

Mitel 112 DECT Installation Guide

March 2020



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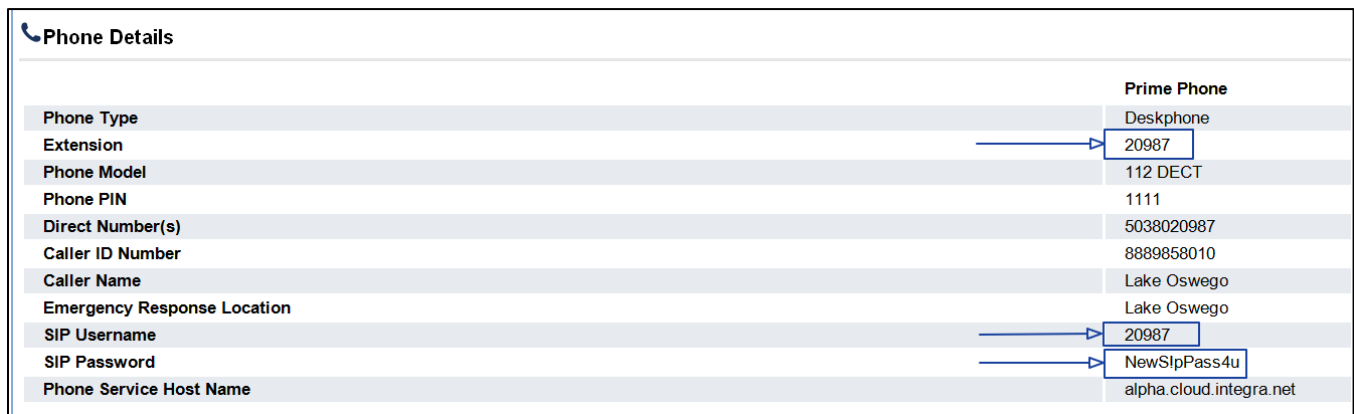
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Overview

In preparation to install the Mitel 112 DECT phone, you will the following information provided to you by your Project Manager:

- The extension number. This extension must be pre-built in the system with a 112 Dect Service Plan (aka Bundle).
- The SIP username.
- The SIP password.
- Private IP address for the UCCV controller
- Private IP address for UCCV datacenter server (a.k.a MSL). This IP is one host assignment in front of the UCCV controller.

The welcome email provides all of the required information with the exception of the private IP address of the controller for the base station to sync with (see image below). The IP will be in a format of: 10.25.2xx.xxx.



The screenshot shows a 'Phone Details' table with the following data:

	Prime Phone
Phone Type	Deskphone
Extension	20987
Phone Model	112 DECT
Phone PIN	1111
Direct Number(s)	5038020987
Caller ID Number	8889858010
Caller Name	Lake Oswego
Emergency Response Location	Lake Oswego
SIP Username	20987
SIP Password	NewSipPass4u
Phone Service Host Name	alpha.cloud.integra.net

Blue arrows point to the 'Extension' and 'SIP Username' fields, and blue boxes highlight the values '20987' and 'NewSipPass4u'.

The installation and configuration process works as follows:

1. Prepare the voice VLAN network
2. Connect a laptop with the voice VLAN
3. Assemble and connect the base station
4. Configure the base stations server to sync with the UCCV controller and to the DECT phone
5. Set the time

Service Notes:

The base station can be synced to the teleworker gateway using an over-the-top (OTT) internet connection. However, to do so, the UCCV service will require a teleworker license be purchased.

For a complete set of Mitel guides, please access Mitel Online for the following documents:

- *Mitel FRP 12 System Guide*
- *Mitel 112 Handset_User_Guide_R1.0*
- *Mitel 112 DECT Install Guide*

Step 1: Prepare the Voice VLAN Network

The base station should be connected into the voice VLAN (typically VLAN 2). In the LAN switch, ensure the port that the base station connects into is an untagged voice VLAN. If it is Electric Lightwave's equipment and you have questions about the switch configuration, a SAT can work with you to confirm the configuration. If the equipment is owned by the customer, then it is the customer's responsibility to have the equipment configured. We recommend the last ports in a switch be untagged. If in doubt, please try those first.

Depending on your laptop/access device, you may an issue configuring it to connect and grab a voice VLAN IP. Some laptops do not have the ability to accept specific VLAN assignment on its NIC. Because of this, we recommend that a spare untagged voice VLAN port be assigned the switch.

Step 2: Connect a Laptop to the Voice VLAN

The base station is configured using a GUI interface. The best way to access the GUI is via a voice VLAN connected desktop. If the scopes are correctly set up, a laptop will not automatically pick up the voice VLAN. It will connect to default data network. This means you will have to either configure the NIC adapter on your machine to pick up the voice VLAN or you will need to plug your machine into an untagged voice VLAN port on the LAN switch.

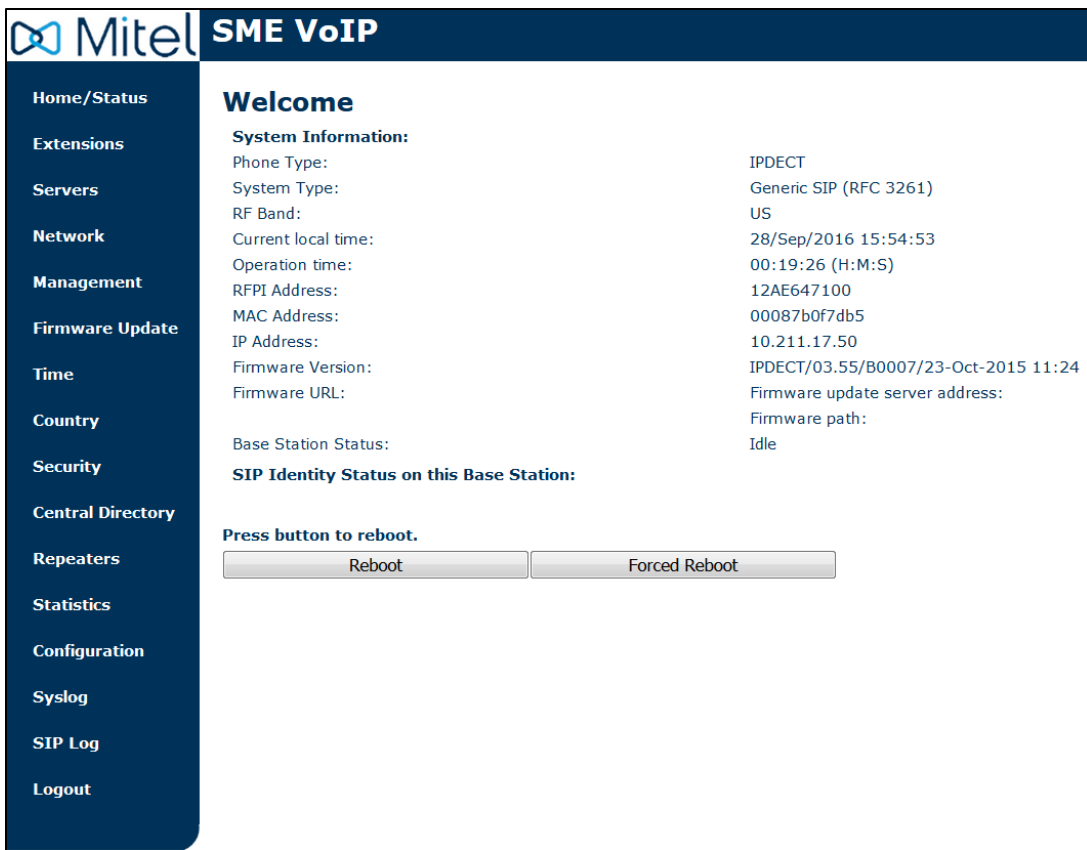
Step 3: Assemble and Connect the Base Station to the Network

Un-box, assemble, and plug the base station into the LAN. By default, it is set up for DHCP. Please refer to document 112 Base Station Install.pdf should you have additional questions about how to connect the cables etc.

1. Plug the Ethernet LAN into the back of the base station.
2. Plug the power supply into the back of the base station.
3. The base station will go through a boot sequence. During the sequence, the lamp on the front will cycle from blinking amber to solid green. The ready for configuration state should be solid green.

Step 4: Configure the Base Station

1. From the DECT handset; press the round **Menu** button between the green and red keys to access the main menu.
2. Dial ***47***.
Searching displays. Depending on the number of active base stations and the handset's distance to a base station, a search can take up to 5 minutes.
3. Write the MAC: and the IP: addresses down.
4. Log into the GUI using the IP address from the search.
5. The user credentials are: **user name= admin** and **password = admin**
The **SME VoIP Welcome** screen displays.

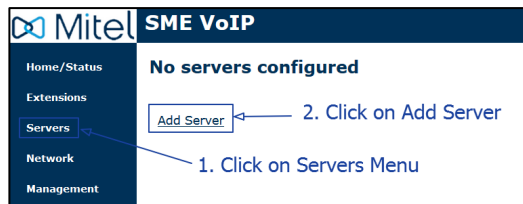


Welcome Screen

Step 4A: Connect Base Station to Network

1. Click **Servers** in the **SME VoIP** menu.
2. Click **Add Server**.

The **Servers** screen displays.



Servers Screen

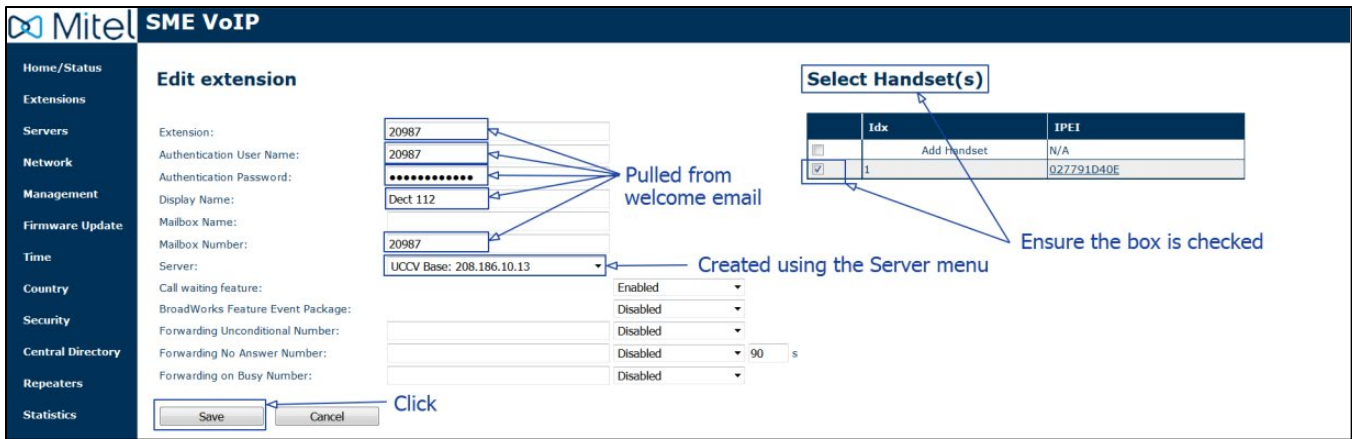
3. Fill in the following fields in the form:
 - **Server Alias:** Give your server a name (e.g. UCCV Base)
 - Change the **NAT Adaption** to **Disable**
 - **Registrar:** In most situations, your will input the private IP of the UCCV controller. The registrar will have a default IP that needs to be changed.
 - **Outbound Proxy:** In most situations, input the private IP of the UCCV controller
 - All other fields should remain with their defaults
4. Click **Save** at the bottom of the form.

Note: A public IP shown as an example below would be used in conjunction with sets/seats purchased with teleworker licenses.

Step 4B: Pair the DECT Handset to the Base Station

1. Before you start, locate the **International Portable Equipment Identity (IPEI)** number. This number is found on a label in the battery compartment. Remove the batteries and write down the number.
2. Click **Extensions** from the **SME VoIP** menu.
The **Extensions and Handset** screen displays.
3. Click **Add extension**.
The **Edit extension** screen displays.

Extensions and Handset Screen



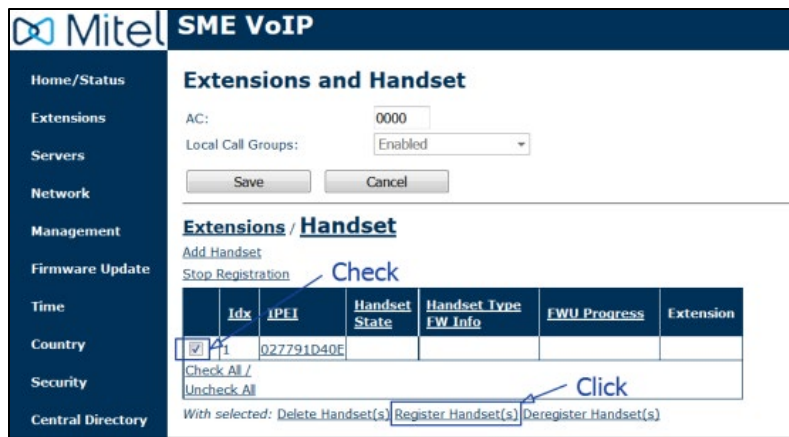
Edit extension Screen

4. Fill in the following fields:
 - **Extension number**
 - **Authentication User Name**
 - **Authentication Password**
 - **Display Name:** This should be the same name as it appears in the portal. This name can be found in the welcome email.
 - **Mailbox Number:** The mailbox number is the same as the extension number.
 - Check the box for handset in the **Select Handset(s)** table.
 - **Server:** This should be server that you created in [Step 3: Assemble and Connect the Base Station to the Network, page 2](#).
5. Click **Save**.
6. Pair the DECT wireless set to the extension.
 - Click **Extensions** in the **SME VoIP** menu. The **Extensions and Handset** screen displays.
 - Click **Handset** and then click **Add Handset**. The **Handset** screen displays.



Handset Screen

- In the **IPEI** field, provide the IPEI number.
 - Click **Save**.
- The handset is now available in the **Handset** section of the **Extensions and Handset** screen.



Handset Section of Extensions and Handset Screen

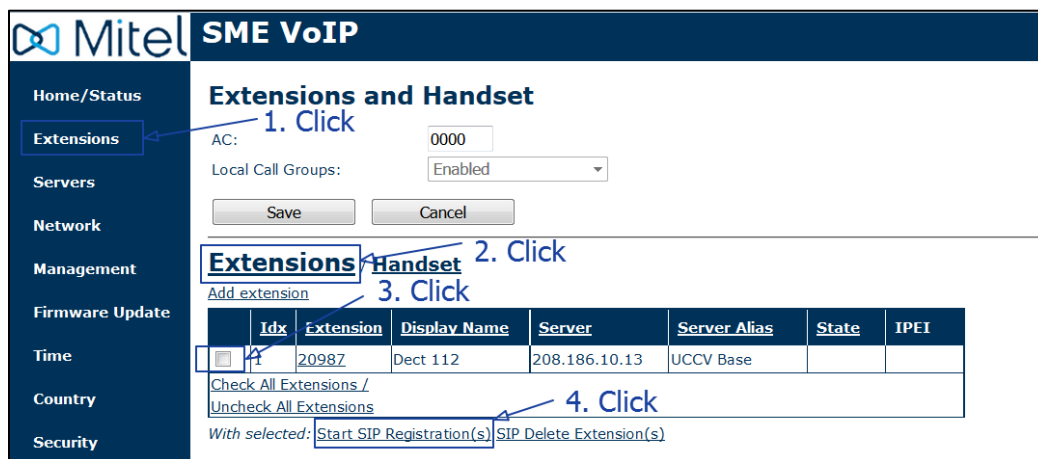
- Check the checkbox next to the handset and click **Register Handset(s)**.
 - Using the DECT wireless handset, press the **Menu** button.
 - Move your cursor to the ring with the colored dots and press the **Menu** button. Two options display.
 - Highlight the **Register** and press the **Menu** button.
 - Enter the access code. By default, it is **0000**.
 - Press the upper left button under **Ok** to start the process.
- Registering** displays, and then the main screen. The main screen should display **No Sip Reg.**

Step 4C: Start the SIP Registration

After configuring the server, building the extension and pairing the DECT set, the last step is to start the registration process between the DECT set and the synced base station.

1. Click **Extensions** in the **SME VoIP** menu.
The **Extensions and Handsets** screen displays.
2. Click **Extensions**.
3. Check the box for the extension that you want to register.
4. Click **Start SIP Registration(s)**.

A successful registration displays **SIP Registered** in the **State** column of the **Extensions** table.



Starting SIP Registration

Step 4D: Verify Settings

With some installations, if the VLAN's are not properly set up with the correct scope, the base station when syncing will pick up the wrong scopes and attempt to configure itself using the wrong information. This has the potential to create service issues later down the path when the phone reboots / loses power. It is important that under the **Network** menu, the **DHCP Options** for **Plug-n-Play** are **Disabled**.

Mitel SME VoIP

Network Settings

1. Click Network Menu

IP settings

DHCP/Static IP:

IP Address:

Subnet Mask:

Default Gateway:

DNS (Primary):

DNS (Secondary):

NAT Settings

Enable STUN:

STUN Server:

STUN Bindtime Determine:

STUN Bindtime Guard:

Enable RPORT:

Keep alive time:

VLAN Settings

ID:

User Priority:

DHCP Options

Plug-n-Play:

2. Verify Disable

SIP/RTP Settings

Use Different SIP Ports:

RTP Collision Detection:

Always reboot on check-sync:

Local SIP port:

SIP ToS/QoS:

RTP port:

RTP port range:

RTP ToS/QoS:

Verify Settings

Step 5: Set the Time

If the base station is connected to a private voice VLAN, you must set your time server to pull NTP from the datacenter's UCCV server (also referred to as MSL). This private IP is one host in front of the controllers IP.

Mitel SME VoIP

Home/Status
Extensions
Servers
Network
Management
Firmware Update
Time
Country
Security
Central Directory
Repeaters
Statistics
Configuration
Syslog
SIP Log
Logout

Time Settings

Time PC

Time Server: pool.ntp.org

Allow broadcast NTP:

Refresh time (h): 24

Set timezone by country/region:

Timezone: -8:00

Set DST by country/region:

Daylight Saving Time (DST): Automatic

DST Fixed By Day: Use Month and Day of Week

DST Start Month: March

DST Start Date: 0

DST Start Time: 2

DST Start Day of Week: Sunday

DST Start Day of Week Last in Month: Second First In Month

DST Stop Month: November

DST Stop Date: 0

DST Stop Time: 2

DST Stop Day of Week: Sunday

DST Stop Day of Week Last in Month: First In Month

Save and Reboot Save Cancel

1. Click

2. Input MSL IP or network gateway or NTP if going OTT

Un-check timezone set to the correct offset. -8 = Pacific

Setting the Time

End Result

On the **Welcome** screen, you should now see the **SIP Identity Status on this Base Station** with a status of **OK**.

Mitel SME VoIP

Home/Status
Extensions
Servers
Network
Management
Firmware Update
Time
Country
Security
Central Directory
Repeaters
Statistics

Welcome

System Information:

Phone Type: IPDECT
System Type: Generic SIP (RFC 3261)
RF Band: US
Current local time: 29/Sep/2016 13:47:02
Operation time: 00:27:45 (H:M:S)
RFPI Address: 12AE647100
MAC Address: 00087b0f7db5
IP Address: 10.211.17.50
Firmware Version: IPDECT/03.55/B0007/23-Oct-2015 11:24
Firmware URL: Firmware update server address:
Firmware path:

Base Station Status: Idle

SIP Identity Status on this Base Station:
20987@208.186.10.13 (UCCV Base) Status: OK

Press button to reboot.

Reboot Forced Reboot

End Result on the Welcome Screen

Appendix A: Standard Configuration Images

Extensions

The screenshot shows the 'Extensions and Handset' configuration page in the Mitel SME VoIP interface. The left sidebar contains navigation options: Home/Status, Extensions, Servers, Network, Management, Firmware Update, Time, Country, and Security. The main content area has a title 'Extensions and Handset' and includes the following elements:

- AC: 0000
- Local Call Groups: Enabled
- Buttons: Save, Cancel
- Section: **Extensions / Handset**
- Link: [Add extension](#)
- Table with columns: Idx, Extension, Display Name, Server, Server Alias, State, IPEI
- Table Row 1: 1, 20987, Dect 112, 208.186.10.13, UCCV Base, SIP Registered, 027791D40E
- Links: [Check All Extensions /](#), [Uncheck All Extensions](#)
- Text: *With selected: [Start SIP Registration\(s\)](#) [SIP Delete Extension\(s\)](#)*

The screenshot shows the 'Edit extension' configuration page in the Mitel SME VoIP interface. The left sidebar contains navigation options: Home/Status, Extensions, Servers, Network, Management, Firmware Update, Time, Country, Security, Central Directory, Repeaters, and Statistics. The main content area has a title 'Edit extension' and includes the following elements:

- Extension: 20987
- Authentication User Name: 20987
- Authentication Password: *****
- Display Name: Dect 112
- Mailbox Name: [Empty]
- Mailbox Number: 20987
- Server: UCCV Base: 208.186.10.13
- Call waiting feature: Enabled
- BroadWorks Feature Event Package: Disabled
- Forwarding Unconditional Number: [Empty]
- Forwarding No Answer Number: Disabled 90 s
- Forwarding on Busy Number: Disabled
- Buttons: Save, Cancel
- Section: **Select Handset(s)**
- Table with columns: Idx, IPEI
- Table Row 1: Add Handset, N/A
- Table Row 2: 1, 027791D40E

Servers

Mitel SME VoIP

Servers

UCCV Base:
208.186.10.13

[Add Server](#)
[Remove Server](#)

UCCV Base:

Server Alias:	UCCV Base
NAT Adaption:	Disabled
Registrar:	208.186.10.13
Outbound Proxy:	208.186.10.13
Conference Server:	
Call Log Server:	
Reregistration time (s):	600
SIP Session Timers:	Disabled
Session Timer Value (s):	1800
SIP Transport:	UDP
Signal TCP Source Port:	Enabled
Use One TCP Connection per SIP Extension:	Disabled
Keep Alive:	Enabled
Show Extension on Handset Idle Screen:	Enabled
Hold Behaviour:	RFC 3264
Attended Transfer Behaviour:	Hold 2nd Call
Directed Call Pickup:	Disabled
Directed Call Pickup Code:	
Group Call Pickup:	Disabled
Group Call Pickup Code:	
Use Own Codec Priority:	Disabled
DTMF Signaling:	RFC 2833
DTMF Payload Type:	101
Remote Caller ID Source Priority:	PAI - FROM

Remote Caller ID Source Priority: PAI - FROM

Codec Priority:

- G711U
- G711A
- G726
- G729

Up Down Reset Codecs Remove

RTP Packet Size: 20 ms

Secure RTP: Disabled

Secure RTP Auth: Disabled

SRTTP Crypto Suites:

- AES_CM_128_HMAC_SHA1_32
- AES_CM_128_HMAC_SHA1_80

Up Down Reset Crypto Suites Remove

Save Cancel

Mitel SME VoIP

Network Settings

IP settings

DHCP/Static IP:

IP Address:

Subnet Mask:

Default Gateway:

DNS (Primary):

DNS (Secondary):

NAT Settings

Enable STUN:

STUN Server:

STUN Bindtime Determine:

STUN Bindtime Guard:

Enable RPORT:

Keep alive time:

VLAN Settings

ID:

User Priority:

DHCP Options

Plug-n-Play:

SIP/RTP Settings

Use Different SIP Ports:

RTP Collision Detection:

Always reboot on check-sync:

Local SIP port:

SIP ToS/QoS:

RTP port:

RTP port range:

RTP ToS/QoS:

Mitel SME VoIP

Time Settings

Time PC

Time Server: pool.ntp.org

Allow broadcast NTP:

Refresh time (h): 24

Set timezone by country/region:

Timezone: -8:00

Set DST by country/region:

Daylight Saving Time (DST): Automatic

DST Fixed By Day: Use Month and Day of Week

DST Start Month: March

DST Start Date: 0

DST Start Time: 2

DST Start Day of Week: Sunday

DST Start Day of Week Last in Month: Second First In Month

DST Stop Month: November

DST Stop Date: 0

DST Stop Time: 2

DST Stop Day of Week: Sunday

DST Stop Day of Week Last in Month: First In Month

Save and Reboot Save Cancel