



AVAYA

# MODEL 480i CT



ADMINISTRATION GUIDE  
Release # 1.0

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## Overview

This *SIP 480i CT IP phone Administration Guide* provides information on the basic network setup that is required for the SIP 480i CT IP phone. It also includes details on the functioning and configuration of the 480i CT phone.

## General Requirements

- A SIP based IP PBX system or network installed and running with a number created for the new 480i CT phone.
- SIP standard "RFC 3261"
- Access to a Trivial File Transfer Protocol (TFTP) server.
- 802.3 Ethernet/Fast Ethernet LAN.
- Category 5/5e straight through cabling.
- Power over Ethernet (PoE) power supply (optional accessory – necessary only if no inline power is provided on the network).

## About this Guide

This guide targets network administrators, system administrators, developers and partners who need to understand how to install the 480i CT on a SIP network. This guide contains information that is at a technical level more suitable for system or network administrators. Prior knowledge of IP Telephony concepts is recommended.

This guide complements the *Aastra 480i CT Installation Guide* and the *Aastra SIP 480i CT IP Phone User Guide*.

- ***Aastra 480i CT Installation Guide*** – contains installation and set-up instructions, information on general features and functions, and basic options list customization. Included with the phone.
- ***Aastra SIP 480i CT IP Phone Administration Guide*** – explains how to set the phone up on the network, as well as advanced configuration instructions for the 480i. This guide contains information that is at a technical level more suitable for a system or network administrator.
- ***Aastra SIP 480i CT IP Phone User Guide*** – explains the most commonly used features and functions for an end user.

## Methods of Installation

The firmware set up and installation for the 480i CT can be done through the Options List available directly from the phone or through the **Aastra 480i CT Web Client** web interface.

When the 480i CT is initialized for the first time, DHCP is enabled by default. The DHCP server passes information to the 480i CT so that it can configure itself for subsequent IP PBX addresses and normal runtime operations.

The following considerations must be made before connecting the 480i CT phone to the network:

- If you are planning on using Dynamic IP addresses, make sure a DHCP server is running on your network.
- If you are not planning on using Dynamic IP addresses, refer to the section **“Configuring the 480i CT IP Phone”** on how to set up an IP address manually.
- Make sure a TFTP server is set up on your network and can accept connections anonymously.
- Every PBX system that interacts with the 480i CT phones requires adherence to the SIP Standard.

To find out how to hook up the cabling to your 480i CT phone, please refer to the *Aastra 480i CT Installation Guide*.

## 480i CT IP Phone Set up

When the 480i CT is first plugged in or reset it will automatically download any firmware updates for the phone. The binary and configuration files that are required for the 480i CT are: “firmware.st”, “aastra.cfg” and “<mac>.cfg”. The settings of the 480i CT phone, as well as the softkeys and the line keys, can be configured through the configuration files. Please refer to Appendix A for details on the parameters that can be set for the 480i CT phone. Please refer to Appendix B for sample configuration files with all the basic parameters that need to be set in order to register the IP phone at the PBX.

The following steps illustrate a typical 480i CT phone setup:

1. If DHCP is disabled, manually enter the TFTP server’s IP address. For details on how to set the TFTP server setting for the 480i, please refer to the section **“Configuring the 480i CT IP Phone”**.
2. Copy the firmware file “firmware.st” to the root directory of the TFTP server. This firmware file is downloaded only when it is different than the one the phone is currently using.
3. Copy the Aastra configuration file “aastra.cfg” and “<mac>.cfg” file to the root directory of the TFTP server.

**Note:** <mac> represents the actual MAC address of your phone which must be input ie 00085D030996.cfg

## The 480i CT's Options List

1. Press the **Options** button on the phone to enter the options list
2. Use the **▲** and **▼** to scroll through the list of options
3. Press the **Show** softkey, the **▶** button or press the number corresponding to the option to select an option
4. Use the softkeys to change a selected option
5. Press the **Done** softkey at any time to save the change and exit the current option
6. Press the **Cancel** softkey, the **◀** button or the **Goodbye** button at any time to exit without saving the changes

### Administrator Level Options

Some options in the phone's options list are considered administrator level options and require the administrator user name and password. When attempting to access administrator level options, the phone will prompt for the administrator password before allowing access. The default password for the administrator is "22222". For all other phone options, please refer to the *Astra 480i CT Installation Guide*.

The administrator level options in the phone's Options List are:

- "8.Network"
- "9.SIP Settings"
- "4.Factory Default" found under option "10.Phone Status"

## Network:

If DHCP is enabled, all the Network settings are automatically configured. The 480i's firmware allows the network settings to be manually entered, if for any reason the phone cannot populate any of the settings with DHCP enabled.

If DHCP is disabled the following network settings can be configured manually:

### 1. DHCP

This turns DHCP on or off. IP Address, Subnet Mask and Gateway options are automatically populated and are read-only when DHCP is used. DHCP is used by default.

### 2. IP Address

This is the phone's IP address. To assign a static IP address to the phone, disable DHCP.

### 3. Subnet Mask

To assign your own subnet mask to the phone, disable DHCP.

### 4. Gateway

To assign your own gateway IP address, disable DHCP.

### 5. DNS

To assign your own DNS addresses, disable DHCP.

### 6. TFTP Server

This is the TFTP server's IP address.

## SIP Settings:

If you have a proxy server or have a SIP registrar present at a different location than the PBX server, the following settings may need to be changed:

### 1. Proxy IP

This is the IP address of the proxy server.

### 2. Proxy Port

This is the SIP proxy server's port number. By default this number is set to 5060.

### 3. Registrar IP

This is the IP address of the SIP registrar.

### 4. Registrar Port

SIP registrar's port number. By default this is set to 5060.

### 5. User Name

This is used in the name field of the SIP URI for the 480i CT phone and for registering the 480i CT at the registrar.

### 6. Display Name

This is used in the display name field of the From SIP header field. Some IP PBX systems use this as the caller's ID and some may overwrite this with the string that is set at the PBX system.

### 7. Auth Name

The authorization name that will be used in the username field of the Authorization header field of the SIP REGISTER request.

### 8. Password

The password that is used to register at the registrar.

## Phone Status:

The following options display the phone's status or allow you to power cycle the phone or reset the phone to its factory default settings.

### 1. Network Status

This shows the network status of the two Ethernet ports at the back of the phone. You can also view the phone's IP and MAC addresses.

- **IP Addr**

Shows the IP address of the phone

- **MAC Addr**

The MAC or the hardware address of the 480i's Ethernet card

### 2. Firmware Version

This option displays information about the firmware that is currently installed on the 480i.

### 3. Reset Phone

This option lets you reboot the phone. A reset may be necessary when:

- There is a change in your network, **OR**
- To re-load the configuration information modified through the configuration files to the phone, **OR**
- If the settings for the 480i CT on the IP PBX system had been modified.

### 4. Factory Default

This option lets you reset the phone back to the factory default settings, including the network settings. Performing this operation will result in losing all user modified settings.

**Note:** For information on other settings in the options list of the phone, please refer to the *Aastra 480i CT Installation Guide* provided with the 480i.

### The Aastra 480i CT Web Client

To access the Aastra 480i CT Web Client, open your web browser (supports Internet Explorer and Gecko engine based browsers like Firefox, Mozilla or Netscape) and enter the phone's IP address into the address field, starting with the web prefix "http://".



In the side menu of the **Aastra 480i CT Web Client**, there are three main categories: Status, User and Admin.

- The **STATUS** category contains read only status information for sub-categories Network, Hardware and Firmware.
- The **USER** category contains user configurable sub-categories Reset and Password. This section is accessed through the user level or the administrator level user name and password. For more information, refer to the *Aastra SIP 480i CT IP Phone User Guide*.
- The **ADMIN** category contains administrator only configurable sub-categories: Network, Firmware and SIP Settings. This section is accessed through the admin level user name and password. You will be prompted for this information when one of these options is

selected. For more information, refer to the section "**480i CT IP Phone Configuration**" of this document

The default for the administrator user name is "admin" and the password is "22222". For a user, the default user name is "user" and the password field is left blank. The user level password can be changed using the web client.



## 480i CT IP Phone Configuration

The Network and SIP options within the 480i CT phone can be configured from the phone or from the **Aastra 480i CT Web Client** web interface. Administrator level options are password protected in both the phone and the web interface.

### Network

DHCP automatically sends the IP address, Subnet Mask and Gateway network (also DNS and FTP Server) information to the 480i CT phone during initialization when the phone is first powered up or reset. By default, the DHCP setting is enabled. The network settings cannot be changed when DHCP is used, so DHCP must be set to "Off" in order to manually change these settings.

#### Turn DHCP On or Off

From the 480i CT Phone:

1. Press the **Options** button to enter the Options List.
2. Select option **8. Network**.
3. Enter the administrator's password. The default password is **22222**.
4. Press the **Enter** softkey.
5. Select option **1. DHCP**.
6. Press the **Change** softkey to indicate whether DHCP should be used or not.
7. Press **Done** to save the changes.

From the Web Client:

1. Click on the **Network** sub-category under the **ADMIN** main category.
2. Enter the administrator's user name and password (the default user name is "admin" and password is "22222").
3. In the web page that has just opened, check the **Use DHCP** check box to use DHCP and uncheck to indicate that you do not want to

use DHCP.

4. Click on the **Set Values** button to save the changes that you just made.

### Manually Configure Network Settings

If you are not using DHCP, you need to configure the network settings for the phone manually.

From the 480i CT Phone:

1. Press the **Options** button to enter the Options List.
2. Select option **8. Network**.
3. Enter the administrator's password. The default password is **22222**.
4. Select option **2. IP Address** to change the IP address.
5. Select option **3. Subnet Mask** to change the subnet mask.
6. Select option **4. Gateway** to change the gateway address.
7. Select option **5. DNS** to change the DNS.
8. Press **Done** to save the changes.

When an IP address has been assigned to the phone, you have the option to either continue configuring the 480i CT through the **Options** button on the phone or to start using the **Aastra 480i CT Web Client**. See the section "**The Aastra 480i CT Web Client**" within this guide for details.

From the Web Client:

1. Click on the **Network** sub-category under the **ADMIN** main category.
2. Enter the administrator's user name and password (the default user name is "admin" and password is "22222").
3. In the web page that has just opened enter the IP address of the phone, the Subnet Mask and the Gateway IP address in their corresponding fields.

## TFTP Server Settings

The 480i CT phone uses the TFTP to download updates of the phone's firmware and configuration files. You must set the TFTP server address in the phone.

From the 480i CT Phone:

1. Press the **Options** button to enter the Options List.
2. Select option **8. Network**.
3. Enter the administrator's password. The default password is **22222**.
4. Select option **6. TFTP Server** to change the TFTP server.

From the Web Client:

1. Click on the **Network** sub-category under the **ADMIN** main category.
2. Enter the administrator user name and password (the default user name is "admin" and password is "22222").
3. In the TFTP field, enter the IP address of the TFTP server.
4. Click on the **Set Values** button to save the changes that you just made.

## SIP settings

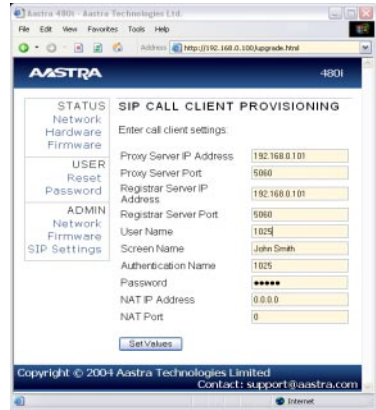
The 480i CT uses the information in the SIP settings to register at the IP PBX. To configure the SIP settings:

From the 480i CT Phone:

1. Press the **Options** button to enter the Options List.
2. Select option **9. SIP Settings**.
3. Enter the administrator's password. The default password is **22222**.
4. Select options 1-4 to change the information about the registrar and the proxy server.
5. Select option **5. User Name** to change the user name.
6. Select option **6. Screen Name** to change the screen name.
7. Select option **7. Auth. Name** to change the authorization name.
8. Select option **8. Password** to change the user's password.

From the Web Client:

1. Click on the **SIP Settings** sub-category under the **ADMIN** main category.
2. Enter the administrator user name and password (the default user name is "admin" and password is "22222").
3. In the web page that just opened enter the appropriate information.
4. Click on the **Set Values** button to save the changes that you just made.



**Note:** At this point modifications performed to the User name, Screen name, Authentication name and Password affect line 1 of the 480i CT only. Modifications to the other lines should be done through the <mac>.cfg file. The NAT IP Address and NAT Port are currently not supported and will have no effect when set.

## Setting Parameters through Configuration Files

The following are the parameters that can be used to configure the 480i CT phone through the configuration files – aastra.cfg and <mac>.cfg. The "aastra.cfg" file configures the settings server wide, while the <mac> configures only the phones with the MAC address for which the file is named. The settings in the "aastra.cfg" file will be overridden by the settings which also appear in the <mac> cfg file.

## Setting Parameters – Network Settings

The following section contains the parameters to configure the network settings.

<b>Parameter – <i>dhcp</i></b>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	Enabling DHCP will populate most of the network information. The DHCP server should serve the network information that the 480i CT requires. If the 480i CT is unable to get any required information then it should be entered manually. Parameters affected: ip. Use "0" to disable DHCP and "1" to enable DHCP
<b>Format</b>	Integer
<b>Default Value</b>	1
<b>Range</b>	0 or 1
<b>Example</b>	dhcp: 1
<b>Parameter – <i>ip</i></b>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	This parameter assigns a static IP address to the 480i CT device.
<b>Format</b>	IP address
<b>Default Value</b>	0.0.0.0
<b>Range</b>	Not Applicable
<b>Example</b>	ip: 192.168.0.25
<b>Parameter – <i>subnet mask</i></b>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	The subnet mask IP address.
<b>Format</b>	IP address
<b>Default Value</b>	255.255.255.0
<b>Range</b>	Not Applicable
<b>Example</b>	subnet mask: 255.255.255.224
<b>Parameter – <i>default gateway</i></b>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	The IP address of the network's gateway or the router IP address
<b>Format</b>	IP address
<b>Default Value</b>	1.0.0.1
<b>Range</b>	Not Applicable
<b>Example</b>	default gateway: 192.168.0.1

<b>Parameter</b> – <i>dns1</i>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	Primary domain name servers' IP address. For any of the IP address settings on the 480i CT a domain name value can be entered instead of an IP address. With the help of the domain name servers the domain names for such parameters can then be resolved to their corresponding IP addresses.
<b>Format</b>	IP address
<b>Default Value</b>	0.0.0.0
<b>Range</b>	Not Applicable
<b>Example</b>	dns1: 192.168.0.5
<b>Parameter</b> – <i>dns2</i>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	Secondary domain name servers' IP address.
<b>Format</b>	IP address
<b>Default Value</b>	0.0.0.0
<b>Range</b>	Not Applicable
<b>Example</b>	dns2: 192.168.0.6
<b>Parameter</b> – <i>tftp server</i>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	The TFTP server's IP address. If DHCP is enabled and the DHCP server provides the information, this field is automatically populated. Use this parameter to change the IP address of the TFTP server. This will become effective after this configuration file has been downloaded into the phone.
<b>Format</b>	IP address
<b>Default Value</b>	0.0.0.0
<b>Range</b>	Not Applicable
<b>Example</b>	tftp server: 192.168.0.130
<b>Parameter</b> – <i>sip rtp port</i>	Configurable through the configuration files only
<b>Description</b>	Indicates the port through which the RTP packets will be sent to. The RTP port is used for sending DTMF tones and for the audio stream. Your network administrator may close some ports for security reasons. You may want to use this parameter to send RTP data using a different port.
<b>Format</b>	Integer
<b>Default Value</b>	3000

<b>Range</b>	Not Applicable
<b>Example</b>	sip rtp port: 5130

### Setting Parameters – Time Server Settings

The following section contains the parameters to configure settings specific to the timeserver.

<b>Parameter – <i>time server disabled</i></b>	Configurable through the 480i's Options List or the configuration files
<b>Description</b>	This parameter enables or disables the time server. This parameter affects the time server1, time server2 and time server3 parameters. Use "0" to enable time server and "1" to disable time server.
<b>Format</b>	Integer
<b>Default Value</b>	0
<b>Range</b>	0 or 1
<b>Example</b>	Time server disabled: 0
<b>Parameter – <i>time server1</i></b>	Configurable through the 480i's Options List or the configuration files.
<b>Description</b>	The primary time server's IP address. If the time server is enabled, the value for time server1 will be used to request the time from.
<b>Format</b>	IP address
<b>Default Value</b>	0.0.0.0
<b>Range</b>	Not Applicable
<b>Example</b>	time server1: 192.168.0.5
<b>Parameter – <i>time server2</i></b>	Configurable through the configuration files only
<b>Description</b>	The secondary time server's IP address. If the time server is enabled, and the primary time server is not configured or cannot be accessed the value for time server2 will be used to request the time from.
<b>Format</b>	IP address
<b>Default Value</b>	0.0.0.0
<b>Range</b>	Not Applicable
<b>Example</b>	time server2: 192.168.0.5

<b>Parameter –</b> <i>time server3</i>	Configurable through the configuration files only
<b>Description</b>	The tertiary time server's IP address. If the time server is enabled, and the primary and secondary time servers are not configured or cannot be accessed the value for time server3 will be used to request the time from.
<b>Format</b>	IP address
<b>Default Value</b>	0.0.0.0
<b>Range</b>	Not Applicable
<b>Example</b>	time server3: 192.168.0.5
<b>Parameter –</b> <i>time format</i>	Configurable through the 480i's Options List or the configuration files
<b>Description</b>	This parameter changes the time to 12 hour or 24 hour format. Use "0" for the 12 hour format and "1" for the 24 hour format.
<b>Format</b>	Integer
<b>Default Value</b>	0
<b>Range</b>	0 or 1
<b>Example</b>	time format: 0
<b>Parameter –</b> <i>date format</i>	Configurable through the 480i's Options List or the configuration files
<b>Description</b>	This parameter allows the user to change the date to various formats.
<b>Format</b>	Integer
<b>Default Value</b>	0
<b>Range</b>	0-7 Following table shows the format for the corresponding <i>date format</i> values: 0: WWW MMM DD 1: DD-MMM-YY 2: YYYY-MM-DD 3: DD/MM/YYYY 4: DD/MM/YY 5: DD-MM-YY 6: MM/DD/YY 7: MMM DD
<b>Example</b>	date format: 7

## Setting Parameters – SIP Authentication

The following parameters are the settings specific to SIP authentication.

<b>Parameter – sip proxy ip</b>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	A SIP proxy is a server that makes and forwards requests generated by the 480i CT to the targeted user. This parameter's IP address will be the address of the proxy server that the 480i CT will use to send all SIP requests to
<b>Format</b>	IP address or fully qualified host name
<b>Default Value</b>	0.0.0.0
<b>Range</b>	Not Applicable
<b>Example</b>	sip proxy ip: 192.168.0.101
<b>Parameter – sip proxy port</b>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	The proxy server's port number
<b>Format</b>	Integer
<b>Default Value</b>	5060
<b>Range</b>	Not Applicable
<b>Example</b>	sip proxy port: 5060
<b>Parameter – sip registrar ip</b>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	A SIP registrar is a server that maintains the location information of the 480i CT phone. This parameter's IP address will be the address of the registrar that the 480i CT will use to send REGISTER requests to
<b>Format</b>	IP address or fully qualified host name
<b>Default Value</b>	0.0.0.0
<b>Range</b>	Not Applicable
<b>Example</b>	sip registrar ip: 192.168.0.101
<b>Parameter – sip registrar port</b>	Configurable through the 480i's Options List, the Aastra 480i CT web client or through the configuration files
<b>Description</b>	The registrar's port number
<b>Format</b>	Integer
<b>Default Value</b>	5060
<b>Range</b>	Not Applicable
<b>Example</b>	registrar port: 5060

<b>Parameter –</b> <i>sip digit timeout</i>	Configurable through the configuration files only
<b>Description</b>	Represents the time in seconds to configure the timeout between consecutive key presses.
<b>Format</b>	Integer
<b>Default Value</b>	4
<b>Range</b>	Not Applicable
<b>Example</b>	sip digit timeout: 6
<b>Parameter –</b> <i>sip registration period</i>	Configurable only through the configuration files.
<b>Description</b>	The time in seconds that the 480i CT should use to send re-registration requests to the registrant. The value of this parameter will be used in the expires header field value in the SIP REGISTER request.
<b>Format</b>	Integer
<b>Default Value</b>	3600
<b>Range</b>	Not Applicable
<b>Example</b>	sip registration period: 3600
<b>Parameter –</b> <i>sip session timer</i>	Configurable only through the configuration files
<b>Description</b>	This session timer parameter is the time in seconds that the 480i CT uses to send periodic re-INVITE requests to keep a session alive. The proxy uses these re-INVITE requests to maintain the status' of the connected sessions.
<b>Format</b>	Integer
<b>Default Value</b>	0
<b>Range</b>	Not Applicable
<b>Example</b>	sip session timer: 30
<b>Parameter –</b> <i>sip lineN auth name</i>	Configurable through the configuration files. Configurations done through the 480i's Options List or the Aastra 480i CT web client affect the first line only.
<b>Description</b>	The authorization name that will be used in the username field of the Authorization header field of the SIP REGISTER request.
<b>Format</b>	Text
<b>Default Value</b>	Not Applicable
<b>Range</b>	<i>N</i> in the <i>sip lineN</i> auth name ranges from 1 to 9
<b>Example</b>	sip line1 auth name: 1001



<b>Parameter –</b> <i>sip lineN password</i>	Configurable through the configuration files. Configurations done through the 480i's Options List or the Aastra 480i CT web client affect the first line only.
<b>Description</b>	The password that will be used to register at the registrar.
<b>Format</b>	Text
<b>Default Value</b>	Not Applicable
<b>Range</b>	<i>N</i> in the <i>sip lineN</i> password ranges from 1 to 9
<b>Example</b>	sip line1 password: 12345
<b>Parameter –</b> <i>sip lineN user name</i>	Configurable through the configuration files. Configurations done through the 480i's Options List or the Aastra 480i CT web client affect the first line only.
<b>Description</b>	The value for this parameter is used in the name field of the <i>SIP URI</i> for the 480i CT phone and for registering the 480i CT at the registrar.
<b>Format</b>	Text
<b>Default Value</b>	Not Applicable
<b>Range</b>	<i>N</i> in the <i>sip lineN</i> user name ranges from 1 to 9
<b>Example</b>	sip line1 user name: 1001
<b>Parameter –</b> <i>sip lineN display name</i>	Configurable only through the configuration files.
<b>Description</b>	This is used in the display name field of the <i>From</i> SIP header field. Some IP PBX systems use this as the caller's ID and some may overwrite this with the string that is set at the PBX system.
<b>Format</b>	Text
<b>Default Value</b>	Not Applicable
<b>Range</b>	<i>N</i> in the <i>sip lineN</i> display name ranges from 1 to 9
<b>Example</b>	sip line1 display name: Joe Smith
<b>Parameter –</b> <i>sip lineN screen name</i>	Configurable through the configuration files. Configurations done through the 480i's Options List or the Aastra 480i CT web client affect the first line only.
<b>Description</b>	This is used to display text on the screen of the phone. You may want to set this parameter to display the phone user's name.
<b>Format</b>	Text

# Setting Parameters – SIP Authentication

<b>Default Value</b>	Not Applicable
<b>Range</b>	<i>N</i> in the <i>sip lineN</i> screen name ranges from 1 to 9
<b>Example</b>	sip line1 screen name: Joe Smith

## Setting Parameters – Softkey Settings

This section contains the softkey parameters that can be configured on the 480i CT phone. There are eighteen softkeys that can be configured. These parameters can be configured either from the Aastra.cfg or the <mac>.cfg file. Softkeys can be configured as either speed dials or as additional call/line appearances.

<b>Parameter – <i>softkeyN type</i></b>	Configurable through the configuration files only
<b>Description</b>	The type of soft key that will be configured to.
<b>Format</b>	Text
<b>Default Value</b>	Not Applicable
<b>Range</b>	<i>line</i> or <i>speeddial</i> . <i>N</i> in the <i>softkeyN</i> type ranges from 1 to 18
<b>Example</b>	softkey1 type: line softkey2 type: speeddial
<b>Parameter – <i>softkeyN label</i></b>	Configurable through the configuration files only
<b>Description</b>	The text label that should be displayed for the soft key. If the soft key is of <i>line</i> type an icon appears beside the soft key that indicates the status of the line that this soft key is configured to.
<b>Format</b>	Text
<b>Default Value</b>	Not Applicable
<b>Range</b>	Sequence of ascii characters. A width less than 11 characters for line softkey type and a width less than 9 for the speeddial softkey type is suggested. <i>N</i> in the <i>softkeyN</i> label ranges from 1 to 18
<b>Example</b>	softkey1 label: "Line 9" softkey2 label: "info"
<b>Parameter – <i>softkeyN value</i></b>	Configurable through the configuration files only
<b>Description</b>	If the soft key is of type, <i>line</i> then value should be the line number that this soft key represents. If the softkey is of type, <i>speeddial</i> then value should be the number to speed dial.
<b>Format</b>	Text
<b>Default Value</b>	Not Applicable
<b>Range</b>	<i>line</i> or <i>speeddial</i> . <i>N</i> in the <i>softkeyN</i> value ranges from 1 to 18
<b>Example</b>	softkey1 value: 9 softkey2 value: 411

## Firmware Upgrade

The 480i CT phone uses a TFTP server to download configuration files and firmware. The TFTP server should be ready and be able to accept connections anonymously (without a requirement for a user name and password). See **Appendix B** for information on setting up a TFTP server.

You can download the firmware stored on the TFTP server in one of two ways, by either resetting the phone through the options list of the 480i CT or by activating a firmware download through the web client. Resetting the phone will force the phone to check for both firmware and configuration files stored on the TFTP server.

**Warning: Do not reset or turn off the phone until the download is complete.**

From the 480i CT Phone:

1. Press the **Options** button to enter the Options List.
2. Select option **10. Phone Status** to enter the Phone Status option.
3. Select option **3. Reset Phone**.
4. Press the **Reset** softkey to reset the phone.
5. Press the **Cancel** softkey to cancel the current operation.

From the Web Client:

1. Click on the **Firmware** sub-category under the **ADMIN** main category.
2. Enter the administrator user name and password (the default user name is "admin" and password is "22222").
3. In the **Firmware** field, enter the name of the firmware file that the phone should be upgraded with, as shown in Figure 1. This name must match the actual name of the firmware file residing on your TFTP

server.

4. In the TFTP server IP field enter the IP address of the computer where the TFTP server is located.
5. After entering the information into the appropriate fields click on the "Download Firmware" button. This will start the upgrade process. If the upgrade was successful you will be presented the successful message as shown in Figure 2.

Figure 1



Figure 2



## Troubleshooting

This section describes solutions to some most commonly occurring problems.

### Why does my phone display “Application missing”?

If you have experienced networking issues while the phone was downloading the application from the TFTP server, it is possible that the phone can no longer retrieve the required firmware file. In the event that the phone is no longer able to communicate with the TFTP server in its attempt to re-download the firmware and the phone cannot locate the application locally, this message will be displayed.

The phone will display the following: “Recovery web-client at: <IP Address>”. The IP Address displayed is the IP address of the phone. If the phone is unable to receive an IP from the DHCP server or has lost its record of its static IP, the phone will auto-assign itself the default IP 192.168.0.50.

To recover the firmware for your phone in this circumstance, please perform the following:

1. Launch your web browser on your computer. Please note that your computer will need to be on the same network as your IP phone.
2. In the URL, type: “http://<IP Address>” (where IP Address is the IP Address displayed on the phone). Your browser will launch the **Aastra 480i CT IP Phone Firmware Recovery** page.
3. Enter the name of the firmware file that is on the TFTP server and ready for download. E.g. “firmware.st”.
4. Enter the IP of the TFTP server.
5. Press the Download Firmware button.

Please ensure that the TFTP server is running and accessible on the network. If the firmware file is correctly located on the running TFTP server, the phone will locate the file and reload the application onto the phone.

### Why does my phone display the “No Service” message?

The phone will display the “No Service” message if the SIP settings have not been set up correctly. Check that the SIP settings are correct in the phone. If using the configuration files, this could be a formatting or syntax error. For example, when entering the parameter “sip line1 user name: 5551231234”, you cannot use formatting symbols such as “-” as in “555-123-1234” to format the number or the phone will not recognize it.

### How to reset the 480i CT phone?

From the 480i CT phone:

1. Press the **Options** button to enter the Options List.
2. Select option **10. Phone Status** to enter the Phone Status option.
3. Select option **3. Reset Phone**.
4. Press the **Reset** softkey to reset the phone.
5. Press the **Cancel** softkey to cancel the current operation.

From the web client:

1. Click on the Reset sub-category under the USER main category.
2. On the web page that just opened click on the **Reset** button to reset the phone.

### How to set the 480i CT phone to factory default?

From the 480i CT phone:

1. Press the **Options** button to enter the Options List.

2. Select option **10. Phone Status** to enter the Phone Status Options list.
3. Select option **4. Factory Default**.
4. Enter the administrator password and press the **Enter** softkey.
5. Press the **Default** softkey to restore the 480i CT to the factory's default settings.
6. Press the **Cancel** softkey to cancel the operation.

## How to reset a user's password?

If a 480i CT user has forgotten the password the following steps can be performed to reset the password.

From the web client:

1. Click on the Password sub-category under the **USER** main category.
2. Enter the administrator level user password in the Current Password field. Enter the new password for the user (the user's name for whom the password is being modified is displayed beside the User Name field on the current page). Re-enter the password to confirm the new password.
3. Click on the Set Password button to complete the operation.

## Appendix A: Configuring the 480i CT at the Asterisk IP PBX

The following configuration illustrates how to create a user with an extension to make and receive calls using the Asterisk as the PBX. This configuration is defined in the “sip.conf” file present along with the other configuration files that are created when Asterisk is installed. Usually, the configuration files can be found at the “/etc/asterisk” directory.

```

;This is used in the “extensions.conf” file to identify this
;physical phone when issuing Dial commands.
[phone1]

;The type to use for the 480i CT is “friend”.
;“Peer” is used when the Asterisk is contacting a proxy,
;“user” is used for phones that can only make calls
;and “friend” acts as both a peer and a user.
type=friend

;If your host has an entry in your DNS then you just enter the
;machines name in the host= field.
host=dynamic
defaultip=192.168.1.1      ;default IP address that the phone is
                           ;configured to

;The password that phone1 will use to register with this PBX
secret=1234

dtmfmode=rfc2833          ;Choices are inband, rfc2833, or info
mailbox=1000              ;Mailbox for message waiting indicator

;If a phone is not in a valid context you will not be
;able to use it. In this example ‘sip’ is used. You can use
;whatever you like, but make sure they are the same, you will
;need to make an entry in your extensions.conf file (which we
;will get to later)
context=sip
callerid="Phone 1" <1234>

```

After this is defined in the “sip.conf” file, some information has to be entered in the “extensions.conf” file present in the same directory as the “sip.conf” file. The following definition in the file under the [sip]section/context completes defining the extension for the 480i CT phone.

```
exten => 1234,1,Dial(SIP/phone1,20)
```

This definition completes configuring the 480i CT phone at the IP PBX system. To verify whether the extension has been successfully registered at the IP PBX system, enter the Asterisk console and reload Asterisk. Use the command “sip show peers” at the console. This will display the extensions that are registered at the IP PBX system.

<i>Name/username</i>	<i>Host</i>	<i>Mask</i>	<i>Port</i>	<i>Status</i>
<i>phone1/phone1</i>	<i>192.168.1.1</i>	<i>(D) 255.255.255.255</i>	<i>5060</i>	<i>Unmonitored</i>

This completes the basic set-up for the 480i CT phone with 1234 extension at the Asterisk IP PBX system. Refer to Asterisk documentation for set-up on extended or advanced features such as voice mail and call forwarding, etc.



## Appendix B: Sample Configuration Files

This section consists of the sample configuration files necessary to configure the 480i CT phones. The general format is similar to configuration files used by several Unix-based programs. Any text following a number sign (#) on a line is considered to be a comment, unless the # is contained within double-quotes. Currently, Boolean fields use 0 for false and 1 for true.

### aastra.cfg

```
#      Generic SIP Sample Configuration File
#      =====

#      Date: December 16th, 04

#      File: Sample "aastra.cfg" file

# Notes:
# The general format used here is similar to configuration files
# used by several UNIX-based programs. Any text following a number
# sign (#) is considered to be a comment, unless the number sign is
# contained within double-quotes ("#") where it is considered to be
# a pound. For Boolean fields, 0 = false, 1 = true.

# Comments:
# This file contains sample configurations for the "aastra.cfg"
# file. The settings included here are examples only. You should
# change/comment the values to suit your requirements.

# The Aastra 480i CT IP phones will download 2 configuration files
# from the TFTP server while restarting, the "aastra.cfg" file and
# the "[mac].cfg" file. These two configuration files can be used to
# configure all of the settings of the Aastra 480i CT phone with the
# exception of assigning a static IP address to a phone and line
# settings, which can only be set in the "<mac>.cfg" file.

# The "aastra.cfg" file configures the settings server wide, while the
# "[mac].cfg" file configures only the phone with the MAC address
# for which the file is named (for example, "00085d0304f4.cfg").
# The settings in the "aastra.cfg" file will be overridden by settings
# which also appear in the "<mac>.cfg" file.

#-----
Continued...
```

```
# DHCP Setting
# =====
```

```
dhcp: 1           # DHCP enabled.
```

```
# DHCP:
```

```
# 0 = false, means DHCP is disabled.
```

```
# 1 = true, means DHCP is enabled.
```

```
# Notes: If DHCP is disabled, the following network settings will
# have to be configured manually either through the configuration
# files, the Options List in the phone, or the Web Client: IP
# Address (of the phone), Subnet Mask, Gateway, DNS, and TFTP
# Server.
```

```
#-----
```

```
# Network Settings
```

```
# =====
```

```
# Notes: If DHCP is enabled, you do not need to set these network
# settings
```

```
#ip:             # This value is unique to each phone on a server
                 # and should be set in the "<mac>.cfg" file if
                 # setting this manually.
```

```
#subnet mask:
```

```
#default gateway:
```

```
#dns1:
```

```
#dns2:
```

```
#tftp server:
```

```
# Additional Network Settings:
```

```
=====
```

```
#sip registration period: 300 # Eg. every 300 seconds, a re-register
                             # request is sent to the SIP server.
```

```
#sip rtp port: 3000          # Eg. RTP packets are sent to port 3000.
```

```
#-----
```

Continued...

```
# SIP registrar and Proxy Server Settings
# =====

#sip proxy ip:           # IP of proxy server.
#sip proxy port: 5060    # 5060 is set by default.
#sip registrar ip:      # IP of registrar.
#sip registrar port: 5060 # 5060 is set by default.

sip digit time out: 4    # dialing behaviour

#-----

# Time Server Settings
# =====

#time server disabled: 1 # Time server disabled.
#time server1:          # Enable time server and enter at
#time server2:          # least one time server IP address.
#time server3:

# Time Server Disabled:
# 0 = false, means the time server is not disabled.
# 1 = true, means the time server is disabled.

#-----

# Line Settings
# =====

# Lines should be set in the <mac>.cfg file since these settings
# are unique to each phone. See the sample "<mac>.cfg" file for
# for more information.

#-----
```

```

# Softkey Settings
# =====

# Softkeys can be set either server wide or unique to each phone.
# Setting softkeys as line/call appearances should be done in the
# "<mac>.cfg" file, since these are unique to each phone.

# Notes: There are a maximum of 18 softkeys that can be configured
# on the 480i CT phone. These can be set up through either of the 2
# configuration files, depending on whether this is to be server
# wide ("aastra.cfg") or phone specific ("[mac].cfg").
# Each softkey needs to be numbered from 1 - 18, for example
# "softkey12 type: speeddial". Softkeys can be set up as speeddials
# or as additional call/line appearances and have a type, label
# and value associated with it as seen here in the default softkey
# settings.

# SOFTKEY TYPES: "line", "speeddial"
# SOFTKEY LABEL: Alpha numeric name for the softkey. The maximum
# number of characters for this value is 10 for
# speeddials and 9 for lines.
# SOFTKEY VALUE: If softkey type is a speeddial, any DTMFs (from
# 0 - 9, *, "#") or a comma (,) for 500ms pause and
# 'E' for On-hook can be set for the value. If
# softkey type is line, enter value as a number from
# 5 up to 9 (1 - 4 are already hardcoded as the L1,
# L2, L3 and L4 hard key line/call appearances)

# Example Softkey Speed Dials
# =====

softkey1 type: speeddial
softkey1 label: "Ext Pickup"
softkey1 value: *8

softkey2 type: speeddial
softkey2 label: "Call Return"
softkey2 value: *69

```

Continued...

```

softkey3 type: speeddial
softkey3 label: "CallFwdOn"
softkey3 value: *72

softkey4 type: speeddial
softkey4 label: "CallFwdOff"
softkey4 value: *73

softkey5 type: speeddial
softkey5 label: "DND On"
softkey5 value: *78

softkey6 type: speeddial
softkey6 label: "DND Off"
softkey6 value: *79

softkey7 type: speeddial
softkey7 label: "CLIDBlock"
softkey7 value: *67

softkey8 type: speeddial
softkey8 label: "Cancel CW"
softkey8 value: *70

softkey9 type: speeddial
softkey9 label: "Blacklist"
softkey9 value: *60

```

```

# Example Softkey Line/Call Appearances
# =====

# For the examples of softkey line/call appearances, please
# refer to the sample "<mac>.cfg" file.

#-----

# For more information on parameters that can be set in the
# configuration files, please refer to your administration guide
# for the 480i CT IP phone.

#-----

```

## &lt;mac&gt;.ctg

```

#      Generic SIP Sample Configuration File
#      =====

#      Date: December 16th, 04

#      File: Sample "<mac>.cfg" file

# Comments:
# This file contains sample configurations for the "<mac>.cfg" file. Please rename
# this file with the MAC address (with the dashes removed) of the specific 480i CT
# device that you want to configure, for example "00085d03059f.cfg".

# Settings that have already appeared in "aastra.cfg" will be
# overridden by those in this file.

# Parameters can be set in either the "<mac>.cfg" file or the "aastra.cfg" file,
# with the exception of assigning a static IP address to a phone which can
# only be set in the "<mac>.cfg" file. For more details on sample settings
# see the sample "aastra.cfg" file.

#-----

#      DHCP Setting
#      =====

# Notes: To set a static IP address, you must first disable DHCP. If
# DHCP is disabled, you will also need to manually configure Subnet
# Mask, Gateway, DNS, and TFTP Server settings.

# DHCP:
# 0 = false, means DHCP is disabled.
# 1 = true, means DHCP is enabled.

#dhcp: 0          # DHCP disabled.

#-----

Continued...

```

```
# Network Settings
# =====

#ip:      # This value is unique to each phone on a server
          # and should be set in the "<mac>.cfg" file if
          # setting this manually.

#-----

# Line Settings
# =====

# Lines should be set in the <mac>.cfg file since these settings
# are unique to each phone.

# Notes: Setting parameters for lines 1 - 4 configures the 4
# line/call appearance hard keys on the 480i. Setting parameters
# for lines 5 - 9 configures the phone for additional line/call
# appearances that can be set up as softkeys.
```

```
# The maximum number of line/call appearances that can be
# configured on the 480i CT is 8 or 9, depending on how the lines
# have been configured.

# If all line/call appearances have been set up for the same
# number, a total of 9 lines can be configured. If all line/call
# appearances have been set up between two different numbers, a
# total of 8 lines can be configured. This means that when all
# line/call appearances are in use, 1 is connected while the rest
# are held. No further outgoing or incoming calls can be made until
# one of the line/call appearances becomes available.

Continued...
```

```

# Explanation of Settings with Line 1 as Example
# =====

#sip line1 auth name: # SIP Registrar request authorization name.
#sip line1 password: # SIP Registrar request passcode.
#sip line1 user name: # This parameter value is used by the 480i CT
# in the From header field of the outgoing
# SIP packet. It may be replaced by your
# registrar.
#sip line1 display name: # Name used for SIP messages.
#sip line1 screen name: # User's name seen on the idle screen of the
# user's phone.

# Example Settings for Lines 2-9
# =====

#sip line2 auth name: authname
#sip line2 password: password
#sip line2 user name: 5551231234
#sip line2 display name: Joe Smith
#sip line2 screen name: Joe Smith

#sip line3 auth name: authname
#sip line3 password: password
#sip line3 user name: 5551231234
#sip line3 display name: Joe Smith
#sip line3 screen name: Joe Smith

#sip line4 auth name: authname
#sip line4 password: password
#sip line4 user name: 5551231234
#sip line4 display name: Joe Smith
#sip line4 screen name: Joe Smith

#sip line5 auth name: authname
#sip line5 password: password
#sip line5 user name: 5551231234
#sip line5 display name: Joe Smith
#sip line5 screen name: Joe Smith

```

Continued...



```

#sip line7 auth name: authname
#sip line7 password: password
#sip line7 user name: 5551231234
#sip line7 display name: Joe Smith
#sip line7 screen name: Joe Smith

#sip line8 auth name: authname
#sip line8 password: password
#sip line8 user name: 5551231234
#sip line8 display name: Joe Smith
#sip line8 screen name: Joe Smith

#sip line9 auth name: authname
#sip line9 password: password
#sip line9 user name: 5551231234
#sip line9 display name: Joe Smith
#sip line9 screen name: Joe Smith

#-----

# Softkey Settings
# =====

# Softkeys can be set either server wide or unique to each phone.
# Setting softkeys as line/call appearances should be done in the
# "<mac>.cfg" file, since these are unique to each phone.

# Notes: There are a maximum of 18 softkeys that can be configured
# on the 480i CT phone. These can be set up through either of the 2
# configuration files, depending on whether this is to be server
# wide ("astra.cfg") or phone specific ("[mac].cfg").
# Each softkey needs to be numbered from 1 - 18, for example
# "softkey12 type: speeddial". Softkeys can be set up as speeddials
# or as additional call/line appearances and have a type, label
# and value associated with it as seen here in the default softkey
# settings.

```

Continued...

```
# Softkey Speed Dials
# =====

# For the default softkey speed dials, please refer to the sample
# "aastra.cfg" file.

# Example Softkey Line/Call Appearances
# =====

#softkey1 type: line
#softkey1 label: "Line 5"
#softkey1 value: 5

#softkey2 type: line
#softkey2 label: "Line 6"
#softkey2 value: 6

#softkey3 type: line
#softkey3 label: "Line 7"
#softkey3 value: 7

#softkey4 type: line
#softkey4 label: "Line 8"
#softkey4 value: 8

#softkey5 type: line
#softkey5 label: "Line 9"
#softkey5 value: 9

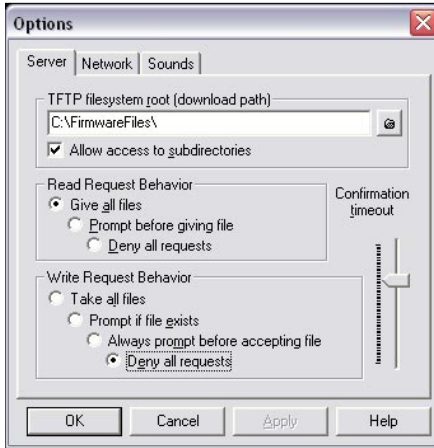
#-----

# For more information on parameters that can be set in the
# configuration files, please refer to your administration guide
# for the 480i CT IP phone.

#-----
```

## Appendix C: TFTP Server Set-up

There are a number of TFTP servers available. PumpKIN is one of such TFTP servers. Use the keywords “pumpkin TFTP server” on Google and you should get the web site where you can download the software from. Installing PumpKIN is straightforward. To configure the directory from where you would be serving the files, click on the Options button on PumpKIN’s main window as shown in the following figure.



It is important to select the “Give all files” radio button under the “Read Request Behavior” category. This makes the files to be served without any manual intervention when requested.

If you want to prevent users from writing files to the directory select the “Deny all requests” in the “Write Request Behavior” category. Click the OK button after you have entered all the required information. All the firmware files should be in the file system root directory. Currently we do not support downloads from files present in sub-directories. Consult PumpKIN’s documentation if you need more information on how to set-up the TFTP server.

## Limited Warranty

Aastra Telecom warrants this product against defects and malfunctions during a one (1) year period from the date of original purchase. If there is a defect or malfunction, Aastra Telecom shall, at its option, and as the exclusive remedy, either repair or replace the telephone set at no charge, if returned within the warranty period.

If replacement parts are used in making repairs, these parts may be refurbished, or may contain refurbished materials. If it is necessary to replace the telephone set, it may be replaced with a refurbished telephone of the same design and color. If it should become necessary to repair or replace a defective or malfunctioning telephone set under this warranty, the provisions of this warranty shall apply to the repaired or replaced telephone set until the expiration of ninety (90) days from the date of pick up, or the date of shipment to you, of the repaired or replacement set, or until the end of the original warranty period, whichever is later. Proof of the original purchase date is to be provided with all telephone sets returned for warranty repairs.

### Exclusions

Aastra Telecom does not warrant its telephone sets to be compatible with the equipment of any particular telephone company. This warranty does not extend to damage to products resulting from improper installation or operation, alteration, accident, neglect, abuse, misuse, fire or natural causes such as storms or floods, after the telephone is in your possession.

Aastra Telecom shall not be liable for any incidental or consequential damages, including, but not limited to, loss, damage or expense directly or indirectly arising from the customers use of or inability to use this telephone, either separately or in combination with other equipment. This paragraph, however, shall not apply to

consequential damages for injury to the person in the case of telephones used or bought for use primarily for personal, family or household purposes.

This warranty sets forth the entire liability and obligations of Aastra Telecom with respect to breach of warranty, and the warranties set forth or limited herein are the sole warranties and are in lieu of all other warranties, expressed or implied, including warranties or fitness for particular purpose and merchantability.

### Warranty Repair Services

Should the set fail during the warranty period;

**In North America**, please call 1-800-574-1611 for further information.

**Outside North America**, contact your sales representative for return instructions.

You will be responsible for shipping charges, if any. When you return this telephone for warranty service, you must present proof of purchase.

### After Warranty Service

Aastra Telecom offers ongoing repair and support for this product. This service provides repair or replacement of your Aastra Telecom product, at Aastra Telecom's option, for a fixed charge. You are responsible for all shipping charges. For further information and shipping instructions;

**In North America**, contact our service information number: 1-800-574-1611.

**Outside North America**, contact your sales representative.

**Note:** Repairs to this product may be made only by the manufacturer and its authorized agents, or by others who are legally authorized. This restriction applies during and after the warranty period. Unauthorized repair will void the warranty.