



# CASE STUDY

## REMOTE RECEPTION OF MEET CALLS IN A PC

### Description

This document describes how to configure a MEET panel for receiving calls in a PC using the SIP divert function through the FERMAX MEET ME cloud



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## INTRODUCTION

Sometimes we are required for the possibility of receiving calls from a MEET panel in a PC, instead of a MEET monitor specially in offices and/or commercial spaces.

In this Case Study we are going to explain how to implement this function by means of a SIP VoIP client application installed in a PC connected to the internet. This PC can be located in the same building where the panel is or can be installed in any remote location as well.

There exist several client SIP VoIP applications, many of them are free. For this Case Study we are going to use the LINPHONE client APPLICATION, that can be downloaded from the developer web for free under a GNU GPL licence.

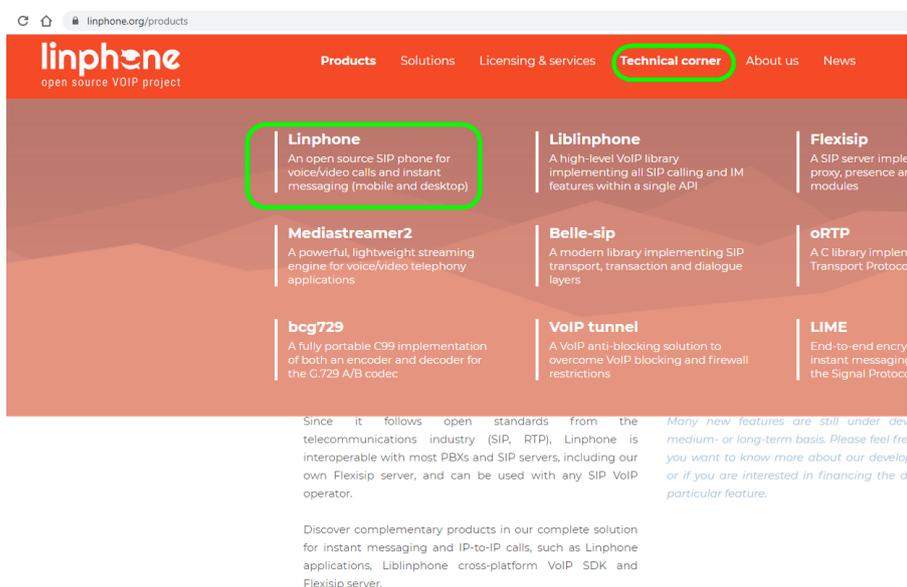
Basically this operation consists in the installation of the LINPHONE client in a PC and register it in the FERMAX MEET ME server in the cloud, so the PC receives the calls through this server, in a similar way than a smartphone with the MEET ME APP installed does.

In addition to the MEET panel, a Ref. 1496 MEET ME LICENCE is required for register the PC in the FERMAX MEET ME server.

Calls from the panel can be received in 8 devices simultaneously (PC's and/or smartphones)

## HOW TO INSTALL THE LINPHONE CLIENT

Go to [www.linphone.org](http://www.linphone.org) and download the **Linphone-latest-win32.exe** application.



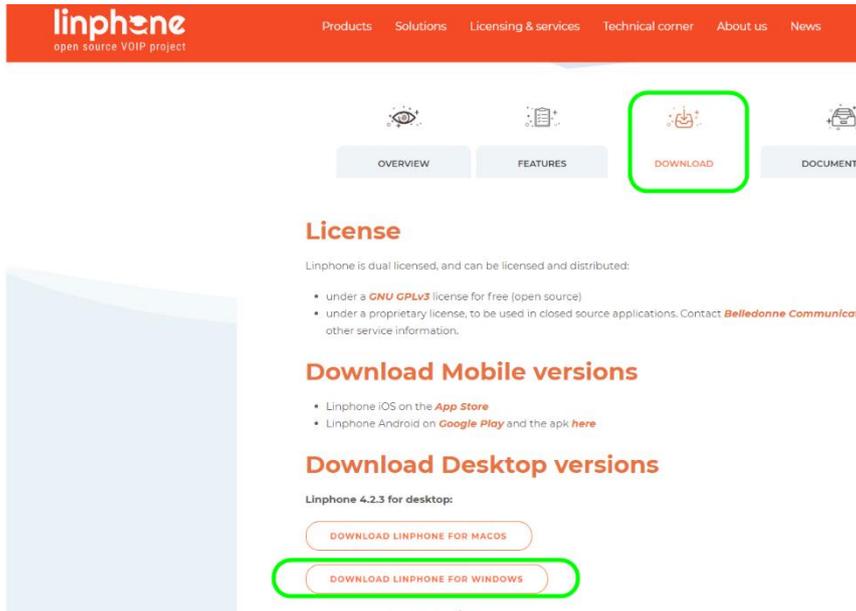
The screenshot shows the Linphone website's product page. The navigation menu includes 'Products', 'Solutions', 'Licensing & services', 'Technical corner', 'About us', and 'News'. The 'Technical corner' menu item is circled in green. Below the navigation, there is a grid of product cards:

- Linphone**: An open source SIP phone for voice/video calls and instant messaging (mobile and desktop). This card is also circled in green.
- Liblinphone**: A high-level VoIP library implementing all SIP calling and IM features within a single API.
- Flexisip**: A SIP server implementing proxy, presence and modules.
- Mediastreamer2**: A powerful, lightweight streaming engine for voice/video telephony applications.
- Belle-sip**: A modern library implementing SIP transport, transaction and dialogue layers.
- oRTP**: A C library implementing Transport Protocol.
- bcg729**: A fully portable C99 implementation of both an encoder and decoder for the G.729 A/B codec.
- VoIP tunnel**: A VoIP anti-blocking solution to overcome VoIP blocking and firewall restrictions.
- LIME**: End-to-end encrypted instant messaging using the Signal Protocol.

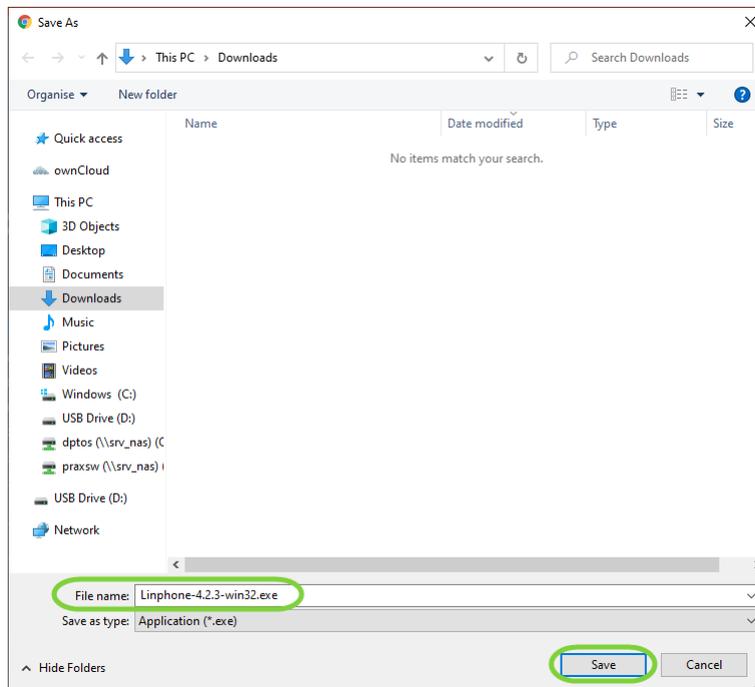
Below the grid, there is a paragraph of text: "Since it follows open standards from the telecommunications industry (SIP, RTP), Linphone is interoperable with most PBXs and SIP servers, including our own Flexisip server, and can be used with any SIP VoIP operator." To the right of this paragraph, there is a note: "Many new features are still under development - or long-term basis. Please feel free to contact us if you want to know more about our development or if you are interested in financing the development of a particular feature."

At the bottom, there is a call to action: "Discover complementary products in our complete solution for instant messaging and IP-to-IP calls, such as Linphone applications, Liblinphone cross-platform VoIP SDK and Flexisip server."

I. Access to the download section for downloading the application.



II. Select a folder in the PC to save it



III. Once downloaded the **Linphone-latest-win32.exe** file, click on it for installing LINPHONE in your PC.

## LINPHONE SETTINGS

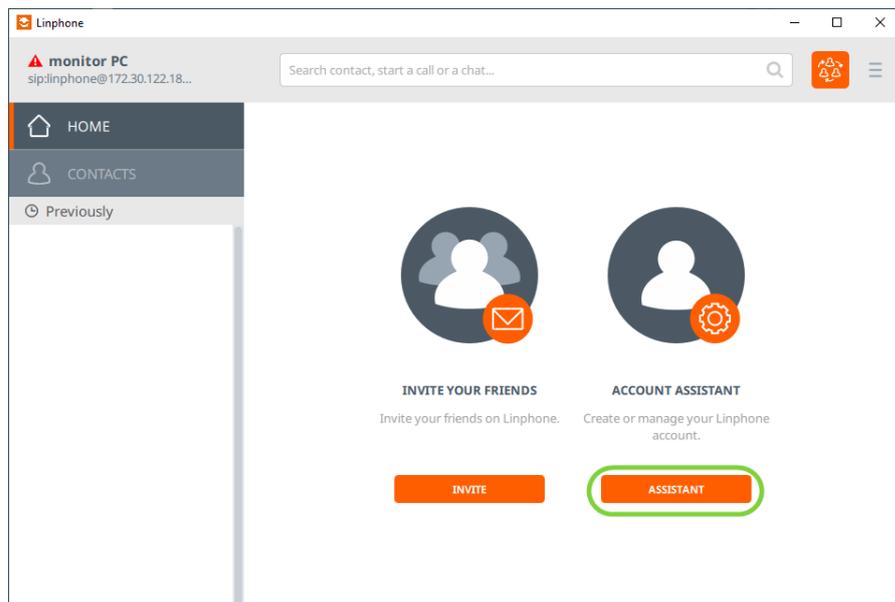
### REGISTER LINPHONE IN THE MEET ME SERVER

A Ref. 1496 MEET ME LICENCE is required to allow the simultaneous reception of a call in a maximum of 8 different devices (PC's and/or smartphones).

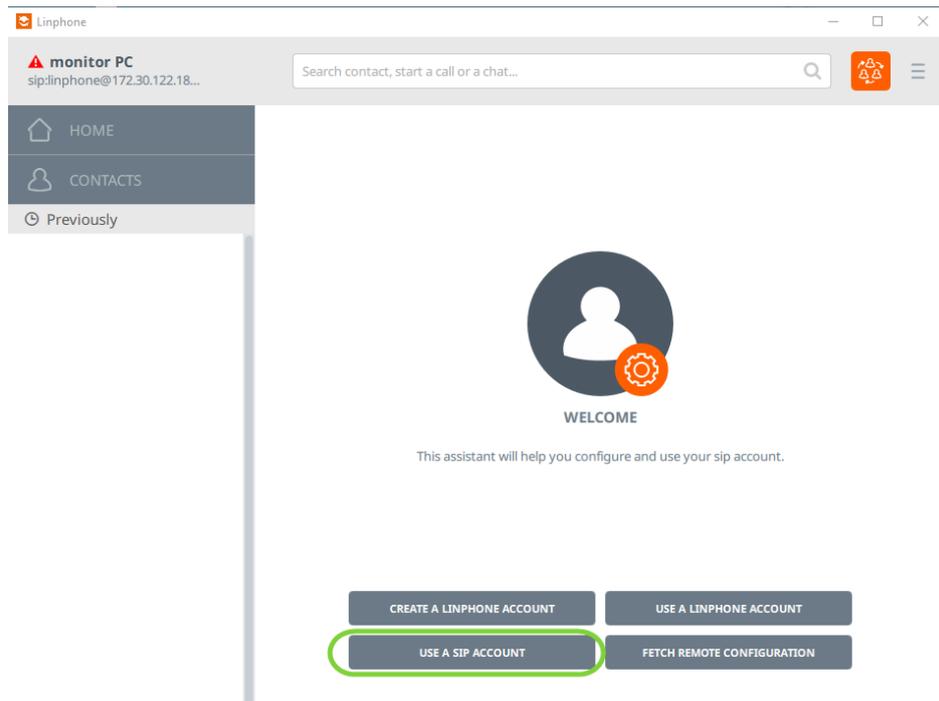
The PC has to be configured and connected to the internet, and the corresponding router will not have any restriction for streaming or SIP protocols. Disable SIP-ALG option if enabled.

The steps are as follow:

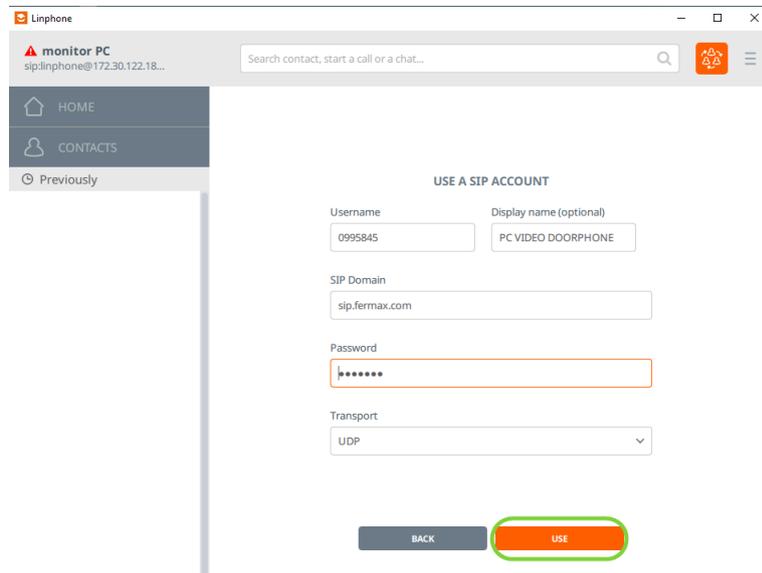
- I. Arrange the LINPHONE application and use the assistant:



- II. select USE A SIP ACCOUNT:



- III. Enter the MEET ME domain name (sip.fermax.com) and the Ref. 1496 MEET ME licence credentials ( username and password).  
Select UDP TRANSPORT PROTOCOL and design a name for it (optional), to identify the account.  
Finally, select USE to register this account in the MEET ME server.

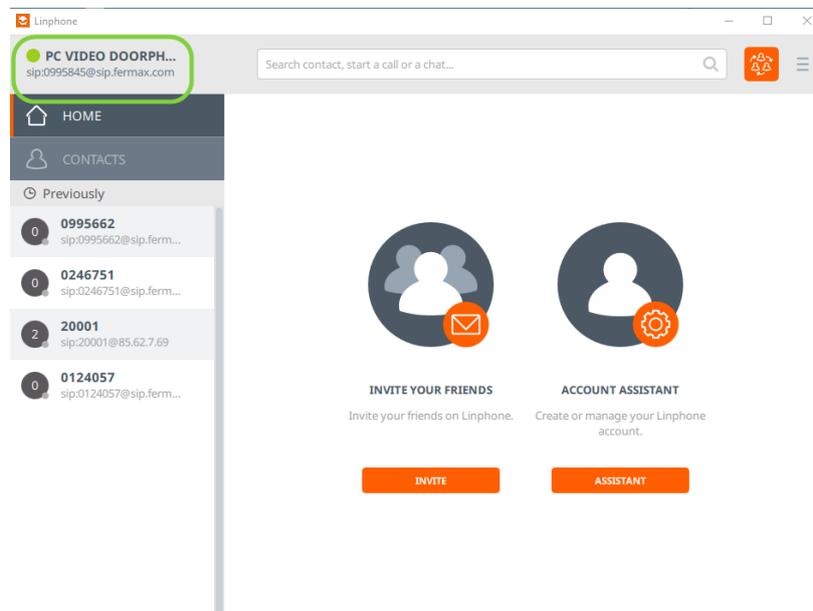


The screenshot shows the Linphone web interface for adding a SIP account. The page title is "USE A SIP ACCOUNT". The form includes the following fields and options:

- Username:** 0995845
- Display name (optional):** PC VIDEO DOORPHONE
- SIP Domain:** sip.fermax.com
- Password:** [Redacted with dots]
- Transport:** UDP (selected from a dropdown menu)

At the bottom of the form, there are two buttons: "BACK" and "USE". The "USE" button is highlighted with a green border.

- IV. Select the new SIP account and check that it is registered. A green dot will appear, otherwise check the entered data in PREFERENCES -> SIP accounts or delete it and create again.

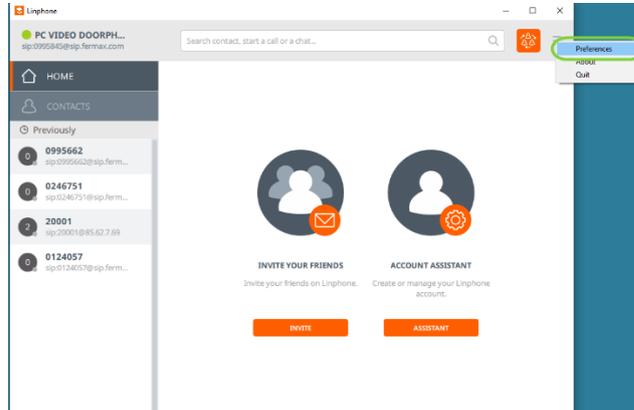


## ENABLE H.264 CODEC

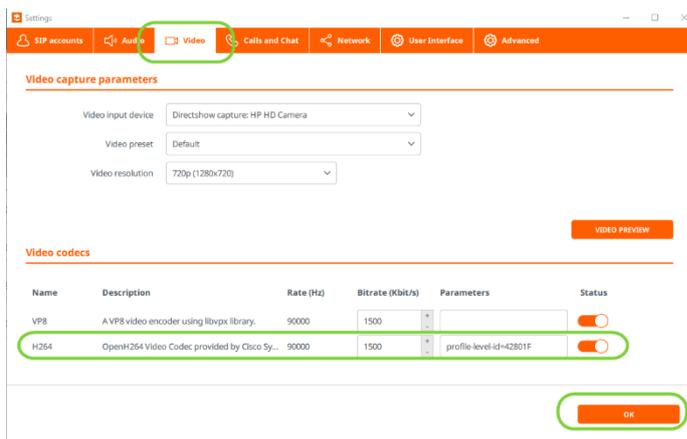
Enabling H.264 CODEC in PC is required for a correct performance of the application.

There are the steps to follow:

- I. Select “preferences”



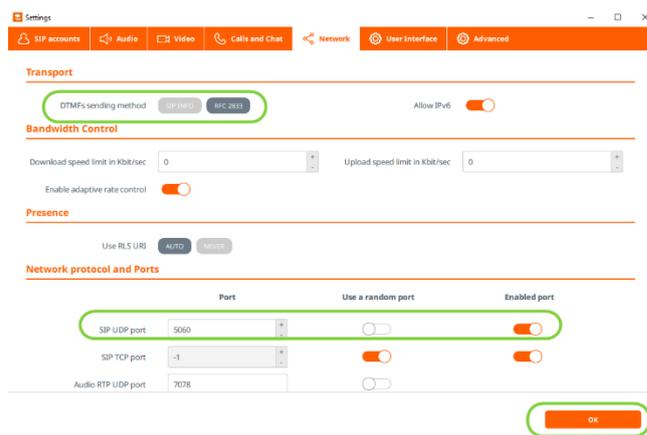
- II. Select Video → H264 → OK



\*If it is not possible to enable H.264 codec it is because driver is not included during installation process. You must download from <http://ciscobinary.openh264.org/openh264-2.1.0-win32.dll.bz2> , unzip and move to folder C:\Program Files (x86)\Linphone\plugins\mediastreamer, and rename as openh264.dll.

## OTHER CONFIGURATIONS

Door opening in MEET panels requires a “#” DTMF (Dual Tone Multifrequency) digit. Be aware that LINPHONE has this parameter correctly configured and also check that SIP UDP port 5060 is enabled.



## MEET DIGITAL OR 1L PANEL SETTINGS

The MEET panel has to be connected to a LAN and have access to the internet. It is not required the panel be connected to the same LAN than the PC is.

This procedure is valid for MILO DIGITAL, MILO 1W, MARINE and KIN panels. It is not valid for KIN panel in 1W PANEL mode.

### NETWORK SETTINGS

Configure the panel to have access to the internet, assigning an IP address to it and the corresponding GATEWAY and a valid DNS.



### REGISTER THE PANEL IN THE MEET ME SERVER

the panel should have a MEET ME licence label attached to it.

Please make the following configurations:



- **ENABLE SIP:** selected
- **SIP SERVER:**  
sip:sip.fermax.com
- **DOMAIN:**  
sip.fermax.com
- **SIP USER:**  
User indicated in the MEET ME label attached to the panel.
- **PASS SIP:**  
password indicated in the MEET ME label attached to the panel.

Click on SIP STATUS to find out if the panel is correctly registered in the server. An indication REGISTERED shall appear. Otherwise verify that the data has been correctly inserted, and the internet configuration is OK.

### MAKE A SIP CALL ENTRY

Follow instructions in the panel's INSTALLER MANUAL to create a SIP CALL entry, to say a reference of the number to dial in the panel with the corresponding MEET ME licence registered in the LINPHONE client application, with the format **sip:licence\_number@sip.fermax.com**.

FERMAX  
MEET VIDEO DOOR ENTRY SYSTEM

SIP CALL SETTINGS

Choose file No file chosen IMPORT EXPORT

APARTMENT	NUMBER	APARTMENT	NUMBER	APARTMENT	NUMBER
222	sip:@192.168.1.200	100	099584@sip.fermax.com		

In the case of the panel is MEET 1L, configure it as BLOCK. PANEL 1. In this case, when someone press the call button a call to APARTMENT 10001 is always generated.

Finally, create a SIP CALL entry that refers APARTMENT 10001 with the corresponding licence in the LINPHONE client application, with the format **sip:licence:number@sip.fermax.com**-

FERMAX  
MEET VIDEO DOOR ENTRY SYSTEM

SIP CALL SET

APARTMENT: 0  
NUMBER:  
DELETE:   
SAVE

APARTMENT	NUMBER	APARTMENT	NUMBER	APARTMENT	NUMBER
10001	sip:0995845@sip.fermax.com				



## OPERATION

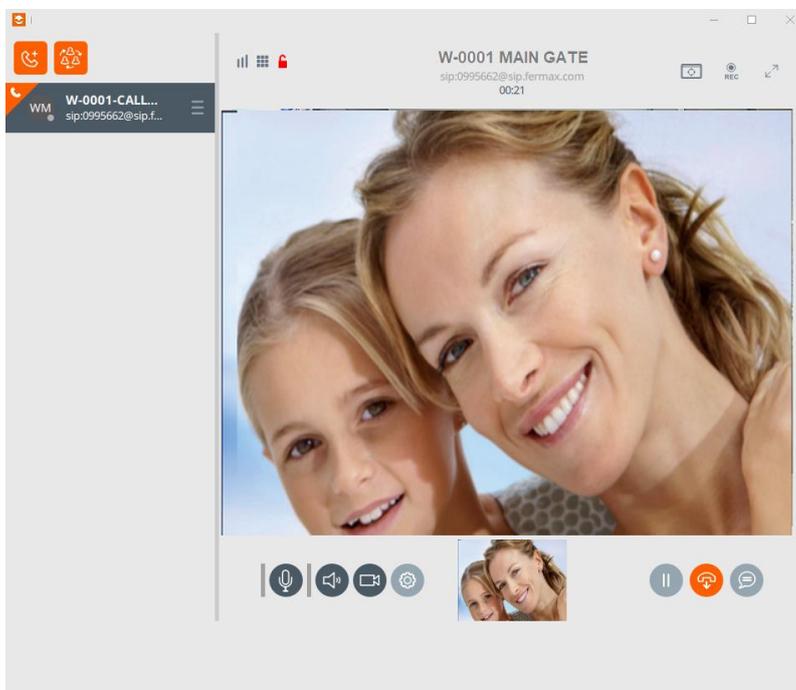
For receiving calls, the PC has to be ON and with the LINPHONE client application running. It is possible for this application to run in the background, while the PC is busy with other applications or programs. When someone calls from the MEET panel, a ringtone will sound in the PC and a pop-up window will appear on the screen.

There are three options:

- Answer with video
- Answer without video (audio only)
- Finish/reject the call



Once a call is answered (with or without audio) a new pop-up will appear with the image from the panel's camera and a panel with several functions to use during the conversation (mute, hide image, speaker off, etc.).



- It is possible to hold the conversation by means of the PAUSE icon. The panel will play a "music on hold".
- It is possible to deactivate the outgoing audio (mute) or the incoming audio (speaker).

- The maximum length is defined in the panel configuratio: 30" if no audio has been stablished, and 120" if the call has been answered.
- There is possible to open the door selecting the KEYPAD and then dialling #.

