



# CASE STUDY

## Meet Integration with Innovaphone PBX

### Description

It is described how to configure Meet panels and Innovaphone PBX in order to forward calls from Meet panel to any SIP extension.

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## INTRODUCTION

In offices and enterprises, it is common to connect the video door entry panel to the telephone switchboard in order to receive the call on a specific extension, simplifying the work of the employees. For this purpose, a telephone interface is used that connects the outdoor panel to an analogue input of the switchboard. With the evolution of PBXs, and their deployment in the cloud, a world of previously unimaginable advantages is now available, such as receiving the call on any extension located in different locations or even on a smartphone, and receiving video on the call, which is not available on an analogue telephone interface. You therefore have the same features as in a video door entry monitor if the terminal receiving the call has a screen: two-way conversation, visualisation of the visit and door unlock.

The Fermax outdoor panel has also evolved to adapt to this environment, and a clear example is the MEET panel, with IP technology, which supports SIP protocol, necessary in this type of integration. In this application, the outdoor panel must register in the SIP switchboard with a username and password and route calls to the required extension(s).

In the specific case of the Innovaphone SIP PBX, let's see how to configure the MEET outdoor panel and the Innovaphone PBX so that they can work together.

This document explains how to set up the Innovaphone PBX for any model (cloud, on premises, physical), as the user interface is practically the same, except for some slight differences.

Innovaphone provides a softphone in their My Apps application suite for desktop (Windows) that allows the implementation of a SIP client.

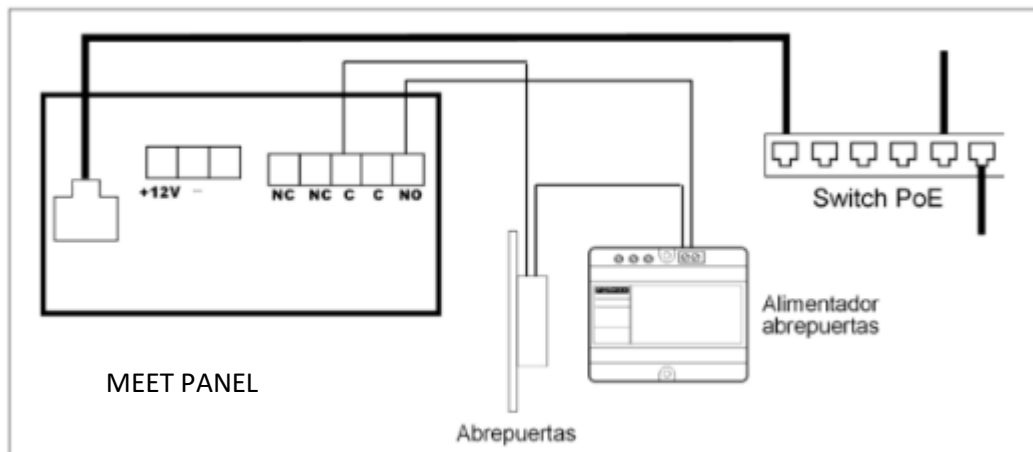
## MATERIAL REQUIRED

Any Fermax MEET outdoor panel can be used for this integration, as all of them support SIP protocol. If you want to call a single extension, it is advisable to use the one-way MILO panel (a single push button). If you want to call different extensions to locate different people, you can use the MILO panel or, if an electronic directory is required, the KIN or MARINE panel.

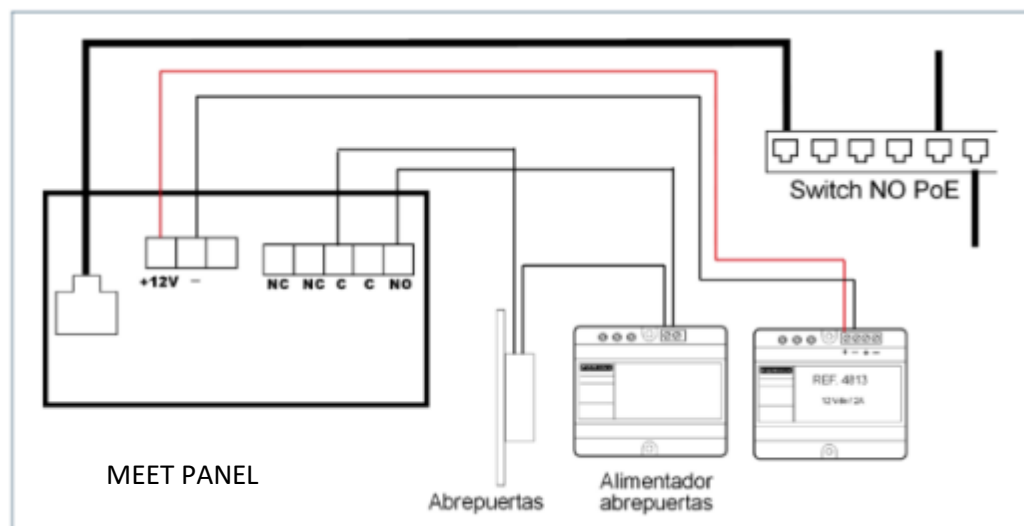
The outdoor panel may require a power supply if it does not support PoE, as well as the electric strike.

To connect to the cloud version of the PBX, an internet connection with sufficient bandwidth (10Mbit minimum) will be required to access it.

## BASIC SCHEME



Power supply to the board via PoE switch.



Power supply to the panel via an additional power supply. A single power supply can be used if the opener is 12 Vdc and the power supply provides sufficient power.

## INSTALLATION

Once the outdoor panel is installed, it must be connected to a switch or directly to the installation's router. The connection of the electric lock release will be wired to the outdoor panel or, if maximum security is required, a reference 1490 module with 2 relays will be used to open the door from indoors, wiring the module to the panel using 3 wires (Cat-5 recommended). Finally, the panel is wired to the power supply.

It is possible to connect a MEET monitor to simultaneously receive the call inside the office, as a backup to the call through the PBX.

## CONFIGURATION

Innovaphone PABX



Gateway

**General Gateway**

Enblock Count

Enblock as Diverting No

Prefix  Don't add if CGPN matches escape

No Prefix Number

Domain

Loop Detect

International Match

National Match

Subscriber Match

Set incoming call UUI

Set outgoing call UUI

Internal Destination

Outgoing Calls No Name

Outgoing Calls No URL

No Presence/Dialog Subscribe

Dialtone on Incoming calls

No Inband Disconnect

Fax License

Obtain Channels lic on outgoing call

Filter

It is verified that the Gateway has been created:

General Interfaces IP4 IP6 Services PBX Gateway Maintenance

Config Objects Registrations Calls SOAP myPBX Dyn-PBXs

User  | new  
g | show

• 002-pbx

Long Name Name « No «HW-ID « Node «PBX « Filter «Groups «CF\* «Fork «Config «Phone «Profile «Visibility «Rights «Type « Presence «Wakeup «

gw-fermax gw-fermax2 gw-fermaxroot 002-pbx + + Gateway + 127.0.0.1\*

It must then be configured as follows:

General Interfaces IP4 IP6 Services PBX Gateway Maintenance

General Interfaces SIP GK Routes CDR0 CDR1 Calls

Interface	CGPN-In	CDPN-In	CGPN-Out	CDPN-Out	Alias	Registration	Product
GW1	gw-fermax	+			gw-fermax:2 →	127.0.0.1	
GW2							

Name

Disable

Protocol

Mode

Address

Address  (alternate)

Gatekeeper Identifier

Local Signaling Port

- Authorization -

Password  Retype

- Alias List -

Name	Number
gw-fermax	2

- Media Properties -

General Coder Preference  Framesize [ms]  Silence Compression  Exclusive

Local Network Coder  Framesize [ms]  Silence Compression

Enable T.38  No DTMF Detection  Media-Relay [Auto] Video

SRTP Cipher [AES128/32] SRTP Key Exchange [SDS-DTLS] Unencrypted SRTP

No ICE  No RTCP-MUX  TURN Only

Record to [URL]

- H.323 Interop Tweaks -

No Faststart  No H.245 Tunneling

Suppress HLC  Suppress FTY  Suppress Subaddr

PBX - pbx.fermax.loc: innovaphone Virtual Appliance

General Interfaces IP4 IP6 Services PBX Gateway Maintenance

General Interfaces SIP GK Routes CDR0 CDR1 Calls

From	To	Counter	CGPN	Maps
GW1:gw-fermax	GW1:gw-fermax			

3) The devices are then added. Option PBX>Objects>new user

For a MEET outdoor panel:

The screenshot shows the configuration page for a user named 'Milo'. The 'Name' field is 'milo' and the 'Number' field is '112'. The 'Password' and 'retype Password' fields are filled with asterisks. The 'Node' is set to 'root' and 'PBX' is set to 'pbx'. The 'Send Number' field is empty. Below the form is a table of devices:

Hardware Id	Name	App	PBX Pwd	No IP Filter	TLS only	No Mobility	Config VOIP	Reverse Proxy	Single Reg	Media Relay	No SRTP
112			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

It is important to assign an extension number (Number) and password for later configuration in the entrance panel.

For the softphone:

The screenshot shows the configuration page for a user named 'Carlos Ferrer'. The 'Name' field is 'carlos' and the 'Number' field is '110'. The 'Password' and 'retype Password' fields are filled with asterisks. The 'Node' is set to 'root' and 'PBX' is set to 'pbx'. The 'Send Number' field is empty. Below the form is a table of devices:

Hardware Id	Name	App	PBX Pwd	No IP Filter	TLS only	No Mobility	Config VOIP	Reverse Proxy	Single Reg	Media Relay	No SRTP
SwPh_carlos_64afb432	Softphone	softphone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
carlos			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

You are also assigned an extension number and password.

A MEET monitor can be also integrated into the control unit as we did with the panel or left as a Meet device.

The devices that have been registered are checked:

The screenshot shows the 'Registrations' page in the PBX interface. It displays a list of registered users with columns for Long Name, Name, HW-ID, Node, PBX, Filter, Groups, CF\*, Fork, Config, Phone, Profile, and Visibility. A search box on the left shows 'pbx' selected.

Long Name	Name	No	HW-ID	Node	PBX	Filter	Groups	CF*	Fork	Config	Phone	Profile	Visibility	R
Carlos Ferrer	carlos	110	SwPh_carlos_64afb432	root	pbx	normal	+	+	+	Config Admin	+	.	+	+
Kin	kin	111	111	root	pbx	normal	+	+	+	Config User	+	+	+	+
Milo	milo	112	112	root	pbx	normal	+	+	+	Config User	+	+	+	+
Wit	wit	113	113	root	pbx	normal	+	+	+	Config User	+	+	+	+
Mobile	114	114	114	root	pbx		+	+	+		+	+	+	+

OUTDOOR PANEL CONFIGURATION

To configure the entrance panel, use a browser and access the IP address assigned to the entrance panel, by default 10.1.0.1 (building entrance panel) or 10.1.1.2 (single line panel) and enter the user admin and default password 123456.

The following steps will be followed:

1) General configuration

a. One-way panel

You must configure the panel as an Individual Panel, assign a block (default 1), a dwelling (default is 101), and a panel number (default 1).

The Device Tag is important to identify the origin of the call on SIP extensions. The resolution of the camera shall be adjusted to the needs of the terminals used to receive the call.

DEVICE	GENERAL SETTINGS		
<b>GENERAL</b>	TYPE:	1W PANEL	
<b>NETWORK</b>	BLOCK:	1	
<b>ACC</b>	APARTMENT:	101	
<b>SIP</b>	DEVICE NO.:	1	
<b>SIP TRUNK</b>	DEVICE TAG:	MILO 1L (≤16 CHARACTERS)	
<b>SIP CALL</b>	LANGUAGE:	ENGLISH	
<b>ADVANCED</b>	PANEL VOLUME:	1	
<b>PINCODE</b>	DOOR OPEN VOICE:	<input type="checkbox"/>	
<b>RESTORE</b>	VIDEO RESOLUTION:	320x240	
	SIP DIVERT MODE:	PARALLEL CALL	
	DATE FORMAT:	DD/MM/YYYY	
	DATE:	01 / 01 / 2018	
	TIME:	04 : 45 : 27	
	TIME ZONE:	GMT+01:00	
	<input type="button" value="SAVE"/>		

b. Building Panel

In this example we have used a KIN building entrance panel. The panel must be configured as a Block Panel, assigned a block (default 1) and a panel number (default 1).

The Device Tag is important to identify the origin of the call on SIP extensions. The resolution of the camera shall be adjusted to the needs of the terminals used to receive the call.



DEVICE	GENERAL SETTINGS	
GENERAL	TYPE:	BLOCK PANEL-DIGITAL
NETWORK	BLOCK:	1
ACCESS	DEVICE NO.:	3
FACIAL RECOG.	DEVICE TAG:	KIN CHARLES (≤16 CHARACTERS)
LIFT	ALPHANUMERIC KEYPAD:	<input checked="" type="checkbox"/>
IP CAMERA	LANGUAGE:	ENGLISH
SIP	PANEL VOLUME:	5
SIP TRUNK	BACKGROUND:	DARK COLOR
SIP CALL	BRIGHTNESS:	250
ADVANCED	VOICE SYNTH.:	<input type="checkbox"/>
PINCODE	VIDEO RESOLUTION:	1280x720
WECHAT QR	SIP DIVERT MODE:	PARALLEL CALL
RESET	SCREENSAVER:	<input type="checkbox"/> (PNG,600*1024)
		Seleccionar archivo Nin...lec. IMPORT EXPORT DELETE
	HELP:	<input checked="" type="checkbox"/> (PNG,600*1024)
		Seleccionar archivo Nin...lec. IMPORT EXPORT DELETE
	STANDBY INTERFACE:	CALL
	CONCIERGES:	2
	CONCIERGE 1:	9901 CONSERJE
	CONCIERGE 2:	9902 GUARDA
		SAVE

In case of calling more than one extension at the same time, it must be indicated whether the call will be made in parallel or sequentially, calling the next extension if the previous one is not answered within 30 seconds.

### 2) Network settings

An IP address compatible with the installation's LAN will be assigned and the gateway or router address will be indicated to access the Internet. A DNS server is necessary to be defined.

The IP of the software will be left as the default because in this case it is not going to be used unless it is required to manage access control registrations and cancellations for employees (proximity cards or facial recognition). In this case, the IP address of the computer that has the MEET management software (MMS) installed shall be indicated.

DEVICE	NETWORK SETTINGS	
GENERAL	IP:	192.168.1.225
NETWORK	MASK:	255.255.255.0
ACC	GATEWAY:	192.168.1.1
SIP	DNS:	8.8.8.8
SIP TRUNK	SOFTWARE IP:	192.168.1.223
SIP CALL	SW. PIN:	*****
ADVANCED		SAVE
PINCODE		
RESTORE		

### 3) SIP PBX configuration

In the SIP Configuration section, indicate the IP of the assigned Innovaphone PBX, as shown in the screen below (192.168.1.221). Enter the user (extension number) and the password assigned to the outdoor panel extension (registration password). Next, check if the panel is correctly configured in the

switchboard by clicking on the VIEW SIP STATUS link. If REGISTERED does not appear, check the information entered.

DEVICE	SIP SETTINGS	
GENERAL	ENABLE SIP:	<input checked="" type="checkbox"/> <a href="#">SEARCH SIP STATUS</a>
NETWORK	SIP SERVER:	sip:192.168.1.221
ACC	DOMAIN:	192.168.1.221
SIP	STUN IP:	
SIP TRUNK	STUN PORT:	5060
SIP CALL	H.264:	102
ADVANCED	SIP USER:	112
PINCODE	SIP PASS:	....
RESTORE	CONVERSATION:	120s
	RING TIME:	30s
<input type="button" value="SAVE"/>		

In the console of the SIP PBX the extension of the MEET panels will appear as registered in PBX>Registrations:

admin Login Help

PBX - pbx.fermax.loc: innovaphone Virtual Appliance

General Interfaces IP4 IP6 Services **PBX** Gateway Maintenance

Config Objects **Registrations** Calls SOAP myPBX Dyn-PBXs

Address	Long Name	Name	No Device	Product	Firmware	Video Collab	Uptime
192.168.1.223	JSON	Carlos Ferrer	carlos	110 SwPh_carlos_64afb432	myApps for Windows	13r3 sr6 [137840]	0d 0h 35m
127.0.0.1*	H323	gw-fermax	gw-fermax2	gw-fermax	innovaphone Virtual Appliance	PBX - pbx.fermax.loc 13r3 sr6 [13.7840/1000/0]	0d 0h 35m
192.168.1.224*	SIP	Kin	kin	111 111	DnakeVoip		0d 0h 34m
192.168.1.225*	SIP	Milo	milo	112 112	DnakeVoip		0d 0h 35m
192.168.1.226*	SIP	Wit	wit	113 113	DnakeVoip		0d 0h 34m

#### 4) Call extensions configuration

##### a. One-way panel

Go to the 'SIP CALL' tab and enter the apartment number indicated in the 'GENERAL' section (101 in our example) and as NUMBER the SIP extension you want to call (110 in the example) and click on 'SAVE'.

DEVICE	SIP CALL SETTINGS					
GENERAL	APARTMENT: <input type="text" value="0"/>					
NETWORK	NUMBER: <input type="text"/>					
ACC	DELETE: <input type="checkbox"/>					
SIP	<input type="button" value="SAVE"/>					
SIP TRUNK						
SIP CALL	APARTMENT	NUMBER	APARTMENT	NUMBER	APARTMENT	NUMBER
ADVANCED	101	110				
PINCODE						
RESTORE						

##### b. Building panel

A CSV file will be configured with the assignment of call codes to the extensions to be called. The CSV file format can be downloaded from the SIP CALL section of the panel's web server, EXPORT option.

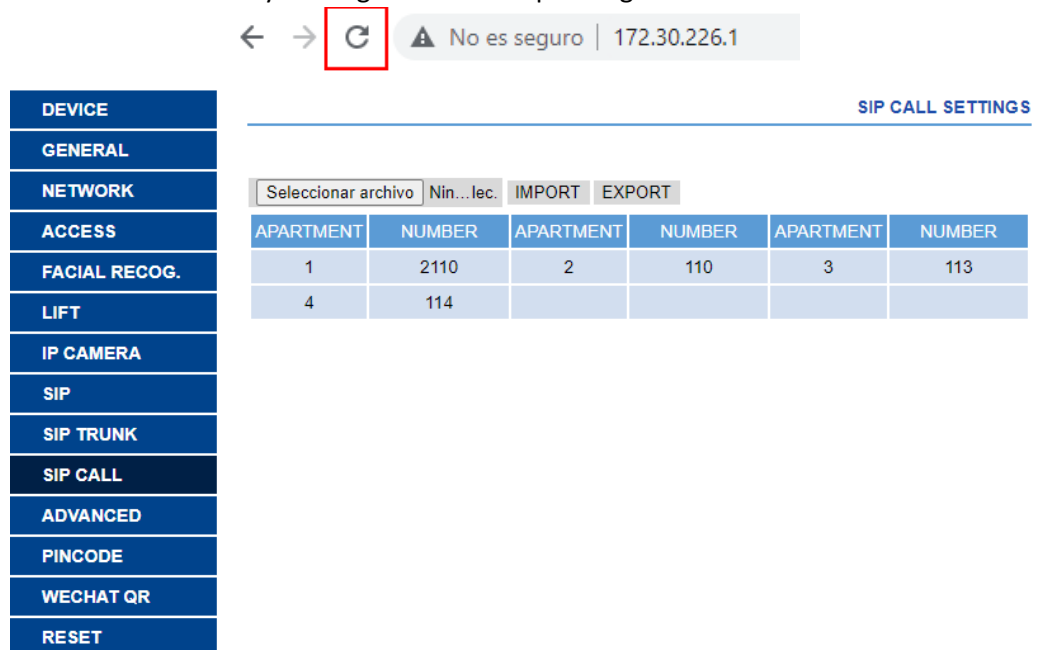
An example is the following:

```
APARTMENT,NUMBER,  
1,2110  
2,110  
3,113  
4,114
```

The code to be dialled is indicated first and separated by a comma, the extension of the switchboard that is to receive the call when this dialling code is dialled. In the example, dialling 1 will call the softphone with extension 110 through the gateway. Dialling 2 will call the same softphone without going through the gateway.

It is possible to call more than one extension by listing multiple extensions in the same row separated by semicolons. One of these extensions can be a MeetMe licence to be able to call a smartphone via the MeetMe application. This allows you to call a smartphone outside the local network, including video.

To load the CSV file on the panel, select the file created and click on the IMPORT button. The list of calls of the file will appear on the screen. Sometimes it is necessary to refresh the browser screen by clicking on the corresponding icon:



The screenshot shows a browser address bar with a refresh icon (circular arrow) highlighted in a red box. The address bar contains a warning icon and the text "No es seguro | 172.30.226.1". Below the address bar is a sidebar menu with the following items: DEVICE, GENERAL, NETWORK, ACCESS, FACIAL RECOG., LIFT, IP CAMERA, SIP, SIP TRUNK, SIP CALL, ADVANCED, PINCODE, WECHAT QR, and RESET. The "SIP CALL" item is selected. To the right of the sidebar is a "SIP CALL SETTINGS" panel. At the top of this panel are buttons for "Seleccionar archivo", "Nin...lec.", "IMPORT", and "EXPORT". Below these buttons is a table with the following data:

APARTMENT	NUMBER	APARTMENT	NUMBER	APARTMENT	NUMBER
1	2110	2	110	3	113
4	114				

If we want to be able to call via the agenda in the case of a KIN panel, the agenda will be created in a CSV file (different from the previous one). The CSV file format can be downloaded from the ADVANCED section of the panel's web server, EXPORT option.

One row is filled in per phonebook item, indicating the call code, Name to appear, blank, Y,. Example:

APARTMENT,	NAME,	MAPPING CODE,	WHITELIST(Y),
19,	CARLOS FERRER,	,	Y,
12,	PEPE GARCIA,	,	Y,
13,	ANDRES LOPEZ,,	Y,	
14,	ALICIA MARTINEZ,,	Y,	

The file is loaded using the IMPORT option:

**DEVICE**

**GENERAL**

**NETWORK**

**ACCESS**

**FACIAL RECOG.**

**LIFT**

**IP CAMERA**

**SIP**

**SIP TRUNK**

**SIP CALL**

**ADVANCED**

**PINCODE**

**WECHAT QR**

**RESET**

ADVANCED SETTINGS

---

QUICK DIAL:

URL:

ONU(GPON):

MAPPING CALL:

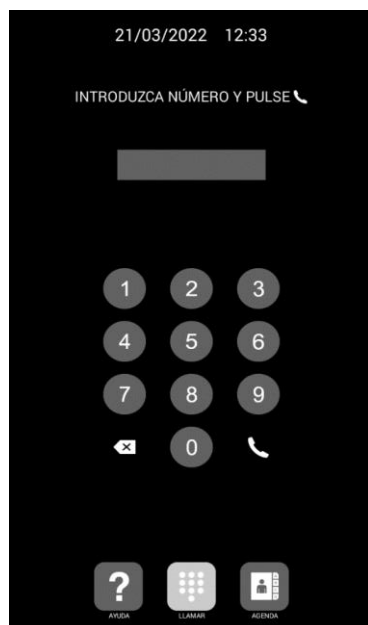
WHITE LIST:

DIRECTORY:

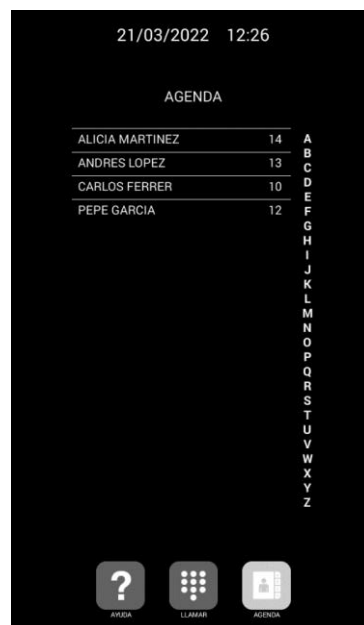
The DIRECTORY option is enabled so that this option appears on the panel.

## OPERATION

To call a specific extension, press the call button (one-way panel) or enter the associated call code (building panel) and confirm with the bell button (Milo, Marine) or the off-hook icon (KIN). In the case of the KIN or MARINE panel, you also have the option of making the call via the agenda, by searching for the name of the receiver and pressing on it.

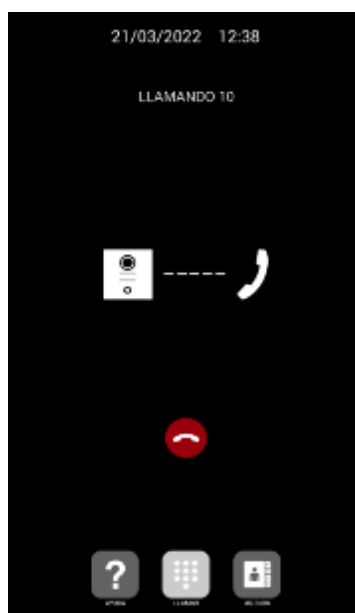


Direct call by code.



Call via phonebook.

The panel will generate the call as if it were a house:



The called extension will receive the ringing tone and call origin information showing the name assigned in the PBX and the camera image (depending on whether the receiving device has a video option). The call will ring for a maximum of 30 seconds.

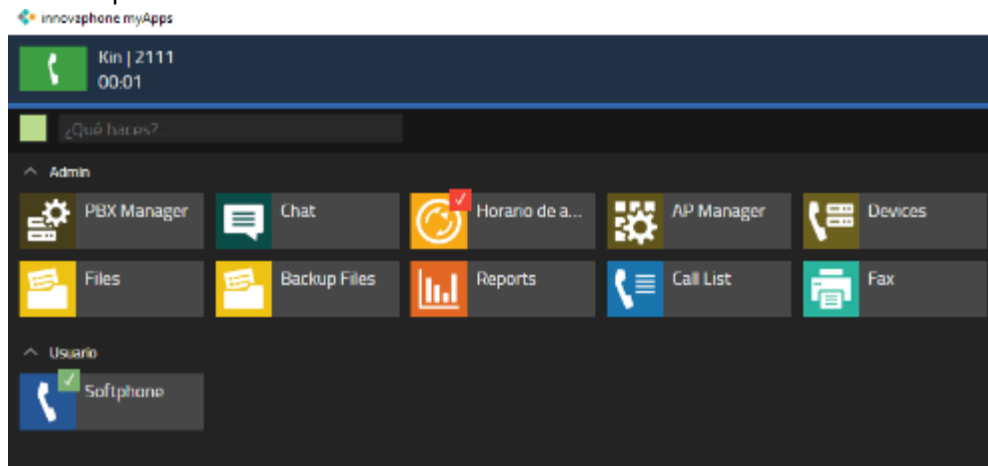
When the call is accepted, two-way audio communication shall be established and may last up to a maximum of 120 seconds.

You have the option of opening the door by pressing the '\*' or '#' key on the keypad, which will activate the internal relay of the panel and also first external relay of ref. 1490 (if installed). The '0' key activates only the second relay of ref. 1490.

Examples of incoming calls:

- Softphone MyApps:

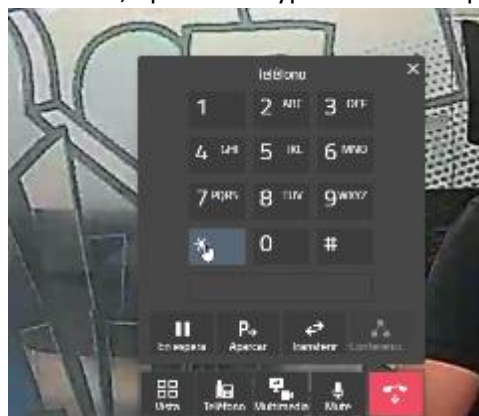
When a call is received from an extension, the name of the device and its extension are displayed at the top of the screen:



By clicking on the green icon, the call is answered and the video starts to be shown and the audio communication is established:



To open the door, open the keypad in the Telephone option and press the \* or # key:



After 120 seconds the door station will end the conversation. It can also be terminated earlier from the softphone by pressing the hang up icon.

- SIP phone
  - o You can choose the reception with video or audio only. Choose video to be able to visualise the visitor.

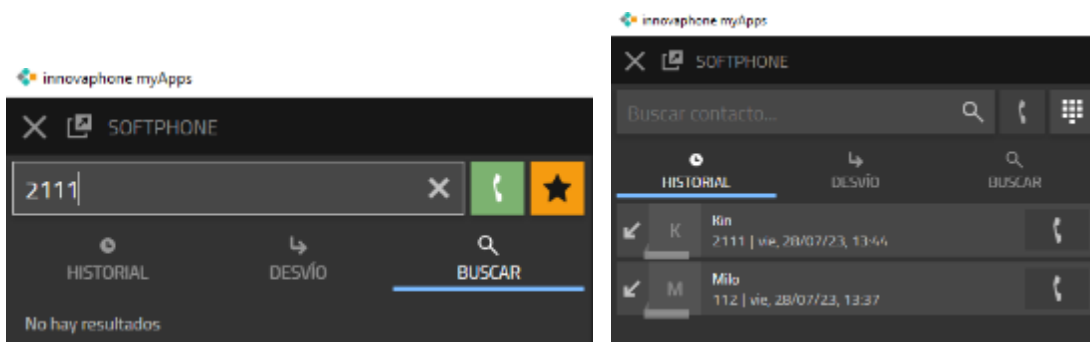
- Two-way audio and video conversation is established.



- Door opening by pressing \* or #.
- Talk time 120" regulated by the outdoor panel.

### Auto-on:

The connection from a SIP terminal to the outdoor panel is made by a call to its extension number. The duration of the conversation is limited to 30". You can call by entering your extension in the call option or by calling back from the received call history:



It is also possible to add to favourites the devices you want to call up.

## OTHER CONSIDERATIONS

### Compatibility with MEET monitor:

If a MEET monitor is available, the call can be received simultaneously at the called extension and at the monitor. The monitor must be assigned the call code marked on the outdoor panel as the house number. The first one to answer the call will cut off the reception at the other side.

Another option consists of configuring the monitor in SIP mode as another extension of the PBX, allowing it to be called from any extension or to call these extensions from the monitor by means of the 'Extercom' option, introducing the extension number. **In this mode, the video preview is not shown until the call is answered by picking up the handset.**

For this mode, a new extension must be registered in the PBX with the same configuration that was given to the outdoor panel.

Next, to configure the monitor, access the monitor's web server from a browser using its IP address, and configure the credentials of this extension in the SIP tab:

<b>DEVICE</b>	<b>SIP SETTINGS</b>
<b>GENERAL</b>	
<b>NETWORK</b>	
<b>IP CAMERA</b>	
<b>SIP</b>	
<b>ADVANCED</b>	
<b>ACTUATORS</b>	
<b>VERIFICATION</b>	
<b>PINCODE</b>	
<b>RESTORE</b>	

ENABLE SIP:	<input checked="" type="checkbox"/> <a href="#">SEARCH SIP STATUS</a>
SIP SERVER:	sjp:192.168.1.221
DOMAIN:	192.168.1.221
OUTBOUND:	
STUN IP:	
STUN PORT:	5060
SIP USER:	113
SIP PASS:	***
CONVERSATION:	120S

In the ADVANCED tab, an opening DTMF tone must be configured in case you want to activate the outdoor panel door release.

<b>DISPOSITIVO</b>	<b>CONFIGURACIÓN AVANZADA</b>
<b>GENERAL</b>	
<b>CONFIG.RED</b>	
<b>CÁMARA IP</b>	
<b>SIP</b>	
<b>AVANZADO</b>	
<b>ACTUADORES</b>	
<b>VERIFICAIÓN</b>	
<b>CÓDIGO PIN</b>	
<b>RESTAURAR</b>	

EXT SIP:	DESACTIV
AUTO ANSWER:	<input type="checkbox"/>
ONU(GPON):	<input type="checkbox"/>
DTMF UNLOCK:	<input checked="" type="checkbox"/>
PIN DE ACC.:	#
Nº ABREPUERTAS:	0
Nº CAMARAS:	0