

Aastra 480i

Asterisk Interoperability Report

Asterisk Interoperability Reports describe the certification testing performed by Digium on the specified product and Asterisk Business Edition. Each Supported feature of the device under test is described as well as how the device was configured to work with Asterisk during testing.

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Aastra 480i

Form: Asterisk Interoperability Report

SIP Device Summary

Make:	Aastra480i
Firmware:	1.4.0.1048
Tested With:	Asterisk B.E. B.1.1

Product Description

The Aastra 480i is a versatile SIP phone featuring a large screen with 6 softkeys that may be configured to act as shortcuts to menu actions, launcher for custom xml applications as well as speed dial extensions with SIP presence.

Features Tested and Confirmed Working

- **Call Hold and Retrieve**
- **Call Waiting**
- **Call Transfer and Divert**
- **Other Party Identification (Caller ID)**
- **Conferencing**
- **Call History**
- **Do not Disturb**
- **Message Waiting Identification (Voicemail Alerts)**
- **Call Forwarding**
- **SIP Presence / Busy Lamp Field (Requires Asterisk B.E. Version B.1)**

Asterisk Configuration

For the basic configuration of a SIP device within Asterisk requires the configuration of three configuration files: sip.conf for setting up the SIP device channel (including registration information, channel name, etc.), extensions.conf (for configuring SIP device extension), and voicemail.conf (for configuration of voice-mailbox). The following code snippets were used to configure the Aastra 480i for interoperability testing.

sip.conf	voicemail.conf
<pre>[aas480i] type=friend context=sip-phones username=aas480i secret=blah host=dynamic mailbox=4800@default defaultip=192.168.0.66 dtmfmode=rfc2833</pre>	<pre>4800 => 5555,Aastra480i,<email></pre>
extensions.conf	
Using old=style n+101 extensions:	
<pre>[sip-phones] ... exten => 4800,1,Dial(SIP/aas480i,15) exten => 4800,2,VoiceMail(u4800) exten => 4800,3,Hangup exten => 4800,102,VoiceMail(b4800) exten => 4800,103,Hangup ...</pre>	
Using stdexten macro:	
<pre>[sip-phones] ... exten => 4800,1,Macro(stdexten,4800,SIP/aas480i) ...</pre>	
Hints for SIP presence:	
<pre>[buddypress] ... exten => 4800,hint,SIP/aas480i exten => 4800,1,Macro(line,\${aas480i})</pre>	

SIP Device Configuration

Configuration overview:

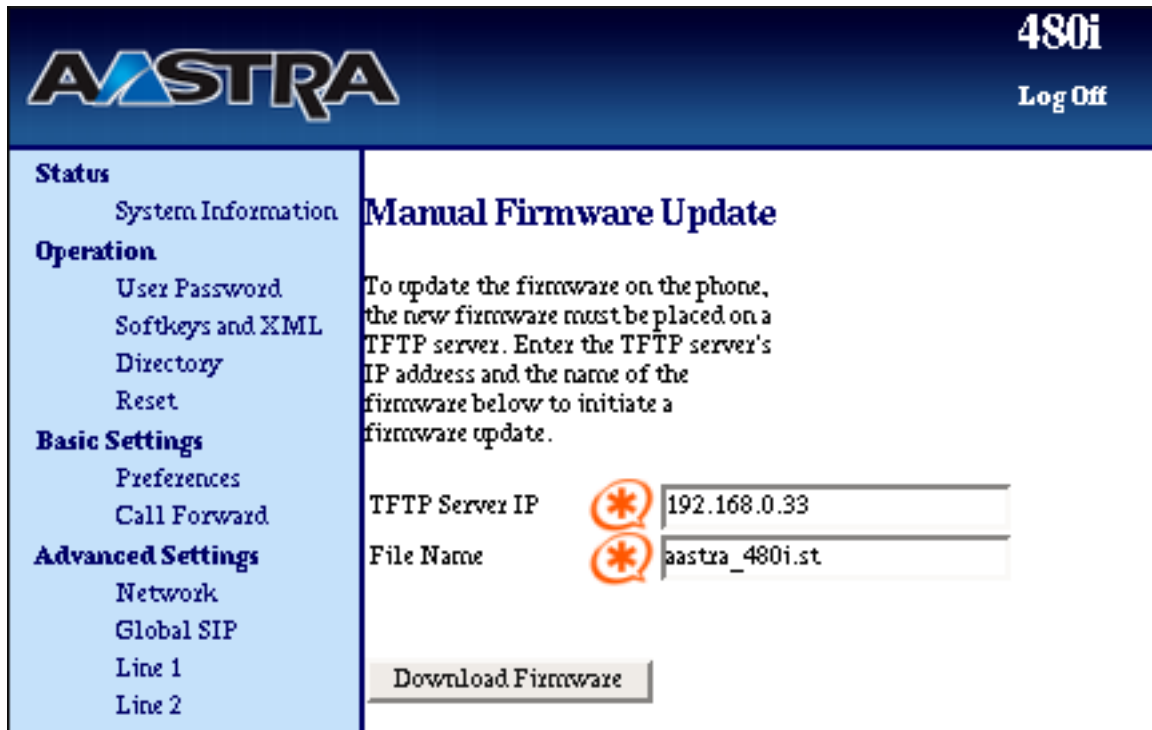
The 480i can be configured in any of these ways:

1. Navigating the web configuration interface
2. Editing phone configuration files on the TFTP server
3. Configuring the phone through the phone's internal menu system

Web Configuration

The most vital configurations to the phone can be made easily through the phone's web interface. The 6 sections that must be configured are: Firmware, Global SIP, Network Settings, Configuration Server, SoftKeys and XML, and the individual Line configuration pages.

Firmware



The screenshot shows the web configuration interface for an Aastra 480i phone. The top header features the Aastra logo on the left and the text '480i' and 'Log Off' on the right. A left-hand navigation menu is visible, with categories: Status (System Information), Operation (User Password, Softkeys and XML, Directory, Reset), Basic Settings (Preferences, Call Forward), and Advanced Settings (Network, Global SIP, Line 1, Line 2). The main content area is titled 'Manual Firmware Update' and contains the following text: 'To update the firmware on the phone, the new firmware must be placed on a TFTP server. Enter the TFTP server's IP address and the name of the firmware below to initiate a firmware update.' Below this text are two input fields: 'TFTP Server IP' with the value '192.168.0.33' and 'File Name' with the value 'aastra_480i.st'. Each field has an Asterisk logo icon to its left. At the bottom of the form is a 'Download Firmware' button.

Global SIP


Settings in this section are not strictly necessary since they can be set in the individual Line settings page for each "line" the phone registers to and uses; however, since in many cases the authentic user name and password, Caller ID information, etc. remain the same on all Lines, it is helpful to complete this configuration page.



Global SIP Settings	
Basic SIP Authentication Settings	
Screen Name	aa480i
Phone Number	4800
Caller ID	Aastra 480i
Authentication Name	aa480i
Password	****
BLA Number	4800
Line Mode	Generic
Basic SIP Network Settings	
Proxy Server	zhea
Proxy Port	5060
Outbound Proxy Server	0.0.0.0
Outbound Proxy Port	0
Registrar Server	zhea
Registrar Port	5060
Registration Period	0

Network Settings

The only configuration necessary to make in this section is enabling NTP and specifying the NTP server to connect to. Unless of course one needs to specify a static IP, DNS information, NAT, etc.



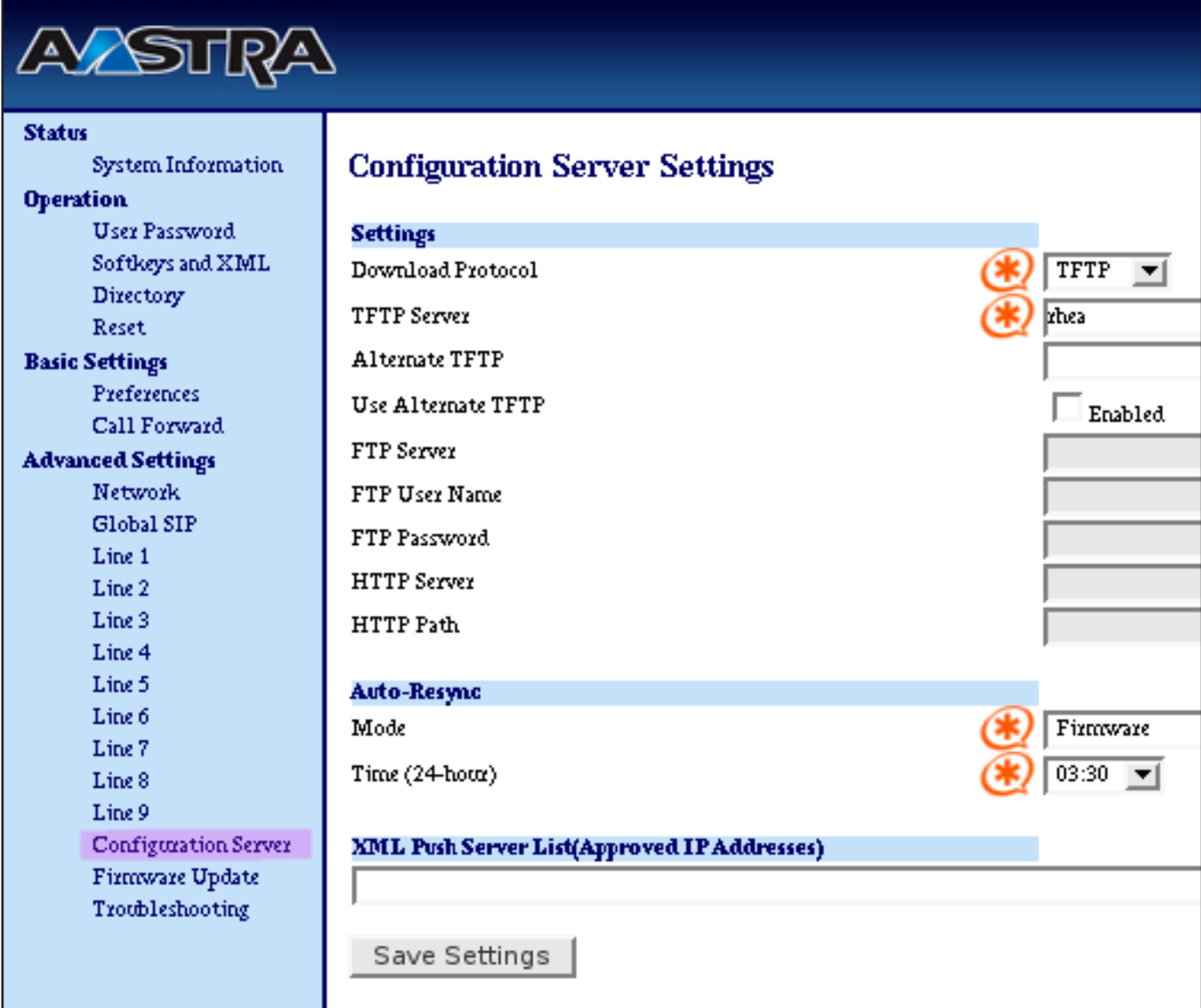
480i

Log Off

<p>Status</p> <ul style="list-style-type: none"> System Information <p>Operation</p> <ul style="list-style-type: none"> User Password Softkeys and XML Directory Reset <p>Basic Settings</p> <ul style="list-style-type: none"> Preferences Call Forward <p>Advanced Settings</p> <ul style="list-style-type: none"> Network Global SIP Line 1 Line 2 Line 3 Line 4 Line 5 Line 6 Line 7 Line 8 Line 9 Configuration Server Firmware Update Troubleshooting 	<h3 style="margin-top: 0;">Network Settings</h3> <p>Basic Network Settings</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">DHCP</td> <td style="text-align: right;"><input checked="" type="checkbox"/> Enabled</td> </tr> <tr> <td>IP Address</td> <td><input type="text" value="192.168.0.23"/></td> </tr> <tr> <td>Subnet Mask</td> <td><input type="text" value="255.255.255.0"/></td> </tr> <tr> <td>Gateway</td> <td><input type="text" value="192.168.0.1"/></td> </tr> <tr> <td>Primary DNS</td> <td><input type="text" value="192.168.0.1"/></td> </tr> <tr> <td>Secondary DNS</td> <td><input type="text" value="0.0.0.0"/></td> </tr> </table> <p>Advanced Network Settings</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">NAT IP</td> <td><input type="text" value="0.0.0.0"/></td> </tr> <tr> <td>NAT Port</td> <td><input type="text" value="0"/></td> </tr> <tr> <td>Nortel NAT Traversal Enabled</td> <td><input type="text" value="No"/></td> </tr> <tr> <td>Nortel NAT Timer (seconds)</td> <td><input type="text" value="60"/></td> </tr> <tr> <td>NTP Time Servers</td> <td style="text-align: right;"><input checked="" type="checkbox"/> Enabled</td> </tr> <tr> <td>Time Server 1</td> <td><input type="text" value="time"/></td> </tr> <tr> <td>Time Server 2</td> <td><input type="text" value="pool.ntp.org"/></td> </tr> <tr> <td>Time Server 3</td> <td><input type="text" value="0.0.0.0"/></td> </tr> </table> <p>Type of Service, DSCP</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">SIP</td> <td><input type="text" value="24"/></td> </tr> </table>	DHCP	<input checked="" type="checkbox"/> Enabled	IP Address	<input type="text" value="192.168.0.23"/>	Subnet Mask	<input type="text" value="255.255.255.0"/>	Gateway	<input type="text" value="192.168.0.1"/>	Primary DNS	<input type="text" value="192.168.0.1"/>	Secondary DNS	<input type="text" value="0.0.0.0"/>	NAT IP	<input type="text" value="0.0.0.0"/>	NAT Port	<input type="text" value="0"/>	Nortel NAT Traversal Enabled	<input type="text" value="No"/>	Nortel NAT Timer (seconds)	<input type="text" value="60"/>	NTP Time Servers	<input checked="" type="checkbox"/> Enabled	Time Server 1	<input type="text" value="time"/>	Time Server 2	<input type="text" value="pool.ntp.org"/>	Time Server 3	<input type="text" value="0.0.0.0"/>	SIP	<input type="text" value="24"/>
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Configuration Settings


This page allows one to configure the TFTP (or FTP) server.



The screenshot shows the Aastra 480i web interface. On the left is a navigation menu with categories: Status (System Information), Operation (User Password, Softkeys and XML, Directory, Reset), Basic Settings (Preferences, Call Forward), and Advanced Settings (Network, Global SIP, Line 1-9, Configuration Server, Firmware Update, Troubleshooting). The 'Configuration Server' option is highlighted. The main content area is titled 'Configuration Server Settings' and is divided into three sections: 'Settings', 'Auto-Resync', and 'XML Push Server List(Approved IP Addresses)'. The 'Settings' section includes fields for Download Protocol (TFTP), TFTP Server (zhe), Alternate TFTP, Use Alternate TFTP (checkbox), FTP Server, FTP User Name, FTP Password, HTTP Server, and HTTP Path. The 'Auto-Resync' section includes Mode (Firmware) and Time (24-hour) (03:30). The 'XML Push Server List' section is currently empty. A 'Save Settings' button is located at the bottom of the configuration area.

Line Settings

These pages (Line 1 – Line 9) are used to configure registration and network settings for individual Lines.

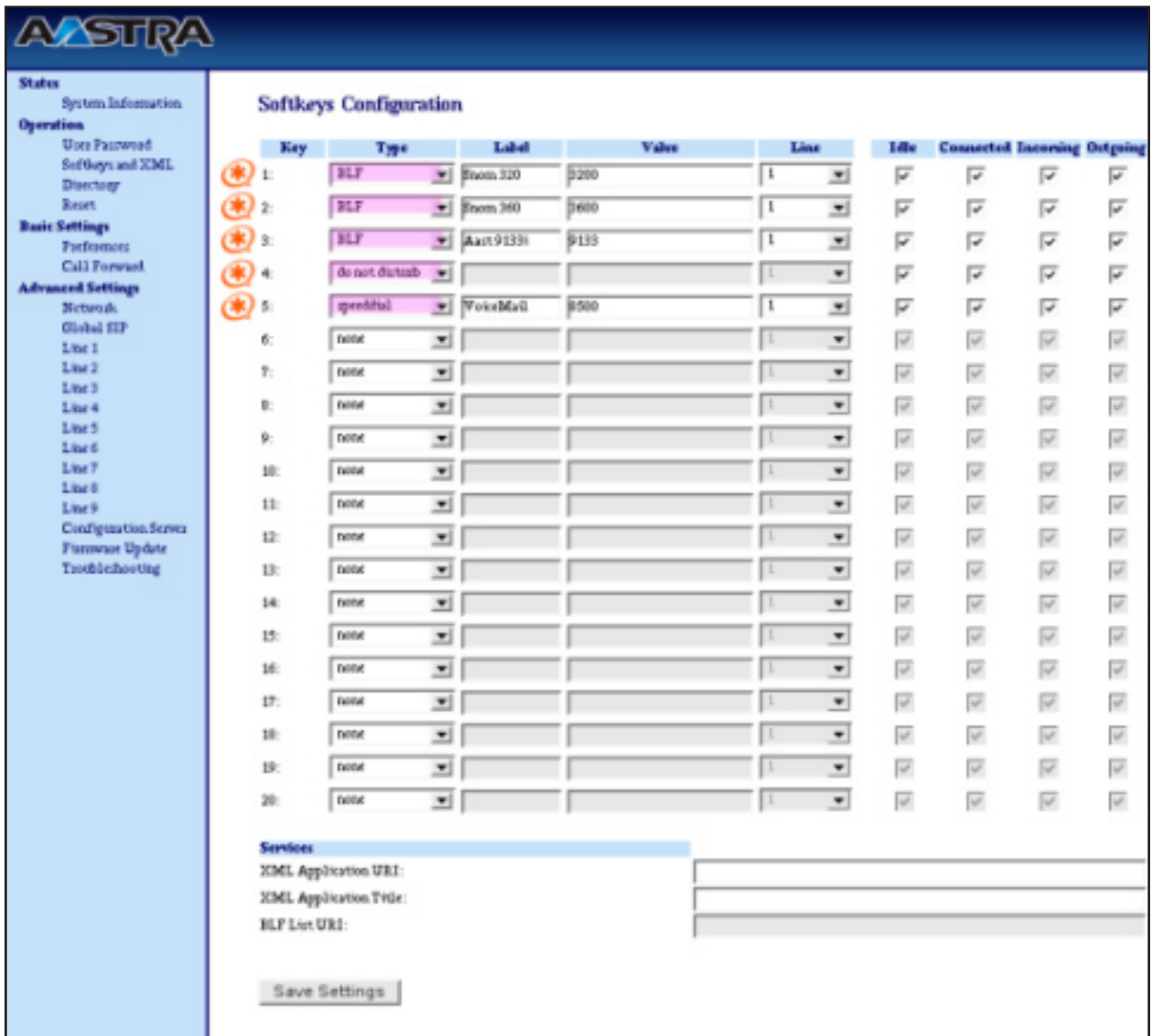


<p>Status</p> <ul style="list-style-type: none"> System Information <p>Operation</p> <ul style="list-style-type: none"> User Password Softkeys and XML Directory Reset <p>Basic Settings</p> <ul style="list-style-type: none"> Preferences Call Forward <p>Advanced Settings</p> <ul style="list-style-type: none"> Network Global SIP <li style="background-color: #e6f2ff;">Line 1 Line 2 Line 3 Line 4 Line 5 Line 6 Line 7 Line 8 Line 9 Configuration Server Firmware Update Troubleshooting 	<h3>Configuration Line 1</h3> <div style="background-color: #e6f2ff; padding: 2px; margin-bottom: 5px;">Basic SIP Authentication Settings</div> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 70%;">Screen Name</td><td style="width: 5%; text-align: center;">*</td><td style="width: 25%;">Aastra 480i</td></tr> <tr><td>Phone Number</td><td style="text-align: center;">*</td><td>aa480i</td></tr> <tr><td>Caller ID</td><td style="text-align: center;">*</td><td>Aastra 480i</td></tr> <tr><td>Authentication Name</td><td style="text-align: center;">*</td><td>aa480i</td></tr> <tr><td>Password</td><td style="text-align: center;">*</td><td>****</td></tr> <tr><td>BLA Number</td><td></td><td></td></tr> <tr><td>Line Mode</td><td></td><td>Generic</td></tr> </table> <div style="background-color: #e6f2ff; padding: 2px; margin-bottom: 5px;">Basic SIP Network Settings</div> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 70%;">Proxy Server</td><td style="width: 5%; text-align: center;">*</td><td style="width: 25%;">zhea</td></tr> <tr><td>Proxy Port</td><td></td><td>0</td></tr> <tr><td>Outbound Proxy Server</td><td></td><td>0.0.0.0</td></tr> <tr><td>Outbound Proxy Port</td><td></td><td>0</td></tr> <tr><td>Registrar Server</td><td style="text-align: center;">*</td><td>zhea</td></tr> <tr><td>Registrar Port</td><td></td><td>0</td></tr> <tr><td>Registration Period</td><td></td><td>0</td></tr> </table> <div style="background-color: #e6f2ff; padding: 2px; margin-bottom: 5px;">RTP Settings</div> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 70%;">DTMF Method</td><td style="width: 25%;">RTP</td></tr> </table> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Save Settings"/> </div>	Screen Name	*	Aastra 480i	Phone Number	*	aa480i	Caller ID	*	Aastra 480i	Authentication Name	*	aa480i	Password	*	****	BLA Number			Line Mode		Generic	Proxy Server	*	zhea	Proxy Port		0	Outbound Proxy Server		0.0.0.0	Outbound Proxy Port		0	Registrar Server	*	zhea	Registrar Port		0	Registration Period		0	DTMF Method	RTP
Screen Name	*	Aastra 480i																																											
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Registrar Port		0																																											
Registration Period		0																																											
DTMF Method	RTP																																												

9

Softkeys and XML

This page is used for configuring the SoftKeys (used for holding extensions, lines, etc.) and for configuring the phone to utilize XML applications.



ASTRA

States

- System Information

Operation

- User Password
- Softkeys and XML
- Directory
- Reset

Basic Settings

- Performance
- Call Forward

Advanced Settings

- Network
- Global SIP
- Line 1
- Line 2
- Line 3
- Line 4
- Line 5
- Line 6
- Line 7
- Line 8
- Line 9
- Configuration Server
- Firmware Update
- Troubleshooting

Softkeys Configuration

Key	Type	Label	Value	Line	Idle	Connected	Incoming	Outgoing
1:	BLF	From 320	3200	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2:	BLF	From 360	3600	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3:	BLF	Aast9133i	9133	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4:	do not disturb			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5:	speedial	VoiceMail	8000	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
13:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
14:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
16:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
17:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
18:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
19:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20:	none			1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Services

XML Application URI: _____

XML Application Title: _____

BLF List URI: _____

Phone Configuration Settings

There are two configuration files one can edit in order to configure the Aastra 480i. First is the `aastra.cfg` file, which contains the settings for all aastra phones utilizing that TFTP server, the second is the `<mac>.cfg` (where `<mac>` is the phone's mac address) which contains phone specific settings. Below are samples of said configuration files.

`aastra.cfg`

```
# Aastra Telecom Inc.
# Common settings for all Aastra IP Phones. Any parameter
# listed in this file can be
# overwritten by the same parameter in <mac>.cfg file.

#Time Server Settings
#time server disabled: 0
#time server1: pool.ntp.org

#Sip Settings
sip proxy ip: 0.0.0.0
sip proxy port: 5060
sip registrar ip: 0.0.0.0
sip registrar port: 5060
sip outbound proxy:
sip outbound proxy port:

sip registration period: 3600
sip registration retry timer: 30

sip use basic codecs: 1
sip line1 vmail:

#sip intercom type: 2
#sip intercom prefix code: *55

web interface enabled: 1

#Daily Resync of cfg and firmware files
#auto resync mode: 3
#auto resync time: 23:30

#Server-based directory download
#directory 1: mydirectory.csv
```

<mac-address>.cfg

```
# Aastra Telecom Inc.
# This file contains specific settings for the phone with the
MAC
# address for which this file was named.  Settings which have
already
# appeared in aastra.cfg will be overridden by those in this
file.

#line info
#line 1
sip line1 auth name: aas480i
sip line1 password: blah
sip line1 mode: 0
sip line1 user name: aas480i
sip line1 display name: Aastra480i
sip line1 screen name: Aastra480i

# Softkey Settings
softkey1 type: speeddial
softkey1 label: Voicemail
softkey1 value: 8500
softkey1 line:
softkey1 states: idle

softkey2 type: dnd
softkey2 label: DND
softkey2 value:
softkey2 line:
softkey2 states: idle

softkey3 type: blf
softkey3 label: Snom 360
softkey3 value: 3600
softkey3 line: 1
```

Test Reports

The following test reports give an overview of the tests performed, as well as their objectives and expected and actual results.

<i>Hold and Retrieve</i>	
Test Objective:	Verify that a call can be placed on hold, other calls can be made, and the original call can be retrieved.
Procedure:	Place a call to the 480i and place the calling party on hold. Then from the 480i call out to another party, disconnect newest call and retrieve the call on hold.
Expected Results:	The call will be placed on hold and can be retrieved whenever.
Actual Results:	As expected.
Status:	Pass

<i>Call Waiting</i>	
Test Objective:	Verify that call waiting is functional, allowing a new call to be answered by placing existing conversing party on hold.
Procedure:	Place a call to the 480i and answer it, with another device call the 480i. Place the first calling party on hold the answer the new call. Hangup (or place on hold) and resume the conversation with the first calling party.
Expected Results:	The original caller will be on hold until new caller is disconnected or put on hold itself.
Actual Results:	As expected.
Status:	Pass

<i>Transfer and Divert</i>	
Test Objective:	Verify transferring calls works using the transfer button on the SIP phone.
Procedure:	Place a call to the 480i during the conversation press "Xfer" dial the number of the party to which you will be transferring the call, then after connection is established with said party, press "Xfer" once more to complete the transfer.
Expected Results:	The call will be successfully transferred via the attended transfer method.
Actual Results:	As expected.
Status:	Pass

<i>Other Party Identification</i>	
Test Objective:	Verify the phone displays the proper caller ID information.
Procedure:	Place a call to the 480i and verify caller ID information is displayed correctly.
Expected Results:	Caller ID information should be displayed upon receiving a call.
Actual Results:	As expected.
Status:	Pass

<i>Conferencing</i>	
Test Objective:	Verify that conferences can be initiated using the Conf option within the phone itself.
Procedure:	Place a call to the first conference member then press "Conf" then dial the second member for the conference then press "Conf" once more to bridge all members.
Expected Results:	The conference should be initiated using the "Conf" button option.
Actual Results:	As expected.
Status:	Pass

Call History	
Test Objective:	Verify that an accurate call history is recorded and displayed from within the phone.
Procedure:	Place a few answered as well as missed calls to the phone and then press "Services" then select "Callers Lists" browse through received and missed calls, verifying they reflect the call history properly.
Expected Results:	The call history should be recorded and displayed in the "Callers Lists" menu.
Actual Results:	As expected.
Status:	Pass

Do Not Disturb	
Test Objective:	Verify if "Do not Disturb" mode is turned on calls to the 480i will be sent directly to voicemail.
Procedure:	After registration, press the "Do Not Disturb" button (which must be configured in the Softkey menu in the web administration page or in the phone configuration file) and from another device place a call to the 480i.
Expected Results:	The call placed to the 480i will jump directly to voicemail.
Actual Results:	As expected.
Status:	Pass

Waiting Message Indication	
Test Objective:	Verify Asterisk phone receives WMI from Asterisk and displays this information.
Procedure:	Call the 480i and leave a message on it's voicemail, verify that after a short while the phone recieves the WMI. *Note: a speed dial Softkey set for the voicemail extension can be configured in the Softkey menu in the web administration page.
Expected Results:	After a voicemail is placed, Asterisk will send WMI to phone, and the information will be displayed on-screen.
Actual Results:	As expected.
Status:	Pass

Forwarding	
Test Objective:	Verify if specified calls can be forwarded to a specified extension.
Procedure:	Press the "Options" button and select option number 8 by either pressing "8" or scrolling down and pressing "Show". Then configure a forwarding extension and set it to forward either All, Busy, NoAns, BusyNoAns, or Off. With it configured to all any call to the 480i will instantly be forwarded to the configured extension.
Expected Results:	The calls to the 480i should be forwarded to whatever extension is specified, using the forwarding condition as specified.
Actual Results:	As expected.
Status:	Pass

SIP Presence / Busy Lamp Field (BLF)	
Test Objective:	Verify if BLF softkeys are configured (and if Asterisk is correctly configured) the BLF extensions will have their status (on-hook or off-hook) displayed on-screen.
Procedure:	Configure the softkeys menu in the web administration page so that there some BLF extensions specified. (This is done in the same way that "speedial" extensions are setup only "BLF" is specified rather than "speedial")
Expected Results:	Small phone icons will appear next to the specified extensions. When any of these devices is busy, the phone icon will appear as if it is off-hook.
Actual Results:	As expected.
Status:	Pass