



IP Office

4600 Series IP Telephone Installation

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4600 IP Phone Installation

Introduction

This guide covers the installation of 4600 series IP telephones on the IP Office.

Currently the following 4600 series phones are supported on the IP Office:

- **4606**
- **4612**
- **4624**

Installation Requirements

To install a 4600 Series IP Telephone onto IP Office, the following items are required:

- **Power Socket:**
A switched 110-240V AC, 50-60Hz, 250-500mA supply socket is required for each IP telephone.
- **LAN Socket:**
A 10/100Mbps RJ45 Ethernet LAN connection point is required for each IP telephone.
- **LAN Cables:**
Check that an RJ45 LAN cable has been supplied with the IP telephone for connection to the power unit. You will also need an additional RJ45 LAN cable for connection from the power unit to the customer LAN.
 - An additional RJ45 LAN cable can be used to connect the user's PC to the LAN via the IP telephone.
- **1151A1 Power Unit:**
This unit supplies power via the LAN cable to the IP telephone.
- **Voice Compression Module:**
The IP Office Control Unit must be fitted with a Voice Compression Module. The size of the module will limit the number of simultaneous VoIP calls.
- **DHCP Server:**
The IP Office Control Unit can perform this role unless another DHCP server already exists.
- **TFTP Server:**
The PC running the Manager application can perform this role. The TFTP server is only required during IP telephone installation and maintenance.
- **H323 Gatekeeper:**
The IP Office Control Unit can perform this role unless a third party gatekeeper already exists.
- **IP Office Manager PC:**
A PC running Manager is required for Control Unit configuration changes.
- **IP Telephone Software:**
The software for IP telephone installation is supplied on the IP Office Administration CD.
- **Licence Key:**
The 4600 Series IP telephones do not need a licence key entered on the system.

DHCP Installation

DHCP Installation Preparation

This installation process uses the IP Office Control Unit as a DHCP Server and H323 Gatekeeper to assign IP and telephony settings to the 4600 Series IP telephone. It also assumes that the Manager application is used as the TFTP server during installation. This is the simplest method of installation.

1. Voice Compression Module

The IP Office Control Unit must be fitted with a Voice Compression Module (VCM).

- a. Using an asynchronous terminal program such as HyperTerminal, connect to the DTE port of the Control Unit (refer to the Manager Application Manual for full details).
- b. Enter **AT**, the response **OK** indicates correct connection.
- c. Reboot the Control Unit. Within the terminal program you will see the progress of the reboot. The line "Voice Compression PCB detected" indicates the presence of a VCM. The next lines indicate whether it is a 5, 10, 15 or 20 port VCM.

2. Control Unit Settings

Using the Manager Application, open the configuration and select the System form. Check the following:

- a. **System Name:**
In the System tab ensure that a **Name** for the Control Unit has been entered.
- b. **TFTP Server IP Address:**
In the LAN1 tab, enter the IP address of the Manager PC as the **TFTP Server IP Address**.
- c. **Gatekeeper Settings:**
In the Gatekeeper tab, ensure that **Gatekeeper Enabled** and **Auto-create Extn Enable** are both selected.
- d. If you have made any changes, upload the new configuration to the Control Unit.
- e. Within Manager, select **File | Preferences** and ensure that the address is 255.255.255.255, otherwise TFTP will not work.

3. IP Phone Software


Ensure that the correct software files are present in the Manager directory. The files required are:

- 46xxxupgrade.scr
- Bbla0_11.bin
- def06r01_1.bin
- def24r01_1.bin

4. Manager and TFTPLog

Leave Manager running. It is also useful to have Manager's TFTP Log visible (select **View | TFTPLog**). This will display the progress of file requests.

DHCP Phone Installation

1. Connect the 1151A1 Power Unit to a mains power socket and switch on. The green Power On lamp on the Power Unit should come on.
2. Connect the longer LAN cable supplied with the IP telephone from the network LAN socket to the power unit's **LINE** socket.
 - Note: The 400B2 Power Adaptor used for providing power for 4600 Series IP Telephones is not compatible with the sockets on IP Office units. We therefore advise against the direct connection of these adaptors.
3. Connect the shorter LAN cable supplied with the IP telephone from the Power Unit's **PHONE** socket to the socket with a LAN port symbol (□) at the back of the IP telephone.
4. The phone's message indicator should glow red for a few seconds. The phone will then begin its software loading.
5. After a short delay the phone should display **Initializing** and then **Loading....** The loading phase may take a few minutes.
 - If the phone displays **No Ethernet** check the connection to the LAN.
6. The phone displays DHCP and a timer. After a few seconds it should complete DHCP negotiation with the Control Unit. If the timer reaches more than 60 seconds then you should suspect a error in either network or DHCP operation.
7. The phone requests the 46xxupgrade.scr file from the TFTP server (Manager). This should be visible in the Manager's TFTP Log.
8. The phone now requests additional files according to the instructions it found in the 46xxupgrade.scr file. The phone will go through a cycle of requesting files, loading files and then transferring the files into its flash memory.
9. Following file loading the phone displays **Ext. =**. Enter the extension number you want applied to the phone and press **#**.
 - **Wrong Set Type** is displayed if you try to use the extension number of an existing non-IP extension.
10. The phone displays **Password =**. Just press **#**.
11. The phone will briefly display the time and date and then its extension number.
12. Test that you can make and receive calls at the extension.
13. Using Manager, you can now open the Control Unit's configuration and alter the extension and user settings as required:
 - In the list of extensions, the  icon indicates VoIP extensions. A new extension will have been created matching the extension number entered above. In the extension's **VoIP** tab, the **Compression Mode** default is **Automatic Selection**. If this needs to be changed select **G.729(a) 8K CS-ACELP**.
 - In the list of users, a new user will have been created matching the extension number entered above.

User PC Connection

To simplify the number of LAN connections from the user's location, it is possible to route their PC LAN cable via the 4600 Series IP Telephone.

The LAN cable should be connected from the PC to the socket with a PC symbol (☒) at the back of the IP Phone.

The PC's network configuration does not need to be altered from that which it previously used for direct connection to the LAN.

Additional Notes

Whilst having **Gatekeeper Enable** and **Auto-create Extn Enable** selected simplifies installation of 4600 Series telephones, in some situations additional extension security may be required. This can be achieved in a number of ways:

- **Password Protection**

During phone registration a password is requested. This password is set in Manager as the User's Telephony **Login Code**.

- When auto-create is being used, during initial registration of the phone, digits entered at the password request are not validated or stored.
- Following a system or phone reboot, if the previously assigned extension number is accepted (by pressing #), though a password request is then shown no password validate is done.

- **Manually Creating Extensions**

Deselecting **Auto-create Extn Enable** in Manager will mean that IP 4600 Series phones can only be registered against VoIP Extensions and Users that have been previously created within Manager.

- **Restricting the Extension to a Specific Physical Phone**

Under the **Extension VoIP** tab in Manager, enter the MAC address of the IP 4600 Series telephone. The phone's MAC address is printed on a label under the phone.

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