



Cordless voice communication  
over IP networks

DECT over SIP

# Open standards for communication without limits

SIP is a standardised internet protocol for establishing, terminating and managing a communication session between two or more participants.

## DECT over SIP



### Voice over IP

#### Advantages of using Voice over IP (VoIP):

- » Using the same Infrastructure for voice and data makes it significantly easier to install and manage communication networks.
- » A workstation with PC and telephone requires only one network connection.
- » You only need to plug the PC and telephone into another socket if you have to relocate your workstation. Additional work may not be necessary on the network.
- » Distributed corporate structures with remote sites and home-based workstations can be organised economically.

Until now, it has been rather difficult to combine technologies from various manufacturers in a VoIP environment due to proprietary solutions. With the introduction of the Session Initiation Protocol (SIP) the interoperability of VoIP solutions has been established and has gained wide acceptance. Thus, SIP is for VoIP what Euro ISDN is for ISDN. VoIP has not only gained access into private homes in form of internet telephony, it is also the basis for business solutions.

As one of the leading manufacturers, Aastra has taken up the challenges of the market in terms of open standards. The experience gained from decades of voice and data-oriented development efforts has influenced the development of our mainly SIP-oriented products.

The result is the DECT over SIP solution which uses the IP network for mobile communication.

#### Further advantages inherent in the use of DECT over SIP:

- » Your SIP-capable communication system can be completed and expanded with a mobility solution.
- » Your employees can easily be equipped with cordless handsets as in-house solution, with cost transparency and no cellphone telephony fees.
- » You have optimum voice quality.



### The new freedom: mobility on IP-based networks

DECT is the worldwide leading technology used in building a multi-cellular radio network for voice communication. With DECT over SIP Aastra has sensibly combined the already mature and professional DECT technology with the SIP innovation.

The solution adds the comfort of mobility to VoIP networks, based on two technologies:

- » Voice over IP (VoIP) – Voice is conveyed via an IP data network to an IP radio fixed part.
- » DECT (Digital Enhanced Cordless Telecommunications) Tried and tested technology for conveying voice securely via the air from the IP radio fixed part to the handset

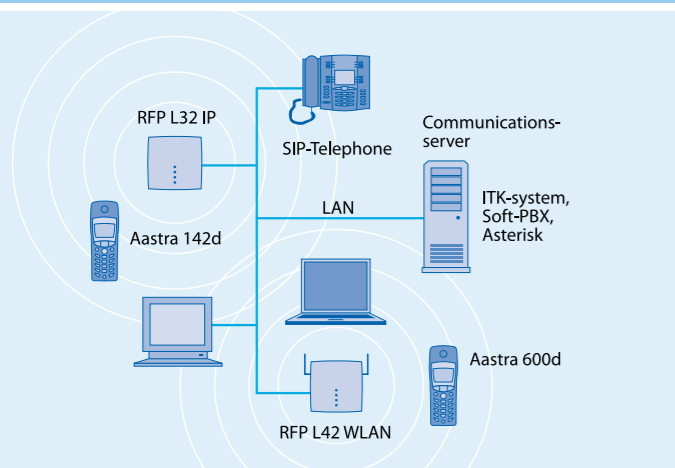
A multi-cellular DECT radio network can be installed anywhere in a company where data lines do exist. This may be in remote company sites linked together through a VPN connection.

With DECT over SIP, each call manager and communication server can be completed with DECT which uses SIP on the subscriber side. The range of features available on the handset depends on the number of implemented SIP-standard features supported by the call manager or TK server on the one hand, and the DECT over SIP solution on the other hand. It is this manufacturer independence that makes this solution outstanding and guarantees long-term investment protection.

# Mobile communications made simple



## DECT over SIP



### Highlights DECT over SIP

- » Excellent voice quality, clearly better than that of GSM handsets
- » IP cancels the limitation of connection lengths typical of classical DECT networks; the range of the mobile network is determined by the size of the IP infrastructure only.
- » Use of mobile voice and data communication on the same network.
- » Central phonebook (LDAP)
- » The same installation, equipment, operation and system-maintenance concept.
- » Simple configuration of an installation through configuration data import, simultaneous handset and RFPs setting, easy registration of handsets and Plug & Play of RFPs. This saves time and costs.
- » New networks can be created at optimum cost between sites, and existing networks expanded.
- » Mobile calls are routed automatically and without interruption on the company network from RFP to RFP (seamless handover).
- » Roaming takes place between sites linked via WAN, i.e. the handsets are automatically reactivated once the owner reaches the respective local radio network subsystem.
- » Thanks to DECT over SIP, a lot of mobile subscribers can be added to an existing fixed network installation without necessarily having to purchase a bigger TK device. The user receives a cost-saving, modern mobility solution with minimum investment cost.
- » DECT over SIP is a scalable solution that quickly pays for itself and at the same time with a guaranteed future.
- » The security of the solution against unauthorised access is guaranteed through security measures such as https support, password protection, special user accounts, etc.
- » Status overview of the system
  - » General system information, e.g. system runtime, version, etc.
  - » Messages, e.g. alarms
  - » Status of the backup OMM

- » Status of all RFPs
- » Status of the handsets, e.g. firmware version, registration status, etc.
- » Status „Download over Air“ – functions and firmware updates-of the Aastra 600d via the cellular network
- » If necessary, the system’s centralised control can be backedup via a redundant control to make it more failsafe (Backup OMM).
- » Thanks to the integration of combined DECT/WLAN radio fixed parts, the system is perfectly suitable for mobile voice and data communication.

### Synchronised radio fixed parts guarantee handover on the radio network.

Hitch-free and uninterrupted handover is possible on networks on which RFPs are synchronised. With Aastra’s DECT over SIP solution, synchronisation takes place over the air (sync over air).

The IP-RFPs installed on the radio network synchronise with each other if they detect at least one nearby RFP. The Aastra solution is outstanding in that there is no master/slave system during synchronisation. The DECT network can thus be built up with redundancy. If individual RFPs fail (for instance during maintenance work on the IP network), the function of the entire network is maintained.

For its DECT network solution, Aastra has chosen internal handover, whereby mobile calls are routed directly from radio cell to radio cell. This prevents unnecessary traffic load for the TK system and ensures that the GAP standard is supported.

The GAP standard guarantees an open system that is compatible with other handsets.

„DECT over SIP“ is particularly suitable for companies which...

- » Already have an existing data network
- » Already use VoIP
- » Have several mobile workers at different locations and do not wish to run a separate PBX for each location.
- » Wish to develop an extensive industrial site with mobile communication, and on which smaller and bigger operating units have to be linked together on a mobile network
- » Wish to have a scalable, future-oriented solution in order to safeguarded the value of their investment for years to come
- » Need a failsafe solution.

### Why is DECT the leading technology for multi-cellular voice transmission?

DECT is specially designed and developed for optimum voice transmission.

DECT offers:

- » 120\* „non-overlapping“ radio channels reserved for DECT only
- » Highest reliability level through automatic change of channel in case of inter-system interference
- » No conflict with neighbours regarding the radio channel that may be used and where to use it
- » Large range with the same good quality
- » Low installation costs since no frequency plan is required
- » High voice quality (clearly better than with GSM) through latest codec
- » Security by high end radio encryption
- » Seamless handover – Automatic, uninterrupted and seamless call handover between the radio cells of a DECT network
- » Guaranteed bandwidth
- » Highest talk and standby time with the cordless handsets
- » Best price/ performance ratio compared to all similar technologies, in terms of procurement, installation and operation.

\* 60 in North America

# Featurephone for DECT over SIP solution

DECT over SIP



Aastra 142d



Aastra 620d



Aastra 610d



Aastra 620d



Aastra 630d

## Aastra 142d

Aastra 142d is the ideal DECT phone for the DECT over SIP solution. With the generously equipped handset you have a very powerful phone for mobile corporate communication. It has a lot of supplementary features such as hands-free operation, buzzer alarm, illuminated graphical display and call list display. Other features include a call filter, alarm function and time/date display. The memory card, which can be used for transferring the configuration to other devices, has a storage capacity for 100 phone book entries and device-specific features and system registration. You can communicate comfortably thanks to the hands-free function and a headset connection.

Unlike normal, classical DECT handsets, Aastra 142d gives access to the solution's entire SIP system features, in addition to the above-mentioned generous basic features. Meaning you enjoy the convenience of your desktop phone.

## The Aastra 600d range

Enjoy all the possibilities of the Aastra 600d range

- » A phone book with up to 200 contacts of 6 entries each (business, private and mobile number, email address, allocated ring tone and abbreviated-dialling numbers) gives you access to all the main contact information.
- » The ambient noise filter automatically adjusts the ring tone and talk volume to the background noise in any given situation and filters out any distracting ambient noise. This ensures optimum communication conditions at all times, especially in loud environments.
- » Five different application profiles allow the phones to be adapted to any given work situation, e.g. using headset or conference mode.
- » User-friendly, wireless function and firmware updates via the cellular network (download over air).
- » The intelligent battery management guarantees an overview of the battery capacity at all times, even in cases where an empty battery has been replaced with one that is supposedly fully charged.

## Aastra 610d

The Aastra 610d is the basic model for the business sector. Like all models of the Aastra 600d range it adapts to your individual usage and communication needs. They include user-definable keys and 44 polyphonic and 8 non-polyphonic ring tones. It also has a headset socket. The handset can be updated via the radio network using download-over-air. The ambient noise filter adapts the ring tone and talk volume to the background noise in any given situation. This ensures optimum communication conditions at all times, especially in loud environments. Its local phone book administers up to 200 contacts with 6 entries each. The illuminated monochrome 2" display guarantees an optimum overview and simple operation of the clearly structured menus. The Aastra 610d is capable of withstanding the impact of dropping onto a concrete floor from a height of 1.50 m.

## Aastra 620d

The user-friendly Aastra 620d is the high-end mobile phone for the professional. Its large TFT colour display provides clear graphic displays and perfect legibility. Many freely programmable keys support the simple navigation and the use of different lines. In addition to the functions of the Aastra 610d, its Bluetooth®

interface for a cordless headset also enables maximum freedom of movement. The high-quality lithium-ion battery can be charged via the USB interface, independently of the charging bay. An optional power battery is available for operating times of up to 200 hours in standby mode.

## Aastra 630d

The indestructible Aastra 630d is ideally suited for use in tough working environments as it complies with industry standard IP 65 with its high level of dust protection and resistance to jet or hose water. It is very easy to clean and complies with high hygiene requirements. The 630d is capable of withstanding fall heights of up to 2 m onto concrete. It offers all the user convenience of the Aastra 620d. The integrated mandown alarm and the additional emergency call key makes the 630d the ideal companion not just for security-related professions, but also for hospitals and care facilities.



## IP-radio fixed parts for the DECT over SIP solution

Radio fixed parts RFP L32 IP and RFP L34 IP are the radio fixed parts for the DECT over SIP solution and are directly connected to the LAN like a VoIP device.

Indoor and outdoor RFPs are used to set up a DECT radio network over the entire company premises. The indoor variant (RFP L32 IP) has an integrated omni-directional antenna, while the outdoor RFP (RFP L34 IP) may use either a directional antenna or a dipole antenna. Even difficult premises or areas can be fitted with an ideal network.

Each radio fixed part works flexibly with 12 of 120\* the available radio channels and guarantees sufficient call capacity.

\* 60 in North America

## DECToverSIP and WLAN in one RFP

Besides the DECT Radio Fixed Part (RFP) the RFP L42 WLAN also comes with a WLAN Access Point. This means that WLAN hotspots for mobile data connections can also be installed within the DECT network, for instance in conference rooms.

The benefits of using the RFP L42 WLAN instead of separate DECT RFPs and WLAN Access Points:

- » Only one RFP for two technologies (DECT and WLAN)
- » Only one switch port required
- » Only one Power over Ethernet connection required
- » Integrated central management for DECT and WLAN using WEB browser
- » Net View Management:
  - » RFP L42 WLAN Access Points can be grouped in clusters
  - » WLAN settings can be made together for all the Access Points in a cluster
  - » No need to administer each individual Access Point.

RFP L42 WLAN not available in all countries.

## RFP L32 IP – the DECToverSIP indoor base station

The RFP 32 IP enables the complete integration of DECT radio networks into the IP infrastructure and provides 8 simultaneous call connections.

It is powered either via a separate power supply unit or via Power-over-Ethernet.

## RFP L34 IP – the DECToverSIP outdoor base station

The RFP L34 IP combines the features of the RFP L32 IP with outdoor operating requirements (class of protection IP 65).

If required, beam antennas can also be used instead of the dipole antennas. The RFP 34 IP is powered using Power-over-Ethernet.

## RFP L42 WLAN – the DECToverSIP/WLAN base station

The RFP L42 WLAN judiciously combines two mobile standards: DECT on the one hand allows mobile system phones to be operated while the integrated WLAN access point ensures that mobile PCs or workstations have wireless access to the corporate network. The centralised management means that a hotspot with several WLAN access points can be set up in parallel to the DECT network.



	RFP L32 IP	RFP L34 IP	RFP L42 WLAN
Use	Indoor	Indoor and outdoor	Indoor
DECT	•	•	•
WLAN	-	-	IEEE 802.11b and g
Simultaneous DECT calls	8	8	8
Wall-mountable	Yes	Yes	Yes
Mast-mountable	-	Yes	-
Power supply	Power over Ethernet (POE), plug-in mains power adapter	Power over Ethernet (POE)	Power over Ethernet (POE), plug-in mains power adapter
Operating mode display	3 (external) LEDs	3 (internal) LEDs	4 (external) LEDs
Protection category	IP 20	IP 65	IP 20
Dimensions (W×H×T)	195×200×32 mm	240×260×60 mm	195×200×32 mm
Antenna	Integrated omni-directional antenna	May use dipole antennas or directional antennas (not included in the delivery)	Integrated omni-directional antenna for DECT and external dipole antennas for WLAN

RFP L42 WLAN not available in all countries.

	Aastra 142d	Aastra 610d	Aastra 620d	Aastra 630d
<b>Highlights</b>				
Display	LC display (1,5", 96 × 60 pixels, monochrome)	LC display (2", 176 × 160 pixels, monochrome)	TFT colour display (2", 176 × 220 pixels, 65.536 colours)	TFT colour display (2", 176 × 220 pixels; 65.536 colours)
Private phone book contacts, with 6 entries each (work, private and mobile numbers; e-mail address, ring-tone allocation and abbreviated-dialling numbers)	100	200	200	200
Use of the central phone book of the communication platform	•	•	•	•
Ambient noise filter for loud environments	•	•	•	•
polyphonic ring tones (midi files)/ non-polyphonic ring tones with automatic volume control	-/30	44/8	44/8	44/8
Setup for application profiles, e.g. for headset or conference mode		5	5	5
Hands-free	•	•	•	•
Headset socket – 2.5 mm jack and Bluetooth*	-/-	-/-	-/-	-/-
Programmable hotkey for call numbers or functions			1	1
Programmable sidekeys / navigation / softkeys		- / 2 / 2	3 / 2 / 2	3 / 2 / 2
Emergency key on the device – permanently/programmable	-/-	-/-	-/-	-/-
Intelligent battery management		•	•	•
Coloured multifunctional LED	1-colour	3-colours	3-colours	3-colours
USB - PC interface	•		•	•
<b>Administration</b>				
Automatic firmware update "Over Air"		•	•	•
Integrated diagnostics functions	•	•	•	•
Memory card for phone book and device data	•		(-)*	(-)*
<b>Local features</b>				
Telephone lock with 4-digit PIN	•	•	•	•
Illuminated keypad and display	amber-coloured	white	white	white
Different tones for: internal & external calls, alarm calls and emergency calls, messages	•	•	•	•
Softkeys/programmable keys	3/-	3/2	3/8	3/8
Different handset, loudspeaker and headset volume	•	•	•	•
Adjustable ring tone volume	•	•	•	•
Ringtone deactivation via key	•	•	•	•
Signal tones for keypress, confirmation, battery status, range warning	•	•	•	•
Illumination time and luminosity for keypad and display separately configurable within and outside the charger		•	•	•

\* Slot available, function not currently supported

	Aastra 142d	Aastra 610d	Aastra 620d	Aastra 630d
<b>Local features</b>				
Lines on the display plus 1 header and 1 softkey line	3	6	7	7
Configurable handset name	•	•	•	•
Configurable display contrast/brightness	- / -	- / -	- / •	- / •
3 different character fonts selectable			•	•
Alarm and appointment settings for 3 different times each	1 × Alarm	•	•	•
Auto answer when the handset is removed from the charger cradle	•	•	•	•
Automatic and manual keypad lock	•	•	•	•
Selectable colour schemes			•	•
Plus /Minus-Keys for volume control	•	•	•	•
Silent charging	•	•	•	•
Vibration alarm	•	•	•	•
Entries in the caller and redial list	20 / 10	30 / 20	50 / 30	50 / 30
Display languages	DE, EN, FR, IT, ES, FI,NL, SV, DA, PT, NO, SLO, CZ	DE, EN, FR, IT, ES, FI,NL, SV, DA, PT, NO, RU, PL, CZ, SLO	DE, EN, FR, IT, ES, FI,NL, SV, DA, PT, NO, RU, PL, CZ, SLO	DE, EN, FR, IT, ES, FI,NL, SV, DA, PT, NO, RU, PL, CZ, SLO
Time and date (manual or automatic)	•	•	•	•
Mandown, No-movement and escape alarm				•
<b>Technical Data</b>				
Protection class	IP 50	IP 50	IP 50	IP 65
Supports DECT encryption	•	•	•	•
Standard battery	3 AAA cells (NiMH)	Lithium-ion	Lithium-ion	Lithium-ion
Power battery – accessory			Lithium-ion	Lithium-ion
<b>Standby mode</b>				
Standard battery	140 h EMEA / 125 h US	140 h EMEA / 125 h US	140 h EMEA / 125 h US	140 h EMEA / 125 h US
Power battery			200 h EMEA / 190 h US	200 h EMEA / 190 h US
<b>Talk time</b>				
Standard battery	15 h EMEA / 18 h US	12 h EMEA / 15 h US	12 h EMEA / 15 h US	12 h EMEA / 15 h US
Power battery			24 h EMEA / 30 h US	24 h EMEA / 30 h US
Height for withstanding a fall on concrete undamaged	1 m	1.5 m	1.7 m	2 m
Screwed battery compartment cover				•
TPE** laminated surface (sides and/or front)			•	•
Dimensions (length / width / height)	146 × 52 × 28 mm	135 × 49 × 22.5 mm	135 × 49 × 22.5 mm	135 × 53 × 22.5 mm
Weight with standard battery excl. belt clip, (630d incl.)	138 g	120 g	120 g	137 g
International power supply unit	•	•	•	•
Compatible with commercially available USB chargers			•	•

\*\* Thermoplastic elastomers

## DECT over SIP

Your local Aastra partner is:

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For further information on  
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