parameters:
NTP server and DNS IP address.

- It is also possible to configure a static IP address via the base station *Web Administration* -> *Network* -> *IP Settings* parameters.

4.1 Search of the base station's IP address

Afterwards, you need to find the base station's IP and type it in your internet browser. The DECT handset has an "IP search" feature, which allows the user to view the IP addresses of the bases. To use this feature, please follow the steps below:

- Step 1** Handset in idle
- Step 2** *8212 device*: Enter in the Menu by pressing the **OK** key
8214 device: Enter in the Menu by pressing the **Menu** key 
- Step 3** Type ***47* (*IP*)** (You will not see the dialed numbers, there is no feedback)

The handset will now start to search for base stations, and for each one found, the MAC and IP address will be shown.

4.2 Connection to the Base Station interface

The web-based administration page is compatible with the following browsers:

- Chrome 68+
 - Edge 42+
 - Firefox 61+
 - Safari 11.1.2+
- Open a Web browser and type in the IP address previously discovered by the DECT handset.
 - On the Login page, enter your authentication credentials (i.e. username and password). By default, the username and password are **admin/admin**. Press **OK**.
 - Once you have been authenticated, the browser will display the front end of the 8328 or 8368 SIP-DECT Configuration Interface.

FEATURE	DESCRIPTION
HOME/STATUS	This is the front end of the base station's HTTP web interface. This page shows a summary of the current operating condition and settings of the base station and handset(s).
EXTENSIONS	Administration of extensions and handsets in the system
SERVERS	On this page, the user can define which SIP/NAT server the network should connect to.
NETWORK	Provides the user with the main network settings, such as: NAT settings : allows configuration of features for resolving the Network Address Translation. These features enable interoperability with most types of routers. IP settings : allows setting dynamic (DHCP) or static IP address for your network Virtual LAN : allows specifying the Virtual LAN
MANAGEMENT	Defines additional settings such as the Configuration server address, Management transfer protocol, Text messaging and sizes of logs/traces that should be catalogued in the system.

FIRMWARE UPDATE	Remote firmware update (HTTP(s)/TFTP) settings of base stations and handsets.
LOCATION GATEWAYS	Administration of Location Gateways <i>NOTE: The Location gateway feature must be enabled via the Management page for this menu to appear on the navigation panel</i>
HEADSET BASE	Administration of headset bases <i>NOTE: The Headset base feature must be enabled via the Management page for this menu to appear on the navigation panel. Feature not available.</i>
COUNTRY	Allows specifying the country/territory where the network is located. Configuring these settings ensure that your system is working properly. <i>NOTE: The base language and country settings are independent of each other</i> Time settings: The user can configure the Time server to always have their base synched with the exact time. The time servers must deliver the time to conform to the Network Time Protocol (NTP). Handsets are synchronised to this time. Base units synchronise to the master using the Time server.
SECURITY	The users can administrate certificates and create account credentials with which they can log in or log out of the embedded HTTP web server.
CENTRAL DIRECTORY	Provides an interface to a common directory load of up to 3000 entries using *csv format, or to a configuration of an LDAP directory. <i>NOTE: LDAP and central directory cannot operate at the same time</i>
DUAL CELL /MULTI CELL	Enables the user to create a chain of base stations. Make sure the system ID for the relevant base stations is the same, otherwise the dual/multi cell feature will not work.
REPEATERS	Administration and configuration of repeaters in the system
ALARM	Administration and configuration of the alarm settings on the system. This controls the settings for alarms that can be sent to the handsets. This feature is only available on certain types of handsets.
STATISTICS	Overview of the system and call statistics
GENERIC STATISTICS	Overview of general parameter statistics of the system
DIAGNOSTICS	Overview of base stations and extensions diagnostics
CONFIGURATION	Displays the detailed and complete system settings for the base station
SYSLOG	Reports overall network related events or logs (only live feed is shown)
SIP LOG	Reports SIP related logs
EMERGENCY CALL	Administration and configuration of emergency numbers
LOGOUT	Logout of the web interface

8328/8368 SIP-DECT Administration Interface

The **Single Cell System mode** is a single base station not in connection with other base stations. All configuration parameters are to be sent to this base station and covers the range of this base station.

The **Dual Cell/Multi Cell System mode** is a group of base stations on a connecting LAN using the same System Chain ID. All base stations using the same Chain ID are connected together.

4.3 Base station network

The Web-based Administration allows us to change the IP settings of the base station by choosing DHCP or IP static addressing through *Web Admin -> Network -> DHCP/Static IP field*

4.3.1 Dynamic DHCP IP addressing

Network Settings

IP Settings

DHCP/Static IP: **DHCP**

IP Address:

Subnet Mask:

Default Gateway:

DNS (Primary):

DNS (Secondary):

MDNS: **Disabled**

NAT Settings

Enable STUN: **Disabled**

STUN Server:

STUN Bindtime Determine: **Enabled**

STUN Bindtime Guard: **80**

Enable RPORT: **Disabled**

Keep alive time: **90**

VLAN Settings

ID:

User Priority:

DHCP Options

Plug-n-Play: **Enabled**

TCP Options

TCP Keep Alive Interval:

Discovery

LLDP-MED Send: **Disabled**

LLDP-MED Send delay:

VLAN via LLDP-MED: **Disabled**

SIP/RTP Settings

Use Different SIP Ports: **Disabled**

RTP Collision Detection: **Enabled**

Always reboot on check-sync: **Disabled**

Outbound Proxy Mode: **Use Always**

Failover SIP Timer B:

Failover SIP Timer F:

Local SIP port:

SIP ToS/QoS: 0xA0

RTP port:

RTP port range:

RTP ToS/QoS: 0xB8

Reject anonymous calls: **Disabled**

Quality of Service (QoS) can be configured by changing the values of the following parameters:

- Network -> SIP/RTP Settings -> SIP ToS/QoS: Priority of call control signaling using the TOS byte
- Network -> SIP/RTP Settings -> RTP ToS/QoS: Priority of RTP traffic based on TOS byte.

The TOS byte must also be managed at the switch/routers level.

Note: If you cannot connect to the base station, you can try to execute a 'factory configuration of the base station. So just press the reset button on the bottom of the base until the red led is shown. It should last about 10 seconds.

Note: If you base station is still running in an old version, don't try to change the language of the base station because it is not supported in the latest version. So the official language is English.

4.3.2 Static IP addressing

Network Settings

IP Settings

DHCP/Static IP:

IP Address:

Subnet Mask:

Default Gateway:

DNS (Primary):

DNS (Secondary):

MDNS:

NAT Settings

Enable STUN:

STUN Server:

STUN Bindtime Determine:

STUN Bindtime Guard:

Enable RPORT:

Keep alive time:

SIP/RTP Settings

Use Different SIP Ports:

RTP Collision Detection:

Always reboot on check-sync:

Outbound Proxy Mode:

Failover SIP Timer B:

Failover SIP Timer F:

Local SIP port:

SIP ToS/QoS:

RTP port:

RTP port range:

RTP ToS/QoS:

Reject anonymous calls:

VLAN Settings

ID:

User Priority:

Synchronization:

DHCP Options

Plug-n-Play:

TCP Options

TCP Keep Alive Interval:

Discovery

LLDP-MED Send:

LLDP-MED Send delay:

VLAN via LLDP-MED:

CDP Send:

CDP Send delay:

Note: If you cannot connect to the base station, you can try to execute a 'factory configuration of the base station. So just press the reset button on the bottom of the base until the red led is shown. It should last about 10 seconds.

4.4 Country

Country/Time Settings

Select country:

State / Region:

Notes:

Time Server:

Allow broadcast NTP:

Refresh time (h):

Set timezone by country/region:

Timezone:

Set DST by country/region:

Daylight Saving Time (DST):

DST Fixed By Day:

DST Start Month:

DST Start Date:

DST Start Time:

DST Start Day of Week:

DST Start Day of Week Last in Month:

DST Stop Month:

DST Stop Date:

DST Stop Time:

DST Stop Day of Week:

DST Stop Day of Week Last in Month:

- The country setting controls the in-band tones used by the system.
- The time server supplies the time used for data synchronisation in a dual cell configuration. As such, it is mandatory to have the time server set for a dual cell and multicell configuration, otherwise the system will not work properly.
You should choose the nearest NTP server which is located in your country.
- Changing time settings will require a reboot of the system.

4.5 Management download parameter

Alcatel-Lucent Enterprise **Base 1**

Home/Status
Extensions
Servers
Network
Management
Firmware Update
Country
Security
Central Directory
Dual Cell
Repeaters
Alarm
PTT Intercom
Statistics
Generic Statistics
Diagnostics
Configuration
Syslog
SIP Log
Emergency Call
Logout

Management Settings

Base Station Name:

Settings

Management Transfer Protocol:

HTTP Management upload script:

HTTP Management username:

HTTP Management password:

Factory reset from button:

Enable Automatic Prefix:

Set Maximum Digits of Internal Numbers:

Set Prefix for Outgoing Calls:

Configuration

Configuration File Download:

Configuration Server Address:

Base Specific File:

Dual Cell Specific File:

Auto Resync Polling:

Auto Resync Time:

Auto Resync Days:

Auto Resync Periodic (Min):

Auto Resync Max Delay (Min):

DHCP Controlled Config Server:

DHCP Custom Option:

DHCP Custom Option Type:

Text Messaging

Text Messaging:

Text Messaging & Alarm Server:

Text Messaging Port:

Text Messaging Keep Alive (m):

Text Messaging Response (s):

Text Messaging TTL:

Terminal

Keep Alive (m):

Auto Stop Alarm:

Auto Stop Alarm Delay (s):

Syslog/SIP Log

Upload of SIP Log:

Syslog Level:

TLS security:

Syslog Server IP Address:

Syslog Server Port:

Location Gateway

Location Gateways:

Configuration Server:

Auto Resync Polling:

Auto Resync Time:

Auto Resync Max Delay (Min):

Cloud Service

MQTT Broker Address:

MQTT Broker Port:

MQTT Connection Keep Alive (Seconds):

Change settings via Cloud Service or via base:

Headset Base

Headset Base:

License

Idx	Description
No Entries	

License Key:

- The 'configuration file download' parameter must be disabled.

4.6 Firmware upgrade

4.6.1 Firmware Update with an https Server

4.6.1.1 8328 Firmware Update with an https Server

All devices can be upgraded via the Web-based Administration.

Web Admin -> Firmware Update

Firmware Update Settings

Firmware update server address:	<input type="text" value="https://devices.al-enterprise.com"/>	
Firmware path:	<input type="text" value="ale_tx"/>	
Type	Required version	Required branch
Update Base Stations	<input type="text" value="610"/>	<input type="text" value="704"/>
8212DECT	<input type="text" value="15"/>	<input type="text" value="3"/>
<input type="button" value="Save/Start Update"/>		

While upgrading the handset with a new binary, the progress can be monitored on the *Extensions* page under the *FWU Progress* column. The progress is displayed in % and as soon as the file upload is done, the column will display a message “*Waiting for charger*”. The user must then place the handset in the cradle to overwrite the old firmware/binary with the new one. The handset is ready to be used as soon as it reboots.

NOTE: The handset must not be removed from the charger until the **FWU Progress** column on the **Extensions** page displays “*Done*” or “*Off*”.

NOTE: If the new binary is not present on the handset after the reboot, the user must reset the settings of the device (*Settings – Reset settings*)

4.6.1.2 8368 Firmware Update with an https Server

All devices can be upgraded via the Web-based Administration.

Web Admin -> Firmware Update

Firmware Update Settings

Firmware update server address:
Firmware path:

Type	Required version	Required branch
Update Base Stations	<input type="text" value="610"/>	<input type="text" value="704"/>
8212DECT	<input type="text" value="15"/>	<input type="text" value="3"/>
8214DECT	<input type="text" value="690"/>	<input type="text" value="1"/>

While upgrading the handset with a new binary, the progress can be monitored on the *Extensions* page under the *FWU Progress* column. The progress is displayed in % and as soon as the file upload is done, the column will display a message “*Waiting for charger*”. The user must then place the handset in the cradle to overwrite the old firmware/binary with the new one. The handset is ready to be used as soon as it reboots.

NOTE: The handset must not be removed from the charger until the **FWU Progress** column on the *Extensions* page displays “*Done*” or “*Off*”.

NOTE: If the new binary is not present on the handset after the reboot, the user must reset the settings of the device (*Settings – Reset settings*)

4.6.2 Firmware update with a TFTP Server

All devices can be upgraded via the Web-based Administration.

Web Admin -> Firmware Update

Firmware Update Settings

Firmware update server address:
Firmware path:

Type	Required version	Required branch
Update Base Stations	<input type="text" value="610"/>	<input type="text" value="704"/>
8212DECT	<input type="text" value="15"/>	<input type="text" value="3"/>

Web Admin -> Management



You can use a TFTP or HTTP(s) server to upgrade the binaries, some free TFTP servers are available in Internet.

For example, the DECT device 8212 binary is **8212DECT_v00XX_b0YY.bin** (version XX branch YY)

https://devices.al-enterprise.com/ale_tx/8212DECT/8212DECT_v00XX_b0YY.bin

You must also create a new folder named **8212DECT** under the TFTP root directory and copy the 8212 device binary like '8212DECT_v00XX_b0YY.bin' to this folder.

While upgrading the handset with a new binary, the progress can be monitored on the *Extensions* page under the *FWU Progress* column. The progress is displayed in % and as soon as the file upload is done, the column will display a message "*Waiting for charger*". The user must then place the handset in the cradle to overwrite the old firmware/binary with the new one. The handset is ready to be used as soon as it reboots.

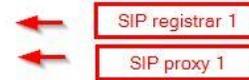
NOTE: *The handset must not be removed from the charger until the **FWU Progress** column on the **Extensions** page displays "Done" or "Off".*

4.7 Base station configuration concerning Rainbow Hub server

A new server can be created with the Web-based Administration through *Web Admin -> Server -> Add Server*

RBH1:

Server Alias:	RBH1
NAT Adaption:	Enabled
Registrar:	1579.eu1.sip.openrainbow.com
Outbound Proxy:	lb01.eu1.sip.openrainbow.com
Conference Server:	
Call Log Server:	
Music on Hold Server:	
Reregistration time (s):	600
SIP Session Timers:	Disabled
Session Timer Value (s):	1800
SIP Transport:	TLS
Signal TCP Source Port:	Enabled
Use One TCP Connection per SIP Extension:	Disabled
RTP from own base station:	Disabled
Keep Alive:	Enabled
Show Extension on Handset Idle Screen:	Enabled
Hold Behaviour:	RFC 3264
Local Ring Back Tone:	Enabled
Remote Ring Tone Control:	Enabled
Attended Transfer Behaviour:	Hold 2nd Call
Semi-Attended Transfer Behaviour:	Prohibit Semi-Attended Transfer
Sipping-19:	Disabled
Directed Call Pickup:	Disabled
Directed Call Pickup Code:	
Group Call Pickup:	Disabled
Group Call Pickup Code:	
Use Own Codec Priority:	Disabled
DTMF Signalling:	RFC 2833 and SIP INFO
DTMF Payload Type:	101



Remote Caller ID Source Priority:	PAI - FROM	
Codec Priority: - Max number of codecs is 5	G711A G711U	Up Down
G729 Annex B:	Disabled	Reset Codecs Remove
Useptime:	Enabled	
RTP Packet Size:	20 ms	
RTCP:	Enabled	
Send SDP Capabilities in Offer (RFC 5939):	Disabled	
Secure RTP:	Enabled	
Secure RTP Auth:	Enabled	
SRTP Crypto Suites:	AES_CM_128_HMAC_SHA1_32 AES_CM_128_HMAC_SHA1_80	Up Down Reset Crypto Suites Remove
Save Cancel		

Note:

Secure RTP must be enabled, otherwise there will be voice issues.

4.8 8328 - DECT device configuration

4.8.1 8328 - Handset configuration

Go to “Extensions” -> Handset -> Add handset

Extensions and Handset

AC:

Local Call Groups:

Extensions / **Handset**

[Stop Registration](#)

Handset

IPEI:

Push-to-Talk:

AC:

Alarm Line:

Alarm Number:

Beacon Settings:

Receive Mode:

Transmit Interval:

Alarm Profiles:

Profile	Alarm Type	
Profile 0	Not configured	<input type="checkbox"/>
Profile 1	Not configured	<input type="checkbox"/>
Profile 2	Not configured	<input type="checkbox"/>
Profile 3	Not configured	<input type="checkbox"/>
Profile 4	Not configured	<input type="checkbox"/>
Profile 5	Not configured	<input type="checkbox"/>
Profile 6	Not configured	<input type="checkbox"/>
Profile 7	Not configured	<input type="checkbox"/>

Shared Call Appearance Settings:

Idx	Extension
1	<input type="text" value="Not configured"/>
2	<input type="text" value="Not configured"/>
3	<input type="text" value="Not configured"/>
4	<input type="text" value="Not configured"/>
5	<input type="text" value="Not configured"/>
6	<input type="text" value="Not configured"/>
7	<input type="text" value="Not configured"/>
8	<input type="text" value="Not configured"/>

Select the ‘Save’ button to add the handset.

- Select the IPEI 'FFFFFFFF' and 'Register Handset(s)'. The base station goes in **registration mode**.

Extensions and Handset

AC:

Local Call Groups:

Extensions / **Handset**

[Add Handset](#)

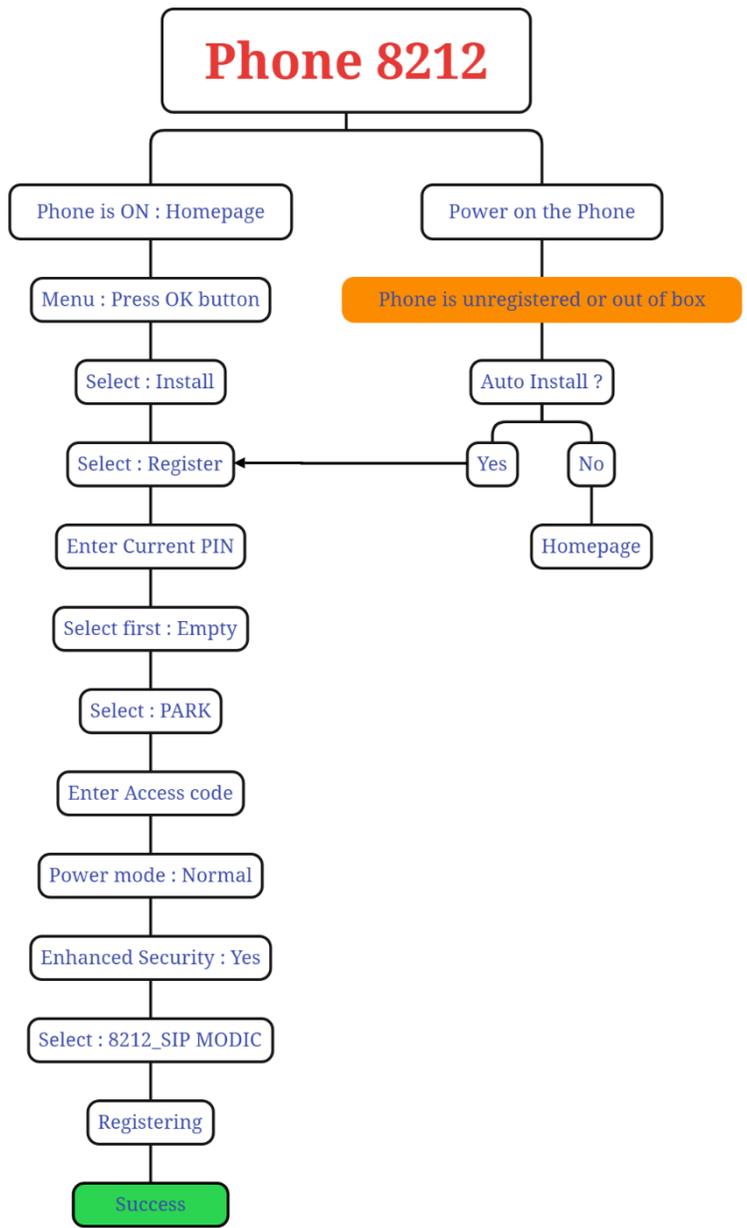
[Stop Registration](#)

	Idx	IPEI	Handset State	Handset Type FW Info	FWU Progress	Extension
<input type="checkbox"/>	1	0328E4E55C	Present@RPN00	8212DECT 15.3	Complete	124
<input type="checkbox"/>	2	0328E4E562	Present@RPN00	8212DECT 15.3	Complete	125
<input checked="" type="checkbox"/>	3	FFFFFFFF				

[Check All / Uncheck All](#)

With selected: [Delete Handset\(s\)](#) [Register Handset\(s\)](#) [Deregister Handset\(s\)](#)

- Power on one 8212 DECT handset 'out of the box'.



Presented with xmind

NOTE:

- Default PIN code is equal to '0000'.
- The Access code (AC) is used to allow the handset to register to the base station. By default, the value is 0000, but the administrator can change the AC to another numeric value.

- During the registration step, the 8212 device displays ‘Registering’.

When the registration is finished, the IPEI field will be filled by the new DECT handset IPEI. The 8212 device displays then ‘Registration 0’.

NOTE: To verify that the handset has been registered to the base, you need to refresh the **Extensions** -> **Extensions** page, as it will not update automatically.

4.8.2 8328 – Extension configuration

You should execute the following configuration for each Rainbow device.

Go to *Extensions* -> *Add extension*

- Fill the field *Extension* with the Extension number defined in chapter “3. Rainbow SIP parameters configuration.”
- Fill the field *Authentication User Name* with the Rainbow Device SIP options ‘User Name’
- Fill the field *Authentication Password* with the Rainbow Device SIP options ‘Password’
- Fill the field *Display Name* with Rainbow user first name and last name
- Select the right *RBH server*.

Add extension

Extension: 100

Authentication User Name: 100

Authentication Password:

Display Name: John Wilson

XSI Username:

XSI Password:

Mailbox Name:

Mailbox Number:

Server: RBH1: 1579.eu1.sip.openrainbow.com

Call waiting feature: Enabled

BroadWorks Shared Call Appearance: Disabled

BroadWorks Feature Event Package: Disabled

UaCSTA: Disabled

Forwarding Unconditional Number: Disabled

Forwarding No Answer Number: Disabled 90 s

Forwarding on Busy Number: Disabled

Reject anonymous calls: Disabled

Save Cancel

SIP Extension 1

SIP user name 1

SIP Password 1

On the right side of the web page, select the handset with the right IPEI in order to associate it to the current extension.

Select Handset(s)

Idx	IPEI
<input type="checkbox"/>	Add Handset
<input checked="" type="checkbox"/>	1 0328E4E55C
<input type="checkbox"/>	2 0328E4E562
<input type="checkbox"/>	3 FFFFFFFF

4.9 8368 - DECT device configuration

4.9.1 8368 Base station configuration

You should execute the following configuration for each Rainbow device.
Go to *Extensions* -> *Add extension*

Home/Status

Extensions

AC:

Add extension

[Stop registration](#)

Home/Status

Add extension

Line name:

Handset:

Push-To-Talk:

Extension:

Authentication User Name:

Authentication Password:

Display Name:

XSI Username:

XSI Password:

Mailbox Name:

Mailbox Number:

Default Intercom Group:

Server:

Call waiting feature:

BroadWorks Busy Lamp Field List URI:

BroadWorks Shared Call Appearance:

BroadWorks Feature Event Package:

UaCSTA:

Forwarding Unconditional Number:

Forwarding No Answer Number: s

Forwarding on Busy Number:

Reject anonymous calls:

SIP Extension 1

SIP user name 1

SIP Password 1

- Fill the field *Extension* with the Extension number defined in chapter “3. Rainbow SIP parameters configuration.”
- Fill the field *Authentication User Name* with the Rainbow Device SIP options ‘User Name’
- Fill the field *Authentication Password* with the Rainbow Device SIP options ‘Password’
- Fill the field *Display Name* with Rainbow user first name and last name
- Select the right *RBH server*.

4.9.2 8214 device registration with 8368 base station

- Go to *Extensions* -> *Add extension via base station Web Admin*
- Select the IPEI ‘FFFFFFFFF’ and ‘Register Handset(s)’. The base station goes in **registration mode**.

Home/Status
Extensions
 Servers
 Network
 Management
 Firmware Update
 Country
 Security
 Central Directory
 Multi Cell

AC:

Add extension
 Stop Registration

Idx	IPEI	Handset State	Handset Type FW Info	FWU Progress	VoIP Idx	Extension	Display Name	Server	Server Alias	State
<input type="checkbox"/>	1	0328E4E55C			<input type="checkbox"/>	124	Dupond	1579.eu1.sip.openrainbow.com	RBH1	
<input checked="" type="checkbox"/>	2	FFFFFFFF			<input type="checkbox"/>	100		1579.eu1.sip.openrainbow.com	RBH1	

Check All / Check All Extensions /
 Uncheck All Uncheck All Extensions

With selected: Delete Handset(s) **Register Handset(s)** Deregister Handset(s) Start SIP Registration(s) SIP Delete Extension(s)

- Power on one 8214 DECT handset ‘out of the box’ and follow these steps.



Presented with xmind

NOTE:

- The Access code (AC) is used to allow the handset to register to the base station. By default, the value is 0000, but the administrator can change the AC to another numeric value.

- 8214 handset allows to do an “Easy registration” but this works only if the Access Code is set to default value.
- When the registration is finished, the IPEI field will be filled by the new DECT handset IPEI.
- Voice messages can be listened by pressing the ‘1’ digit (long press).

4.10 Central directory

It is possible to configure three types of central directories but the local directory should only be used.

This feature enables the administrator to import a central directory file with *.csv/.txt/.xml* file format. This feature is using a browse file approach. After file selection, the load button must be pressed to load the file. The system supports only the original *.csv* format.

So the administrator can upload a contact list to share the list as a local central directory.

If you are creating a *.txt* directory file, the contact entry should be like “Name,phone_number”.

Example of .txt directory file

John Wilson,100
 Sophie Smith,135
 Marie Martin,+33612345678

.txt directory file limitations:

- Contact name must NOT contain “,”
- Contact number digits must be: +33612345678
- Contact number does not support SIP-URI
- Spaces between name section “,” and number section are not supported

- The central directory feature can handle up to 3000 contacts (Max file size 100kb)

Once the directory file is imported, a new key ‘Central directory’ appears on the DECT 8214 device.



4.11 8328 - Dual Cell

We are going to setup a dual cell environment by connecting two bases into one DECT system. See document ‘8328 SIP-DECT System Guide’, *Dual cell* chapter for more details.

- Setup the primary base by following the previous chapters.
- At least, one extension must be created on primary base station before adding the second base station.
- To add the secondary base to the primary, just connect the second base station to the same private subnetwork. And it will connect to the primary base.

It may take up to 5 minutes to add the base station to the dual cell DECT system.

NOTE:

- It is strongly recommended to configure the DHCP server so that it reserves a DHCP IP address according to the base’s MAC address. Then the base’s IP address will not change. Otherwise the communications can be cut if the IP address changes.
- The time server (NTP) is mandatory in a dual cell configuration otherwise the DECT system will not work properly. Example: 0.fr.pool.ntp.org

- Home/Status
- Extensions
- Servers
- Network
- Management
- Firmware Update
- Country
- Security
- Central Directory
- Dual Cell**
- Repeaters
- Alarm
- Statistics
- Generic Statistics
- Diagnostics
- Configuration
- Syslog
- SIP Log
- Emergency Call
- Logout

Dual Cell Settings

Dual Cell Status

System Information: Keep Alive
 Last packet received from IP: 172.25.45.183 27-Mar-2023 11:19:41
 Sync Data from IP: 172.25.45.183

Settings for this unit

These settings are used to connect this unit to a system.

Dual Cell System:

System chain ID:

Data Sync:

Primary Data Sync IP:

Base Replacement Timeout (15-255 Min):

Dual Cell Debug:

DECT system settings

These settings are DECT settings for the system.

RFPI System: 13ABA11C; RPN:00

Auto configure DECT sync source tree:

Allow multi primary:

Auto create multi primary:

Base station settings

SIP Server support for multiple registrations per account: (used for roaming signalling)

Base Station Group

ID	RPN	Version	MAC Address	IP Address	IP Status	DECT sync source	DECT property	
<input type="checkbox"/>	0	00	320.900	00087B235AE1	172.25.45.185	This Unit	<input type="text" value="Select as primary"/>	Primary
<input type="checkbox"/>	1	08	320.900	00087B235AE7	172.25.45.183	Connected	<input type="text" value="Primary:RPN00 (-79dBm)"/>	Locked

[Check All](#) / [Uncheck All](#)
 With selected: [Remove from chain](#)

4.12 8368 - Multi Cell

NOTE:

- It is strongly recommended to configure the DHCP server so that it reserves a DHCP IP address according to the base's MAC address. Then the base's IP address will not change. Otherwise the communications can be cut if the IP address changes.
- The time server (NTP) is mandatory in a multicell configuration otherwise the DECT system will not work properly. Example: 0.fr.pool.ntp.org. NTP server is mandatory for security reason to be able to check the certificates validity.

We are going to setup a Multi Cell environment by connecting several bases into one DECT system. See document '8368 SIP-DECT System Guide', *Multi cell system* chapter for more details.

4.12.1 Configuration of primary base station

- Setup the primary base by following the previous chapters.
- At least, one extension must be created on primary base station before adding the second base station. Thus, registering a handset at this point is not a requirement.

Multi Cell Settings

Multi Cell Status

System Information: Idle
Last packet received from IP:

Settings for this unit

These settings are used to connect this unit to a system.

Multi Cell system:	Enabled
System chain ID:	.
Synchronization time (s):	60
Data Sync:	Multicast
Primary Data Sync IP:	
Multi Cell debug:	None

Save and Reboot	Save	Cancel
-----------------	------	--------

- Enable the *Multi Cell system*, enter a value in the *System chain Id* and press *Save and Reboot*. The *System chain ID* is set by the user and the value MUST NOT be equal to a used SIP account.

NOTE: After reboot, on the front page of the UI will be displayed the following System information status: “Unchained Allowed to Join as Primary”

NOTE: It is recommended to configure the multicast in the ‘Data sync’ parameter. So make sure that Multicast/IGMP is enabled on your switches.

Nevertheless, if multicast is not allowed in the LAN network, Peer-To-Peer must be used.

4.12.2 Configuration of additional base stations

- If the base station has already been connected to an other system, it is necessary to do a factory reset of the base station.
- Login to the base station that you wish to connect to the multi cell chain
- Navigate to the **Multi cell** page, enable the *Multi cell system* parameter and enter the *System chain ID* that you previously typed for the primary base station. Press *Save and Reboot*.
- After reboot, the base will try to find and synchronize to the primary base station.

NOTE: *It takes up to 5 minutes (synchronization time) to add a new base station to a multi cell system.*

8368 DECT System is a distributed system, meaning that all data are synchronized to all base stations. This means that you can login to any base station and make configuration changes.

4.13 DECT base station database backup

- Go to base station Web Admin -> *Configuration* -> *Export*
The file 'Settings.cfg' is a backup of the database without the SIP passwords.

4.14 DECT base station database restore

4.14.1 Configuration executed on the base station

- Go to base station Web Admin -> *Configuration* -> *Choisir un fichier*
Configuration -> *Load*

Configuration

Load Configuration: **Choisir un fichier** Aucun fichier choisi **Load** Export Settings: **Export**

```

~RELEASE=BEATUS_FP_V0610_B0704
~System Mode=62/57
~DECT Mode=EU
~Device=8328
%GMT_TIME_ZONE%:0x10
%COUNTRY_VARIANT_ID%:0x02
%COUNTRY_REGION_ID%:0x00
%TIMEZONE_BY_COUNTRY_REGION%:0x01
%DST_BY_COUNTRY_REGION%:0x01
%DST_ENABLE%:0x02
%DST_FIXED_DAY_ENABLE%:0x00
%DST_START_MONTH%:0x03
%DST_START_DATE%:0x00
%DST_START_TIME%:0x02
%DST_START_DAY_OF_WEEK%:0x01
%DST_START_WDAY_LAST_IN_MONTH%:0x01
%DST_STOP_MONTH%:0x0A
%DST_STOP_DATE%:0x00
%DST_STOP_TIME%:0x03
%DST_STOP_DAY_OF_WEEK%:0x01
%DST_STOP_WDAY_LAST_IN_MONTH%:0x01
%AC_CODE%:0x00,0x00
%LANGUAGE_ID%:0x00
%MIN_JITBUF_DEPTH%:0x02
%MAX_JITBUF_DEPTH%:0x07
%DIALPLAN_ENABLED%:0x00
%DIALPLAN_MAXLENGTH%:0x00
%DIALPLAN_PREFIX%:""
%HANDSET_LANGUAGE_ID%:0xFF
%NUMBER_OF_BASE_STATIONS%:0x03
%NUMBER_OF_REPEATERS%:0x0C
%NUMBER_OF_REPEATER_PER_BASE%:0x01
%LOG_LAST_CONFIG%:0x00
-----

```

Note:

The restore of the database can change the IP address of the DECT base station if there was a static IP configuration in the backup. So if you can't connect to your base station, check the IP address of your DECT base station by following the steps of chapter 2.2.

- Go to *Extensions* -> *Select you Extension number* to enter in edition mode

Alcatel-Lucent  **SME VoIP**
Enterprise

Extensions and Handset

AC:
Local Call Groups:

Extensions / Handset

Add extension

Idx	Extension	Display Name	Server	Server Alias	State	IPEI
<input type="checkbox"/>	1	124	David Dupond	.eu1.sip.openrainbow.com RBH1		03A8C03727
<input type="checkbox"/>	2	125	Leonard McCoy	.eu1.sip.openrainbow.com RBH1		
<input type="checkbox"/>	3	100	John Wilson	eu1.sip.openrainbow.com RBH1		03A8C036EE

- Modify the Authentication password of the extension by entering again the correct password.

This password can be retrieved via Rainbow Web admin -> Communication -> Devices -> SIP Options

Device information

Information

SIP options

Member

SIP account settings

Outbound proxy	lb01.eu1.sip.openrainbow.com
Domain	1579.eu1.sip.openrainbow.com
User name	124
Password	<input type="password"/> SIP Password 1
Port	5061
Transport protocol	TLS
CA certificates chain	<input type="button" value="Download"/>

Alcatel-Lucent
Enterprise

SME VoIP

Home/Status

Extensions

Servers

Network

Management

Firmware Update

Country

Security

Central Directory

Dual Cell

Repeaters

Alarm

PTT Intercom

Statistics

Generic Statistics

Diagnostics

Edit extension

Extension:	<input type="text" value="124"/>
Authentication User Name:	<input type="text" value="124"/>
Authentication Password:	<input type="password" value="SIP Password 1"/>
Display Name:	<input type="text" value="David Dupond"/>
XSI Username:	<input type="text"/>
XSI Password:	<input type="password" value="....."/>
Mailbox Name:	<input type="text"/>
Mailbox Number:	<input type="text"/>
Default Intercom Group:	<input type="text" value="Not configured"/>
Server:	<input type="text" value="RBH1: eu1.sip.openrainbow.com"/>
Call waiting feature:	<input type="text"/>
BroadWorks Shared Call Appearance:	<input type="text"/>
BroadWorks Feature Event Package:	<input type="text"/>
UaCSTA:	<input type="text"/>
Forwarding Unconditional Number:	<input type="text"/>
Forwarding No Answer Number:	<input type="text"/>
Forwarding on Busy Number:	<input type="text"/>
Reject anonymous calls:	<input type="text" value="Disabled"/>

- Check also the AC code of the handset.

Handset

IPEI:

Push-to-Talk:

AC:

Alarm Line:

Alarm Number:

- Open the DECT registration on the DECT base station.

Alcatel-Lucent Enterprise **SME VoIP**

Extensions and Handset

AC:

Local Call Groups:

Extensions / Handset

[Add Handset](#)

[Stop Registration](#)

	Idx	IPEI	Handset State	Handset Type FW Info	FWU Progress	Extension
<input checked="" type="checkbox"/>	1	03A8C03727				
<input type="checkbox"/>	3	03A8C036EE				

[Check All / Uncheck All](#)

With selected: [Delete Handset\(s\)](#) [Deregister Handset\(s\)](#)

4.14.2 Actions to be done on the DECT device

The following steps could be done by the customer.

- Launch the DECT registration on the DECT device.
- Power off and on the device.

To do an easy registration, Select *Auto install* -> *SIP*.



- If the Auto install label is not displayed, it is possible to deregister the device manually. Press the Settings key -> Connectivity -> Deregister -> Pin code: 0000 (default code)



- The DECT registration can also be done through the Menu key -> Connectivity -> Easy Registration

Please refer to the following web link for more details, page 20

https://support.openrainbow.com/hc/en-us/article_attachments/1646467177002

4.15 Logging

This page allows the administrator to collect system diagnostics information into a zip file. The zip file includes all type of information, such as RSX trace, Syslog, SIP Log, Config file(s), etc.

Go to *Diagnostics -> Bases stations / Extensions / Logging*

4.15.1 Syslog

The ‘*Management*’ web page allows to configure a syslog server.

Syslog/SIP Log	
Upload of SIP Log:	Enabled ▼
Syslog Level:	Debug ▼
TLS security:	Disabled ▼
Syslog Server IP Address:	172.25.45.200
Syslog Server Port:	514

Then you can check the logs with the base station web admin ‘*Syslog*’ page and select one of the following action.

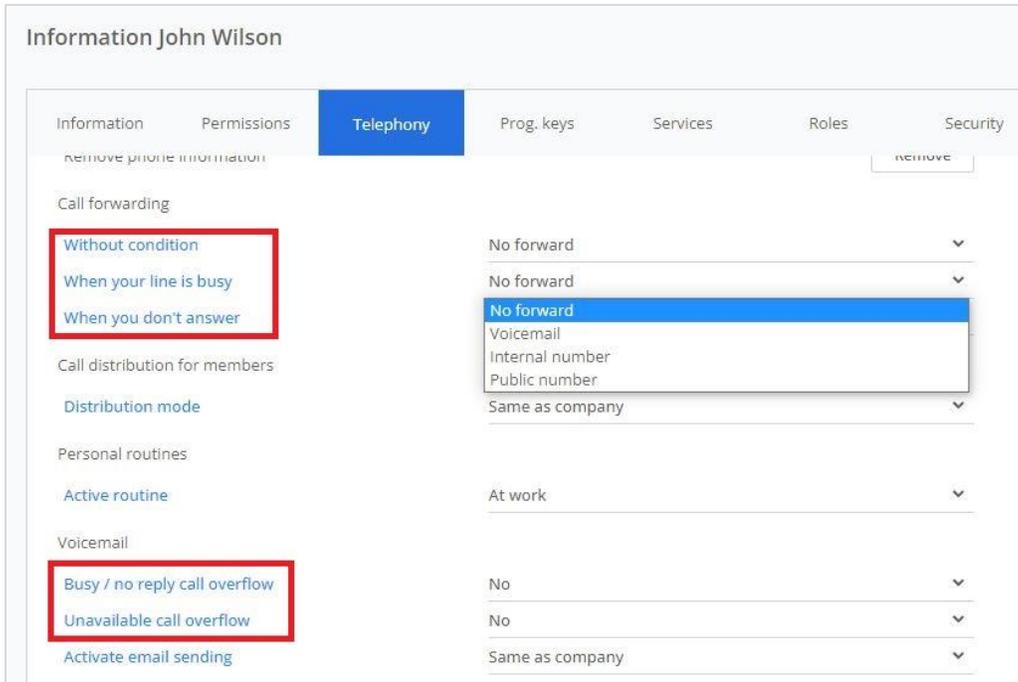
Clear	Reload	Dump Crash Log	Clear Crash Log	Export
-------	--------	----------------	-----------------	--------

4.15.2 SIP log

The ‘*SIP Log*’ web page allows to see and export SIP logs.

5 Restrictions & limitations

- **If a voice message is left in the user's mailbox, the user is not able to listen to the voicemail from his 8212 DECT handset.
So if the user is only using his DECT device, the administrator must change the call forwarding of the user to avoid any routing to its voicemail.**



This restriction does not concern 8214 device. The voice mail can be used with 8214 devices. Voice messages can be listened by pressing the '1' digit (long press).

- Only extension number can be used for text messaging if the feature is 'enabled without server' in the base station Management Web Administration.
This feature allows a DECT handset to send messages to other handsets.
- When a DECT device transfers a call on ringing, it stays in 'call state' and displays 'connected'. The user must then press the release button.
- The 8212 and 8214 DECT handsets cannot generate/receive alarms.
- Only G.711 A and G.711 μ are supported by Rainbow Hub.
- 8212 doesn't support the base station feature named emergency calls.
Note: This feature allows the user to dial emergency numbers during key lock and the base will release non-emergency calls to handle the emergency ones.
- If the user is in communication with one call and has one communication on hold, if the user releases the current communication, the two distant communications will be joined.
- Rainbow Generic SIP DECT devices are not ALE fully integrated devices. That's why there are still some restrictions.
 - No unified presence, telephony status of these sets is not reflected on Rainbow clients
 - Users cannot initiate a call on their DECT from their Rainbow applications
 - There is no supervision of the generic SIP device.

- The maximum number of available channels for communications depends on the 8328 Base Station configuration. The table below summarizes the different combinations.

	8328 Single Cell	8328 Dual Cell
No of DECT registrations per DECT system	20	20
Voice channels per handset	2	2
Max NB of simultaneous calls per DECT system	10	20

- The maximum number of available channels for communications depends on the 8368 Multi Base Station configuration. The table below summarizes the different combinations.

	8368 Multi cell
Nb of SIP extension	40x Nb of bases (*)
Nb of DECT registrations	40x Nb of bases (*)
Number of simultaneous calls WO/W SRTP with G711 codec per base	10 (**)

(*) max number of SIP registration is limited to 1000 per system depending on the number of bases

(**) max number of calls is limited to 1000 per system depending on the number of bases