



ShoreTel and CyberData Server Setup Guide

Testing and validation with the help of StormWood Technologies:

StormWood Technologies
2300 Lakeview Parkway, Suite 700
Alpharetta, GA 30009
(678) 679-4400
www.stormwood.com

1.0 Setup Procedure

1.1 CyberData Configuration

1. Verify and configure the IP address and subnet that the speaker phone will reside in.
2. On the Network Setup page ([Figure 1](#)), enter values for the parameters indicated in [Table 1](#).

Table 1. Network Setup Parameters

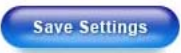
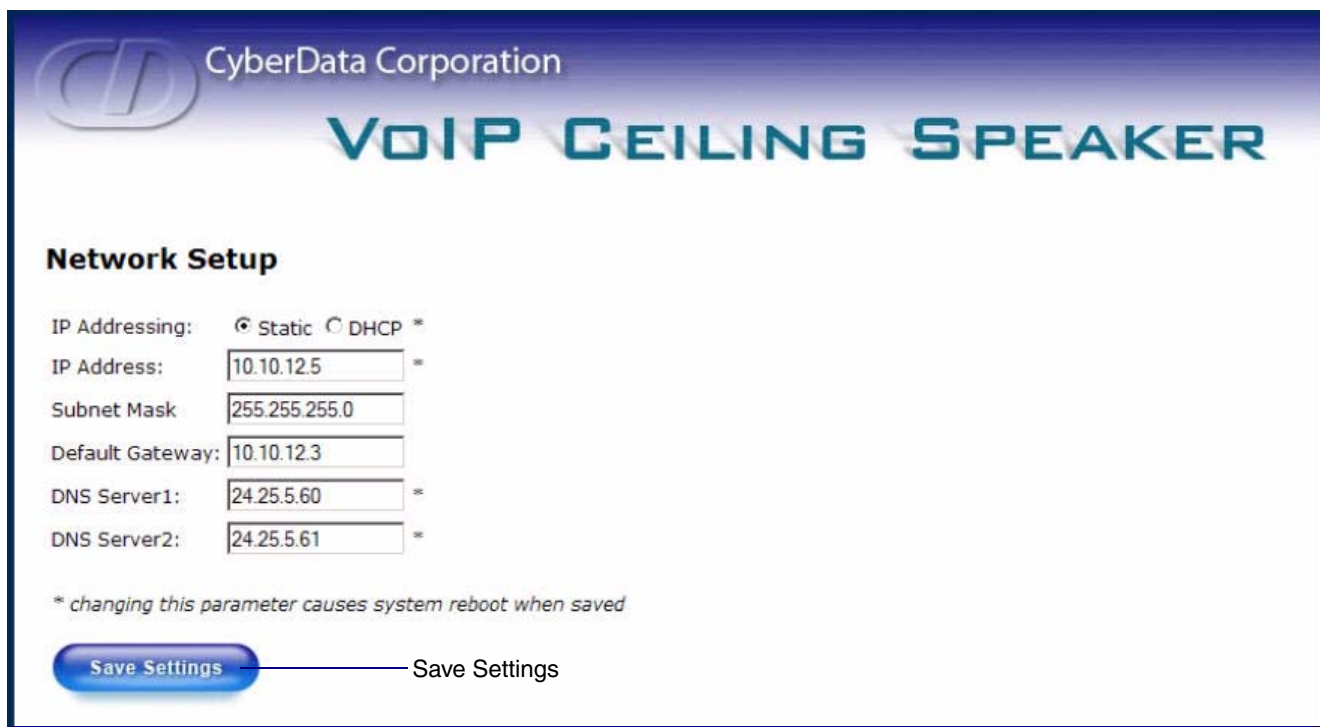
Web Page Item	Description
IP Addressing*	Select either DHCP IP Addressing or Static IP Addressing by marking the appropriate radio button.
IP Address*	Enter the Static IP address.
Subnet Mask	Enter the Subnet Mask address.
Default Gateway	Enter the Default Gateway address.
DNS Server 1*	Enter the DNS Server 1 address.
DNS Server 2*	Enter the DNS Server 2 address.
	Click this button to save your configuration settings. Changing a parameter that has an asterisk next to it will cause a system reboot when saved.

Figure 1. Network Setup



CyberData Corporation
VOIP CEILING SPEAKER

Network Setup

IP Addressing: ☒ Static ☐ DHCP *

IP Address: *


Subnet Mask:

Default Gateway:

DNS Server1: *

DNS Server2: *

** changing this parameter causes system reboot when saved*

 Save Settings

3. Review the **SIP Setup** page (Figure 2) and enter values for the fields indicated in Table 2.

Table 2. SIP Setup Page Parameters

Field	What to Enter
SIP User ID	The SIP User ID is the value in the First Name field on the Individual User page (Figure 7).
Authentication ID	The Authentication ID is the value in the Extension field on the Individual User page (Figure 8).
Authentication Password	Authentication Password is the value in the SIP Password field on the Individual User page (Figure 8).

4. Click on the **Save Settings** button and the speaker phone will reset.

Figure 2. SIP Setup

CyberData Corporation

VOIP CEILING SPEAKER

SIP Setup

SIP Server: *

Outbound Proxy: *

Remote SIP Port: *

Local SIP Port: *

SIP User ID: *

Authenticate ID: *

Authenticate Password: *

SIP Registration: ☒ Yes ☐ No *

Unregister on Reboot: ☐ Yes ☒ No *

Register Expiration (minutes): *

** changing this parameter causes system reboot when saved*

Save Settings

Save Settings

Network Setup Speaker Setup MGROUPS Setup Upgrade Firmware Home Page

1.2 ShoreTel Configuration

1. Make sure that the checkbox for **Always Use Port 5004 for RTP** setting is de-selected ([Figure 3](#)).

Note If the **Always Use Port 5004 for RTP** setting checkbox is selected, all of the servers, switches and phones will have to be reset in order for this change to take effect. Select **Save** after the change is made.

Figure 3. Call Control Options

The screenshot shows the ShoreWare Director web interface in a Windows Internet Explorer browser. The left sidebar contains a navigation tree with categories like Switches, Call Control, Voice Mail, and Maintenance. The main content area is titled 'Call Control Options' and includes a 'Save' button and a 'Reset' button. The 'General' section contains several checkboxes and input fields for configuring call control settings. The 'Always Use Port 5004 for RTP' checkbox is de-selected, and a message indicates it is unavailable due to SIP device compatibility. The 'Save' button is highlighted with a blue arrow.

Call Control Options

Edit Save Reset [Help](#)

Edit this record [Refresh this page](#)

General:

☐ Use Distributed Routing Service for call routing.

☐ Enable Monitor / Record Warning Tone.

☒ Generate an event when a trunk is in-use for minutes.

☒ Park Timeout (1-100000) after seconds.

☒ Hang up Make Me Conference after minutes of silence.

Delay before sending DTMF to Fax Server: msec

SIP:

Realm:

☒ Enable SIP Session Timer.

Session Interval (90 - 3600): sec

Refresher:

Voice Encoding and Quality of Service:

Maximum Inter-Site Jitter Buffer: msec

DiffServ / ToS Byte (0-255): (DSCP = 0x2A)

Media Encryption:

☐ Admission control algorithm assumes RTP header compression is being used.

☐ Always Use Port 5004 for RTP This option is unavailable because your system utilizes either SIP Trunks or SIP Extensions. This feature is incompatible with SIP devices.

Video Quality of Service:

DiffServ / ToS Byte (0-255): (DSCP = 0x0)

Trunk-to-Trunk Transfer and Tandem Trunks:

☐ Hang up after minutes of silence.

☐ Hang up after minutes.

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Always Use Port 5004 for RTP is de-selected

Save

2. Verify that an *IP Phone Map* is defined for the subnet that the speaker resides on.

Note If an IP Phone Map is not defined, define one by clicking on the **New** button. After the IP Phone Map is defined, click on the **Save** button in the dialog window shown in Figure 4.

Figure 4. IP Phone Address Page—IP Address Map List

The screenshot shows the ShoreTel ShoreWare Director interface. The main window displays the 'IP Phone Address' page with a table titled 'IP Address Map List'. The table has columns for Site, Low IP Address, High IP Address, and Teleworkers. The 'Raleigh' site is selected, and its IP range is 10.10.12.1 to 10.10.12.254. A dialog box titled 'IP Phone Address Map Info' is open, showing the same site and IP range, with a 'Save' button highlighted. The 'New' button in the table header is also highlighted.

IP Address Map List

Site	Low IP Address	High IP Address	Teleworkers
Cumming	10.10.10.1	10.10.10.254	No
Cumming	10.10.13.1	10.10.13.254	No
Cumming	10.10.14.1	10.10.14.254	No
Raleigh	10.10.12.1	10.10.12.254	No
Swansea	10.10.11.1	10.10.11.254	No

IP Phone Address Map Info

Site: Raleigh
 Low IP Address: 10.10.12.1
 High IP Address: 10.10.12.254
 Caller's Emergency Service Identification (CE SID): +1 (919) 566-1234 (e.g. +1 (408) 331-3300)
☐ Teleworkers

Buttons: Save, Close, Previous, Next

Labels: New button, Save button

3. Configure a port on the ShoreTel Switch to **100 SIP Proxy** as shown for port one in [Figure 5](#).
4. Click on the **Save** button.

Figure 5. Switches Page

ShoreWare Director - Windows Internet Explorer
 http://10.10.10.10:20/shorewaredirector/MainFrame.asp

ShoreTel
 ShoreWare Director
 Build 14.5.4501.0
 Logoff Administrator

Administration

- Users...
 - Individual Users
 - User Groups
 - Class of Service
 - Anonymous
 - Telephones
 - Extension Lists
 - Batch Update
 - Utility
 - Call Handling Mode
 - Defaults...
- Trunks...
 - Individual Trunks
 - Trunk Groups
 - SIP Profiles
 - Local Prefixes
- IP Phones...
 - Individual IP Phones
 - IP Phone Address Map
 - SIP Profiles
 - Options
- Switches...
 - Primary
 - Spare
- Call Control...
 - Account Codes
 - Bridged Call
 - Appearances
 - Hunt Groups
 - Paging Groups
 - Pickup Groups
 - Route Points
 - Supported Codecs
 - Codec Lists
 - Options
- Voice Mail...
 - Auto-Attendant
 - Menus
 - Workgroups
 - Schedules
 - Call Manager...
 - System Directory
 - Application Servers
 - Conference Bridges
 - IM Servers
 - Sites
 - System
 - Parameters...
 - Preferences
- Maintenance

Switches
 Edit ShoreGear 40/8 Switch

Edit this record Refresh this page

Name: Ral SG-8

Description:

Site: Raleigh

IP Address: 10.10.12.45 Find Switches

Ethernet Address: 00-10-49-00-28-4A

Server to Manage Switch: Raleigh_DVM

Caller's Emergency Service Identification (CESID): +1 (919) 556-9477 (e.g. +1 (408) 331-3300)

☐ Music On Hold Source

ShoreTel
 Ral SG-8

Port	Port Type	Trunk Group	Description	Jack Number	Location
1	100 SIP Proxy		P01		
2	Available		P02		
3	Conference		P03		
4	Trunk		P04		
5	5 SIP Trunks	Raleigh Analog Loop	P05		
6	100 SIP Proxy		P06		
7	Conference		P07		
8	Conference		P08		

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Port One configured to **100 SIP Proxy**

5. On the **Site** page (Figure 6), define an unused IP address to be the **SIP Proxy** IP address by typing the IP address into the **Virtual IP Address** field.
6. Click on the drop-down list box for **Proxy Switch 1** and select the switch (RAL SG-8 is selected in Figure 6).
7. Click on the **Save** button.

Figure 6. Sites Page

The screenshot shows the ShoreWare Director web interface in Internet Explorer. The browser address bar shows the URL: http://10.10.10.20/shorewaredirector/MainFrame.asp. The page title is "ShoreWare Director". The left sidebar contains a tree view with categories: Administration, Trunks, IP Phones, Switches, Call Control, Voice Mail, Auto-Attendant, Workgroups, Schedules, Call Manager, System Directory, Application Servers, Conference Bridges, IM Servers, Sites, System Parameters, and Preferences. The "Sites" category is selected. The main content area is titled "Sites" and "Edit Site". It contains a form with the following fields and values:

- Name: Raleigh
- Country: United States of America
- Language: English(US)
- Parent: Cumming
- ☒ Use Parent As Proxy
- Local Area Code: 919
- Additional Local Area Codes: Edit
- Caller's Emergency Service Identification (CESID): +1 (919) 556-9477 (e.g. +1 (408) 331-3300)
- Time Zone: (GMT-05:00) Eastern Time (US & Canada), Eastern Standard Time
- Night Bell Extension:
- Night Bell Switch: None Edit Night Bell Call Handling
- Paging Extension:
- Paging Switch: None
- Operator Extension: 4164 : Jay's Wireless Search
- FAX Redirect Extension: 4154 : Jay Fax Search
- Bandwidth:
 - Admission Control Bandwidth: 512 kbps
 - Intra-Site Calls: High Bandwidth Codecs
 - Inter-Site Calls: Very Low Bandwidth Codecs
 - FAX and Modem Calls: Fax Codecs - High Bandwidth
- SIP Proxy:
 - Virtual IP Address: 10.10.12.46
 - Proxy Switch 1: Ral SG-8
 - Proxy Switch 2: None
- Emergency Number List:
 - ☐ Trunk Access Code Required
 - 911 Add More...

At the bottom of the form, there is a link "Edit IP Phone Address Map" and a copyright notice "© 1998-2009 ShoreTel, Inc. All rights reserved." Two blue arrows point to the "Proxy Switch 1" dropdown menu and the "Save" button in the top right corner of the form area.

Proxy Switch 1

Save button

8. On the **Users** page (Figure 7), create a new user by clicking on the **New** button.

Note Figure 8 shows the SIP configuration details. Click on the **Save** button after configuration is complete.

Figure 7. Individual User Page

New button

9. On the **Individual User** page, you need to create or define a matching SIP Password on the speaker (see [Figure 2](#)) and in the Individual User **SIP Password** ([Figure 8](#)). In [Figure 8](#), the word *password* was used for the **SIP Password**.

Note ShoreTel requires a password of 6 to 26 characters.

10. Click on the **Save** button.

Figure 8. Individual User Page

The screenshot shows the 'Individual User' configuration page in the ShoreWare Director web interface. The left sidebar contains a navigation tree with categories like Administration, Trunks, IP Phones, Switches, Call Control, Voice Mail, Auto-Attendant, Workgroups, Schedules, Call Manager, System Directory, Application Servers, Conference Bridges, IM Servers, Sites, and System Parameters. The main content area contains various configuration options for a user, including ports, current port, jack number, mailbox server, and various checkboxes for features like broadcast messages, system directory, and telephony presence. Two fields are highlighted with blue boxes and lines pointing to labels below the screenshot: the 'Extension' field and the 'SIP Password' field.

Extension field (also used as Authentication ID)

SIP Password field (also used as Authentication Password)

11. On the **IP Phones** page (Figure 9), A SIP IP phone should appear. Verify that the new SIP phone has registered on to the ShoreTel system.

Figure 9. IP Phones Page

The screenshot shows the ShoreWare Director web interface. The left sidebar contains a navigation tree with categories like Users, Trunks, IP Phones, and Switches. The main content area is titled 'IP Phones' and includes a 'Filter IP Phones' section with dropdowns for 'By Sites' (Raleigh) and 'By Switches' (All Switches). Below this is the 'IP Phone List' table. The table has columns: Name, Site, Switch, MAC Address, IP Address, User (Current and Home), and Phone Type. Two rows are visible: one for a standard IP phone (00-10-49-02-9E-66) and one for a SIP IP phone (SIP-7C25715EB3C9794EAAEC40BCB6CFE18F). A blue arrow points to the SIP IP phone row.

Name	Site	Switch	MAC Address	IP Address	User	Phone Type
00-10-49-02-9E-66	Raleigh	Rai SG-8	00-10-49-02-9E-66	10.10.12.12	Jay McKeever	IP560
SIP-7C25715EB3C9794EAAEC40BCB6CFE18F	Raleigh	Rai SG-8	00-10-49-02-9E-66	10.10.12.5.5060	4715 4715	VoIP

SIP IP phone

12. On the **Users** page (Figure 10), assign the SIP Speaker Phone to the newly created Individual User earlier created.
13. Click on the **Save** button.

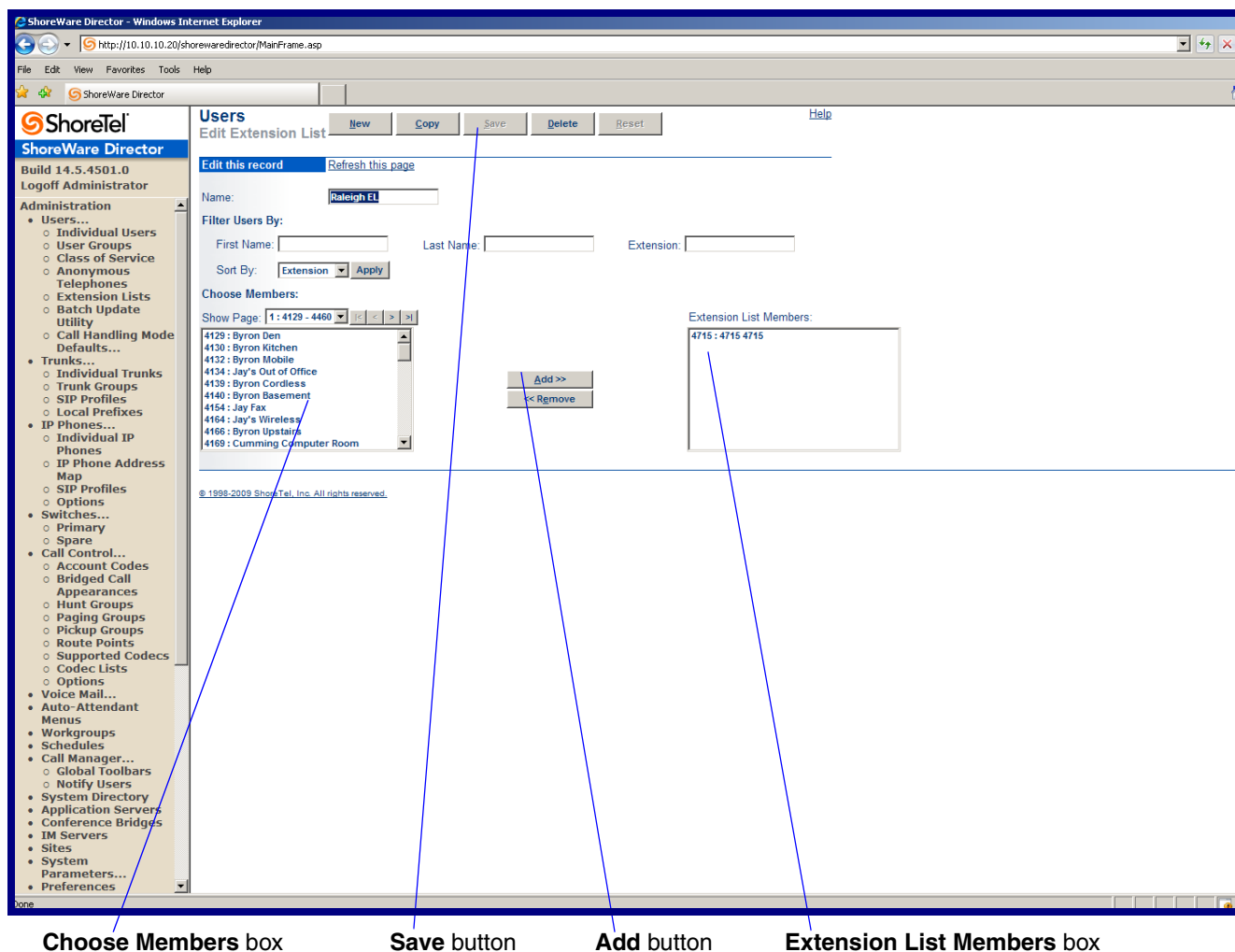
Figure 10. Assign the SIP Speaker Phone to the User

The screenshot displays the ShoreWare Director web interface in a Windows Internet Explorer browser. The left sidebar shows the 'Administration' menu with 'Users...' expanded. The main content area is the 'User Configuration' page for a new user. The 'IP Phones' section is highlighted with a blue box, and a blue line points from the caption to the selected SIP phone ID: 'SIP-7C25715EB3C9794EAAEC40BCB6CFE18F'. Other fields include First Name, Last Name, Number, License Type, Caller ID, DID Range, PSTN Failover, User Group, Site, Language, Home Port, Current Port, Jack #, Mailbox on Server, and various checkboxes for features like 'Accept Broadcast Messages', 'Include in System Dial By Name Directory', 'Make Number Private', 'Fax Support', 'Client Type', 'Allow Video Calls', 'Allow Telephony Presence', 'Allow Use of Soft Phone', 'Allow Phone API', 'Allow Mobile Call Manager', and 'Delayed Ringdown'.

SIP speaker phone assigned to the newly created Individual User

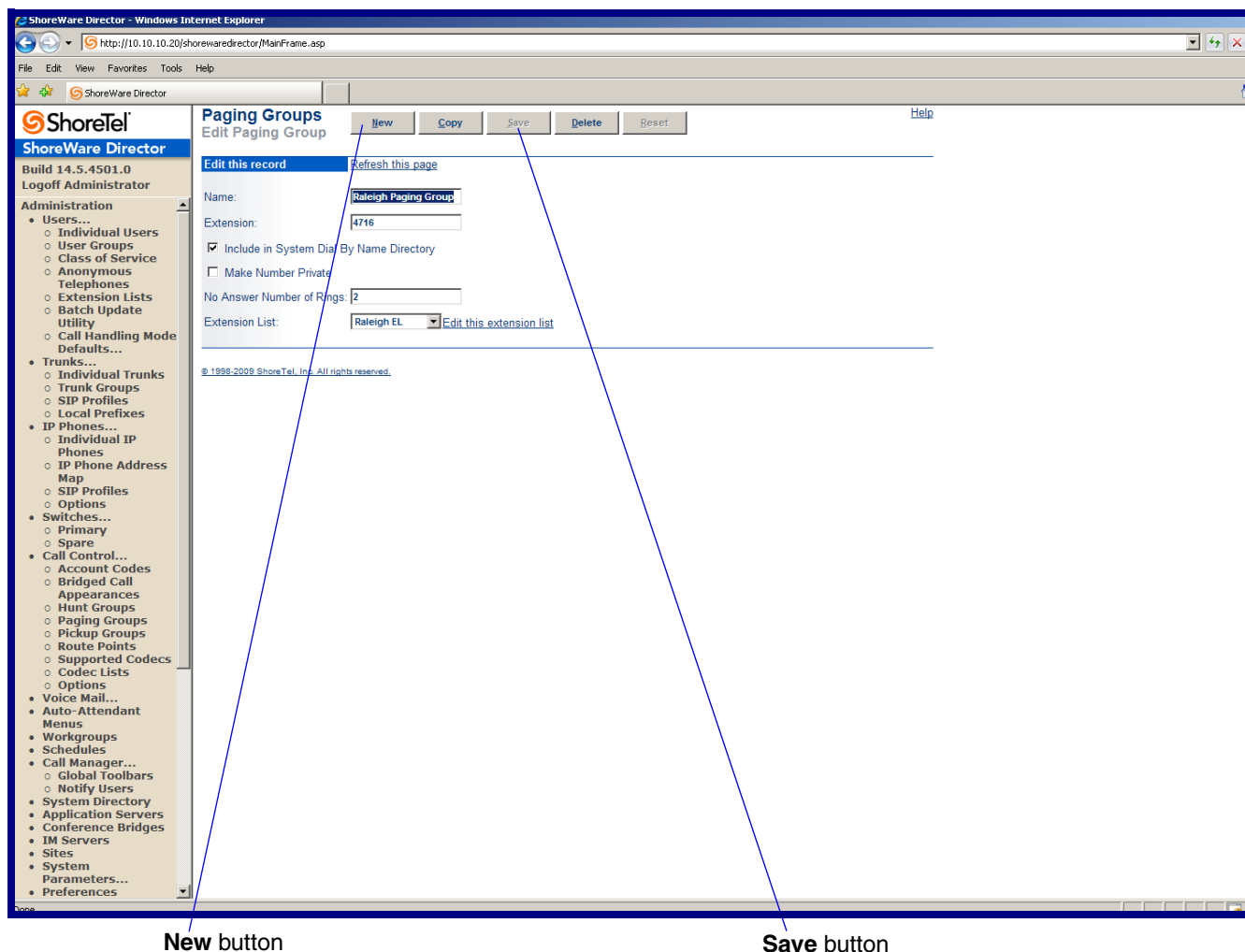
14. On the **Users** page (Figure 11), create an extension list by clicking on the **New** button.
15. Click to select the speaker phones in the Choose Members box that you want to move to the **Extension List Members** box.
16. Click on the **Add** button to add all of the selected speaker phones to the **Extension List Members** box.
17. Click on the **Save** button.

Figure 11. Paging Group—Extension List (Under Users)



18. On the **Paging Groups** page (Figure 12), create a paging group and assign the appropriate extension list as shown.
19. Click on the **Save** button.

Figure 12. Paging Group Page (Under Call Control)



20. On the **SIP Setup** page (Figure 13), the call box configuration is the same as the speaker phone configuration with the exception of the **Dial Out Extension** setting. Set the **Dial Out Extension** to the ShoreTel extension/work group/hunt group that you want to dial out to. In Figure 13, the extension is **4410**.

Figure 13. Call Box Configuration

The screenshot shows the 'SIP Setup' page for 'CyberData Corporation VOIP INTERCOM'. The page contains several configuration fields, each with a red asterisk indicating it is required. The fields are: SIP Server (10.10.12.46), Outbound Proxy (empty), Remote SIP Port (5060), Local SIP Port (5060), SIP User ID (4717), Authenticate ID (4717), Authenticate Password (password), SIP Registration (radio buttons for Yes and No, with Yes selected), and Reregistration Interval (minutes) (60). Below these fields is a 'Dial-Out Extension' field containing the value 4410. A blue arrow points from the text 'Dial Out Extension' at the bottom of the page to this field. A note below the fields states: '* changing this parameter causes system reboot when saved'. At the bottom of the page, there is a 'Save Settings' button and a navigation bar with five buttons: 'Home Page', 'Intercom Setup', 'Network Setup', 'Sensor Setup', and 'Upgrade Firmware'.

CyberData Corporation
VOIP INTERCOM

SIP Setup

SIP Server: 10.10.12.46 *

Outbound Proxy: *

Remote SIP Port: 5060 *

Local SIP Port: 5060 *

SIP User ID: 4717 *

Authenticate ID: 4717 *

Authenticate Password: password *

SIP Registration: ☒ Yes ☐ No *

Reregistration Interval (minutes): 60 *

Dial-Out Extension: 4410 *

** changing this parameter causes system reboot when saved*

Save Settings

Home Page **Intercom Setup** **Network Setup** **Sensor Setup** **Upgrade Firmware**

Dial Out Extension