INFRONT TECHNOLOGIES

PLAIN-ENGLISH GUIDE

What is SIP?

How SIP intercoms work, what a SIP server is, and how people use them every day, explained for someone brand new to it.

Keep this guide handy

Everything you need to understand SIP intercoms before you buy: what SIP is, what a SIP server does, how a call works and how people use it every day. Scan the code for the full online version with product links.

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WHAT

SIP in one sentence

SIP (Session Initiation Protocol) is a set of rules that lets one device call another over a computer network: it starts the call, rings, connects the voice and video, then hangs up.

You already use it without knowing. Most modern office phones, many business phone systems and a lot of VoIP calls run on SIP. An Akuvox door phone simply joins that world: it's a phone that lives on your front wall and happens to have a camera, a button and a door release.

Think of email

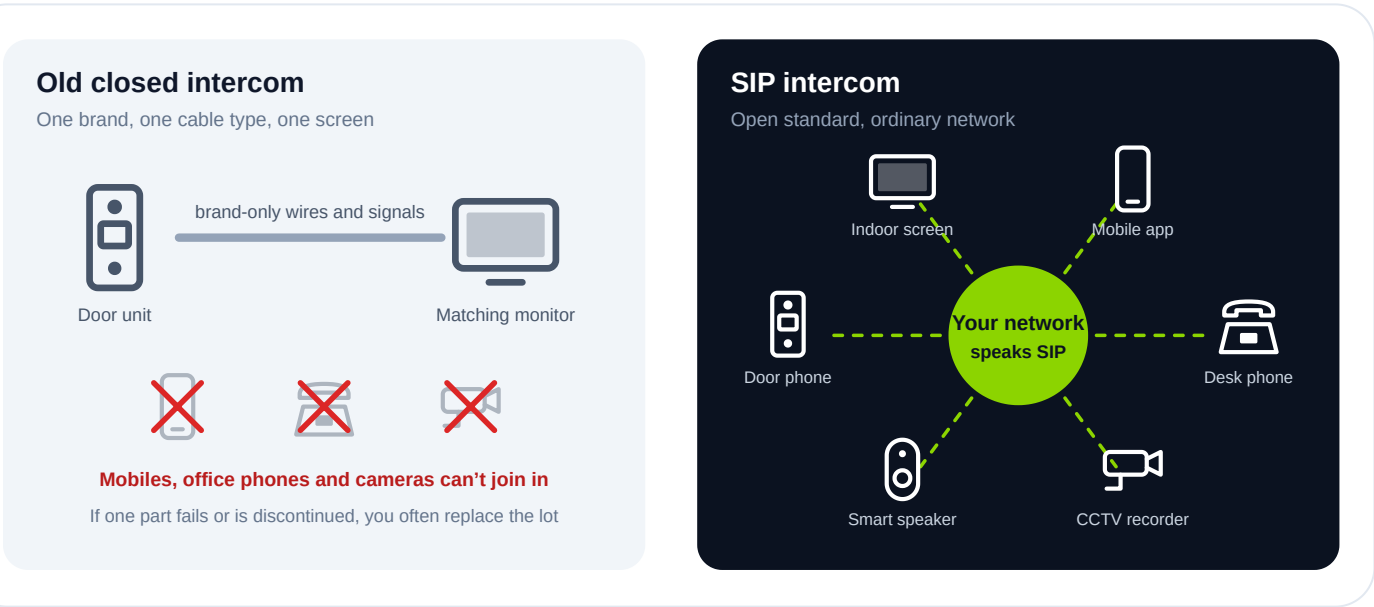
You can email a Gmail address from an Outlook account because both follow the same email rules. SIP does the same for calls: any SIP device can call any other SIP device.

Every device gets an address

Your gate might be `gate@home` and the kitchen screen `101@home`. Press the button at the gate and it simply calls 101, just like dialling an extension.

Opening the door is part of the call

While you're talking, you tap Unlock (or press a key on a phone). The door phone hears that command and clicks its relay, which releases the lock or starts the gate.

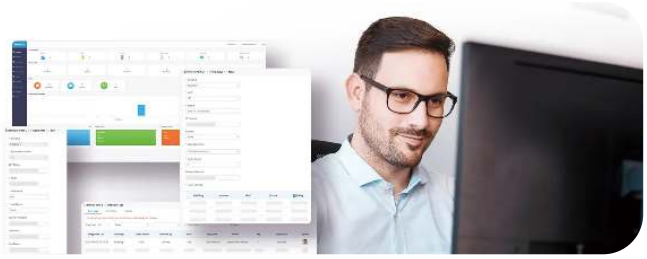


A closed system is a private conversation between two boxes. A SIP system is a phone network that anything SIP-capable can join.

THE BIT THAT CONFUSES EVERYONE

What is a SIP server, and do I need one?

Open the settings of almost any SIP door unit and you'll see boxes for **SIP Server**, **Port**, **Username** and **Password**. This is where most people get stuck. Here is the plain answer.

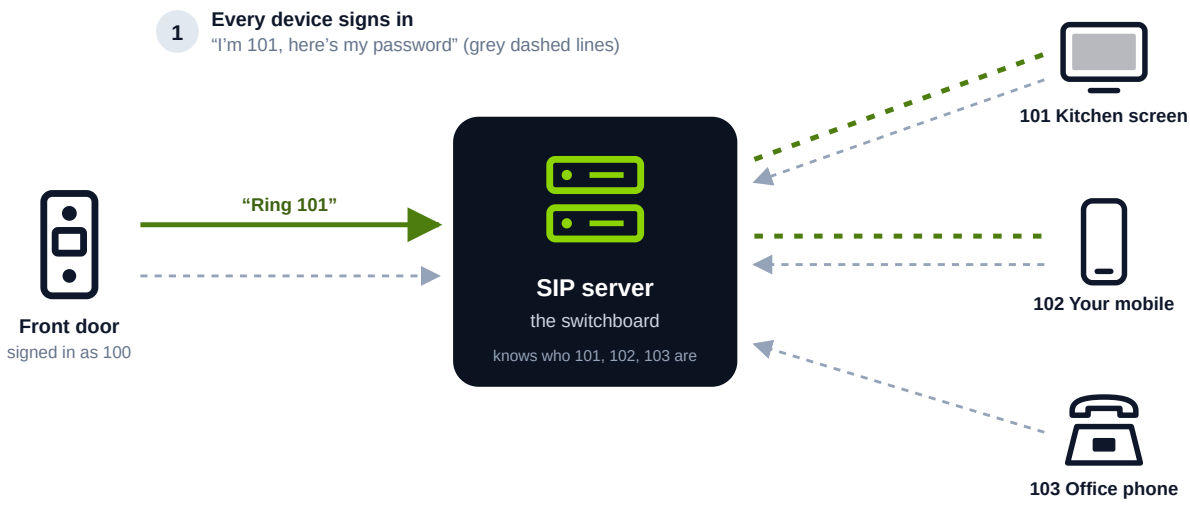


A SIP server is a switchboard

Think of a hotel reception desk. You don't need to know which room your friend is in or where it is. You ring reception, ask for room 101, and they put you through.

A SIP server does the same job for intercoms and phones. Each device **signs in** to it with a username and password, just like signing in to email. The server then knows that "101 is the kitchen screen" and where to find it. When the front door dials 101, the server rings the right screen, or several at once.

> You may also hear it called a **PBX**, a **phone system**, a **registrar** or a **SIP proxy**. For our purposes they all mean the switchboard.



Is there a SIP server inside my intercom?

No. Your door unit and indoor screen are the *phones*, not the switchboard. The SIP Server box in their settings is optional. It's there in case you want to plug the intercom into a switchboard you already have or rent.

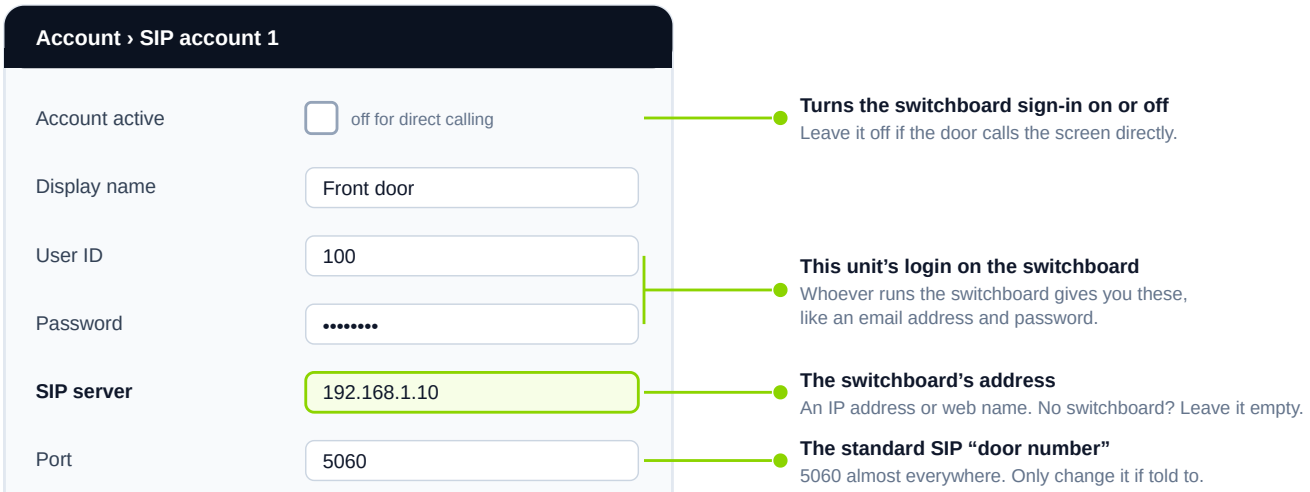
Then how does my door ring the screen at home?

It calls it **directly** by its network address, for example `192.168.1.50`. It's like knowing a friend's street address: you don't need the phone book. Give the screen a fixed (static) IP address so it never moves.

So what do I type in the SIP Server box at home?

Nothing. For a normal house, leave the SIP account switched off and set the call button to the screen's IP address. Only fill it in if you're connecting to a phone system.

Those settings boxes, decoded



Typical layout. The exact wording differs between models and firmware versions.

What should I put in the box? Pick your situation

HOUSE

“I just want the door to ring the screens in my house.”

Leave it empty. Use direct calling: the door rings each screen by its IP address. Nothing to run and nothing to pay, and it keeps working if the internet drops.

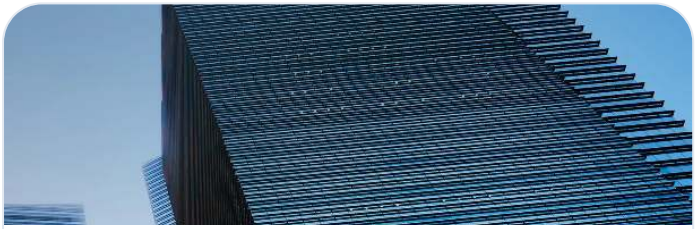
> Who manages it: nobody. There is no server.

ANSWER ANYWHERE

“I want to answer on my phone when I’m out.”

Use Akuvox SmartPlus. You don’t type a server address. You link the device to SmartPlus and Akuvox’s cloud signs it in for you, then rings your app anywhere. Screens at home can still be called directly as well.

> Who manages it: Akuvox runs the cloud servers. Your installer or building manager sets up your account.



BUSINESS

“Our office already has a phone system.”

Ask for an extension. Your phone administrator or provider creates one for the door (say, extension 100) and gives you the server address, username and password to type in. Reception can then answer the door on their desk phone.

> Who manages it: your IT person, installer or phone provider.

APARTMENTS

“I’m fitting out a building or estate.”

Use SmartPlus or an on-site phone system. With dozens of apartments, a switchboard keeps everyone’s numbers, app logins, cards and PINs in one place, so access can be changed without visiting the site.

> Who manages it: the building manager, with the installer looking after the hardware.

What can I use as a SIP server?

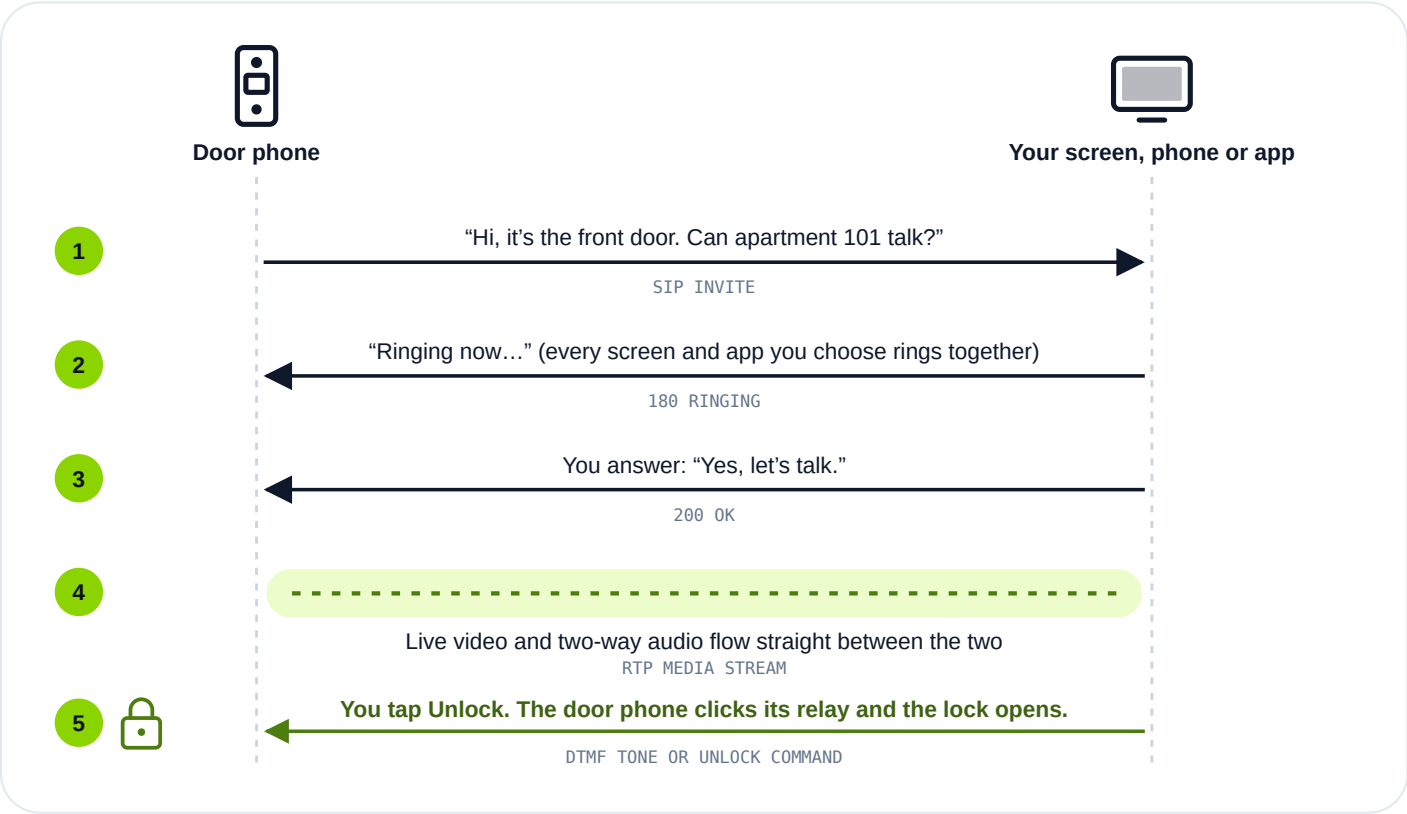
If you do need a switchboard, these are the usual choices, from simplest to most hands-on.

Your set-up	Where the "switchboard" lives	Who looks after it	Works without internet?
House, screens only	Nowhere: direct calling	Nobody	Yes
House plus mobile app	Akuvox SmartPlus cloud	Akuvox (account set up by your installer)	Screens yes, app no
Office with a phone system	Phone-system box or software on site	You, your installer or IT	Yes, inside the site
Office on hosted phones	Your phone provider's cloud	Your phone provider	No
Apartments and estates	SmartPlus cloud or an on-site system	Building manager and installer	Depends on the design

HOW

What actually happens when someone presses the button

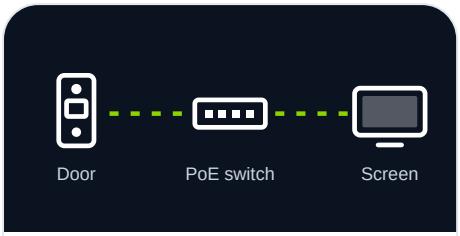
Behind every visitor call is a short, polite conversation between two devices. Here it is in plain English, with the technical name underneath for anyone who wants it.



The whole exchange takes well under a second. Hang up, and the door phone is ready for the next visitor.

Three ways to connect a SIP intercom

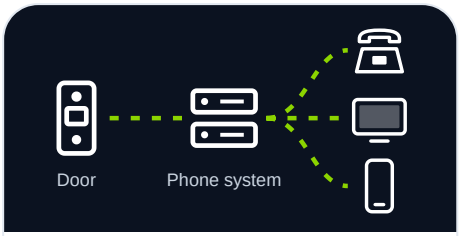
The language is always SIP. What changes is who passes the calls around.



1. Direct, on your own network

The door phone calls the indoor screen by its network address. No server, no subscription, and it keeps working if the internet drops out.

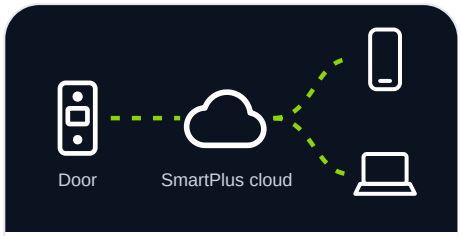
Best for: houses, granny flats, small offices.



2. Through your phone system

The door phone becomes an extension on your business phone system (an IP PBX). Reception answers on a desk phone, calls divert to mobiles after hours, and staff can transfer a visitor like any other call.

Best for: offices, schools, clinics, warehouses.



3. Through the cloud

Akuvox SmartPlus carries the call to your phone wherever you are: at work, overseas or stuck in traffic. Building managers add and remove residents, cards and PINs from a web portal.

Best for: anyone who wants to answer from anywhere; apartments and multi-site managers.

You can mix them: a house can ring its own screen directly and the owners' mobiles through the cloud at the same time.

WHY

Why SIP beats a closed intercom

No lock-in

Because SIP is an open standard, you're not trapped with one brand. Replace or add a single device later and the rest keeps working.

Answer anywhere

Indoor screen, desk phone, mobile app, even a smartwatch. Ring one device or ring them all at the same time.

Uses ordinary network gear

Standard data cable and PoE switches carry power, voice and video on one cable, the same gear IT installers fit every day.

Grows with you

Start with one door and one screen. Add the side gate, the garage, another building or a hundred apartments without starting again.

Talks to the rest of the building

Akuvox door phones also support ONVIF, so CCTV recorders can record them. They can link with alarm panels, lift control, smart locks and smart-home systems.

Clear, secure, supportable

HD video and wideband audio as standard. SIP itself supports encrypted calling (TLS and SRTP), and any network professional can look after it.

WHO

Who uses SIP intercoms?

Four everyday situations, and how SIP makes each one simple.

HOME

The courier at 11am

You're at work when a parcel arrives. The doorbell rings the kitchen screen and your mobile together. You see the courier, ask them to leave it inside the side gate, tap Unlock, then watch the gate close behind them.

> **How SIP does it:** one button press, several devices ringing, and the unlock command travels with the call.

OFFICE

The front desk that's never unattended

The entrance intercom is an extension on your phone system. Reception sees the visitor on a video desk phone and presses a key to open the door. After 5pm the same call rolls to the manager's mobile.

> **How SIP does it:** the door phone registers to your IP phone system like any other handset, so call rules, transfers and after-hours diversions just work.

APARTMENTS

The 40-unit apartment block

Residents walk in with their face, phone or card. Visitors search the lobby directory and call the right apartment's screen or app. When someone moves out, the building manager removes their access from a laptop with no site visit.

> **How SIP does it:** each apartment is just another SIP address, and the cloud keeps every resident and credential in one place.

AGED CARE

Mum, living on her own

A big-button phone with photo keys lets her call family with one press, and the red SOS key raises an alarm. A ceiling radar notices a fall without a camera in the room. When the carer rings the gate, she answers from her chair.

> **How SIP does it:** the phone, the door and the alert system all share one calling network, so help can reach her and she can reach help.

JARGON BUSTER

The words you'll hear

SIP
Session Initiation Protocol. The open rules for starting, running and ending calls over a network.

SIP address or extension
A device's "phone number" on the system, such as 101 or `gate@home`.

SIP server
The switchboard that devices sign in to and that connects their calls. Also called a PBX, registrar or SIP proxy.

Register (sign in)
A device logging in to the SIP server with its username and password so the server knows where to ring it.

Static IP address
A network address that never changes. Give indoor screens one so the door can always find them for direct calls.

Direct IP call
Two devices calling each other by network address with no server in between. Ideal for a single house.

PoE (Power over Ethernet)
Power and data on the same network cable, so the door phone needs no separate power pack.

Relay
A switch inside the door phone that releases an electric lock or triggers a gate motor.

DTMF
The tones a phone keypad makes. Pressing a key (such as #) during a call can tell the door phone to open the lock.

SmartPlus
Akuvox's cloud service and app for answering calls, opening doors and managing residents from anywhere.

QUESTIONS

Common questions

What happens if the SIP server goes offline?

Calls that go through it stop until it's back. That's one reason houses usually use direct calling between the door and the screens: those calls don't depend on a server or the internet.

Do I need the internet for a SIP intercom to work?

No. Calls between the door and screens inside the property run over your own network and keep working if the internet goes down. You only need the internet to answer on your mobile while you're away, or to use cloud management.

Does it use my phone line or cost money per call?

No. Calls travel over your own network, so there are no call charges. Calls only go out to a real phone number if you connect the intercom to a phone system or VoIP service that can dial them.

Can I mix brands?

Yes, that's the point of SIP. Any device or phone system that supports SIP can call an Akuvox door phone, and the door phone can call it. Brand-specific extras, such as face enrolment or the SmartPlus app, work best within the Akuvox family.

Will it work with my existing office phone system?

If your phone system supports SIP extensions (most modern IP and hosted phone systems do), the door phone can register as an extension. Akuvox works with phone platforms such as Yeastar, BroadSoft and Elastix.

Is a SIP intercom secure?

SIP supports encrypted call set-up (TLS) and encrypted voice and video (SRTP). Good practice is strong passwords, up-to-date firmware and keeping intercoms on their own network segment. We can help you set that up.

I only have two old wires to the intercom. Can I still go SIP?

Yes. Akuvox 2-wire IP systems reuse an existing pair of wires as a network link, so you can upgrade without new cabling.

Not sure what your site needs?

Tell us about your doors, gates and how you'd like to answer, and we'll sketch a system that fits.

Call 07 5609 4910 or 02 8814 6008 · sales@infronttech.com.au · infronttech.com.au/contact-us