



IP Office Release 6

IP Office DECT R4

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Documentation information

For the most current versions of documentation, go to the Avaya Support web site (<http://www.avaya.com/support>) or the IP Office Knowledge Base (<http://marketingtools.avaya.com/knowledgebase/>).

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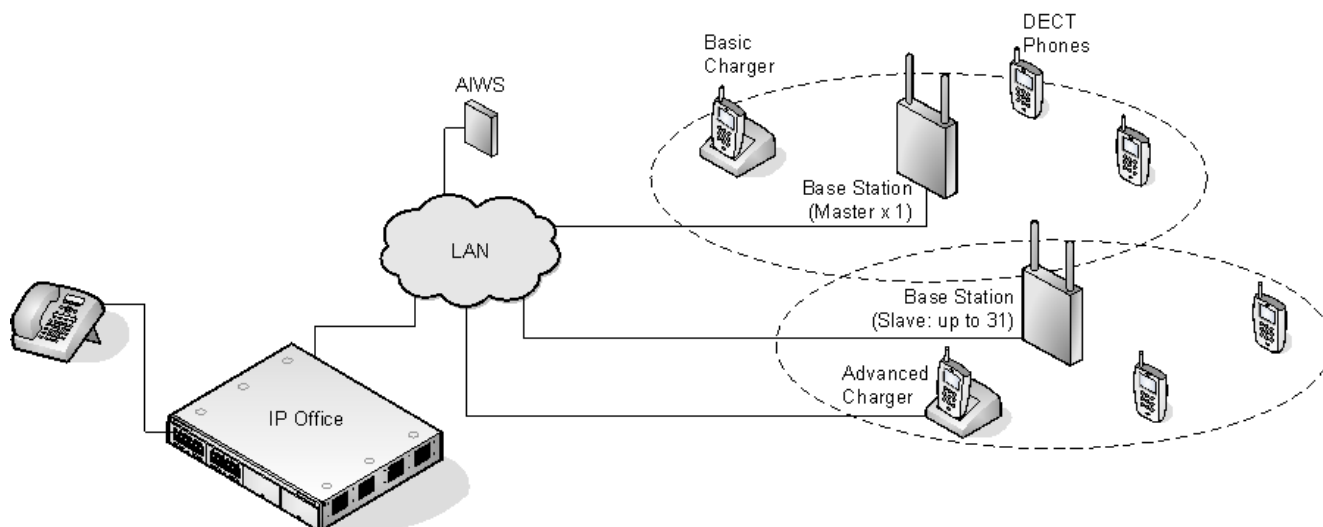
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Chapter 1.

DECT R4

1. DECT R4

Avaya DECT R4 is an DECT system where multiple base stations are connected using an IP LAN. For IP Office, DECT R4 is supported with IP Office Release 5+.



- [IP DECT Base Station \(IPBS\)](#) ⁸
Up to 32 are supported. During installation one is configured as the master base station, to which the other base stations synchronize as slave base stations. Each base station can host up to 8 simultaneous phone conversations in its coverage area.
 - For IP Office Release 6, the Compact Base Station is supported. This type of base station only supports 4 simultaneous calls. Up to 5 Compact Base Station units can be included in a system. If used as the master base station, the whole system is limited to 5 base stations.
- [Phones](#) ¹²
Up to 120 DECT phones are supported. Other DECT phones are supported using the DECT GAP and DECT CAP standards.
 - 3720
 - 3725
- [Chargers](#) ¹³
A number of different chargers exist for the 3720/3725 phones.
 - Basic Charger
This is a simple single-phone charger for charging only.
 - Advanced Charger
This single-phone charger has USB and LAN sockets. These allow the phone docked with the charger to be accessed using the Device Manager application (browser access via the AIWS unit and charger LAN port or WinPDM application via the USB port).
 - Rack Charger
This is an 6 phone advanced charger.
 - Battery Rack Charger
This charger can be used to charge up to 6 batteries separate from the handsets.
- IP Office
For IP Office systems, DECT R4 is supported on systems running IP Office 5.0+ software.
- [Avaya In-Building Wireless Server \(AIWS\)](#) ¹⁰
This unit allows SMS messaging between handsets. It also allows wireless software upgrades and configuration of the handsets (without an AIWS, handsets can only be upgraded and configured when in an advanced charger). For IP Office Release 5 this unit provides directory integration between the IP Office and the DECT R4 system. For IP Office Release 6 directory integration can be done by the master base station but disables support for SMS. If both SMS and directory integration are required then an AIWS unit must be used.
- Configuration Tools
The tools and applications for DECT R4 are included as part of the IP Office Manager application installation. This includes the appropriate firmware for operation with the IP Office system.

1.1 Base Stations

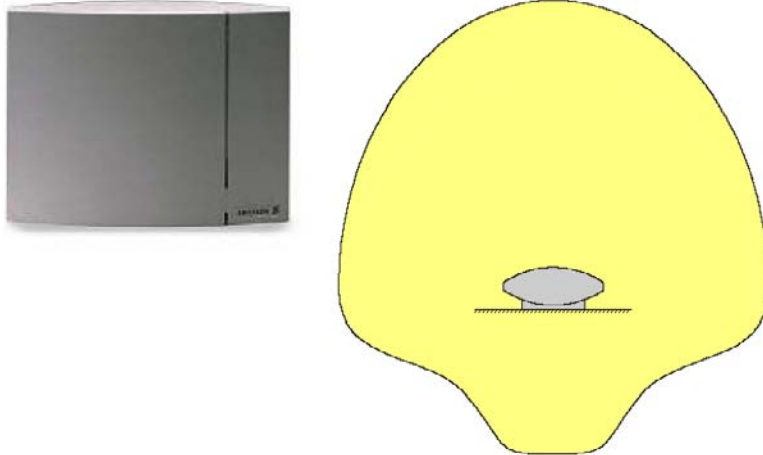
DECT R4 supports three base station variants; the BS330, the Compact Base Station and the BS340. They differ in aerial connection and in the number of simultaneous calls supported. During installation one of the base stations is configured as the master base station for the DECT R4 system.

Each base station includes a detachable bracket for use in wall mounting of the base station. Each base station requires a LAN access point and is supplied with a 1.2 metre (4 foot) LAN cable.

Each base station can be powered using IEEE 802.3af power over ethernet (PoE 7W Class 2). Alternatively the base station also requires a main power supply outlet socket within 8 metres (26 feet) cable distance and power supply unit.

- **BS330**

The BS330 has 2 integral internal aerials which cannot be adjusted. The aerials produce a slightly directional pattern of radio coverage. The base station supports up to 8 simultaneous calls.

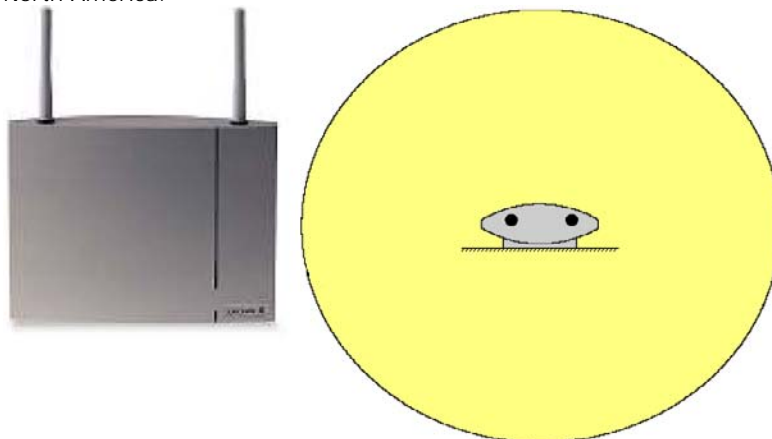


- **Compact Base Station**

The Compact Base Station is physically the same as the BS330 but only supports 4 simultaneous calls. Up to 5 Compact Base Station units can be included in a system. If used as the master base station, the whole system is limited to 5 base stations. Compact Base Station are only supported if all the other base stations are running firmware version 3.3.11 or later.

- **BS340**

The BS340 has 2 external aerials. These aerials produce a even pattern of radio coverage. The base station supports up to 8 simultaneous calls. The aerials can be disconnected and replaced by a various other [types of aerials](#) ^[11] if different radio coverage patterns and range is required. This type of base station is not supported in North America.



The base stations include a detachable bracket for use for wall mounting or column mounting of the base station. This also allows the base stations to be removed for maintenance.

Base Station Details

Feature		Details
DECT Frequencies	Brazil	1910-1920 MHz frequencies.
	Latin America	1910-1930 MHz frequencies.
	North America	1920-1930 MHz frequencies.
	Rest of World	1880-1900 MHz frequencies.
Physical	Dimensions (Height × Width × Depth)	165 × 200 × 56 mm (including mounting bracket). Add 95mm height for external aerials.
	Weight	450g
	Material	ABS moulded plastic
	Colour	Beige
	External connectors	2 × RJ45, 1 × RJ12
Power	Input	Power over Ethernet IEEE 802.3af or local power supply
	Operating voltage	21 to 56 V dc.
	Power consumption	Typical 4W, maximum 5W.
	Power over Ethernet	PoE Class 2 (7W).
Network	Ethernet:	10/100baseT
	Voice over IP	H.323 XMobile incl. H.450
	Voice Encoding	G.711 A-law / μ -law (64kbps) G.723.1 (5.3 kbps) G.729A and AB (16 kbps)
Radio	RF output power EU	Between 23 dBm and 28 dBm (with internal antenna) Between 20 dBm and 25 dBm (with external antenna)
	RF output power US	Between 17 dBm and 21,6 dBm (with internal antenna)
Environmental	Operating temperature	-10°C to +55°C
	Storage temperature	-40°C to +70°C
	Relative operating humidity	15 to 90%, non condensing
	Relative storage humidity	5 to 95%, non condensing
	Immunity to electromagnetic fields	3V/m (EN61000-4-3)
	Immunity to ESD	4 kV contact discharge and 8 kV air discharge (EN61000-4-2)

1.2 AIWS

The AIWS (*Avaya In-Built Wireless Server*) unit allows SMS messaging between handsets. It also allows wireless software upgrades and configuration of the handsets. Without an AIWS, handsets can only be upgraded and configured when in an advanced charger.

For IP Office Release 5 this unit also provides directory integration between the IP Office and the DECT R4 system. For IP Office Release 6 done by the master base station without requiring an AIWS but this disables support for SMS. If both SMS and directory integration are required then an AIWS unit must be used.

The unit is managed via web browser and requires a fixed IP address.



- Wall mountable.
- Dimensions: 275 x 130 x 60 mm, 550g.
- Supplied with power supply unit and power cords.

1.3 Aerials

The following different aerials can be used to replace the aerials on a BS340 base station. These aerials have aerial leads to allow for optimal positioning. Note that this type of base station and therefore optional aerials are not supported in North America.

- **Omni-Directional Single Aerial**

A pair of these aerials can be used to approximately double the base station radio coverage, ie. up to 600 metres (2000 feet) omni-directional coverage.



- **Directional Dual Aerial**

This aerial gives directional coverage up to 750 metres (2500 feet). Only one aerial unit is required for connection to the base station.



- **Directional Single Antenna**

A pair of these aerials can be used to give directional coverage up to 1000 metres (3300 feet). They must be mounted facing the same direction and approximately 1 metre (3 feet) apart. To achieve maximum coverage, the aerial should be mounted between 4 to 8 metres (13 to 26 feet) above area being covered.



1.4 Phones

The 3720 and 3725 DECT phones are specifically designed for use with the DECT R4 system.

Phone		Avaya 3720	Avaya 3725
Picture		 The Avaya 3720 is a black DECT phone with a monochrome screen. The screen displays the time 10:58 and a 'Call list' with entries: *17, 290, 230, and 1971-06-20. Below the screen are three small buttons and a circular navigation pad. The keypad is a standard 12-key numeric keypad with function keys for call, end call, and search.	 The Avaya 3725 is a black DECT phone with a color screen. The screen displays the time 10:59 and a 'Call list' with entries: (2) 206, (3) 290, 290, 1970-01-01, 290, and 290. Below the screen are three small buttons and a circular navigation pad. The keypad is a standard 12-key numeric keypad with function keys for call, end call, and search.
Features		<ul style="list-style-type: none"> • High quality voice DECT phone, GAP/CAP compliant • Easy access to PBX services • Voicemail • Manual and automatic keypad lock • Local and central phone book • Call list with the 25 last calls • Vibrator • Loudspeaker/hands free • Central Management and software download • Headset socket • 5 languages 	<ul style="list-style-type: none"> • As per 3725 plus: • SMS <ul style="list-style-type: none"> • Message acknowledgement • Message length up to 160 characters • Storage capacity: 30 received/sent messages • Colour display • Site Survey tool • Cleanable, IP 44 • Option: Bluetooth • 19 languages
Physical	Dimension	133 x 53 x 24mm	134 x 53 x 26mm
	Weight	115g	130g
Battery	Type	600 mAh, Li-Ion 3.7V	930 mAh, Li-Pol 3.7V
	Speech Time	> 16h	> 20h (13h with Bluetooth option)
	Standby Time	> 180h	> 240h (120h with Bluetooth option)

1.5 Chargers

A number of different chargers exist for the 3720/3725 phones.



- Basic Charger

This is a simple single-phone charger for charging only.



- Advanced Charger

This single-phone charger has USB and LAN sockets. These allow the phone docked with the charger to be accessed using the Device Manager application (browser access via the AIWS unit and charger LAN port or WinPDM application via the USB port).



- Rack Charger

This is an 6 phone advanced charger.



- Battery Charger

Allows the charging of up to 6 batteries separate from the phones.

Chapter 2.

Site Survey and Planning

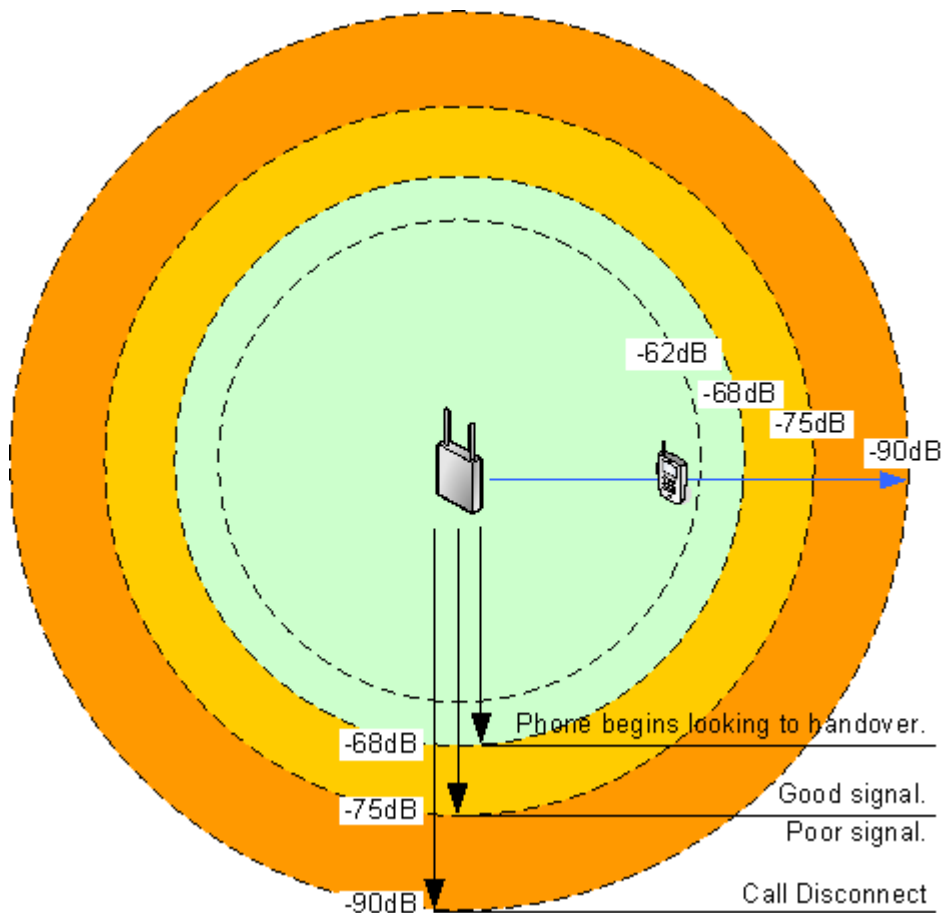
2. Site Survey and Planning

We cannot give precise recommendations for a site survey as every site will vary. However a site survey is a prerequisite to installation in all cases. The correct and effective placement of base stations will prevent problems and maximize coverage. Most issues with any DECT system will arise from the number and positioning of the base stations.

The basic aim is to ensure:

- Base station coverage in all areas of expected DECT phone usage.
- Sufficient number of base stations covering each area for the number of expected simultaneous users (up to 8 per base station) in that area.
- Sufficient overlap between areas of base station coverage to allow for [call handover](#)^[18] when DECT phone users are moving.
- Where possible [synchronization](#)^[19] of each base station with more than one other base station.

The diagram below indicates the basic measures for coverage between a base station and a DECT phone.



Signal Strength	Description
-40dB	Strong signal typically seen when a phone is close to the base station.
-62dB	Minimum signal strength for a phone to handover to the base station.
-68dB	Signal strength below which the phone will begin looking for a base station to which it can handover.
-75dB	At this signal strength the increase error rate will become apparent in the speech.
-90dB	At this signal strength call are like to disconnect.

2.1 Factors to Consider

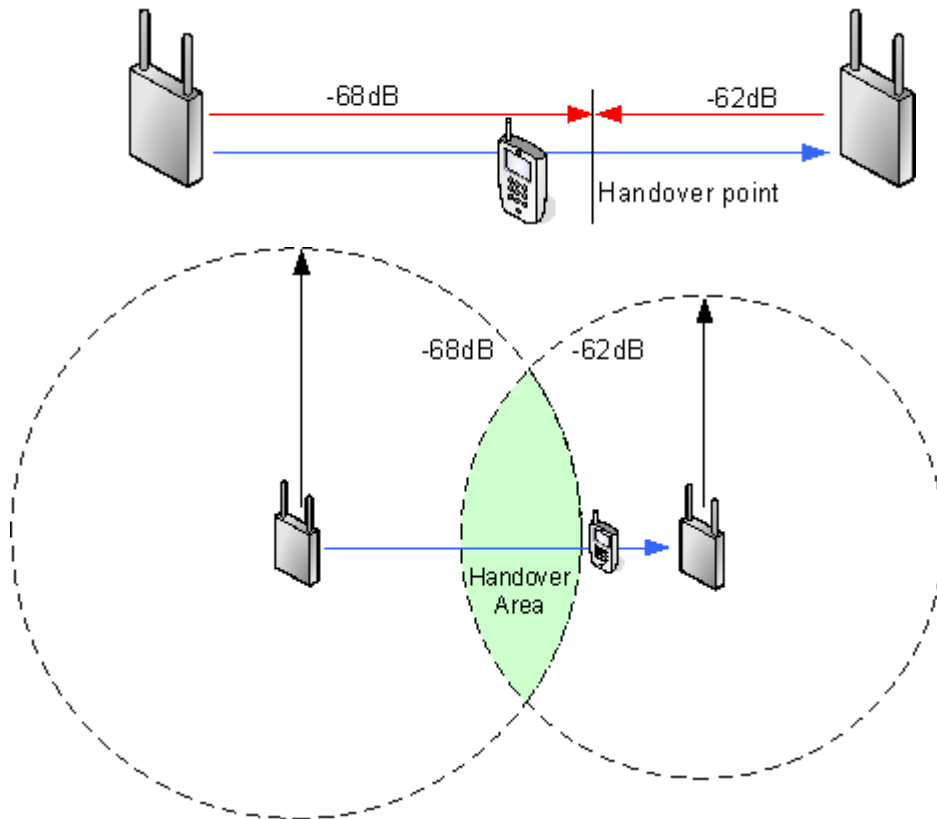
Given ideal open field conditions, the range between a phone and a standard base station can be up to 600 metres (2000 feet). However where obstacles absorb signal strength and reflected signals giving increased error rates, the range is more realistically between 30 metres (100 feet) indoors and 300 metres (1000 feet) outdoors.

In practice, no rules or guarantees can be given for base station coverage. Coverage is affected by too many factors that are unique to each site. The following is a guide to those factors that can affect coverage which you should consider and look for during any site survey.

- Obvious causes of signals problems
 - Metal surfaces.
 - Concrete thickness greater than 1 metre (3 feet).
- Also beware of
 - Windows with Reflective Film or Specialized Glass.
These produce increased signal reflection and reduced signal pass-through.
 - Wire Meshes and Grills with Apertures of Less than 4cm (1.5 inches).
These block signals as effectively as continuous metal sheet.
 - Fire Doors
These block the signals. In multi-occupancy building such as hotels, the high number of fire-doors may be a problem.
 - Stair Wells
In modern office buildings, stair wells frequently combine concrete building supports, fire doors and the intervening floor material, making them a special problem.
 - Screened Rooms
Typically found in offices involved with TV, video and radio production, but also possible in computer centers.
 - Empty Sites
Do not perform a survey on a site that is not yet occupied. The survey results will differ from those of the same site once occupied by the customer business. Similarly the survey should be performed during normal business hours in order to assess the areas of usage and the effect of equipment being operated and moved.
- Be Aware of
 - Signal Direction
The signal from a base station does not propagate evenly in all directions. The signal typically propagates strongest in the horizontal plane. However the ability for a base station to serve callers located on floors above or below it should not be ignored. This may allow coverage to be extended to areas not frequently used and so not meriting a dedicated local base station.
 - Other Radio Signals
The ability to receive normal broadcast radio signals in an area is not an indication that DECT signalling will be received.
 - Rack Chargers
A rack charger (6 phones) immediately creates an area where a single base station (8 calls) would be near maximum capacity. Look to provide overlapping base station support to areas where rack chargers will be located.

2.2 Handover

Once a phone is connected on a call through a particular base station, it will normally maintain connection with that base station even if the phone moves into an area with a stronger signal from another base station. However, when the signal to the phone drops below -68dB , the phone will begin looking for another base station with a better signal to which it can handover (this is often referred to as "roaming"). If the other base station signal is -62dB or higher, the phone will handover to that base station if it has free capacity.



2.3 Base Station Synchronization

Base stations in the DECT R4 system need to be synchronized with each other. This can be done with a signal as low as -90dB between base stations.

One base station is assigned as the 'air synch master', typically the master base station. Each other base station can synch directly with it or indirectly via a synchronization chain. However, it is preferable that the number of synchronization 'hops' between any particular base station and its air synch master base station is kept as low as possible. To help achieve this it is recommended that the air synch master is placed centrally within the set of base stations.

Where possible, each base station should be placed in synchronization range of more than one base station. That allows the base stations to maintain synchronization should one base station fail or be switched off for maintenance. The process of synchronizing by the shortest route to the air synch master when in synchronization range of multiple base stations is automatic.

Advanced Scenario: Separated Locations

In most scenarios, the master base station is used as the air synch master for all the other base stations and that is the scenario documented in this manual. However, in scenarios where you have base stations in separate locations that are not within synchronization range of each other, it is permissible to assign separate air synch masters in each location. However there must be absolutely no overlap (<-90dB) between the separate groups of base stations. Any overlap will cause frequent lose of synchronization.

2.4 Performing a Survey

- While performing a survey you will require the following information:
 - Building Layout
Accurate building plans are an essential aid to both the site survey and also for later fault analysis. Ensure that you have an accurate plan of the customer premises, including the locations of mains power outlets and network connection points.
 - The area of coverage required?
Which areas within the plans the customer expects to be covered. Do they expect coverage outside the building and or in buildings separate from the main building.
 - The number of simultaneous users within different areas?
Each base station can support up to 8 simultaneous calls (4 for a Compact Base Station).
- Perform the survey during normal business hours. The movement of large items of machinery, such as lifts and shutter doors, will then be observable during the survey.
- Ensure that you have read this documentation and understand the requirement of both [phone handover](#)^[18] and [base station synchronization](#)^[19].
- As the survey takes place, note whether additional network connection points will be required and or mains power outlets. Consider the use of Power over Ethernet, if possible in order to simplify base station installation.

3725 Site Survey Mode

The following method is used to put a subscribed 3725 into site survey mode.

1. Go to the menu Call Time.
2. Activate the Admin menu by pressing ► * ◀◀ * ◀◀.
3. In Admin menu, select DECT Info. The phone will display information about the base station.



- C7 S10
This is the DECT signal carrier and slot.
- ss
This is the signal strength. This is the main value that should be recorded and accessed as you perform the survey.
- Error rate / Q2 Error rate
These are the error (corrupted) frames per second on the signals from and to the base station.
- Park:
The PARK (SARI) of the DECT system.
- PARI
The PARI of the DECT system.
- Bear:
The current power output of the phone.
 - *Pwr* = on hook
 - *LU* = off hook, Low power
 - *US* = off hook, Normal power
 - *EU* = off hook, High power

Chapter 3.

Installation

3. Installation

General Installation Requirements

Information

- ☐ Service user name and password for IP Office configuration access.
- ☐ IP Office IP address.

Parts Required

- ☐ IP Office Release 6 software DVD or image of the IP Office Release 6 admin software.

Tools Required

- ☐ Programming PC with IP Office Manager application installed. You must have rights on this PC to change its IP address settings.

Base Station Installation Requirements

Parts Required

- ☐ Base station
Includes:
 - ☐ Base station.
 - ☐ Two 3.5mm screws and two 6mm wall plugs suitable for wall mounting onto a solid wall (brick or similar).
 - ☐ 1.2 metre (4 foot) LAN cable.
If this is replaced with a longer cable the replacement should be a CAT5 Ethernet LAN cable.
- If using Power over Ethernet:
 - ☐ The base station supports Power over Ethernet, IEEE 802.3af, class 2.
- If not using Power over Ethernet:
 - ☐ Base station power supply unit.
Required if not using Power over Ethernet to power the base station. Note that the base station power supply units include an 8 metre (26 feet) cable from the PSU to the base station. Check that you have the correct type of power supply unit for the locale.
 - ☐ BSX-0013: Europe (except United Kingdom).
 - ☐ BSX-0014: United Kingdom.
 - ☐ BSX-0015: USA/Canada..
 - ☐ BSX-0016: Australia.
 - ☐ Mains power outlet socket.
- ☐ LAN Socket.

Information

- ☐ DECT R4 SARI.
- ☐ Base Station IP Addresses.
- ☐ Detailed plans from the site survey indicating the intended base station locations, LAN sockets and if necessary power supply outlets.

Tools

- ☐ Programming PC with DECT R4 [software](#)^[24].
- ☐ Web browser.
- ☐ Drill and drill bits suitable for the selected wall mounting position of the AIWS.
- ☐ Screwdrivers for use with the screws selected for AIWS wall mounting.

Phone Subscription Requirements

Information

- ☐ Service user name and password for IP Office configuration.
- ☐ Master base station IP address.
- ☐ User name and password for master base station configuration.
- ☐ User names and extension numbers for the DECT phones.

Tools

- ☐ IP Office Manager.
- ☐ Web browser.

AIWS Installation Requirements

Parts Required

- ☐ AIWS Unit which includes:
 - ☐ AIWS Unit
 - ☐ AIWS Power Supply unit and selection of IEC60320 C7 power leads (CEE7/16 (Europlug), BS1363, NEMA1-15 and AS/NZS 3112).
 - ☐ 1.2 metre (4 foot) LAN cable.
If this is replaced with a longer cable the replacement should be a CAT5 Ethernet LAN cable.
 - ☐ AIWS License sheet.
- ☐ 3 x 3.5mm Screws and suitable wall plugs for the wall mounting of the AIWS.
- ☐ LAN Socket
- ☐ Mains power outlet socket.

Information

- ☐ IP Address for the AIWS
- ☐ Other standard network settings (Default Gateway, DNS, WINS)
- ☐ AIWS License Key (this should have been supplied with the AIWS)
- ☐ IP Address of the DECT Master base station.
- ☐ IP Address of the IP Office
- ☐ Preferred time settings (date format, time format)
- ☐ Wall mounting location selected for the AIWS
- ☐ Access information (name and password) for configuring the base stations.

Tools

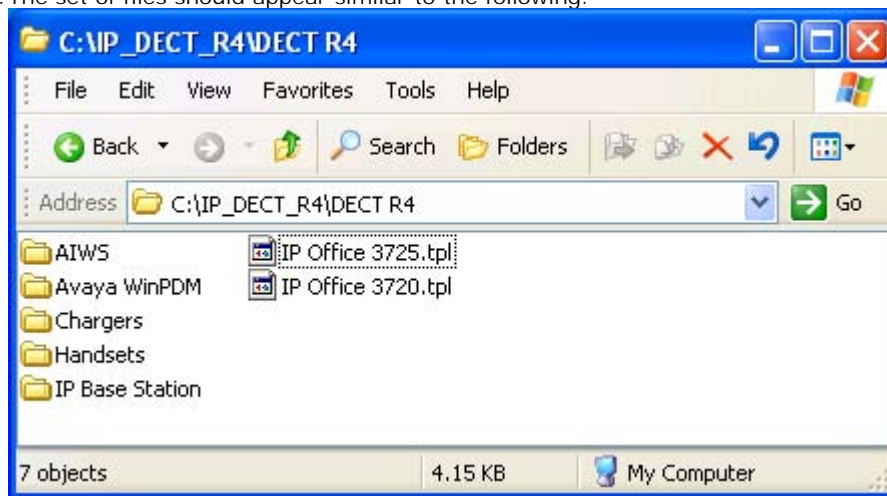
- ☐ Programming PC with DECT R4 [software](#) ²⁴.
- ☐ Web browser.
- ☐ Pliers and sharp knife for removal of plastic cable cut-outs from AIWS case.
- ☐ Drill and drill bits suitable for the selected wall mounting position of the AIWS.
- ☐ Screwdrivers for use with the screws selected for AIWS wall mounting.

3.1 Software

Before beginning installation, you need to unpack the DECT R4 software for IP Office operation onto your programming PC.



DECT R4 is supported on a range of Avaya systems. However, for IP Office operation, only firmware specifically documented as having been tested and supported with IP Office should be used. Details of supported firmware will be included in IP Office Technical Bulletins and Technical Tips.

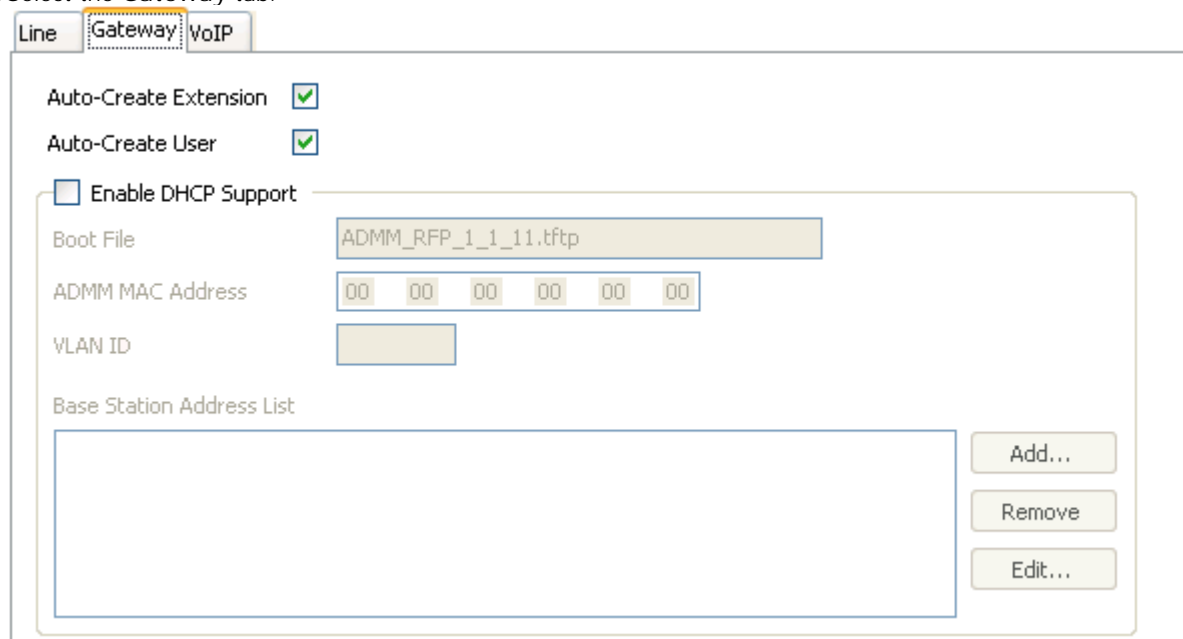
1. On the programming PC, create a folder with a name indicating its purpose, for example *c:\IP_DECT_R4*.
2. Within the IP Office Administrator Application software set, locate the folder IPDECT.
3. The folder contains a file *DECT R4.zip*. This is the file containing software for DECT R4. The file IPDECT.zip contains software for the previously supported IP DECT and not for DECT R4.
4. Copy the *DECT R4.zip* file to the folder created on the programming PC.
5. Using WinZip or a similar tool, extract the contents of the zip file into the folder, maintaining the directory structure of the zip files.
6. The set of files should appear similar to the following.



3.2 Create an IP DECT Line

At this stage we will create an IP DECT line for traffic between the IP Office and the DECT R4 system. The line is configured with the IP address of the master base station. The IP Office configuration only requires and allows a single IP DECT line.

1. Note: This process requires the IP Office system to be rebooted. That will stop all existing calls.
2. Start IP Office Manager and receive the configuration from the IP Office system.
3. In the left-hand navigation pane, click on  Line icon.
4. In the right-hand details pane, click on the  icon and select IP DECT Line.
5. Select the Gateway tab.



Line Gateway VoIP

Auto-Creation Extension ☒

Auto-Creation User ☒

☐ Enable DHCP Support

Boot File ADMM_RFP_1_1_11.tftp

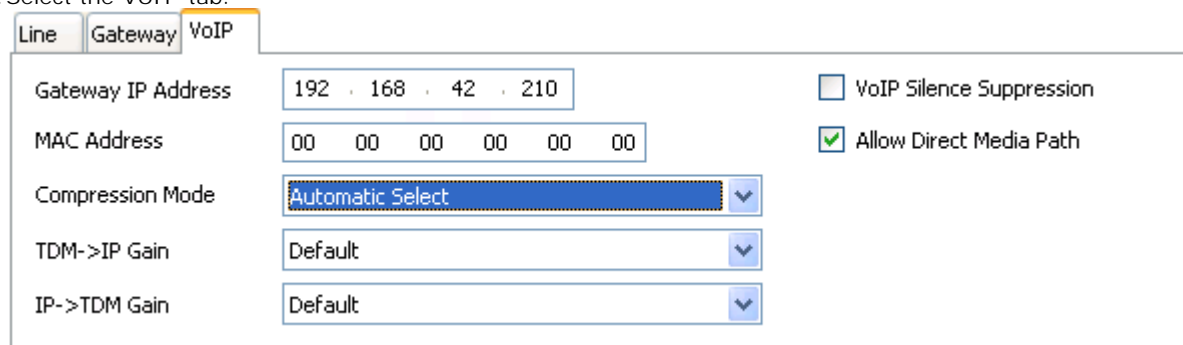
ADMM MAC Address 00 00 00 00 00 00

VLAN ID

Base Station Address List

Add... Remove Edit...

6. Check that the Auto-Creation Extension and Auto-Creation User check boxes are selected.
7. The other options on this tab are not used for DECT R4 and should not be selected.
8. Select the VoIP tab.



Line Gateway VoIP

Gateway IP Address 192 . 168 . 42 . 210

MAC Address 00 00 00 00 00 00

Compression Mode Automatic Select

TDM->IP Gain Default

IP->TDM Gain Default

☐ VoIP Silence Suppression

☒ Allow Direct Media Path

9. In the Gateway IP Address field enter the IP address that will be used for the master base station.
10. Click OK.
11. Send the configuration back to the IP Office.

Chapter 4.

Base Station Installation

4. Base Station Installation

The base station installation process consists of the following stages:

1. Basic Base Station Configuration
 - a. Default the base station.
 - b. Access the base station configuration.
 - c. Update the base station firmware.
 - d. Set the base station IP address.
 - e. Set the time source.
 - f. Set the QoS/ToS settings.
 - g. Enable status logging by the AIWS.
2. Master Base Station Configuration
 - a. Set the base station as the master base station.
 - b. Select the PBX Switch mode.
 - c. Configure the IP trunk.
 - d. Enable the radio settings.
 - e. Enter the PARI code.
 - f. Enter the SARI /PARK code.
 - g. Configure Air Synch.
 - h. Configure IP Office Directory Integration.
 - i. Reset the base station.
 - j. Check the base station.
3. Slave Base Station Configuration
 - a. Set the base station to slave mode.
 - b. Reset the base station.
 - c. Check the base stations.
4. Base Station Mounting.

Pre-Requisites

- ☐ IP Office connected to the LAN with [IP DECT line](#)^[25] configured for master base station IP address.

Parts Required

- ☐ Base station
Includes:
 - ☐ Base station.
 - ☐ Two 3.5mm screws and two 6mm wall plugs suitable for wall mounting onto a solid wall (brick or similar).
 - ☐ 1.2 metre (4 foot) LAN cable.
If this is replaced with a longer cable the replacement should be a CAT5 Ethernet LAN cable.
- If using Power over Ethernet:
 - ☐ The base station supports Power over Ethernet, IEEE 802.3af, class 2.
- If not using Power over Ethernet:
 - ☐ Base station power supply unit.
Required if not using Power over Ethernet to power the base station. Note that the base station power supply units include an 8 metre (26 feet) cable from the PSU to the base station. Check that you have the correct type of power supply unit for the locale.
 - ☐ BSX-0013: Europe (except United Kingdom).
 - ☐ BSX-0014: United Kingdom.
 - ☐ BSX-0015: USA/Canada..
 - ☐ BSX-0016: Australia.
 - ☐ Mains power outlet socket.
- ☐ LAN Socket.

Information

- ☐ DECT R4 SARI.
- ☐ Base Station IP Addresses.
- ☐ Detailed plans from the site survey indicating the intended base station locations, LAN sockets and if necessary power supply outlets.

Tools

- ☐ Programming PC with DECT R4 [software](#)^[24].
- ☐ Web browser.
- ☐ Drill and drill bits suitable for the selected wall mounting position of the AIWS.
- ☐ Screwdrivers for use with the screws selected for AIWS wall mounting.

4.1 Basic Base Station Configuration

This section covers actions common to the configuration of both the master base station and all slave base stations.

4.1.1 Default the Base Station

In this stage of this process we will default the base station and also cause it to adopt a known IP address: 192.168.0.1. This will allow us to then access the base stations configuration.

1. With the base station not connected to anything else, connect the power supply and switch on.
2. Wait approximately 5 seconds.
3. Using a fine point, depress the base station's reset switch for at least 10 seconds and then release.
4. The base station will restart.
5. After approximately 5 seconds, having not received a response to its DHCP request, the base station will default to the address 192.168.0.1.

Alternate Method

If a base station has been defaulted and then connected to a network that has a DHCP server, the IP address can still be determined using its MAC address. The base station MAC address is on a label of the back of the base station.

1. Open a command window in windows by selecting Start | Run and enter *cmd*.
2. Enter the following commands where *xx-xx-xx* should be replaced with the last 6 hexadecimal digits of the MAC-address.

```
C:\ nbtstat -R  
C:\ nbtstat -a ipbs-xx-xx-xx
```

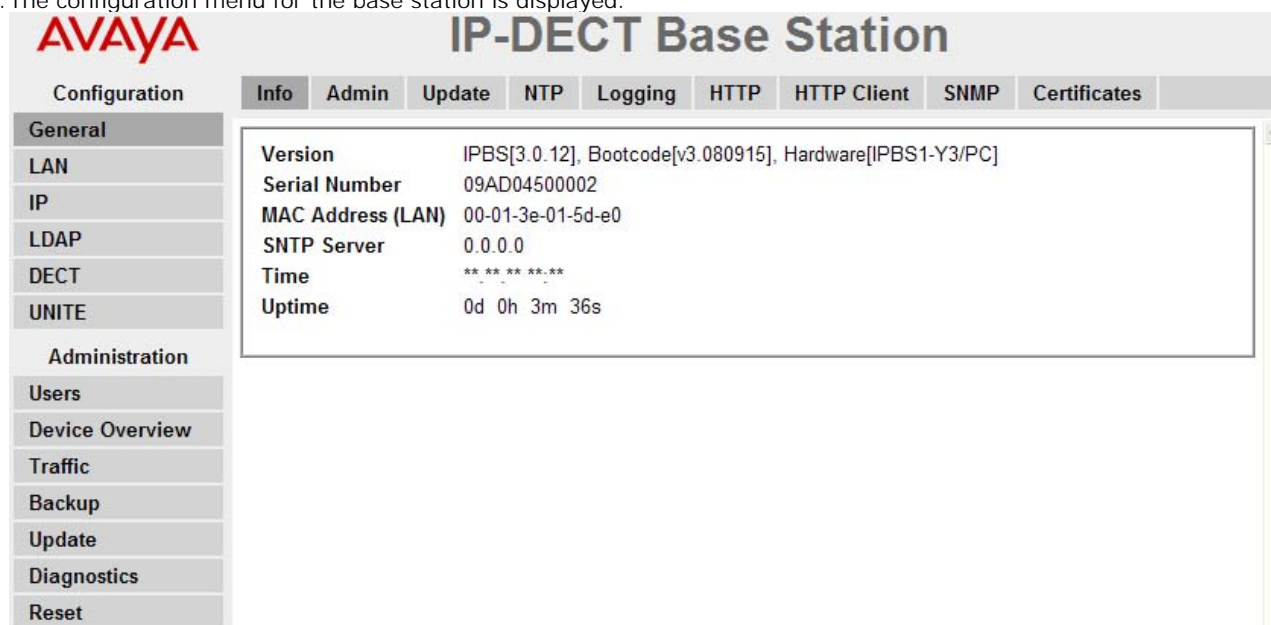
3. The IP address is displayed in the command window.
4. Use that address to access the base stations configuration and set it to a fixed address.

4.1.2 Access the Base Station's Configuration

1. On your programming PC, change its network address to 192.168.0.200 with subnet mask 255.255.255.0.
2. Connect the LAN cable from your PC to the base station.
3. Start your web browser and enter the address *http://192.168.0.1*.
 - If a security certificate warning is displayed, select Continue to this website.
4. The base station should respond with its initial configuration menu.



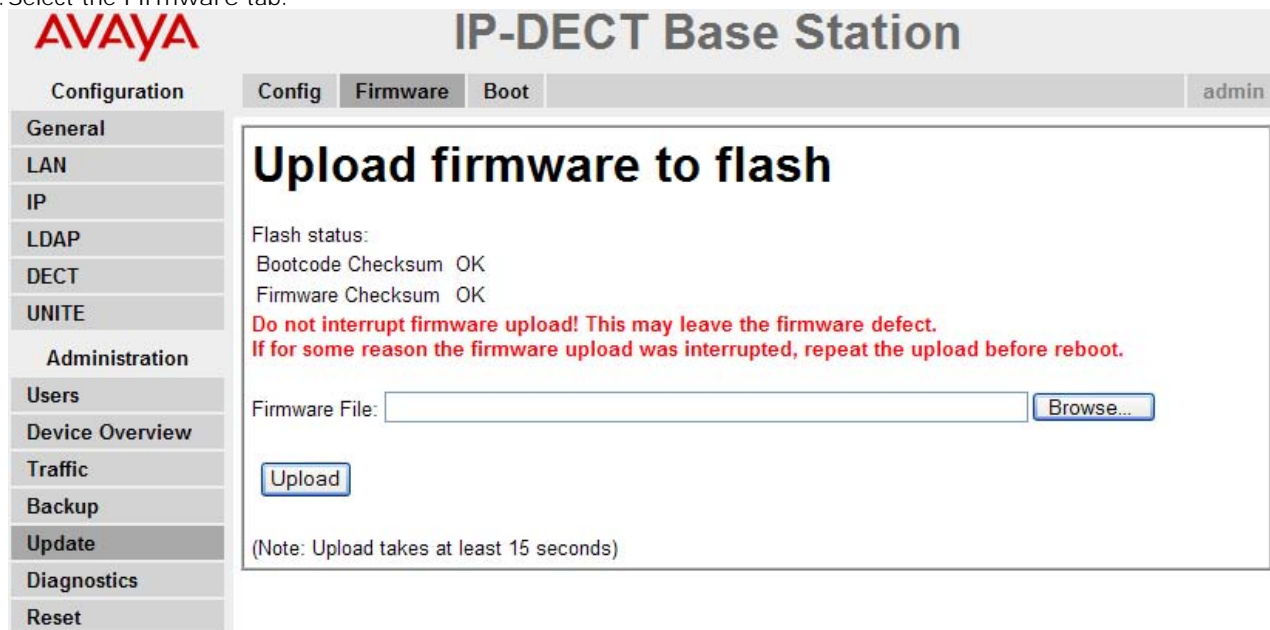
5. Select System administration. A password entry dialog will be displayed. Enter the default user name (*admin*) and password (*changeme*).
6. The configuration menu for the base station is displayed.



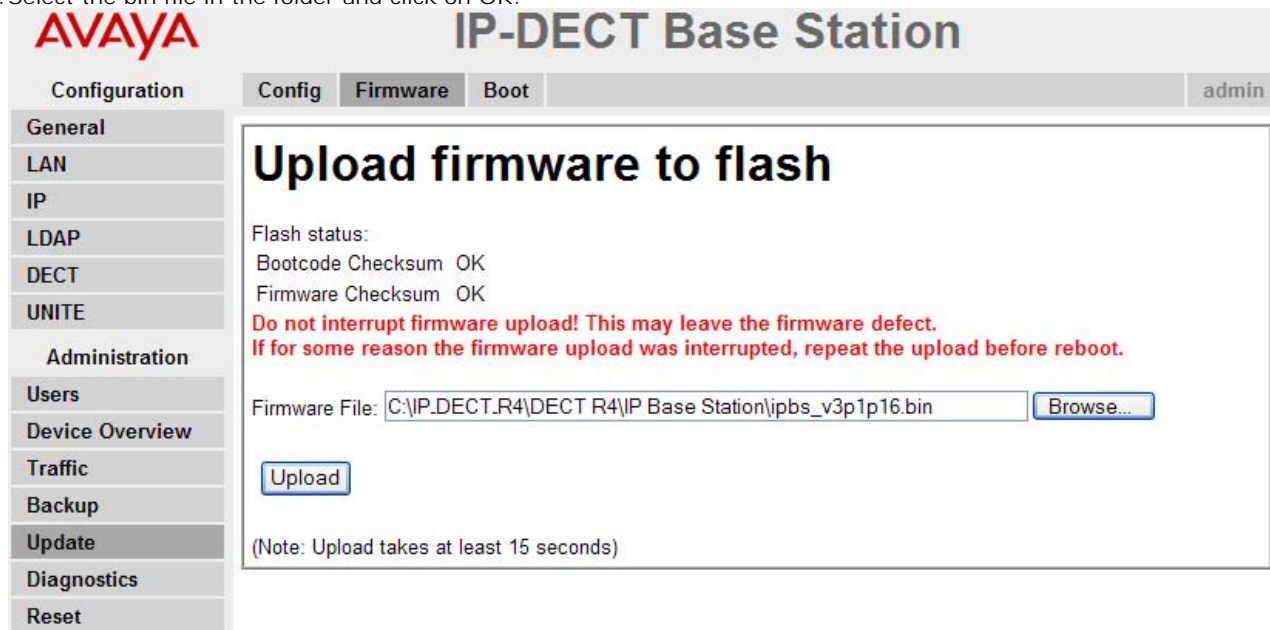
4.1.3 Update the Base Station Firmware

The base station needs to be upgraded to the [firmware supplied](#)^[24] for use with IP Office.

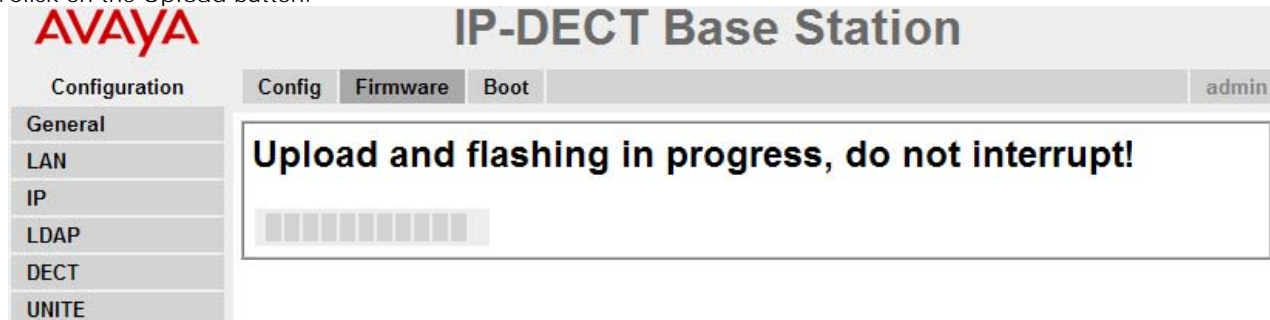
1. Having browsed into the base station's configuration, in the left-hand column select Update.
2. Select the Firmware tab.



3. Click on the Browse button and browse to the *IP Base Station* sub-folder of the IP DECT R4 software you [previously extracted](#)^[24] onto the programming PC.
4. Select the bin file in the folder and click on OK.



5. Click on the Upload button.



6. The browser will show the progress of the upload and firmware upgrade. It will indicate when the process has been completed.

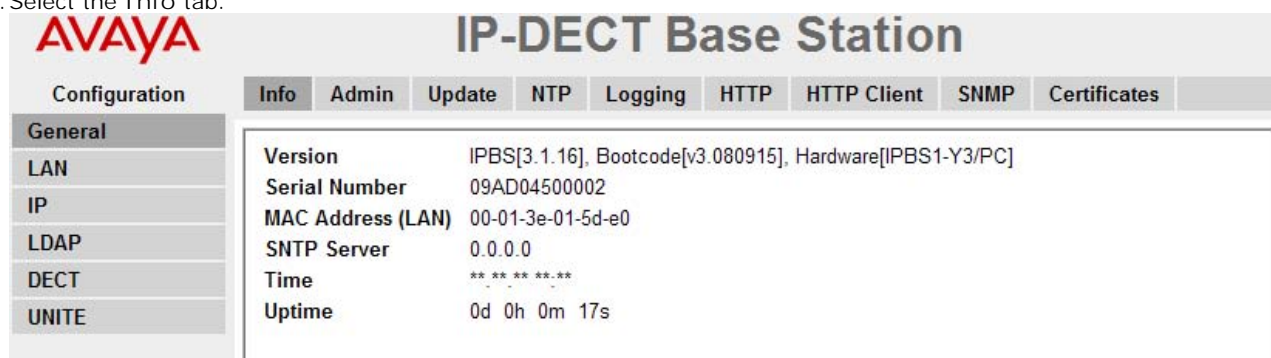


The screenshot shows the AVAYA IP-DECT Base Station web interface. The left-hand column contains a 'Configuration' menu with options: General, LAN, IP, LDAP, DECT, and UNITE. The top navigation bar includes 'Config', 'Firmware', and 'Boot' tabs, with 'admin' on the right. The main content area displays a large message: 'Firmware update complete'. Below this message are two links: 'immediate reset' and 'reset when idle'.

7. Click on immediate reset.

8. In the left-hand column select General.

9. Select the Info tab.



The screenshot shows the AVAYA IP-DECT Base Station web interface with the 'Info' tab selected. The left-hand column contains a 'Configuration' menu with options: General, LAN, IP, LDAP, DECT, and UNITE. The top navigation bar includes 'Info', 'Admin', 'Update', 'NTP', 'Logging', 'HTTP', 'HTTP Client', 'SNMP', and 'Certificates' tabs. The main content area displays a table of system information:

Version	IPBS[3.1.16], Bootcode[v3.080915], Hardware[IPBS1-Y3/PC]
Serial Number	09AD04500002
MAC Address (LAN)	00-01-3e-01-5d-e0
SNTP Server	0.0.0.0
Time	** ** * ** *
Uptime	0d 0h 0m 17s

10. The details shown should indicate the new firmware.

Repeat the steps above for any other base stations that are also being installed. All the base stations should use the same firmware.

4.1.4 Set the Base Station IP Address

1. Having browsed into the base station's configuration, in the left-hand column select LAN. Select the DHCP tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration interface. The left-hand column has a 'Configuration' section with tabs for General, LAN, IP, LDAP, DECT, and UNITE. The 'LAN' tab is selected. The main area shows the DHCP configuration with a 'Mode' dropdown set to 'Automatic'. Below the dropdown is a list of configuration fields: Current lease, IP address, Network mask, Default gateway, TOS priority, IP routing, DNS server 1, DNS server 2, SYSLOG server, Time server, Timezone string, TFTP server, WINS server, Primary gatekeeper, and Secondary gatekeeper. The 'admin' button is in the top right corner.

2. Using the Mode drop-down, select *Off*.
3. Click OK.
4. The menu will prompt you with the message Reset Required. Do not click this or reset the base station at this stage.

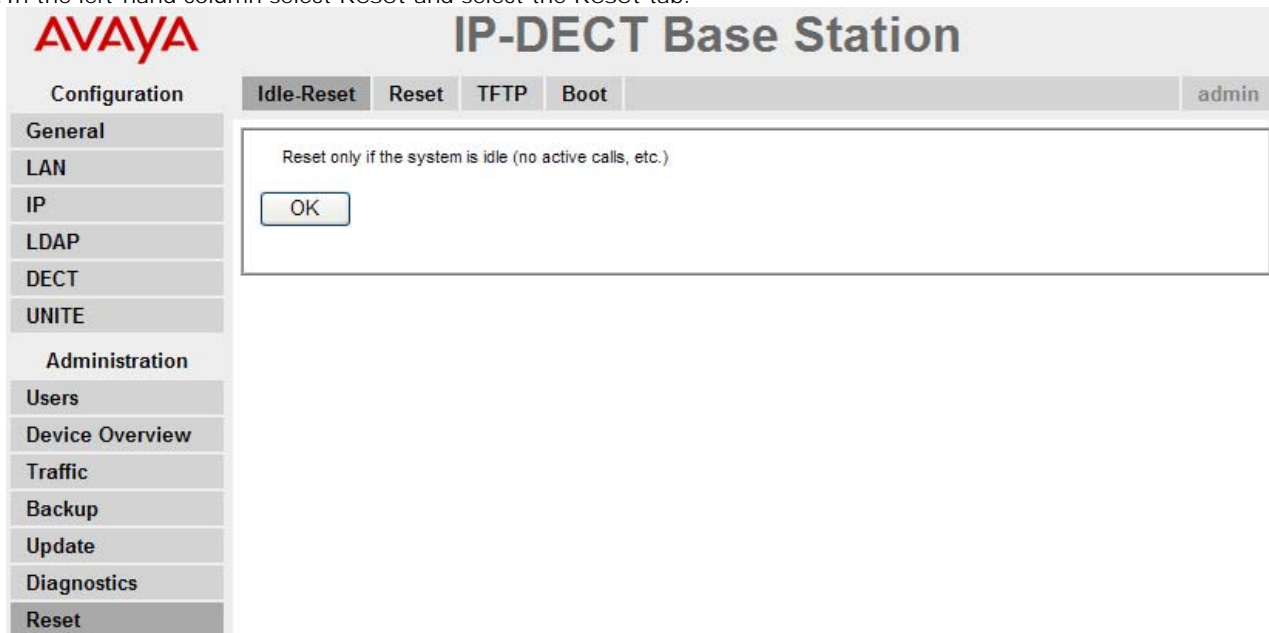
The screenshot shows the AVAYA IP-DECT Base Station configuration interface. The left-hand column has a 'Configuration' section with tabs for General, LAN, IP, LDAP, DECT, and UNITE. The 'LAN' tab is selected. The main area shows the DHCP configuration with a 'Mode' dropdown set to 'Off'. Below the dropdown are 'OK' and 'Cancel' buttons. A red message 'reset required' is displayed below the buttons. The 'admin' button is in the top right corner.

5. Select the IP tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration interface. The left-hand column has a 'Configuration' section with tabs for General, LAN, IP, LDAP, DECT, and UNITE. The 'IP' tab is selected. The main area shows the IP configuration with a table of 'Active Settings'. The table has two columns: the first column contains input fields for IP Address, Network Mask, Default Gateway, and DNS Server. The second column contains the current values: 192.168.0.1, 255.255.255.0, and empty fields for Default Gateway and DNS Server. Below the table are 'OK' and 'Cancel' buttons. A red message 'reset required' is displayed below the buttons. The 'admin' button is in the top right corner.

6. Enter the required IP Address and Network Mask for the base station. The other settings are optional.
7. Click OK.

8. In the left-hand column select Reset and select the Reset tab.



AVAYA IP-DECT Base Station

Configuration

General

LAN

IP

LDAP

DECT

UNITE

Administration

Users

Device Overview

Traffic

Backup

Update

Diagnostics

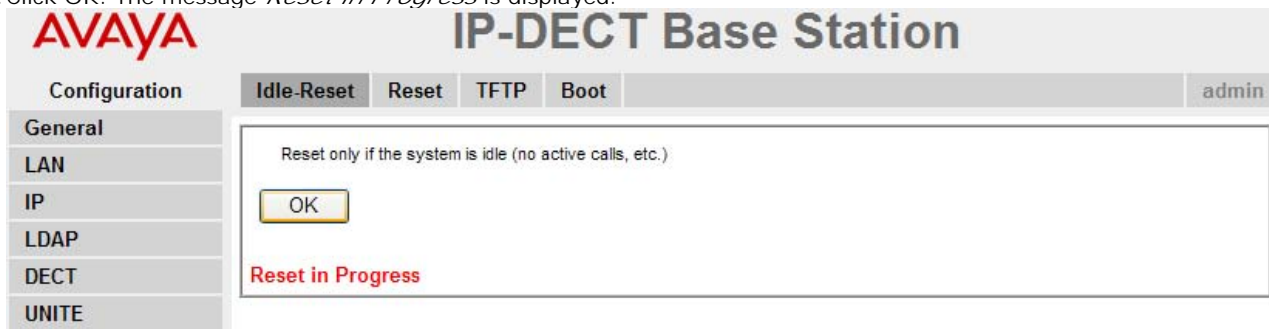
Reset

Idle-Reset Reset TFTP Boot admin

Reset only if the system is idle (no active calls, etc.)

OK

9. Click OK. The message *Reset in Progress* is displayed.



AVAYA IP-DECT Base Station

Configuration

General

LAN

IP

LDAP

DECT

UNITE

Idle-Reset Reset TFTP Boot admin

Reset only if the system is idle (no active calls, etc.)

OK

Reset in Progress

4.1.5 Set the Time Source

The base station can obtain its time from the IP Office control unit.

1. In the left-hand column select General. Select the NTP tab.

AVAYA IP-DECT Base Station

Configuration: Info Admin Update **NTP** Logging HTTP HTTP Client SNMP Certificates

General LAN IP LDAP DECT UNITE Administration Users Device Overview

Time Server: 192.168.42.1

Interval [min]: 60

Timezone: Europe - West European Time (UTC)

String: CET-1CEST-2,M3.5.0/2,M10.5.0/3

Last sync: -

Active Settings: 60

CET-1CEST-2,M3.5.0/2,M10.5.0/3

OK

2. In the Time Server field enter the IP address of the IP Office.

3. Click OK.

AVAYA IP-DECT Base Station

Configuration: Info Admin Update **NTP** Logging HTTP HTTP Client SNMP Certificates

General LAN IP LDAP DECT UNITE Administration Users Device Overview

Time Server: 192.168.42.1

Interval [min]: 5

Timezone: Europe - West European Time (UTC)

String: GMT0BST-1,M3.5.0/1,M10.5.0/2

Last sync: 21.04.2009 13:14

Active Settings: 192.168.42.1

5

GMT0BST-1,M3.5.0/1,M10.5.0/2

OK

4.1.6 QoS/ToS Settings

If the network uses QoS/ToS for VoIP traffic, the should be configured to use the same settings.

1. In the browser connection to the base station, in the left-hand panel select IP. Select the Settings tab.

AVAYA IP-DECT Base Station

Configuration | **Settings** | **Routing**

General
LAN
IP
 LDAP
 DECT
 UNITE

Administration
 Users
 Device Overview
 Traffic
 Backup

Priority/DiffServ

ToS Priority - RTP Data: Active Settings: 0xb8
 ToS Priority - VoIP Signalling: Active Settings: 0xb8

Port Ranges

First UDP-RTP Port: Active Settings: 16384
 Number of Ports:
 Last UDP-RTP Port: Active Settings: 32768

2. Set the ToS Priority - RTP Data value to match the IP Office's DSCP (Hex) value.
3. Set the ToS Priority - VoIP Signalling value to match the IP Office's SIG DSCP (Hex) value.
4. Click OK.

4.1.7 Enable Status Logging

1. In the left-hand panel, select UNITE. Select the Status Log tab.

AVAYA IP-DECT Base Station

Configuration | **SMS** | **Device Management** | **Service Discovery** | **Status Log**

General
LAN
IP
 LDAP
 DECT
UNITE

Unite IP Address:
 Unite Resource Identity:
 Unite Address: 192.168.42.211/Master

2. For the Unite IP Address, enter the IP address that will be assigned to the AIWS unit when installed in the DECT system.
3. For the Unite Resource Identity enter a unique name to be associated with the base station.
4. Click OK.

4.2 Master Base Station Configuration

This section assumes that the [basic base station configuration](#) ^[30] has been completed first to give the base station a static IP address on the same network as the IP Office.

4.2.1 Set the Base Station as the Master

A number of menus are disabled until the base station has been set as being the master base station for the IP Office DECT R4 system.

1. In the left-hand panel select DECT. Select the Master tab.



AVAYA IP-DECT Base Station

Configuration System Suppl. Serv. **Master** Trunks Radio Radio config PARI SARI Air Sync

General
LAN
IP
LDAP
DECT
UNITE

Mode Off

OK Cancel

2. Use the Mode drop-down box to select *Active*.
3. Click OK.



AVAYA IP-DECT Base Station

Configuration System Suppl. Serv. **Master** Trunks Radio Radio config PARI SARI Air Sync

General
LAN
IP
LDAP
DECT
UNITE

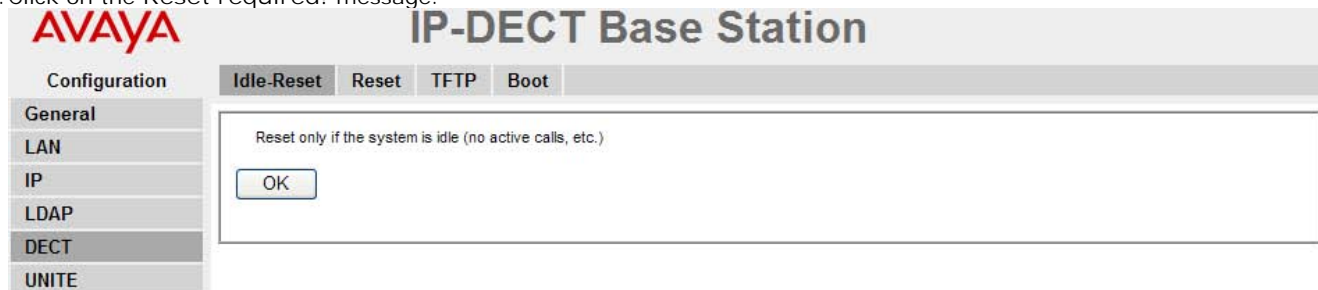
Mode Active

No Admin password. Configure Admin password on DECT/System page.

OK Cancel

Reset required!

4. Click on the Reset required! message.



AVAYA IP-DECT Base Station

Configuration **Idle-Reset** Reset TFTP Boot

General
LAN
IP
LDAP
DECT
UNITE

Reset only if the system is idle (no active calls, etc.)

OK

5. Click OK.

6. In the left-hand panel select DECT. Select the System tab.

AVAYA IP-DECT Base Station

Configuration | System | Suppl. Serv. | Master | Trunks | Radio | Radio config | PARI | SARI | Air Sync

General
 LAN
 IP
 LDAP
 DECT
 UNITE
Administration
 Users
 Device Overview
 Traffic
 Backup
 Update
 Diagnostics
 Reset

System Name: DECT
 Password:
 Confirm Password:
 Subscriptions: With System AC
 Authentication Code: 1234
 Default Language: English
 Frequency: Europe
 Enabled Carriers: 0 1 2 3 4 5 6 7 8 9
 0 ☒ 1 ☒ 2 ☒ 3 ☒ 4 ☒ 5 ☒ 6 ☒ 7 ☒ 8 ☒ 9 ☒
 Coder: G729A Frame (ms): 60 Exclusive ☐ SC ☐
 OK Cancel

7. Set and check the following values:

- **System Name**
Enter name to identify the DECT system. This must be a unique name if there are other DECT systems in the same area.
- **Password**
Enter the same password as being used for admin access to the base stations. The default is *changeme*. Re-enter the password in the Confirm Password field.
- **Subscriptions**
Select *With System AC*. This allows phones to be subscribed to the system using the system authentication code as set below.
- **Authentication Code**
This code is required by phones during subscription to the DECT system.
- **Default Language**
Select the language required by the customer.
- **Frequency**
You must ensure that the correct region is selected. This affects the frequency used for DECT wireless signalling and other factors.

8. Click OK.

4.2.2 Enable Supplementary Services

Enabling supplementary services is required for IP Office operation.

1. In the left-hand panel select DECT. Select the Suppl. Serv. tab.

AVAYA IP-DECT Base Station

Configuration System Suppl. Serv. Master Trunks Radio Radio config PARI SARI Air Sync

General LAN IP LDAP DECT UNITE Administration Users Device Overview Traffic

Supplementary Services

☒ Enable Supplementary Services

Activate Disable

Logout User #11*\$# ☐

Voice Mail

Fix Message Center No. *17

OK Cancel

2. Select Enable Supplementary Services.
3. In the Fix Message Center No. field enter *17. This is the IP Office default short code for voicemail access. If the IP Office has been configured to use a different short code enter that short code.
4. Click OK.

4.2.3 Set the PBX Switch Mode

The master base station needs to be informed what type of PBX it is working with, ie. IP Office, and the protocol to use for communication.

1. In the left-hand panel select DECT. Select the Master tab.

AVAYA IP-DECT Base Station

Configuration System Suppl. Serv. Master Trunks Radio Radio config PARI SARI Air Sync

General LAN IP LDAP DECT UNITE Administration Users Device Overview Traffic Backup Update

Mode Active

IP-PBX

PBX IPO

Protocol H.323/XMobile

ARS Prefix

International CPN Prefix

National CPN Prefix

OK Cancel

Reset required!

2. Using the PBX drop-down list, select IPO.
3. Check that the Protocol is set to H.323/XMobile.
4. Click OK.
 - The message *Reset required!* is displayed. At this stage further changes are required so do not reset the base station.

4.2.4 IP Trunk Configuration

An IP trunk to the IP Office must be configured. Only one trunk is supported.

1. In the left-hand panel select DECT. Select the Trunks tab.

AVAYA IP-DECT Base Station

Configuration: System | Suppl. Serv. | Master | **Trunks** | Radio | Radio config | PARI | SARI | Air Sync

General | LAN | IP | LDAP | **DECT** | UNITE | Administration | Users

Trunk List						
Primary Trunks						
Name	Local Port	CS IP Address	CS Port	Status	Delete	
IP500	1720	192.168.42.1	1720	Active	<input type="checkbox"/>	

OK Cancel

2. Enter the following settings:

- Name
Set a name that identifies the IP Office system.
- Local Port
set this to 1720.
- CS IP Address
Set this field to the IP address of the IP Office system.
- CS Port
Set this to 1720.

3. Click OK.

AVAYA IP-DECT Base Station

Configuration: System | Suppl. Serv. | Master | **Trunks** | Radio | Radio config | PARI | SARI | Air Sync

General | LAN | IP | LDAP | **DECT** | UNITE | Administration | Users | Device Overview

Trunk List						
Primary Trunks						
Name	Local Port	CS IP Address	CS Port	Status	Delete	
IP500	1720	192.168.42.1	1720	Active	<input type="checkbox"/>	
					<input type="checkbox"/>	

OK Cancel

Reset required!

- The message *Reset required!* is displayed. At this stage further changes are required so do not reset the base station.

4.2.5 Enter the Radio Settings

Having been configured as the master base station, the radio aspect of the base station can be configured. Note that IP Office does not support use of a standby master base station.

1. In the left-hand panel select DECT. Select the Radio tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration interface. The left-hand panel has 'DECT' selected under the 'Configuration' section. The main area is titled 'IP-DECT Base Station' and has several tabs: 'System', 'Suppl. Serv.', 'Master', 'Trunks', 'Radio', 'Radio config', 'PARI', 'SARI', and 'Air Sync'. The 'Radio' tab is active. It contains a 'Disable' checkbox (unchecked), a 'Master' section with fields for 'Name' (DECT), 'Password' (masked with dots), 'Master IP Address' (127.0.0.1), and 'Standby Master IP Address' (empty). Below these is a 'Status' field showing 'No Connection to Master'. There is also a section for 'Uninitialized Master Connections' with a table showing 'IP Address' (192.168.42.210) and 'State' (Up). At the bottom are 'OK' and 'Cancel' buttons. A red message 'Reset required!' is displayed at the bottom of the form.

2. Set the following values:

- Name
Set this to match the System Name set on the DECT | System tab.
- Password
Set this to match the Password set on the DECT | System tab.
- Master IP Address
Set the address 127.0.0.1 for the base station to refer to itself. (Alternatively set this to match the IP address assigned to the base station on the LAN | IP tab).

3. Click OK.

- The message *Reset required!* is displayed. At this stage further changes are required so do not reset the base station.

4.2.6 Enter the PARI

1. In the left-hand panel select DECT. Select the PARI tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration interface. The left-hand panel has 'DECT' selected under the 'Configuration' section. The main area is titled 'IP-DECT Base Station' and has several tabs: 'System', 'Suppl. Serv.', 'Master', 'Trunks', 'Radio', 'Radio config', 'PARI', 'SARI', and 'Air Sync'. The 'PARI' tab is active. It contains a 'System ID' field with the value '32'. Below the field are 'OK' and 'Cancel' buttons.

2. Enter a value between 1 and 35. This value must be unique from any other DECT R4 master base station in the area.

3. Click OK.

4.2.7 Enter the SARI/PARK

The SARI is the license for the DECT R4 system.

1. In the left-hand panel, select DECT. Select the SARI tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration window. On the left, the 'Configuration' menu is open, and 'DECT' is selected. The main window has several tabs: 'System', 'Suppl. Serv.', 'Master', 'Trunks', 'Radio', 'Radio config', 'PARI', 'SARI', and 'Air Sync'. The 'SARI' tab is active, displaying a text input field with the value '31100243777' and two buttons, 'OK' and 'Cancel'.

2. Enter the SARI code provided with the DECT R4 equipment.
3. Click OK.

4.2.8 Air Sync

Base stations in the DECT R4 system need to be synchronized with each other. This can be done with a signal as low as -90dB between base stations.

One base station is assigned as the 'air synch master', typically the master base station. Each other base station can synch directly with it or indirectly via a synchronization chain. However, it is preferable that the number of synchronization 'hops' between any particular base station and its air synch master base station is kept as low as possible. To help achieve this it is recommended that the air synch master is placed centrally within the set of base stations.

Where possible, each base station should be placed in synchronization range of more than one base station. That allows the base stations to maintain synchronization should one base station fail or be switched off for maintenance. The process of synchronizing by the shortest route to the air synch master when in synchronization range of multiple base stations is automatic.

Advanced Scenario: Separated Locations

In most scenarios, the master base station is used as the air synch master for all the other base stations and that is the scenario documented in this manual. However, in scenarios where you have base stations in separate locations that are not within synchronization range of each other, it is permissible to assign separate air synch masters in each location. However there must be absolutely no overlap (<-90dB) between the separate groups of base stations. Any overlap will cause frequent lose of synchronization.

1. In the left-hand panel, select DECT. Select the Air Sync tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration window. On the left, the 'Configuration' menu is open, and 'DECT' is selected. The main window has several tabs: 'System', 'Suppl. Serv.', 'Master', 'Trunks', 'Radio', 'Radio config', 'PARI', 'SARI', and 'Air Sync'. The 'Air Sync' tab is active, displaying the following settings: 'Sync Mode' is set to 'Master' (via a dropdown), 'Alien RFPI' is an empty text field, 'Alt. Alien RFPI' is an empty text field, and 'LED Indication' is checked with a green box. 'OK' and 'Cancel' buttons are at the bottom.

2. Set the Sync Mode to *Master*.
3. Enable LED Indication. This enables the amber flashing mode of the base station's LED 2 which is used to indicate when the base station has no air synchronization signal but does have call traffic in progress.
4. Click OK.

4.2.9 IP Office Directory Integration

For IP Office Release 6+, the master base station can obtain directory information direct from the IP Office control unit rather than the system requiring an AIWS unit to do this. This requires the master base station to be able to access the IP Office control unit using TFTP. The directory import is limited to 6000 entries.

Note that enabling directory integration via the master base station disables support for SMS. If both SMS and directory integration are required then an AIWS unit must be used.

1. In the left-hand panel, select Phonebook.

The screenshot shows the AVAYA IP-DECT Base Station configuration interface. On the left is a navigation menu with the following items: Configuration, General, LAN, IP, LDAP, DECT, Phonebook (highlighted), UNITE, Administration, Users, Device Overview, Traffic, Backup, Update, Diagnostics, and Reset. The main area is titled 'IP-DECT Base Station' and contains the 'Phonebook' configuration section. This section includes an 'Enable' checkbox which is checked. Below it are dropdown menus for 'Search direction numbers' (set to 'Right to left') and 'Data Base for lookups' (set to 'TFTP'). There is a 'Phonebook address' section with a 'Call ID' field containing '999999'. A 'TFTP Settings' section contains fields for 'Server IP Address' (192.168.42.1), 'External Directory File' (/nasystem/dir_list), 'Internal Directory File' (/nasystem/user_list?), and 'Synch. Interval [min]' (60). At the bottom right of the settings area is a note: 'Database Synchronisation period, value between 1 and 30000'. At the bottom left are 'OK' and 'Cancel' buttons.

2. Select Enable.
3. Select the other settings as shown above, with the Server IP Address set to the IP address of the IP Office control unit.
4. Click on OK.

4.2.10 Reset the Base Station

Having completed the configuration changes, the master base station should be reset.

1. In the left-hand panel, select Reset. Select the Reset tab or Idle-Reset tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration interface. On the left is a navigation menu with options: Configuration, General, LAN, IP, LDAP, DECT, and UNITE. The 'Configuration' tab is selected. At the top, there are tabs for 'Idle-Reset', 'Reset', 'TFTP', and 'Boot'. The 'Idle-Reset' tab is active. The main content area displays the text 'Reset only if the system is idle (no active calls, etc.)' and an 'OK' button. Below the button, the status 'Reset in Progress' is shown in red text.

2. Click OK.

4.2.11 Check the Base Station

Following the reset, the operation of the radio part can be checked.

1. In the left-hand panel, select DECT. Select the Radio tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration interface. On the left is a navigation menu with options: Configuration, General, LAN, IP, LDAP, DECT, and UNITE. The 'DECT' tab is selected. At the top, there are tabs for 'System', 'Suppl. Serv.', 'Master', 'Trunks', 'Radio', 'Radio config', 'PARI', 'SARI', and 'Air Sync'. The 'Radio' tab is active. The main content area shows the 'Radio' configuration settings. It includes a 'Disable' checkbox, a 'Master' section with fields for 'Name' (DECT), 'Password' (masked), 'Master IP Address' (192.168.42.210), and 'Standby Master IP Address'. The 'Status' is 'Connected to Master 192.168.42.210'. Below this is the 'Received Configuration' section with fields for 'SARI' (3110024377703), 'RFPI' (9014CC1008), 'Subscriptions' (With System AC), 'Authentication Code' (1234), 'Default Language' (English), and 'Frequency' (Europe). There is a row of checkboxes for 'Enabled Carriers' (0-9), all of which are checked. The 'Coder' is set to 'G729A, 60 ms'. At the bottom are 'OK' and 'Cancel' buttons.

2. The Status should indicate *Connected to Master*.
3. The Received Configuration settings should match the parameters entered during configuration.
4. On the base station, LED 2 should be off.

4.3 Slave Base Station Configuration

This section assumes that the [basic base station configuration](#) ^[30] has been completed first to give the slave base station a static IP address on the same network as the IP Office.

4.3.1 Set the Base Station to Slave Mode

There can be only 1 master base station in the IP Office DECT R4 system. In this process we check that the base station is not set to act as a master and then configure its radio settings to access the master base station.

1. In the left-hand column, select DECT. Select the Master tab.

AVAYA IP-DECT Base Station

Configuration System Suppl. Serv. **Master** Trunks Radio Radio config PARI SARI Air Sync

General
LAN
IP
LDAP
DECT
UNITE

Mode Off

OK Cancel

2. Check that the Mode is set to *Off*.

3. Click OK.

4. Select the Radio tab.

AVAYA IP-DECT Base Station

Configuration System Suppl. Serv. Master Trunks **Radio** Radio config PARI SARI Air Sync

General
LAN
IP
LDAP
DECT
UNITE

Administration
Users
Device Overview
Traffic
Backup
Update
Diagnostics
Reset

Disable ☐

Master

Name DECT

Password

Master IP Address 192.168.42.210

Standby Master IP Address

Status No Connection to Master

Uninitialized Master Connections

IP Address	State
192.168.42.210	Up

OK Cancel

Reset required!

5. Set the following details:

- Name
Set this to match the System Name set on the master base station's DECT | System tab.
- Password
Set this to match the Password set on the master base station's DECT | System tab.
- Master IP Address
Enter the IP address of the master base station set on its LAN | IP tab.

6. Click OK.

7. Select the Air Sync tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration interface. The left-hand panel has a 'Configuration' section with a tree view containing 'General', 'LAN', 'IP', 'LDAP', 'DECT', 'UNITE', 'Administration', and 'Users'. The 'Air Sync' tab is selected in the top navigation bar. The main content area contains the following fields:

- Sync Mode:** A dropdown menu set to 'Slave'.
- Sync RFPI:** An empty text input field.
- Alt. Sync RFPI:** An empty text input field.
- LED Indication:** A checkbox that is checked.
- Buttons:** 'OK' and 'Cancel' buttons.

8. Set the Sync Mode to *Slave*.

9. Enable LED Indication. This enables the amber flashing mode of the base station's LED 2 which is used to indicate when the base station has no air synchronization signal but does have call traffic in progress.

10. Click OK.

4.3.2 Reset the Base Station

1. In the left-hand panel, select Reset. Select the Reset tab or Idle-Reset tab.

The screenshot shows the AVAYA IP-DECT Base Station configuration interface. The left-hand panel has a 'Configuration' section with a tree view containing 'General', 'LAN', 'IP', 'LDAP', 'DECT', and 'UNITE'. The 'Reset' tab is selected in the top navigation bar. The main content area contains the following elements:

- Text:** 'Reset only if the system is idle (no active calls, etc.)'
- Buttons:** An 'OK' button.
- Status:** 'Reset in Progress' displayed in red text.

2. Click OK.

4.3.3 Check the Base Stations

Through the configuration of the slave and the master base status it is possible to check the signalling between the base stations.

Slave Base Station

1. In the left-hand column select Device Overview. Select the Air Sync tab.

AVAYA

IP-DECT Base Station

Configuration

Radios

Air Sync

General

LAN

IP

LDAP

DECT

UNITE

Administration

Users

Device Overview

Traffic

Backup

Update

Base station sync status

StateSlave, synchronized

Sync offset-96 ns

Drift0.9166 PPM

Active sync bearer

RFPICarrier Slot Hop RSSI FER

9014CC1008470-380

Alternative sync bearer

RFPICarrier Slot Hop RSSI FER

9014CC10080110-3811

Counters

Sync lost0

Hop value1

Master Base Station

1. In the left-hand column select Device Overview. Select the Radios tab. The details of the base stations within the system are displayed.

AVAYA

IP-DECT Base Station

Configuration

Radios

Air Sync

General

LAN

IP

LDAP

DECT

UNITE

Administration

Users

Device Overview

Static Registrations

Name	RFPI	IP Address	Sync	LDAP	Device Name	Version	Connected Time
IPBS-01-5d-e0	9014CC1008	192.168.42.210	Master	OK	-	IP-DECT Base Station [3.1.16/v3.080915/IPBS1-Y3/PC]	0d 18h 47m 42s
IPBS-01-5d-f0	9014CC2009	192.168.42.212	Slave	OK	-	IP-DECT Base Station [3.1.16/v3.080915/IPBS1-Y3/PC]	0d 0h 2m 0s

2. Select the Air Sync tab. The status of wireless synchronization between the master and other base stations is displayed.

AVAYA

IP-DECT Base Station

Configuration

Radios

Air Sync

General

LAN

IP

LDAP

DECT

UNITE

Base station sync status

StateMaster

Alternative sync bearers

RFPICarrier Slot Hop RSSI FER

9014CC2009411-322

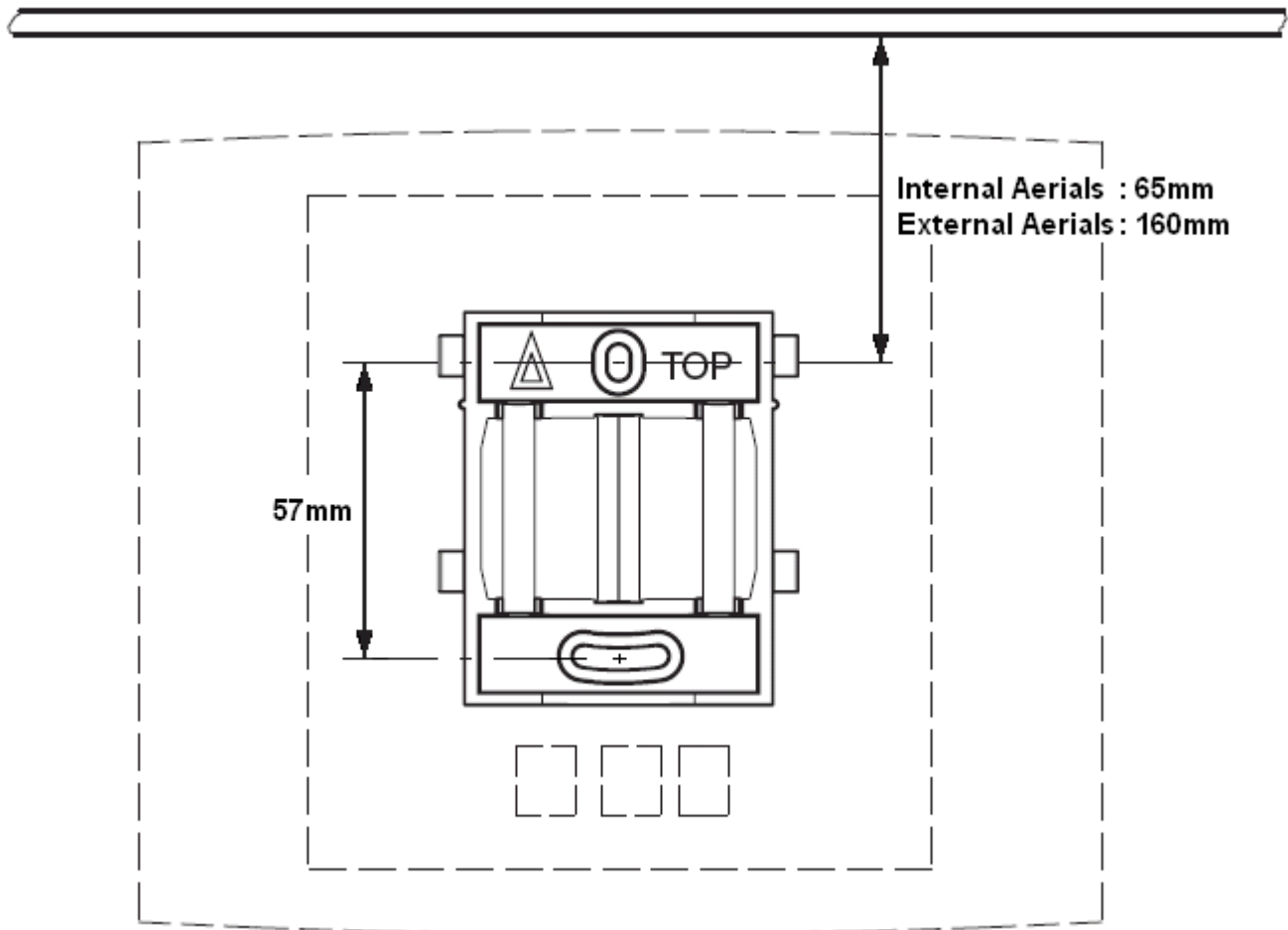
541-320

4.4 Base Station Mounting

The base station can now be powered down and mounted in its intended operating position. The removable bracket on the back of the base stations can be used for either wall mounting using two screws suitable for the surface or for mounting on columns using two metal bands.

Wall Mounting

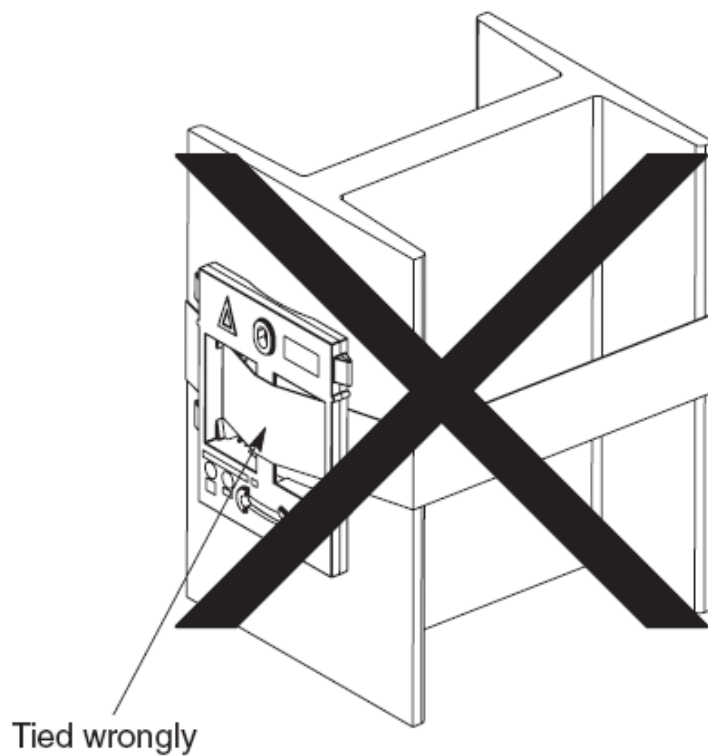
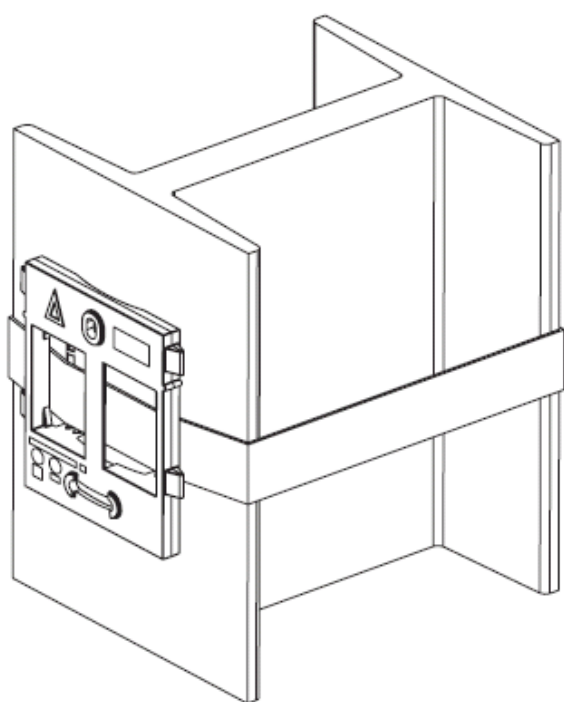
Remove the mounting bracket from the base station. Use it as a template for marking the screw fixing holes. Note the diagram below indicating the required clearance for getting the base station onto the mounting bracket.



1. Hold the mounting bracket with its flat side against the wall with the text 'TOP' upwards and mark the two holes. Observe the minimum distance between the top screw hole and the ceiling as indicated in the diagram above.
2. Drill the two holes using a 6mm diameter drill and insert the included wall plugs.
3. Position the mounting bracket with its flat side to the wall and fasten it with the two included 3.5mm diameter screws.

Column/Pillar Mounting

The mounting bracket can be fixed to a pole of 45mm diameter or greater, or a beam of 50mm width minimum by using a strap or flexible metal band less than 30 mm wide. A suitable strap or flexible metal band is not included with the base station.



Tied wrongly

Chapter 5.

Phone Subscription

5. Phone Subscription

Once the master base station has been configured and is connected to the IP Office, you can begin phone subscription.

There are two methods of subscription; anonymous phone subscription and known phone subscription. Both methods require the DECT users to be pre-configured in the master base station configuration. However anonymous phone subscription allows the user pre-configuration to be done without knowing the IPEI of the DECT phone the user will actually use.

The anonymous phone installation process consists of the following stages:

- 1.Allow Subscription.
- 2.Create User Entries in the Master Base Station Configuration.
- 3.Subscribe the Phones.
- 4.Complete Anonymous Login.
- 5.Disable Subscription.

Pre-Requisites

- ☐ Master base station installed and connected to the network.
- ☐ IP Office connected to the network.

Information

- ☐ Service user name and password for IP Office configuration.
- ☐ Master base station IP address.
- ☐ User name and password for master base station configuration.
- ☐ User names and extension numbers for the DECT phones.

Tools


- ☐ IP Office Manager.
- ☐ Web browser.

5.1 Allow Subscription

Before phones are subscribed subscription needs to be allowed by both the IP Office and the DECT R4 system.

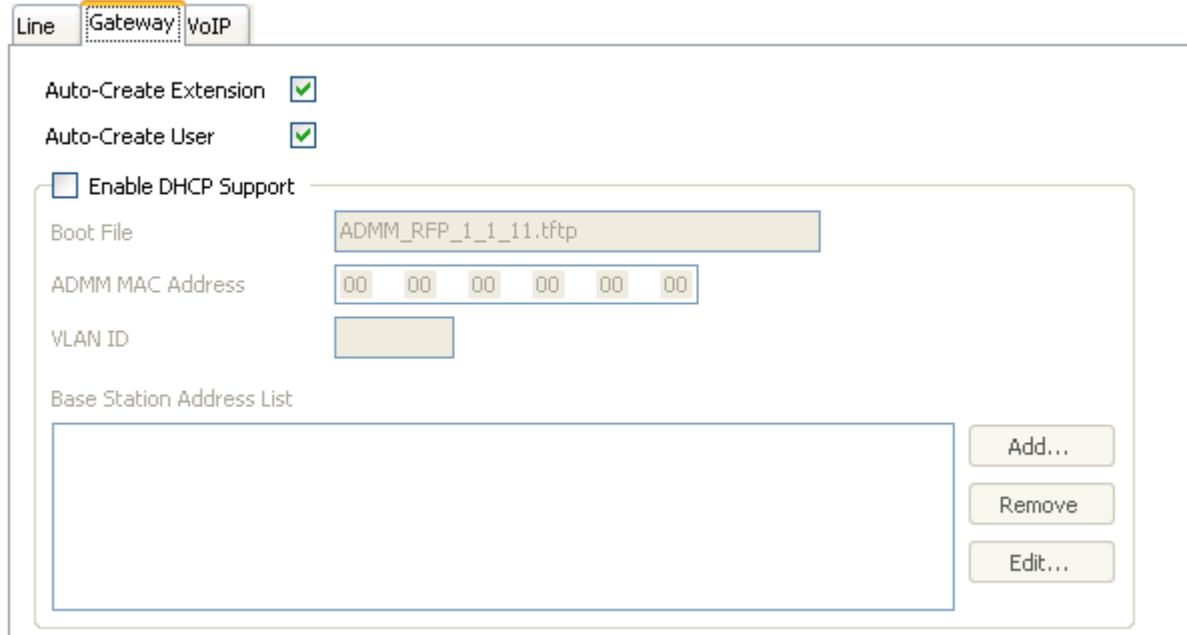
IP Office

1. Start IP Office Manager and receive the configuration from the IP Office system.

2. In the left-hand navigation pane, click on  Line icon.

3. Select the  IP DECT Line.

4. Select the Gateway tab.



Line Gateway VoIP

Auto-Create Extension ☒

Auto-Create User ☒

☐ Enable DHCP Support

Boot File

ADMM MAC Address

VLAN ID

Base Station Address List

Address

Add... Remove Edit...

5. Check that the Auto-Create Extension and Auto-Create User options are selected.

6. Click OK.

7. Send the configuration back to the IP Office.

Master Base Station

1. Access the master base stations configuration.
2. In the left-hand panel select DECT. Select the System tab.

AVAYA IP-DECT Base Station

Configuration

System | Suppl. Serv. | Master | Trunks | Radio | Radio config | PARI | SARI | Air Sync

General

System Name: DECT

Password:

Confirm Password:

Subscriptions: With System AC

Authentication Code: 1234

Default Language: English

Frequency: Europe

Enabled Carriers: 0 1 2 3 4 5 6 7 8 9

Coder: G729A Frame (ms): 60 Exclusive ☐ SC ☐

OK Cancel

3. Check that the Subscriptions field:
 - With System AC
Select this option to allow anonymous subscription of phones.
 - With User AC
Select this option to allow subscription against user entries.
4. Note the number set in the Authentication Code field. This number is used as part of the anonymous subscription.

5.2 Create User Entries

Subscription requires a user entry within the master base station configuration. On completion of subscription, matching extension and user entries are automatically created in the IP Office configuration.

1. In the left-hand panel, select Users. Select the Users tab.

2. Click new. A dialogue is displayed for entry of user details.

3. Enter the user details:

- Long Name
This name is used for information within the DECT R4 system settings.
- Display Name
This name displayed on the phone when idle. It is also the name used for the user created in the IP Office configuration. The name must be unique.
- Number
This will be the extension number of the phone on both the IP Office and DECT R4 systems. The number must be unique.

The remaining two fields should not be completed if you want to use anonymous subscription. This removes the requirement of knowing the phone IPEI numbers during installation.

- IPEI / IPDI
Enter the phones IPEI number. For 3720/3725 phones this is printed on the label inside the phones battery compartment.
- Auth. Code
Enter the account code that should be used when the phone is subscribed.

4. Click OK.

5. Repeat the process for any other phones that you want to subscribe.

6. Within the Users | Users tab, click on show to display a list of the configured users.

AVAYA

IP-DECT Base Station

Configuration

Users

Anonymous

General

LAN

IP

LDAP

DECT

UNITE

Administration

Users

Device Overview

PARK 31100243777703

Master Id 0

show

new

User Administrators

Long Name

Name

DECT User Admin DECT

User Administrators: 1

Users

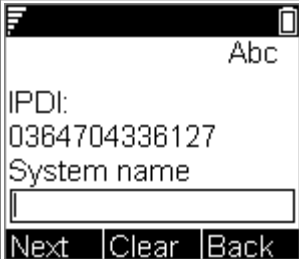
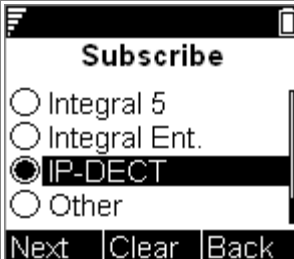
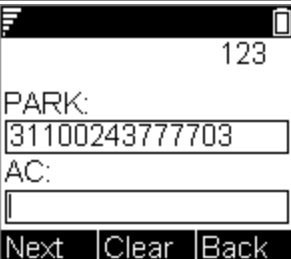
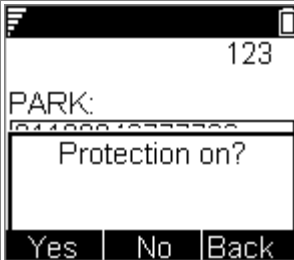





Name	No	Display	IPEI / IPDI	AC	Registration
Extension 400	400	Extn400			Not Subscribed
Extension 401	401	Extn401			Not Subscribed

Users: 2

7. The phones configured will be displayed. You can now begin subscribing the phones.

5.3 Phone Subscription

3720/3725 Phone Subscription

Display	Actions
	<p>Switch on the phone:</p> <ul style="list-style-type: none"> If the phone is new, it will display its IPDI number. This is the same as its IPEI. The System name is a name that will be displayed on the phone once it has subscribed to the DECT system. If the phone has been previously used, select Menu Settings System Subscribe. <p>Enter any name and select Next.</p>
 	<p>The phone will display the different options for its PBX integration. Scroll the selected option to IP-DECT and select Next.</p> <p>When the Protection on? prompt is displayed, select Yes.</p>
 	<p>The phone now requires the PARK and AC (authentication code) set in the master base stations configuration. Enter the PARK and then scroll to the AC field. Enter the AC and select Next.</p>
 	<p>Select OK. The phone will go through the subscription process, showing the status of that process until completed.</p>
 	<p>The next screen will depend on the subscription method being used.</p> <ul style="list-style-type: none"> If using known phone subscription, the phone is now fully subscribed and useable. If using anonymous subscription, the phone will display Please Login. You can now complete the anonymous login ⁵⁸⁷.

3701/3711 Phone Subscription

1. Switch on the phone.
2. Select Menu | System | Subscription | Subscribe HS.
3. Select PABX-PIN.
4. Enter the authentication code set in the master base station configuration.
5. The phone is subscribed anonymously and should display *Please Login*.

5.4 Completing Anonymous Login

In the master base station configuration select the Users | Anonymous tab. This tab shows those phones currently anonymously subscribed to the DECT system. The DECT system will allow up to 8 anonymous devices to be subscribed at the same time.

AVAYA

IP-DECT Base Station

Configuration

General

LAN

IP

LDAP

DECT

UNITE

Administration

Users

Users

Anonymous

036470433612 [Delete](#)

This process changes the 3720/3725 [anonymous subscription](#) to a known subscription. While a phone is in anonymous subscription state it displays a screen showing Please login.

1. To login, dial *M* N# where:
- M is the DECT system's Master Id. This is shown on the base station's Users | Users tab.

N is the extension number required. This must match an existing unsubscribed user entry on the Users | Users tab in the master base station configuration.
2. For example, on a system with master ID 0, to register an anonymously subscribed device as extension 403, dial *0*403#.

5.5 Disable Subscription

When all the DECT phones have been subscribed, it is recommended that you disable any further subscriptions.

1. Access the master base stations configuration.
2. In the left-hand panel select DECT. Select the System tab.

AVAYA IP-DECT Base Station

Configuration

System Suppl. Serv. Master Trunks Radio Radio config PARI SARI Air Sync

General

System Name: DECT

Password:

Confirm Password:

Subscriptions: With System AC

Authentication Code: 1234

Default Language: English

Frequency: Europe

Enabled Carriers:

0	1	2	3	4	5	6	7	8	9
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Coder: G729A Frame (ms): 60 Exclusive ☐ SC ☐

OK Cancel

3. Check that the Subscriptions field is *Disabled*.
4. Click OK.

Chapter 6.

AIWS Installation

6. AIWS Installation

The [AIWS](#)^[10] (*Avaya In-Built Wireless Server*) provides a range of services for the DECT R4 system. It hosts an integrated version of the [Device Manager](#)^[82] application for managing DECT devices such as phones and chargers.

The AIWS connects to the same LAN as the IP Office and DECT base stations and needs to be given a fixed IP address during installation.

The AIWS installation consists of the following stages:

1. Remove the AIWS Cover.
2. Connect the RTC Battery.
3. Connect the LAN and Power Cables.
4. Browse to the AIWS.
5. Run the Setup Wizard.
6. Enable Base Station/AIWS Connections.
7. Upgrade the AIWS Firmware.
8. Switch off the AIWS.
9. Wall Mount the AIWS.
10. Replace the AIWS Cover.

Pre-Requisites

- ☐ Master base station installed and connected to the network.
- ☐ IP Office connected to the network.
- ☐ Phones subscribed.

Parts Required

- ☐ AIWS Unit which includes:
 - ☐ AIWS Unit
 - ☐ AIWS Power Supply unit and selection of IEC60320 C7 power leads (CEE7/16 (Europlug), BS1363, NEMA1-15 and AS/NZS 3112).
 - ☐ 1.2 metre (4 foot) LAN cable.
If this is replaced with a longer cable the replacement should be a CAT5 Ethernet LAN cable.
 - ☐ AIWS License sheet.
- ☐ 3 x 3.5mm Screws and suitable wall plugs for the wall mounting of the AIWS.
- ☐ LAN Socket
- ☐ Mains power outlet socket.

Information

- ☐ IP Address for the AIWS
- ☐ Other standard network settings (Default Gateway, DNS, WINS)
- ☐ AIWS License Key (this should have been supplied with the AIWS)
- ☐ IP Address of the DECT Master base station.
- ☐ IP Address of the IP Office
- ☐ Preferred time settings (date format, time format)
- ☐ Wall mounting location selected for the AIWS
- ☐ Access information (name and password) for configuring the base stations.

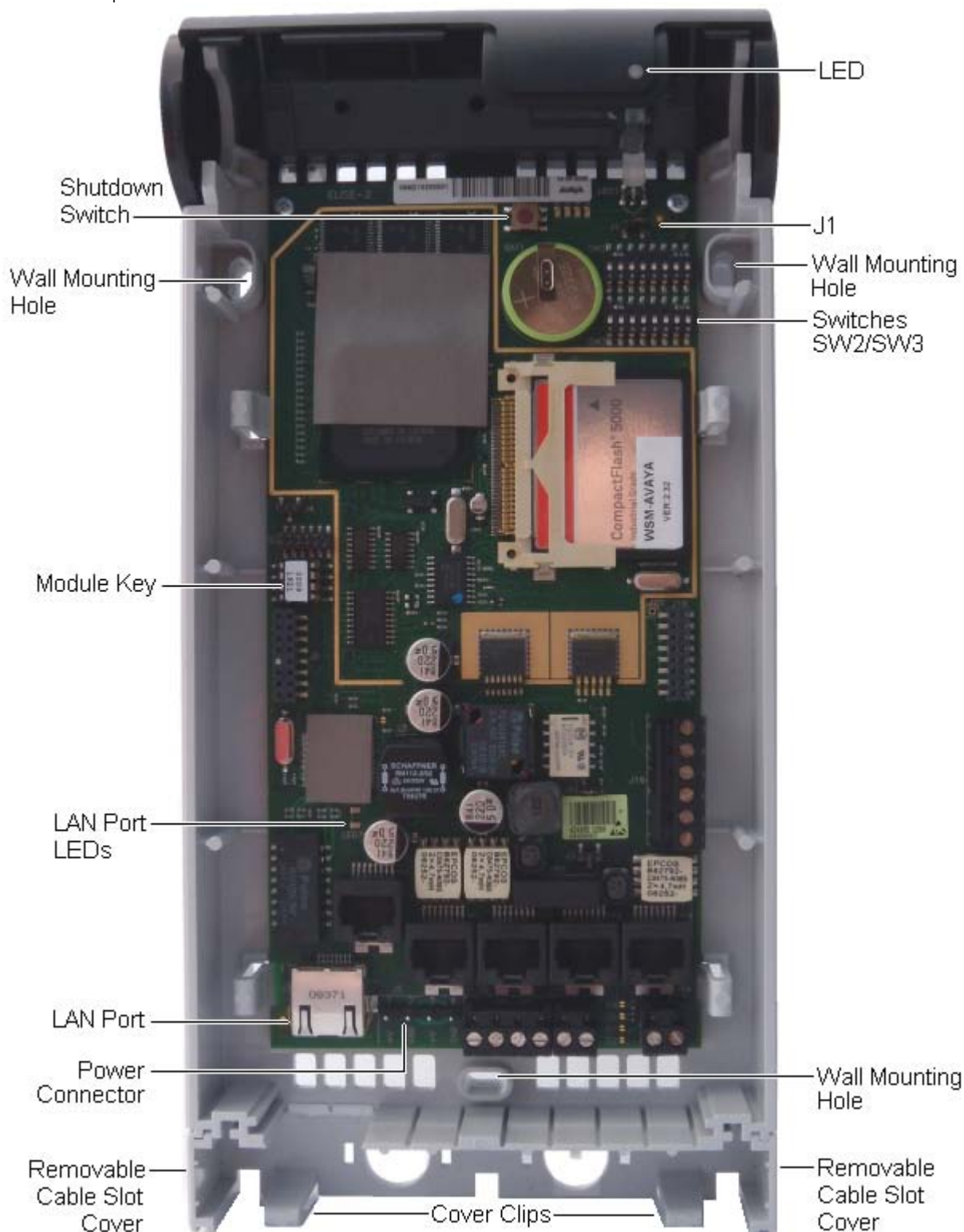
Tools

- ☐ Programming PC with DECT R4 [software](#) ²⁴.
- ☐ Web browser.
- ☐ Pliers and sharp knife for removal of plastic cable cut-outs from AIWS case.
- ☐ Drill and drill bits suitable for the selected wall mounting position of the AIWS.
- ☐ Screwdrivers for use with the screws selected for AIWS wall mounting.

6.1 Removing the AIWS Cover

The AIWS cover can be removed without using any tools.

1. On the base of the unit (opposite the rounded end) are two depressible clips. Depress these whilst lifting the cover.
2. It should be possible to lift the cover off the unit.



3. With the cover removed, familiarize yourself with the various features labeled above. These will be referred to during other parts of the installation process.

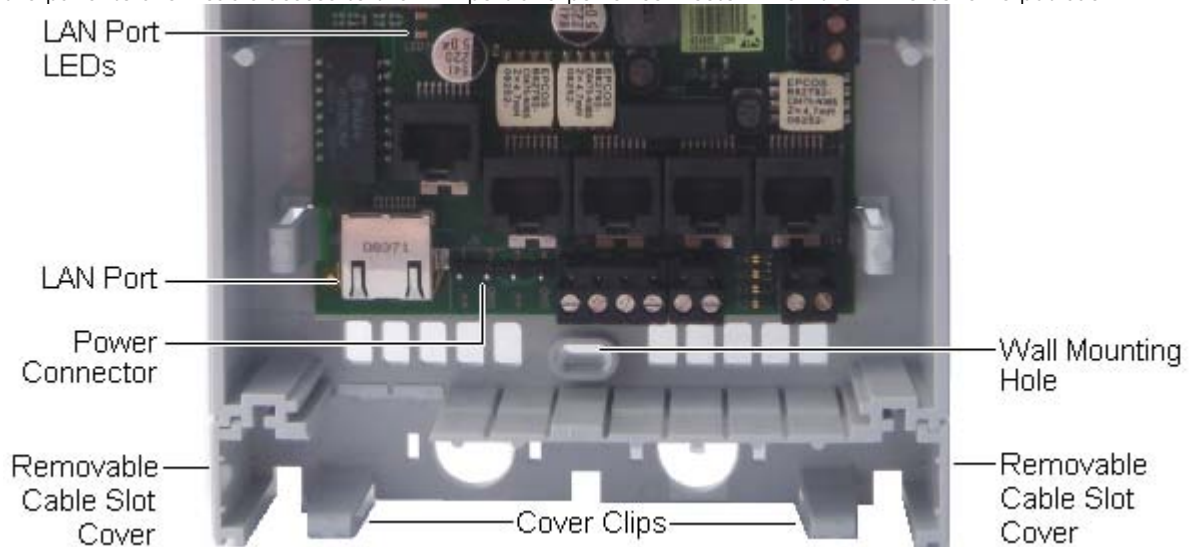
6.2 Connect the RTC Battery

The AIWS circuit board includes a 3V lithium battery which will keep the boards real time clock (RTC) running when power to the AIWS is off. The AIWS is shipped with the battery disconnected. To connect the battery, locate the switch J1 at the top right of the board. Move the switch jumper to position 2-3.



6.3 Cable Connections

1. Locate the switch sets SW2 and SW3 at the top-right of the AIWS circuit board. Ensure that all the switches are set to *Off*.
2. Locate the LAN port and the J5 power connector. Just below these is a plastic panel. With care remove sufficient of the panel to allow cable access to the LAN port and power connector when the AIWS cover is put back.

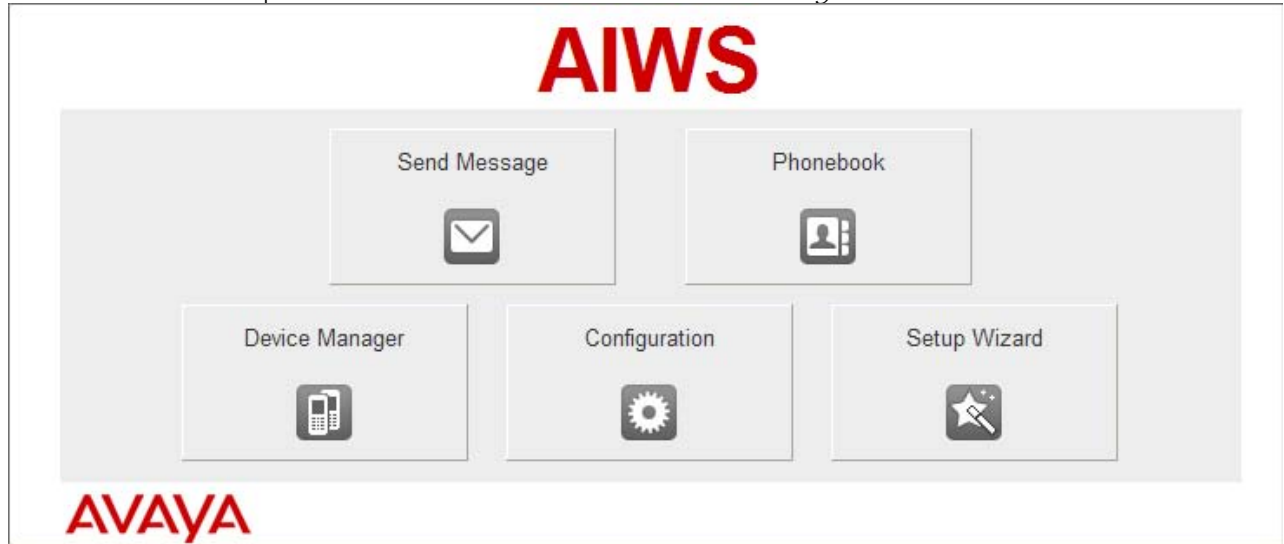


3. Connect the LAN cable from the IP Office to the AIWS.
4. Connect the power supply cable to the J5 power connector next to the AIWS LAN port.
5. Switch on power to the AIWS unit.

6.4 Browse the AIWS

The AIWS can be accessed using a web browser.

1. Enter the IP address of the AIWS into the browser address field.
 - Alternatively enter `http://Elise-0091921` as the address, replacing the digits with the AIWS unit's Module Key. The Module Key is printed on the [AIWS circuit board](#)^[64].
2. If a security certificate warning appears, select to continue.
3. Enter a user name and password. The default values are *admin* and *changeme*.

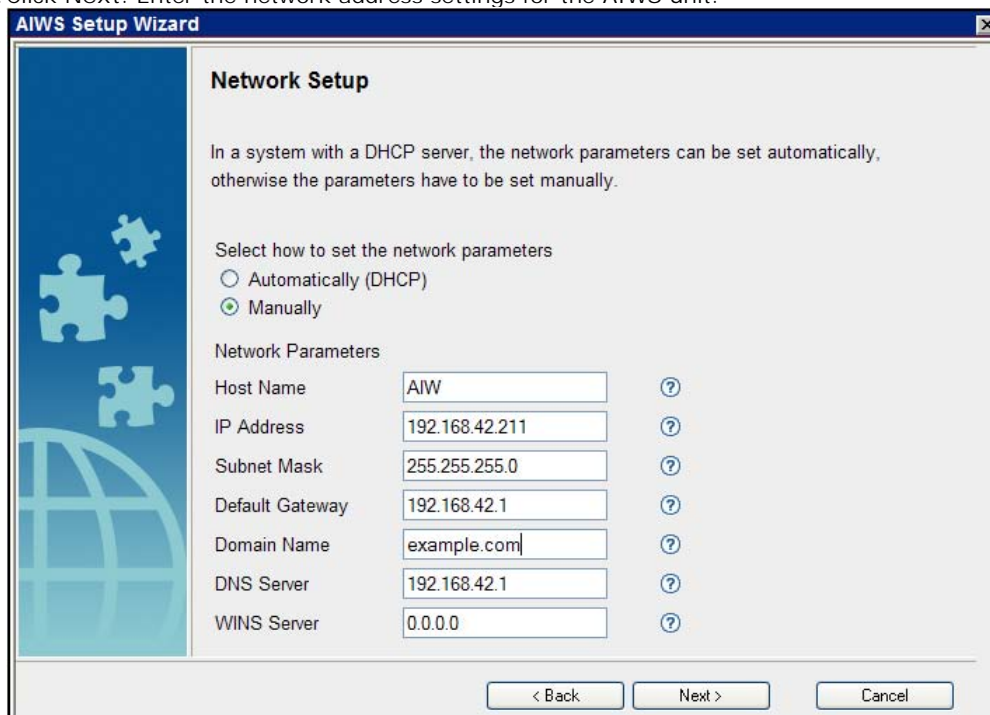


6.5 Run the Setup Wizard

1. Access the AIWS using your browser.
2. If the unit is defaulted, the setup wizard is run automatically. If the unit already has configuration settings, then from the menu displayed select Setup Wizard.

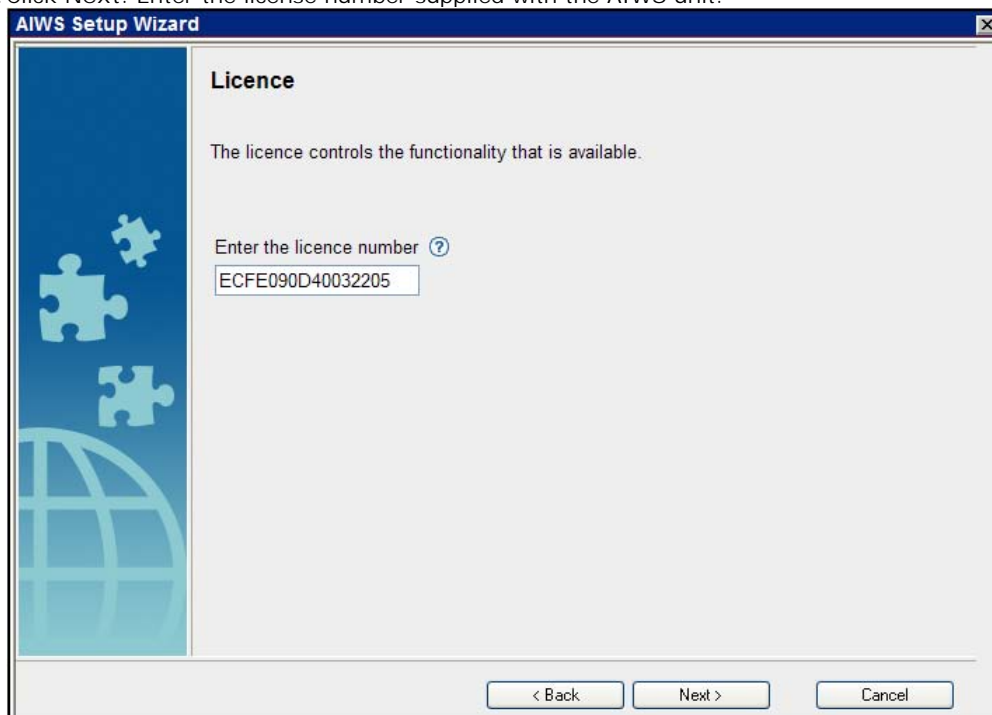


3. Click Next. Enter the network address settings for the AIWS unit.



- Set the network parameters mode to *Manually*.
- Host Name
Enter a name to help identify the AIWS on the network.
- IP Address/Subnet Mask
Enter the static IP address details that the AIWS should use.
- Set the remaining details to match those being used by other devices on the network.

4. Click Next. Enter the license number supplied with the AIWS unit.



The screenshot shows the 'AIWS Setup Wizard' window with the 'Licence' tab selected. The window has a blue header bar with the title 'AIWS Setup Wizard'. On the left side, there is a vertical blue bar containing a graphic of puzzle pieces and a globe. The main area is light gray. The title 'Licence' is at the top. Below it, a message states: 'The licence controls the functionality that is available.' Further down, there is a label 'Enter the licence number' followed by a help icon. A text box contains the license number 'ECFE090D40032205'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Licence

The licence controls the functionality that is available.

Enter the licence number ?

ECFE090D40032205

< Back Next > Cancel

5. Click Next. Enter the IP address of the master base station.



The screenshot shows the 'AIWS Setup Wizard' window with the 'DECT IP Address' tab selected. The window has a blue header bar with the title 'AIWS Setup Wizard'. On the left side, there is a vertical blue bar containing a graphic of puzzle pieces and a globe. The main area is light gray. The title 'DECT IP Address' is at the top. Below it, a message states: 'Communication with the DECT system uses a fixed IP address.' Further down, there are two labels: 'Enter DECT IP Address' and 'Enter secondary DECT IP Address' followed by a help icon. The first text box contains the IP address '192.168.42.210' and the second text box contains '0.0.0.0'. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

DECT IP Address

Communication with the DECT system uses a fixed IP address.

Enter DECT IP Address

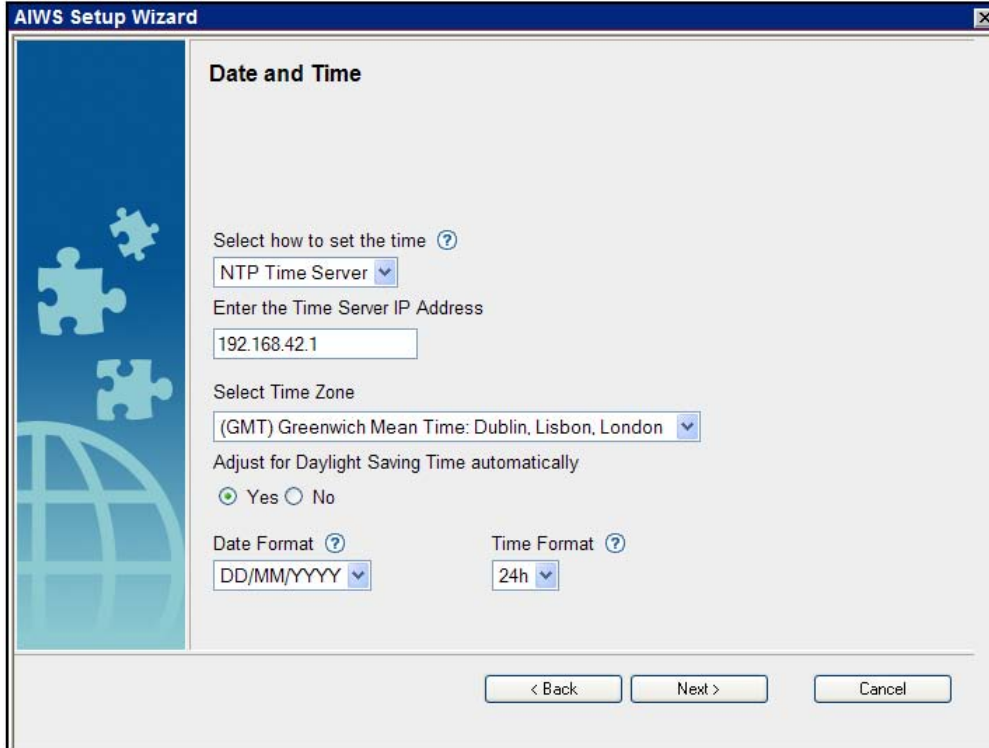
192.168.42.210

Enter secondary DECT IP Address ?

0.0.0.0

< Back Next > Cancel

6. Click Next. The Date and Time options are displayed. Select *NTP Time Server* and set the Time Server IP Address to be the IP address of the IP Office. Adjust the other values to match the customer site.

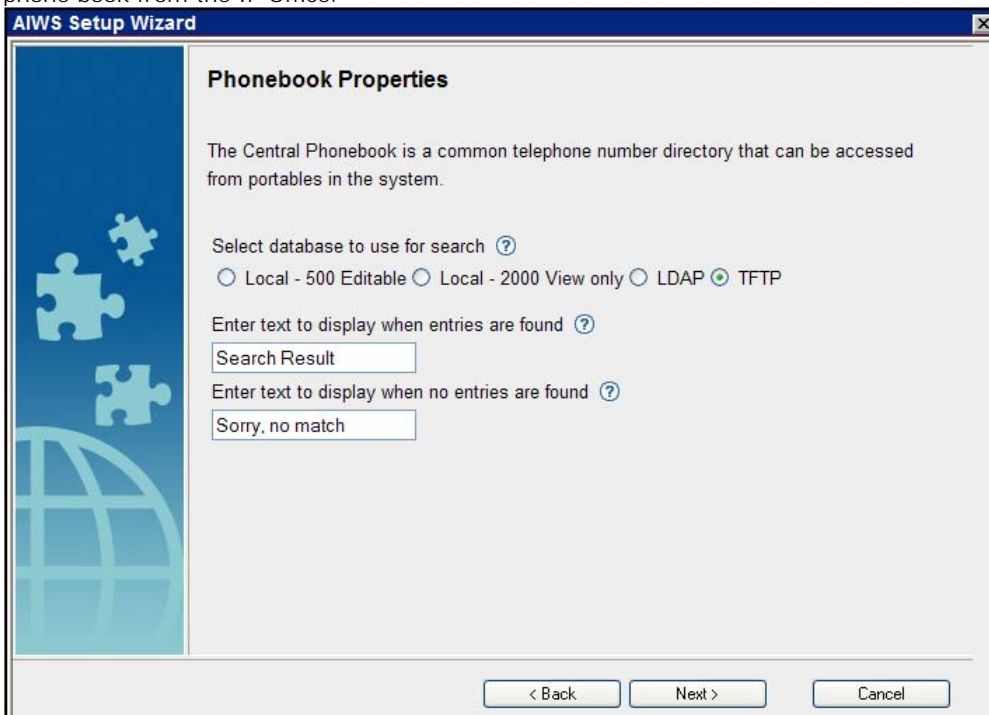


The screenshot shows the 'Date and Time' configuration window of the AIWS Setup Wizard. The window has a blue sidebar with puzzle pieces and a globe. The main area is titled 'Date and Time'. It contains the following fields and options:

- Select how to set the time**: A dropdown menu set to 'NTP Time Server'.
- Enter the Time Server IP Address**: A text box containing '192.168.42.1'.
- Select Time Zone**: A dropdown menu set to '(GMT) Greenwich Mean Time: Dublin, Lisbon, London'.
- Adjust for Daylight Saving Time automatically**: Radio buttons for 'Yes' (selected) and 'No'.
- Date Format**: A dropdown menu set to 'DD/MM/YYYY'.
- Time Format**: A dropdown menu set to '24h'.

At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

7. Click Next. The Phonebook Properties options are displayed. Select *TFTP* in order to have the AIWS obtain the phone book from the IP Office.

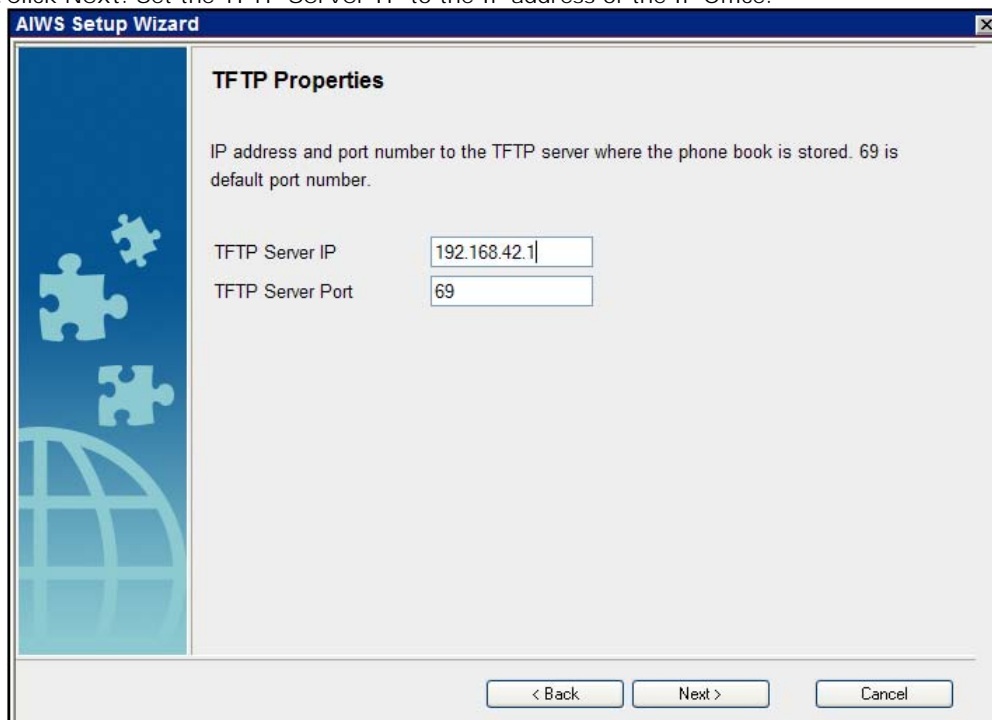


The screenshot shows the 'Phonebook Properties' configuration window of the AIWS Setup Wizard. The window has a blue sidebar with puzzle pieces and a globe. The main area is titled 'Phonebook Properties'. It contains the following fields and options:

- The Central Phonebook is a common telephone number directory that can be accessed from portables in the system.**
- Select database to use for search**: Radio buttons for 'Local - 500 Editable', 'Local - 2000 View only', 'LDAP', and 'TFTP' (selected).
- Enter text to display when entries are found**: A text box containing 'Search Result'.
- Enter text to display when no entries are found**: A text box containing 'Sorry, no match'.

At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

8. Click Next. Set the TFTP Server IP to the IP address of the IP Office.



The screenshot shows the 'AIWS Setup Wizard' window with the 'TFTP Properties' tab selected. The window has a blue sidebar with puzzle pieces and a globe icon. The main area contains instructions and two input fields. The 'TFTP Server IP' field is filled with '192.168.42.1' and the 'TFTP Server Port' field is filled with '69'. At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

AIWS Setup Wizard

TFTP Properties

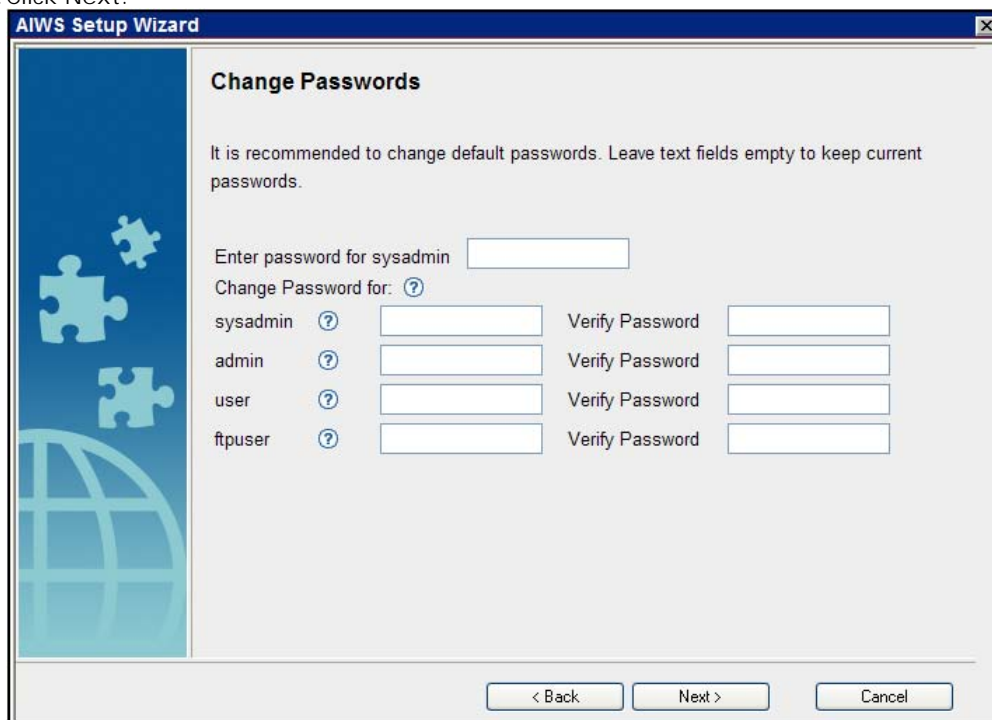
IP address and port number to the TFTP server where the phone book is stored. 69 is default port number.

TFTP Server IP

TFTP Server Port

< Back Next > Cancel

9. Click Next.



The screenshot shows the 'AIWS Setup Wizard' window with the 'Change Passwords' tab selected. The window has the same blue sidebar as the previous screen. The main area contains instructions and several input fields. There is a single field for 'sysadmin' and a table for other users. At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

AIWS Setup Wizard

Change Passwords

It is recommended to change default passwords. Leave text fields empty to keep current passwords.

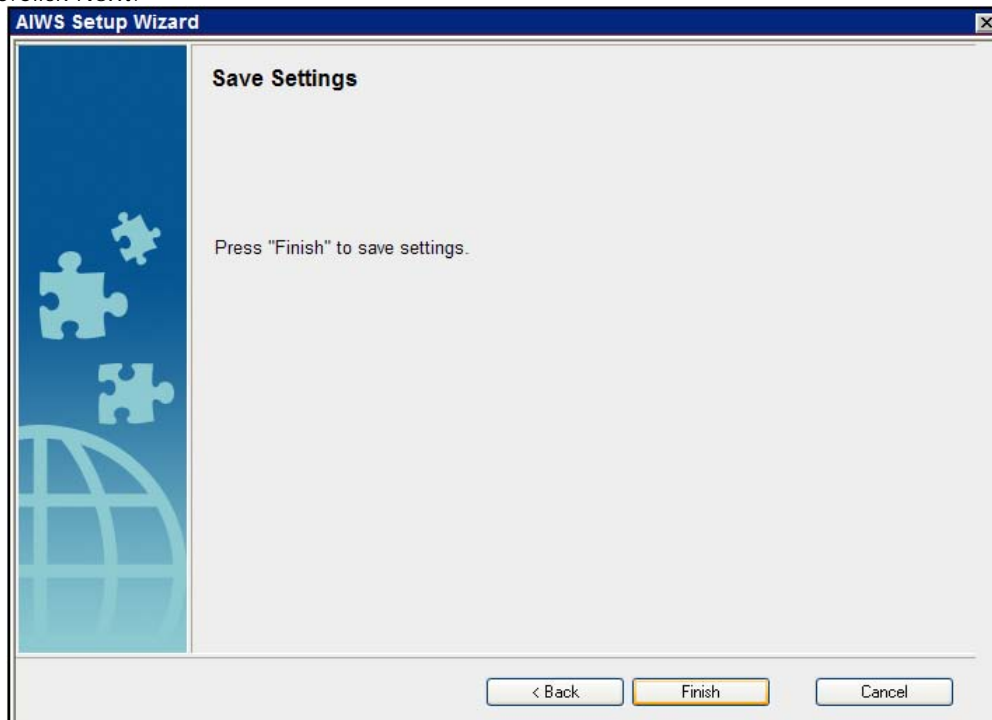
Enter password for sysadmin

Change Password for: [?](#)

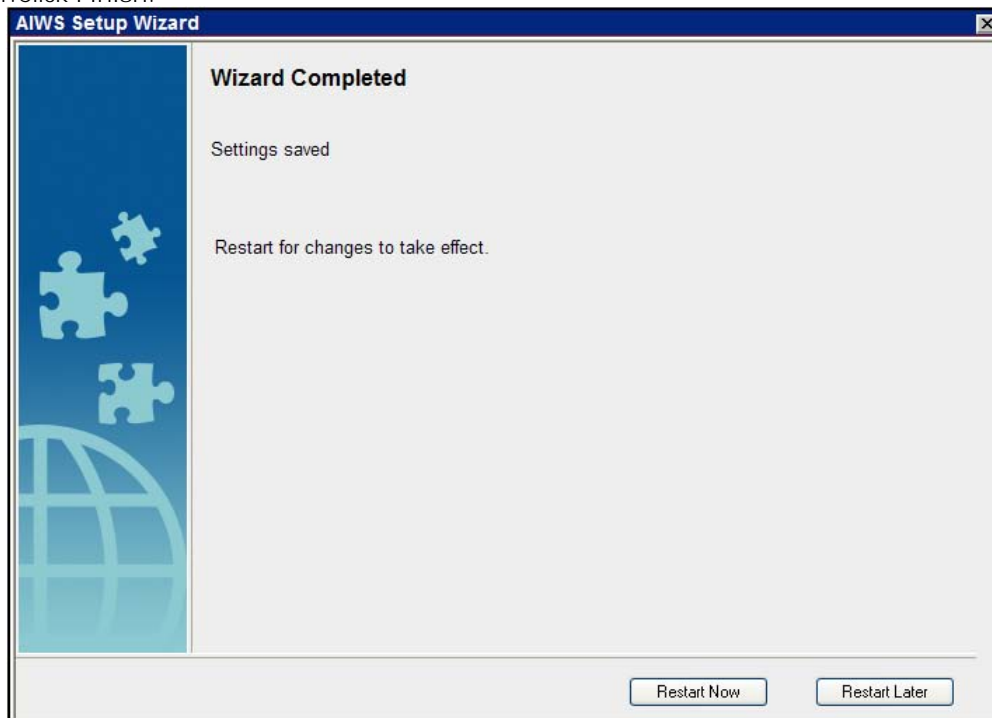
sysadmin	?	<input type="text"/>	Verify Password	<input type="text"/>
admin	?	<input type="text"/>	Verify Password	<input type="text"/>
user	?	<input type="text"/>	Verify Password	<input type="text"/>
ftpuser	?	<input type="text"/>	Verify Password	<input type="text"/>

< Back Next > Cancel

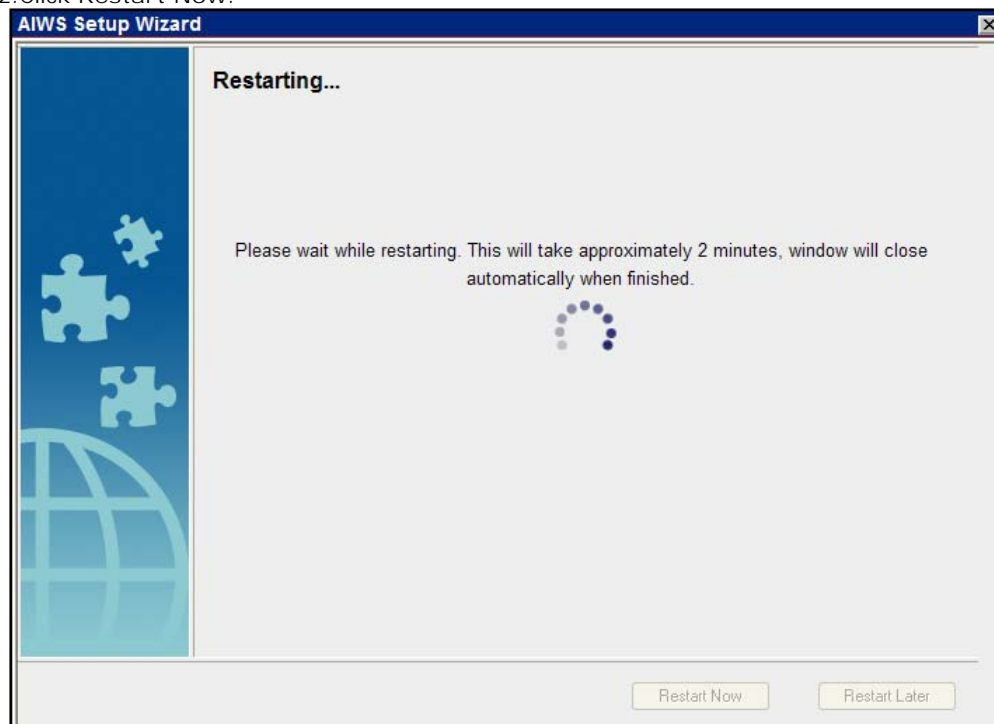
10. Click Next.



11. Click Finish.



12. Click Restart Now.



13. Close the browser access session. Start a new session using the new IP address.

6.6 Enable Base Station/AIWS Connection

The IP address of the AIWS needs to be entered into the configuration of the base stations.

Master Only

1. In the left-hand panel, select UNITE. Select the Device Management tab.

AVAYA IP-DECT Base Station

Configuration

- General
- LAN
- IP
- LDAP
- DECT
- UNITE**

SMS Device Management Service Discovery Status Log

Unite IP Address 192.168.42.211

Active Settings 192.168.42.211

2. For the Unite IP Address, enter the IP address that will be assigned to the AIWS unit when installed in the DECT system.
3. Click OK.

Master and Slave

1. In the left-hand panel, select UNITE. Select the Status Log tab.

AVAYA IP-DECT Base Station

Configuration

- General
- LAN
- IP
- LDAP
- DECT
- UNITE**

SMS Device Management Service Discovery Status Log

Unite IP Address 192.168.42.211

Unite Resource Identity Master

Unite Address 192.168.42.211/Master

2. For the Unite IP Address, enter the IP address that will be assigned to the AIWS unit when installed in the DECT system.
3. For the Unite Resource Identity enter a unique name to be associated with the base station.
4. Click OK.
5. Select the SMS tab. Again enter the IP address that will be assigned to the AIWS unit when installed in the DECT system.
6. Click OK.

6.7 Upgrade the AIWS Firmware

The AIWS will have been supplied with a default set of firmware. This must be upgraded to the firmware provided with the IP Office application software. Only the firmware supplied with the IP Office application software or indicated in IP Office Technical Bulletin should be used with AIWS units on IP Office DECT R4 systems.

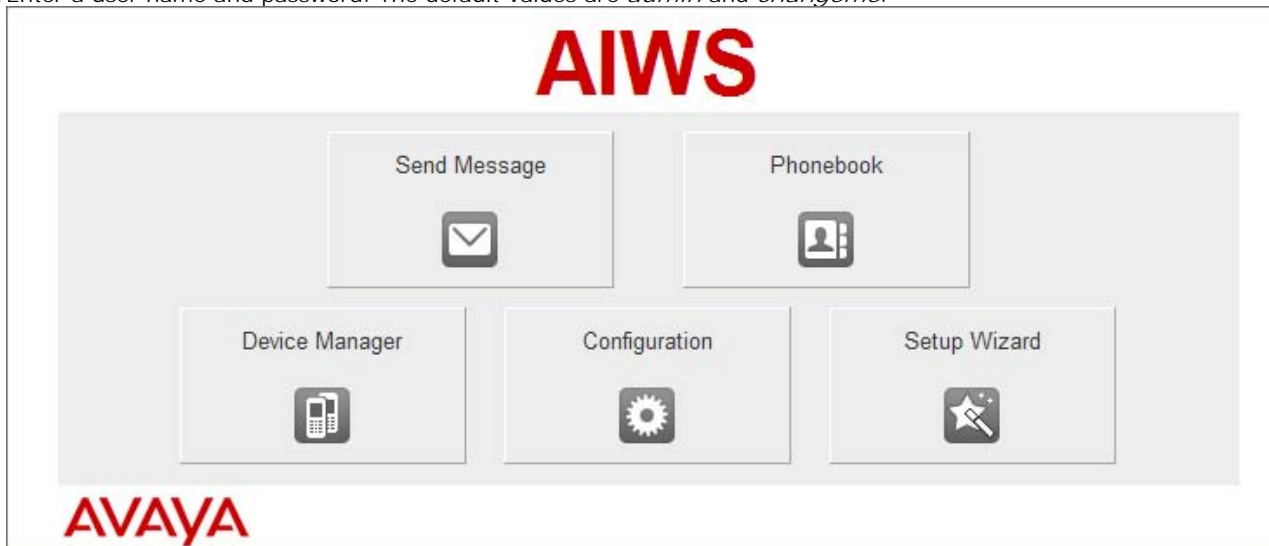
- Important: This process can take between up to 40 minutes.

1. Enter the IP address of the AIWS into the browser address field.

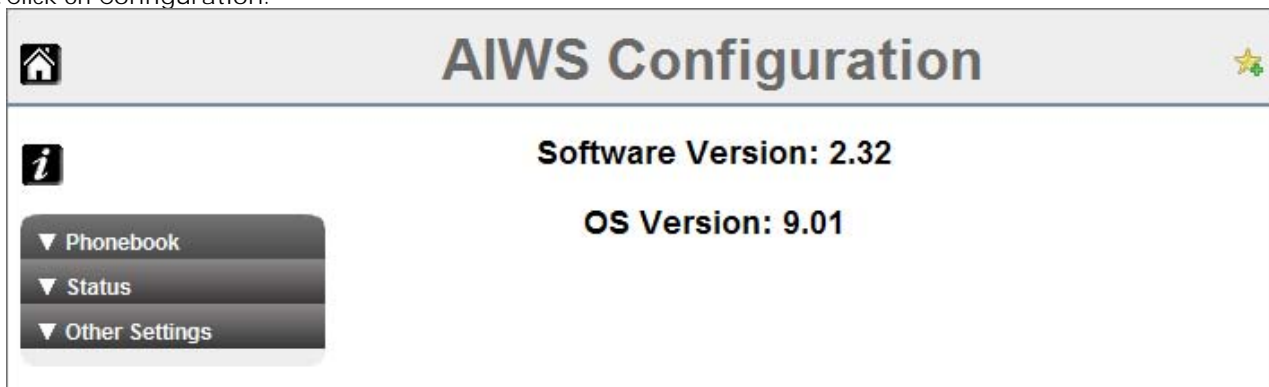
- Alternatively enter `http://Elise-0091921` as the address, replacing the digits with the AIWS unit's Module Key. The Module Key is printed on the [AIWS circuit board](#)^[64].

2. If a security certificate warning appears, select to continue.

3. Enter a user name and password. The default values are *admin* and *changeme*.



4. Click on Configuration.



5. Note the software version. Check whether this already matches the firmware detailed as supported by the level of software on the IP Office system.

6. In the browser address bar, change the `/config/start.php` part of the address to `/system`.



7. Click on Software.

Starting up

ELISE Installation

System Setup Software

Software

[Install Software](#)
[Install Image](#)
[Disk Status](#)

Current Software Versions

AIWS:	2.32 0.3.3 A
System:	9.01-XXX-A

8. Click Install Image.

Starting up

ELISE Installation

System Setup Software

Software

[Install Software](#)
[Install Image](#)
[Disk Status](#)

Install Image

The Compact flash can be upgraded with a new image.

Note that all information will be replaced with default values, therefore backup of the parameters is strongly recommended before starting the installation.

Backup parameters
Start installation

9. Click Backup parameters.

10. The browser will show it dialog for downloading a file called aiws-backup from the AIWS unit. Select the option to save the file and select a location to which it should be saved. Note the location as the file needs to be reloaded after the firmware upgrade.

11. Click Start installation.

Install Image

17 %

Preparing installation of new image.
Rebooting in Image installation mode.

Please wait...

12. After a short delay, the AIWS should prompt you for the location of the firmware file for the upload.

Install Image

Select Image

Browse...

Write to flash

Cancel Installation

When the unit is rebooted it returns to the operating mode set by the DIP switch on the ELISE.

Reboot

v1.30

13. Click on Browse. Locate the AIWS folder in the [software set previously unpacked](#)^[24]. Select the `.img` file.

Install Image

Select Image

C:\IP DECT\DECT R4\A Browse...

Write to flash

Cancel Installation

When the unit is rebooted it returns to the operating mode set by the DIP switch on the ELISE.

Reboot

v1.30

14. Click Write to flash.

Install Image

0 kB / 1000944 kB (0 %)

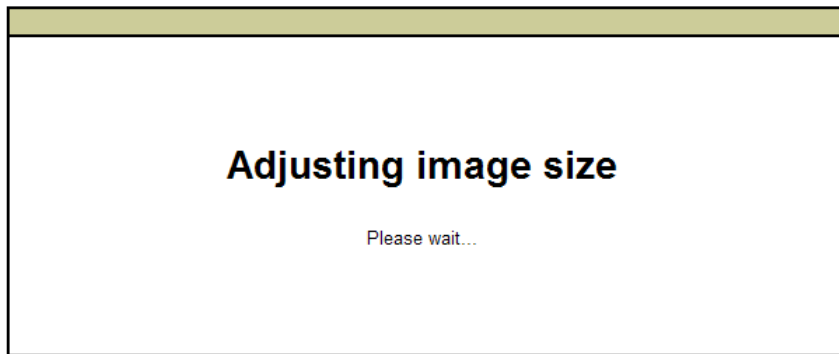
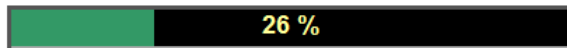
Writing...

Please wait

v1.30

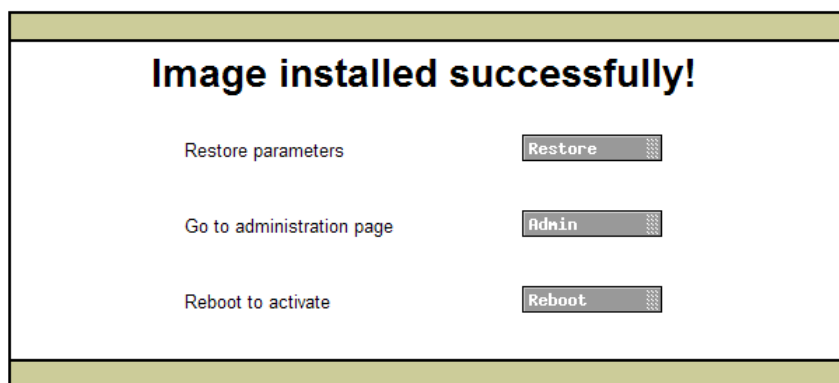
15. Now go make a cup of tea and maybe read a book - It is not fast and must be allowed to complete.

Install Image

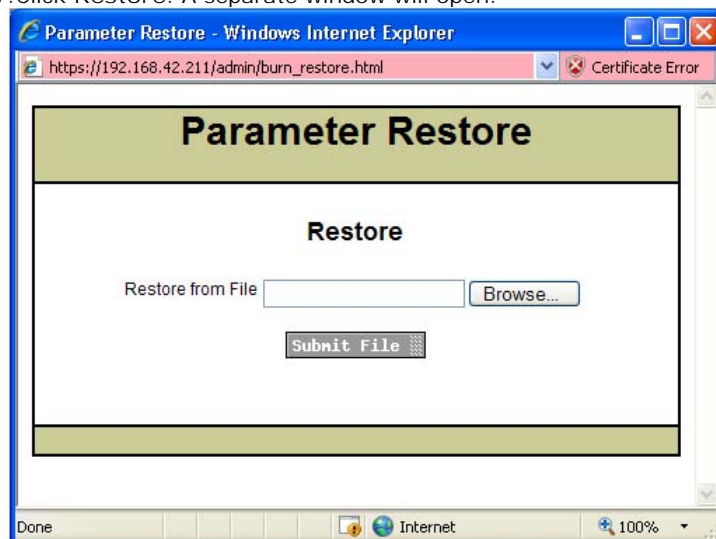


16. If the browser security warning is displayed, select to continue.

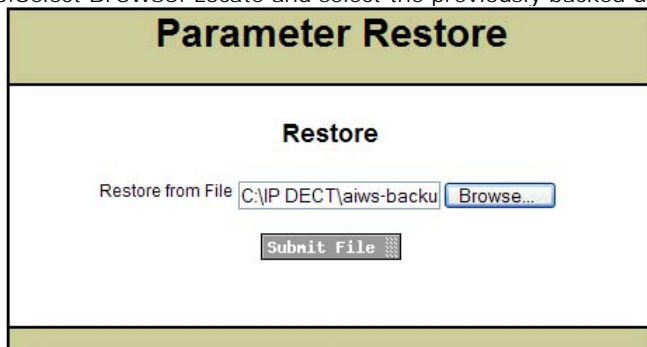
Install Image



17. Click Restore. A separate window will open.



18. Select Browse. Locate and select the previously backed up *aiws-backup* file.



19. Click Submit file.

Parameters restored!

All parameters except network will take effect immediately.
For network parameters to take effect, the module needs to be restarted

Close

20. Click Close.

Install Image

Image installed successfully!

Restore parameters

Restore

Go to administration page

Admin

Reboot to activate

Reboot

21. Select Reboot.

Reboot request successfully sent to system!

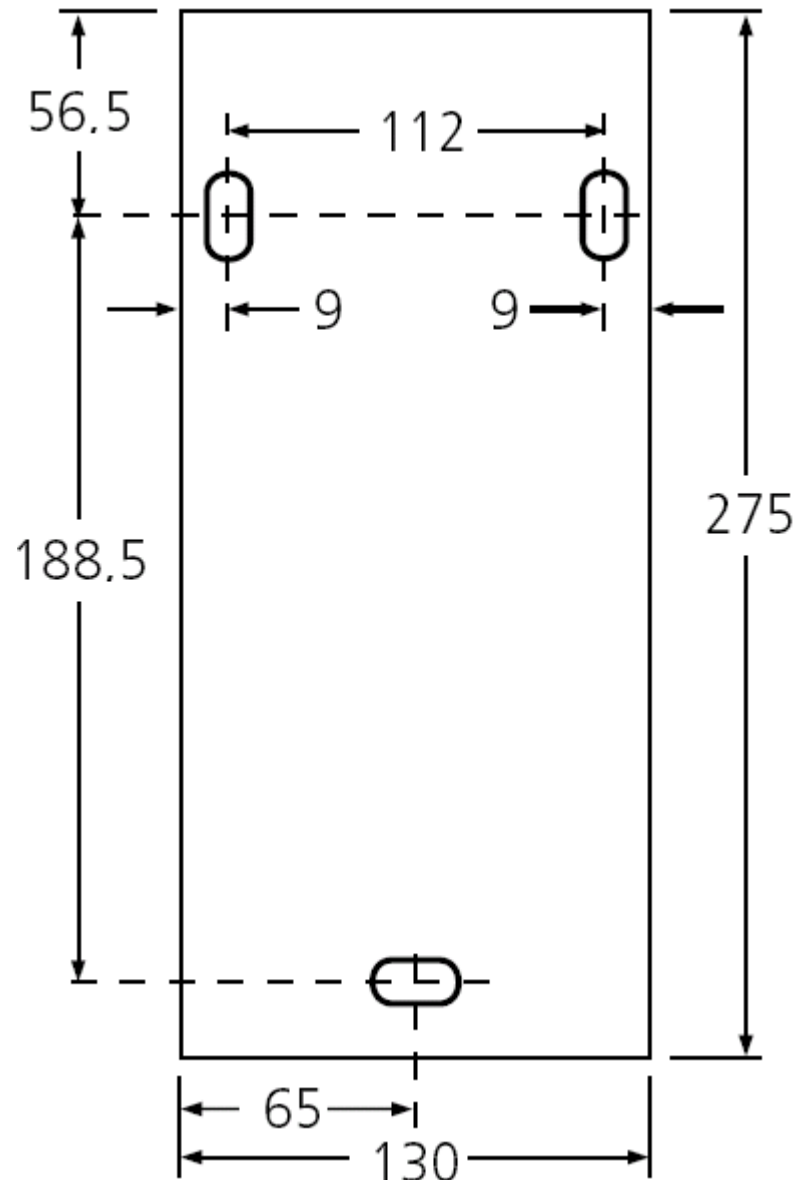
6.8 Switching Off the AIWS

Having now configured and upgraded the AIWS, it should be switched off and disconnected prior to being wall mounted

1. At the top right of the [AIWS circuit board](#) ^[64], locate the SW4 push button.
2. Press the button until the AIWS lamp starts to flash orange.
3. Remove the power cable. The power must be removed within 10 minutes or the AIWS will restart. If the AIWS restarts, wait until the Function Indicator is not indicating starting up (flashing orange) before pressing the SW4 button again.

6.9 Wall Mount the AIWS

The AIWS can be wall mounted. To facilitate service after the unit is installed, we recommend a free space of about 150 mm above and 50 mm below the unit.



6.10 Replace the AIWS Cover

The AIWS cover can be clipped back into place without using any tools.

1. Check that the AIWS is fully operating (green lamp) and can be browsed from the network.
2. Check that the cables are routed such that they will not be trapped when the cover is replaced.
3. Engage the cover with the top edge of the AIWS. Pivot the cover back into position, checking that the various plastic edges are in their original positions.
4. The cover clips will spring into position.

6.11 AIWS Status Lamp

Colour	State	Description
Green	On	Running.
Orange	On	Failsafe or Network setup mode.
	Flashing (1 second on/off)	Image installation mode.
	Fast flash (100ms on/off)	Starting.
	Intermittent flash (100ms on/1 second off)	Restart.
	Slow flash (2 seconds on/3 seconds off)	Halted (auto restart after 10 minutes).
	Wink (5 seconds on/100ms off)	Unlicensed.
Red	On	Low voltage.
	Intermittent flash (100ms on/1 second off)	License error.
	Flashing (1 second on/off)	Watch dog reset.
	Slow flash (2 seconds on/3 seconds off)	Shutdown.
	Very slow flash (3 seconds on/3 seconds off)	Memory error
	Wink (5 seconds on/100ms off)	Network error/Module key error.

Chapter 7.

Device Management

7. Device Management

This section covers the use of the Device Management application to update the firmware on the phones and to apply customized features templates to the phones.

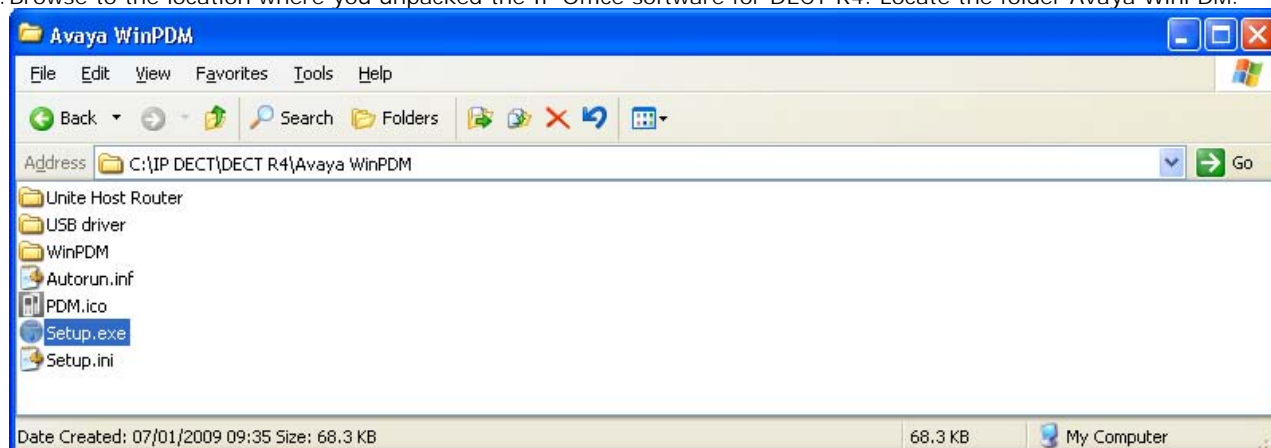
There are two variants of the device management application that can be used. They look similar and offer the similar features but operate differently:

- **AIWS Device Manager**
This is a version of the device manager application embedded into the AIWS unit. It can be started via browser access to the AIWS unit rather than having to be installed on a particular PC.
- **WinPDM (Windows Portable Device Manager)**
This is a version of the device manager application that can be installed onto a Windows PC.

7.1 Installing Windows Device Manager

As an alternative to the Device Manager application integrated into the AIWS unit, a copy of Windows Device Manager can be installed onto a Windows PC (Windows XP or Vista).

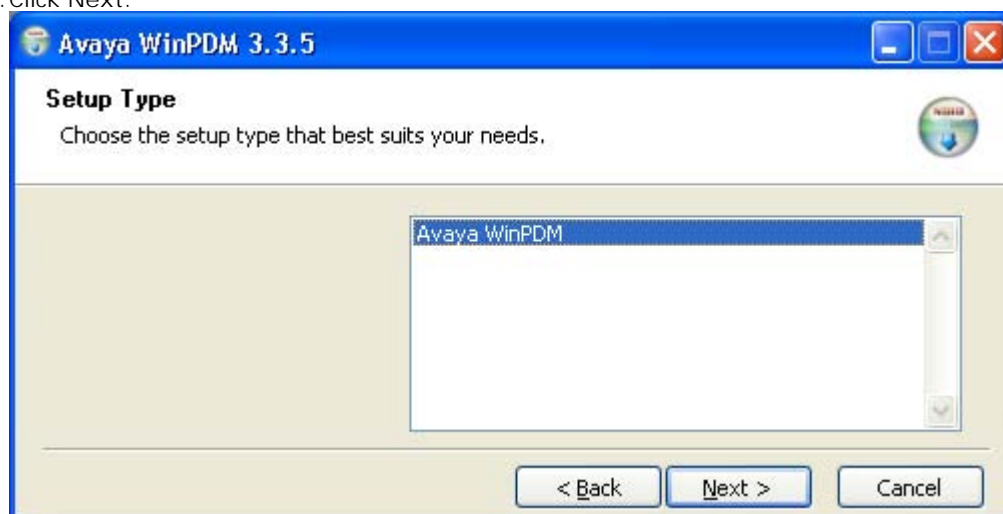
1. Browse to the location where you unpacked the IP Office software for DECT R4. Locate the folder Avaya WinPDM.



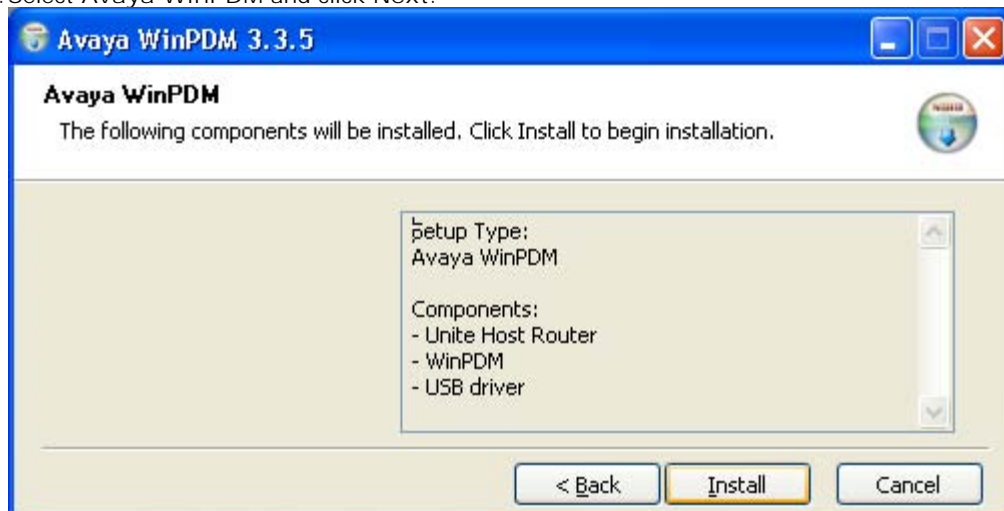
2. Double-click on Setup.exe.



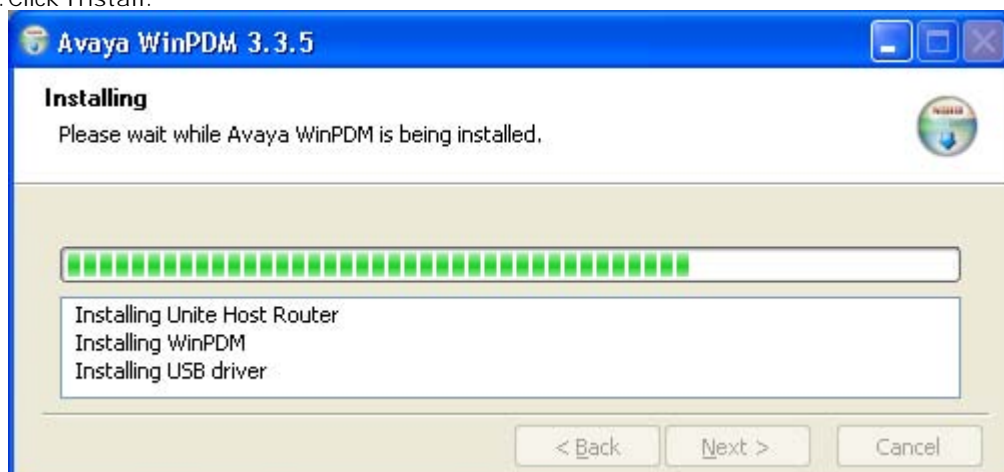
3. Click Next.



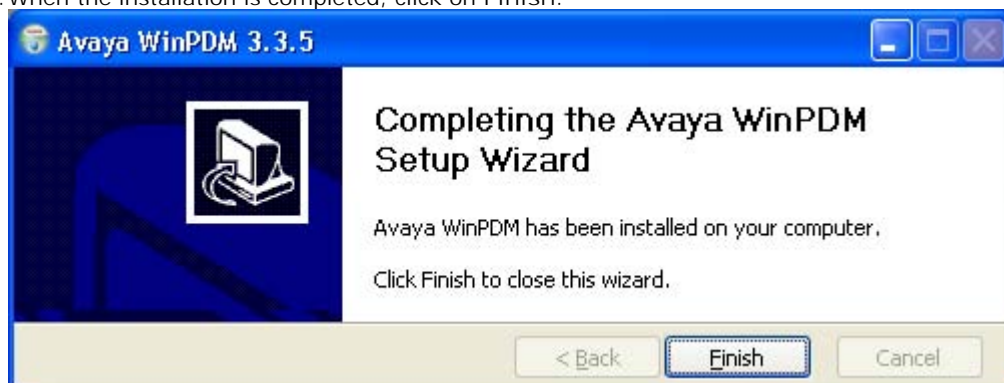
4. Select Avaya WinPDM and click Next.



5. Click Install.

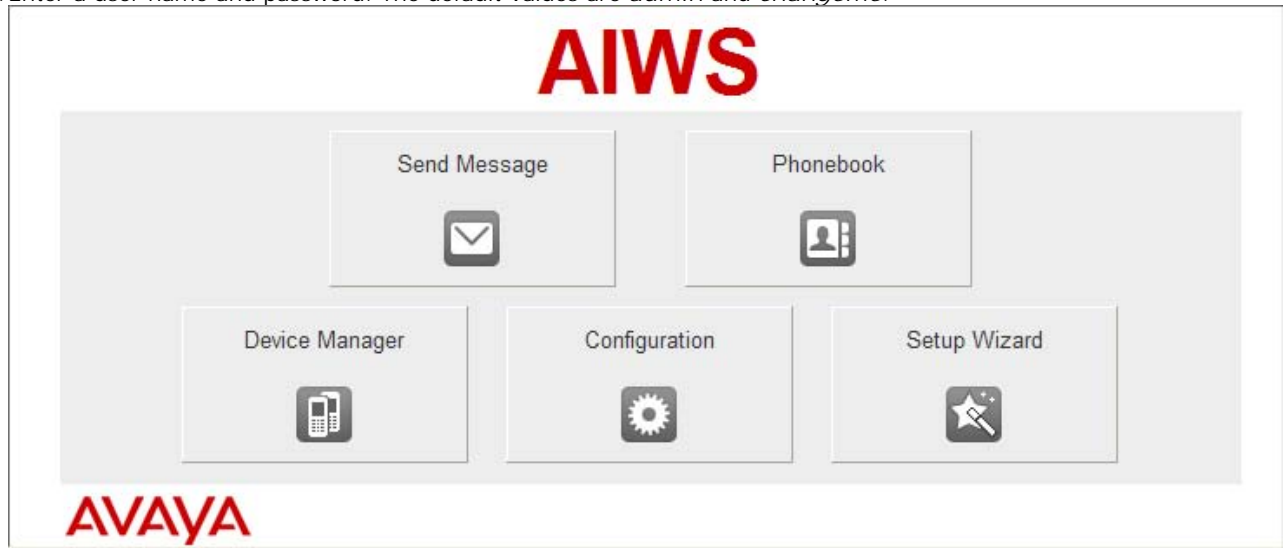


6. When the installation is completed, click on Finish.



7.2 Starting AIWS Device Manager

1. Enter the IP address of the AIWS into the browser address field.
 - Alternatively enter `http://Elise-0091921` as the address, replacing the digits with the AIWS unit's Module Key. The Module Key is printed on the [AIWS circuit board](#)^[64].
2. If a security certificate warning appears, select to continue.
3. Enter a user name and password. The default values are *admin* and *changeme*.



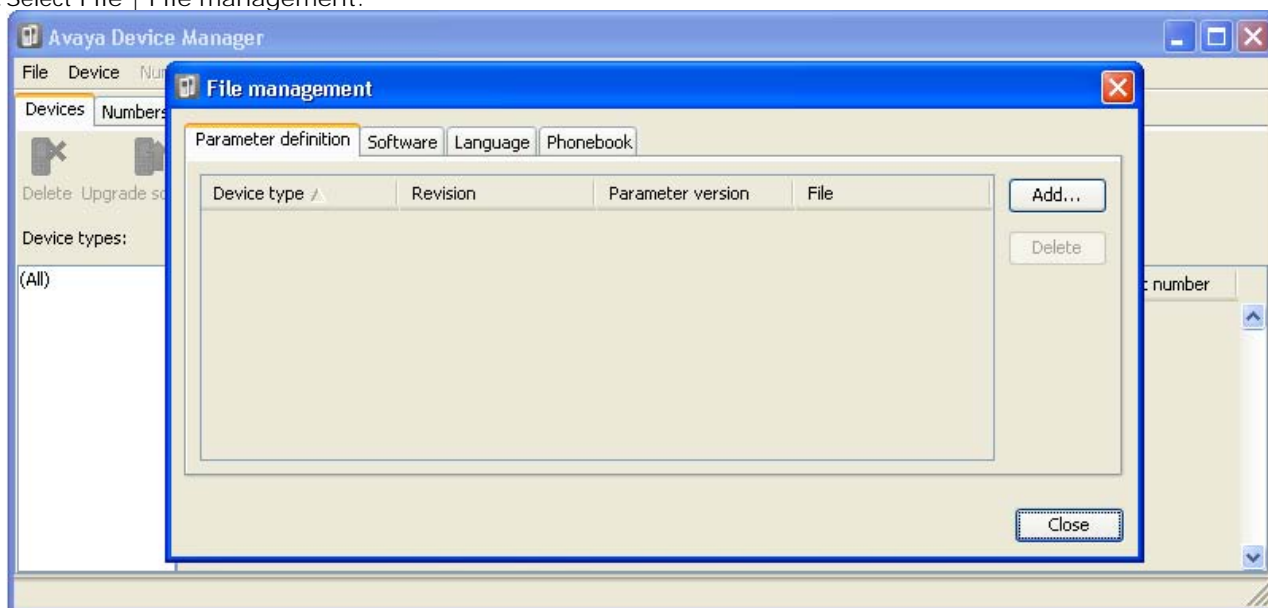
4. Select Device Manager.
5. If a web site certificate warning is displayed select to continue.
6. The Avaya Device Manager application is started.
 - If this is the first time that it has been started, it will prompt that no parameter definition files have been imported. Select Yes.

7.3 Starting Windows Device Manager

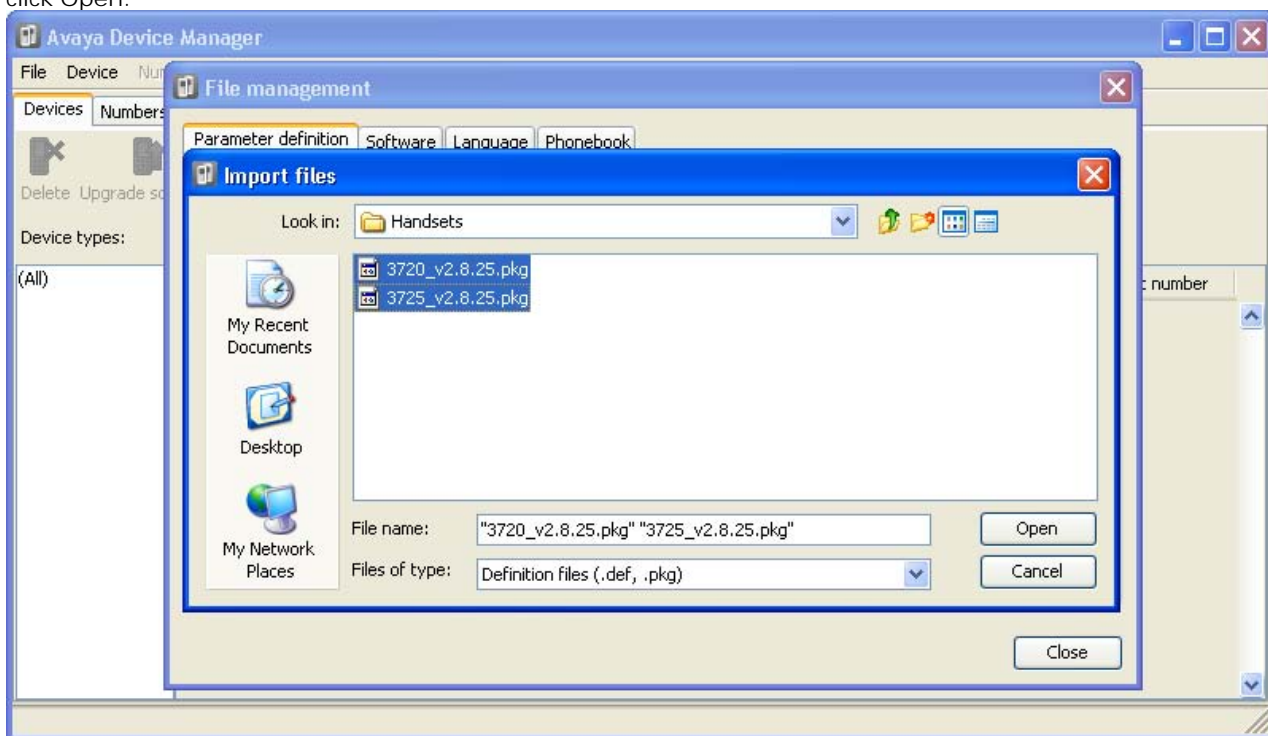
1. Select Start | All Programs | Avaya WinPDM.
2. Click on the Avaya WinPDM icon.
 - If this is the first time that Avaya WinPDM has been run, you will be asked to create a site. Enter a name for the site that you have been installing and click OK.
 - If this is the first time that Avaya WinPDM has been run, you will be prompted to [import parameter definition files](#)^[86].

7.4 Loading Parameter Definition Files

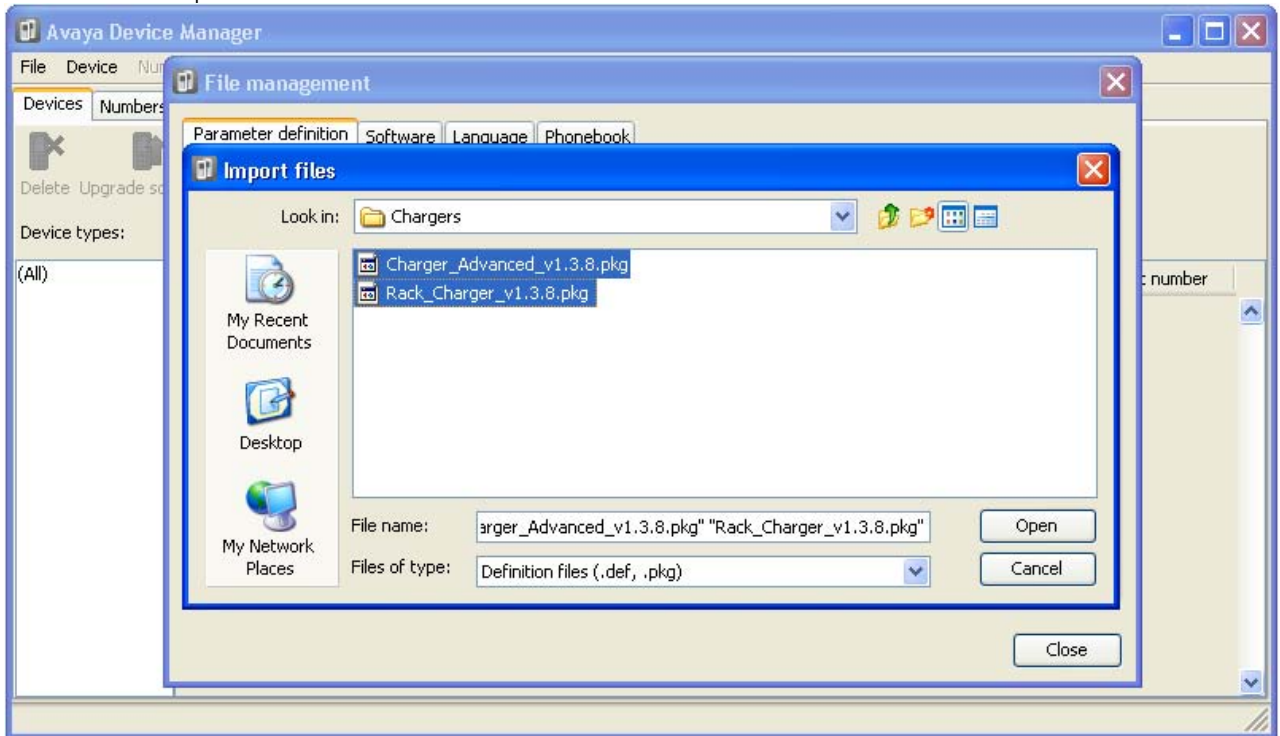
1. Start the [AIWS Device Manager](#) ^[85] or [Windows Device Manager](#) ^[85].
2. Select File | File management.



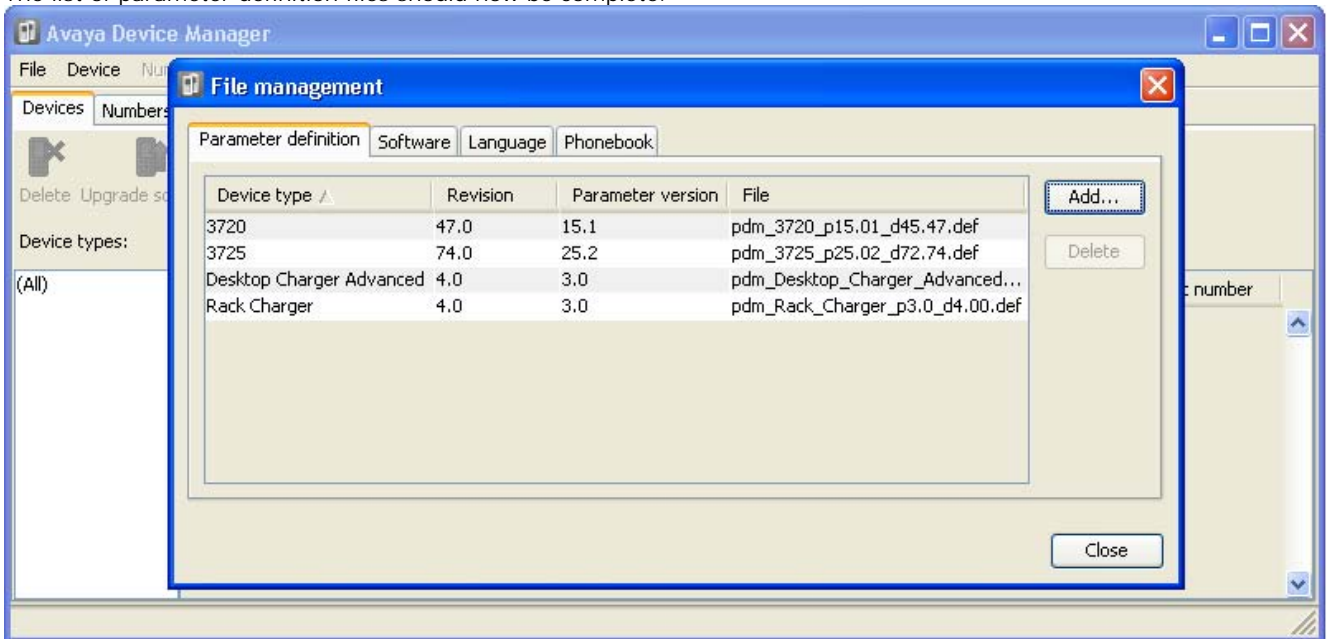
3. Select the Parameter definition tab.
4. Click Add.... Browse to the Phone folder in the software previous unpacked. Select the .pkg files in the folder and click Open.



- Click Add... again. Browse to the Chargers folder in the software previous unpacked. Select the .pkg files in the folder and click Open.



- The list of parameter definition files should now be complete.

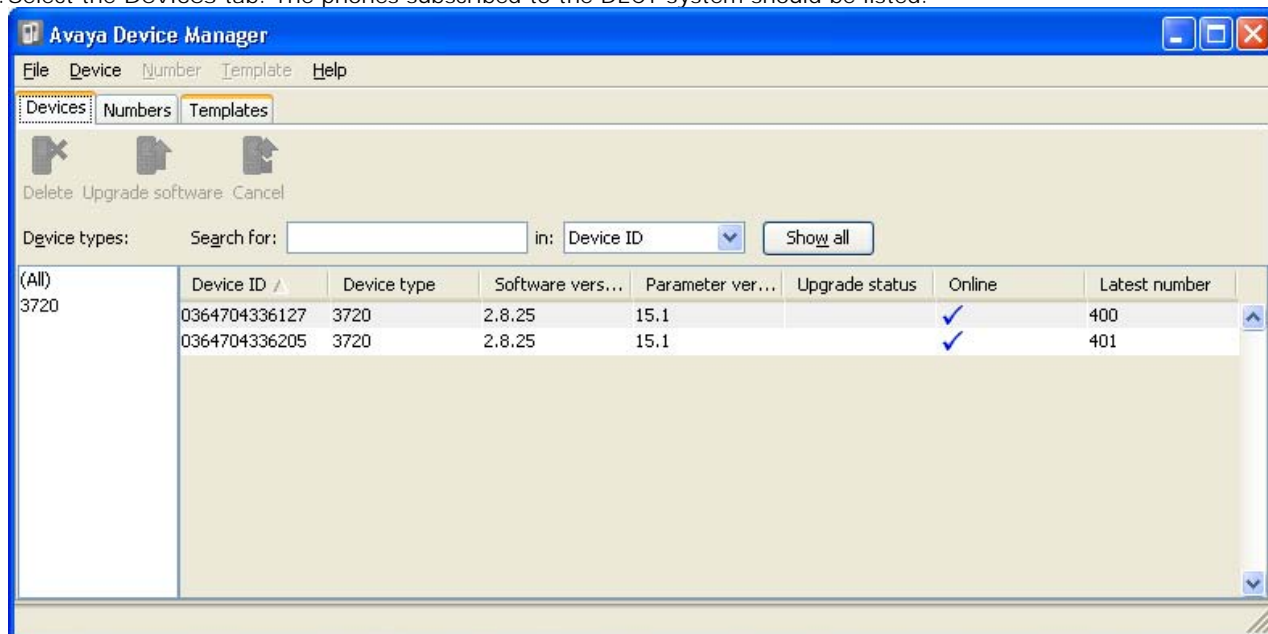


- Select Close.

7.5 Loading Phone Templates into Device Manager

Templates allow you to apply common settings to phones and chargers. The IP Office DECT R4 software set includes default templates for 3720 and 3725 phones that allow those phones to access IP Office functions through the phone menus.

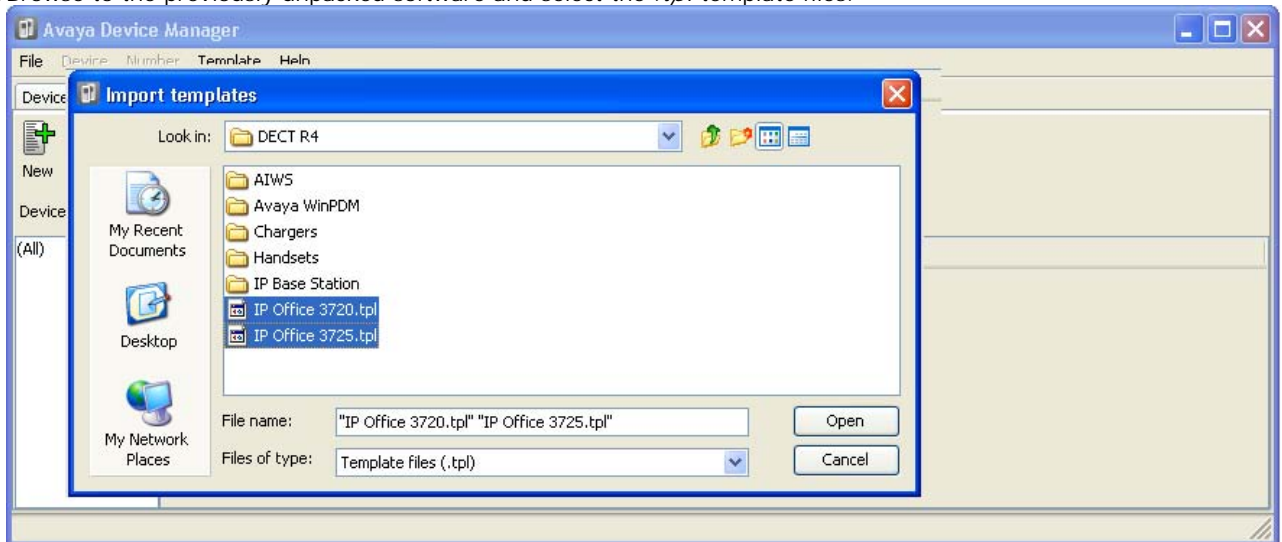
1. Start the [AIWS Device Manager](#)^[85] or [Windows Device Manager](#)^[85].
2. Select the Devices tab. The phones subscribed to the DECT system should be listed.



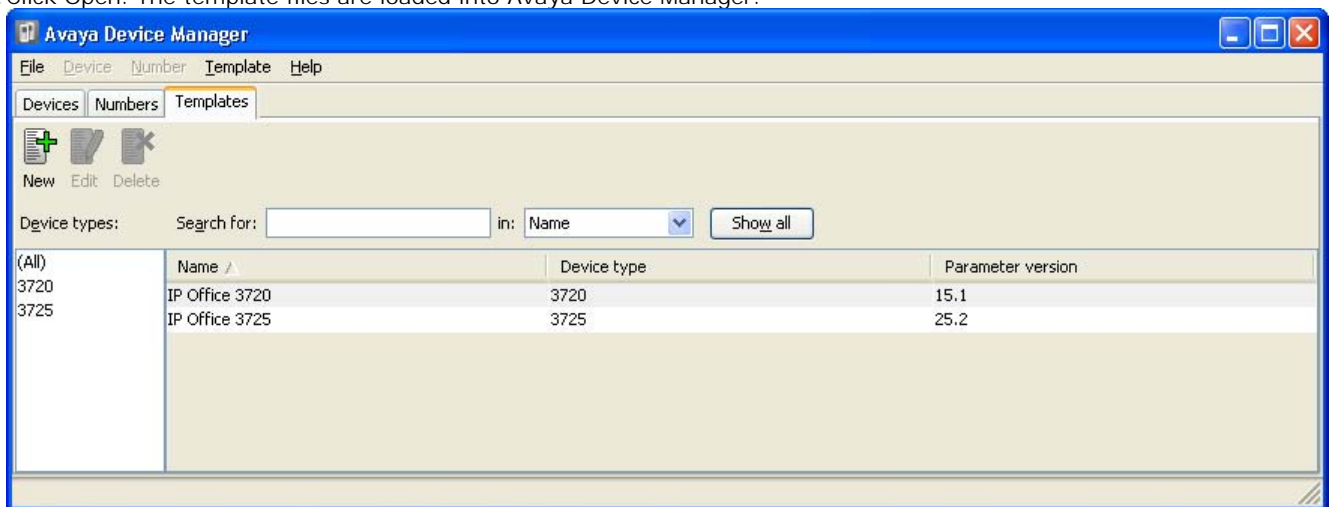
3. Select File | Import | Templates...



- Browse to the previously unpacked software and select the `.tpl`/template files.

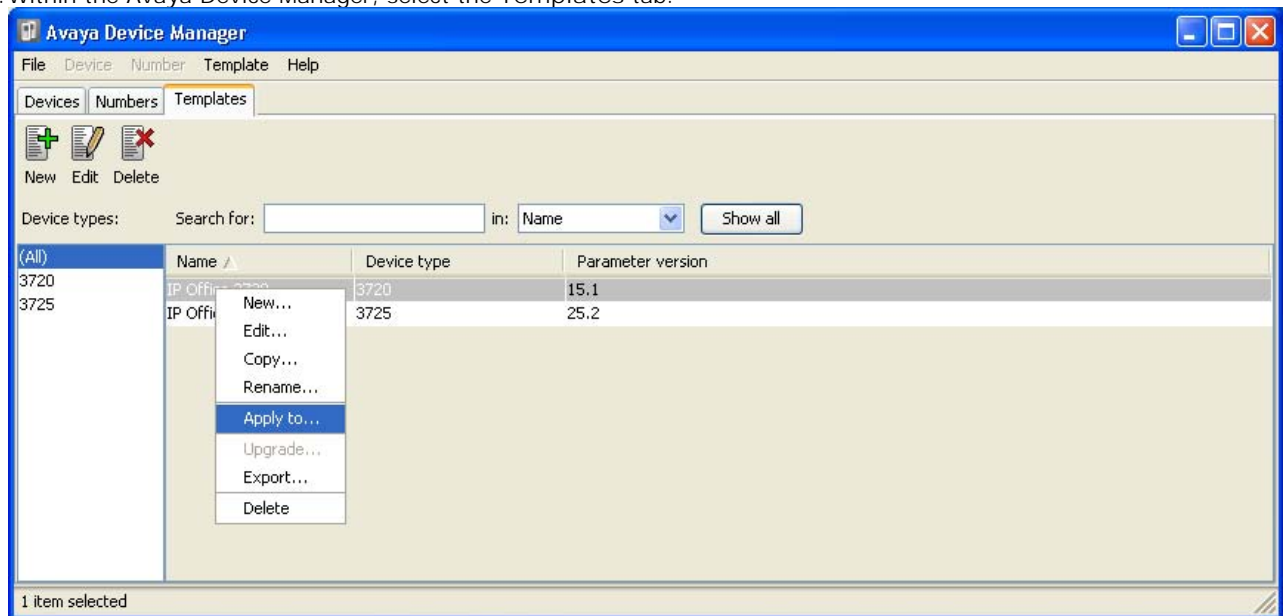


- Click Open. The template files are loaded into Avaya Device Manager.

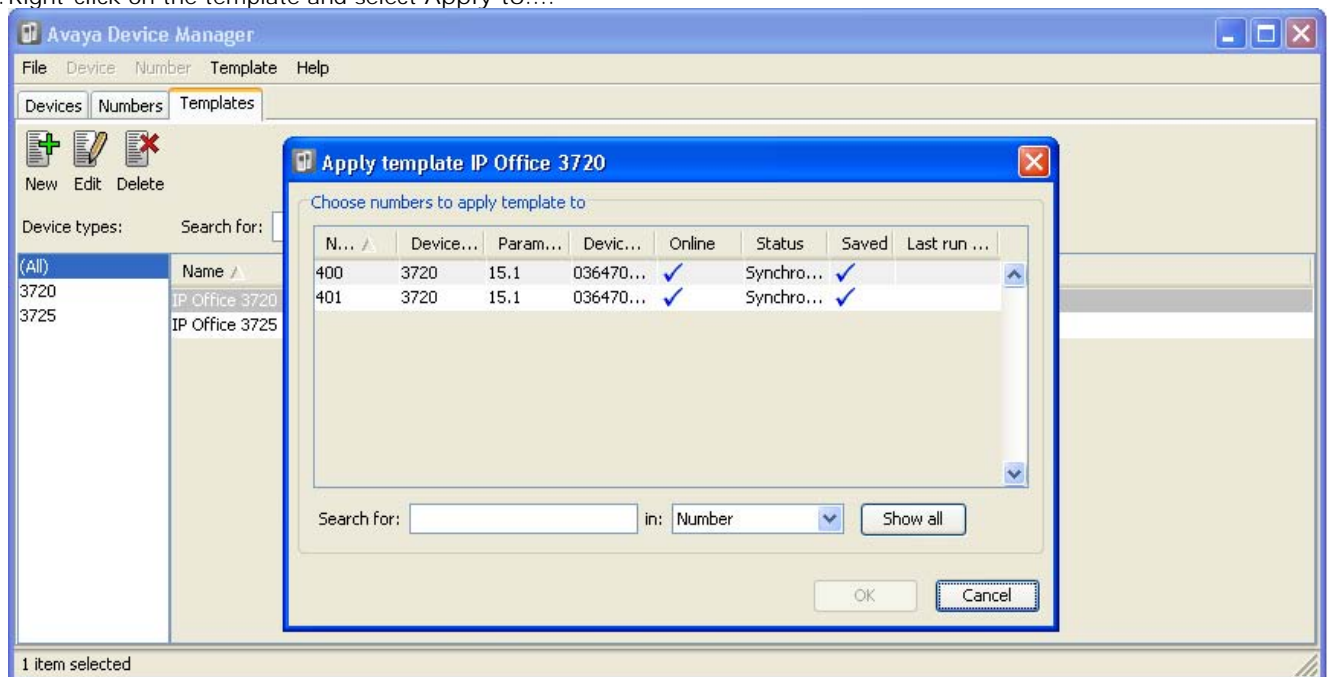


7.6 Applying Templates to Phones

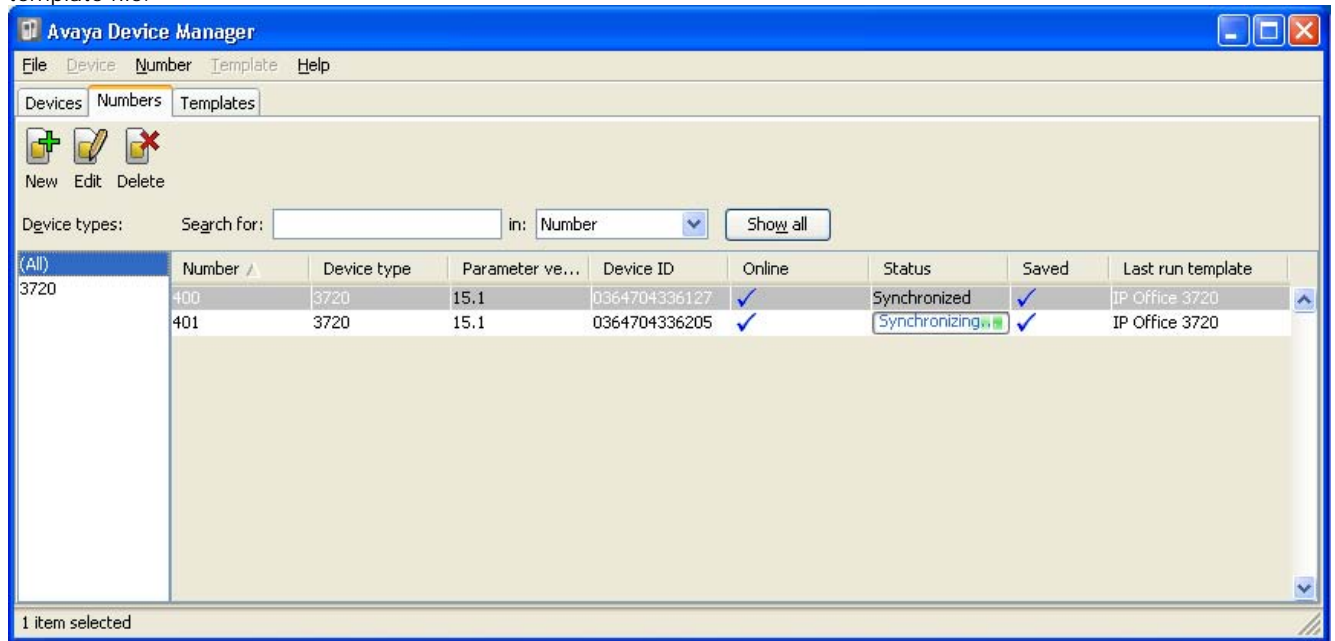
1. Start the [AIWS Device Manager](#) ⁸⁵ or [Windows Device Manager](#) ⁸⁵.
2. Within the Avaya Device Manager, select the Templates tab.



3. Right-click on the template and select Apply to....

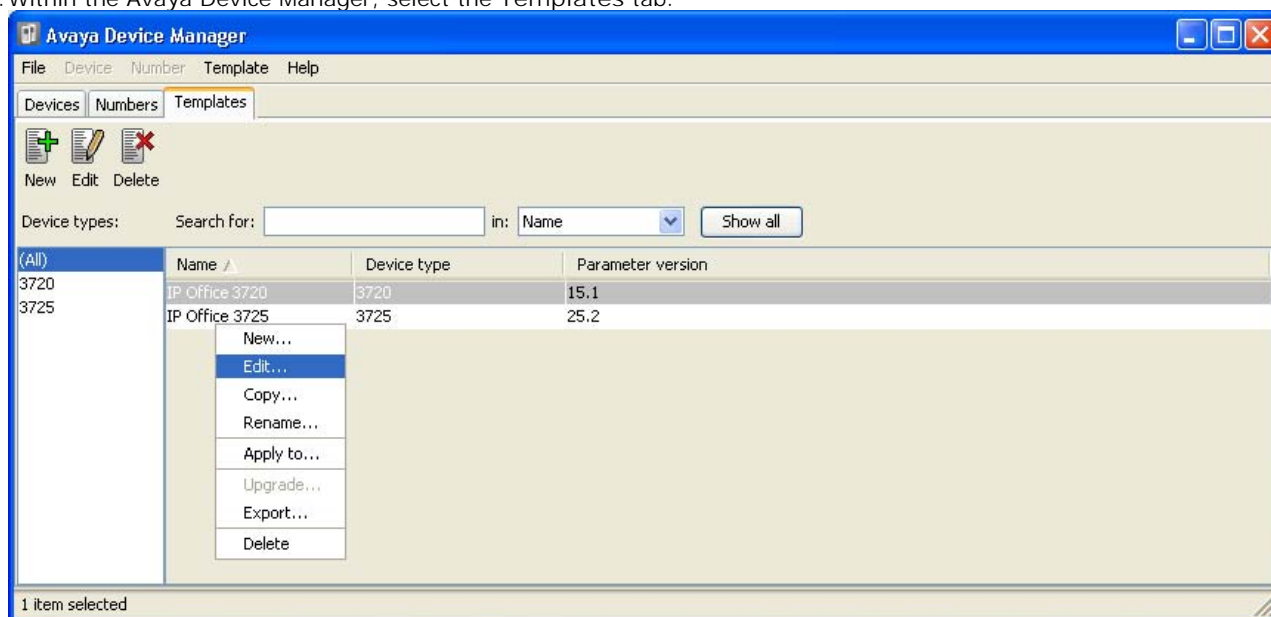


4. Select the phones to which you want the template to be applied. Click OK. The phones will begin uploading the template file.

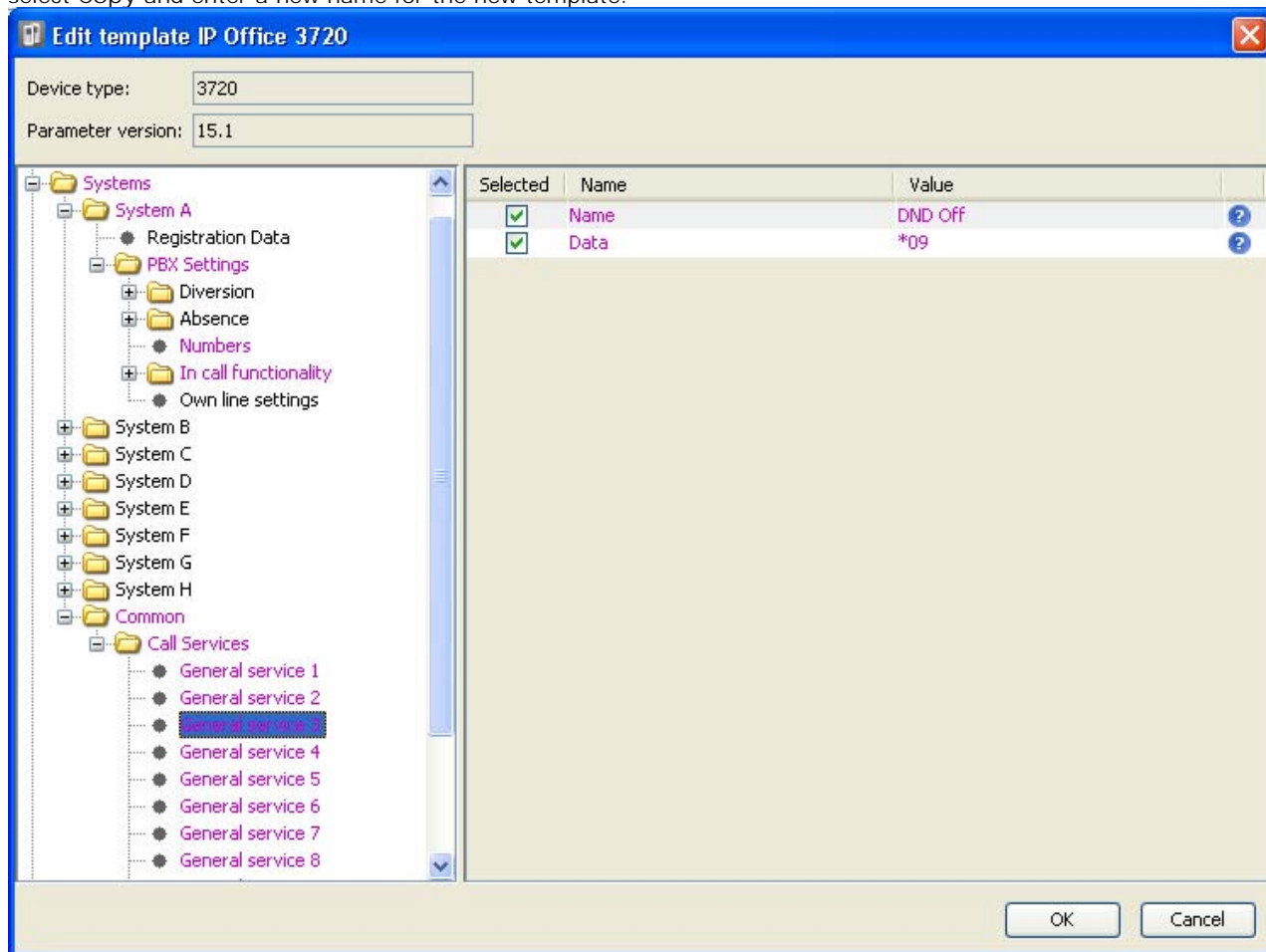


7.7 Editing Templates

1. Start the [AIWS Device Manager](#) ^[85] or [Windows Device Manager](#) ^[85].
2. Within the Avaya Device Manager, select the Templates tab.



3. Right click on the template and select Edit. Alternatively to create a new template, right-click on the template and select Copy and enter a new name for the new template.



- Systems | System A | PBX Settings | In call functionality
Defines the options shown on the More menu shown on 3720/3725 phones when on a call. This can be used to enter the IP Office short codes for functions such as call park, conference and transfer.

- Systems | Common | Call Services

Defines the options shown on the 3720/3725 phone Call services menu. This can be used to enter the IP Office short codes for functions such as call pickup, DND on/off.

4. This items shown in pink indicate areas of the template that contains settings selected to be applied to the device when the template is uploaded to the device. Items shown in blue have been changed during this editing session.

- Black: Normal
- Dark Blue: Parameter has been edited during the current session.
- Purple: The parameter is enabled in the template.
- Red: Value not valid.
- Turquoise: The value differs from the default value

5. Each item within the template consists of 3 parts:

- Selected - If selected, the template value will be applied to devices to which the template is uploaded.
- Name - The non-editable name for the template item.
- Value - The value for the template item. This may be a drop-down list from which selection can be made.

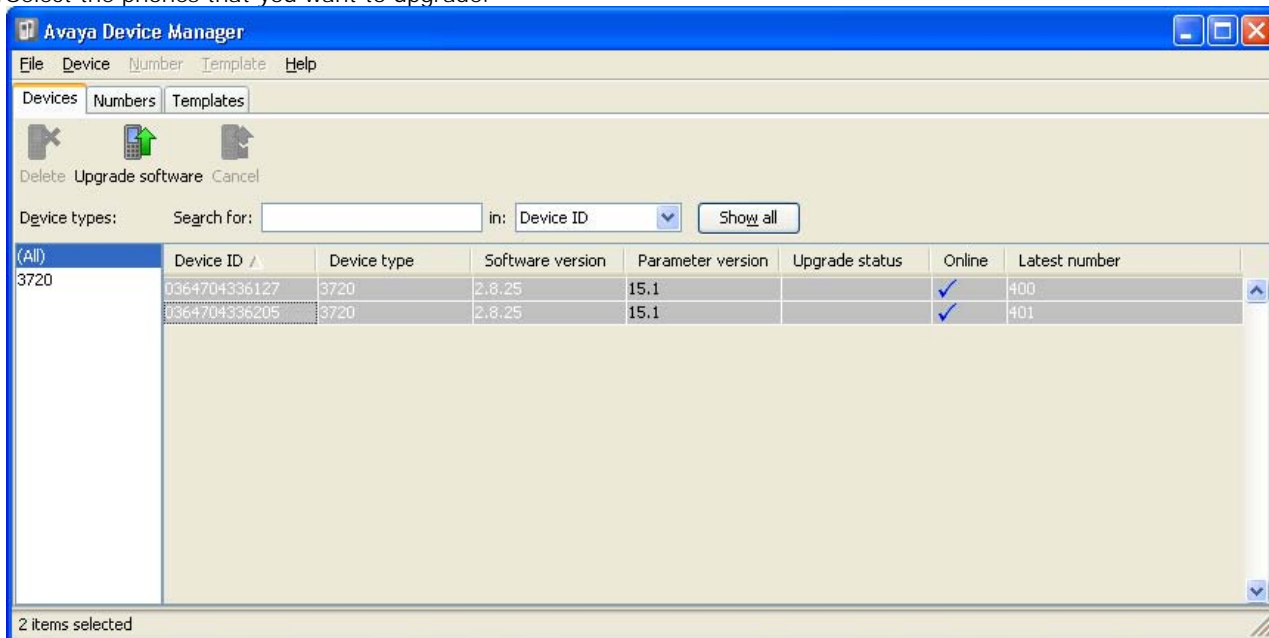
6. Click OK.

7.8 Upgrading Phone Software

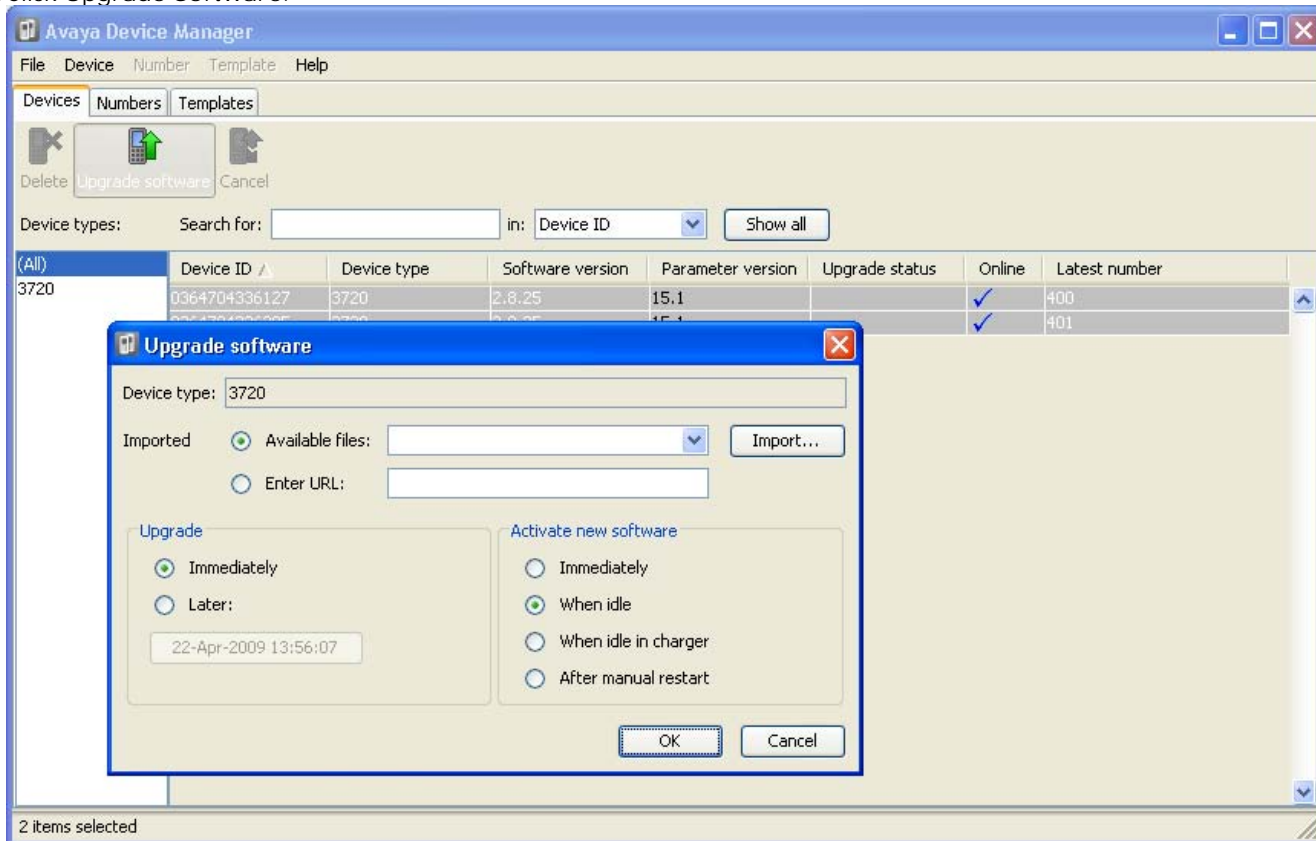
The phone firmware should be checked and, if necessary, upgraded to the version supported for IP Office operation.

DECT R4 is supported on a range of Avaya systems. However, for IP Office operation, only firmware specifically documented as having been tested and supported with IP Office should be used. Details of supported firmware will be included in IP Office Technical Bulletins and Technical Tips.

1. Start the [AIWS Device Manager](#)^[85] or [Windows Device Manager](#)^[85].
2. Within the Avaya Device Manager, select the Devices tab.
3. Select the phones that you want to upgrade.



4. Click Upgrade Software.



5. Using the Available Files drop-down, select the software bin file for the type of phones being upgraded and the software level required.

Upgrade software

Device type: 3720

Imported ☒ Available files: 3720_v2.8.25.bin

☐ Enter URL:

Upgrade

☒ Immediately

☐ Later: 22-Apr-2009 13:56:07

Activate new software

☐ Immediately

☒ When idle

☐ When idle in charger

☐ After manual restart

6. Select the other upgrade settings required and click OK.

(All)	Device ID ▲	Device type	Software version	Parameter version	Upgrade status	Online	Latest number
3720	0364704336127	3720	2.8.25	15.1	Downloading	✓	400
	0364704336205	3720	2.8.25	15.1	Downloading	✓	401

(All)	Device ID ▲	Device type	Software version	Parameter version	Upgrade status	Online	Latest number
3720	0364704336127	3720	2.8.25	15.1	12%	✓	400
	0364704336205	3720	2.8.25	15.1	12%	✓	401

(All)	Device ID ▲	Device type	Software version	Parameter version	Upgrade status	Online	Latest number
3720	0364704336127	3720	2.8.25	15.1	Complete	✓	400
	0364704336205	3720	2.8.25	15.1	Complete	✓	401

Chapter 8.

Miscellaneous

8. Miscellaneous

8.1 Base Station Reset Switch

The base station reset switch is located on the rear of the base station. To press it requires a fine point. How long the switch is depressed affects the type of reset.

Action	Duration	Effect
Short press	Less than 1 second	Restart
Medium press	Approximately 3 seconds	Restart in TFTP mode. This mode is intended for support and development departments only.
Long press	Approximately 10 seconds	Factory reset - all configuration parameters will be set to default values.

8.2 Base Station Status Lamps

Each base station has two LED lamps. These are used to indicate the status and activity of the base station.

LED	Color	Description
LED 1 - Status This is the lower LED on the bottom edge of the base station.	Green	Operational
	Amber	TFTP Mode
	Alternating Red/Green	No Ethernet connection.
LED 2 - Activity	Off	Idle (no calls in progress).
	Green	Calls in progress.
	Green Flashing	Maximum calls (8) in progress.
	Amber	Downloading software.
	Amber Flashing	Air synchronization insufficient and no calls in progress (This LED state can be disabled using the DECT Air Sync LED Indication option in the base station's configuration).
	Alternating Red/Green	Air synchronization insufficient and calls in progress.
	Red Flashing	No air synchronization. Searching for synchronization signal.

8.3 AIWS Status Lamp

Colour	State	Description
Green	On	Running.
Orange	On	Failsafe or Network setup mode.
	Flashing (1 second on/off)	Image installation mode.
	Fast flash (100ms on/off)	Starting.
	Intermittent flash (100ms on/1 second off)	Restart.
	Slow flash (2 seconds on/3 seconds off)	Halted (auto restart after 10 minutes).
	Wink (5 seconds on/100ms off)	Unlicensed.
Red	On	Low voltage.
	Intermittent flash (100ms on/1 second off)	License error.
	Flashing (1 second on/off)	Watch dog reset.
	Slow flash (2 seconds on/3 seconds off)	Shutdown.
	Very slow flash (3 seconds on/3 seconds off)	Memory error
	Wink (5 seconds on/100ms off)	Network error/Module key error.

Chapter 9.

Glossary

9. Glossary

The following are definitions for common abbreviations used within the DECT R4 system applications.

9.1 AIWS

Avaya In-Building Wireless Server

9.2 IPBS

IP-DECT Base Station

9.3 SS

Signal Strength

9.4 SARI

An alternate name for the [PARK](#)^[100].

9.5 PARI

Primary Access Right Identity

9.6 PARK

Portable Access Rights Key

9.7 FER

Frame Error Rate

9.8 DECT

Digital Enhanced Cordless Telecommunications - Global standard for cordless telephony.

9.9 CAP

Common Access Profile

9.10 GAP

Generic Access Profile - Standard used for DECT.

9.11 IPDI

At delivery of the telephone, IPEI and IPDI are the same and either can be used for network subscription. If one telephone is replaced with another using the Easy replacement procedure the IPDI will be exchanged and IPEI and IPDI will no longer be the same. If the IPEI and the IPDI differ, the IPDI shall be used for network subscription.

9.12 IPEI

International Portable Equipment Identity - The unique global GAP identity number for the phone. This code is needed for the system administrator to enable network subscription.

9.13 PBX

PBX Private Branch Exchange - Telephone system within an enterprise that switches calls between local lines and allows all users to share a certain number of external lines.

9.14 PDM

Portable Device Manager

9.15 WSM

Wireless Services and Message -Module that enables wireless services like central phone book and messaging to and from the portable devices. An alternate term for the [AIWS](#)^[100].

9.16 ELISE

Embedded Linux SErver - A term for the [AIWS](#)^[100].

9.17 SST

Site Survey Tool

9.18 PP

Portable Part - A term for DECT phones.

9.19 RFP

Radio Fixed Part - A term for DECT base-stations.

9.20 RFPI

Radio Fixed Part Identity.

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Avaya
Unit 1, Sterling Court
15 - 21 Mundells
Welwyn Garden City
Hertfordshire
AL7 1LZ
England.

Tel: +44 (0) 1707 392200
Fax: +44 (0) 1707 376933

Web: <http://marketingtools.avaya.com/knowledgebase>