



Business Mobility IP DECT

Wireless telephony for IP and SIP based communication platforms

At a Glance

- Combined IP telephony with IP DECT wireless
- Access Points connect directly to IP network
- Support of DECT compatible handsets
- Crystal clear speech and seamless handover
- Secure speech connection
- Scalable wireless solution
- Easy to deploy, install and maintain
- Open SIP interface to multi-vendor communication platforms

Business Mobility IP DECT provides on-site wireless telephony in a unique solution that combines the benefits of IP technology with the superior quality and facilities of DECT. Business Mobility IP DECT connects directly to the IP network and can be used on both NEC and PBX platforms of different brands with a SIP interface.

IP telephony enhanced with wireless telephony

IP DECT provides wireless telephony in a single converged network that can be used for both fixed and wireless telephony. The IP DECT infrastructure provides the following features:

- DECT on top of IP and SIP based communication platforms
- Access Points connect directly to the Ethernet (10/100 Mb)
- Support of 11 simultaneous calls per DECT Access Point
- Support of DECT compatible handsets
- External Power or Power over Ethernet (PoE: 802.3af)
- Main and branch office support over LAN/WAN
- Crystal clear speech, roaming and seamless handover
- Secure voice communication through DECT authentication and encryption

Empowered by Innovation

NEC

- Support of Short Messaging (LRMS) up to 160 characters
- Scalable solution based on 12 channel Access Points
- Easy deployment and installation: plug and play
- Easy maintenance: downloadable software
- Increased reachability and productivity of employees
- Wireless IP telephony to users in various business environments, from a single office environment to a campus or even metropolitan area, improving the overall business efficiency
- Additional cost savings on infrastructure and cellular cost
- The combination of IP telephony and DECT in one solution providing the benefits of one IP infrastructure and the voice quality, security, availability and feature transparency of traditional DECT.

IP DECT architecture

The AP 200 series Access Points connect to the IP Network and form a DECT system that provides peer to peer IP communication between DECT handsets and other VoIP users. The IP network can be one single converged voice/data network or a dedicated network. Power supply can be local AC supply

or Power over Ethernet (PoE). A DECT Access Point provides the interface to wireless telephony using either a dedicated IP interface (model AP200) or a SIP interface (model AP200S). An Access Point provides 2 to 12 DECT Channels and supports up to 11 simultaneous calls. One channel is used for signaling between the Access Points. The maximum number of handsets, simultaneous calls, and Access Points depends on the PBX platform. Any platform with a SIP interface can communicate with the SIP DECT platform, the features provided will depend on the level of SIP interworking. An IP-DECT configuration can also support other applications such as voice mail, web-based telephony, central directory, and messaging. A DAP Manager is required for installation, maintenance, subscription, wide area roaming, and messaging. In most configurations the DAP Manager is not required for operational use. AP200 series consists of the following models: AP200 for IP DECT, AP200S for SIP DECT, AP200E (with external directional antennas and outdoor housing), and AP200D for dual mode frequency support (EMEA and US frequency switched using GPRS location detection).

Business Mobility IP DECT, SIP DECT features

Features ¹⁾		
Antenna	<ul style="list-style-type: none"> • Standard: internal omni-directional antenna 	<ul style="list-style-type: none"> • Optional: external antenna (only on AP200E)
Call handling features	<ul style="list-style-type: none"> • Crystal clear speech 	<ul style="list-style-type: none"> • Central Directory support ¹⁾
	<ul style="list-style-type: none"> • CLIP and Name Display 	<ul style="list-style-type: none"> • DTMF and call progress tones
	<ul style="list-style-type: none"> • Enquiry 	<ul style="list-style-type: none"> • Overlap Sending
	<ul style="list-style-type: none"> • Seamless integration with features of PBX platform ¹⁾ 	
Capacity	<ul style="list-style-type: none"> • Channels: 2 to 11 simultaneous calls per AP200 ⁵⁾ 	<ul style="list-style-type: none"> • Flexible assignment of 2 ..12 channels via licenses (AP200 only)
	<ul style="list-style-type: none"> • Maximum number of DECT Access Points depends on PBX platform 	<ul style="list-style-type: none"> • Maximum number of DECT handsets depends on PBX platform
Design	<ul style="list-style-type: none"> • Compact Unit (A5 size) 	
Housing	<ul style="list-style-type: none"> • Indoor use: mounting on wall or under ceiling 	<ul style="list-style-type: none"> • Optional: weather proof outdoor housing
Localization Support	<ul style="list-style-type: none"> • Supported frequency bands: EMEA, China, US, Latin America ⁴⁾ 	
	<ul style="list-style-type: none"> • AP200 and AP200S available for EMEA, China, US, Latin America and Australian region 	
	<ul style="list-style-type: none"> • AP200D is available for Cruise Line ships that need the frequency band to be switched from EMEA to North American band (based on GPRS position) 	
Management	<ul style="list-style-type: none"> • DAP Manager runs on a standard Windows PC, can run in parallel with other applications 	
	<ul style="list-style-type: none"> • DAP Manager is not required for daily use, unless support of wide area roaming or messaging is required. 	
Messaging	<ul style="list-style-type: none"> • Messaging (LRMS) support 	<ul style="list-style-type: none"> • Message broadcast support ¹⁾
	<ul style="list-style-type: none"> • Maximum message length support: 160 characters ²⁾ 	<ul style="list-style-type: none"> • Message waiting indication
Mobility/other	<ul style="list-style-type: none"> • Supports DECT compatible handsets 	<ul style="list-style-type: none"> • Full non-blind slot radio
	<ul style="list-style-type: none"> • Roaming and seamless handover 	<ul style="list-style-type: none"> • Location detection ¹⁾
Multi-site support (Main and branch offices)	<ul style="list-style-type: none"> • DAPs can be used in main and branch offices 	<ul style="list-style-type: none"> • DAP manager is required for wide area roaming
	<ul style="list-style-type: none"> • DAPs in a DECT location are part of the same multi-cast group in the LAN 	<ul style="list-style-type: none"> • Branch and main offices form one combined DECT cluster
		<ul style="list-style-type: none"> • For use in WAN no multi-cast is required
Network aspects	<ul style="list-style-type: none"> • Connects directly to Local Area Network Ethernet 	<ul style="list-style-type: none"> • 10/100 Mbits Ethernet interface
	<ul style="list-style-type: none"> • Multicast or unicast over WAN 	<ul style="list-style-type: none"> • Support of G.711
	<ul style="list-style-type: none"> • Support of G.729AB compression (AP200 only) 	
Power Supply	<ul style="list-style-type: none"> • Local AC power supply 	<ul style="list-style-type: none"> • Power over Ethernet (PoE) according to 802.3af
Security	<ul style="list-style-type: none"> • Secure DECT authentication 	
Service/maintenance	<ul style="list-style-type: none"> • Simple plug and play installation 	<ul style="list-style-type: none"> • Software upgrading of certain handsets via air interface ³⁾
	<ul style="list-style-type: none"> • Software downloading of DAP via a central location 	<ul style="list-style-type: none"> • LED status indicator
SIP Protocol Support	<ul style="list-style-type: none"> • AP200S supports SIP protocol (See also the SIP RFC support table) 	<ul style="list-style-type: none"> • The AP200S adds DECT mobility to a SIP enabled PBX. (See also the SIP Inter operability test certification table)
Signalling	<ul style="list-style-type: none"> • Signalling and synchronization requires 1 channel 	
User interface	<ul style="list-style-type: none"> • Web access (via DAP Manager) 	<ul style="list-style-type: none"> • Directly from DAP Manager application PC

1) Features depend on the capabilities of the PBX and IP DECT system.
 2) The maximum size of characters depends on the PBX platform and application used for messaging.

3) See DECT handset datasheets for support of software upgrading through the air.
 4) EMEA DECT frequency band is supported in most Asian markets as well.
 5) Country limitations may apply.

Business Mobility IP DECT and SIP DECT technical data

Dimensions	
235 x 45 x 172 mm (wxdxh)	
Weight	
540 g (inclusive packaging)	
Housing	
ABS/polycarbonate	
Protection (classification)	
IP20	
Power Supply	
Power over Ethernet (PoE): 36-60 V over spare wire pairs and phantom feed: IEEE802.3af (Class 0)	
Optional: external AC/AC power supply 230 V +/- 10% with Euro or UK plug	
Optional: external 1 port PoE	
Power consumption: ≤ 6 Watt	
Colour and Finishing	
Light grey (colour code 70109)	
Network interface	
Network:	10/100BASE-T IEEE802.3
Connector:	8-pin RJ45
Cable:	Cat 5 UTP or better
IP version:	4, DHCP, TFTP
QoS:	IEEE802.1Q, 802.1p
DiffServ:	AP200 only
Audio algorithms:	<ul style="list-style-type: none"> G.711 G.729AB (AP200 only)
DTMF generation:	H.245
Multicast:	RFC1112
Air interface	
Audio algorithm:	G.726 ADPCM
Full non-blind slot DECT RF part:	according to EN301406
RF output:	10 dBm (10mW) per channel at antenna connection ⁶⁾
Sensitivity:	typical -90 dBm measured at antenna connection at BER=0.001
Antenna:	Dual omni-directional internal antennas
Frequency bands:	<ul style="list-style-type: none"> EMEA: 1880 – 1900 MHz China: 1900 – 1920 MHz Latin America: 1910 – 1930 MHz North America: 1920 – 1930 MHz 10 carrier frequencies
Typical range:	<ul style="list-style-type: none"> Indoor: 20 – 50 m ⁷⁾ Outdoor: 300 m ⁷⁾
<p>6) For example 18dBm (60 mW) for 6 channels.</p> <p>7) The radio coverage of DECT equipment depends on the environment and presence of obstacles.</p>	

AP200 package content

AP200 package content	
<ul style="list-style-type: none"> AP200 model 	<ul style="list-style-type: none"> Mounting material

External antenna

External Directional Antennas	
<ul style="list-style-type: none"> AP200E for external, directional antennas 	
<ul style="list-style-type: none"> Optional: 8 db Antenna 	

Outdoor box

Dimensions	
430x330x200 mm (wxdxh)	
Weight	
6 kg (inclusive radio)	
Housing	
Material:	glass inforced polyester
Colour and finishing	
Colour:	grey (RAL 7032)
Installation	
Mounting of outdoor box:	<ul style="list-style-type: none"> Base stations are installed inside as a complete unit Wall mounting material included Pole mounting material optional
Temperature range	
Operating with outdoor box:	<ul style="list-style-type: none"> -15°C to +60°C (class 3.3) No additional heating required UV radiation resistant
Humidity	
Relative humidity:	5 to 95%
Industrial Use	
Hermetically closed	
Protection	
Outdoor box:	EN 50102:IK10, EN60529: Class IP66, IEC 695-2-1
Industrial use:	IEC 439-4

DAP Manager platform

PC Operating System/browser	
<ul style="list-style-type: none"> Windows 2000 Server or Professional SP4 or higher Windows 2003 Server SP2 or higher Windows XP Professional SP2 or higher Browser: Internet Explorer 6.0 or 7.0 	
Required PC Hardware	
<ul style="list-style-type: none"> CPU: Minimum 2.4 GHz RAM: Minimum 256 Mb 	

PBX platform compatibility

Platform:	AP200 Max. no	AP200S Max. no ⁸⁾	Max. no. of handsets
iS3000	≤ 750	-	≤ 6000
2000 IPS	≤ 750	-	≤ 956
SV7000	≤ 750	-	≤ 4000
IPC100	-	≤ 32	≤ 25
IPC500	-	≤ 32	≤ 250
SV8100	-	≤ 32	≤ 250
SV8300	≤ 750	-	≤ 956
3th party SIP enabled PBX/SIP server	-	≤ 32	≤ 250

8) For AP200S: Plug-and-play installation is maximum 16 AP. No licensing for the Access point and channels and no G729.ab compression.

SIP Protocol Support

SIP RFC Support AP200S	
• RFC2327	• RFC2833
• RFC2976	• RFC3261
• RFC3264	• RFC3515
• RFC3578	• RFC3665
• RFC3842	• RFC3891
• RFC2246	• RFC3711
• RFC4568	• RFC3325
• RFC3311	• RFC3265
• RFC2822	• RFC3428

SIP Interoperability test certifications

Interoperability of AP200S tested on following platforms	
NEC Philips Unified Solutions	IPC100/500, 2000 IPS, iS3000, SV7000, SV8100, SV8300
NEC	Aspire, XN120, IPK-II, NEAX 2400 IPX
3COM	VCX
Allied Telesis	VioCall
Asterisk	Asterisk
Brekeke	OnDo PBX
Cisco	Call Manager
Dafür	IP PABX NATJA
Interactive Intelligence	Vonexus
IPTel	SIP Express Router
Mitel	3300
Nortel	Meredian
Televantage	Televantage
Total XS	Total XS Hosted Platform

*) NEC Philips Unified Solution has tested the SIP DECT Solution on these platforms under laboratory conditions. No rights can be derived from this statement.

Directives and regulations

Directives and regulations Europe
R&TTE directive 1999/5/EC
EMC directive 2004/108/EC
LVD directive 2006/95/EC
ROHS directive 2002/95/EC and WEEE directive 2002/96/EC
Directives and regulations North America
FCC part 15C, 15D
RSS 210, RSS213

Temperature Range (ETS 300 019-1-3)	
Operating:	0°C to +40°C (class 3.1)
Transport:	-40°C to +70°C (class 2.3)
Storage:	-25°C to +60°C (class 1.2)
Relative Humidity	
< 90% (non condensing)	

Reliability

Reliability AP200 and AP200S	
MTBF	≤ 4600 FIT (Failure In Time)
Technical Lifetime	≥ 7 years

Compliance

Compliance AP200/AP200S	
The G955 handset carries a CE mark	
EMC:	EN301 489-1, EN301 489-6, EN61000-3-2/3 (AC supply)
DECT:	EN301 406, 300 757 (Service Class 2)
Safety:	EN60950-1, EN50385

Maintenance

Maintenance and service
LED status indication
Web based management tool
Downloadable DAP software

About NEC Corporation: NEC Corporation (NASDAQ: NIPNY) is one of the world's leading providers of Internet, broadband network and enterprise business solutions dedicated to meeting the specialized needs of its diverse and global base of customers. NEC delivers tailored solutions in the key fields of computer, networking and electron devices, by integrating its technical strengths in IT and Networks, and by providing advanced semiconductor solutions through NEC Electronics Corporation. The NEC Group employs more than 150,000 people worldwide. For additional information, please visit the NEC home page at: <http://www.nec.com>

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Corporate Headquarters (Japan)
NEC Corporation
www.nec.com

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www.necunifiedsolutions.com

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