Business Mobility IP DECT

Wireless telephony for IP networks

DECT Access Point Program

Key features

- Supports standard DECT compatible handsets
- Secure air interface
- Crystal clear speech and seamless handover
- Flexible assignment of channels, without replacing hardware
- Support of G.729ab compression, silence suppression and comfort noise insertion
- Supports short messaging
- Connects directly to Ethernet
- External power or power over Ethernet
- IP peer-to-peer communication
- Simple plug-and-play installation
- Compact unit (A5 size)
- Support of external antennas
- Downloadable software
- LED status indicator
- Outdoor housing

The AP200 DECT Access Point is a radio base station that provides wireless telephony to enterprise networks. It connects directly to the LAN, making dedicated cabling between radio base stations and the PBX no longer necessary. Instead, the AP200 makes use of a single converged voice and data network.

Providing wireless telephony within a multi-site business or campus environment involves simply installing DECT Access Points at the remote locations. No additional remote equipment is needed. AP200 support of G.729ab compression fortifies Business Mobility IP DECT applications in branch office locations as it decreases the need for bandwidth for connections to these branch office locations.

The AP200 combines the benefits of wireless telephony with those of the converged network, while retaining the quality, security and reliability of the DECT standard. Connection to either the powerful SOPHO 2000 IPS PBX, or the well-established SOPHO iS3000 PBX makes system features accessible through a wide range of DECT-compatible handsets.

NEC PHILIPS

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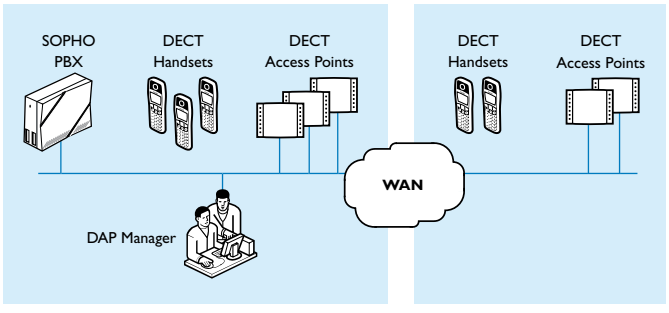
The AP200 is a compact and easily installed plug-and-play module, the software for which can be downloaded from a single maintenance point. The number of channels per AP200 can easily be adjusted to capacity requirements. It can be powered externally or via the LAN.

The AP200 range of products comprises: the AP200 base station, the AP200E base station with connection for directional external antenna, and a weatherproof outdoor housing.

The AP200 is also fitted with a SIP interface and can therefore also be used to add DECT mobility to a (non-Philips SOPHO) SIP enabled PBX.

Configuration

The diagram shows a typical configuration, in which DECT Access Points (DAPs) provide wireless telephony to headquarters and branch office locations. The DAP Manager integrates all DAPs with the PBX. The configuration may also include other applications, such as short messaging, voice mail, unified messaging, web-based telephony and speech-enabled directory services.



headquarters *branch office*

PBX

The SOPHO 2000 IPS is an innovative PBX specifically designed to provide the best of both the IP and TDM telephony worlds. With DECT Access Points fully integrated, the PBX adds sophisticated system features and functionalities to DECT handsets. For the SOPHO iS3000 series, the AP200 offers a second means of adding DECT to the PBX. Customers can now either choose dedicated wire connections to DECT radios or make use of the single converged voice/data network.

The available SIP interface allows DECT mobility to be offered to host PBXes with a SIP interface. The capabilities/features of Business Mobility IP DECT in combination with the SIP enabled PBX depends on the level of cooperation between the two.

DAP manager

The DAP Manager software runs on a standard computer and supports control and management functions such as:

- Wide area roaming
- Managing all DAPs in a network
- Managing installation, maintenance and subscription services via web-based user access
- Enabling the messaging interface, when combined with Messenger@Net. DAP Manager can run alongside other applications and does not require a dedicated server.

Main features

- Supports DECT GAP compatible handsets
- 10/100 Mbits Ethernet interface
- Full non-blind slot radio
- Secure DECT encryption
- Support of G.729ab for compression, silence suppression and comfort noise insertion
- Roaming and seamless handovers
- LRMS messaging (max. 160 characters)
- CLIP and Name display
- Overlap sending
- Enquiry
- DTMF and call progress tones
- Message waiting indication
- Downloadable software
- Plug-and-play installation
- Flexible assignment of channels
- Multicast or unicast over WAN

External antenna

To fine tune coverage in difficult locations, an external directional antenna can be connected by means of the AP200E.

Outdoor housing

For widespread coverage across your whole campus, in car parks and between buildings, both the AP200 and AP200E can be wall-mounted in a weatherproof outdoor housing.

Peer-to-peer media stream

SOPHO 2000 IPS peer-to-peer media stream ensures that voice traffic flows directly between terminals on the IP network, instead of to and from the PBX, as with traditional telephony. This reduces the load on the IP network and improves the quality of service.

G.729ab compression

Support of the G.729ab compression (including silence suppression and comfort noise insertion) by the AP200 ensures that the load on the IP network is reduced significantly. Especially when bandwidth is at a premium, for example when calls are to be routed over the WAN, it is advisable to use the offered compression mechanism.

The number of simultaneous G.729ab supported calls for the DECT cluster can be increased via licenses.

Remote Access Points

DAPs belonging to the DECT system in headquarters and the DAPs in each branch office together form a DECT cluster. For proper operation, the DAPs in each DECT location should belong to the same multicast group. This means that each LAN has to support multicasting - over the WAN no multicast support is required. Note: For wide area roaming, a DAP Manager is required.

Mixing AP200 and AP100

When within one DECT cluster both AP100s and AP200s are being used, no G.729ab compression is offered the maximum number of DECT Access Points per network is restricted to 50, and a DAP Manager is always needed.

AP200s deployed in a mixed IP DECT network support up to 12 channels (depending on the number of 2-channel upgrade licenses).

Capacity

- 2 to 12 simultaneous calls per AP200 (2 per 2-channel upgrade)
- Max. 6000 DECT handsets per IP DECT network (depending on the number of handsets supported by the PBX this may be less)

Expert Services

Business Mobility IP DECT is fully supported by our Expert Services. This extensive portfolio of services provides the insight and support needed to get the most out of equipment and applications. The services offered comprise advice, design, customisation, integration, training, maintenance, continuous optimisation and Business Partner services.

DECT Site Survey

DECT Site Survey services assess your sites before you implement the solution, enabling you to:

- guarantee radio coverage of the geographical area concerned
- determine the number of DECT Access Points you require
- define the exact locations of the DECT Access Points

Network Readiness

Network Readiness services provide various levels of assessment so you can optimise your data network for IP telephony solutions.

Before you implement the solution, we can help you to:

- expose any need for infrastructural improvements
- identify any network availability concerns
- indicate the expected call quality
- pinpoint any network management challenges
- unlock the promised value of IP telephony solutions
- reduce the risk of business disruptions

Technical data

Network interface

- 10/100BASE-T IEEE802.3
- Connector: 8-pin RJ45
- Cable: Cat 5 UTP or better
- IP version 4, DHCP, TFTP
- QoS: IEEE 801.1Q, 802.1P and DiffServ (for AP200 only)
- Audio algorithms: G.711 and G.729ab
- DTMF generation: H.245
- Multicast: IEEE 802

Air interface

- Audio algorithm: G.726 ADPCM
- Full non-blind slot DECT RF part, according to EN301406
- Frequency bands:
  - 1880 - 1900 MHz
  - 1900 - 1920 MHz*
  - 1910 - 1930 MHz*

  10 carrier frequencies
- RF output: 20 to 24 dBm at antenna connection
- Sensitivity: typical -90 dBm measured at antenna connection at BER=0.001
- Dual omni-directional internal antennas
- Optional: AP200E offers means to connect external, directional antennas. NEC Philips' portfolio includes an 8dB antenna
- Typical range: indoor 20-50 m, outdoor 300 m

Power supply

- Power over Ethernet (PoE): 36-60 V over spare wire pairs and phantom feed in accordance with 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 W

SIP RFC Support

- RFC2327
- RFC2833
- RFC2976
- RFC3261
- RFC3264
- RFC3515
- RFC3578
- RFC3665
- RFC3842
- RFC3891

Maintenance

- LED status indication
- Web based management tool
- Downloadable DAP software

Physical characteristics

- Size: 235 x 45 x 172 mm (wxdxh)
- Weight: 540 g (incl. packaging)
- Housing: ABS/polycarbonate, light grey (colour code 70109)
- Classification: IP40
- Optional: outdoor housing class IP66
- Package contains: AP200, mounting material

Reliability

- MTBF ≤ 4600 FIT (Failure In Time)
- Technical lifetime ≥ 7 years

Environmental conditions

- ETS 300 019-1-3, temperature range:
  - Storage class 1.2 (–25° C to +60° C)
  - Transport class 2.3 (–40° C to +70° C)
  - Operation class 3.1 (0° C to +60° C)
  - With optional outdoor box: Operation class 3.3 (–20° C to +50° C)
- Relative humidity < 90 % (non condensing)
- The equipment is in compliance with the requirements of EU directive 2002/95/EC (RoHS) and 2002/96/EC (WEEE)

Compliance

- Safety
  - EN60950-1: 2001
  - EN50385
- Electro Magnetic Compatibility (EMC)
  - EN301 489-1 and 6
  - EN61000-3-2/3 (AC supply)
- DECT
  - EN301 406-V1.4.1: 2001-03
  - EN300 757 (Service Class 2)

DAP manager PC platform

- Windows 2000 Server or Professional, Service pack 4
- Windows 2003 Server
- Windows XP Professional SP2
- CPU: minimum 2.4 GHz
- RAM: minimum 256 Mb

* *For the non-European markets DECT Access Point versions of the AP200 are available, with different frequency bands.*

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