CASE STUDY

CALL RECEPTION IN SNOM SIP TELEPHONE EXTENSIONS

Description

This document describes the way to setup MEET IP intercom system from FERMAX to communicate with IP SNOM Telephone by using SIP protocol.

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INTRODUCCIÓN

In this Case Study, it is described the way to integrate MEET IP Intercom with SNOM SIP telephones.

Despite it is possible to make a phone call to these telephones through a SIP server, in this integration case we will focus in making a call peer to peer directly from the intercom to the telephone, without the need of a SIP server. In case the telephone is registered in a SIP server, it is adviced to review the relative case study of the SIP SERVER in MEET WORKS WITH repository meet.fermax.com

This integration case is focused in the SNOM D785 Telephone. With other SNOM telephones, the process is similar, specially what is related to MEET IP intercom. For more info related to the SIP phone, it is possible to know more at SNOM SERVICE HUB https://service.snom.com , looking for the FAQ "[How To Make Peer-to-Peer IP Calls without a Registrar]()"

In this case, the configuration to be done will be on a 1 pushbutton MILO MEET intercom panel. Other keypad MEET intercom panels are also compatible with SIP Call.

VERSIONS USED :

- snomD785-SIP 10.1.57.14
- MILO MEET 1 pushbutton panel version 3.0

Direct call is often used in those cases in which due to proximity reasons, the intercom panel and the phone are in the same LAN network and the SIP server is in the cloud. It is not necessary to have internet access to do the call from the intercom to the phone. In addition, the call is faster and reliable since even in the case the internet access is not available, the call will be produced since intercom and telephone are in the same LAN.

As an additional remark, despite we will focus in making a call to a single SIP phone, the intercom outdoor **panel can call simultaneously several destinations or telephones**, following a similar method.

PRELIMINARY CONSIDERATIONS

Before proceeding to the system configuration, it is required to take into account the following points:

IP intercom panel and telephone addressing:

Both, telephone and intercom, need a fixed IP, in the same local IP network where they are installed. Obviously, these IP addresses must not be used in other IP devices. Can be requested to the network admin. For this case, we will use will the SNOM ip address 192.168.1.100 and the MEET MILO intercom 192.168.1.51 ip address.

OUTDOOR PANEL INTERCOM SETUP

First of all, all devices should be setup in the same ip network range, as per the selected ip addresses.

We will access to the intercom web server. In the MILO MEET 1 pushbutton panel the default ip address is 10.1.1.2 (in MEET Digital panels with keypad like KIN, MILO, MARINE the default address is 10.1.0.1). We must put the computer network interface in the same range 10.1.1.x

The recommended web browser to use is **Google Chrome**. We will introduce the default IP 10.1.1.2 and the user / password to access. By default **user: admin pass: 123456 .**

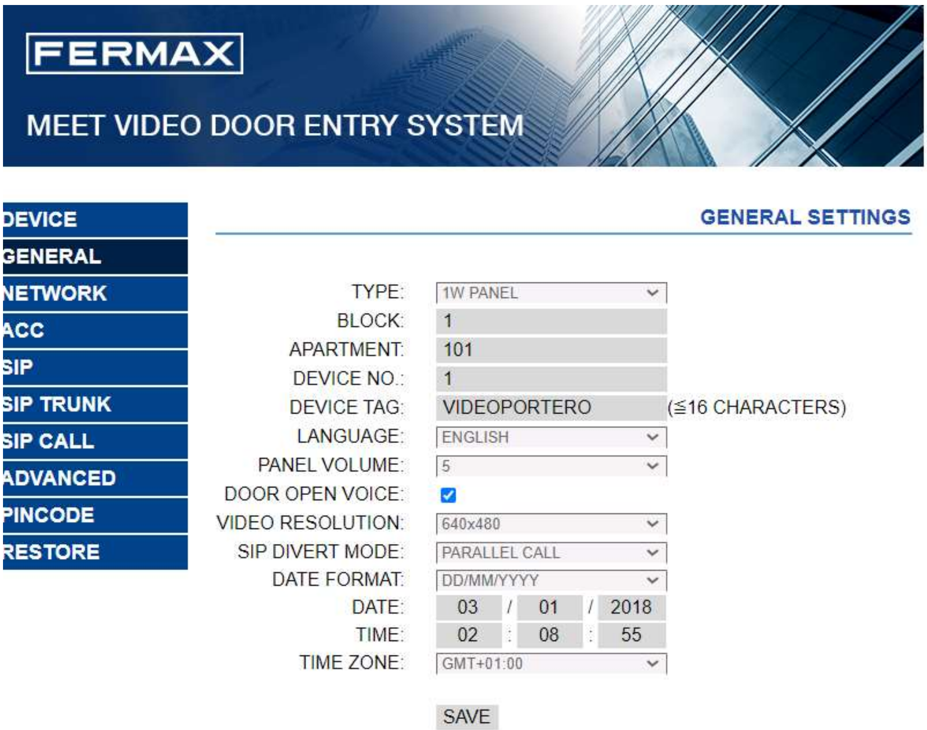
In the NETWORK tab, change the IP to the desired one, in this case 192.168.1.51 and click SAVE. Then we need to change the computer network ip address so that it is in the same network range 192.168.1.x

Now we can access again to the webserver introducing the new ip address 192.168.1.51 in the web browser and we will see again the MILO setup page.

In the GENERAL tab, we will configure that is a 1 single pushbutton panel that calls an apartment (that really do not exist) in the block 1, apartment 101. The pushbutton now is mapped to apartment 101.

It should be selected the TYPE 1W PANEL .

The DEVICE NO will be 1 , to indicate that this is the first panel on the installation. If there were more, we will add consecutive numbers.



Now it is required to associate the pushbutton to an IP address or sip extension to call. We will go to SIP CALL tab and map the intercom pushbutton (assigned previously to apartment 101) to an IP address or SIP extension, that will be the **SNOM** telephone.

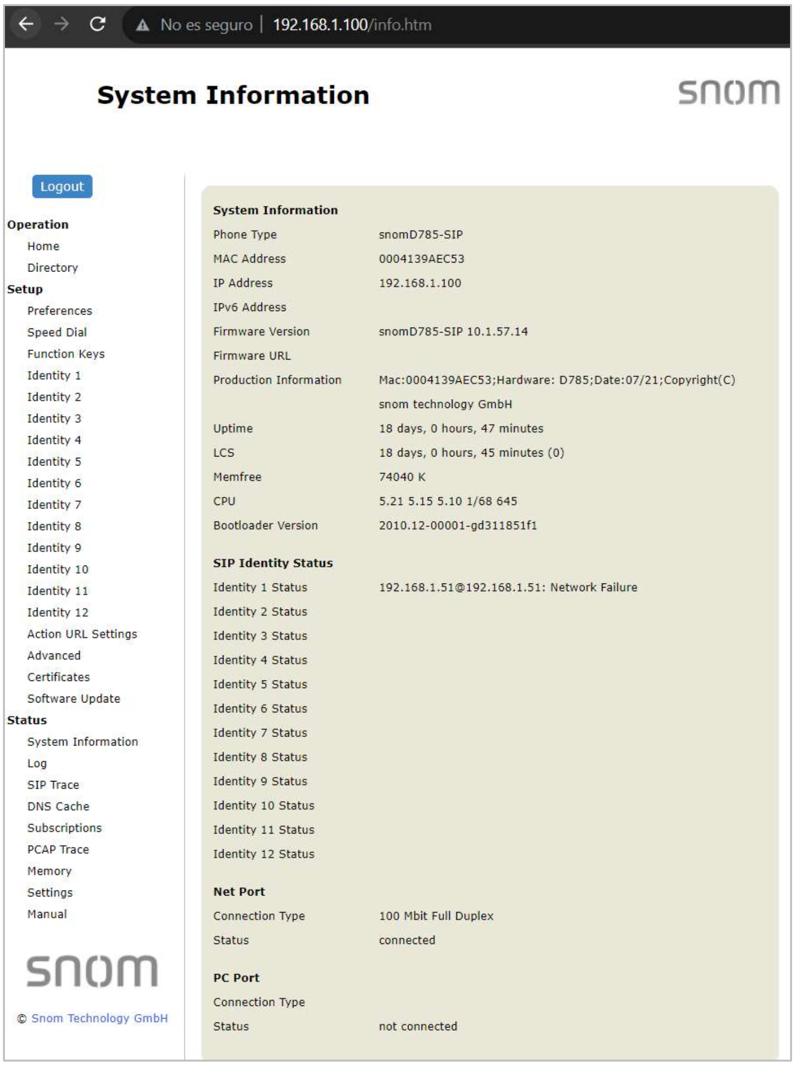
In the example, the field APARTMENT will be then 101, and the NUMBER will be the ip call destination, that in this case will be a sip call to ip address 192.168.1.100, assigned to SNOM telephone. The syntaxis to be used is the following: **sip:192.168.14.1**

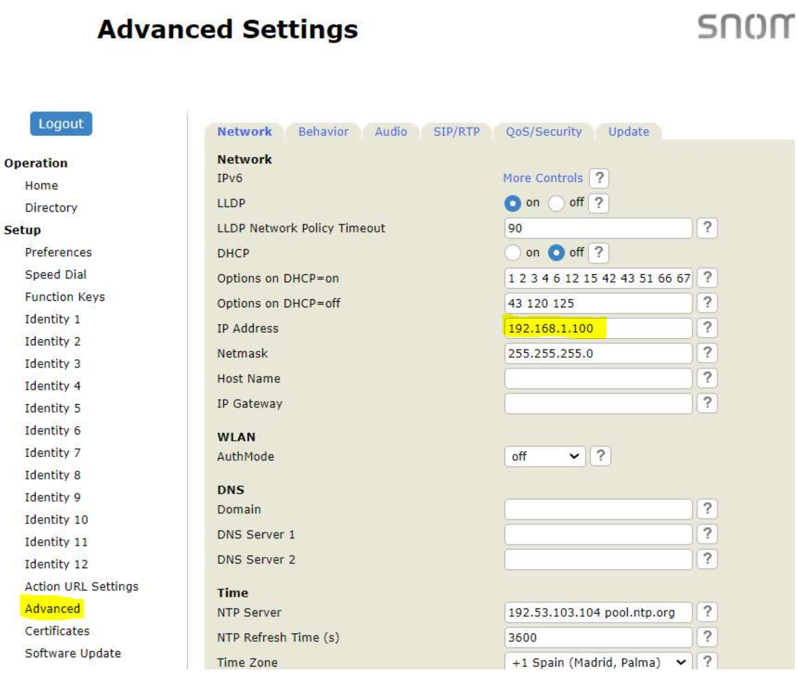
REMARK: These telephones are SIP, so they can be also registered as an extension of a SIP server. If that was the case, and assuming that the server ip would be 192.168.1.199 and the phone extension registered 1122, the call destination to be used would be then sip:1122@192.168.1.199 . Where this syntaxis corresponds to sip:sip_extension@server_ip_address

SNOM SIP TELEPHONE CONFIGURATION

The SNOM SIP telephone comes with its default ip.

We need to set the ip address in the desired address (in this case 192.168.1.100). This telephone also has a webserver embedded, so we will connect to it using the same web browser Google Chrome. To access we will use the credentials **user: admin** **pass: 0000**


No es seguro | 192.168.1.100/info.htm
System Information
snom
Logout
Operation
Home
Directory
Setup
Preferences
Speed Dial
Function Keys
Identity 1
Identity 2
Identity 3
Identity 4
Identity 5
Identity 6
Identity 7
Identity 8
Identity 9
Identity 10
Identity 11
Identity 12
Action URL Settings
Advanced
Certificates
Software Update
Status
System Information
Log
SIP Trace
DNS Cache
Subscriptions
PCAP Trace
Memory
Settings
Manual
snom
© Snom Technology GmbH
System Information
Phone Type snomD785-SIP
MAC Address 0004139AEC53
IP Address 192.168.1.100
IPv6 Address
Firmware Version snomD785-SIP 10.1.57.14
Firmware URL
Production Information Mac:0004139AEC53;Hardware: D785;Date:07/21;Copyright(C) snom technology GmbH
Uptime 18 days, 0 hours, 47 minutes
LCS 18 days, 0 hours, 45 minutes (0)
Memfree 74040 K
CPU 5.21 5.15 5.10 1/68 645
Bootloader Version 2010.12-00001-gd311851f1
SIP Identity Status
Identity 1 Status 192.168.1.51@192.168.1.51: Network Failure
Identity 2 Status
Identity 3 Status
Identity 4 Status
Identity 5 Status
Identity 6 Status
Identity 7 Status
Identity 8 Status
Identity 9 Status
Identity 10 Status
Identity 11 Status
Identity 12 Status
Net Port
Connection Type 100 Mbit Full Duplex
Status connected
PC Port
Connection Type
Status not connected


Advanced Settings
snom
Logout
Operation
Home
Directory
Setup
Preferences
Speed Dial
Function Keys
Identity 1
Identity 2
Identity 3
Identity 4
Identity 5
Identity 6
Identity 7
Identity 8
Identity 9
Identity 10
Identity 11
Identity 12
Action URL Settings
Advanced
Certificates
Software Update
Network
Behavior
Audio
SIP/RTP
QoS/Security
Update
Network
IPv6 More Controls
LLDP on off
LLDP Network Policy Timeout 90
DHCP on off
Options on DHCP=on 1 2 3 4 6 12 15 42 43 51 66 67
Options on DHCP=off 43 120 125
IP Address 192.168.1.100
Netmask 255.255.255.0
Host Name
IP Gateway
WLAN
AuthMode off
DNS
Domain
DNS Server 1
DNS Server 2
Time
NTP Server 192.53.103.104 pool.ntp.org
NTP Refresh Time (s) 3600
Time Zone +1 Spain (Madrid, Palma)

As default, SNOM telephones do not receive direct calls from other SIP devices, so that we need to enable this feature. For that we can follow SNOM recommendations at https://service.snom.com/ looking for *"Peer to Peer IP calls"*.

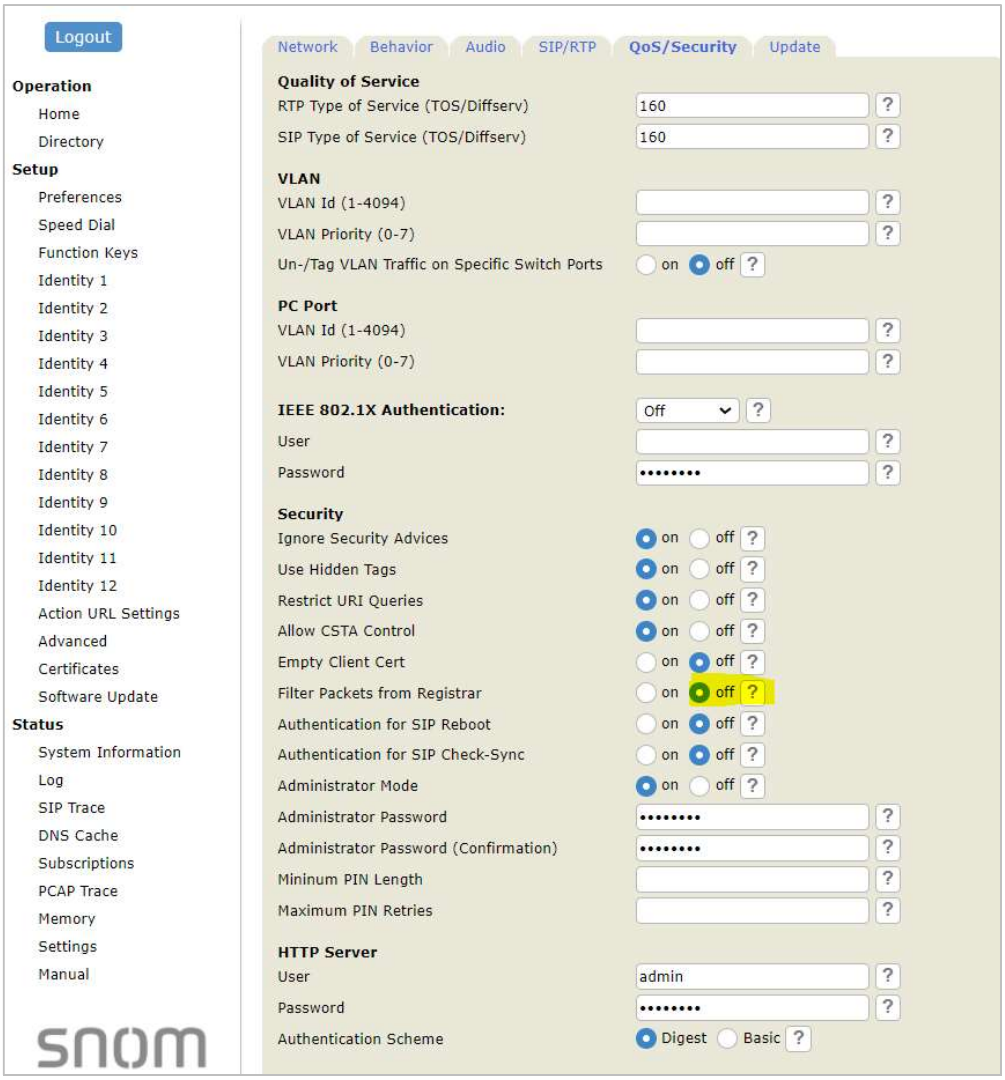
How To Make Peer-to-Peer IP Calls without a Registrar

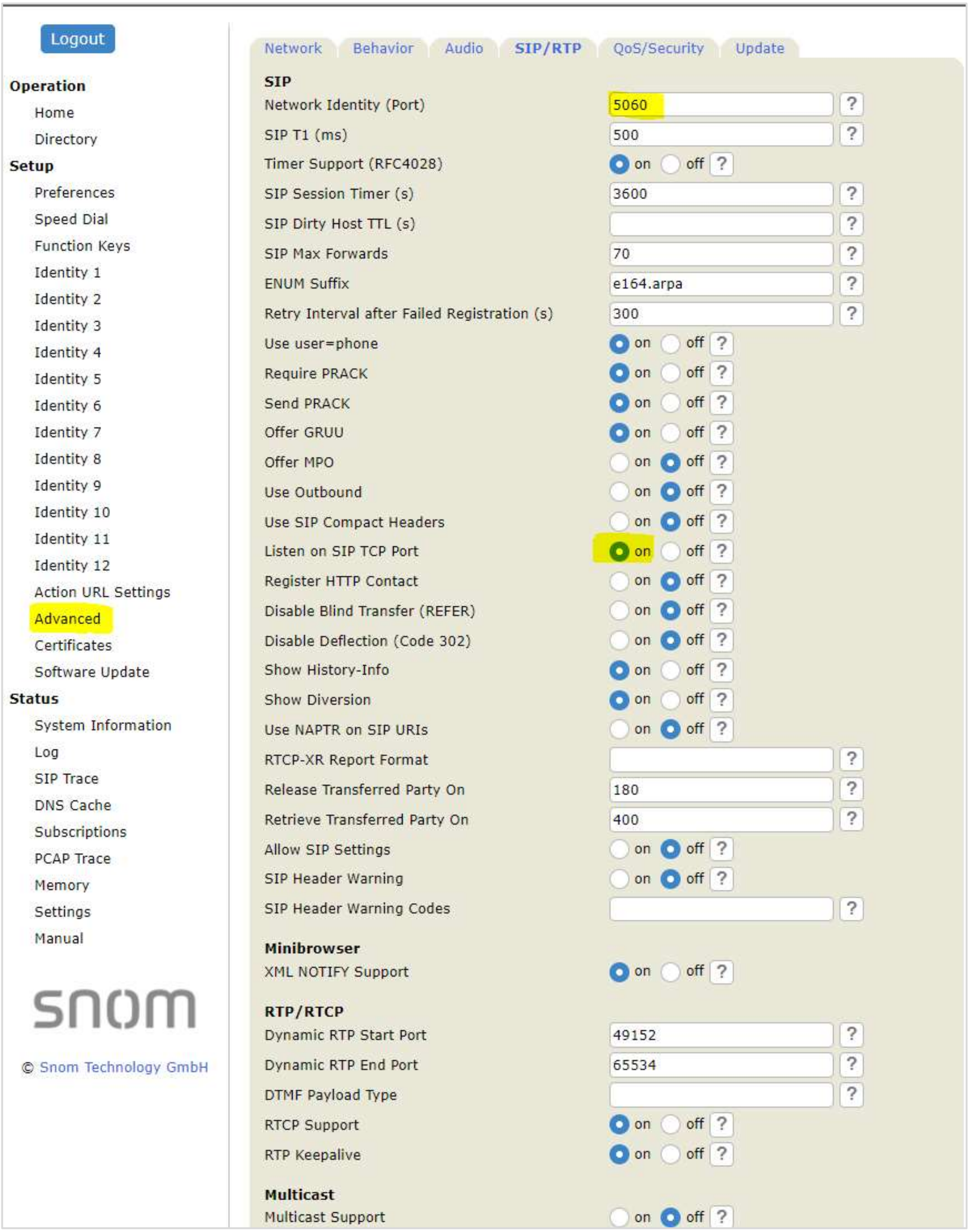
1. **Login** to the **Web UseWeb User Interface**r Interface of the phone.
2. Go to **Advanced →SIP/RTP → SIP>Network Identity Port**: 5060
3. Go to **Advanced → SIP/RTP → SIP → Listen TCP Port**: On
4. **Click apply**
5. Go to **Advanced → QOS/Security → Security → Filter Packets From Registrar**: Off
6. **Click apply**
7. If you previously configured an Identity on the phone you may need to disable the Identity by turning it Off.
8. Go to the **Directory** of the phone, from the Web UI, and in the number field enter the SIP URI for the far end device you are trying to call.

   ⓘ **Example**: **sip: 192.x.x.x** where the 192.x.x.x is the actual Public or Private IP address of the other phone.

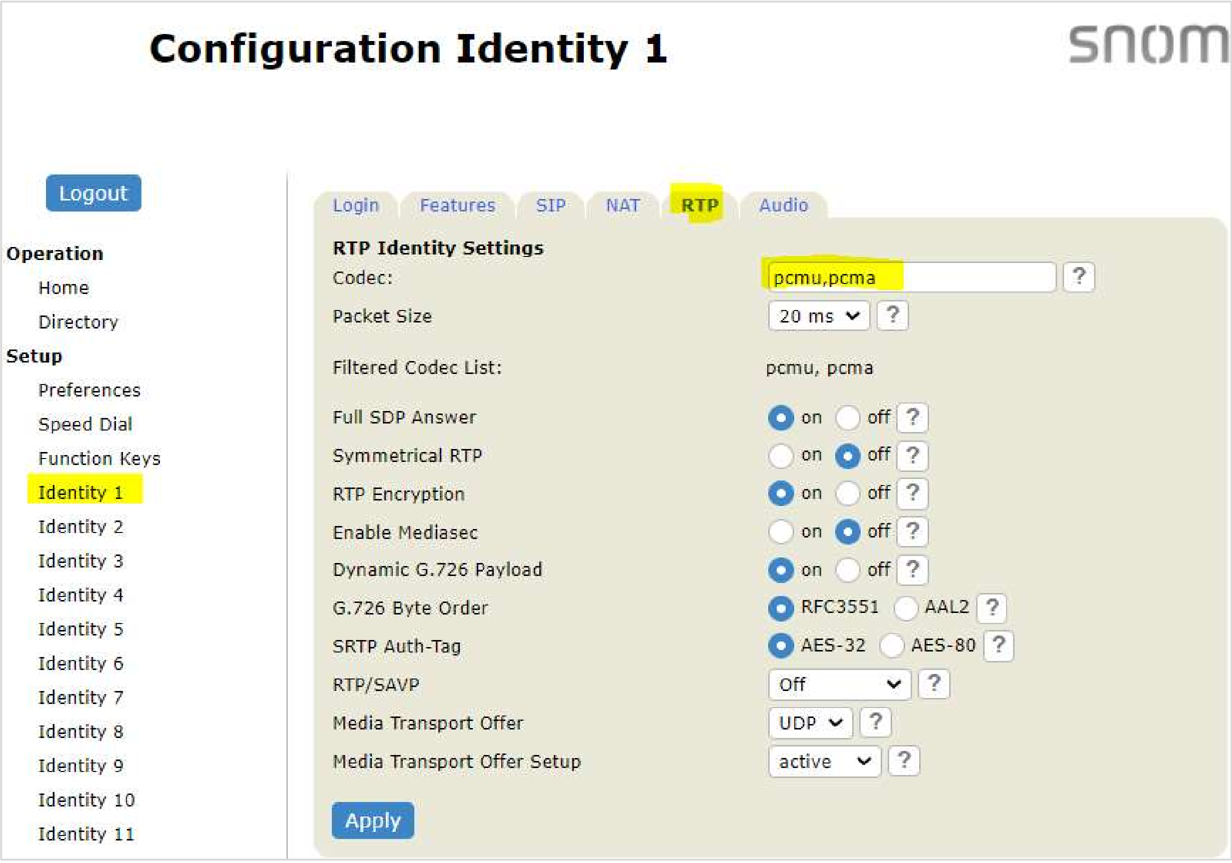
9. Set **Number Type: SIP**, Outgoing Identity: Active, and then click add.
10. Click "**Save**" and then "**Reboot**" at the top of the page.
11. **Repeat Steps 1 – 9** on the other phone.
12. Place a test call by pressing the "**Directory**" key on the phone, select the IP address of the phone you configured in Step 7, and then press the dial key.
13. The call should complete.

The screens where to setup the SNOM parameters are the following:





It is convenient to confirm that the MEET compatible codecs are selected. We can do it on the SIP screen. Main codecs are PCMU and PCMA.



With the previous configuration we can make a call from the intercom panel to the telephone.

The door lock release can be done using either “*” or “#” from the telephone keypad, during the call.

VIDEO

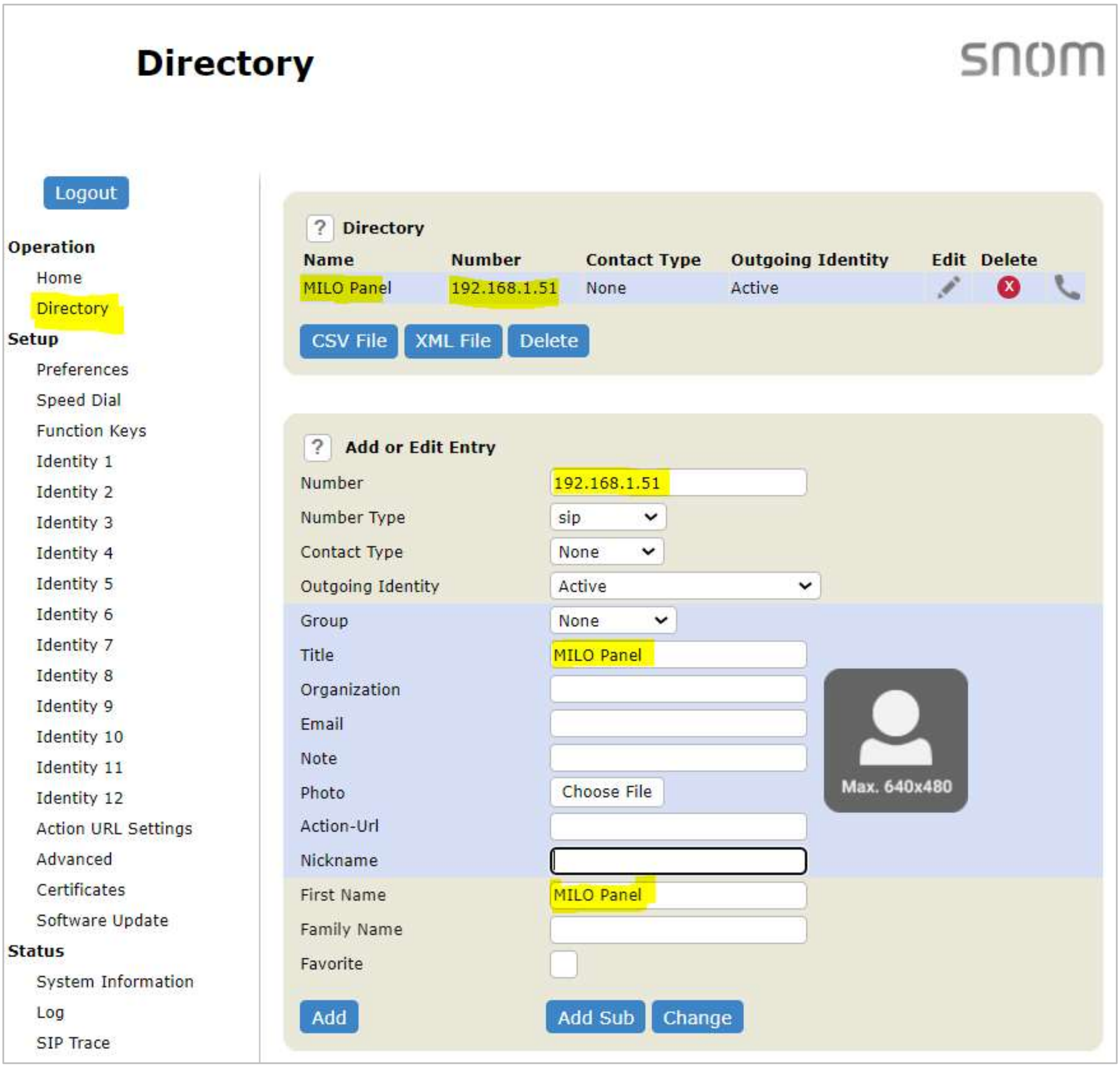
Currently SNOM telephones do not allow video H.264 reception, which is the video sent by MEET FERMAX intercom panels.

ADVANCED FUNCTIONS

It is possible to call from the telephone to the panel. For that reason, it is quite useful to setup a direct access on the telephone. In particular, SNOM D785 allows to have direct accesses on the auxiliar display.

Additionally, for more usability, it is possible to set up a function key labeled to open the door, in this way even staff that is not familiar with the telephone will be able to identify the way to open the door.

For that it is recommended that a direct access is added to the directory menu.



To label properly and assign the functionality to the quick access function keys, we will access the "Function Keys" and set it up the desired keys.

To **call the outdoor intercom** panel we will choose

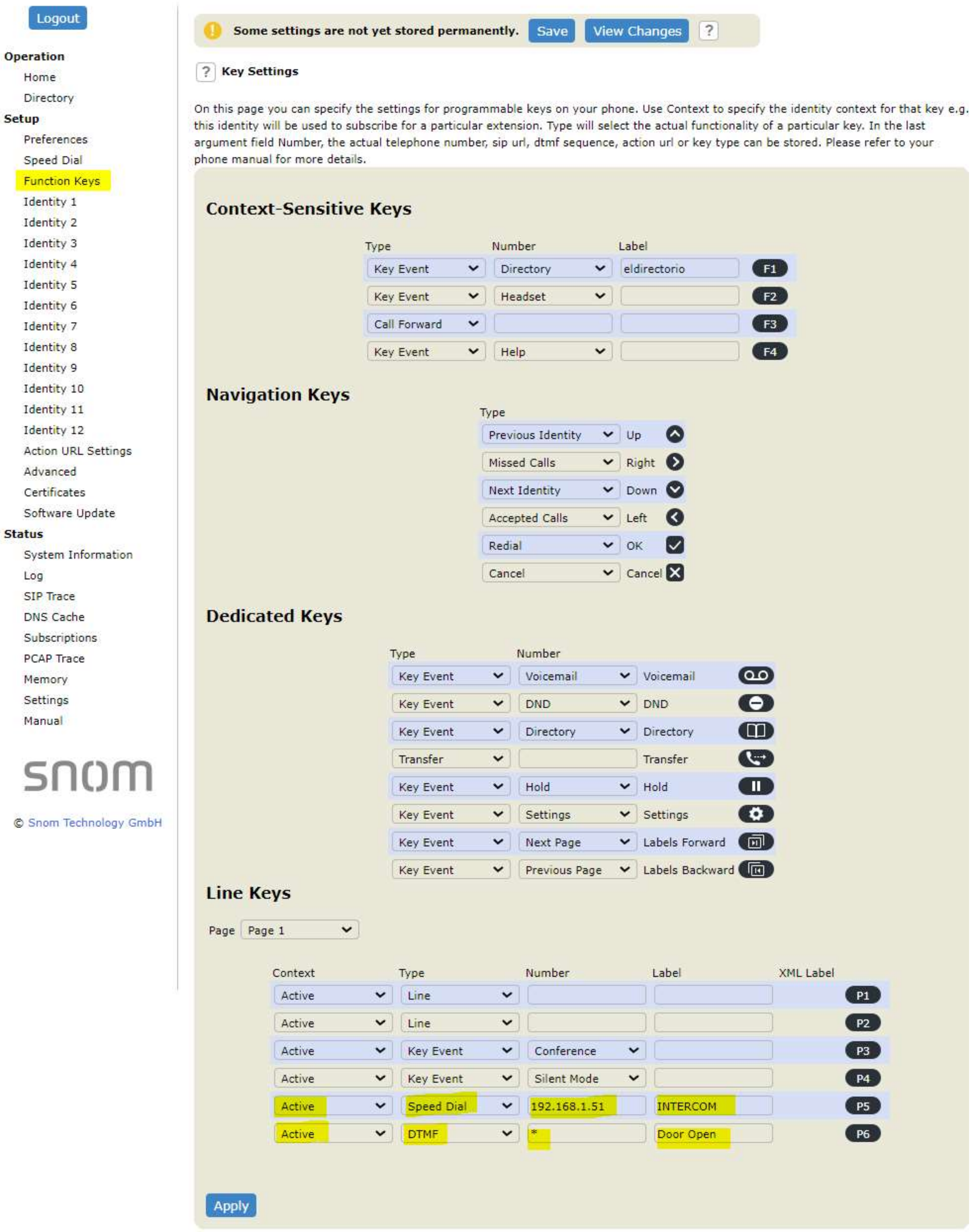
Context : Active Type: Speed Dial Number: 192.168.1.51 Label : INTERCOM

Where "Number" is the IP of the intercom and "Label" is the text we want to be shown in the function key display.

To **open the door lock during the call** we will choos

Context : Active Type: DTMF Number: * Label : Door Open

Where "Number" is the DTMF tone to open the door, that in MEET can be "*" or "#" to active the relay in the intercom panel. In case there is a secondary relay module connected to the panel, then this additional relay can be opened using "0" number. "Label" is the text we want to be shown in the function display.


Logout
Operation
Home
Directory
Setup
Preferences
Speed Dial
Function Keys
Identity 1
Identity 2
Identity 3
Identity 4
Identity 5
Identity 6
Identity 7
Identity 8
Identity 9
Identity 10
Identity 11
Identity 12
Action URL Settings
Advanced
Certificates
Software Update
Status
System Information
Log
SIP Trace
DNS Cache
Subscriptions
PCAP Trace
Memory
Settings
Manual
© Snom Technology GmbH
Some settings are not yet stored permanently.
Save
View Changes
Key Settings
On this page you can specify the settings for programmable keys on your phone. Use Context to specify the identity context for that key e.g. this identity will be used to subscribe for a particular extension. Type will select the actual functionality of a particular key. In the last argument field Number, the actual telephone number, sip url, dtmf sequence, action url or key type can be stored. Please refer to your phone manual for more details.
Context-Sensitive Keys
Type
Number
Label
Key Event
Directory
eldirectorio
F1
Key Event
Headset
F2
Call Forward
F3
Key Event
Help
F4
Navigation Keys
Type
Previous Identity
Up
Missed Calls
Right
Next Identity
Down
Accepted Calls
Left
Redial
OK
Cancel
Cancel
Dedicated Keys
Type
Number
Key Event
Voicemail
Voicemail
Key Event
DND
DND
Key Event
Directory
Directory
Transfer
Transfer
Key Event
Hold
Hold
Key Event
Settings
Settings
Key Event
Next Page
Labels Forward
Key Event
Previous Page
Labels Backward
Line Keys
Page
Page 1
Context
Type
Number
Label
XML Label
Active
Line
P1
Active
Line
P2
Active
Key Event
Conference
P3
Active
Key Event
Silent Mode
P4
Active
Speed Dial
192.168.1.51
INTERCOM
P5
Active
DTMF
*
Door Open
P6
Apply