



IP Office Release 7.0

1100/1200 Series Phone Installation

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Chapter 1.

1100/1200 Phone Installation

1. 1100/1200 Phone Installation

For IP Office Release 6.1 and higher, selected phones from the Avaya 1100 Series and 1200 Series are supported on IP500 and IP500v2 systems. The following 1100 Series and 1200 Series are supported. These are the only phones from the 1100 and 1200 Series that are supported by IP Office.



1120E Telephone



1140E Telephone



1220 Telephone



1230 Telephone

- 1100 Series
The 1120E and 1140E are supported. The 1100 Series 18 button Key Expansion Module is supported, with up to 3 modules attached to a phone.
- 1200 Series
The 1220 and 1230 are supported. The 1200 Series 12 button LCD Key Expansion Module is supported, with up to 7 modules attached to a phone. The 1200 Series 18 button Key Expansion Module is also supported, with up to 3 modules attached to a phone.

1.1 Installation Pre-Requisites

For IP Office Release 6.1 and higher, selected phones from the Avaya 1100 Series and 1200 Series are supported on IP500 and IP500v2 systems.

Supported Phones

The 1120E, 1140E, 1220 and 1230 are the only phones supported. Other phones in the 1100 Series and 1200 Series such as the 1165E, 1210 and 1110 are not supported.

Supported Firmware

Only phones with the following existing firmware can be installed with IP Office:

- The basic boot loader BootC. This normally applies to new (out of the box) 1220 and 1230 phones. New 1120E and 1140E phones are shipped with Unistim firmware. However, all phones can be made to [invoke the BootC loader](#)^[34] if required.
- Nortel BCM6.0 UNISTIM GA F/W level 06XXC7M. The firmware name is briefly displayed on the screen at startup. If an earlier version than C7M is displayed, refer to the [recovery process](#)^[34].
- SIP firmware.

Supported Hardware Revisions

The phones must have the following hardware revision numbers. These are found on the white label on the back of the phone. The two digit revision number is the middle number on the second row of the label, after the NTYS product code.

- 1120E: Revision 09 or higher.
- 1140E: Revision 06 or higher.
- 1220: Revision 03 or higher.
- 1230: Revision 03 or higher.

Supported SIP Software

Only the SIP firmware supplied with an IP Office Administration software release should be used. Other software should only be used if specifically documented as supported. Software obtained from other sources may not have been tested and validated for IP Office operation.

- For IP Office Release 6.1, 1100/1200 Series SIP firmware release 4.0 is supported.
- For IP Office Release 7.0, 1100/1200 Series SIP firmware release 4.1 is supported.

Supported IP Office Systems

The 1100/1200 Series phones are supported on the following IP Office systems:

- The IP Office must be an IP500 or IP500v2 running IP Office Release 6.1 or higher software.
- If installed with earlier versions of IP Office software, these phones will operate as third-party IP end points. They will require a 3rd Party IP Endpoint license, will only support basic telephony features (equivalent to an analogue extension) and are not supported by Avaya.
- For IP500v2 systems, the IP Office system must be running in IP Office standard mode. SIP Extensions are not supported by systems running in IP Office Essential Edition - Norstar Edition, IP Office Essential Edition - PARTNER Edition or IP Office Essential Edition - Quick Edition modes.

Voice Compression Channels

The system must be fitted with voice compression channels, also known as VCM channels. Channels can be added up to the system maximum of 148 channels. In summary, an available voice compression channel is required:

- During incoming or outgoing call setup with the IP Office.
- During any call to or from a non-IP trunk or phone.
- During any call to or from an IP trunk or phone that is using a different codec than the 1100/1200 phone.

Voice compression channels can be added to a system using a combination of the following options:

- **IP500 VCM Base Cards**
For IP500 and IP500v2 systems, installation of up to 2 IP500 VCM base cards. There are 2 types of card available, the IP500 VCM 32 and the IP500 VCM 64, each providing 32 and 64 VCM channels respectively. Note that each IP500 VCM card also enables 12 Avaya IP endpoints without requiring licenses (see license below).
- **IP500 Combination Cards**
For IP500v2 systems only, installation of up to 2 IP500 Combination cards. These cards provide a mix of digital extension ports, analog trunk ports and trunk ports. Each card also provides 10 voice compression channels. These cards do not enable any unlicensed Avaya IP endpoints.
- **IP400 VCM Cards**
For IP500 and IP500v2 systems, installation of up to 2 legacy IP400 VCM cards using an IP500 Legacy Card Carrier. The IP400 VCM cards supported 4, 8, 16, 24, or 30 voice compression channels.

Avaya IP Endpoint Licenses

Each IP end point supported by the IP Office system requires a license, either an *Avaya IP Endpoint license* or a *3rd Party IP Endpoint license*.

- 1100 Series and 1200 Series SIP phones use *Avaya IP Endpoint licenses*.
- The licenses are added to the IP Office configuration and are based on the unique feature key serial number. For IP500v2 systems this is the FK number of the System SD card fitted to the control unit. For IP500 systems this is the serial number of the smart media card fitted to the control unit.
- Note that each IP500 VCM 32 and IP500 VCM64 card installed in the system enables 12 Avaya IP endpoint without requiring licenses.

Power Supply

Each phone requires a power supply. They can either use power over ethernet (PoE) or use a separate power supply unit and mains power outlet. The IP Office system does not supply power to the phones.

File Server Operation

During boot up the phones use HTTP to request files from a provisioning file server.

- For IP Office operation, installation is only supported using the IP Office control unit's memory card as the file server for the phones.
 - For IP500v2 control units, the System SD card is used. This is a mandatory card that is present in all IP500v2 systems.
 - For IP500 control units, the optional Compact Flash card slot is used. If no card is present, a suitable Compact Flash card should be obtained for use.
- Only 1100/1200 Series phone software supplied as part of an IP Office core software release should be used.

DHCP Server Operation

The use of DHCP is recommend for ease of installation and maintenance. Note however that for DHCP, only use of the IP Office system as the DHCP server is supported for installation of 1100/1200 phones.

1.2 Known Limitations

The following are known limitations in the current IP Office support for 1100/1200 Series telephones:

- Other phones such as the 1110, 1165E and 1210 are not supported.
- For 1100 Series phones, the BlueTooth integration feature is not supported.
- For IP Office Release 6.1, no IP Office directory integration is supported.
- For IP Office Release 7.0, the Address Book directory includes IP Office system directory plus other IP Office users and groups. However, it does not include the user personal directory from the IP Office system. Personal directory entries created and edited on the phone are stored locally on the phone only.

Chapter 2.

IP Office Configuration

2. IP Office Configuration

The recommended method of installation is to use the IP Office system as the DHCP server for the phones. This simplifies both installation and maintenance. Other methods should only be used if the customer does not want the IP Office system to perform DHCP.

Before installing any 1100 or 1200 Series phones, the following processes should be completed to prepare the IP Office to support those phones:

1. [Ensure that the installation pre-requisites have been met](#) ⁸.
2. [Load the 1100/1200 Software Files onto the IP Office system](#) ¹³.
3. [Enable IP Office SIP Phone Support](#) ¹⁶.
4. [Check the IP Office File Server Settings](#) ¹⁸.
5. [Check the IP Office Short Codes](#) ¹⁹.
6. [IP Office User and Extension Creation](#) ²¹.
7. [Add licenses](#) ²².
8. Once the above steps have been completed, [installation of individual phones](#) ²⁸ can be started.

2.1 Loading Software Files

The 1100/1200 Series firmware suitable for IP Office operation is supplied as part of the IP Office Administration software and is copied onto the PC when IP Office Manager is installed. No other firmware should be used with IP Office unless specifically documented.

There are a number of methods by which the firmware installed with IP Office Manager can be copied onto the IP Office systems memory card. The method used depends mainly on the type of control unit.

- **! WARNING**
A memory card should never be removed from a running IP Office system without first being shutdown. IP Office Manager should be used to shutdown the memory card before it is removed from the system.
- For IP Office operation, only the 1100/1200 Series phone .bin files and .Ing files need to be present on the memory card. Other files (.cfg and .txt) required by the phones are automatically generated by the IP Office system in response to requests from the phones.

IP500v2 Control Unit

The System SD card is used to store the files. This is a mandatory card that is present in all IP500v2 systems. The firmware files are loaded onto the card in a number of ways:

- If the IP500v2 was upgraded to IP Office Release 6.1 or higher using the Recreate SD Card option in IP Office Manager, the firmware is copied onto the card as part of that process.
- If the IP500v2 was upgraded to IP Office Release 6.1 or higher using IP Office Manager's Upgrade Wizard, if the Upload System Files option was selected, the firmware is copied onto the card as part of that process. The Upload System Files option is enabled by default.

If you think the correct files are not present, you can use the same methods as supported for an IP500 control unit to check the files on the card and to copy the files onto the card if necessary.

IP500 Control Unit

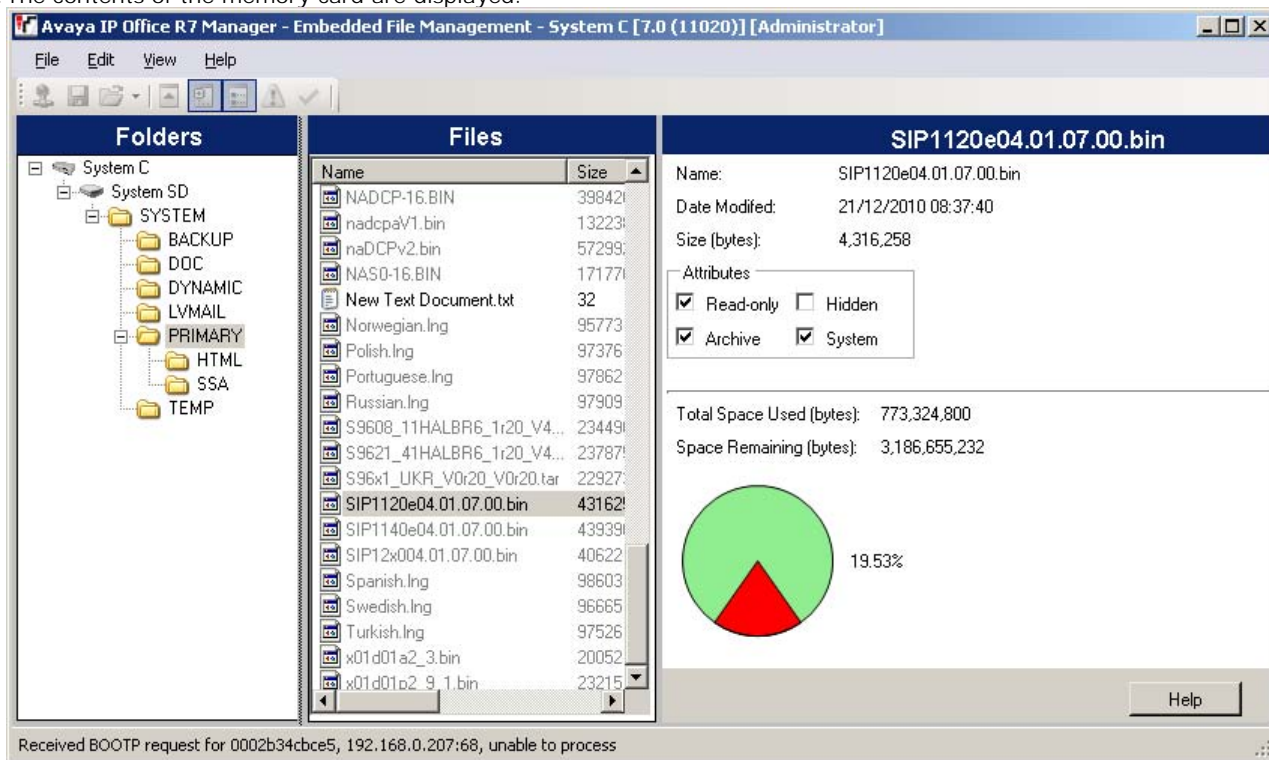
The compact flash memory card is used to store the files. This is an option card that may only be present if the system is using embedded voicemail. The files need to be copied manually onto the memory card. This can be done in a number of ways:

- Files can be copied remotely onto the card in a running system using IP Office Manager's embedded file management.
- The card can be shutdown and removed from the system. Files can then be copied onto the card using a PC with a suitable memory card slot.

Using Embedded File Manager

Embedded file manager allows you to remote see the files on the memory card in an IP Office system. If necessary it also allows you to upload new files to the memory card.

1. In IP Office Manager, select File | Advanced | Embedded File Management.
2. The Select IP Office menu is displayed.
3. Select the IP Office system and click OK.
4. Enter the name and password for the system. These are the same as used for configuring the system.
5. The contents of the memory card are displayed.



6. For an IP500 memory card, all the firmware files are held in the top level folder. For an IP500v2 system, use the folders tree to navigate to System SD | SYSTEM | PRIMARY.
7. Files can be copied onto the card by using drag and drop or by selecting File | Upload File.
 - The source files can be found on the IP Office Manager PC in *C:\Program Files\Avaya\IP Office\Manager\memory Cards\Common\system\primary*.

Manually Copying Files

Files can be copied onto the memory card by placing it into a PC with a suitable memory card slot.

- **! WARNING**


A memory card should never be removed from a running IP Office system without first being shutdown. IP Office Manager should be used to shutdown the memory card before it is removed from the system.

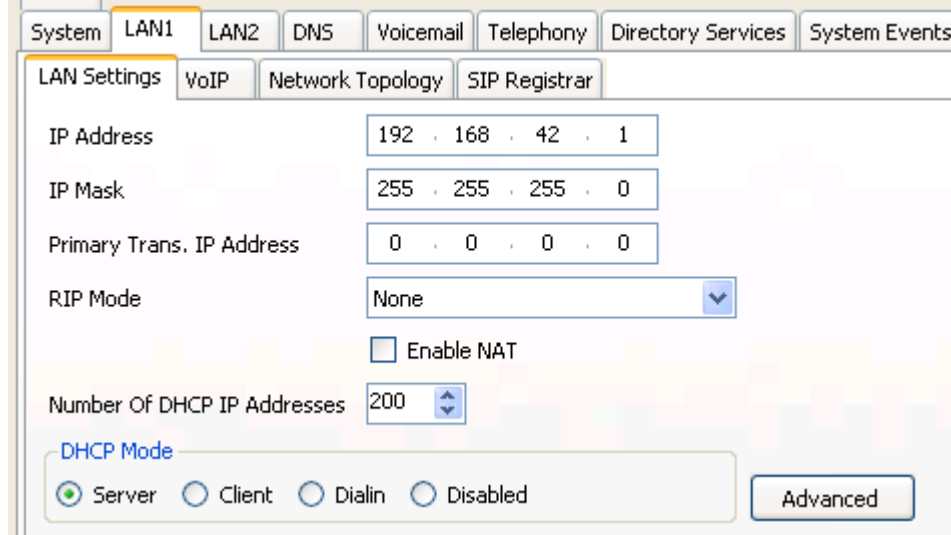
1. Using IP Office Manager, select File | Advanced | Memory Card Command | Shutdown.
2. The Select IP Office menu is displayed.
3. Select the IP Office system and click OK.
4. Enter the name and password for the system. These are the same as used for configuring the system.
5. For an IP500v2 system you may be prompted for which card you want to shutdown. Select System and click OK.
6. On the back of the control unit, check that the LED for the memory card slot is off before removing the memory card.
7. Place the card into the PC's memory card slot and examine the contents.
8. For an IP500 memory card, all the firmware files are held in the top level folder. For an IP500v2 system, use the folders tree to navigate to System SD | SYSTEM | PRIMARY. The source files can be found on the IP Office Manager PC in *C:\Program Files\Avaya\IP Office Manager\memory Cards\Common\system\primary*.
9. When the card is reinserted into the system, card usage is automatically restarted.

2.2 Enable SIP Phone Support

Support for SIP extensions is enabled by default. However it is important to be aware of and check the settings. The IP Office system has two LAN interfaces, LAN1 and LAN2. These match the LAN and WAN ports respectively on the back of the IP500 and IP500v2 control units.

LAN1, LAN2 or both can be used to support SIP phones including 1100/1200 Series phones.

1. Using IP Office Manager, receive the configuration from the IP Office system.
2. Select  System.
3. Select the LAN1 or LAN2 tab depending on which of the system's LAN interfaces you want to use to support SIP extensions.



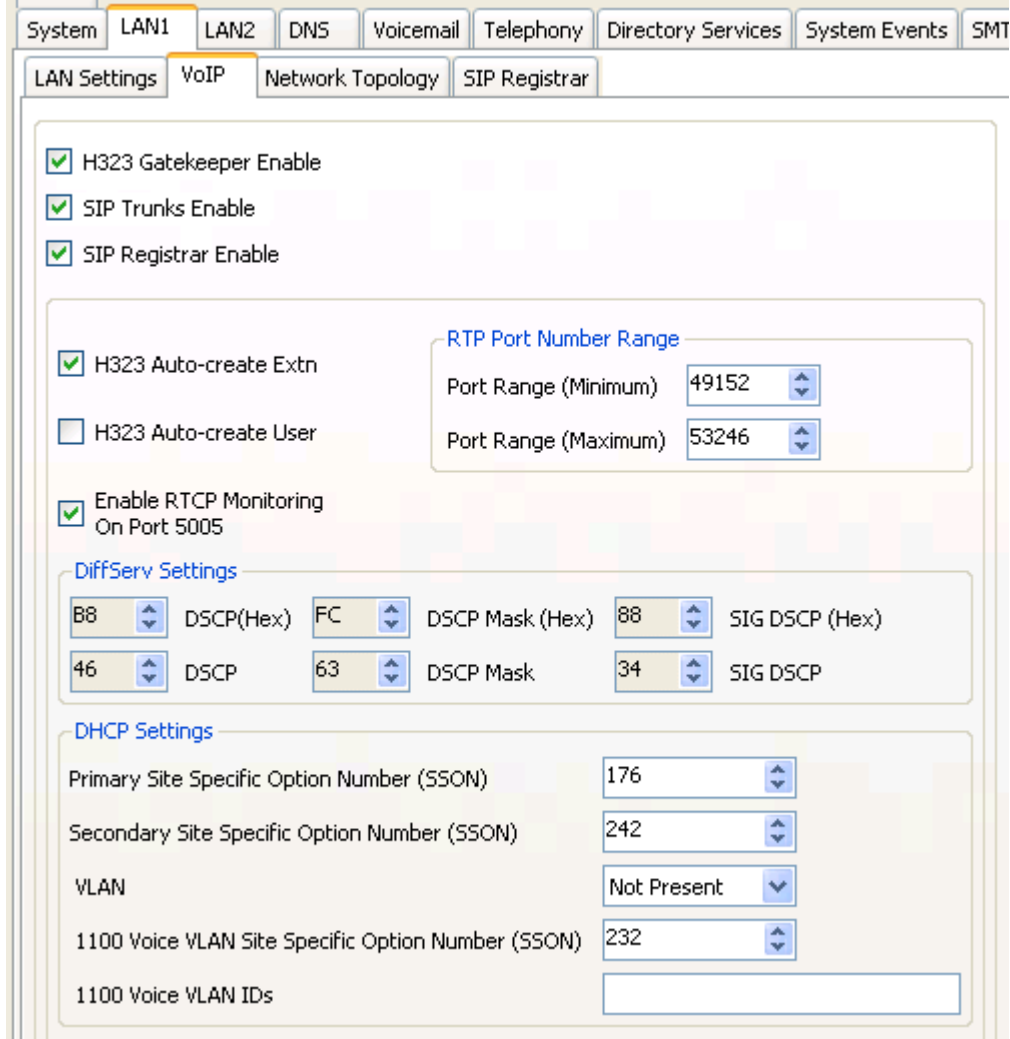
The screenshot shows the IP Office Manager interface for the LAN1 configuration. The 'LAN1' tab is selected, and the 'SIP Registrar' sub-tab is active. The 'LAN Settings' section includes the following fields:

- IP Address: 192 . 168 . 42 . 1
- IP Mask: 255 . 255 . 255 . 0
- Primary Trans. IP Address: 0 . 0 . 0 . 0
- RIP Mode: None (dropdown menu)
- Enable NAT
- Number Of DHCP IP Addresses: 200 (spinner)
- DHCP Mode: Server, Client, Dialin, Disabled

An 'Advanced' button is located at the bottom right of the configuration area.

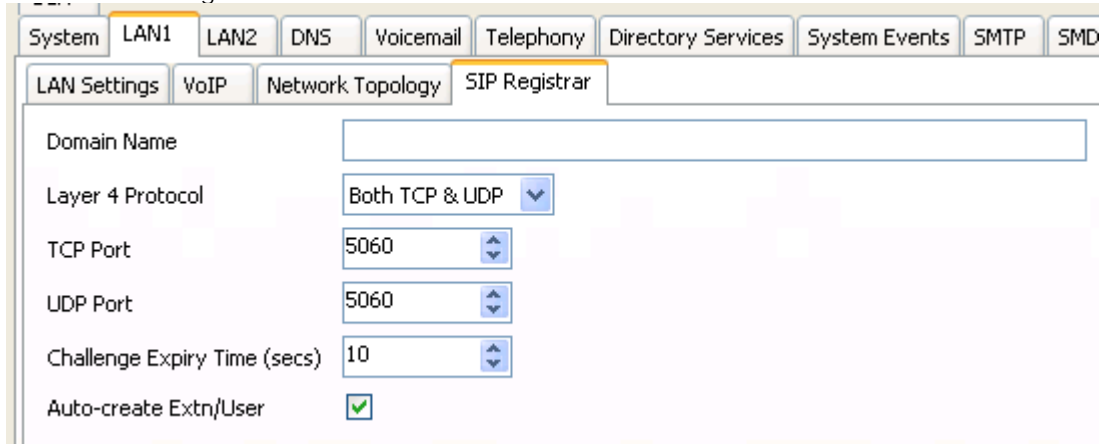
- a. Note the IP Address settings for the LAN. These will be used as the file provisioning address for the 1100/1200 SIP phones.
- b. If the IP Office is going to be used as the DHCP server for the SIP phones, check that the DHCP settings are enabled and the DHCP pool supports sufficient addresses.
 - Installation of 1100 Series and 1200 Series phones using DHCP is only supported if using the IP Office control unit as the DHCP server. The IP Office's Apply to Avaya IP Phones Only option should not be used.

4. Select the VoIP sub-tab.



a. Check that the SIP Registrar Enable setting is selected.

5. Select the SIP Registrar tab.



a. These settings are used for all SIP extensions registering with the IP Office system. Accept the defaults.

b. If you want to allow IP Office user and extension entries to be automatically created when each SIP extension is registered, check that Auto-create Extn/User is enabled.


6. If you have made any changes, click OK and save the configuration back to the IP Office system.

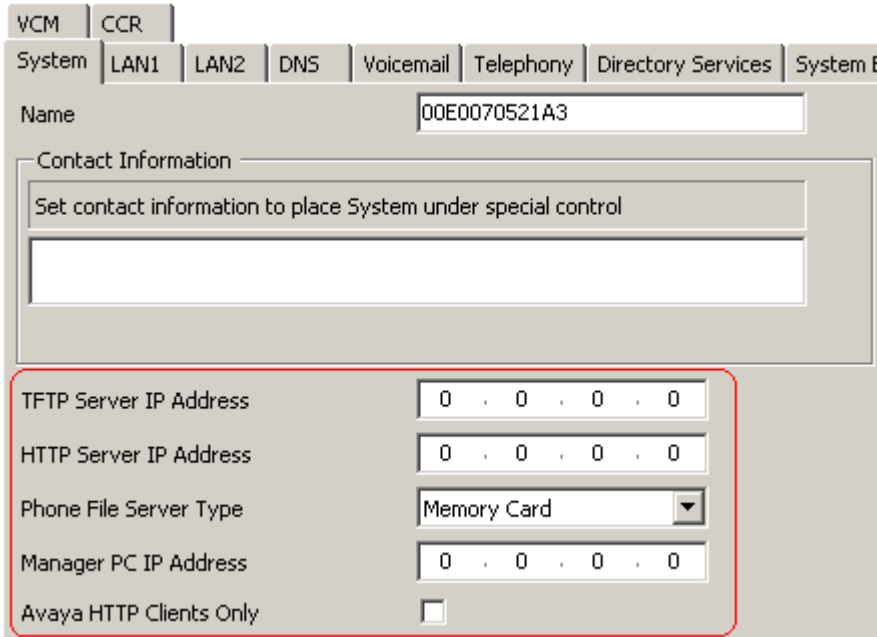
2.3 IP Office File Server Settings

The IP Office control unit's memory card must be used as the source for files used by the 1100/1200 Series phones.

Use of the memory card is the default for an IP Office system, however you should check the settings. If the settings have been changed for any reason, you should check why a different source is file source is being used by the system.

Checking the File Server Setting

- Using IP Office Manager, receive the configuration from the IP Office system.
- Select  System.
- Select the System tab.
- The Phone File Server Type



The screenshot shows the configuration interface for a system named '00E0070521A3'. The 'System' tab is selected. The 'Phone File Server Type' is set to 'Memory Card'. A red box highlights the following fields:

- TFTP Server IP Address: 0 . 0 . 0 . 0
- HTTP Server IP Address: 0 . 0 . 0 . 0
- Phone File Server Type: Memory Card
- Manager PC IP Address: 0 . 0 . 0 . 0
- Avaya HTTP Clients Only:

- The settings are used as follows.

- Phone File Server Type: *Default = Custom, Software level = 5.0+.*
For phones using the IP Office as their DHCP server, the IP Office's DHCP response can include the address a file server from which the phone should request files. The setting of this field controls which of the other addresses are used in the DHCP response. For 1100/1200 Series phones, the Phone File Server type should be set to *Memory Card*.

Phone File Server Type	DHCP Response uses...	
	HTTP Source	TFTP Source
Custom	<i>HTTP Server IP Address</i>	<i>TFTP Server IP Address</i>
Memory Card	<i>LAN IP Address</i>	<i>LAN IP Address</i>
Manager	<i>LAN IP Address</i>	<i>Manager PC IP Address</i>

- TFTP Server IP Address: *Default = 0.0.0.0 (Broadcast), Software level = 1.0 to 6.0.*
This address is used in DHCP responses if the Phone File Server Type is set to *Custom*. This is not used for 1100/1200 phone installation so leave set to 0.0.0.0.
- HTTP Server IP Address: *Default = 0.0.0.0 (Disabled), Software level = 4.2+.*
This address is used in DHCP responses if the Phone File Server Type is set to *Custom*. This is not used for 1100/1200 phone installation so leave set to 0.0.0.0.
- Manager PC IP Address: *Default = 0.0.0.0 (Broadcast), Software level = 5.0+.*
This address is used when the Phone File Server Type is set to *Manager*. This is not used for 1100/1200 phone installation so leave set to 0.0.0.0.
- Avaya HTTP Clients Only: *Default = On. Software level = 5.0+.*
For 1100/1200 Series phones this setting should be off.

2.4 Checking System Short Codes

For IP Office Release 7.0, a range of Feature codes are supported for use from the 1100/1200 Series phones.

Some of these 1100/1200 phone features are mapped onto IP Office short code features. When such a feature code is invoked from the phone, the first (historically) user short code, or if none, system short code found that uses the required feature is used for the call.


Feature	1100/1200 Feature Code	Short Code Feature	System Short Code
Conference	Feature 3	Conference Add	Use default system short code *47, otherwise add a short code.
Call Forward On	Feature 4	<i>None required.</i>	<i>None required.</i>
Call Forward Off	Feature #4	<i>None required.</i>	<i>None required.</i>
Last Number Redial	Feature 5	Last Number Redial	None present, add a short code.
Page	Feature 60	Dial Paging	None present, add a short code.
Dial Voice Call	Feature 66	Dial Direct	None present, add a short code.
Call Park	Feature 74	Park Call	Use default system short code *37*N#, otherwise add a short code.
Retrieve	Feature #74	Unpark Call	Use default system short code *38*N#, otherwise add a short code.
Call Pickup Group	Feature 75	Call Pickup Group	Use default system short code *31, otherwise add a short code.
Call Pickup Extension	Feature 76	Call Pickup Extn	Use default system short code *32*N#, otherwise add a short code.
Do Not Disturb On	Feature 85	<i>None required.</i>	<i>None required.</i>
Do Not Disturb Off	Feature #85	<i>None required.</i>	<i>None required.</i>
Voicemail Access	Feature 981	Voicemail Collect	Use default system short code *17, otherwise add a short code.
Button Self-Administration	Feature *3	<i>None required.</i>	<i>None required.</i>
Button Inspect	Feature *0	<i>None required.</i>	<i>None required.</i>
Program Auto Dial	Feature *1	<i>None required.</i>	<i>None required.</i>
	Feature *2	<i>None required.</i>	<i>None required.</i>

The short code matching is done by scanning the available users and then system short codes. When such a feature code is invoked from the phone, the first (historically) user short code, or if none, system short code found that uses the required feature is used for the call. This can cause a potential issue if multiple short codes are present, for example:


1. The system short code *98 / Dial Paging / 203 is added to allow direct paging of user extension 203.
2. The system short code *99*N# / Dial Paging / N is added to allow general paging of any user or hunt group extension number.
3. When Feature 60 is invoked, the 1100/1200 phone prompts the user for the paging target extension. However, regardless of the number entered, the historically first short code found using the Dial Paging feature is *98 which is set for a specific target and so the call pages that target.
4. To resolve this, the *98 short code should be deleted and then reinserted.

Adding/Checking the System Short Codes



This process assumes that all short codes are being done as system short codes. If required they could be done as user short codes, user rights shorts codes or a mix of user, user rights and system short codes.

1. Using IP Office Manager receive the configuration from the IP Office system.
2. Select  Short Code.
3. In the group pane (select View | Group Pane if the group pane is not shown), check that the following default system short codes are present.

Code	Feature	Telephone Number
*47	Conference Add	<i>None</i>
*37*N#	Park Call	N
*38*N#	Unpark Call	N
*31	Call Pickup Group	<i>None</i>
*32*N#	Call Pickup Extn	N
*17	Voicemail Collect	<i>None</i>

- If any are missing, add them to the list of new short codes to be added in the table below.
4. In the group pane, click on the Feature column to sort the short codes.
 5. Add the following short codes.
 - If a short code using the Feature already exists, note its Code and Telephone Number. Delete the code by selecting it and clicking on the  delete icon. After adding the short codes below, recreate the deleted short code.
 - The Code values used below are examples only. They can be substituted for other values if they are already in use for other features.

Code	Feature	Telephone Number
*97	Last Number Redial	<i>None</i>
*98*N#	Dial Paging	N
*99*N#	Dial Direct	N

1. Click on the  icon and select Short Code.
 2. Enter the Code and Telephone Number and select the required Feature from the drop down list.
 3. Click OK.
 4. Repeat the process for any other short codes required.
6. Click on the  save icon.

2.5 User/Extension Creation

During installation, the required extension and user entries in the IP Office system configuration can be created in one of two ways. They can either be created manually or they can be created automatically.

Auto Creation




By default, whenever a SIP extension is installed with the IP Office, matching user and extension entries are automatically created in the IP Office configuration as long as there are available licenses. The default password used for the user is 0000.

This behavior is controlled by the Auto-create Extn/User setting on the IP Office's [System | LAN1 | SIP Registrar](#) ¹⁶ tab. This setting can be disabled after installation of the 1100/1200 Series phones to prevent additional unplanned SIP extension registration.

The screenshot shows the IP Office configuration interface with the 'SIP Registrar' tab selected. The 'Auto-create Extn/User' checkbox is checked and highlighted with a red circle. Other settings include: Domain Name (empty), Layer 4 Protocol (Both TCP & UDP), TCP Port (5060), UDP Port (5060), and Challenge Expiry Time (secs) (10).

Manual Creation

Using IP Office Manager, you can add entries for SIP extensions and extension users before those extensions are added to the system.

1. Using IP Office Manager receive the configuration from the IP Office system.
2. Select  User.
3. Click on the  icon and select User.
4. Enter the details for the user. At minimum you must set a unique name and extension number.
5. The Login Code on the User | Telephony | Supervisor Settings tab is also used during registration if set.
6. Click OK.
7. You will be prompted whether Manager should also create a matching extension. Select SIP Extension and click OK.
8. Click on the  save icon.

2.6 Licensing

Each 1100 Series or 1200 Series phone uses an Avaya IP Endpoint license. Installation cannot be completed without available licenses.


- Avaya IP Endpoint Licenses

Each IP end point supported by the IP Office system requires a license, either an *Avaya IP Endpoint license* or a *3rd Party IP Endpoint license*. 1100 Series and 1200 Series SIP phones use *Avaya IP Endpoint licenses*.

- Phones can be licensed up to the system's 384 extensions limit for all phones of any type.
- Note that each IP500 VCM 32 and IP500 VCM 64 card installed in the system enables 12 Avaya IP endpoint without requiring licenses.
- Licenses are normally automatically assigned to phones in order of phone registration. However, existing extensions can be configured to reserve a license. This ensures that they do not become unlicensed when newly added extensions manage to register first following a system reboot.



2.6.1 Checking the Dongle Serial Number

The licenses are issued against a unique feature key/dongle serial number. For IP500v2 control units that number is unique to the System SD card fitted to the system. For IP500 control units that number is unique to the smart media card inserted in the back of the control unit. For any licenses entered into the system configuration to be valid, they must be licenses issued against that serial number.

1. Using IP Office Manager, receive the configuration from the IP Office system.
2. Select  System.
3. Select the System tab.
4. The feature key serial number is shown by the Dongle Serial Number field.


2.6.2 Adding Licenses

Use the following process to add licenses to the IP Office configuration. Multiple licenses can be added for a cumulative number of license instances.

1. Using IP Office Manager, receive the configuration from the IP Office system.
2. Select  License.
3. The current licenses in the system configuration are displayed.
4. To add a license, click on  and select License.
5. Enter the license which you have been supplied into the field and click OK.
6. The type of the license should be displayed but with its License Status set to *Unknown*. If the License Type was not recognized, check that it has been entered correctly.
7. Save the configuration back to the IP Office system and then receive the configuration from the IP Office system again.
8. The License Status should now be *Valid*.

2.6.3 Reserving Licenses

Licenses are normally automatically assigned to extensions in order of registration. However existing extensions can reserve a license in order to ensure they do not become unlicensed when new extensions added to the system manage to register first following a system reboot.

1. Using IP Office Manager, receive the configuration from the IP Office system.
2. Select  Extension and then select the SIP extension.
3. Select the VoIP tab.

Extn	VoIP	T38 Fax
IP Address	<input type="text" value="0 . 0 . 0 . 0"/>	<input type="checkbox"/> VoIP Silence Suppression
Compression Mode	<input type="text" value="Automatic Select"/>	<input type="checkbox"/> Local Hold Music
Fax Transport Support	<input type="text" value="None"/>	<input checked="" type="checkbox"/> Allow Direct Media Path
TDM->IP Gain	<input type="text" value="Default"/>	<input checked="" type="checkbox"/> Re-invite Supported
IP->TDM Gain	<input type="text" value="Default"/>	<input type="checkbox"/> Use Offerer's Preferred Codec
DTMF Support	<input type="text" value="RFC2833"/>	<input type="checkbox"/> Reserve Avaya IP endpoint licence
		<input type="checkbox"/> Reserve 3rd party IP endpoint licence

4. The Reserve Avaya IP endpoint license setting is used to reserve an existing license for the extension.
5. Repeat the process for any other SIP extensions for which you want to reserve the license.
6. Save the configuration back to the IP Office system.

Chapter 3.

Phone Installation

3. Phone Installation

Having [configured the IP Office system](#)^[12] to support 1100/1200 phones, there are a number of methods for actual 1100/1200 Series phone installation. The method to use depends on the following:

- The type of phone: 1100 Series or 1200 Series.
- Whether the phone is new or already has firmware, for example an existing phone being redeployed from a BCM system or another IP Office system.
- Whether the IP Office is being used for DHCP or whether static addressing is being used instead.

Use the table below to identify the method to use:

Phone	IP Office DHCP		Static IP Addressing	
	1100 Series	1200 Series	1100 Series	1200 Series
New Phone	Method 1 ^[27]	Method 2 ^[28]	Method 3 ^[29]	Method 4 ^[31]
Redeployment from BCM	Method 1 ^[27]	Method 1 ^[27]	Method 3 ^[29]	Method 3 ^[29]
Redeployment from SIP	Method 1 ^[27]	Method 1 ^[27]	Method 5 ^[32]	Method 5 ^[32]

3.1 Method 1

This method requires the IP Office system to act as both the [DHCP](#) and [file provisioning](#) server for the phone. The objective is then to configure the phone as a DHCP client. It will then learn the IP address, IP netmask, IP gateway and file provisioning server parameters from the IP Office DHCP server.

This method applies to:

- New 1100 Series phones.
- 1100 Series and 1200 Series phones being redeployed from a BCM system.
- 1100 Series phones being redeployed from another SIP system.
- 1200 Series phones being redeployed from another SIP system.

1. Connect the phone to the LAN port. If the LAN port supports Power over Ethernet (PoE) the phone will start up immediately. Otherwise connect a separate power supply.

- The phone comes up with UNISTIM firmware *06XXC7M*. The firmware name is briefly displayed on the screen at startup. If an earlier version than *C7M* is displayed, refer to the [recovery process](#)^[34].
- If the firmware name comes up as *04.xx.xx.xx* and the terminal has not been reconfigured, it means the phone is already running SIP firmware. If this is suspected not to be IP Office SIP firmware, then it is recommended to do a [factory reset](#)^[33] of the phone. Following the factory reset, the User Login prompt should show the IP Office SIP domain on the screen and the user is ready to login; No additional phone configuration is required.

2. Once the phone has booted follow the steps below.

- a. Press the Service key (English labeled set) or the globe icon key (icon labeled set).
- b. Navigate down to item 3 Network configuration.
- c. Soft keys display Apply Auto -- Cancel.
- d. Press Auto.
- e. Right navigate until you see DHCP Enable.
- f. If deselected, select the check box by pressing the Auto soft key.
- g. Navigate down to item 12 Provision Server.
- h. If deselected, select the check box by pressing the Auto soft key.
- i. Press Apply.

3. The phone reboots twice and shows SIP firmware name 04.xx.xx.xx on the second reboot. A set of files get downloaded by the phone.

- a. When the User Login prompt screen shows up and the SIP domain on the screen matches the IP Office IP address, the upgrade process is complete. If the SIP domain shows *avaya.com* then there was a problem with the value of the option 66 parameter provided by the DHCP server.
- b. The SIP phone is ready to login a SIP user.
 - i. The phone displays ID:. Enter the extension number that the phone should use. You can use the right and left cursor keys to move the digit entry cursor. Use the up cursor to delete the previous digit.
 - ii. Press Login.
 - iii. The phone displays Password:.
 - iv. If logging in to a [pre-configured user/extension](#)^[21], match the IP Office Login Code set for that user.
 - v. If using the IP Office's Auto-Create Extn/User function, enter *0000*.
 - vi. Press Next twice.
- c. The SIP user should now be logged in. If not, then verify the licenses and the user configuration.

3.2 Method 2

This method requires the IP Office system to act as both the [DHCP](#) and [file provisioning](#) server for the phone. The objective is then to configure the phone as a DHCP client. It will then learn the IP address, IP netmask, IP gateway and file provisioning server parameters from the IP Office DHCP server.

This method applies to:

- New 1200 Series phones. These phones come up with a special basic boot loader called BootC.
1. Connect the phone to the LAN port. If the LAN port supports Power over Ethernet (PoE) the phone will start up immediately. Otherwise connect a separate power supply.
 - The phone comes up with Unistim firmware *06XXC7M*. The firmware name is briefly displayed on the screen at startup. If an earlier version than *C7M* is displayed, refer to the [recovery process](#)^[34].
 2. Once the phone has booted, the phone asks if you want Manual Configuration?
 - a. Press the 4 buttons under the LCD from left to right one after the other.
 - b. The phone displays DHCP? [O=N 1=Y]. Enter 1 to enable DHCP.
 - c. Navigate down to Provision Server. The phone displays *0.0.0.0*.
 - d. Press the backspace soft key to clear the value. Then enter the IP Address of IP Office, for example 192.168.43.1. Press OK.
 - e. If the phone prompts for a DNS IP address, enter a valid DNS server IP address. If none is available use the IP address of IP Office. Press OK.
 - f. Press Apply.
 3. The phone reboots twice and shows SIP firmware name 04.xx.xx.xx on the second reboot. A set of files get downloaded by the phone.
 4. When the User Login prompt screen shows up and the SIP domain on the screen matches the IP Office IP address, the upgrade process is not yet completed. Follow the additional steps below:
 - a. Press the Service key (English labeled set) or the globe icon key (icon labeled set).
 - b. Select Device Settings. Enter the default password: *26567*738 (color*set)*.
 - c. Navigate down to item 9 Provision Server.
 - d. Make sure the check box is selected. If not, press Auto.
 - e. Press Apply.
 5. The phone reboots twice and shows SIP firmware name 04.xx.xx.xx on the second reboot. A set of files get downloaded by the phone.
 - a. When the User Login prompt screen shows up and the SIP domain on the screen matches the IP Office IP address, the upgrade process is complete. If the SIP domain shows *avaya.com* then there was a problem with the value of the option 66 parameter provided by the DHCP server.
 - b. The SIP phone is ready to login a SIP user.
 - i. The phone displays ID:. Enter the extension number that the phone should use. You can use the right and left cursor keys to move the digit entry cursor. Use the up cursor to delete the previous digit.
 - ii. Press Login.
 - iii. The phone displays Password:.
 - iv. If logging in to a [pre-configured user/extension](#)^[21], match the IP Office Login Code set for that user.
 - v. If using the IP Office's Auto-Create Extn/User function, enter *0000*.
 - vi. Press Next twice.
 - c. The SIP user should now be logged in. If not, then verify the licenses and the user configuration.

3.3 Method 3

This method manually configures the phone parameters with static values for IP address, IP netmask, IP gateway and file provisioning server.

This method applies to:

- New 1100 Series phones.
- 1100 Series phones being redeployed from another SIP system.
- 1200 Series phones being redeployed from another SIP system.

1. Connect the phone to the LAN port. If the LAN port supports Power over Ethernet (PoE) the phone will start up immediately. Otherwise connect a separate power supply.

- The phone comes up with UNISTIM firmware O6XXC7M. The firmware name is briefly displayed on the screen at startup. If an earlier version than C7M is displayed, refer to the [recovery process](#) ^[34].
- If the firmware name comes up as *04.xx.xx.xx* and the terminal has not been reconfigured, it means the phone is using SIP firmware. If this is suspected not to be IP Office SIP firmware, then it is recommended to do a [factory reset](#) ^[33] of the phone.

2. Once the phone has booted, follow the steps below.

- a. Press the Service key (English labeled set) or the globe icon key (icon labeled set).
- b. Select item 3 Network configuration.
- c. The soft keys display `Apply Auto -- Cancel`. Press `Auto`.
- d. Right navigate until you see: `DHCP Enable`.
- e. If selected, deselect the check box by pressing the `Man` soft key.
- f. Navigate down to item 9 Provision Server.
- g. If selected, deselect the check box by pressing the `Man` soft key.
- h. Press the `Cfg` soft key.
- i. Scroll down through the options until you see `DHCP? [O=N 1=Y]`.
- j. Enter `0` to disable DHCP and press the down arrow.
- k. Populate: Set IP address, IP netMask and IP gateway values as appropriate to your network (e.g. Set IP = 192.168.43.114, Netmask = 255.255.255.0, Gateway=192.168.1.1).
- l. Navigate down to `Prov:.` Enter the IP Address of the IP Office, for example 192.168.43.1. Press `OK`.
- m. Navigate down to `Protocol`. Check that the protocol is set to *TFTP*.
- n. Press `Apply`.

3. The phone reboots and shows the SIP firmware name *04.xx.xx.xx*. A set of files get downloaded by the phone.

4. When the User Login prompt screen shows up and the SIP domain on the screen matches the IP Office IP address, the upgrade process is not yet completed. Follow the additional steps below.

- a. Press the Service key (English labeled set) or the globe icon key (icon labeled set).
- b. Select Device Settings.
- c. Enter the default password: *26567*738 (color*set)*.
- d. Navigate down to item 9 Provision Server.
- e. Make sure the check box is deselected. If not, then press "Man" softkey.
- f. Press the `Cfg` softkey.
- g. Navigate down to the `Prov: prompt`. Validate that the IP address is that of IP Office. Then press the down arrow.
- h. For protocol change TFTP to HTTP. Either use the right arrow twice (1200 Series) or use the pull-down menu (1100 Series).
- i. Press `Apply`.

5. The phone reboots twice and shows SIP firmware name *04.xx.xx.xx* on the second reboot. A set of files get downloaded by the phone.

- a. When the User Login prompt screen shows up and the SIP domain on the screen matches the IP Office IP address, the upgrade process is complete. If the SIP domain shows *avaya.com* then there was a problem with the value of the option 66 parameter provided by the DHCP server.

b. The SIP phone is ready to login a SIP user.

i. The phone displays ID:. Enter the extension number that the phone should use. You can use the right and left cursor keys to move the digit entry cursor. Use the up cursor to delete the previous digit.

ii. Press Login.

iii. The phone displays Password:.

iv. If logging in to a [pre-configured user/extension](#)^[21], match the IP Office Login Code set for that user.

v. If using the IP Office's Auto-Create Extn/User function, enter *0000*.

vi. Press Next twice.

c. The SIP user should now be logged in. If not, then verify the licenses and the user configuration.

3.4 Method 4

This method manually configures the phone parameters with static values for IP address, IP netmask, IP gateway and file provisioning server.

This method applies to:

- New 1200 Series phones. These phones come up with a special basic boot loader called BootC.

1. Connect the phone to the LAN port. If the LAN port supports Power over Ethernet (PoE) the phone will start up immediately. Otherwise connect a separate power supply.
 - The phone comes up with Unistim firmware *06XXC7M*. The firmware name is briefly displayed on the screen at startup. If an earlier version than *C7M* is displayed, refer to the [recovery process](#)^[34].
2. Once the phone has booted, the phone asks if you want Manual Configuration?
 - a. Press the 4 buttons under the LCD from left to right one after the other.
 - b. The phone displays DHCP? [O=N 1=Y]. Enter 0 to enable DHCP.
 - Populate: Set IP address, IP netMask and IP gateway values as appropriate to your network, for example IP = 192.168.43.114, Netmask = 255.255.255.0, Gateway=192.168.1.1.
 - c. Navigate down to Provision Server. The phone displays *0.0.0.0*.
 - d. Press the backspace soft key to clear the value. Then enter the IP Address of IP Office, for example 192.168.43.1. Press OK.
 - e. If the phone prompts for a DNS IP address, enter a valid DNS server IP address. If none is available use the IP address of IP Office. Press OK.
 - f. Press Apply.
3. The phone reboots twice and shows SIP firmware name 04.xx.xx.xx on the second reboot. A set of files get downloaded by the phone.
4. When the User Login prompt screen shows up and the SIP domain on the screen matches the IP Office IP address, the upgrade process is not yet completed. Follow the additional steps below:
 - a. Press the Service key (English labeled set) or the globe icon key (icon labeled set).
 - b. Select Device Settings. Enter the default password: *26567*738 (color*set)*.
 - c. Navigate down to item 9 Provision Server.
 - d. Make sure the check box is not selected. If not, then press the Man softkey.
 - e. Press the Cfg softkey.
 - f. Navigate down to the Prov: prompt. Check that the IP address is that of IP Office. Then press the down arrow.
 - g. For protocol, change *TFTP* to *HTTP*. Either use the right arrow twice (1200 Series) or use the pull-down menu (1100 Series).
 - h. Press Apply.
5. The phone reboots twice and shows SIP firmware name 04.xx.xx.xx on the second reboot. A set of files get downloaded by the phone.
 - a. When the User Login prompt screen shows up and the SIP domain on the screen matches the IP Office IP address, the upgrade process is complete. If the SIP domain shows *avaya.com* then there was a problem with the value of the option 66 parameter provided by the DHCP server.
 - b. The SIP phone is ready to login a SIP user.
 - i. The phone displays ID:. Enter the extension number that the phone should use. You can use the right and left cursor keys to move the digit entry cursor. Use the up cursor to delete the previous digit.
 - ii. Press Login.
 - iii. The phone displays Password:.
 - iv. If logging in to a [pre-configured user/extension](#)^[21], match the IP Office Login Code set for that user.
 - v. If using the IP Office's Auto-Create Extn/User function, enter *0000*.
 - vi. Press Next twice.
 - c. The SIP user should now be logged in. If not, then verify the licenses and the user configuration.

3.5 Method 5

This method manually configures the phone parameters with static values for IP address, IP netmask, IP gateway and file provisioning server.

This method applies to:

- 1200 Series phones being redeployed from another SIP system.

1. Connect the phone to the LAN port. If the LAN port supports Power over Ethernet (PoE) the phone will start up immediately. Otherwise connect a separate power supply.

- The phone should display F/W Version: 04.xx.xx.xx. If it already has SIP firmware.
- If the phone firmware looks like 06XXC7M, use [Method 3](#) ^[29]. If an earlier version than *C7M* is displayed, refer to the [recovery process](#) ^[34].
- If the terminal displays manual configuration, use [Method 4](#) ^[31].

2. Perform a [factory reset](#) ^[33] of the phone. Once the phone has rebooted, follow the steps below.

- Select Service key (English labeled set) or globe icon (icon labeled set).
- Select Device Settings. Enter the default password: *26567*738 (color*set)*.
- The soft keys display Apply Auto -- Cancel. Press Auto.
- Right navigate until you see: DHCP Enable.
- If selected, deselect the check box by pressing the Man soft key.
- Navigate down to item 9 Provision Server.
- If selected, deselect the check box by pressing the Man soft key.
- Press the Cfg soft key.
- Scroll down through the options until you see DHCP? [O=N 1=Y].
- Enter 0 to disable DHCP and press the down arrow.
- Populate: Set IP address, IP netMask and IP gateway values as appropriate to your network (e.g. Set IP = 192.168.43.114, Netmask = 255.255.255.0, Gateway=192.168.1.1).
- Navigate down to Prov:.. Enter the IP Address of the IP Office, for example 192.168.43.1. Press OK.
- Navigate down to Protocol. Check that the protocol is set to *TFTP*.
- Press Apply.

3. The phone reboots and shows the SIP firmware name 04.xx.xx.xx. A set of files get downloaded by the phone.

- When the User Login prompt screen shows up and the SIP domain on the screen matches the IP Office IP address, the upgrade process is complete. If the SIP domain shows *avaya.com* then there was a problem with the value of the option 66 parameter provided by the DHCP server.
- The SIP phone is ready to login a SIP user.
 - The phone displays ID:.. Enter the extension number that the phone should use. You can use the right and left cursor keys to move the digit entry cursor. Use the up cursor to delete the previous digit.
 - Press Login.
 - The phone displays Password:..
 - If logging in to a [pre-configured user/extension](#) ^[21], match the IP Office Login Code set for that user.
 - If using the IP Office's Auto-Create Extn/User function, enter *0000*.
 - Press Next twice.
- The SIP user should now be logged in. If not, then verify the licenses and the user configuration.

3.6 Factory Reset

If the telephone has previously been deployed with non-IP Office SIP, this process may be required in order to return all the phone's settings to their defaults. It is not necessary on a phone being redeployed from another IP Office system.

- **! WARNING**

This process should only be used with phones that have SIP firmware loaded. Do not use this process on a phone that has UNISTIM firmware loaded.

1. On the back of the phone, locate the white label with three bar codes.
2. The number just above the bottom bar code is the MAC address of the phone. This is used as part of the factory default process.
3. Write down the MAC address. It should consist of six pairs of hexadecimal numbers, each pair separated by a : or space.
4. The MAC address needs to be translated into a number that can be dialed as part of the default process. To do this:
 - The numbers 0 to 9 remain numbers 0 to 9.
 - The letters A to F are translated to the number key on which the letter is printed on the phone. So ABC = 2, DEF = 3.
 - Any : characters and any spaces are ignored.
 - For example, the MAC address *A1:B2:C3:D4:E5:F6* translated to value *212223343536*.
5. The number that needs to be dialed on the phone is ***73639<Translated MAC>##* (***renew<Translated MAC>##*). Write this down, inserting the translated MAC address of the phone.
6. Dial the reset string. This can be done when the phone is idle or when starting.
7. If the string was recognized, the phone will display Reset to Factory Settings.
8. Press Yes to complete the reset to factory procedure. Press No to quit without resetting the phone.

3.7 Recovery Process

The two processes below can be used to attempt to recover a phone to a known state in order to upgrade or install. The BootC method is preferred as it can be used on all supported 1100 and 1200 Series phones. The second method can be used with phones that already have Unistim firmware but which is an earlier than firmware version than *06XXC7M*.

Invoking the BootC Loader

1. Power off the phone.
2. Press and hold the keypad 2 button and the up arrow.
3. Connect the phone power (either through PoE or power adapter) while the buttons above for about 7 seconds while the phone is powered up.
 - On a 1100 Series phone, release the buttons immediately after the blue and red light go off.
 - On a 1200 Series phone, release the button immediately Loading BootC is displayed.
4. After releasing the buttons, the phone screen shows Manual configuration. Here you have 2 options:
 - Option 1 - Upgrade Firmware and Settings
Press the 4 soft keys consecutively one after the other from left to right. This will enter the configuration menu where you can configure the DHCP/static IP address and provisioning server parameters. The parameters can be configured as per [Method 2 \(DHCP\)](#) or [Method 4 \(static addressing\)](#) depending if DHCP is used or not.
 - Option 2 - Resume Previous Operation
Let the phone continue its boot up process. The phone will resume its previously configured parameters and firmware.

Loading Unistim C7M Firmware

In this process we use a TFTP file server to upgrade the Unistim firmware already on a phone to Unistim firmware *06XX C7M*. The firmware is included as part of the installation of IP Office Manager for IP Office Release 7.0 and higher. IP Office Manager can also be used as a TFTP server if one is not available.

1. Prepare the TFTP Server:

- If using IP Office Manager:
 - a. Start IP Office Manager:
 - b. Select File | Preferences.
 - c. On the Preferences tab, check that Enable BootP and TFTP Servers is selected.
 - d. On the Directories tab, note the current setting of the Binary Directory (.bin files) file path. Change the path to *C:\Program Files\Avaya\IP Office\Manager\IPSET-UNISTIM-C7M*.
 - e. Click OK.
 - f. Leave IP Office Manager running.
- If using another TFTP Server:
 1. Copy the files from *C:\Program Files\Avaya\IP Office\Manager\IPSET-UNISTIM-C7M* to the root folder of the TFTP server.
 2. Check that the TFTP server application is running.

2. Enter the phone configuration menu:

- a. Either press the Services button twice or use the BootC procedure above.
- b. If prompted for a password, try *26567*738 (color*set)*.
- c. In the configuration menus, manually configure the provisioning server to the IP address of the PC running the TFTP server (that is IP Office Manager) and apply the settings. If using the SIP firmware configuration menu, make sure to configure the provisioning server protocol to TFTP. If using the SIP firmware, this protocol setting appears when OK is pressed after entering the provisioning server IP address.

3. The phone reboots and attempts to do a TFTP download to the TFTP server IP address. The phone will download the .cfg and .bin files appropriate to the phone type and then reboot.

- If the TFTP download does not work, try disabling the firewall on the PC.
- If still not working, use Wireshark to trace the TFTP traffic coming to the PC IP address. Verify that the DHCP settings or the static IP address used by the IP set can reach the PC IP address.

4. After one or two consecutive reboots the phone will show *Contacting S1...* followed by *Server unreachable*.

5. The IP set is now loaded with Unistim C7M firmware that is supported for the [upgrade process to IP Office firmware](#) [26]. Enter the configuration menu by following [Method 1 \(DHCP\)](#) [27] or [Method 3 \(static addressing\)](#) [29] for the Unistim to SIP migration procedure.

- If using IP Office Manager:
 - a. Select File | Preferences.
 - b. On the Preferences tab, disable Enable BootP and TFTP Servers if it was only enabled for this process.
 - c. On the Directories tab, change the Binary Directory (.bin files) path back to its original settings (normally *C:\Program Files\Avaya\IP Office\Manager*).

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