

Nyquist C4000 Series User Guide

Version 4.0

BOGEN[®]

© 2018–2022 Bogen Communications LLC

All rights reserved

740-00126C 220512

All trademarks, logos, and brand names are the property of their respective owners. All company, product, and service names used in this document are for identification purposes only. Use of these names, trademarks, and brands does not imply endorsement.

Contents

| | |
|--|----------|
| Introducing the C4000 System | 1 |
| Using the Web-Based User Interface..... | 1 |
| Client Requirements..... | 1 |
| Accessing the Dashboard..... | 2 |
| Making UI Selections..... | 5 |
| Getting Help..... | 6 |
| Online Help..... | 6 |
| Managing Audio | 7 |
| Audio Distribution..... | 7 |
| Managing Line-Input Sources..... | 9 |
| Managing Songs..... | 10 |
| Viewing the Song List..... | 10 |
| Playing Songs Directly from a USB Memory Stick..... | 11 |
| Uploading Songs from a USB Memory Stick..... | 12 |
| Adding Songs..... | 12 |
| Editing Song Information..... | 14 |
| Deleting a Song..... | 15 |
| Managing Playlists..... | 15 |
| Viewing Playlists..... | 15 |
| Creating a Playlist..... | 16 |
| Adding Songs to a Playlist..... | 18 |
| Changing Song Order in a Playlist..... | 19 |
| Deleting a Song from a Playlist..... | 19 |
| Editing a Playlist..... | 19 |
| Deleting a Playlist..... | 19 |
| Using Internet Radio Services..... | 20 |
| Viewing Internet Radio Services..... | 20 |
| Adding a Source..... | 21 |
| Deleting a Source..... | 23 |
| Managing Credentials..... | 23 |
| Using SoundMachine Music Selection Schedules..... | 23 |
| Creating an Audio Distribution..... | 23 |
| Starting and Stopping Audio Distribution..... | 25 |
| Automatically Starting a Routine When Audio Distribution is Started..... | 27 |
| Using Routines to Start Audio Distribution..... | 27 |
| Other Features and Audio Distribution..... | 28 |
| Audio Distribution Status..... | 28 |

| | |
|---|-----------|
| Using the Admin Phone | 29 |
| Using Announcements | 30 |
| Starting and Stopping Announcements | 30 |
| Facility Announcement | 32 |
| Announcements, Facilities, Zones, and Priorities | 33 |
| Scheduled Announcement Rules | 34 |
| Facility Announcement Priorities | 34 |
| Setting Up Facility Announcements | 34 |
| Recording Announcements | 35 |
| Adding an Announcement | 35 |
| Using SSML for Text-to-Speech Entries | 38 |
| Viewing Announcements | 40 |
| Editing Announcements | 41 |
| Deleting an Announcement | 43 |
| Creating Temporary Announcements from Routines | 43 |
| Managing Tones | 44 |
| Starting and Stopping Alarms | 44 |
| Starting and Stopping Tones | 45 |
| Viewing Available Tones | 47 |
| Adding Tones | 49 |
| Uploading Tones | 50 |
| Generating Tones | 51 |
| Using Line Input for Tones | 52 |
| Editing Tones | 54 |
| Deleting a Tone | 56 |
| Tone Operational Notes and Limitations | 56 |
| Zone Control: Volume and Audio Distribution Panel | 56 |
| Initial Setup and Settings | 57 |
| Zone View | 59 |
| Audio Distribution Window | 61 |
| Calling and Paging | 62 |
| Making Calls | 62 |
| Placing Call Using Directory | 63 |
| Placing Call Using Dial Pad | 64 |
| Call Forwarding | 65 |
| Starting Pages | 67 |
| Single-Zone Paging | 67 |
| Record Page | 69 |
| Prepend Page | 70 |
| All Call Paging | 71 |
| Emergency All Call Paging | 72 |
| Facility Paging | 74 |

| | |
|---|-----------|
| Multi-Site All Call Paging | 75 |
| Multi-Site Emergency All Call | 75 |
| Page Exclusion | 76 |
| Deleting From Paging Exclusions List | 78 |
| Using the Maps Feature | 79 |
| Starting Pages and Announcements via the Map Feature | 79 |
| Page an Individual Zone | 79 |
| Page or Play Announcement at Multiple Selected Facilities | 79 |
| Page or play announcement at a predefined list of facilities | 80 |
| Page or play announcement at a user-selected list of facilities | 80 |
| Start All Call or Emergency All Call Pages | 81 |
| Calling an Extension via the Maps Feature | 81 |
| Monitoring Check-In | 82 |
| Managing Check-In | 84 |
| Viewing Check-In Status | 84 |
| Starting Check-In | 86 |
| Station Check-In | 87 |
| Check-In Done and Finish | 87 |
| Stopping the Check-In Process | 87 |
| Resetting the Check-In Process | 88 |
| Using Spy Mode | 88 |
| Configuring Check-In | 89 |
| Managing Exclusion and Vacancy Lists | 90 |
| Creating and Using Multiple Check-In Routines | 92 |
| Check-In Log and Call Detail Records | 92 |
| Managing GA10PV Display Messages | 94 |
| Message Priorities and Precedence | 95 |
| Message Precedence Rules | 95 |
| Creating a Display Message | 96 |
| Using Color in Display Messages | 100 |
| Removing Messages | 103 |
| Removing an Event Name from a Display | 104 |
| Viewing Message Templates | 104 |
| Viewing Message Images | 106 |
| Creating a Message Template via the Message Templates Page | 106 |
| Create or Edit a Message Image | 107 |
| Create or Edit a Message Template | 107 |
| Displaying a Message from the Message Templates Page | 111 |
| Deleting a Saved Message Template | 111 |

| | |
|--|------------|
| Routines and Other Tasks | 112 |
| Using Routines | 112 |
| Starting and Stopping Routines from the Web UI | 113 |
| Starting and Stopping a Routine from the Admin Phone | 114 |
| Viewing the Event Schedule for the Week | 116 |
| Using the Calendars Feature | 117 |
| Schedule Popup Window Parameters | 117 |
| Manually Controlling Output Contacts | 118 |
| | |
| Appendix A: Bogen Digital Certificate Authority..... | 119 |
| Installing the Bogen Digital Certificate Authority | 119 |
| Installing Certificate Authority on Windows System | 119 |
| Installing Certificate Authority on Mac System | 120 |
| Installing Certificate Authority on an Android Device | 121 |
| Viewing the Certificate | 121 |
| | |
| Appendix B: Nyquist DTMF Feature Dialing Codes | 122 |
| Alarm/Tone Activation | 122 |
| Announcements | 122 |
| Calling | 123 |
| Call Forwarding | 124 |
| Call Parking/Call Pickup | 125 |
| Call Transfer | 125 |
| Conferencing | 126 |
| Monitoring/Recording | 126 |
| Paging | 127 |
| Voicemail | 129 |
| Walking CoS | 129 |
| Dial Codes Used for Simulating Calls to Admin Station from Station Call Switches ... | 130 |
| Routines | 130 |
| Audio Distribution | 131 |
| Miscellaneous Dial Codes | 131 |

List of Figures

- Figure 1. Login Page2
- Figure 2. C4000 Dashboard2
- Figure 3. Dashboard Sections3
- Figure 4. Dashboard Messages4
- Figure 5. National Weather Service Alerts4
- Figure 6. Audio Distribution Section of Dashboard5
- Figure 7. Help Menu6
- Figure 8. Audio Distribution Sources8
- Figure 9. Line-Input Sources9
- Figure 10. Available Channels for an MMPA9
- Figure 11. Line Inputs for NQ-A4300 Gen1 Audio Power Amplifier 10
- Figure 12. Line Inputs for NQ-A4300-G2 Audio Power Amplifier 10
- Figure 13. Songs Page 11
- Figure 14. Add Song Page 13
- Figure 15. Adding Multiple Songs 14
- Figure 16. Playlists Page 15
- Figure 17. Add Playlist Page 17
- Figure 18. Manage Playlist Page 18
- Figure 19. Internet Radio Services View 20
- Figure 20. Add Source Page 21
- Figure 21. Audio Distribution Portion of Dashboard 23
- Figure 22. Create an Audio Distribution 24
- Figure 23. Audio Distribution Play Icon 25
- Figure 24. Adding Scheduled Audio 26
- Figure 25. Adding Audio-Dist Trigger 27
- Figure 26. Audio Distribution Actions 27
- Figure 27. Audio Distribution Enabled 28
- Figure 28. Audio Distribution Disabled 29
- Figure 29. Audio Distribution Status 29
- Figure 30. Admin Phone Display 29
- Figure 31. Announcement Icon 30
- Figure 32. Announcement Page 31
- Figure 33. Announcement Page with Stop Button 31
- Figure 34. Facility Announcement 32
- Figure 35. Add Announcement Page 36
- Figure 36. Announcements Page 40
- Figure 37. Alarm Button 44
- Figure 38. Alarm Page 45
- Figure 39. Alarm Page with Stop Option 45
- Figure 40. Tone Icon 46
- Figure 41. Tone Page 46

| | |
|---|----|
| Figure 42. Tone Page with Options | 47 |
| Figure 43. Tones Page..... | 48 |
| Figure 44. Add Tone – Upload File..... | 50 |
| Figure 45. Add Tone – Generate Tone..... | 51 |
| Figure 46. Add Tone – Line Input..... | 53 |
| Figure 47. Edit Tone Pages..... | 54 |
| Figure 48. Zone Control Settings and Zone Filter View | 58 |
| Figure 49. Zone Control Zone View | 60 |
| Figure 50. C4000 Dashboard | 62 |
| Figure 51. Directory Button | 63 |
| Figure 52. Directory Page..... | 63 |
| Figure 53. Calling Extension..... | 64 |
| Figure 54. Dial Pad Button..... | 64 |
| Figure 55. Dial Pad..... | 65 |
| Figure 56. Call Forwarding Button | 66 |
| Figure 57. Call Forwarding Popup Menu..... | 66 |
| Figure 58. Zone Page Button..... | 67 |
| Figure 59. Paging Single Zone..... | 68 |
| Figure 60. End Call..... | 68 |
| Figure 61. Record Page Button..... | 69 |
| Figure 62. Record Page..... | 70 |
| Figure 63. Prepend Page Button..... | 70 |
| Figure 64. Prepend Page | 71 |
| Figure 65. All Call Button | 72 |
| Figure 66. All Call..... | 72 |
| Figure 67. Emergency All Call Button..... | 73 |
| Figure 68. Emergency All Call | 73 |
| Figure 69. Facility Page Button | 74 |
| Figure 70. Facility Page..... | 74 |
| Figure 71. Multi-Site All Call Button..... | 75 |
| Figure 72. Multi-Site Emergency All Call Button | 76 |
| Figure 73. Page Exclusion Button | 77 |
| Figure 74. Paging Exclusions Page..... | 77 |
| Figure 75. Add Paging Exclusion Page..... | 78 |
| Figure 76. Page Icon | 79 |
| Figure 77. Paging or playing an announcement to multiple selected facilities .. | 80 |
| Figure 78. Call Icon | 81 |
| Figure 79. Map Object in Live Mode | 82 |
| Figure 80. Map Object With Hamburger Menu | 82 |
| Figure 81. Manage Check-In Button | 85 |
| Figure 82. Manage Check-In | 85 |
| Figure 83. Manage Check-In When Idle | 86 |
| Figure 84. Listen In, or Spy Mode, Button..... | 88 |
| Figure 85. Configure Check-in..... | 89 |
| Figure 86. Example of Check-In Routine Action..... | 92 |
| Figure 87. Example of Priority Message in Fullscreen..... | 94 |

| | |
|--|-----|
| Figure 88. Display Message Button | 96 |
| Figure 89. Display Message | 97 |
| Figure 90. Remove Message Button | 103 |
| Figure 91. Remove Message | 103 |
| Figure 92. Message Templates | 104 |
| Figure 93. Message Images | 106 |
| Figure 94. Message Images properties | 106 |
| Figure 95. Add Message Image | 107 |
| Figure 96. Add Message Template | 108 |
| Figure 97. Routines Button | 113 |
| Figure 98. Routines List | 113 |
| Figure 99. Routine Page | 114 |
| Figure 100. Routines Manager | 114 |
| Figure 101. Weekly Schedule Section of Dashboard | 116 |
| Figure 102. Schedule Page | 116 |
| Figure 103. Output Control Section | 118 |
| Figure 104. Manual Control Buttons | 118 |

List of Tables

| | |
|---|-----|
| Table 1. UI Icons | 5 |
| Table 2. Songs Page Parameters | 11 |
| Table 3. Add Song Page Parameters. | 14 |
| Table 4. Edit Song Page Parameters. | 15 |
| Table 5. Playlists Page Parameters. | 16 |
| Table 6. Add Playlist Parameters | 17 |
| Table 7. Internet Radio Services. | 21 |
| Table 8. Radio Source Parameters | 22 |
| Table 9. Create an Audio Distribution Parameters. | 24 |
| Table 10. Add Announcement Page Parameters | 36 |
| Table 11. SSML Formats for Text-to-Speech Entries | 38 |
| Table 12. Announcements Page Parameters. | 40 |
| Table 13. Edit Announcement Page Parameters. | 41 |
| Table 14. Add-Announcement-Audio audio sources | 43 |
| Table 15. Tones Page Parameters | 48 |
| Table 16. Add Tone Page Parameters (Upload) | 50 |
| Table 17. Add Tone Page Parameters (Generate). | 52 |
| Table 18. Add Tone Page Parameters (Line Input) | 53 |
| Table 19. Edit Tone Page Parameters | 55 |
| Table 20. Zone Control Settings | 59 |
| Table 21. Zone Control buttons | 60 |
| Table 22. Color-coded Check-In Status. | 85 |
| Table 23. Check-In Display Options | 85 |
| Table 24. Check-In Configuration Options | 89 |
| Table 25. Display Message Options | 97 |
| Table 26. Default Color Alias | 100 |
| Table 27. Message Templates | 104 |
| Table 28. Add/Edit Message Template parameters. | 108 |
| Table 29. Schedule Popup Window Parameters | 117 |

Introducing the C4000 System

Nyquist C4000 is a IP-based solution for commercial paging and audio distribution applications. It provides a quick way to manage music programming, pages, announcements, and display messages—all can be easily configured to meet your facility’s unique needs.

C4000 features an easy-to-use, web-based graphical user interface (GUI) that is accessible through almost any personal computer (PC), tablet, or mobile device from any location in the connected world. It provides convenient communication, control, and interoperability with third-party devices and systems, such as access control, fire alarm, clock, and PBX systems.

C4000 also features a built-in streaming Internet radio service, *airable*, and optional, custom-tailored music selections from SoundMachine, the premier music subscription service for business. Both services are perfect for a wide variety of background music applications. SoundMachine gives large and small retailers, restaurants, bars, or any other company looking to enhance their customer experience the ability to craft a seamless, engaging, and on-brand music experience using commercially licensed content.

Note: Your system administrator should already have configured your system for your environment and created a login account for you. Depending on the role and permissions that your system administrator has assigned to you, you may not be able to perform all of the tasks described in this guide. For information about configuring the C4000 system, refer to the *Nyquist C4000 System Administrator Guide*.

Using the Web-Based User Interface

The web-based UI is an interactive dashboard that you can use to perform paging, audio distribution, and other tasks from a personal computer, tablet, or mobile device. The web-based UI presents system information and parameters in an easy-to-read and use format. The view of the dashboard varies depending upon the permissions (the role) you are assigned.

Note: Do not use third-party browser extensions with the Nyquist C4000 user interface.

Client Requirements

The Nyquist web-based UI is accessed through a client, which can run on PCs, Macs, and Android tablets and mobile devices that support the full Google Chrome or Microsoft Edge web browser. In addition to supporting Chrome or Edge, the client must have a sound card and a microphone.

Warning If you disable the microphone on your computer, you cannot launch audio distributions, tones, alarms, etc. When attempting to make a call using the Nyquist dashboard’s softphone with the computer’s microphone turned off, the Nyquist softphone automatically hangs up the call. If you make a second call, the dashboard displays a message that the phone is in use.

The client must also have Bogen’s Certificate Authority (CA) digital certificate installed on it, which is created by, and downloaded from, the Nyquist C4000 server. This certificate enables your browser to recognize the Nyquist web-based UI as a trusted site.

For details on how to install the certificate on your client devices, see "Bogen Digital Certificate Authority" on page 119.

Accessing the Dashboard

To access your dashboard:

- 1 From your Chrome or Edge browser, type the C4000 server's or System Controller's IP address in the address bar (for example, `https://192.168.1.0`) and press **Enter**.
- 2 On the *Login* page, type your username and password.
- 3 Select **Login**

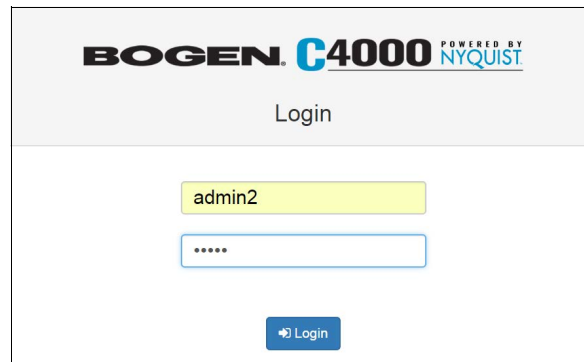


Figure 1. Login Page

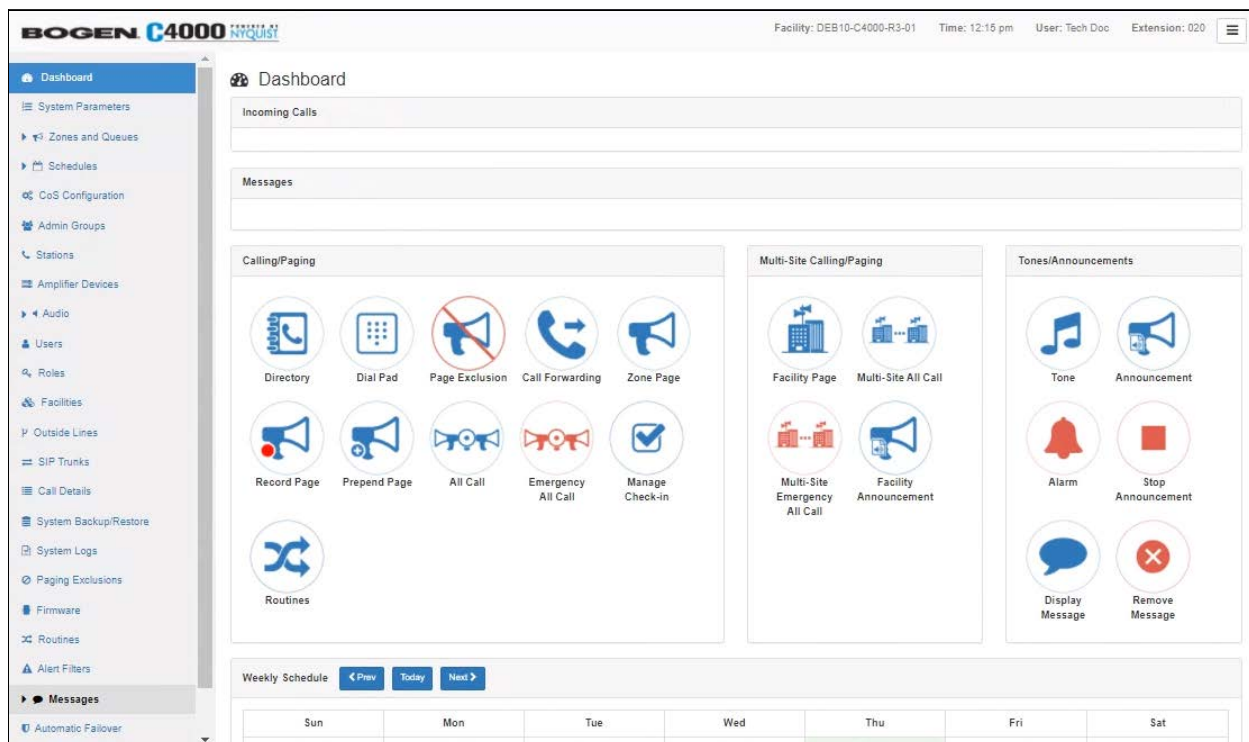


Figure 2. C4000 Dashboard

Note: The Nyquist system does not support opening multiple instances, or tabs, of the Nyquist Web UI for the same user.

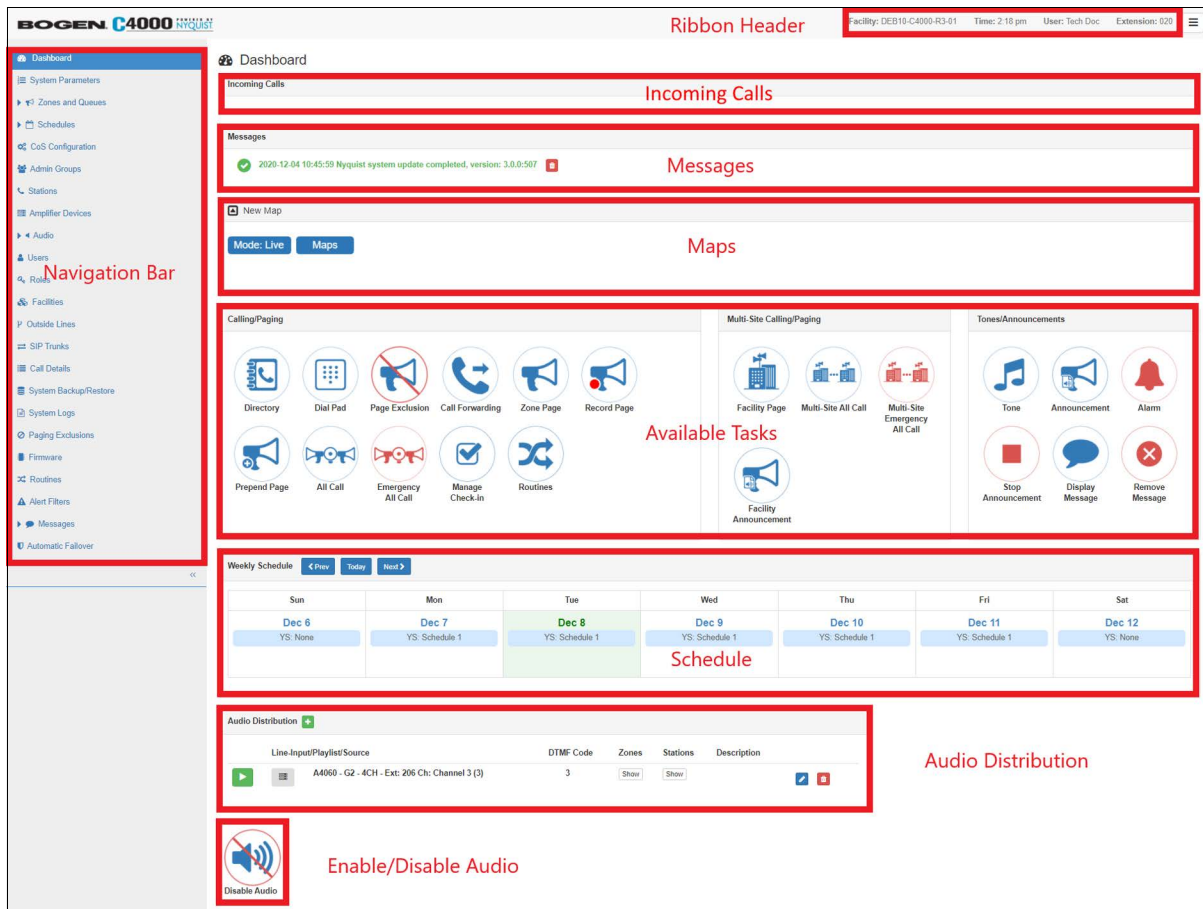


Figure 3. Dashboard Sections

The Dashboard allows you to perform communications activities, view this week's event schedules, and enable/disable various audio distributions.

The left side, navigation bar, of the dashboard (*Figure 3, "Dashboard Sections"*) lists the sections and features of the C4000 system that you can access based on your assigned role.

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Instead, you see only common tasks, such as making a page. If you are authorized to make changes to the C4000 configuration, refer to the *Nyquist C4000 System Administrator Guide* for information about performing these tasks.

The right header ribbon provides the facility name, server time in hours and minutes, the username for the account and the extension for the station. The facility name and server time will not appear if the screen is reduced in size, such as when viewing from a phone or tablet.

Incoming Calls and Messages appear on the top right dashboard pane. The Maps Panel appears below the Messages Panel.

If the Maps feature is enabled for your specified User Role, you can view the Maps Panel from the Dashboard (assuming the Maps feature is licensed).

The majority of the dashboard is set up to allow you to perform communications activities, view this week's schedules, and perform audio distribution.

At the top of the dashboard, messages appear that can provide information about your system, such as any stations or devices that were connected to your server but now appear to be disconnected or unavailable, system updates, device communications, weather alerts, or any of a number of other messages.

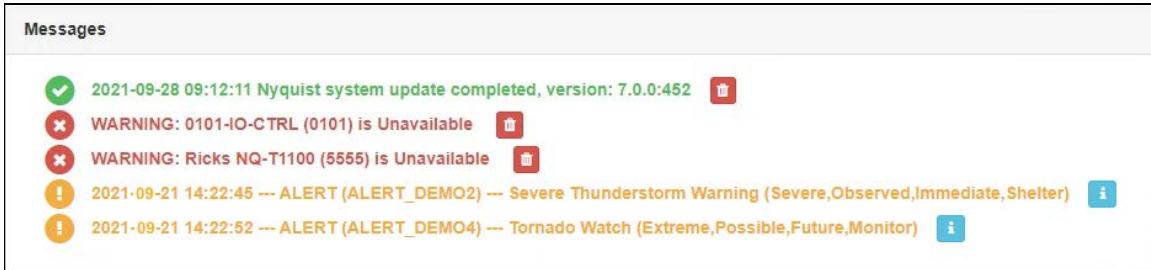


Figure 4. Dashboard Messages

When National Weather Service (NWS) alert notices are displayed, clicking the Information button displayed to the right of any displayed alert notice will open a window entitled "National Weather Service Alerts," which displays the text of all active NWS alerts (see *Figure 5, "National Weather Service Alerts," on page 4*).

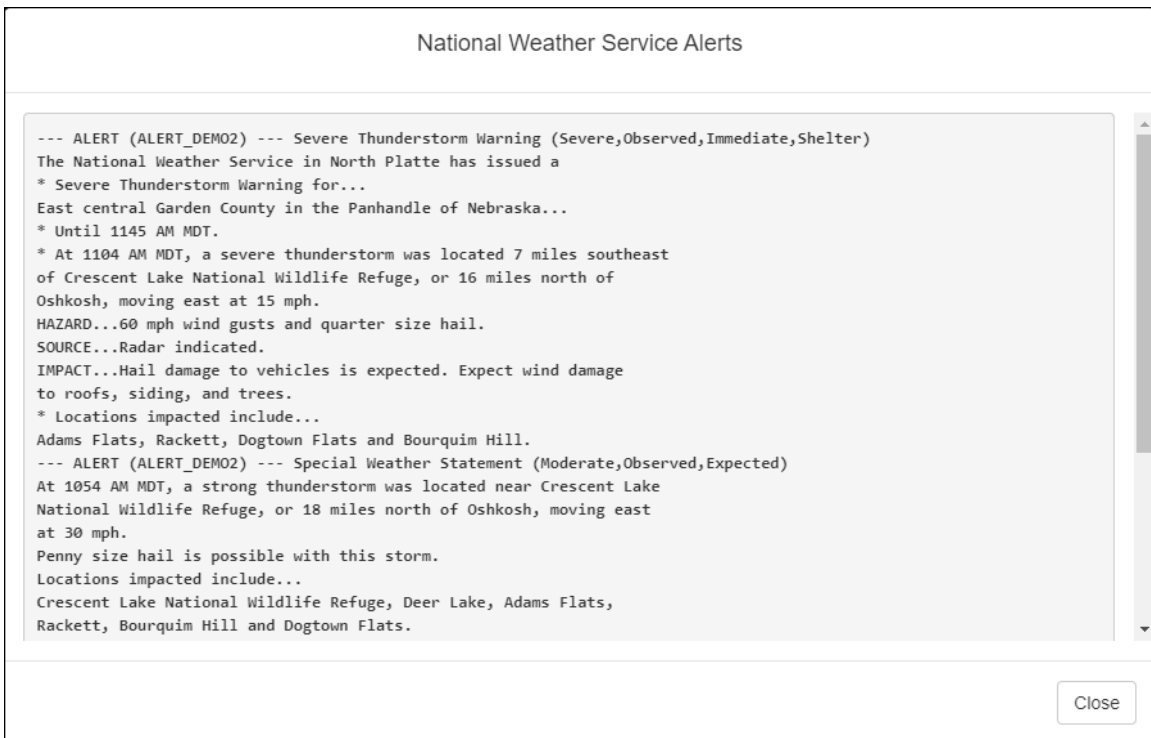


Figure 5. National Weather Service Alerts

On the lower part of the dashboard are options for Audio Distribution and an **Enable/Disable Audio** button that you can toggle to enable or disable audio.

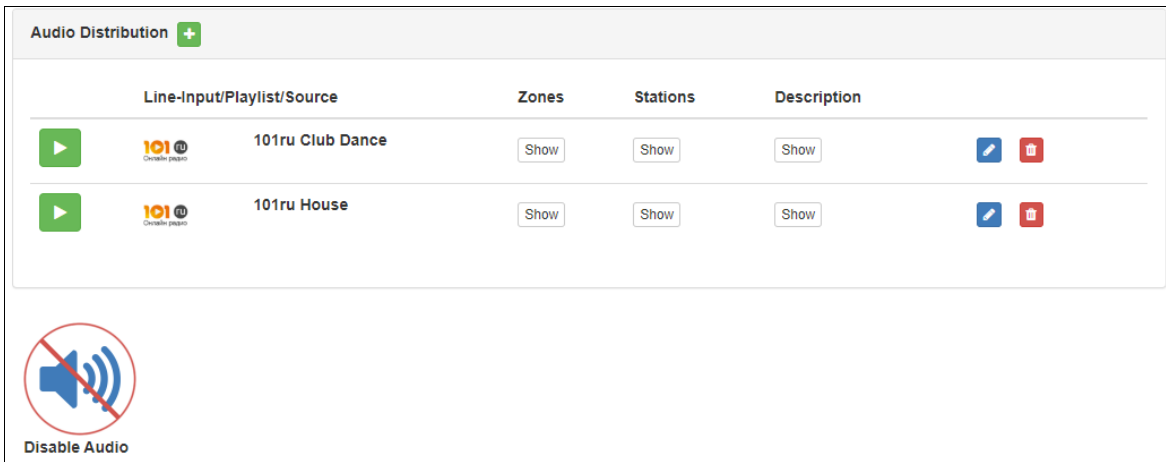









Figure 6. Audio Distribution Section of Dashboard

Making UI Selections

You can navigate and make UI selections by mouse click or touchscreen function. The UI buttons appear as named graphics or as icons (graphics only).

Table 1. UI Icons

| Icon | Description |
|---|---|
|  | Add icon: Select this icon to add an item. |
|  | Edit icon: Select this icon to edit an item. |
|  | Delete icon: Select this icon to delete an item. |
|  | Information icon: Select this icon for additional information, such as viewing release notes for firmware. |
|  | Link icon: Links to a web page that contains related information or functionality. |
|  | Help icon: View feature help for the displayed page. |
|  | Hamburger icon: Display a menu of options. |

Getting Help

Help is available through the C4000 Admin Web UI and through Bogen's Technical Support. Technical Support is available between 8:30 a.m. and 6:00 p.m., and on-call until 8:00 p.m. (Eastern Time), Monday through Friday. Technical Support contact information is as follows:

Tel: 1-800-999-2809
Fax: 1-201-934-6532
Email: applications@bogen.com

Self-paced eLearning courses are available by visiting:

<https://www.bogen.com/product-training>.

Online Help

Online help is accessed from the hamburger menu in the upper right corner of the Admin Web UI's navigation pane.

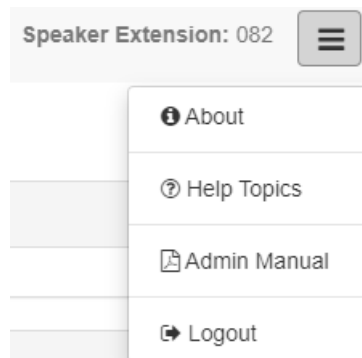


Figure 7. Help Menu

The menu contains the following options:

- **About:** Displays the version number and contact information for Bogen Communications LLC.
- **Help Topics:** Provides help topics on using the C4000 system.
- **Admin Manual:** Accesses the *Nyquist C4000 System Administrator Guide*. This provides configuration and task information that you may not be authorized to perform.
- **Logout:** Logs you out of the C4000 system.

Managing Audio

With Nyquist's audio file management feature, you can:

- Specify an audio program for distribution to stations or zones.
- Record and play tones and announcements to stations or zones.

Audio programs for distribution to stations or zones can include line-input from the MMPA, Nyquist 2-channel or 4-channel amplifiers, user-supplied songs via playlists, and Internet Radio Services. The Audio Distribution, tones, and announcement files added through the audio file management feature can be set through the Schedules feature to automatically play during specified times. Through the Internet Radio Services, you can listen to live radio stations and add media catalogs and music services without updating devices or software.

Default tone and song files include white noise and pink noise that allows you to tune paging and audio distribution volumes.

Note: Before using the audio file management feature, make sure that stations and zones have been configured and that the station you are using to launch announcements, tones, or Audio Distribution has the appropriate Class of Service (CoS) parameters set. The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

Audio Distribution

Suppose you want to use an audio source, such as a radio station accessed via the Internet, in a cafeteria but prevent that source from being played in a conference room. This feature, called Audio Distribution, can be turned on by zone (an area or group of stations) or stations (group of devices such as VoIP speakers). You can add the speakers, or stations, in the cafeteria to a zone that allows Audio Distribution while the speakers in a conference room would not be placed into that zone.

Audio Distribution involves creating a playlist or selecting an input source and specifying which zones hear the playlist or input source. Through the Scheduled Audio feature, Audio Distribution can be tied to a specific event in a schedule. (For information about creating events, refer to the *Nyquist C4000 System Administrator Guide*.)

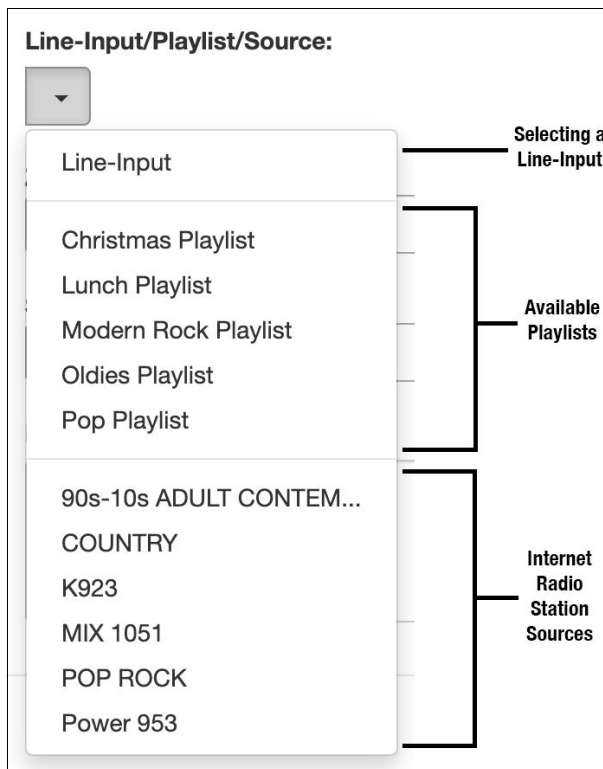
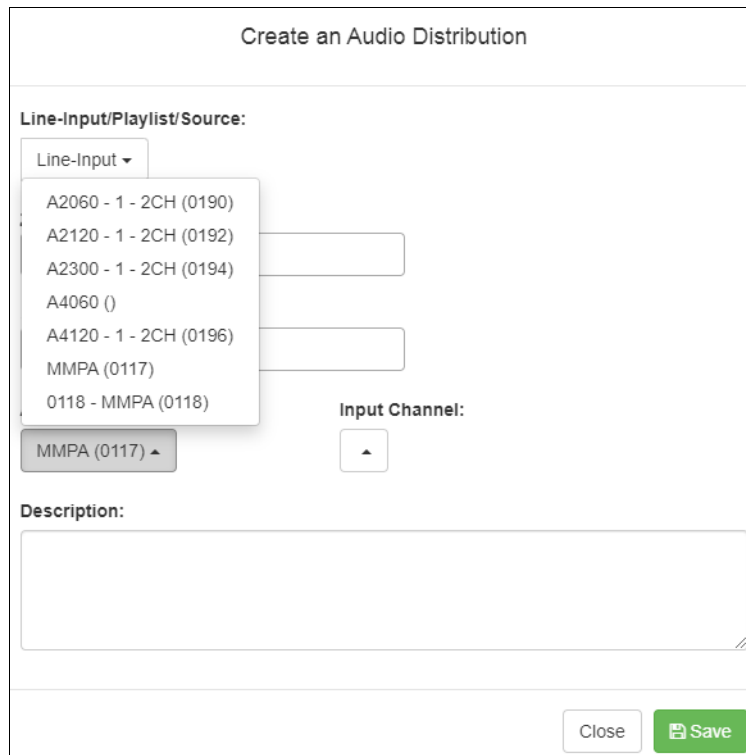


Figure 8. Audio Distribution Sources

Audio Distribution sources can include:

- Audio from two-channel or four-channel audio power amplifiers or MMPAs Line Inputs
- User-supplied music (songs and playlists)
- Internet Radio Services
- SoundMachine Stations

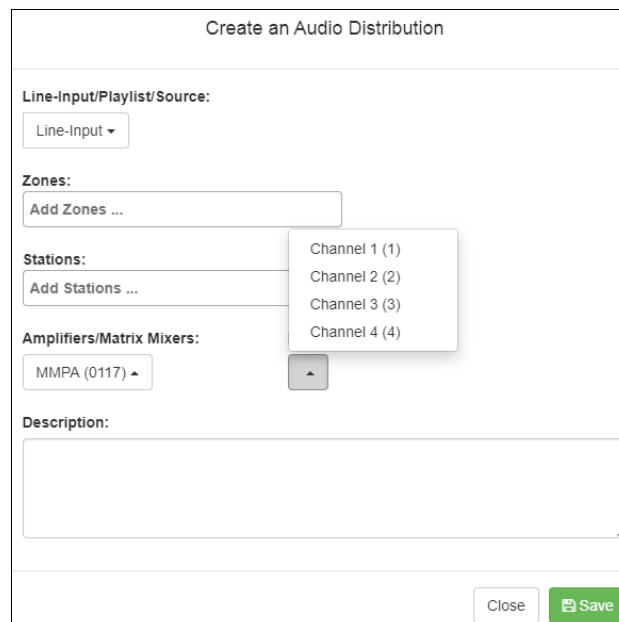
Managing Line-Input Sources



The screenshot shows a dialog box titled "Create an Audio Distribution". Under the "Line-Input/Playlist/Source:" section, a dropdown menu is open, listing several options: "Line-Input", "A2060 - 1 - 2CH (0190)", "A2120 - 1 - 2CH (0192)", "A2300 - 1 - 2CH (0194)", "A4060 ()", "A4120 - 1 - 2CH (0196)", "MMPA (0117)", and "0118 - MMPA (0118)". The "MMPA (0117)" option is currently selected. To the right of the dropdown, there are two empty input fields. Below the dropdown, the "Input Channel:" section has a small dropdown arrow. At the bottom of the dialog, there are "Close" and "Save" buttons.

Figure 9. Line-Input Sources

If your Nyquist system uses two-channel or four-channel audio power amplifiers or MMPAs, these stations will appear as sources for Line-Input when creating Audio Distribution.



The screenshot shows the same "Create an Audio Distribution" dialog box. In this view, the "Amplifiers/Matrix Mixers:" section is active, with a dropdown menu open showing four options: "Channel 1 (1)", "Channel 2 (2)", "Channel 3 (3)", and "Channel 4 (4)". The "MMPA (0117)" option is selected in the dropdown above the menu. Other sections like "Zones:" and "Stations:" are visible but not active. The "Close" and "Save" buttons are at the bottom.

Figure 10. Available Channels for an MMPA

The available **Line Input/Playlist/Source** selections include all device inputs for all amplifiers on your Nyquist network, as well as all configured Playlists and Internet Radio Services sources.

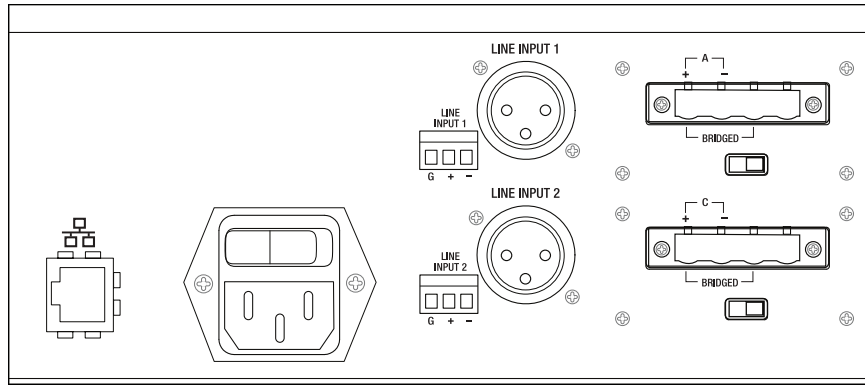


Figure 11. Line Inputs for NQ-A4300 Gen1 Audio Power Amplifier

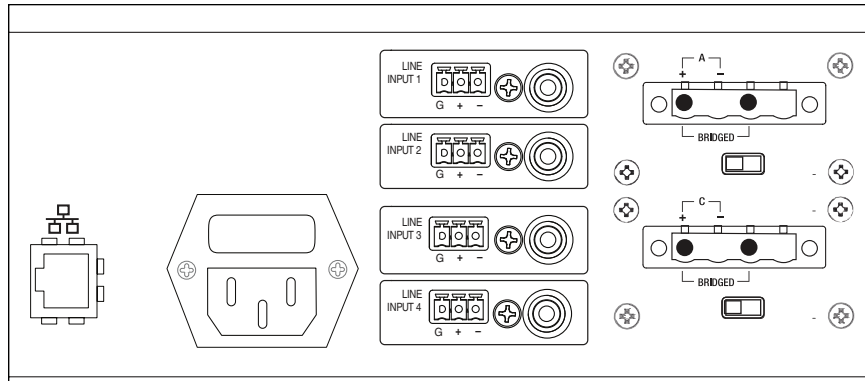


Figure 12. Line Inputs for NQ-A4300-G2 Audio Power Amplifier

The first generation (aka Gen1) amplifiers and MMPAs must be wired using either XLR or Phoenix (but not both) as the input. The G2 amplifiers must be wired using either RCA or Phoenix (but not both) as the input.

The Amplifiers/Matrix Mixers and Input Channel selections are made when creating an audio distribution.

Managing Songs

The songs feature allows you to select songs that can be added to a playlist; the playlist can then be selected to play manually or during scheduled events such as lunch time. You upload a song similarly to how you upload an announcement file or tone. You can store songs on a USB memory stick; these songs can then be played via the playlists feature (see "*Playing Songs Directly from a USB Memory Stick*" on page 11).

By default, white noise and pink noise songs are provided to help tune the volume of an Audio Distribution zone. (Refer to the *Nyquist C4000 System Administrator Guide*.)

Viewing the Song List

From the Songs page, you can add, edit, or delete a song. If you delete a song that is in a Playlist, the song is automatically removed from the Playlist.

| | Title | Artist | Album | Track Number | Length | Genre | Year | Playback |
|--|------------------------|----------------------------|-----------------------------------|--------------|--------|-------|------|---------------|
| | Come Together | Aerosmith | Aerosmith's Greatest Hits | 9 | 03:46 | Rock | 1993 | ▶ 0:00 / 3:46 |
| | Dream On | Aerosmith | Aerosmith's Greatest Hits | 1 | 04:27 | Rock | 1993 | ▶ 0:00 / 4:27 |
| | Fins | Jimmy Buffett | Songs You Know By Heart | 3/13 | 03:25 | Rock | 1985 | ▶ 0:00 / 3:25 |
| | Pink Noise | Bogen Communications, Inc. | Test Tools | 1 | 01:00 | Tones | 2018 | ▶ 0:00 / 1:00 |
| | Shake Me Like A Monkey | Dave Matthews Band | Big Whiskey and the GrooGrux King | 2/13 | 04:01 | Rock | 2009 | ▶ 0:00 / 4:01 |
| | White Noise | Bogen Communications, Inc. | Test Tools | 2 | 01:00 | Tones | 2018 | ▶ 0:00 / 1:00 |

Figure 13. Songs Page

To view the song list:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Songs**.

The following table describes the information provided about each song:

Table 2. Songs Page Parameters

| | |
|---------------------|---|
| Title | Displays the user-provided song title. |
| Artist | Displays the name of the musician performing the song. |
| Album | Displays the name of the album the song is from. |
| Track Number | Displays the track on the album for the song. |
| Length | Provides the length of the song in seconds. |
| Genre | Displays the music genre, or category, for the song. |
| Year | Displays the year the song was recorded. |
| Playback | Allows you to manually play the song. Selecting the Menu icon in this field also allows you to download and save the song. |

Playing Songs Directly from a USB Memory Stick

You can use a USB memory stick as storage for songs that can be played via the playlists feature.

To add songs and create a playlist for a USB memory stick, you must create a root file on the USB memory stick called `MusicLibrary.txt`. This file can contain the following entries:

```
playlistname=<text entered by customer>
createplaylist=no
useexistingplaylist=yes
```

If **createplaylist=no** is found in `MusicLibrary.txt`, a playlist is not created for the imported files.

If **useexistingplaylist=yes** is used, new songs will be added to the playlist defined by the playlistname option.

Music files must be on the root directory of the USB memory stick. Valid formats for these files are mp3, wav, and aac.

The Nyquist server automatically mounts the USB memory stick, adds all songs found in the root directory to the songs list, and creates a playlist for the added songs. The default name for the playlist is **USB Music Library**.

If you want to see if a USB memory stick is plugged into the System Controller and mounted for use, you can use the **Check Server Status** feature from System Parameters to view a list of mounted USB Drives (search for "USB Drives" in the "Disk Space" section of the Check Server Status report).

Note: If you use a USB memory stick as storage for songs on a playlist and the USB memory stick is removed from the USB drive, the meta data for the songs and the playlist still resides in the C4000 song list and playlist, but Audio Distribution cannot play. For this reason, we recommend never removing the memory stick from the computer.

Warning After you have inserted a USB memory stick into the System Controller, removing it may damage the contents stored on the USB memory stick. If you need to remove the USB memory stick from the System Controller, use **Shut Down**, found in System Parameters, to shutdown the Nyquist System Controller before removing the USB memory stick.

Uploading Songs from a USB Memory Stick

You can upload songs to the Nyquist system from a USB memory stick that is plugged into your local computer.

To upload songs from a USB memory stick:

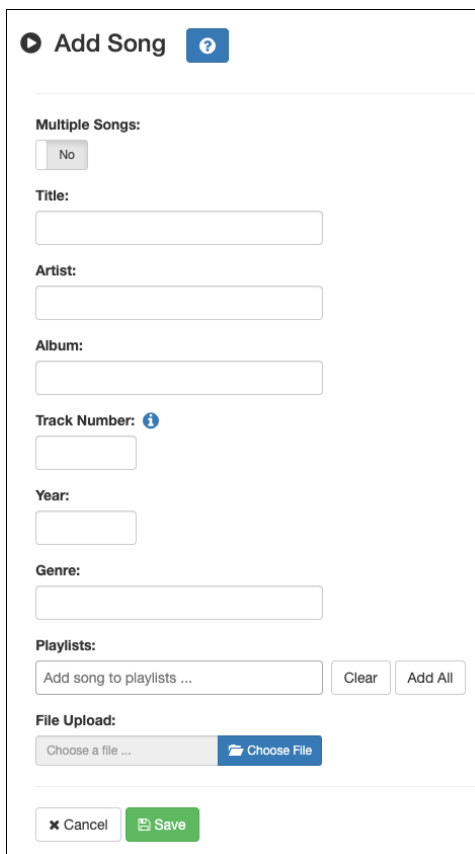
- 1 On the navigation bar, expand **Audio**.
- 2 Select **Songs**.
- 3 Select the **Add** icon.
- 4 From the Add Song page, ensure **Multiple Songs** is set to **Yes**.
- 5 Ensure the memory stick is plugged into your local computer.
- 6 For the **File Upload** parameter, select **Choose file** and navigate to the USB memory stick.
- 7 Select **Save**.
- 8 Select **Save**.

Adding Songs

You can add songs from your local computer or from removable media, such as a flash drive. You can add a song to playlists as part of the Add Song process or you can add a song to a playlist later through the **Playlists** menu.

You can select to add one song or multiple songs.

Nyquist can use any ID3 tag data and save that automatically. An ID3 tag acts as a container file within an MP3 audio file and commonly contains the title, artist name, album, track data, year, and genre.



The screenshot shows the 'Add Song' interface. At the top, there's a title 'Add Song' and a help icon. Below that, a 'Multiple Songs' section has a 'No' button. The main form consists of several input fields: 'Title', 'Artist', 'Album', 'Track Number' (with a help icon), 'Year', and 'Genre'. Below these is a 'Playlists' section with an 'Add song to playlists ...' button, 'Clear', and 'Add All' buttons. The 'File Upload' section has a 'Choose a file ...' button and a 'Choose File' button. At the bottom, there are 'Cancel' and 'Save' buttons.

Figure 14. Add Song Page

To add a song file:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Songs**.
- 3 On the Songs page, select the **Add** icon.

Note: If the imported song file contains metadata, Nyquist automatically fills in the Title, Artist, Album, Track Number, Year, and Genre after you click **Save**. If no metadata exists, the song **Title** is set to **Untitled** and the other parameters are left blank. Most MP3 files do contain metadata. You also can choose to not fill in the parameters.

- 4 On the Add Song page, complete the parameters. If you want to add multiple songs, ensure that you select **Yes** for **Multiple Songs**. Then, use the Shift or Control keys when selecting multiple files. Parameters do not appear when using the **Multiple Songs** option.

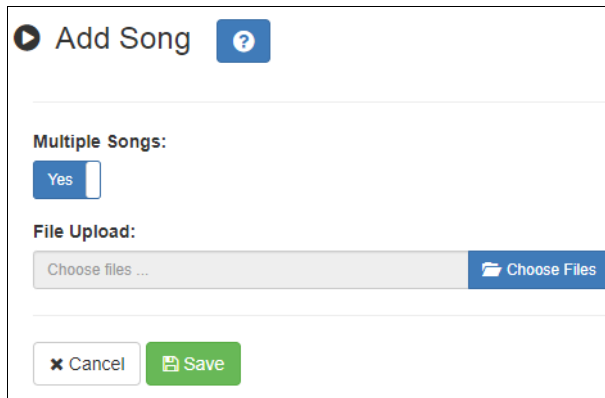


Figure 15. Adding Multiple Songs

- 5 After completing all changes, select **Save**. The song or songs will be copied onto the Nyquist system.

Table 3. Add Song Page Parameters

| | |
|-----------------------|--|
| Multiple Songs | Allows you to select multiple songs. |
| Title | Displays the user-provided song title. |
| Artist | Displays the name of the musician performing the song. |
| Album | Displays the name of the album the song is from. |
| Track Number | Displays the track on the album for the song. |
| Year | Displays the year the song was recorded. |
| Genre | Displays the music genre, or category, for the song. |
| File Upload | Allows you to select the song that you want to upload. |
| Playlists | Select the playlists that you want to add the song to. You can select multiple playlists, select all playlists by selecting Add All , or use the Clear button to remove the playlists. |
| File Upload | Select Choose file and navigate to select the file to upload. This option allows you to select files not only from your computer but also from a USB flash drive inserted in your computer. |

Editing Song Information

Through the Edit Song page, you can edit the information that appears on the Songs page for a particular song or replace the downloaded file with another.

To edit the information associated with the song file:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Songs**.
- 3 On the Songs page, select the **Edit** icon next to the song that you want to edit information for.
- 4 On the Edit Song page, make changes to the parameters (see *Table 4*).
- 5 After completing all changes, select **Save**.

Table 4. Edit Song Page Parameters

| | |
|---------------------|--|
| Title | Displays the user-provided song title. |
| Artist | Displays the name of the musician performing the song. |
| Album | Displays the name of the album the song is from. |
| Track Number | Displays the track on the album for the song. |
| Year | Displays the year the song was recorded. |
| Genre | Displays the music genre, or category, for the song. |
| File Upload | Allows you to select the song that you want to upload. |
| Playlists | Allows you to add or remove the song from playlists. |

Deleting a Song

Through the Songs page, you can delete a song from your C4000 system. If you delete a song that is in a Playlist, the song is automatically removed from the Playlist.

To delete a song:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Songs**.
- 3 On the Songs page, select the **Delete** icon next to the song that you want to delete.
- 4 When prompted, select **Delete**.

Managing Playlists

You can create and manage playlists that contain multiple songs to use for scheduled events and dashboard Audio Distribution entries. You can select a playlist when creating an event. Specifying the audio program for stations or zones is known as *audio distribution*. (For information about creating events, refer to the *Nyquist C4000 System Administrator Guide*.)

Viewing Playlists

Through the Playlists page, you can view all playlists available to your C4000 system and create, delete, and manage a playlist. With the Manage Playlist feature, you can add, delete, or change the order of a playlist's songs.

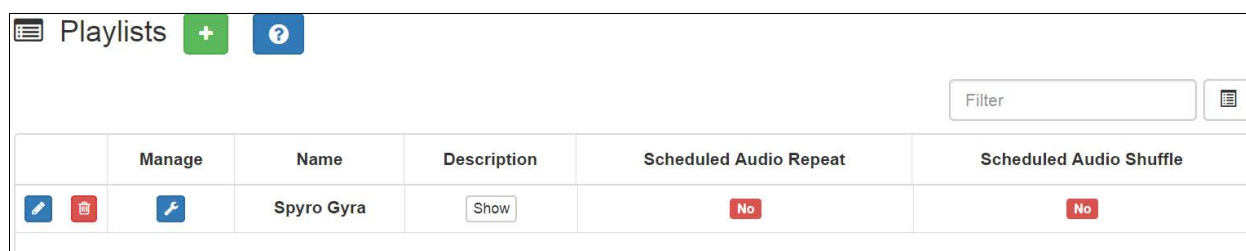


Figure 16. Playlists Page

To view playlists:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Playlists**.

The Playlists page appears. The following table describes the information that appears on this page:

Table 5. Playlists Page Parameters

| | |
|--------------------------------|--|
| Manage | When selected, this option displays the songs that can be dragged and dropped to and from the playlist. |
| Name | Displays the user-provided name for the playlist. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@*\$?-. , . |
| Description | When Show is selected, the user-provided description of the playlist appears. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@*\$?-. , . |
| Scheduled Audio Repeat | When enabled, the playlist audio repeats after all songs have been played. When disabled, Scheduled Audio automatically stops after the last song has been played from the playlist. When disabled, a corresponding stop event is not needed when Scheduled Audio is started via the schedule. <i>Note:</i> When playlists are being used by the Audio Distribution feature, the Scheduled Audio options are ignored. |
| Scheduled Audio Shuffle | When enabled, the order in which the songs are played is shuffled. When disabled, the playlist songs play in the order that they appear in the playlist. <i>Note:</i> When playlists are being used by the Audio Distribution feature, the Scheduled Audio options are ignored. |

Creating a Playlist

When you add a playlist, you first create the playlist container and then you use the Manage tool to add songs to the playlist. To add songs to a playlist, you must have access to songs that have been uploaded to your Nyquist server or are available on a USB flash drive inserted into the Nyquist server.

Figure 17. Add Playlist Page

To add a playlist:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Playlists**.
- 3 Select the **Add** icon.
- 4 On the Add Playlist page, complete parameters for this playlist. (See *Table 6, "Add Playlist Parameters,"* on page 17.)
- 5 Select **Save**.

Table 6. Add Playlist Parameters

| | |
|-------------------------------|--|
| Name | <p>Displays the user-provided name for the playlist. This field can contain a maximum of 40 characters.</p> <p><i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@*\$?-. , .</p> |
| Scheduled Audio Repeat | <p>When enabled, the playlist audio will be repeated after all songs have been played. When disabled, Scheduled Audio will automatically stop after the last song has been played from the playlist. When disabled, a corresponding stop event is not needed when Scheduled Audio is started via the schedule.</p> <p><i>Note:</i> When playlists are being used by the Audio Distribution feature, the Scheduled Audio options are ignored.</p> |

Table 6. Add Playlist Parameters (Continued)

Scheduled Audio Shuffle

When enabled, the order in which the songs are played is shuffled. When disabled, the playlist songs will be played in the order that they appear in the playlist.

Note: When playlists are being used by the Audio Distribution feature, the Scheduled Audio options are ignored.

Description

When **Show** is selected, the user-provided description of the playlist appears. This field can contain a maximum of 256 characters.

Note: Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@#\$*?-. , .

Adding Songs to a Playlist

After you create a playlist, use the Manage tool to add songs to the playlist.

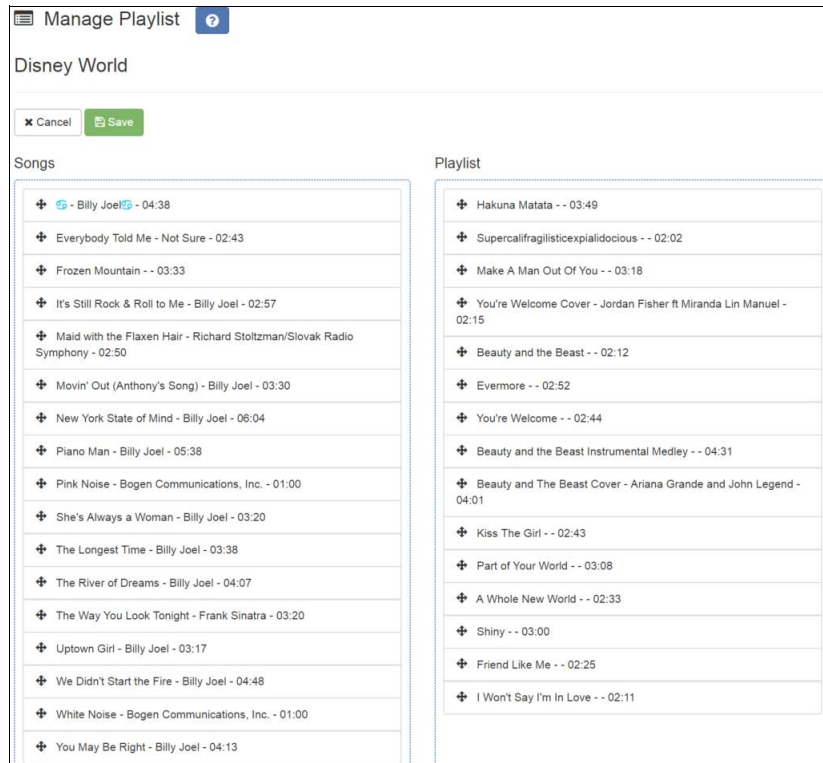


Figure 18. Manage Playlist Page

To add songs to a playlist:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Playlists**.
- 3 On the Playlists page, select the **Manage** icon next to the playlist that you want to add songs to.
- 4 On the Manage Playlist page, drag and drop the song you want to add from the Songs field to the Playlist field.
- 5 After all desired songs have been added to the Playlist, select **Save**.

Changing Song Order in a Playlist

You can use the Manage tool to change the order of songs in a playlist.

To change the song order:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Playlists**.
- 3 On the Playlists page, select the **Manage** icon next to the playlist for which you want to change song order.
- 4 On the Manage Playlist page, drag and drop the songs into the order that you want.
- 5 Select **Save**.

Deleting a Song from a Playlist

You can use the Manage tool to remove a song from a playlist.

To delete a song from a playlist:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Playlists**.
- 3 On the Playlists page, select the **Manage** icon next to the playlist.
- 4 Drag and drop the song from the Playlist field to the Songs field.
- 5 After all desired changes are completed, select **Save**.

Editing a Playlist

The **Edit** icon allows you to edit the parameters for a playlist. To change the order of songs in a playlist, see "Adding Songs to a Playlist" on page 18. To delete a song from a song list, see "Deleting a Song from a Playlist" on page 19.

To edit a playlist:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Playlists**.
- 3 Select the **Edit** icon next to the playlist.
- 4 On the Edit Playlist page, make desired changes to the parameters. (For more information about the parameters, see "Add Playlist Parameters" on page 17.)
- 5 Select **Save**.

Deleting a Playlist

You can delete a playlist provided the playlist is not being used with an I/O Controller Input or Output Rule.

To delete a playlist:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Playlists**.
- 3 Select the **Delete** icon next to the playlist.
- 4 When prompted, select **Delete**.

Using Internet Radio Services

Through the Internet Radio Services, you can add online content, such as music services and Internet radio, using Airable by TuneIn. With this service, you can listen to live radio stations and add media catalogs and music services without updating devices or software.

You can navigate through the catalog of radio stations by:

- Genre
- Language
- Location
- Quality
- Popularity

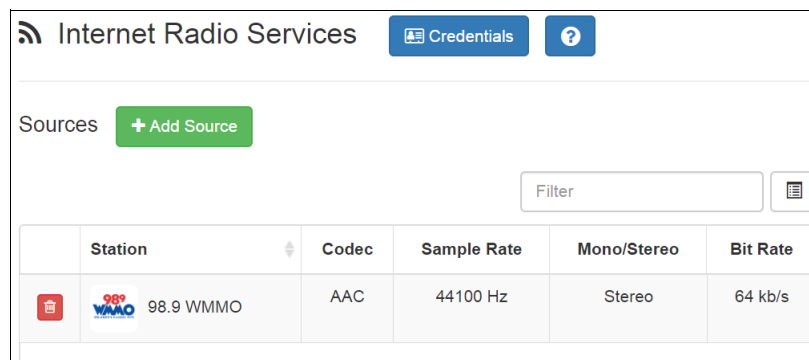
You can also search the catalog for particular artists or songs.

Being able to use the Internet Radio Services feature requires the Nyquist server to have Internet access. It also depends on the permissions assigned to the role with which you are associated.

For information about assigning permissions to roles, refer to the *Nyquist C4000 System Administrator Guide*.

Viewing Internet Radio Services

If you have **View** permission for the Internet Radio Services, you can view a list of radio stations that can be accessed through your system as well as information about each station. Through the Internet Radio Services page, you can also select to manage credentials for services such as SoundMachine. (See "Managing Credentials" on page 23.)



The screenshot shows the 'Internet Radio Services' page. At the top, there is a header with the title 'Internet Radio Services', a 'Credentials' button, and a help icon. Below the header, there is a 'Sources' section with a '+ Add Source' button. A 'Filter' input field is located to the right of the 'Sources' section. Below the filter, there is a table with the following columns: Station, Codec, Sample Rate, Mono/Stereo, and Bit Rate. The table contains one row of data for the station '98.9 WMMO'.


| Station | Codec | Sample Rate | Mono/Stereo | Bit Rate |
|---|-------|-------------|-------------|----------|
|  98.9 WMMO | AAC | 44100 Hz | Stereo | 64 kb/s |

Figure 19. Internet Radio Services View

To view Internet Radio Services added to your system:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Internet Radio Services**.

The following parameters in *Table 7* appear for each source configured for your Nyquist system:

Table 7. Internet Radio Services

| | |
|--------------------|---|
| Station | Displays the icon, name, and description of the radio station. |
| Codec | Displays how the streaming media is compressed and decompressed. |
| Sample Rate | Displays the number of samples of audio carried per second. |
| Mono/Stereo | Displays if the signal is being transmitted by a single channel (mono) or by two channels (stereo). |
| Bit Rate | Displays the bit rate used to transmit the streaming media. |

Adding a Source

You can select to add an Internet radio source or a service, such as SoundMachine. The screen that appears when you select **Add Source** also allows you to manage credentials or sign up for SoundMachine.

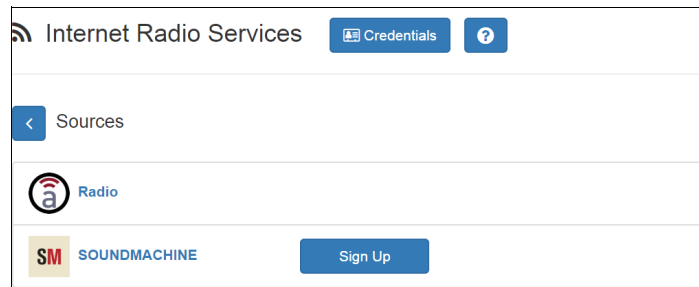


Figure 20. Add Source Page

To add a source:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Internet Radio Services**.
- 3 On the Internet Radio Services window, select **Add Source**.
- 4 Select from the list of Sources.
- 5 If you select **Radio**, do the following:
 - a) Select how you want to select a source. Options are:

Table 8. Radio Source Parameters

| | |
|----------------------------------|---|
| Local stations | Select to view a list of stations near your location. |
| Popular stations | Select to view stations considered to be the most popular. |
| Trending | Select to view the stations that are gaining momentum. |
| High quality | Select to view the stations with a high sound quality. |
| New stations | Select to filter the list of stations by new stations added to Internet Radio Services. |
| Filter | Select to filter the list of stations by Location , Language , or Genre . |
| Search | Select to enter a search term. |
| | <ul style="list-style-type: none">b) When the list of stations that meet the selected criteria appears, select the station that you want.c) Select Add Source for each source (aac or mp3) that you want. |
| 6 | If you select SoundMachine , do the following: <ul style="list-style-type: none">a) Select how you want to open a source. Selections are: |
| Genres | Displays a list of genres, such as Blues and Pop , which you can select to drill down genre choice even further. |
| Stations | Displays categories for stations, such as Country , which you can select to drill down to select a specific album or song. |
| My Stations | Displays radio stations that you added through the SoundMachine website. |
| Mixes | Displays categories of stations that combine, or mix, music genres. Mixes can be created using your SoundMachine account and SoundMachine user interface. All Mixes that you create in your SoundMachine account will be available in the Mixes list. Mixes allow you to select albums and songs to include in the Mix. |
| Music Selection Schedules | <p>Displays the schedules that have been created through SoundMachine. (See "<i>Using SoundMachine Music Selection Schedules</i>" on page 23.)</p> <p>Schedules allow the playing of specific stations or mixes during specific times of the day. For example, you can play soft jazz music during morning hours and select a different genre mix for mid-day.</p> <p>When you create a Music Selection Schedule, you cannot have any empty time periods or Audio Distribution will stop when the empty time period is encountered.</p> <p>The Music Selection Schedules that you create appear as Line-Input/Playlist/Source selections for Audio Distribution.</p> |
| Logout | Select to log out of SoundMachine. |
| | <ul style="list-style-type: none">b) Drill down until you can select a specific album or song.c) Select Add Source. |

Deleting a Source

To delete a source:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Internet Radio Services**.
- 3 On the Internet Radio Services window, select the **Delete** icon next to the source that you want to delete.
- 4 When prompted, select **Delete**.

Managing Credentials

If you have been assigned permissions, you can view, add, edit, and delete logon credentials needed to access the SoundMachine service.

For information about logon credentials, roles, and permissions, refer to the *Nyquist C4000 System Administrator Guide*.

Using SoundMachine Music Selection Schedules

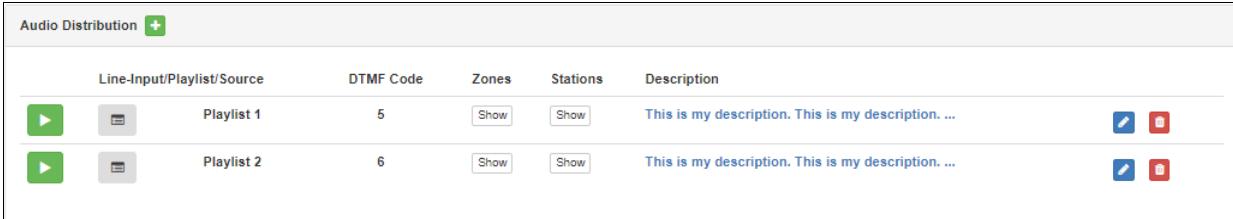
Schedules that you create using the SoundMachine web-based user interface appear as **Music Selection Schedules** in the Nyquist Admin Web UI. You can select a Music Selection Schedule to play as Audio Distribution.

When you create a Music Selection Schedule, you cannot have any empty time periods or Audio Distribution will stop when the empty time period is encountered.

You cannot name a Music Selection Schedule using all special characters; the name must contain at least one alpha or numeric character or the Music Selection Schedule will not appear.

Scheduled Audio takes priority over a Music Selection Schedule.

Creating an Audio Distribution











| Line-Input/Playlist/Source | DTMF Code | Zones | Stations | Description |
|--|-----------|-------------------------------------|-------------------------------------|---|
|   Playlist 1 | 5 | <input type="button" value="Show"/> | <input type="button" value="Show"/> | This is my description. This is my description. ...   |
|   Playlist 2 | 6 | <input type="button" value="Show"/> | <input type="button" value="Show"/> | This is my description. This is my description. ...   |

Figure 21. Audio Distribution Portion of Dashboard

To use the Audio Distribution feature, you must have the Audio Distribution CoS configuration enabled on your station and must be assigned a role that has permissions to create Audio Distribution.

Figure 22. Create an Audio Distribution

To create an Audio Distribution:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Select the **Add** icon next to **Audio Distribution**.
- 3 Complete the Create an Audio Distribution parameters (see *Table 9*).

Note: If you are using at least one C4000 Matrix Mixer Pre-Amp, Line-Input appears as a Line-Input/Playlist/Source option.

- 4 Select the **Zones** and **Stations**.
- 5 If you select **Line-Input** as the Input Source/Playlist, select the **Amplifiers/Matrix Mixers** and **Input Channel**.
- 6 If you select a playlist and want to shuffle the song order, set **Shuffle** to **Yes**.
- 7 Select **Save**.
- 8 To end the playing of audio, select the **Stop** icon next to the playlist.

Table 9. Create an Audio Distribution Parameters

| | |
|-----------------------------------|--|
| Line-Input/Playlist/Source | Use the Line-Input/Playlist/Source drop-down menu to select the audio source. Audio sources can include a line-input from an MMPA or amplifier, available playlists previously created for your system, or Internet radio station sources. |
| Zones | Select All Speakers or a specific zone or zones where you want the audio to play. |
| Stations | Select the stations where you want the audio to play. |

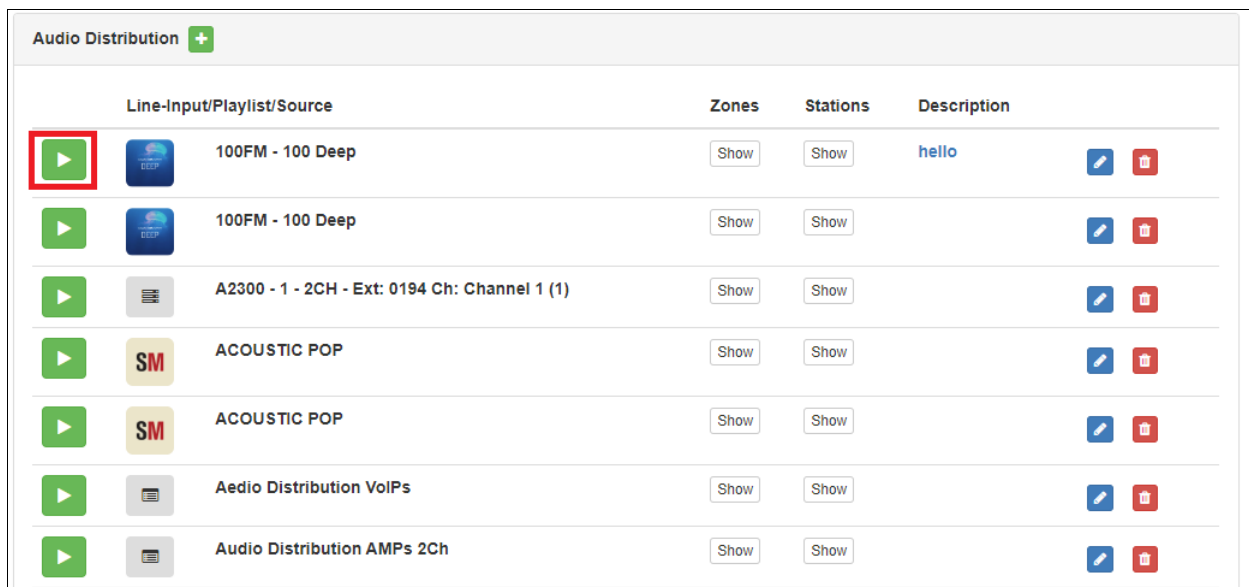
Table 9. Create an Audio Distribution Parameters (Continued)

| | |
|---------------------------------|--|
| Amplifiers/Matrix Mixers | Select the Amplifier or Matrix Mixer to use as the audio source. |
| Input Channel | Select the Input Channel to be used as the audio source. |
| Shuffle | If you select a playlist and want to shuffle the song order, set Shuffle to Yes . |
| Description | Add a description for the Audio Distribution. For example, you may want to note that the audio is for lunchtime. |

Starting and Stopping Audio Distribution

Starting and stopping Audio Distribution can be done manually (via the Nyquist web interface dashboard, NQ-T1100 Admin Phone's Audio Distribution menu, or Zone Control feature) or automatically (via scheduled events, NQ-E7010 I/O controller input-contact closure rules, or Routines).

A list of existing Audio Distributions appears on the dashboard. An existing Audio Distribution can be edited or deleted, provided it is not currently playing, by selecting the **Edit** or **Delete** icon next to the Audio Distribution.



The screenshot shows a web interface titled "Audio Distribution" with a green plus icon. Below the title is a table with columns: "Line-Input/Playlist/Source", "Zones", "Stations", and "Description". The table lists several audio distributions. The first row is highlighted with a red box around the play icon. Each row has a play icon (green triangle) and a stop icon (red square) on the right side. The "Description" column contains the text "hello" for the first row.

| Line-Input/Playlist/Source | Zones | Stations | Description |
|---|-------|----------|-------------|
| 100FM - 100 Deep | Show | Show | hello |
| 100FM - 100 Deep | Show | Show | |
| A2300 - 1 - 2CH - Ext: 0194 Ch: Channel 1 (1) | Show | Show | |
| ACOUSTIC POP | Show | Show | |
| ACOUSTIC POP | Show | Show | |
| Aedio Distribution VoIPs | Show | Show | |
| Audio Distribution AMPs 2Ch | Show | Show | |

Figure 23. Audio Distribution Play Icon

To manually start and stop Audio Distribution:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Select the **Play** icon next to the Audio Distribution that you want to start.
- 3 To end the playing of audio, select the **Stop** icon next to the playlist.

Add Event ?

Name:
Lunch Time Music

Signal Time:
Hour: 11 **Minute:** 30 **Second:** 0

Zones:
 * Zone-120: Zone 20 - VoIPs
 * Zone-132: Zone 32 - Amplifiers 2Ch
 Clear Add All

Tone:
1-Second

Scheduled Audio:
None

- None
- Start Line-Input
- Stop Line-Input
- Stop Playlist
- Stop 100FM - 100 Deep (Z: Zone 32 - Amplifiers 2Ch)
- Stop Chill (Z: Zone 20 - VoIPs)
- Aedio Distribution VoIPs
- Audio Distribution AMPs 2Ch
- Audio Distribution AMPs 4Ch
- Audio Distribution ASBs
- Disney World
- Fiddle Faddle

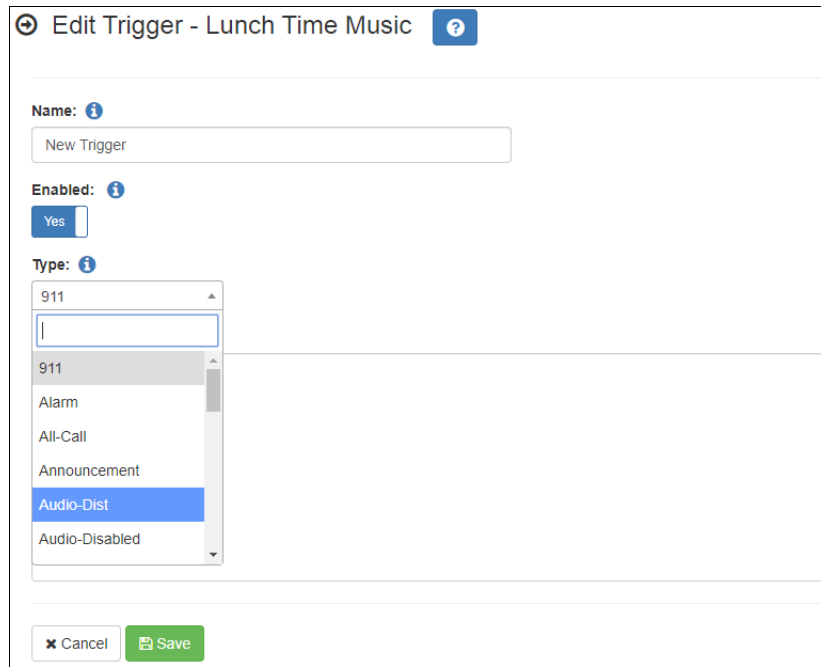
Figure 24. Adding Scheduled Audio

To automatically schedule audio as part of an event, follow the steps for creating an event, ensuring that you set the **Scheduled Audio** for the playlist, MMPA channel, or amplifier to be used for this event. For more information, refer to the *Nyquist C4000 System Administrator Guide*.

You also can select to stop the **Scheduled Audio** by selecting **Stop Playlist** or **Stop Line-Input**.

If an Airable/SoundMachine source is selected, the Scheduled Audio list includes selections to start or stop the audio stream. This list only includes Airable/SoundMachine selections that apply to the specific zone. If the Audio Distribution zone selected includes a time zone and another zone type, such as Paging, that is not for time, the audio distribution does not appear in this **Scheduled Audio** list.

Automatically Starting a Routine When Audio Distribution is Started



⊕ Edit Trigger - Lunch Time Music ?

Name: ⓘ
New Trigger

Enabled: ⓘ
 Yes

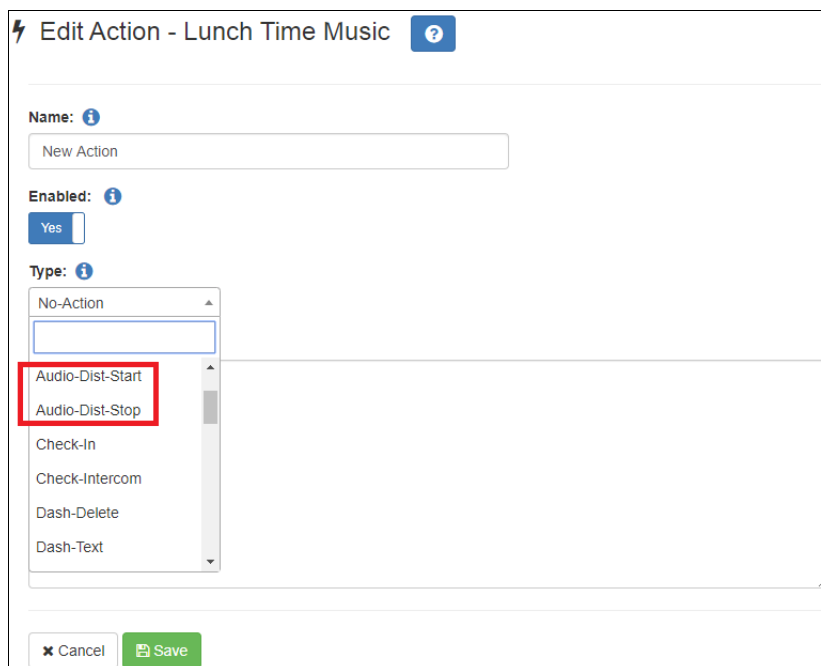
Type: ⓘ
911
|
911
Alarm
All-Call
Announcement
Audio-Dist
Audio-Disabled

✕ Cancel Save

Figure 25. Adding Audio-Dist Trigger

The Routines feature lets you automatically start one or more actions using Audio Distribution (Audio-Dist) as a trigger. For example, maybe you want a tone to sound in the kitchen when the lunch-time music begins, alerting kitchen staff that orders will soon be coming. To do this, you can create a routine, add an **Audio-Dist** trigger **Type**, and then create an action that plays a tone. For information about creating a routine, refer to the *Nyquist C4000 System Administrator Guide*.

Using Routines to Start Audio Distribution



⚡ Edit Action - Lunch Time Music ?

Name: ⓘ
New Action

Enabled: ⓘ
 Yes

Type: ⓘ
No-Action
|
Audio-Dist-Start
Audio-Dist-Stop
Check-In
Check-Intercom
Dash-Delete
Dash-Text

✕ Cancel Save

Figure 26. Audio Distribution Actions

You can create a routine that uses an action of either **Audio-Dist-Start** to start audio distribution or **Audio-Dist-Stop** to stop audio distribution.

You can also allow third-party systems, such as access control systems, to start a routine via I/O Controller Input Contact closure, or they can remotely start a routine using the Routines API.

For more information about using routines, refer to the *Nyquist C4000 System Administrator Guide*.

Other Features and Audio Distribution

Audio Distribution will be paused automatically by higher priority feature activation (for example, All-Call Page, Paging, Tones) and will automatically resume when the higher priority feature is finished.

Audio Distribution volume to all speakers can be changed by setting **Audio Distribution Cut Level (dB)**, available in **System Parameters**. The Audio Distribution volume to zones can be changed by setting **Audio Distribution Cut Level (dB)** in **Edit Zone** or using the Zone Control feature (see "Zone Control: Volume and Audio Distribution Panel" on page 56). For more information, refer to the *Nyquist C4000 System Administrator Guide*.

All Nyquist stations are preprogrammed to receive Audio Distribution to All Stations. To disable Audio Distribution to a specific station, change **Multicast Audio Distribution** to **No** on the **Edit Station** page (refer to the *Nyquist C4000 System Administrator Guide*).

Any Admin web UI user may stop the Audio Distribution if his or her station has the **Audio Distribution CoS Configuration** parameter enabled.

Scheduled Audio has a higher priority than Audio Distribution. If you are playing Audio Distribution and an event with Scheduled Audio interrupts, the Audio Distribution stops playing during the Scheduled Audio event.

A playlist will continue playing until manually stopped.

Audio Distribution Status

When you start Audio Distribution, a popup window appears letting you know that Audio Distribution was enabled.

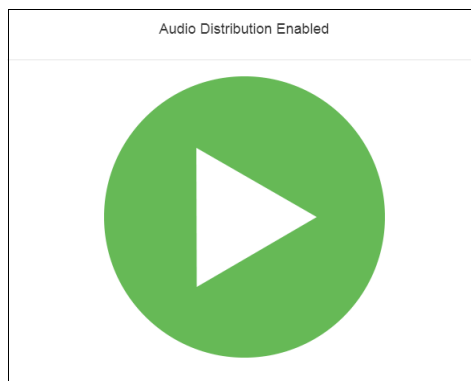


Figure 27. Audio Distribution Enabled

A popup window also appears when you stop Audio Distribution.

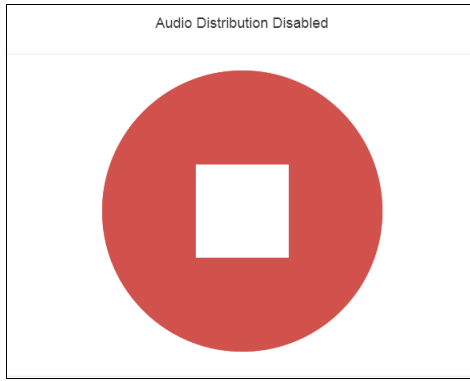


Figure 28. Audio Distribution Disabled

When Audio Distribution is enabled, an informational message appears in the Messages window of the Admin Web UI dashboard, indicating the song that is currently playing and to which speakers (all or selected) and to which zones audio is playing.



Figure 29. Audio Distribution Status

Using the Admin Phone

If you are using a Nyquist NQ-T1100 VoIP phone as an Admin Phone, you can start and stop a specified Audio Distribution or stop all Audio Distribution using the phone's Audio Distribution menu.

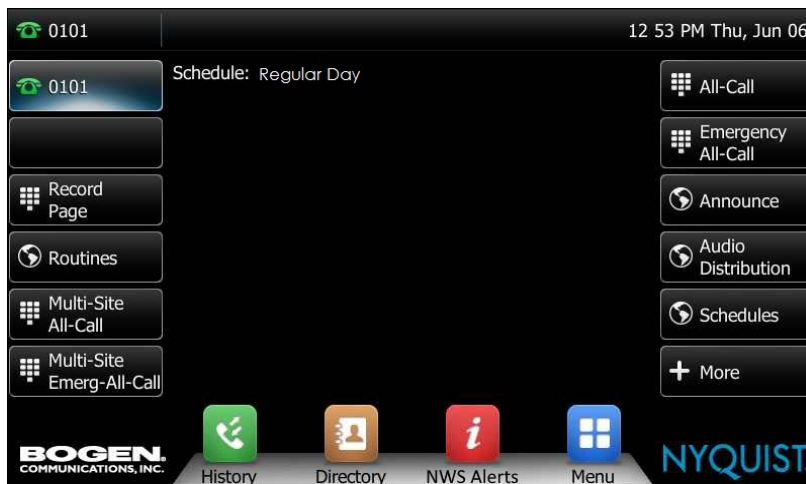


Figure 30. Admin Phone Display

For more information, refer to the Nyquist NQ-T1100's *Admin Phone User Guide*.

Using Announcements

Announcements are prerecorded audio files that can be scheduled to play during specific times and in specific zones, played manually via the dashboard, or played via routine actions. Announcements can be either normal announcements, such as prerecorded announcements about upcoming site events, or emergency announcements, such as prerecorded shelter-in-place announcements that can be played during events such as tornado warnings or active shooter scenarios.

Announcements can also precede a page.

Note: Make sure that stations and zones have been configured and that the station you are using to launch an announcement has the appropriate Class of Service (CoS) parameters set. The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

Starting and Stopping Announcements

You can launch previously recorded announcements from the dashboard and select the zone where the announcement will play.

To start and stop an announcement:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

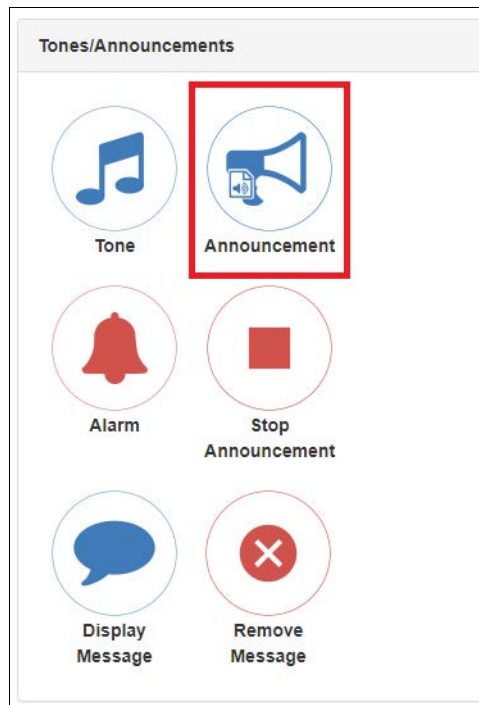


Figure 31. Announcement Icon

- 2 Under **Tones/Announcements**, select **Announcement**.

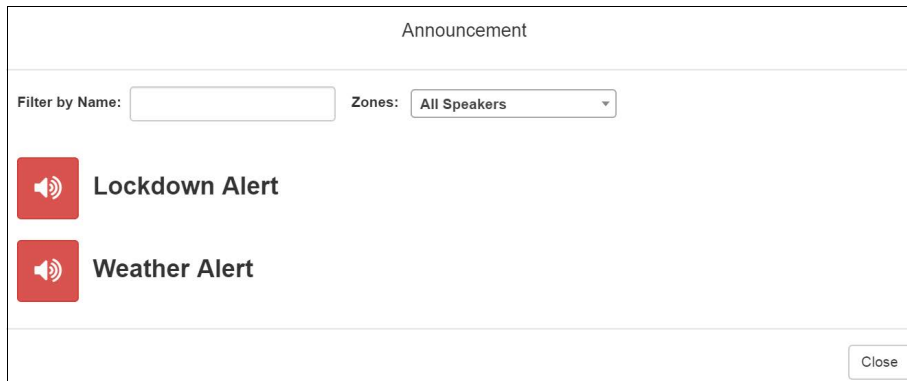


Figure 32. Announcement Page

- 3 On the Announcement page, use the **Zones** drop-down menu to select the zone where the announcement will play.
- 4 Select the announcement that you want to launch.

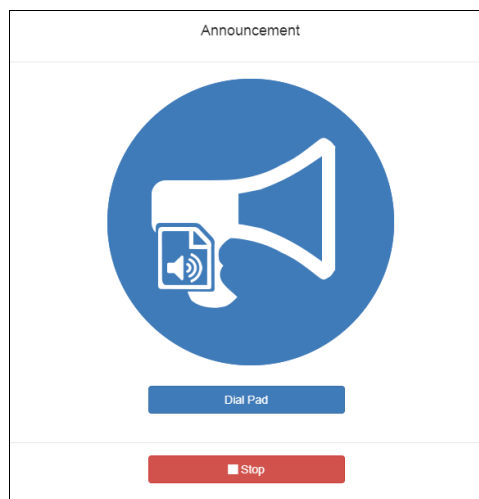


Figure 33. Announcement Page with Stop Button

- 5 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 6 If prompted, enter **1** for confirmation.
- 7 To end the announcement, select **Stop** (or **Close**, if the **Dial Pad** is displayed).
- 8 You also can stop an announcement by performing the following steps:
 - a) Under **Tones/Announcements**, select **Stop Announcement**.
 - b) Follow screen prompts.

An announcement ends automatically after it has reached its number of times to play.

If multiple announcements are playing, you can select to stop a specific announcement or stop all active announcements.

To stop an announcement when multiple announcements are running:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under **Tones/Announcements**, select **Stop Announcement**.
- 3 On the Stop Announcement page, select the announcement that you want to stop or select **Stop All Announcements**.

- 4 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.

Facility Announcement

If your system is configured with multiple facilities, you can use the Facility Announcement feature to play a predefined announcement at any one or more facilities.

Because the announcement will play simultaneously but independently at each facility, there are several behaviors of which the user should be aware:

- The announcement will *not* be synchronized across speakers from different facilities. If there are locations that are within hearing range of speakers from more than one facility, this could result in overlapping but unsynchronized audio playback.
- When playing announcements at remote facilities, the actual Announcement Audio to be played at each facility is determined by the DTMF code of the selected announcement. If a remote facility is configured with a different Announcement Audio for that DTMF code than that of the local facility, that facility will play a different audio announcement.
- Stopping the announcement through the Dashboard will only stop the audio for the current facility. To stop the announcement at other facilities, the user must log into the Dashboard of each facility and stop the announcement using the Stop Announcement button. For this reason, it is strongly recommended announcements *not* be configured for continuous play (i.e., "Times to Play" equal to zero) if they will be used for multi-facility announcements.

The screenshot shows a web interface titled "Facility Announcement". At the top, there are controls for "Sort By:" with "Number" selected, "Name", and a "Filter by Number:" input field. Below that is an "Announcement:" dropdown menu currently set to "None". The main area contains three rows, each with a checkbox, a green speaker icon, and a facility name: "All Facilities", "DEB10-C4000-R3-01", and "DEB10-E7000-R6-01". At the bottom, there is a large blue "Start Announcement" button with a speaker icon and a "Close" button.

Figure 34. Facility Announcement

To start a facility announcement:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Multi-Site Calling/Paging, select **Facility Announcement**.

- 3 Select the announcement that you want to play from the Announcement drop-down.
- 4 Select one or more of the specified facilities at which the announcement is to be played. Selecting **All Facilities** will select all the facilities for you. Note that you can sort and filter the list of facilities by Name or Number.
- 5 Select the **Start Announcement** button.

Tip: As an alternative to the previous two steps, you can select the green announcement button next to a listed facility to immediately start the announcement at that one single facility.

- 6 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 7 If prompted, enter 1 for confirmation.
- 8 If prompted, allow C4000 to use the microphone associated with your station.

Note: See "Facility Announcement Priorities" on page 34 for details on how to determine if the announcement was successfully played.

- 9 To end the announcement at the current facility, select Stop (or Close, if the Dial Pad is displayed).

Announcements, Facilities, Zones, and Priorities

You can select to play an announcement to a zone, to all speakers, or to one or more facilities. The Nyquist system also supports the simultaneous playing of multiple announcements to different zones.

However, there are some set rules and priorities that govern how and when announcements play. For example, announcements played via an I/O controller can be played to a selected zone but not to **All Speakers**.

When you attempt to play a non-emergency, or **Normal**, announcement to a zone, you will receive a busy signal if any of the following are true:

- An announcement, page, or recorded page is being played on the zone.
- An announcement is being played to **All Speakers**.
- An Alarm, Tone, All-Call, or Emergency All-Call is being played.

A **Normal** announcement plays to **All Speakers** only if all zones are idle and no higher level audio is playing. You will receive a busy signal if any of the following are true:

- A **Normal** or **Emergency** announcement is already playing to **All Speakers**.
- An announcement is already playing to a zone.
- A page or queued page is already playing to a zone.
- An Emergency-All-Call, All-Call, Alarm, or Tone is already playing.

If you attempt to play an emergency announcement to a zone or to **All Speakers**, you will receive a busy signal if any of the following are true:

- An emergency announcement is already playing to the zone or to **All Speakers**.
- An Emergency All-Call is already playing.

If you attempt to play an emergency announcement to a zone or to **All Speakers** that is already playing a non-emergency announcement, an alarm or tone, a page or queued page, or an All-Call, the emergency announcement takes priority. A currently playing non-emergency announcement, alarm or tone, page or queued page, or All-Call will stop playing.

An **Emergency** announcement can be played on a zone while a Normal announcement plays on a different zone. Multiple **Emergency** and **Normal** announcements can be played to different zones (but not to **All Speakers**).

Scheduled Announcement Rules

Scheduled announcements follow slightly different rules. When you schedule an announcement, you can set the Maximum Wait Seconds parameter to indicate how many seconds to wait for an active page or announcement to finish before giving up.

For example, if the Maximum Wait Seconds is set to 120 seconds, when the system attempts to play the announcement at the scheduled time, if a page or announcement is already actively using the Zone, the scheduled announcement will wait up to 120 seconds for the Zone to become idle. If the Zone becomes idle in less than 120 seconds, the system will play the announcement. If the Zone is still busy after 120 seconds, the scheduled announcement will not play.

Facility Announcement Priorities

When making announcements to remote facilities, there is the possibility that one or more facilities may be unable to make the announcement due to higher priority features that are currently executing at that facility.

When you attempt to play a non-emergency, or **Normal**, announcement to remote facilities, you will receive a busy signal for any of the following scenarios.

- The local facility is targeted and it is executing a higher priority feature.
- Only one remote facility is targeted and it is executing a higher priority feature.

For all other scenarios, you will hear "Announcement on" and any facilities that were unable to play the announcement will record a busy status in the Call Details Record. This implies that when the local facility and one or more remote facilities are targeted, the busy signal and "Announcement on" indicators reflect the status of the local facility only; the announcement may or may not have played at the remote facilities.

Setting Up Facility Announcements

For announcements that will be played across remote facilities, ensure that the announcement has been added to each remote facility and that each has the same DTMF Code.

Because remote facility announcements cannot be stopped the same way as local announcements, announcements configured for continuous play (i.e., "Times to Play" property equal to zero) should not be used as facility announcements.

Tip: If you wish to play an announcement continuously on the local facility, yet use the same announcement remotely via Facility Announcements, configure two versions of the announcement at each facility: one for continuous play (i.e., "Times to Play" equals zero) and one for non-continuous play (i.e., "Times to Play" is non-zero). Ensure the DTMF code for the non-continuous announcements have the same value at each facility. Only the non-continuous version of the announcement will be displayed for play to remote facilities.

Recording Announcements

To record an announcement:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Select the **Dial Pad** icon.
- 3 Dial *990 and press **Send**.
- 4 Follow the voice prompts to record your announcement.

Alternatively, the NQ-T1100 Admin phone can be used by selecting **Record Announcement** in the phone's **Announce** menu.

After you finish recording an announcement, you can use the Announcements page to update the new announcement's name, DTMF code, and other parameters.

Adding an Announcement

You can upload an announcement, which can be an audio recording, such as a message or tone. The announcement can be scheduled to play at certain times and in certain zones.

Through the Add Announcement page, you also can enter text to be converted into speech, provided you have the feature license that allows this option.

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

Figure 35. Add Announcement Page

To upload an announcement file:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Announcements**.
- 3 On the Announcements page, select the **Add** icon.
- 4 Complete the parameters on the Add Announcement page (see *Table 10*).
- 5 Select **Save**.

Table 10. Add Announcement Page Parameters

| | |
|-------------|--|
| Name | Provide a name for the announcement. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-. , . |
| Type | Use the drop-down menu to select if the announcement is Normal or Emergency . |

Table 10. Add Announcement Page Parameters (Continued)

| | |
|---------------------------------------|---|
| DTMF Code | <p>Provide a DTMF code for this announcement to use when manually starting the announcement from an Admin Phone. The number can have from 1 to 10 digits. You cannot assign the same DTMF code to multiple announcements.</p> <p><i>Note:</i> When you record an announcement by dialing *990 or by selecting Record Announcement on the Admin phone's Announce menu, the initial DTMF Code for the recorded and saved announcement will be set to the announcement's row ID. You can change the DTMF Code after the announcement is saved by editing the announcement in the web interface Announcements view.</p> <p><i>Note:</i> The saved announcement has Play to Zone set to blank (no zone selected). This means that when you play an announcement via an IP phone Announcement menu selection, you will be asked to enter a zone number (where 0 = All Speakers). You can define a permanent zone number for the saved announcement by updating Play to Zone after the recorded announcement has been saved.</p> |
| File Upload | <p>Select Choose File, navigate to the audio file for this announcement, and then select the file. Nyquist supports both WAV and MP3 file formats.</p> <p><i>Note:</i> This option appears only if you have selected the File Upload tab.</p> |
| Times to Play | <p>Select the number of times the announcement will play. Parameters are between 0 and 10.</p> <p><i>Note:</i> A setting of 0 results in the playing continuously until it is manually stopped via the dashboard.</p> <p><i>Note:</i> Announcements configured for continuous playback should not be used with the Facility Announcement feature.</p> |
| Time Between Repeats (seconds) | <p>Select the time in seconds between replaying of the announcement. You can select between 0.5 and 5.0 in 0.5 increments.</p> |
| Text-To-Speech | <p>Type the text that you want converted to speech for this announcement. Ensure that the File Upload parameter is blank. The system will generate a .wav file.</p> <p><i>Note:</i> This field appears only if you have the Text-To-Speech feature license.</p> |
| Play to Zone | <p>Select either All Speakers or a specific zone for this announcement to play.</p> <p><i>Note:</i> If the Type for the station is set to Admin Web Interface, Admin Phone, IP Phone, Analog Phone, or Mobile Device and an Announcement Zone was set for the station, the Announcement Zone overrides the Play to Zone.</p> |

Table 10. Add Announcement Page Parameters (Continued)

Description

Provide a description of the announcement.

Note: Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-,.,.

Using SSML for Text-to-Speech Entries

You can use Speech Synthesis Markup Language (SSML), an XML-based markup language for speech synthesis applications, when typing text that you want converted to speech for announcements. You can use SSML formatting to insert pauses, adjust speech rate, adjust voice pitch, adjust output volume, add emphasis to speech, or spell words phonetically. The following table provides examples of SSML formats that can be used when adding announcements.

Table 11. SSML Formats for Text-to-Speech Entries

Insert Silence/Pauses

- This is not `<break strength='none' />` a pause.
- This is a `<break strength='x-weak' />` phrase break.
- This is a `<break strength='weak' />` phrase break.
- This is a `<break strength='medium' />` sentence break.
- This is a `<break strength='strong' />` paragraph break.
- This is a `<break strength='x-strong' />` paragraph break.
- This is a `<break time='3s' />` three second pause.
- This is a `<break time='4500ms' />` 4.5 second pause.
- This is a `<break />` sentence break.

Adjust Speech Rate

- I am now `<prosody rate='x-slow'>`speaking at half speed.`</prosody>`
- I am now `<prosody rate='slow'>`speaking at 2/3 speed.`</prosody>`
- I am now `<prosody rate='medium'>`speaking at normal speed.`</prosody>`
- I am now `<prosody rate='fast'>`speaking 33% faster.`</prosody>`
- I am now `<prosody rate='x-fast'>`speaking twice as fast`</prosody>`
- I am now `<prosody rate='default'>`speaking at normal speed.`</prosody>`
- I am now `<prosody rate='.42'>`speaking at 42% of normal speed.`</prosody>`
- I am now `<prosody rate='2.8'>`speaking 2.8 times as fast`</prosody>`
- I am now `<prosody rate='-0.3'>`speaking 30% more slowly.`</prosody>`
- I am now `<prosody rate='+0.3'>`speaking 30% faster.`</prosody>`

Table 11. SSML Formats for Text-to-Speech Entries (Continued)

Adjust Voice Pitch

- `<prosody pitch='x-low'>This is half-pitch</prosody>`
- `<prosody pitch='low'>This is 3/4 pitch.</prosody>`
- `<prosody pitch='medium'>This is normal pitch.</prosody>`
- `<prosody pitch='high'>This is twice as high.</prosody>`
- `<prosody pitch='x-high'>This is three times as high.</prosody>`
- `<prosody pitch='default'>This is normal pitch.</prosody>` `<prosody pitch='-50%'>This is 50% lower.</prosody>`
- `<prosody pitch='+50%'>This is 50% higher.</prosody>`
- `<prosody pitch='-6st'>This is six semitones lower.</prosody>`
- `<prosody pitch='+6st'>This is six semitones higher.</prosody>`
- `<prosody pitch='-25Hz'>This has a pitch mean 25 Hertz lower.</prosody>`
- `<prosody pitch='+25Hz'>This has a pitch mean 25 Hertz higher.</prosody>`
- `<prosody pitch='75Hz'>This has a pitch mean of 75 Hertz.</prosody>`

Adjust Output Volume

- `<prosody volume='silent'>This is silent.</prosody>`
- `<prosody volume='x-soft'>This is 25% as loud.</prosody>`
- `<prosody volume='soft'>This is 50% as loud.</prosody>`
- `<prosody volume='medium'>This is the default volume.</prosody>`
- `<prosody volume='loud'>This is 50% louder.</prosody>`
- `<prosody volume='x-loud'>This is 100% louder.</prosody>`
- `<prosody volume='default'>This is the default volume.</prosody>`
- `<prosody volume='-33%'>This is 33% softer.</prosody>`
- `<prosody volume='+33%'>This is 33% louder.</prosody>`
- `<prosody volume='33%'>This is 33% louder.</prosody>`
- `<prosody volume='33'>This is 33% of normal volume.</prosody>`

Add Emphasis to Speech

- This is `<emphasis level='strong'>stronger</emphasis>` than the rest.
- This is `<emphasis level='moderate'>stronger</emphasis>` than the rest.
- This is `<emphasis level='none'>the same as</emphasis>` than the rest.


Spell Words Phonetically

You say `<phoneme ph='t ah0 m ey1 t ow0'>tomato</phoneme>`, I say `<phoneme ph='t ah0 m aa1 t ow0'>tomato</phoneme>`

Viewing Announcements

Through the Announcements page, you can view a list of all announcements that are available for scheduling, delete an announcement, and select to edit or add an announcement.

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.



| | Name | Type | DTMF Code | Creation Date/Time | Created By | Times to Play | Time Between Repeats (seconds) | Play to Zone | Description | Playback |
|-------------------------------------|----------------|-----------|-----------|------------------------|------------|---------------|--------------------------------|--------------|-------------|-------------------|
| <input checked="" type="checkbox"/> | Lockdown Alert | Emergency | 1 | Aug 29, 2018 - 7:26am | 0 | Continuously | 1.0 | 20 | Show | ▶ 0:00 / 0:04 🔊 ⋮ |
| <input checked="" type="checkbox"/> | Weather Alert | Emergency | 2 | Aug 29, 2018 - 7:26am | 0 | Continuously | 1.0 | All Speakers | Show | ▶ 0:00 / 0:06 🔊 ⋮ |
| <input checked="" type="checkbox"/> | Noise | Normal | 3 | Sep 11, 2018 - 11:37am | 038 | Continuously | 1.0 | 90 | Show | ▶ 0:00 / 0:08 🔊 ⋮ |
| <input checked="" type="checkbox"/> | Nef Anyo | Normal | 4 | Sep 11, 2018 - 11:41am | 038 | Continuously | 1.0 | 20 | Show | ▶ 0:00 / 0:07 🔊 ⋮ |

Figure 36. Announcements Page

To view a list of all announcements that are available for scheduling:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Announcements**.

The following parameters appear for each announcement file:

Table 12. Announcements Page Parameters

| | |
|---------------------------|---|
| Name | Displays the user-provided name of the announcement file. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-. , . |
| Type | Displays if the announcement is a Normal or an Emergency announcement. |
| DTMF Code | Displays the DTMF code used to manually start the announcement via the dashboard dial pad or IP phone keypad. |
| Creation Date/Time | Displays when the announcement was created. |
| Created By | Displays the extension that is to be considered the source of the announcement for CoS considerations. |
| Times to Play | Displays the number of times the announcement will play. This number can range from 0 through 10. <i>Note:</i> A setting of 0 results in the announcement playing continuously until it is manually stopped via the dashboard. <i>Note:</i> Announcements configured for continuous playback should not be used with the Facility Announcement feature. |

Table 12. Announcements Page Parameters (Continued)

| | |
|--|---|
| Times Between Repeats (seconds) | Displays the time in seconds before replaying the announcement. |
| Play to Zone | Displays either All Speakers or a specific zone for this announcement to play. <i>Note:</i> If the Type for the station is set to Admin Web Interface, Admin Phone, IP Phone, Analog Phone, or Mobile Device and an Announcement Zone was set for the station, the Announcement Zone overrides the Play to Zone . |
| Description | Provides a description of the announcement. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-,. |
| Playback | Allows you to manually play the announcement. Selecting the Menu icon and then the down arrow in this field also allows you to download and save the announcement. |

Editing Announcements

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

From the Edit Announcement page, you can edit an audio file’s parameters such as times to play.

To edit an announcement:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Announcements**.
- 3 On the Announcements page, select the **Edit** icon next to the announcement that you want to edit.
- 4 Make the desired changes (see *Table 13*).
- 5 Select **Save**.

Table 13. Edit Announcement Page Parameters

| | |
|-------------|--|
| Name | Displays the user-provided name of the announcement file. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-,. |
| Type | Indicates if the announcement is a Normal or an Emergency announcement. |

Table 13. Edit Announcement Page Parameters (Continued)

| | |
|--|---|
| DTMF Code | <p>DTMF code for this announcement to use when manually starting the announcement from an Admin Phone. The number can have from 1 to 10 digits. You cannot assign the same DTMF code to multiple announcements.</p> <p><i>Note:</i> When you record an announcement by dialing *990 or by selecting Record Announcement on the Admin phone's Announce menu, the initial DTMF Code for the recorded and saved announcement will be set to the announcement's row ID. You can change the DTMF Code after the announcement is saved by editing the announcement in the web interface Announcements view.</p> <p><i>Note:</i> The saved announcement has Play to Zone set to blank (no zone selected). This means that when you play an announcement via an IP phone Announcement menu selection, you will be asked to enter a zone number (where 0 = All Speakers). You can define a permanent zone number for the saved announcement by updating Play to Zone after the recorded announcement has been saved.</p> |
| Created By | <p>Displays the number for the station used to create or download the announcement.</p> <p><i>Note:</i> This field cannot be edited and only indicates which station created the announcement.</p> |
| Times to Play | <p>Select the number of times the announcement will play. Parameters are between 0 and 10.</p> <p><i>Note:</i> A setting of 0 results in the playing continuously until it is manually stopped via the dashboard.</p> <p><i>Note:</i> Announcements configured for continuous playback should not be used with the Facility Announcement feature.</p> |
| Times Between Repeats (seconds) | <p>Select the time in seconds between replaying of the announcement. You can select between 0.5 and 5.0 in 0.5 increments.</p> |
| Play to Zone | <p>Select either All Speakers or a specific zone for this announcement to play. You can leave this field blank if you want the Nyquist server to prompt for a zone number to use whenever an announcement is started from an IP phone. This will allow callers to direct the announcement to any zone desired at the time it is played.</p> <p><i>Note:</i> If the Type for the station is set to Admin Web Interface, Admin Phone, IP Phone, Analog Phone, or Mobile Device and an Announcement Zone was set for the station, the Announcement Zone overrides the Play to Zone.</p> |
| Description | <p>Provides a description of the announcement.</p> <p><i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@*\$?-,.,</p> |

Deleting an Announcement

Note: You cannot delete an announcement that is used in a routine with an **Announcement** action **Type**. (For more information about routines, refer to the *Nyquist C4000 System Administrator Guide*.)

To delete an announcement that is associated with a schedule, you must delete the schedule announcement first and then delete the announcement. To delete the schedule, contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

To delete an announcement:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Announcements**.
- 3 On the Announcements page, select the **Delete** icon next to the announcement that you want to delete.
- 4 When prompted, select **Delete**.

Creating Temporary Announcements from Routines

It is also possible to create and play an Announcement within a Routine. These announcements are known as Temporary Announcements because they are transient announcements that do not persist and are only usable within that Routine.

Creating a temporary announcement is quite simple. Within the Actions of a Routine, simply include three or more actions in the following sequence:

- 1 One **New-Announcement** action. This indicates the beginning of a temporary announcement.
- 2 One or more **Add-Announcement-Audio** actions. These actions specify the audio to be included in the announcement. Each one specifies one of the following Audio Source Types and the corresponding information:

Table 14. Add-Announcement-Audio audio sources

| | |
|-----------------------|--|
| Announcement | Specifies a predefined Announcement. |
| Number | Specifies a number to be spoken. This includes whether to pronounce the number one digit at a time (e.g., a phone number) or as a number (e.g., a temperature) and whether or not to pronounce the fractional part of the number (i.e, to the right of the decimal point). |
| Text-to-Speech | Specifies the text to be spoken using text-to-speech (TTS) technology. This text can optionally include SSML formatting. |

- 3 One **Play-Announcement** action. This is the action that will actually pronounce the announcement.

- 4 To pronounce several announcements, the previous steps can be repeated multiple times within the same Routine.

Managing Tones

Nyquist provides tones that can be used with events, such as schedules, or as audio indicators, such as alarms. You also can download and generate customized tones or select to use a line input channel as the tone source. Default tones include white noise and pink noise that you can use to tune paging volumes for time-based zones.

Note: Make sure that stations and zones have been configured and that the station you are using to launch an alarm or tone has the appropriate Class of Service (CoS) parameters set. The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

Starting and Stopping Alarms

Alarms are audio files used to indicate a situation, such as a fire. When you elect to sound an alarm, only the tones with a type of **Alarm** appear in the selection list.

To start and stop an alarm:

- 1 On the navigation bar, select **Dashboard**.

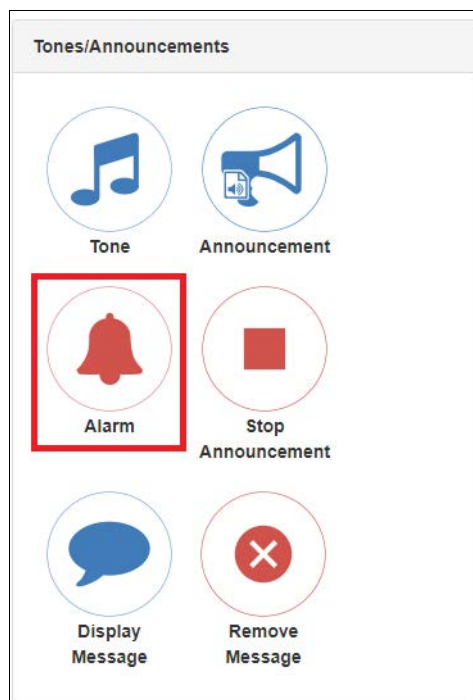


Figure 37. Alarm Button

- 2 Under Tones/Announcements, select **Alarm**.

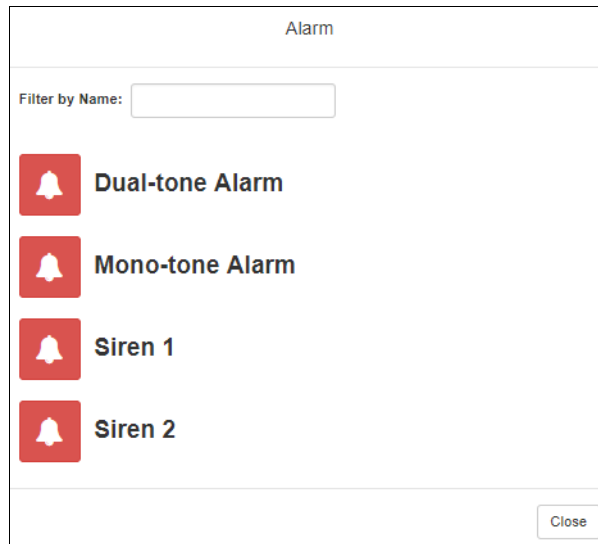


Figure 38. Alarm Page

- 3 On the Alarm page, select the alarm that you want to sound.

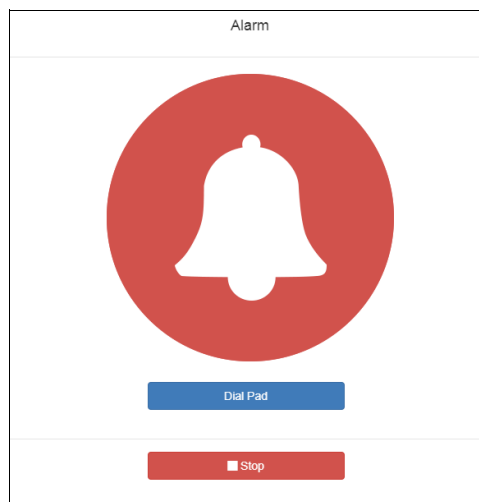


Figure 39. Alarm Page with Stop Option

- 4 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 5 If prompted, enter **1** for confirmation.
- 6 To end the alarm, select **Stop**.

Starting and Stopping Tones

Tones are similar to alarms, but are usually used to signal an announcement or a time-based event. Launching a tone sends a tone to all zones with a **Type** of **Time** or a combination of **Time** and **Paging**, **Audio**, or both.

To start and stop a tone:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

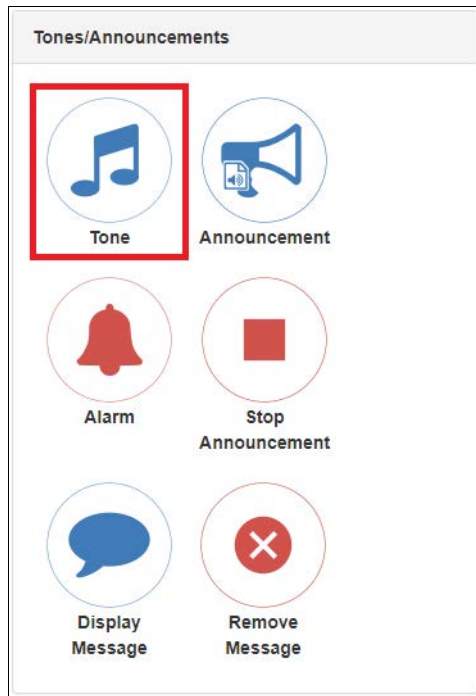


Figure 40. Tone Icon

- 2 Under Tones/Announcements, select **Tone**.

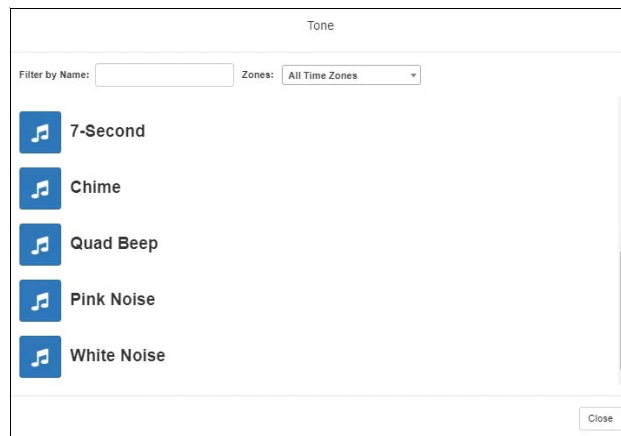


Figure 41. Tone Page

- 3 Select the zone at which you want the tone to play, or select **All Time Zones**.

Note: The only zones that are available are those with a **Type of Time**.

- 4 On the Tone page, select the tone that you want to sound. Only tones that have not been hidden appear.

Note: When a tone is started, the Tone icon on the Dashboard changes from a blue note to a red box to indicate that pressing the button will stop the Tone that is currently playing.

Note: A tone will play continuously if one of three conditions exists: its **Type** is **Alarm**, its **Times to Play** is set to zero (0), or its **Length** is set to zero (0).

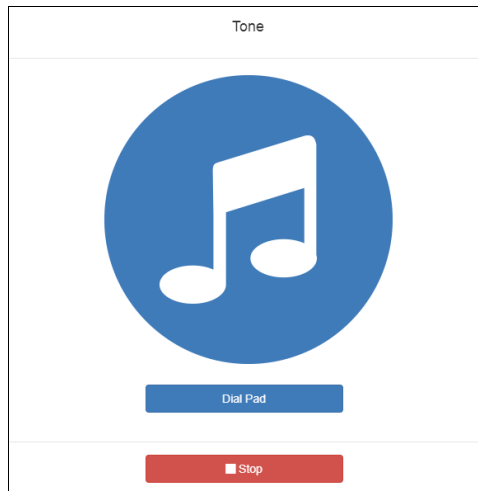


Figure 42. Tone Page with Options

- 5 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 6 If prompted, enter **1** for confirmation.
- 7 Select the **Tone** icon to end the tone. A tone will stop playing automatically after it has reached its number of times to play.

Viewing Available Tones

Through the Tones page, you can view a list of available tones, delete user-provided tones, or select to add or edit a tone. You cannot delete a default tone, but you can prevent it from being viewed on the dashboard or on Admin Phones that have a tones/alarms menu. A hidden tone still appears on the Tones page.

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

| Tones | | | | | | | | Filter |
|-------|-----------|--------|------|-----------|--------|---------------|--------------------------------|-------------|
| | Name | Type | Hide | DTMF Code | Length | Times to Play | Time Between Repeats (seconds) | Playback |
| | 1-Second | Normal | No | 1 | 1 | Continuously | 1.0 | 0:00 / 0:01 |
| | 2-Second | Normal | No | 2 | 2 | Continuously | 1.0 | 0:00 / 0:02 |
| | 3-Second | Normal | No | 3 | 3 | Continuously | 1.0 | 0:00 / 0:03 |
| | 4-Second | Normal | No | 4 | 4 | Continuously | 1.0 | 0:00 / 0:04 |
| | 5-Second | Normal | No | 5 | 5 | Continuously | 1.0 | 0:00 / 0:05 |
| | 6-Second | Normal | No | 6 | 6 | Continuously | 1.0 | 0:00 / 0:06 |
| | 7-Second | Normal | No | 7 | 7 | Continuously | 1.0 | 0:00 / 0:07 |
| | Chime | Normal | No | 8 | 2 | Continuously | 1.0 | 0:00 / 0:01 |
| | Quad Beep | Normal | No | 9 | 1 | Continuously | 1.0 | 0:00 / 0:00 |
| | Siren 1 | Alarm | No | 10 | 1 | Continuously | 0.0 | 0:00 / 0:00 |
| | Siren 2 | Alarm | No | 11 | 1 | Continuously | 0.0 | 0:00 / 0:01 |

Figure 43. Tones Page

To view tones:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Tones**.

The following tables describes the tones parameters that appear.

Table 15. Tones Page Parameters

| | |
|----------------------|--|
| Name | Provides a name for the announcement file. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-. , . |
| Type | Displays the tone type as Normal or Alarm . |
| Hide | Specifies if the tone should be hidden from the dashboard view or Admin Phone menu. |
| DTMF Code | Provides the DTMF code used with manual dial pad announcement or tone activation. |
| Length | Time in seconds that the tone plays. |
| Times to Play | Displays the number of times the tone plays. Parameters are 0 to 10. <i>Note:</i> A setting of zero (0) results in the tone playing continuously until it is manually stopped via the dashboard. |

Table 15. Tones Page Parameters (Continued)

| | |
|---------------------------------------|---|
| Time Between Repeats (seconds) | Displays the time in seconds before the tone is replayed. You can select between 0.5 and 5.0 in 0.5 increments. |
| Playback | Allows you to manually play the tone. Selecting the Menu icon in this field also allows you to download and save the announcement. |

Adding Tones

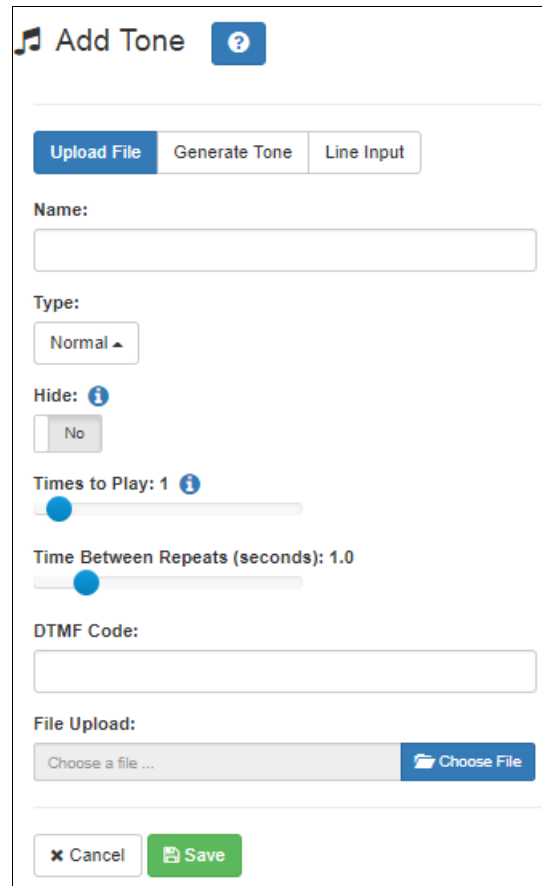
Nyquist provides three ways of adding a tone:

- Uploading a file that is located on your network, local computer, or removable media, such as a flash drive.
- Generating a one-frequency tone that can be saved. (See "*Generating Tones*" on page 51.)
- Using a line-input channel from a two- or four-channel audio power amplifier or Matrix Mixer Pre-Amp which will provide a real-time tone.

In each scenario, you are adding a tone to your Nyquist system that can be used later via either a schedule or manual tone activation.

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

Uploading Tones



The screenshot shows the 'Add Tone' interface with the 'Upload File' tab selected. The form includes a 'Name' text input, a 'Type' dropdown menu set to 'Normal', a 'Hide' checkbox set to 'No', a 'Times to Play' slider set to 1, and a 'Time Between Repeats (seconds)' slider set to 1.0. There is also a 'DTMF Code' text input and a 'File Upload' section with a 'Choose a file ...' button and a 'Choose File' button. At the bottom are 'Cancel' and 'Save' buttons.

Figure 44. Add Tone – Upload File

To upload a tone:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Tones**.
- 3 On the Tones page, select the **Add** icon.
- 4 On the Add Tone page, ensure **Upload File** is selected.
- 5 Complete the parameters (see *Table 16*).
- 6 Select **Save**.

Table 16. Add Tone Page Parameters (Upload)

| | |
|-------------|--|
| Name | Provide a name for this tone. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-._,. |
| Type | Use the drop-down menu to select if the tone is Normal or Alarm . |
| Hide | Specify if the tone is to be hidden or displayed on the dashboard view. |

Table 16. Add Tone Page Parameters (Upload) (Continued)

| | |
|---------------------------------------|---|
| Times to Play | Select the number of times the tone will play. Parameters are 0 through 10. <i>Note:</i> A setting of 0 results in the tone playing continuously until it is manually stopped via the dashboard. |
| Time Between Repeats (Seconds) | Select the time in seconds between replaying of the tone. You can select between 0.5 and 5.0 in 0.5 increments. |
| DTMF Code | Provide the DTMF code used when manually activating the tone via dashboard dial pad or IP phone keypad. |
| File Upload | Select Choose File , navigate to the audio file, and then select the file. |

Generating Tones

Generating a one-frequency tone is another way to add a tone if you do not want to use the default tones and do not have a way to upload a tone from a network or removable media location.

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

The screenshot shows a web interface titled "Add Tone" with a help icon. It features three tabs: "Upload File", "Generate Tone" (which is active), and "Line Input". Below the tabs are several configuration options: a "Name" text input field; a "Type" dropdown menu set to "Normal"; a "Hide" toggle switch set to "No"; a "Frequency (Hz)" text input field set to "550"; a "Duration (seconds)" slider set to "1.0"; a "Times to Play" slider set to "1"; a "Time Between Repeats (seconds)" slider set to "1.0"; and a "DTMF Code" text input field. At the bottom, there are "Cancel" and "Save" buttons.

Figure 45. Add Tone – Generate Tone

To generate a tone:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Tones**.
- 3 On the Tones page, select the **Add** icon.
- 4 On the Add Tone page, select **Generate Tone**.
- 5 Complete the parameters (see *Table 17*).
- 6 Select **Save**.

Table 17. Add Tone Page Parameters (Generate)

| | |
|---------------------------------------|---|
| Name | Provide a name for this tone. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-. , . |
| Type | Select if the announcement to follow is a normal or an emergency announcement. |
| Hide | Specify if the tone is to be hidden or displayed on the dashboard view. |
| Frequency (Hz) | Enter the frequency for the tone. You can select a frequency from 300 to 2000 Hz. |
| Duration (seconds) | Enter the time in seconds that the tone is to play. |
| Times to Play | Select the number of times the file will play. Parameters are 0 through 10. <i>Note:</i> A setting of 0 results in the file playing continuously until it is manually stopped via the dashboard. |
| Time Between Repeats (seconds) | Select the time in seconds between replaying of the file. You can select between 0.5 and 5.0 in 0.5 increments. |
| DTMF Code | Provide the DTMF code used when manually activating the tone via dashboard dial pad or IP phone keypad. |

Using Line Input for Tones

Selecting Line Input from the Add Tone page allows you to select a two-channel or four-channel audio power amplifier channel or MMPA channel to use as a real-time source for a tone.

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

The screenshot shows the 'Add Tone' interface with the 'Line Input' tab selected. At the top, there are three buttons: 'Upload File', 'Generate Tone', and 'Line Input'. Below these are several form fields: a text input for 'Name', a dropdown for 'Type' set to 'Normal', a 'Hide' toggle set to 'No', a text input for 'Length' set to '0', a text input for 'DTMF Code', and two dropdown menus for 'Amplifiers/Matrix Mixers' and 'Input Channel'. At the bottom, there are 'Cancel' and 'Save' buttons.

Figure 46. Add Tone – Line Input

To add a line input tone:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Tones**.
- 3 On the Tones page, select the **Add** icon.
- 4 On the Add Tone page, select **Line Input**.
- 5 Complete the parameters (see *Table 18*).
- 6 Select **Save**.

Table 18. Add Tone Page Parameters (Line Input)

| | |
|---------------|--|
| Name | Provide a name for this tone. <i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-. , . |
| Type | Select if the announcement to follow is a normal or an emergency announcement. |
| Hide | Specify if the tone is to be hidden or displayed on the dashboard view. |
| Length | Enter the number of seconds for the tone to play. The length can range from 0 to 999999. <i>Note:</i> A setting of 0 results in the file playing continuously until it is manually stopped via the dashboard. |

Table 18. Add Tone Page Parameters (Line Input) (Continued)

| | |
|---------------------------------|--|
| DTMF Code | Provide the DTMF code used when manually activating the tone via dashboard dial pad or IP phone keypad. |
| Amplifiers/Matrix Mixers | Use the drop-down menu to select the two- or four-channel audio power amplifier or MMPA and its associated station number. |
| Input Channel | Specify the matrix channel being used for input. |

Editing Tones

You can edit parameters of existing tones, but which parameters can be changed depends on whether the tone is a default tone or a user-added tone. For example, you cannot change the **Name** for a default tone, but you can change it for a tone that you added. You also cannot change the Type of a tone if it is used in a routine. Some parameters appear only for Line Input tones.

Note: The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. Contact your system administrator or refer to the *Nyquist C4000 System Administrator Guide*.

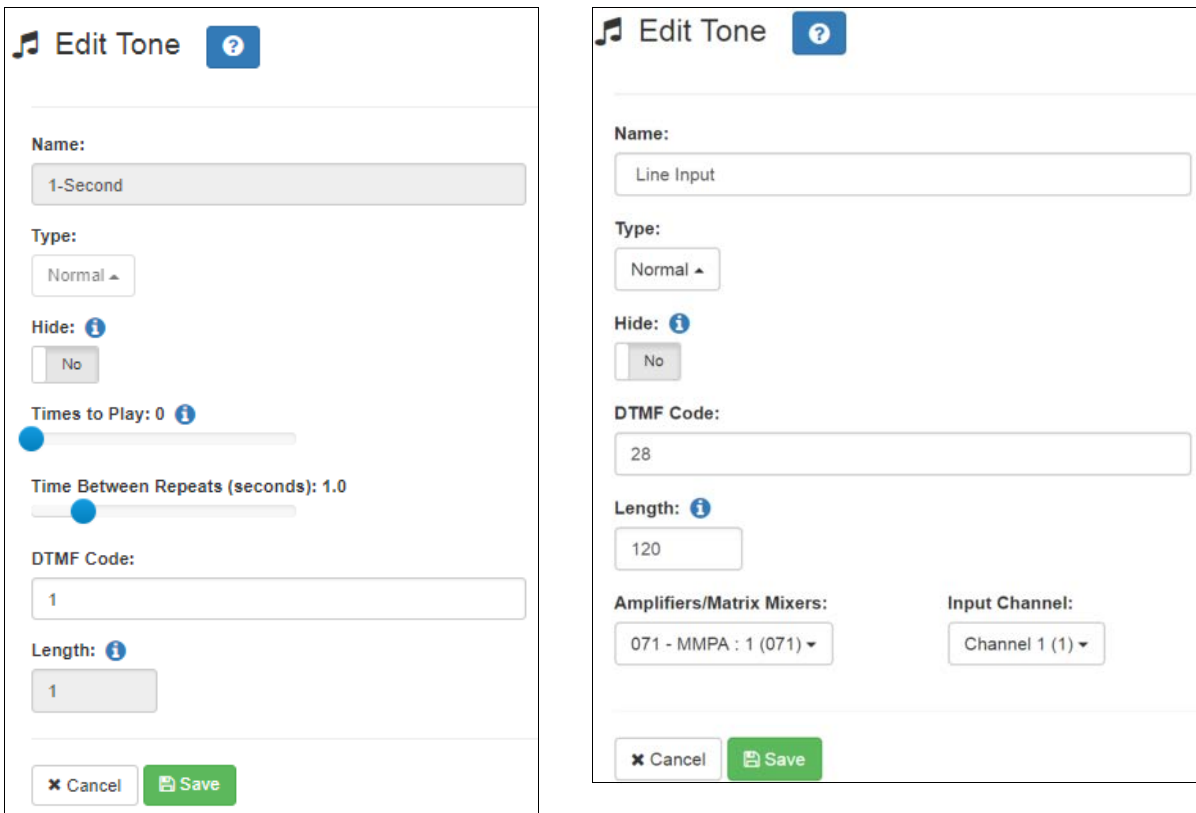


Figure 47. Edit Tone Pages

To edit a tone:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Tones**.

- 3 On the Tones page, select the **Edit** icon.
- 4 On the Edit Tone page, make changes to the parameters (see *Table 19*).
- 5 After completing all changes, select **Save**.

Table 19. Edit Tone Page Parameters

| | |
|--------------------------------------|--|
| Name | <p>Displays the name for this tone.</p> <p><i>Note:</i> This parameter cannot be changed for default system Tones.</p> <p><i>Note:</i> Valid characters include uppercase letters (A–Z), lowercase letters (a–z), numerals (0–9), space, and the following special characters: !@\$*?-. ,</p> |
| Type | Use the drop-down menu to select if the tone is Normal or Alarm . |
| Hide | Specifies if the tone is to be hidden from the dashboard view. |
| Times to Play | <p>Displays the number of times the tone will play. Parameters are 0 through 10.</p> <p><i>Note:</i> A setting of 0 results in the tone playing continuously until it is manually stopped via the dashboard. This parameter does not appear for Line Input tones.</p> |
| Time Between Repeats (second) | <p>Displays the time in seconds between replaying of the tone. You can select between 0.5 and 5.0 in 0.5 increments.</p> <p><i>Note:</i> This parameter does not appear for Line Input tones.</p> |
| DTMF Code | Provides the DTMF code used when manually activating the tone via dashboard dial pad or IP phone keypad. |
| Length | <p>Provides the length of the tone.</p> <p><i>Note:</i> This parameter cannot be changed except for Line Input tones.</p> |
| File Upload | <p>Select Choose File, navigate to the audio file, and then select the file if you want to choose a new file.</p> <p><i>Note:</i> This parameter appears only for user-provided tones but not for Line Input tones.</p> |
| Amplifiers/Matrix Mixers | <p>Specifies the two-channel or four-channel audio power amplifier or MMPA and its associated station number.</p> <p><i>Note:</i> This parameter appears only for Line Input tones.</p> |
| Input Channel | <p>Specifies the matrix channel being used for input.</p> <p><i>Note:</i> This parameter appears only for Line Input tones.</p> |

Deleting a Tone

Note: You cannot delete a tone that is used in a routine with a **tone** action **Type** or if the tone is used as an alarm in an **Alarm** action **Type**.

You can only delete user-added tones.

To delete a tone:

- 1 On the navigation bar, expand **Audio**.
- 2 Select **Tones**.
- 3 On the Tones page, select the **Delete** icon next to the tone that you want to delete.
- 4 When prompted, select **Delete**.

Tone Operational Notes and Limitations

- The system supports playing multiple simultaneous tones, assuming the tones are playing to different zones. If a manual request to play a tone is made while a tone is playing to All Time-type zones, the requester will receive a busy signal and the tone will not be played.
- If a specific zone is not specified, the tone will play to all Time-type zones. In this case, if a queued page is playing in a Time-type zone, the queued page will be stopped and re-queued.
- If a specific zone is specified, the tone will play to the specified zone. In this case, if a queued page is playing in the specified zone, the queued page will be stopped and re-queued. If queued pages are playing in time type zones not equal to the specified zone, those queued pages will continue to play, along with the manual tone to the specified zone.
- If a specific zone is specified, the dashboard message will use the following format:

Tone (<station_extension> -> <zone_name>): <tone_name>

For example:

Tone (100 -> Library): Chime

- Routine triggers that use the Tone or Scheduled-Tone trigger types do not include a zone filter, thus tone-based routine triggers are activated whenever a tone is played to any zone. The routine trigger does include a filter for the tone being played, so you can filter routine execution by the tone being played.

Zone Control: Volume and Audio Distribution Panel

The Zone Control feature presents a simple user interface for controlling volume and audio distributions from any Windows or Android tablet or mobile device that supports the Google Chrome or Microsoft Edge browser. Small devices such as touch-screen tablets can be used to operate Zone Control via the browser.

The Zone Control feature can be used to perform the following:

- Change volume of Audio Distributions and Paging Zones
- Start and stop Audio Distributions

In addition, it has its own configuration settings view. It has two display page views:

- Settings / Zone Filter view (see *Figure 48, "Zone Control Settings and Zone Filter View,"* on page 58)
- Zone View, including an Audio Distribution view (see *Figure 49, "Zone Control Zone View,"* on page 60).

Initial Setup and Settings

The Zone Control feature does not use the same login model as the Nyquist application. All users share the same password, specified as Zone Control Password in the System Parameters Page. The first time a user logs in, they will be directed to the Settings page for initial setup.

To perform the initial user setup:

- 1 Using a Chrome or Edge web browser, enter:

```
https://<server>/zone-control/login
```

where <server> is replaced with the IP Address of your Nyquist server.

Important: Before accessing this page, you must install and trust the Bogen Certificate Authority (CA), as described in "*Bogen Digital Certificate Authority*" on page 119.

- 2 Enter a new username that has not previously been used.

Tip: The username can correspond to an actual user, but if the Zone Control view is to be shared by multiple users, it could correspond to a group, or even a location (e.g., Lobby, Studio3, Library, etc.).

- 3 Enter the Zone Control Password.

Note: This password is intended to secure the feature in general, and is used by all Zone Control users. Be sure to use a password that can be safely shared with anyone that is to use the Zone Control feature.

- 4 You are then presented with the Zone Control Settings and Zone Filter view (see *Figure 48, "Zone Control Settings and Zone Filter View,"* on page 58).
- 5 Select the desired settings, as described in *Figure 20, "Zone Control Settings,"* on page 59.
- 6 Use the Zone Filters to select the zones that you wish to display on the Zone View. The Zone Filter section displays a list of all audio distribution zones. Each includes a checkbox to enable or disable its display in the Zone View. The list also includes "All Speakers" zone (which controls Audio Distribution Cut Level in system settings). When an audio distribution zone is enabled, the audio distribution zone will be displayed on the Zone View.
- 7 If Display Paging Zones is enabled, you can select the Paging Zones that you wish to display on the Zone View. When a paging zone is enabled, the paging zone will be displayed on the Zone View.

- 8 When you are finished making changes to Settings and Zone Filters, press "Save".
- 9 The Zone View will then be displayed (see *Figure 49, "Zone Control Zone View,"* on page 60).

The screenshot displays the 'BOGEN C4000 NYQUIST Zone Control' interface. At the top right, the station name 'Juliet' is shown next to a chat icon and a refresh icon. The interface is divided into two main sections: 'Settings' and 'Zone Filter'.

Settings

| | |
|-------------------------------------|---|
| Station: | 030 |
| Display Audio Distributions: | <input checked="" type="checkbox"/> Yes |
| Display Paging Zones: | <input checked="" type="checkbox"/> Yes |
| Display Volume Cut Level: | <input checked="" type="checkbox"/> Yes |
| Display Zones Header: | <input checked="" type="checkbox"/> Yes |
| Display Audio Distributions Header: | <input checked="" type="checkbox"/> Yes |

Zone Filter

Audio

| | |
|---------------|---|
| All Speakers: | <input checked="" type="checkbox"/> Yes |
| Audio zone: | <input checked="" type="checkbox"/> Yes |
| Zone 2: | <input checked="" type="checkbox"/> Yes |

Paging

| | |
|---------------------|-----------------------------|
| All Call: | <input type="checkbox"/> No |
| Emergency All Call: | <input type="checkbox"/> No |
| Zone 1: | <input type="checkbox"/> No |
| Zone 2: | <input type="checkbox"/> No |

A green 'Save' button is located at the bottom left of the interface.

Figure 48. Zone Control Settings and Zone Filter View

Table 20. Zone Control Settings

| | |
|---|--|
| Station | <p>The Admin Web Interface Station to be associated with this Zone Control login.</p> <p>The Station selected will be used to determine the CoS settings to be used to grant audio distribution permissions. The station extension will also appear in the Call Detail Records when an Audio Distribution is started or stopped.</p> <hr/> <p><i>Tip:</i> You may want to create a custom Admin Web Station with limited access, which will then be used by Zone Control users. Keep in mind, however, that these Stations will appear in other feature lists throughout the Nyquist system (e.g., Dashboard’s Audio Distribution list).</p> <hr/> <p><i>Tip:</i> You can also create a custom Station for each Zone Control user. The advantage of this is that Call Detail Records entries can then track which users started and stopped Audio Distributions.</p> <hr/> |
| Display Audio Distributions | <p>When enabled, the Zone View will display available audio distributions for all zones that are selected in the Zone Filter. The audio distributions list is displayed under the related audio distribution zone.</p> <p>When disabled, an audio icon (i.e., a musical note) will be displayed next to each audio zone. Selecting the icon will display a page that shows the audio distributions for that zone.</p> |
| Display Paging Zones | <p>When enabled, the Zone Filter list will include Paging Zones, to allow selected Paging Zones to be displayed on the Zone View.</p> <p><i>Note:</i> When you change this setting, the Zone Filter list does not immediately display the available Paging Zones; you must Save the settings, then go back into the Settings page to view and update the Paging Zones in the Zone Filter list.</p> |
| Display Volume Cut Level (dB) | <p>When enabled, the Zone View will display the numeric value for Cut Level to the right of each volume slider.</p> |
| Display Zones Header | <p>When enabled, a header will be displayed on the top of the page that labels Zone columns (e.g. Name, Description, Cut Level (dB)).</p> |
| Display Audio Distributions Header | <p>When enabled, a header will be displayed above each audio distribution list that labels the columns in the list (e.g. Line-Input/Playlist/Source, Zones, Description).</p> <p><i>Note:</i> The Zones column label is not displayed on the All Speakers zone because the audio is played to All Speakers, not to zones.</p> |

Zone View

The Zone View can be used to control speaker volumes and audio distributions.

To display the Zone View:

- 1 Enter the following into a Chrome or Edge browser:

`https://<server>/zone-control`

Tip: To create a shortcut to the Zone View, you can create a Map Object with an "Open URL" Action to open this link from the Dashboard.

- 2 If you are not already logged in, the Zone Control page will prompt you for a username and the Zone Control password.
- 3 After you have logged in, the Zone View is displayed (see Figure 49, "Zone Control Zone View," on page 60).

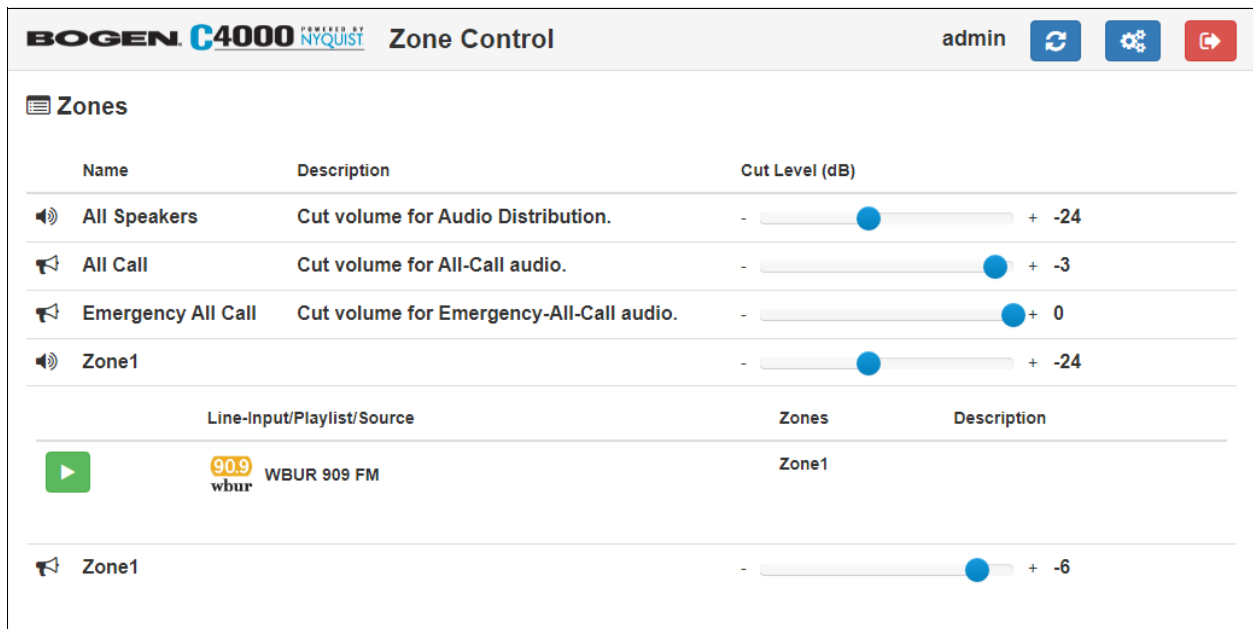





Figure 49. Zone Control Zone View

Table 21. Zone Control buttons

| | |
|--|--|
| | <p>Refresh: Press the Refresh button to have the Zone Controller refresh the volumes and audio distribution settings.</p> |
| | <p>Settings: Press the Settings button to access the Settings page for the logged in user.</p> |

Table 21. Zone Control buttons

| | |
|---|---|
|  | Zones: Press the Zones button to display the Zone View. |
|  | Logout: Press the Logout button to log out of the Zone Controller. |
|  | Audio: Press the Audio button to display the audio distributions that play to the selected Zone. |

The Zone View displays the list of Zones that the user checked in the **Zone View Filter**.

Each listed Zone will include its name, a description, a volume slider, and an Audio icon (if **Display Audio Distributions** was disabled in the **Zone Control Settings**). The volume slider includes a cut-level value and a [-] on the left side and a [+] on the right side to decrease and increase the volume.

A zone's volume can be changed by simply sliding the volume control left or right for the desired zone. While using the slider, keep pressing the mouse or holding your finger down while sliding the volume left or right. When you lift up on the mouse or your finger, you will notice the volume change after a couple of seconds.

If you want to start or stop an Audio Distribution for a displayed zone, press the audio icon. After pressing the audio icon, a window will display a list of audio distributions that play to the selected Zone (see "*Audio Distribution Window*" on page 61). After the user presses start or stop for the desired audio distribution, the window closes and the Zone View is displayed.

If **Display Audio Distributions** is enabled under settings, you will see the available Audio Distributions displayed under each Zone, and can control (i.e., start and stop) the Audio Distribution from the Zone View.

Audio Distribution Window

The Audio Distribution window displays a list of Audio Distributions that play to the selected zone.

Each Audio Distribution in the list includes the start or stop button, a name, a zones list, and a description. The zones list works like the current Dashboard-based Audio Distribution zone list; it indicates when a distribution is being played to multiple zones.

Press the **Start** or **Stop** button for the desired Audio Distribution to start or stop.

After pressing **Start** or **Stop** for the desired audio distribution, the window closes and the Zone View is displayed.

Note: The Audio Distribution Window is only available when **Display Audio Distributions** is set to **No**. When **Display Audio Distributions** is set to **Yes**, the Audio Distribution selections are displayed on the Zones page.

Calling and Paging

Paging and softphone calling features appear in the Calling/Paging section of the dashboard.

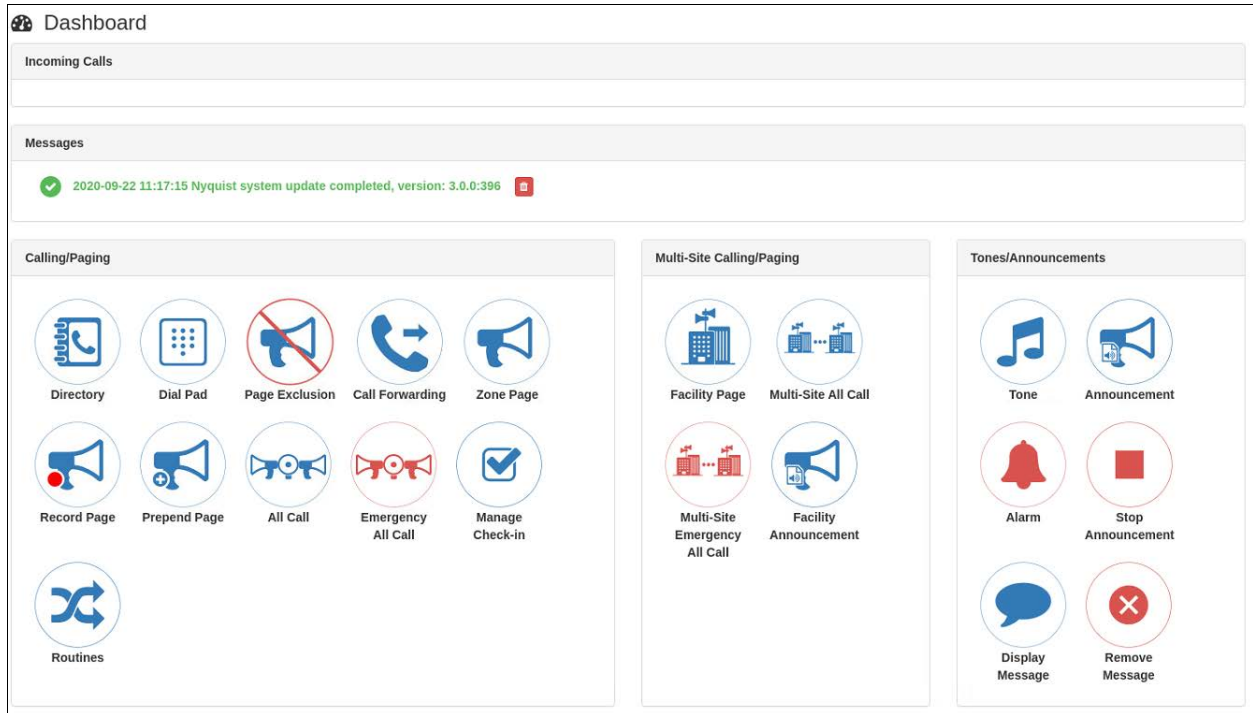


Figure 50. C4000 Dashboard

Making Calls

C4000 provides two ways to place a call via the dashboard:

- Through the use of a directory
- Through the use of a dial pad

If you are calling a second-generation “Digital Call Switch & Speaker” station and no one answers the call (or the station is busy), you can request a callback. The call recipient will see a flashing LED as a Call-back Request Indicator (CRI) to indicate that a callback has been requested.

Note: The callback request feature is only available on a Nyquist system if the Enable Callback Request Indicator system parameter is enabled. A related parameter, Callback Request Indicator Expiration, specifies for how many hours an indicator will be displayed before it is automatically turned off.

Note: Placing intercom calls requires an Intercom License.

Placing Call Using Directory

The C4000 directory is a list of all stations that can receive calls. These can include computers with the Admin Web UI, computers with the Web UI, telephones, VoIP speakers, or digital call switches and speakers.

To place a call using the directory:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

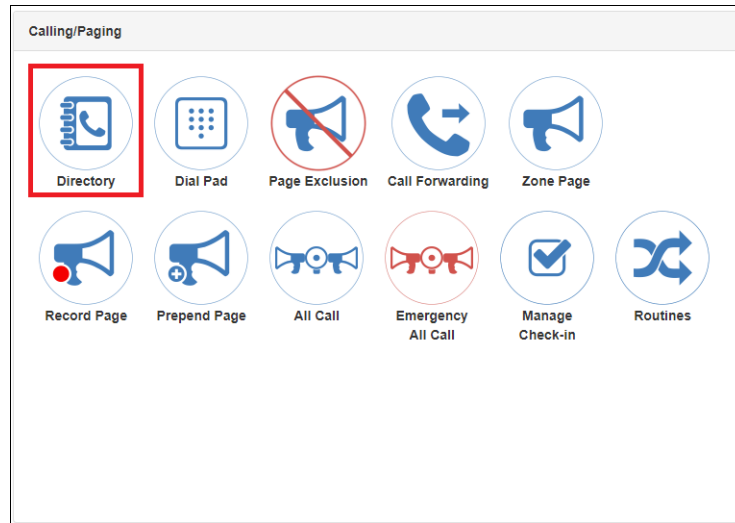


Figure 51. Directory Button

- 2 Under Calling/Paging, select **Directory**.

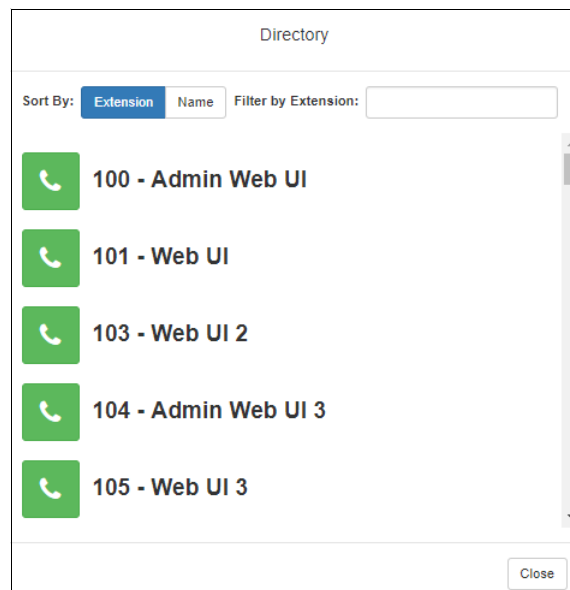


Figure 52. Directory Page

- 3 On the Directory popup, select the extension that you want to call. Note that you can sort the list of extensions by extension number or name.

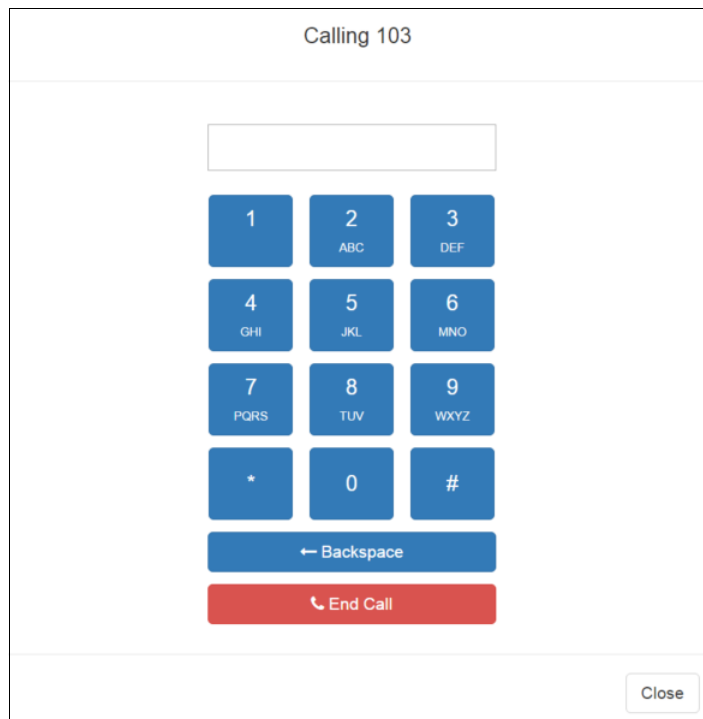


Figure 53. Calling Extension

- 4 Select **End Call** to end the call.

Note: The directory may also include Amplifier stations. If you place a call to an Amplifier station, the placed call becomes a Page to the speakers attached to the called Amplifier station.

Placing Call Using Dial Pad

To place a call using the Dial Pad:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

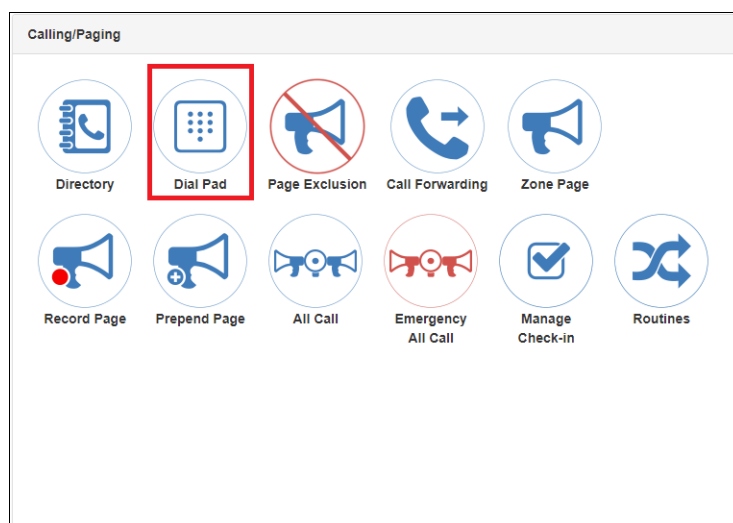


Figure 54. Dial Pad Button

- 2 Under Calling/Paging, select **Dial Pad**.

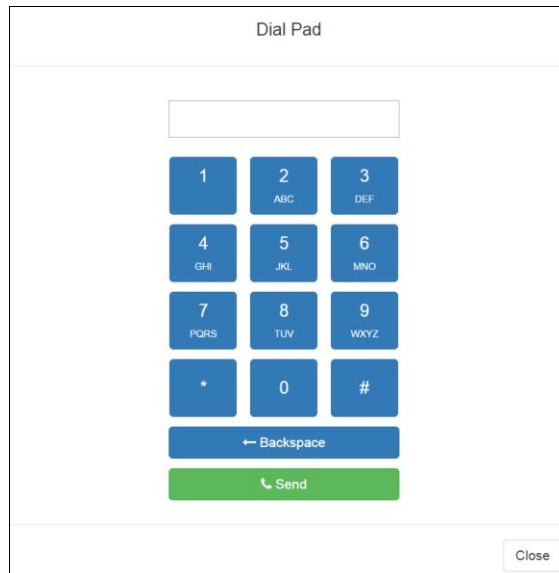


Figure 55. Dial Pad

- 3 Dial the extension or number that you want and select **Send**.
- 4 Select **End Call** to end the call.

To answer a call from another extension:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Select **Answer**.
- 3 Select **End Call** to end the call.

Note: You can also place station-to-station calls by using the NQ-T1100 IP Phone or other IP Phone-based stations.

Call Forwarding

If your station has been configured for call forwarding, you can forward your calls to another extension.

Note that call forwarding is not the same as having your extension set to ring at an Admin Station during day or night hours. Your Nyquist system administrator sets the Day Admin and Night Admin for your station. Call forwarding is an option that you can set for your station.

To forward calls to another extension:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

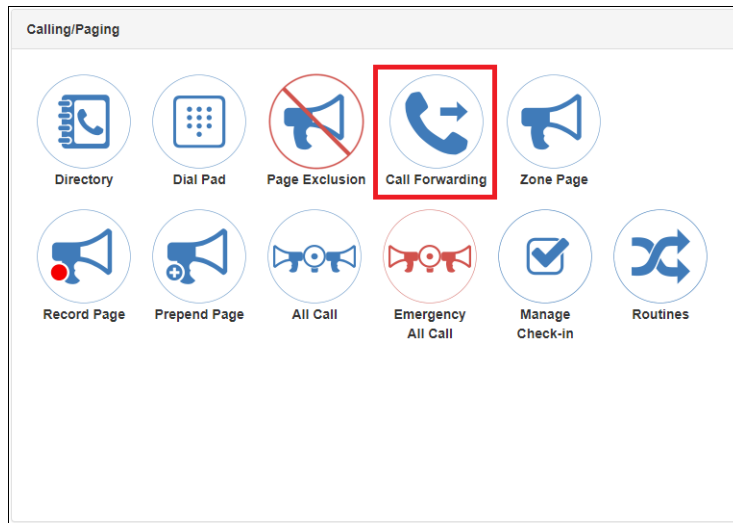


Figure 56. Call Forwarding Button

2 Under Calling/Paging, select **Call Forwarding**.

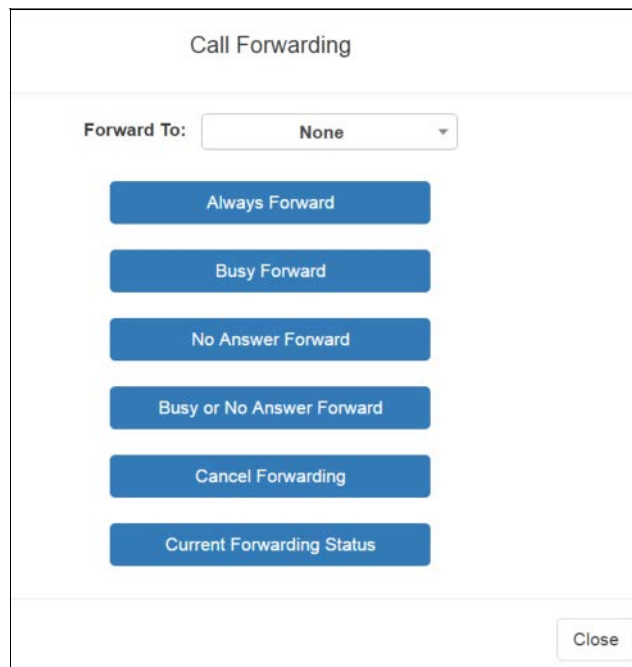


Figure 57. Call Forwarding Popup Menu

- 3** If prompted that the station wants to use your microphone, select **Allow**.
- 4** Use the drop-down menu to select the extension to which you want calls to be forwarded.
- 5** Select one of the following options:
 - Always Forward
 - Busy Forward
 - No Answer Forward
 - Busy or No Answer Forward
 - Cancel Forwarding
 - Current Forwarding Status

Starting Pages

Depending on how your C4000 system is set up, you can launch All Call paging to all speakers, Emergency All Call paging to all speakers, Zone paging to a specific zone, Facility paging to one or more selected Facilities, Multi-Site All Call paging to all speakers at all Facilities, and Multi-Site Emergency All Call paging to all speakers at all Facilities.. You also can select an announcement to play before you make a page.

Single-Zone Paging

To make a single-zone page via the dashboard:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

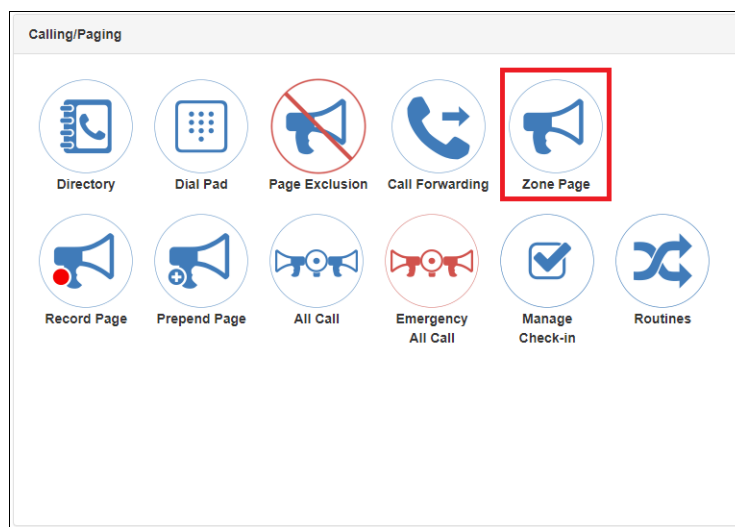


Figure 58. Zone Page Button

- 2 Under Calling/Paging, select **Zone Page**.

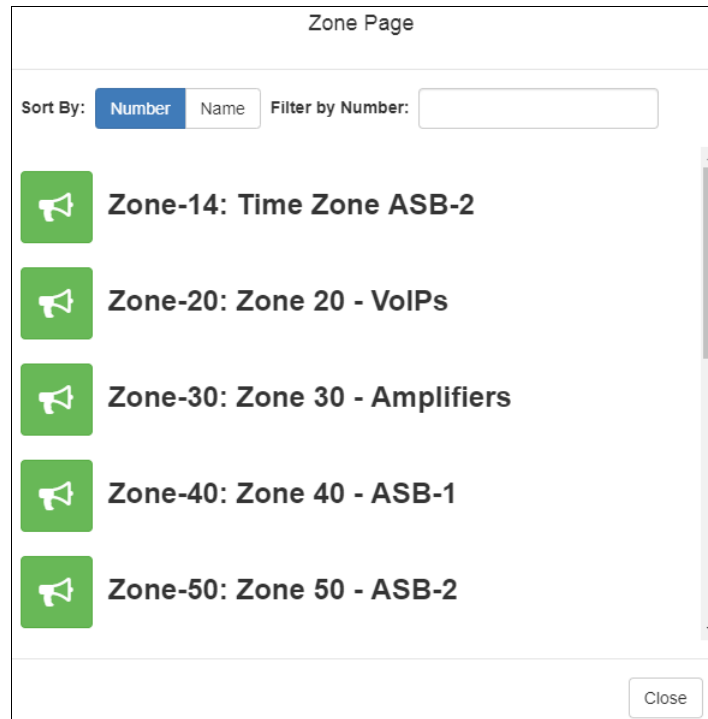


Figure 59. Paging Single Zone

- 3 On the Page popup, select the zone that you want to page.

Note: You can sort the zones by Name or Number.

- 4 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 5 If prompted, enter **1** for confirmation.
- 6 If prompted, allow C4000 to use the microphone associated with your station.
- 7 After you hear the tone, speak into the microphone.
- 8 Select **End Call** to end the page.



Figure 60. End Call

Record Page

You can record a page to be added to a zone queue. The maximum recording time for a page is 60 minutes. If the recording exceeds 60 minutes, it will time out and not be saved. If the recording is silent for 60 seconds, it will time out and not be saved.

The pages in the zone's queue are played in the order that they are placed in the queue.

A live page started on a zone that is playing a recorded page causes the recorded page to be terminated and sent back to the queue. The interrupted message will play again, from the beginning of the message, when the zone becomes idle. Multi-Site Emergency-All-Call, Multi-Site All-Call, Emergency All-Call, All-Call, Alarm, Tone, and Emergency Announcement also interrupt any playing recorded zone messages. All re-queued interrupted messages will play again, from the beginning of the message, when the zones becomes idle.

Selecting **Disable Audio** causes all recorded messages to stop. The messages will resume play from the beginning when audio is re-enabled.

To record a page for page queuing:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

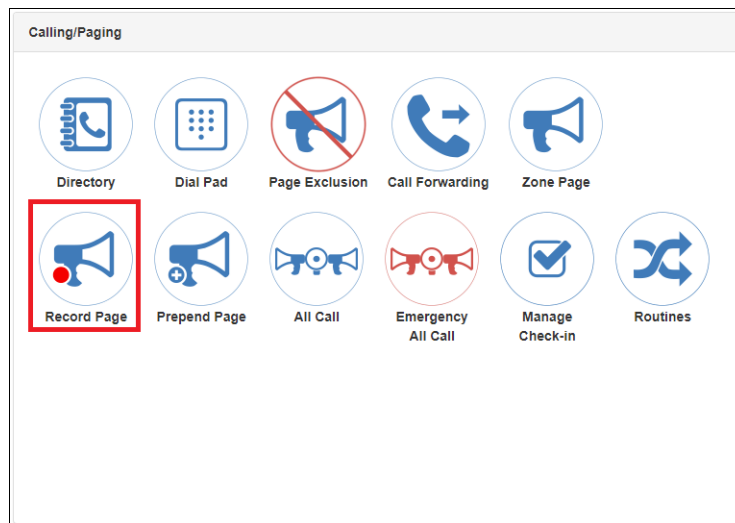


Figure 61. Record Page Button

- 2 Under Calling/Paging, select **Record Page**.

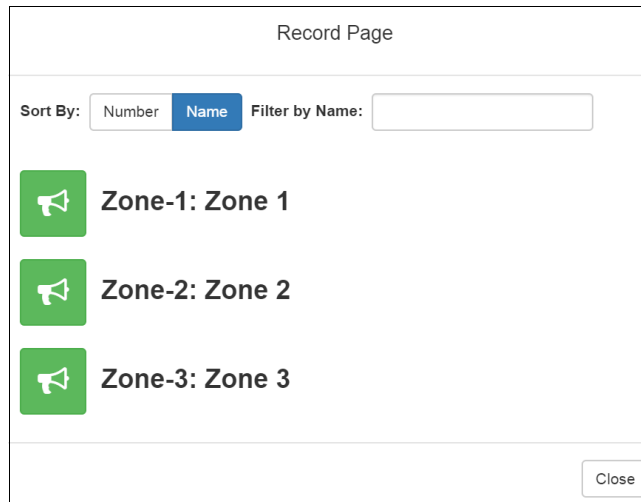


Figure 62. Record Page

- 3 On the Record Page popup, select the queue that you want to page.

Note: You can sort the queues by Name or Number.

- 4 Wait for the tone and then record your message.
- 5 Hang up to end the recording.

Note: Pressing any key terminates the recording without adding the page to the queue.

Prepend Page

You can prepend a page with a special announcement. For example, if you have a prerecorded weather alert announcement, you can prepend that announcement file so that it plays first as you prepare to make a page.

To prepend a page:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

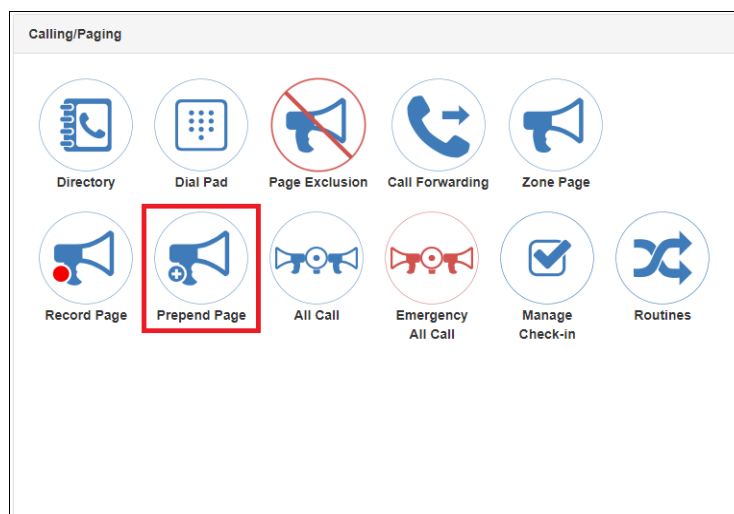


Figure 63. Prepend Page Button

- 2 Under Calling/Paging, select **Prepend Page**.

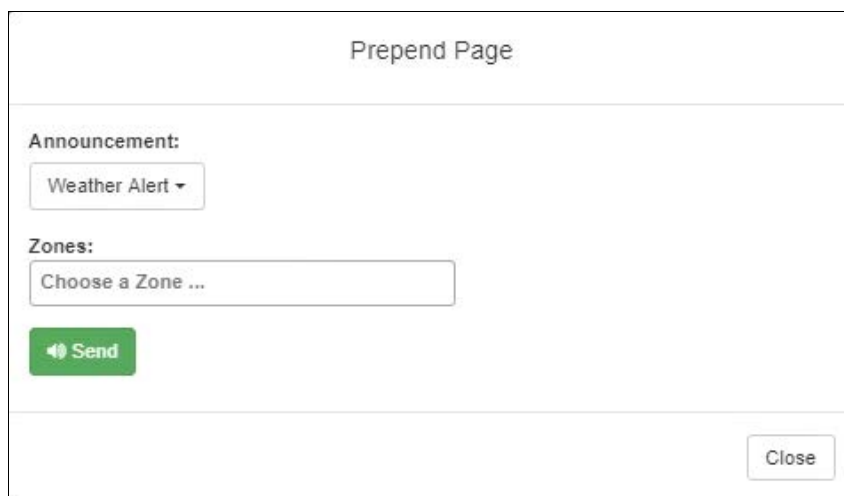


Figure 64. Prepend Page

- 3 On the Prepend Page popup, select the zone that you want to page.

Note: You can sort the zones by Name or Number.

- 4 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 5 If prompted, enter **1** for confirmation.
- 6 If prompted, allow C4000 to use the microphone associated with your station.
- 7 After the prepend announcement ends, speak into the microphone.
- 8 Select **End Call** to end the page.

All Call Paging

All Call paging is a simultaneous page to all facility stations, unless the station has been excluded from pages. An All Call page takes higher priority over zone paging, queued zone paging, non-emergency announcements, and audio distribution. If a queued zone page is interrupted by an All Call page, the queued zone page will repeat after the All Call page is finished..

To launch an All Call page:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

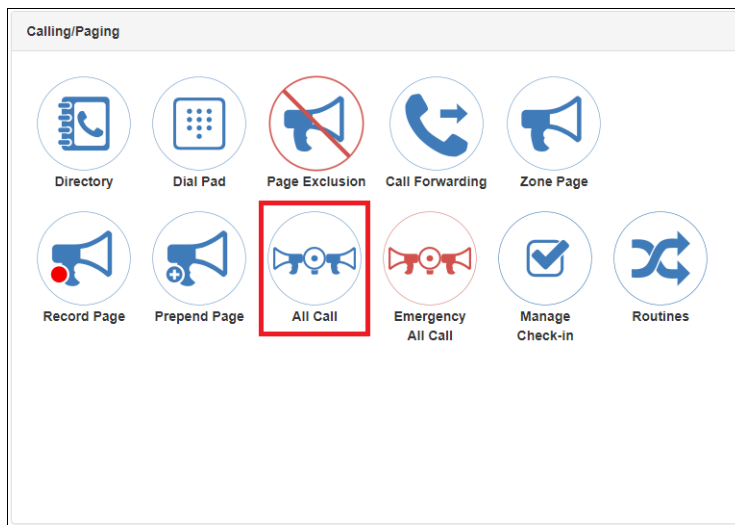


Figure 65. All Call Button

2 Under Calling/Paging, select **All Call**.

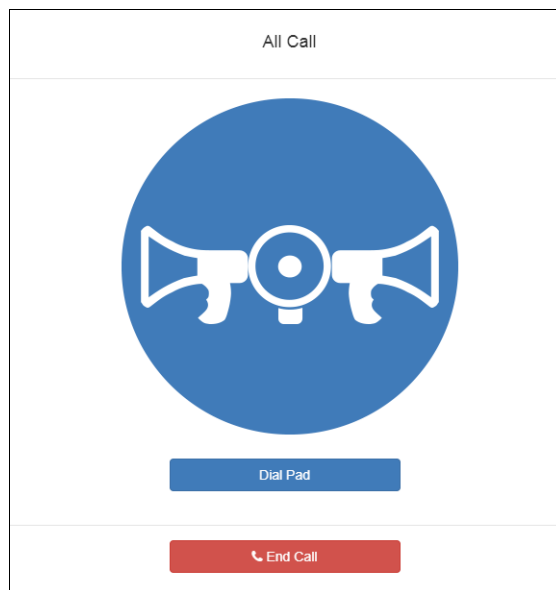


Figure 66. All Call

- 3** If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 4** If prompted, enter **1** for confirmation.
- 5** If prompted, allow C4000 to use the microphone associated with your station.
- 6** After you hear the tone, speak into the microphone.
- 7** Select **End Call** to end the page.

Emergency All Call Paging

An Emergency All Call page is a high priority page that is transmitted to all stations, even to those stations that have been set up for page exclusion. Starting an Emergency All Call page will terminate all audio currently being played on the system (e.g. All-Call page, Zone paging, Announcements, Tones, Alarms, and Audio Distribution).

Note: Audio Distributions that are terminated by Emergency All Call pages are not resumed after the page is finished.

To launch an Emergency All Call page:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

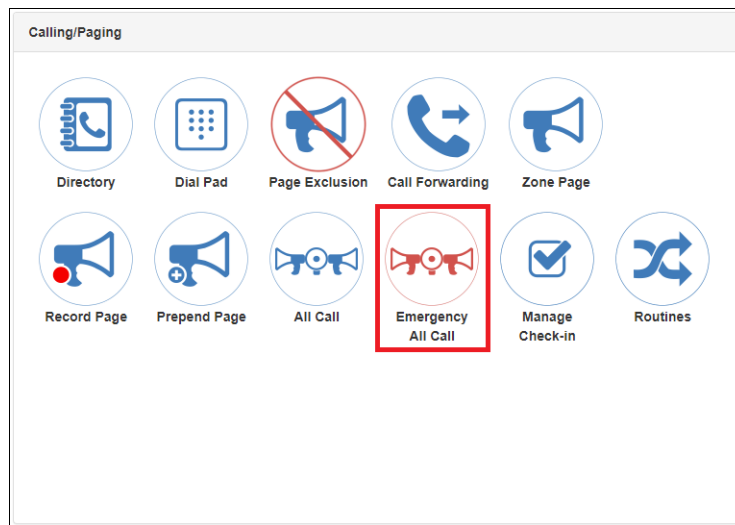


Figure 67. Emergency All Call Button

- 2 Under Calling/Paging, select **Emergency All Call**.

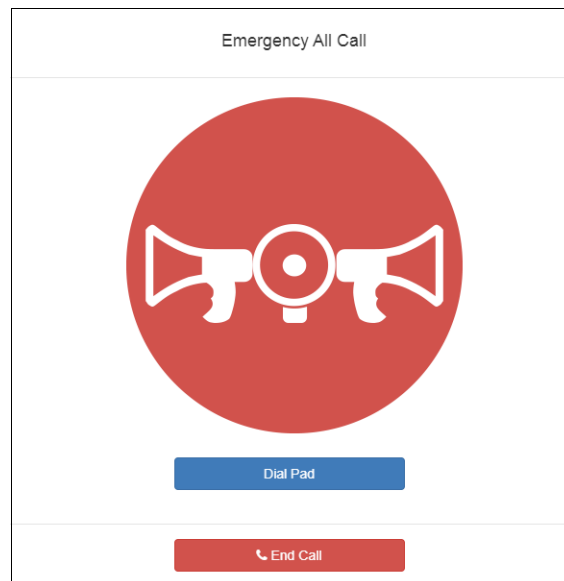


Figure 68. Emergency All Call

- 3 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 4 If prompted, enter **1** for confirmation.
- 5 If prompted, allow C4000 to use the microphone associated with your station.
- 6 After you hear the tone, speak into the microphone.
- 7 Select **End Call** to end the page.

Facility Paging

If your system is configured to use multiple facilities, you can launch a Facility Page.

To launch a facility page:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

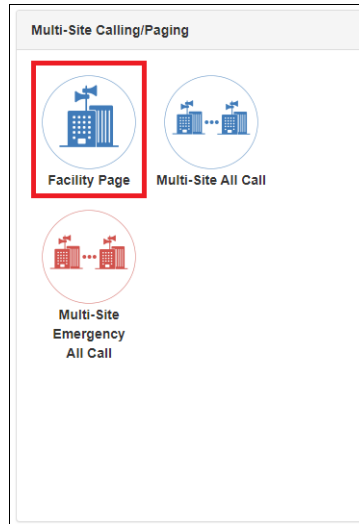


Figure 69. Facility Page Button

- 2 Under Multi-Site Calling/Paging, select **Facility Page**.

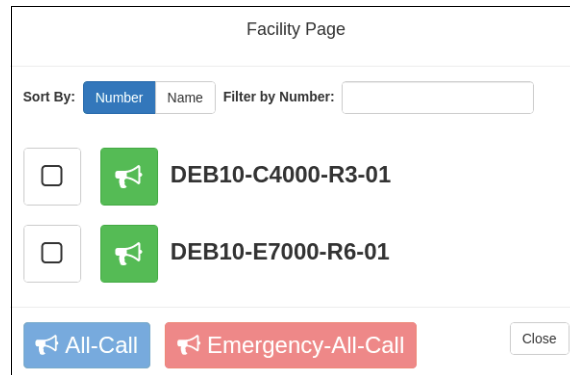


Figure 70. Facility Page

- 3 On the Facilities page, select one or more facilities that you want to page. Note that you can sort and filter the facilities by Name or Number.
- 4 Select All-Call or Emergency-All-Call, depending on whether you want to make a normal or emergency page.

Tip: As an alternative to the previous two steps, you can select the green announcement button for a specific facility to place an immediate non-emergency page to only that facility.

- 5 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 6 If prompted, enter **1** for confirmation.
- 7 If prompted, allow C4000 to use the microphone associated with your station.
- 8 After you hear the tone, speak into the microphone.

- 9 Select **End Call** to end the page.

Multi-Site All Call Paging

If your station's CoS allows multi-site paging, you can launch a Multi-Site All Call page.

To launch a Multi-Site All Call page:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

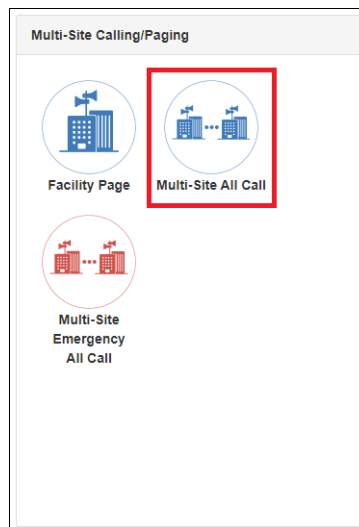


Figure 71. Multi-Site All Call Button

- 2 Under Multi-Site Calling/Paging, select **Multi-Site All Call**.
- 3 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 4 If prompted, enter **1** for confirmation.
- 5 If prompted, allow C4000 to use the microphone associated with your station.
- 6 Select **End Call** to end the page.

Multi-Site Emergency All Call

If your station's CoS allows multi-site paging, you can launch a Multi-Site Emergency All Call page. A Multi-Site Emergency All Call page has priority over any other pages.

To launch a Multi-Site Emergency All Call page:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

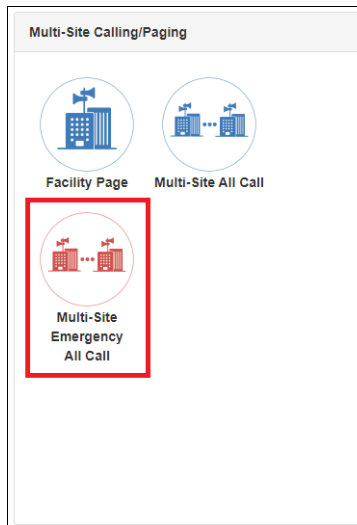


Figure 72. Multi-Site Emergency All Call Button

- 2 Under Multi-Site Calling/Paging, select **Multi-Site Emergency All Call**.
- 3 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 4 If prompted, enter **1** for confirmation.
- 5 If prompted, allow C4000 to use the microphone associated with your station.
- 6 When the Emergency page appears, select **OK**.
- 7 After you hear the tone, speak into the microphone.
- 8 Select **End Call** to end the page.

Page Exclusion

You can exclude stations from paging except for Emergency-Level-All-Call pages. Emergency-Level-All-Call pages will be sent and heard at a station even if that station is set to exclude paging.

To exclude a station from paging via the dashboard:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

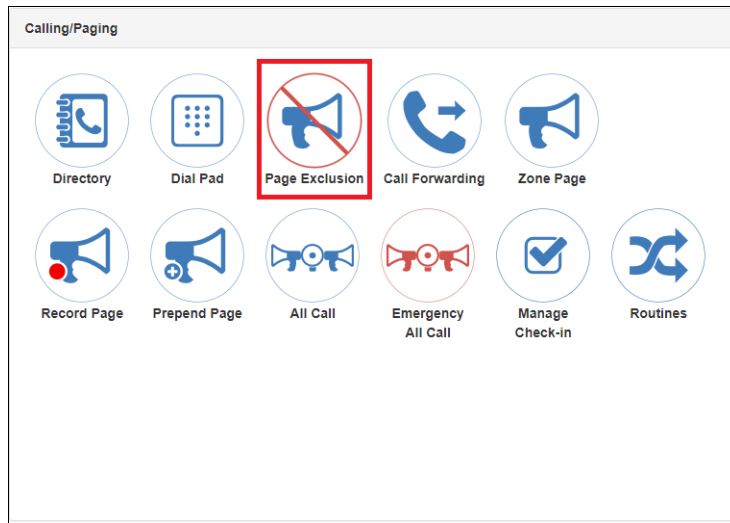


Figure 73. Page Exclusion Button

2 Under Calling/Paging, select **Page Exclusion**.

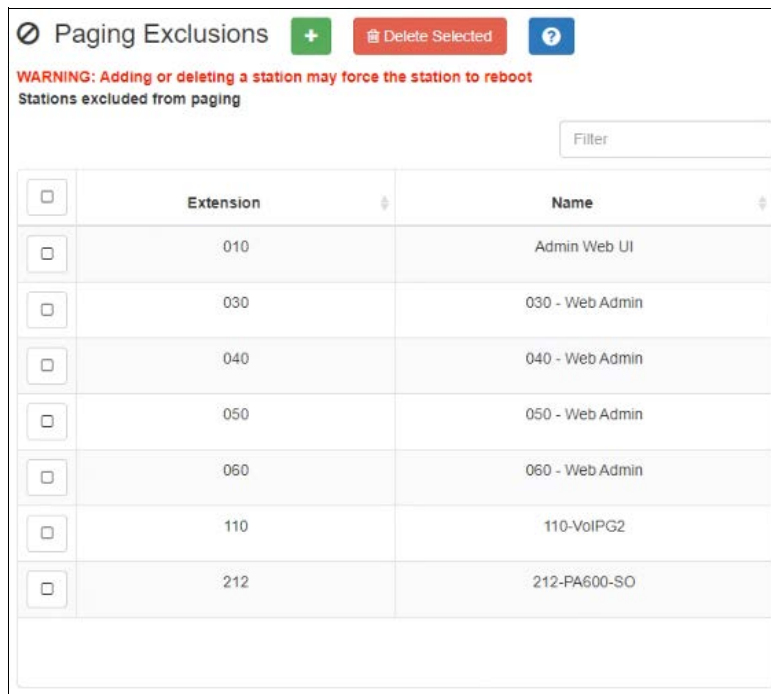


Figure 74. Paging Exclusions Page

3 Optionally, filter the displayed list of stations by extension or name.

4 Select one or more stations to be excluded. Click **Toggle All** to select (or deselect) the entire list of stations.

5 Select the **Add Exclusions** button to add the selected stations to the Paging Exclusions list.

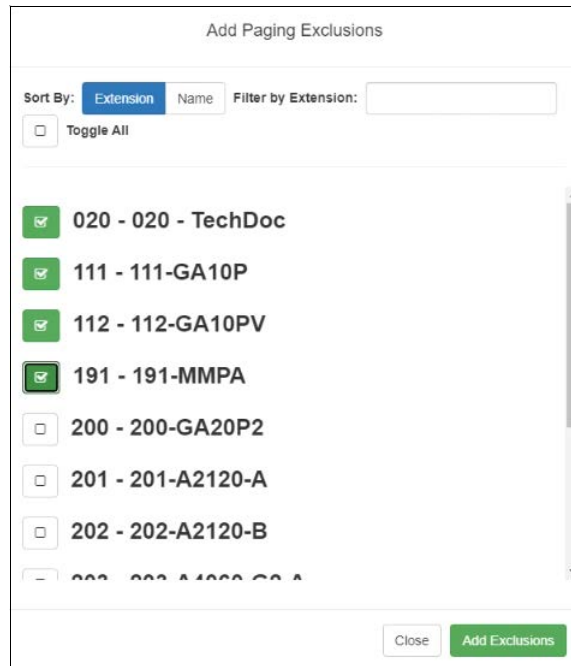


Figure 75. Add Paging Exclusion Page

Warning Adding or deleting a station from the Paging Exclusions list may force the station to reboot.

Deleting From Paging Exclusions List

To delete an extension from the Paging Exclusions list:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Calling/Paging, select **Page Exclusion**.
- 3 Select one or more extensions to be deleted from the exclusion list.
 - a) Optionally, toggle the checkbox in the header row above the selection checkboxes to select (or deselect) the entire list of stations.
- 4 When all selections are ready, click **Delete Selected** to remove the selected extensions from the list.

Using the Maps Feature

Starting Pages and Announcements via the Map Feature

Depending on how maps are configured, you can start pages to an individual zone, start pages and announcements to multiple selected facilities, start All Call pages, or start Emergency All Call pages.

Zones must be created and stations added to the zones before the zones can be associated to a defined action object or paged via the Maps feature.

Page an Individual Zone

If the **Action** for a defined action object is set to **Page**, then a **Page** icon appears in the left side of a defined action object.

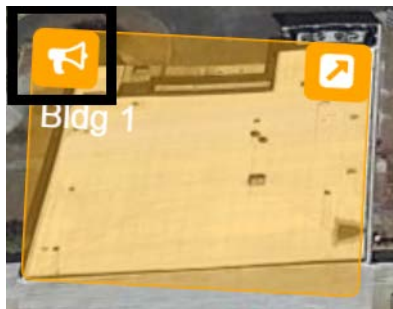


Figure 76. Page Icon

To page an individual zone using the Maps feature:

- 1 From the dashboard, ensure the **Mode** is **Live**.
- 2 Click the **Page** icon on the defined action object.

Page or Play Announcement at Multiple Selected Facilities

There are two ways in which users can page or play an announcement at multiple selected facilities simultaneously via the map. One provides a button that will page or play an announcement at a pre-defined list of facilities. The other allows the user to select one or more facilities on the map, then click a button to page or play an announcement at each of those facilities.

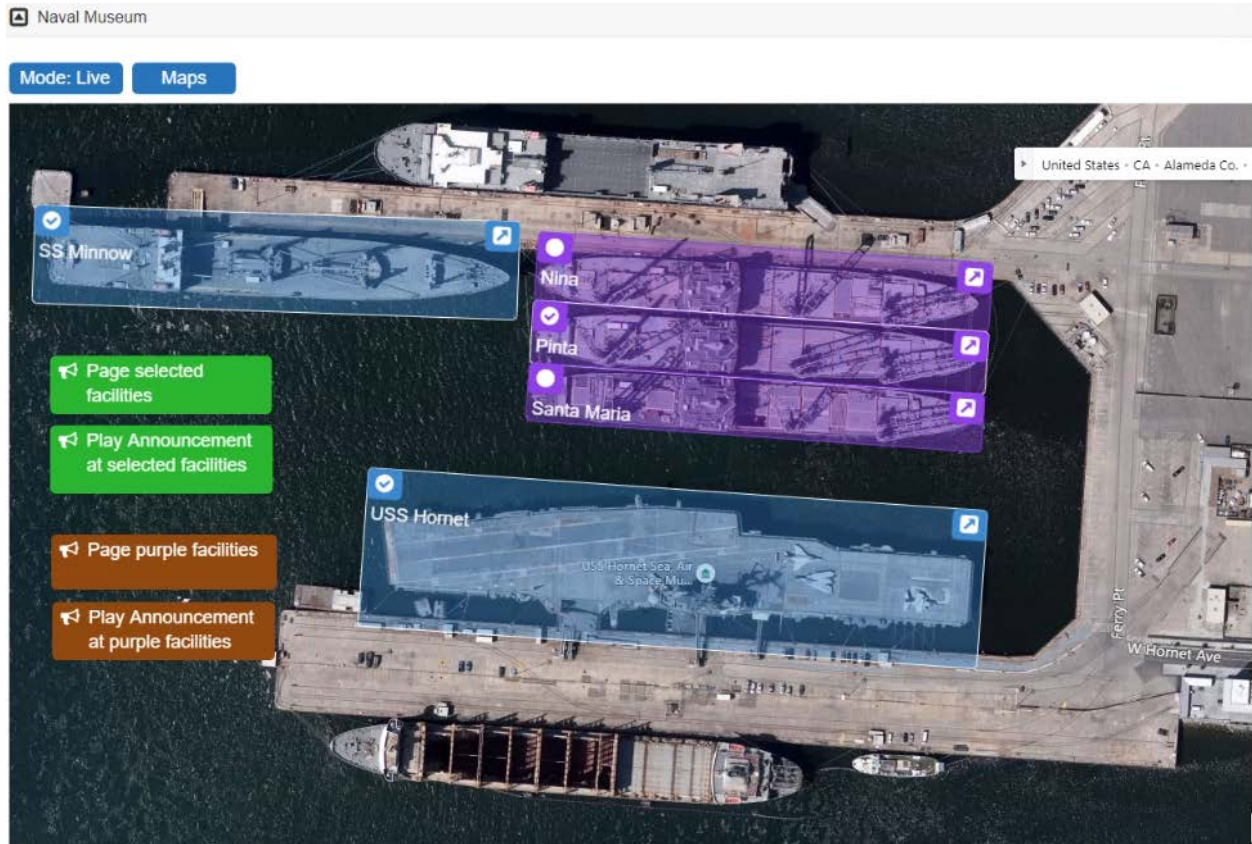


Figure 77. Paging or playing an announcement to multiple selected facilities

Page or play announcement at a predefined list of facilities

The map must have a map object button defined with the **Page-Facilities** or **Announce-Facilities** action and one or more selected facilities, which when clicked, will page or play an announcement at the specified facilities. In the example shown in *Figure 77*, two examples are shown as small brown buttons.

To start a Facility Page or Facility Announcement:

- 1 From the dashboard map, ensure the map's **Mode** is **Live**.
- 2 Select the **Page-Facilities** or **Announce-Facilities** button.
- 3 Follow subsequent audio instructions.

Page or play announcement at a user-selected list of facilities

The map must have at least two map objects defined:

- One or more map objects with the **Select-Facility** action, each of which corresponds to a specific facility. The user can select any number of these objects to specify which facilities will receive the page or announcement. In the example shown in *Figure 77*, there are five of these map objects shown as blue and purple rectangles, each corresponding to a ship.
- One map object with the **Page-Select-Facilities** or **Announce-Select-Facilities** action, which when clicked will initiate a page or an announcement to the selected facilities. In *Figure 77*, two examples are shown as small green buttons.

To start a Selected Facilities Page or a Selected Facilities Announcement:

- 1 From the dashboard map, ensure the map's **Mode** is **Live**.
- 2 Select the circular icon in the top left corner of one or more map objects, which should then display a check mark in the circle.
- 3 Select the **Page-Select-Facilities** or the **Announce-Select-Facilities** button.
- 4 Follow subsequent audio instructions.

Start All Call or Emergency All Call Pages

CoS parameters must be set before you can create **All Call** and **Emergency All Call** buttons that will appear in the Maps panel section of the Dashboard.

An All Call page is made to all zones associated with your Nyquist system server unless a zone is excluded from paging. An Emergency All Call page is made to all zones associated with the Nyquist system server; page exclusion does not affect Emergency All Call pages.

If you are using the same server on a multiple site campus and do not want the pages to go to all sites, you can create a zone for all stations in an individual site.

To start an All Call or Emergency All Call page:

- 1 From the dashboard, ensure the **Mode** is **Live**.
- 2 Select either **All Call** or **Emergency All Call**.

Calling an Extension via the Maps Feature

If the **Action** for a defined action object is set to **Call**, then a **Call** icon appears in the left side of a defined action object.

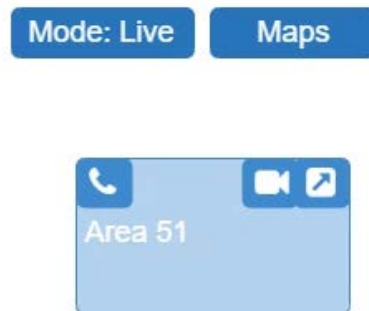


Figure 78. Call Icon

To call an extension using the Maps feature:

- 1 From the dashboard, ensure the **Mode** is **Live**.
- 2 Click the **Call** icon on the defined action object.

If a Camera URL value was provided in the definition of the Map Object, a Camera icon appears on the action object (or in the hamburger menu of the object). Clicking this Camera icon will open a browser tab or window to the Camera URL.

To open the Camera URL using the Maps feature:

- 1 From the dashboard, ensure the **Mode** is **Live**.
- 2 Click the **Camera** icon on the defined action object.

Tip: Although specifically intended for a camera, the Camera URL could be any URL. For non-camera URLs, however, you probably want to use an Open URL action Map Object to avoid confusion for users.

Monitoring Check-In



Figure 79. Map Object in Live Mode

When Check-In is active, the Map panel changes to **Live** Mode and the Map objects for all stations being monitored will no longer show the **Edit** icon. Instead, you will see icons for Call, Listen, Video, and Information.

The **Listen** icon only works if the station is associated with a speaker that allows two-way communication. The **Video** icon only works with Map objects that have been configured with a Video URL. If the Map object isn't large enough to display the icons, a hamburger menu (also known as a three-line menu or menu button) appears in the top right corner.

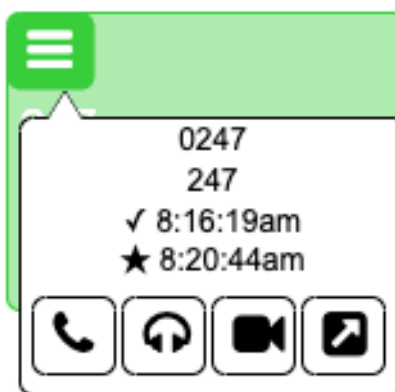


Figure 80. Map Object With Hamburger Menu

From the hamburger menu, you can select the desired action.

During Check-In, the colors on the station map objects will change to reflect what appears on the Check-In view:

| Color | Status |
|--------------|---|
| Green | Checked in |
| Red | Not checked in |
| Gray | Check-in is not expected because the station is either on the vacant or excluded lists. |

A vacant station can check in. The text **Was Vacant** will then appear in the button information.

Managing Check-In

Manage Check-In allows staff to quickly obtain status of specific areas—such as classrooms, offices, or break rooms—within a facility during a check-in event. Examples of check-in events include:

- Weather-related lockdown
- Safety-related lockdown
- Fire evacuation (staff member performs check-in to indicate room has been evacuated)
- Room occupancy (staff member checks room in with start of each class period)

During a check-in event, users check in by initiating a Normal call to their assigned Admin Station, such as the front office, using either their Nyquist phone or a digital or analog call switch associated with their intercom speaker or station.

During Check-In, a Normal call placed by a station to the Admin Station places a station in check-in status. Additional Normal calls made following a check-in are processed as Normal calls to the Admin Station.

You also can elect to use audio feedback that tells the staff member they have successfully checked in.

Calls placed to perform **Manage Check-In** are not processed as part of the call count. Urgent and Emergency calls can still be placed by stations and are not included as part of Manage Check-In.

As long as Privacy Mode is not enabled and a room's device allows two-way transmission, you can select to use Spy Mode (listen to) the room.

Viewing Check-In Status

For administrators, the Manage Check-In feature provides a color-coded view of what classrooms have checked in, classrooms or stations that are not part of the check-in process, and those that should check-in but have not yet done so. To view check-in status:

Note: You can also display Check-In status on NQ-GA10PV displays. For more information, see the [Nyquist C4000 System Administrator Guide](#).

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

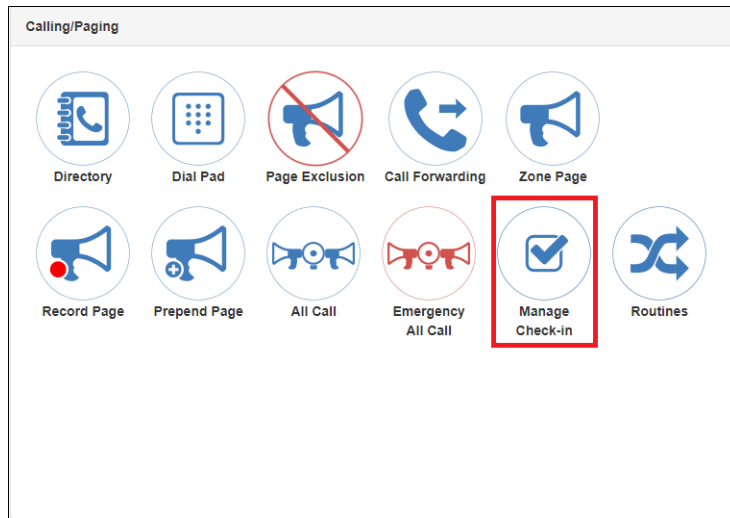


Figure 81. Manage Check-In Button

2 Under Calling/Paging, select **Manage Check-In**.

A separate tab appears so that you can toggle the dashboard and Manage Check-In views.

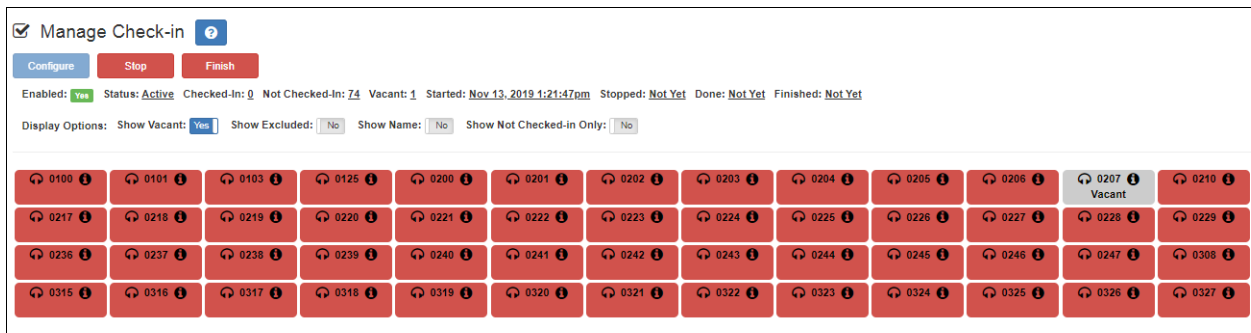


Figure 82. Manage Check-In

The status of each station appears in a color-coded box. *Table 22* explains the use of colors to describe status:

Table 22. Color-coded Check-In Status

| Color | Status |
|-------|---|
| Green | Checked in |
| Red | Not checked in |
| Gray | Check-in is not expected because the station is either on the vacant or excluded lists. |

You also can select the following **Display Options**:

Table 23. Check-In Display Options

| | |
|----------------------|---|
| Show Vacant | When enabled, stations in the Vacancy List appear in the color-coded display. |
| Show Excluded | When enabled, stations in the Exclusion List appear in the color-coded display. |

Table 23. Check-In Display Options (Continued)

| | |
|---------------------------------|---|
| Show Name | When enabled, the station's name appears along with the station's extension number. Displaying the name is useful if you are not sure where a station is located when only the extension number is displayed. |
| Show Not Checked In Only | <p><i>Note:</i> Show Vacant and Show Excluded options are disabled when this option is selected.</p> <p>When enabled, only the stations that have not checked in are listed. This option may be preferable if a large number of stations are managed by your Nyquist server, and you want to quickly view which stations have not checked in.</p> |

The Manage Check-In window also includes the following information:

- Status of check-in process such as **Active**
- Number of stations that have checked in
- Number of stations that have not yet checked in
- Number of vacant stations
- Date and time check-in started
- If check-in has been manually stopped or is done

Manage Check-in also allows you to use Spy Mode on a station or room, provided the privacy feature has not been activated and the station device allows two-way transmission.

Stations typically excluded from the check-in process include stations assigned to hallway speakers or amplifiers or areas that were scheduled to be vacant when the check-in procedure began. For more information, see "*Managing Exclusion and Vacancy Lists*" on page 90.

Starting Check-In

You can manually start the Check-In procedure from the dashboard. Check-In also can be started via the Routines feature.

Check-In does not play any audio instruction announcements or send any text instructions to web interface stations or GA10PV display stations. If you want audio instruction announcements or text instructions on web interface stations or GA10PV display stations, refer to the *Nyquist C4000 System Administrator Guide* for instructions on setting up a routine that includes audio instructions in an announcement or text instructions to be sent to web interface dashboards and GA10PV displays. The routine can be triggered by a Check-in **Start**, or the Check-in can be started by the routine.



Figure 83. Manage Check-In When Idle

To manually start Check-In:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

- 2 Under Calling/Paging, select **Manage Check-In**.
- 3 On the Manage Check-In page, select **Start**.

When Check-In starts, the **Start** button changes to a **Stop** button and the red squares that represent occupied classrooms or areas begin changing to green squares as staff members begin checking in.

Station Check-In

During Check-In, a Normal call placed by a station to the Admin Station places a station in check-in status. If two-part check-in is used, a second Normal call verifies the check-in status.

After a station has successfully checked in, additional Normal calls will go through as normal calls to the Admin station. Stations can still place Urgent or Emergency calls during the Check-in process, even if the station has not checked in.

If audio prompt feedback is enabled and a station checks in, the caller hears a confirmation prompt. If audio feedback is disabled, stations checking in with digital call switches will still see a ringing status (flashing green) for about 2 seconds while checking in. Stations checking in with IP phones will notice a call lasting about 2 seconds before automatic hang-up.

A **VoIP Speaker Only** station that does not have a call switch can still participate in the check-in process if an I/O controller Input contact is connected to a switch present in the room that contains the **VoIP Speaker Only** station. In this case, the I/O controller Input contact closure can trigger a Routine that performs a check-in.

In this scenario, the routine Trigger **Type** is set to **Input-Contact-Closed** and the routine Action **Type** is **Check-In** with **Station** set to the VoIP Speaker Only station extension.

If a station with call switch is configured to place only Urgent or Emergency calls, the station cannot participate in the Check-in process. This station should either be added to the Exclusion List (see "*Managing Exclusion and Vacancy Lists*" on page 90) or, if you wish to include the station in the Check-in process, the station's CoS configuration should be changed to allow Normal calls to be placed by the station.

Similarly, Nyquist Entry Door Phones (NQ-EDP01) never participate in the Check-in process, and all calls placed from them during a Check-in will go through to the Admin Phone.

Check-In Done and Finish

After all stations included in the Check-In process have checked in, the Manage Check-In **Status** changes to **Done**.

Since stations that were not expected to check in may do so, check-in is not completed until you select the **Finish** button.

Selecting the **Finish** button can trigger a routine if you have a routine that uses **Check-In** as the trigger **Type** and **Finished** as **Check-In**.

Stopping the Check-In Process

You can end an active Check-In process by selecting the **Stop** button on the Station Check-in view. An active Check-In process also can be stopped by a Routine action.

When stopping Check-In via a routine, the Action **Type** is **Check-In** and the **Check In** option is **Stop**.

After the Check-in process has been stopped, all Normal station calls resume as normal calls to the Admin Station, and the Check-in process **Status** becomes **Idle**.

Resetting the Check-In Process

During either an active or idle Check-In process, you can clear all station check-in statuses and allow all Normal calls to resume as normal calls to the Admin Station by selecting the **Reset** button on the Station Check-in view. You can also reset the Check-In process by a Routine action. When resetting Check-In via a routine, the Action **Type** is **Check-In** and the **Check In** option is **Reset**.

Using Spy Mode

You can use Spy Mode to listen to a station as long as Privacy Mode is not enabled and the station device allows two-way transmission.

This feature adds another step toward verifying that the room's occupants are safe.



Figure 84. Listen In, or Spy Mode, Button

To activate Spy Mode:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Calling/Paging, select **Manage Check-In**.
- 3 On the Manage Check-In page, select the **Listen In** icon for the station you want to monitor.

To activate Spy Mode using a DTMF code (regardless of Check-In process):

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Calling/Paging, select **Dial Pad**.
- 3 When the dial pad appears, dial 978{station-extension}.

Note: Spy Mode monitoring cannot be used on a station that has been set to Privacy Mode.

Configuring Check-In

Configure Check-in

Enabled: Yes

Enable Audio Prompts and Confirmation Messages: Yes

Automatically Stop Audio Distribution: Yes

Vacancy List:

Clear Add All

Exclusion List:

Clear Add All

Figure 85. Configure Check-in

To use the check-in process, the user must have appropriate permissions assigned.

To configure check-in options:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Calling/Paging, select **Manage Check-In**.
- 3 On the Manage Check-In page, select **Configure**.
- 4 Complete the configuration options.
- 5 Select **Save**.

Table 24. Check-In Configuration Options

| | |
|---|---|
| Enabled | Specifies if Manage Check-In can be used. If Disabled , you can configure Manage Check-In options, but you cannot start the check-in process. |
| Enable audio prompts and confirmation messages | Specifies if audio files will be used as part of Manage Check-In. When enabled, audio prompts and audio feedback play at stations when the stations perform check-in. If disabled, no audio prompts or audio feedback are played on the station. When feedback is disabled, stations checking in with digital call switches see a ringing status (flashing green) for about two seconds while checking in. Stations checking in with IP phones notice a call lasting about two seconds. |
| Automatically Stop Audio Distribution | When enabled, all currently playing audio distributions will be stopped when a check-in process is started. |
| Vacancy List | Specifies the stations to be added to the Vacancy List (see "Managing Exclusion and Vacancy Lists" on page 90). |

Table 24. Check-In Configuration Options

Exclusion List Specifies the stations to be added to the Exclusion List (see "*Managing Exclusion and Vacancy Lists*" on page 90).

Managing Exclusion and Vacancy Lists

A station added to the Vacancy List and a station added to the Exclusion List both appear gray on the Admin Station's Check-In page if the Check-In page is configured to display these lists. The difference between the two lists, though, is that stations on the Exclusion List should always be excluded from the check-in process. Those on the Vacancy List, are stations (classrooms or areas) that normally would be checking in but may be vacant when the check-in process is started.

A station on the vacancy list can still check in. This could occur during an emergency situation where a normally vacant classroom becomes the closest temporary shelter. An occupant could perform a check-in to let administrators know that the room is occupied and secure.

Excluded stations should include stations not physically located in a classroom, such as speakers located in a hallway. Excluded stations also include stations assigned to appliances, such as power amplifiers and MMPAs.

You can add or delete a station to the Exclusion or Vacancy Lists by:

- Using **Manage Check-In** via the dashboard
- Using the **Routines** feature

For information about using Routines to add or delete a station from a list, refer to the *Nyquist C4000 System Administrator Guide*.

To add a station to the Exclusion List via dashboard:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Calling/Paging, select **Manage Check-In**.
- 3 On the Manage Check-In page, select **Configure**.
- 4 Add desired station or stations to the Exclusion List.
- 5 Select **Save**.

To add a station to the Exclusion List via a routine:

- 1 Add or edit a routine that has **Check-In** as an **Action Type**.
- 2 For **Check In**, select **Exclude-Add**.
- 3 For **Stations**, select the stations that you want to exclude from Manage Check-In.
- 4 Select **Save**.

To remove a station from the Exclusion List via the dashboard:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Calling/Paging, select **Manage Check-In**.
- 3 On the Manage Check-In page, select **Configure**.

- 4 Remove the desired station or stations from the Exclusion List.
- 5 Select **Save**.

To remove a station from the Exclusion List via a routine:

- 1 Edit a routine that has **Check-In** as an **Action Type**.
- 2 For **Check In**, select **Exclude-Delete**.
- 3 For **Stations**, select the stations that you want to remove from Manage Check-In Exclusion List.
- 4 Select **Save**.

To add a station to the Vacancy List via the dashboard:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Calling/Paging, select **Manage Check-In**.
- 3 On the Manage Check-In page, select **Configure**.
- 4 Add desired station or stations to the Exclusion List.
- 5 Select **Save**.

To add a station to the Vacancy List via a routine:

- 1 Add or edit a routine that has **Check-In** as an **Action Type**.
- 2 For **Check In**, select **Vacancy-Add**.
- 3 For **Stations**, select the stations that are expected to be vacant.
- 4 Select **Save**.

To delete a station from the Vacancy List via the dashboard:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Calling/Paging, select **Manage Check-In**.
- 3 On the Manage Check-In page, select **Configure**.
- 4 Select the stations that you want to remove from the Vacancy List.
- 5 Select **Save**.

To delete a station from the Vacancy List via a routine:

- 1 Edit a routine that has **Check-In** as an **Action Type**.
- 2 For **Check In**, select **Vacancy-Delete**.
- 3 For **Stations**, select the stations you want to remove from the Vacancy List.
- 4 Select **Save**.

Creating and Using Multiple Check-In Routines

You can create check-in routines for multiple purposes and to ensure that the vacancy and exclusion lists are accurate.

You should create separate routines for drills and each type of emergency check-in. For example, a fire drill could use audio explaining that it was a drill and would not include an actual 911 call where a routine used for evacuating during an actual fire could include a 911 call. In this scenario, the word "drill" should appear in the name.

If you want to create routines for accurate exclusion and vacancy lists, use descriptive names such as "Fire Drill Period 1." Each routine should include a **Check-In** action **Type** that uses **Vacancy-Add** and a separate **Check-In** action **Type** that uses **Vacancy-Delete**.

The screenshot shows a web-based configuration form titled "Edit Action - Routine 3". The form contains the following fields and controls:

- Name:** A text input field containing "Add Vacancy".
- Enabled:** A toggle switch set to "Yes".
- Type:** A dropdown menu with "Check-In" selected.
- Check In:** A dropdown menu with "Vacancy-Add" selected.
- Stations:** A list of station identifiers: "x030 - Web User", "x101 - VoIP SPKR", and "x400 - Admin Phone". There are "Clear" and "Add All" buttons next to the list.
- Finish Delay:** A dropdown menu with "No-Delay" selected.
- Description:** A large, empty text area.
- Buttons:** "Cancel" and "Save" buttons at the bottom left.

Figure 86. Example of Check-In Routine Action

Check-In Log and Call Detail Records

Manage Check-In writes data to a log file and creates a Call Detail Record. You can export and print the check-in log file using the **Export** button. You can also copy the displayed log file information and paste it into another application.

Each logged event starts with a date and time stamp, followed by the station extension that created the event, and ending with optional event-related information. For example:

2022-04-11 15:40:22 - 100 Start

The following event types are logged:

- Start
- Check-in
- Stop
- Reset
- Done
- Vacancy Add
- Vacancy Delete
- Exclude Add
- Exclude Delete

The **Done** event includes the elapsed time for the Check-in process (amount of time between Check-in **Start** and **Done**). The extension will always be 000 because this event is created by the system and not a specific station. For example:

2011-04-11 15:43:32 - 000 Done (elapsed time: 0h:3m:10s)

On the Call Detail Records, the detail record **Type** is set to **Check in** when a station checks in.

Managing GA10PV Display Messages

It is possible to send messages and images to one or more NQ-GA10PV devices, either manually or through a triggered Routine. Messages containing text and sent manually can be defined and sent as needed. To send messages using triggered Routines, and to define messages that can be used at a later time, you can create **Message Templates**. If a message is to include an image, whether to be sent immediately or within a template, you must first define a **Message Image**, which can then be used in the message or message template.

The Display Message option allows you to create impromptu messages that will display on monitors connected to NQ-GA10PV devices in a selected zone, in multiple zones, or to specific devices. When creating the message, you can set several options, including when and how long the message is displayed and the appearance of the message. You can also remove messages from the message queue.

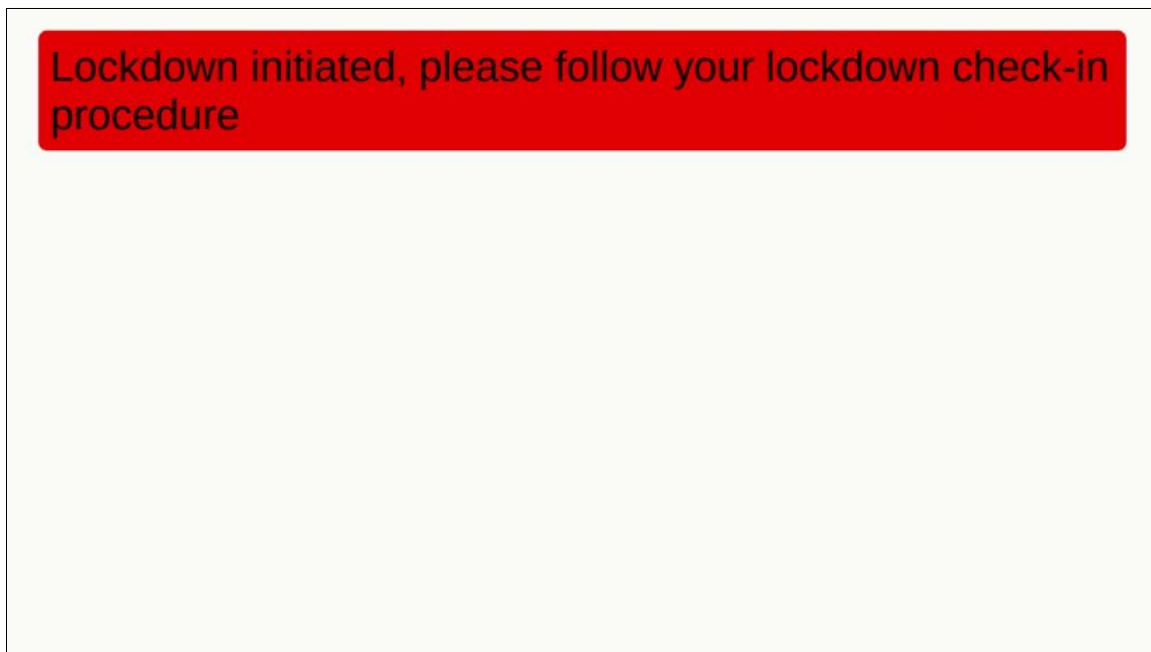


Figure 87. Example of Priority Message in Fullscreen

The station's **Display Configuration** option controls the overall appearance of the display (for example, what type of clock appears, whether an event or the date appears, and the background color of the screen). For information about setting the display configuration for an NQ-GA10PV, refer to the *Nyquist C4000 System Administrator Guide*.

The **Message Templates** option allows you to create and save messages in advance, which can be easily sent later. Sending a **Message Template** simply fills in a form with the saved message data. You must specify the zone and/or stations where the message will appear, override any other properties from the **Message Template** (if desired), and send it.

Saved **Message Templates** can also be used in **Routines**, which allows messages to be sent automatically in response to various system events. When used this way, the Routine definition specifies the zone and/or stations where the message will appear and can optionally override other template properties.

This discussion refers to GA10PV Display Messages, not the Messages section shown at the top of the Dashboard. For information on these Dashboard Messages, see *Figure 4, "Dashboard Messages," on page 4*.

Message Priorities and Precedence

Multiple messages can be displayed on an NQ-GA10PV at the same time. It is even possible to queue up more messages than can be displayed at one time. Because of this, we need to determine a message's precedence. Messages with a higher precedence are displayed before messages with lower precedence, and can even override and interrupt a lower precedence message.

Note: The term "priority", as used here, refers to a numeric value assigned to a message. The term "precedence" refers to the determination of which message will be displayed over another message after evaluation of the assigned message priorities and other related factors, as described below.

There are several factors that affect the precedence and display of a message.

The first factor is the message **Priority**. This is a number from zero (0) through six (6), where zero is the lowest priority and six the highest.

The second factor is the **Image Priority**, which applies only to Image type messages, and is applied when two messages have the same message priority. This is either **Text Over Image** or **Image Over Text**. The first implies that text messages have precedence over this image message, while the second implies this image message has precedence over text messages.

The third factor does not actually affect the precedence, but is relevant in that it determines where an image is displayed, which can affect whether or not other messages can be seen. The **Image Type** of a message can be either **Right**, **Left**, or **Full Screen**. **Right** and **Left** specify on which half of the screen the image will be displayed, while **Full Screen** specifies that the image will cover the entire screen. Since text messages display on the right side of the screen, an image displayed on the left side can show both messages simultaneously, while an image displayed on the right side or full screen will be subject to the precedence rules.

Message Precedence Rules

The following set of rules determine which messages have precedence and how they are to be displayed:

- Text messages are sorted in descending order by priority, and then in the order they were sent.
- If two messages of the same type (Image or Text) have the same priority, the newer one has precedence.
- If an image message and a text message have the same priority, the Image message's **Image Priority** property determines which has precedence:
 - **Text Over Image:** Text message has precedence.
 - **Image Over Text:** Image message has precedence.
- Full Screen image messages take precedence over everything except another Full Screen image message, for which normal rules of precedence are applied.
- Priority **5 (Exclusive)** messages always display alone, which prevents all lower precedence messages from being displayed.

- For Analog Clock view:
 - An image message can display simultaneously on the left while another message is displayed on the right. Multiple image messages are prioritized according to normal rules. If there are no image messages displayed on the left, the clock will be displayed.
 - Image messages displayed on the right along with text messages based on normal rules of precedence.
- For multi-column and Digital Clock views:
 - Only text or Full Screen image messages are displayed.

Note: Even when a message is not visible, usually due to a higher priority message being displayed, its expiration timer is still ticking, so it may display for shorter than the intended duration or not at all.

Creating a Display Message

Note: You also can add display messages through routine actions. For information about creating routines, refer to the *Nyquist C4000 System Administrator Guide*.

To create a display message:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

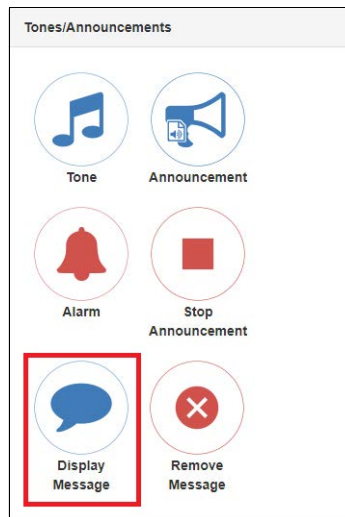


Figure 88. Display Message Button

- 2 Under **Tones/Announcements**, select **Display Message**.

Figure 89. Display Message

- 3 On the Display Message page, complete the options for the new message (see *Table 25 on page 97*).
- 4 To save the message and send it immediately, select **Send and Save**. The **Name** field must be specified to save a message.
- 5 To send the message immediately without saving it, select **Send**.

Note: The options set through the Display Message page apply to the message only. If you want to change how the clock, date, or other display features appear, you must set configuration options for the NQ-GA10PV station. Refer to the *Nyquist C4000 System Administrator Guide*.

Table 25. Display Message Options

| | |
|-------------------|--|
| Name | Specifies a name for this message. This is used if the message is to be saved. |
| Identifier | Used to identify the message so it can be deleted by a Routine action. |
| Type | Select the type of message to be sent: <ul style="list-style-type: none"> • Text: A text message will be displayed. • Image: An image will be displayed. <p><i>Note:</i> Disables Priority "5 (Exclusive)" option and sets Image Priority to "0 (Lowest)."</p> |

Table 25. Display Message Options (Continued)

| | |
|-------------------------------|--|
| Text | <p>Type the message that is to appear on the display monitor.</p> <p>You can format text using basic HTML tags, such as:</p> <ul style="list-style-type: none">• <code>bold</code>• <code><i>italic</i></code>• <code><u>underline</u></code>• <code>styled text</code> <p><i>Note:</i> Be aware that entering a new line, even within HTML tags, will create a new line in the final message.</p> |
| Expiration Mode | <p>Select the mode for setting the message's expiration. Options are:</p> <ul style="list-style-type: none">• Display Time. Uses Display Time (seconds) to set the expiration.• Manually Removed. Sets the expiration time to Never. You must use the Remove Message button to remove a message from the message queue, or the message can be removed by a Routine Action using the display message Identifier.• Date/Time. By default, the current date and time appear in the Date/Time field. |
| Display Time (seconds) | <p>Appears only if Expiration Mode is set to Display Time. Sets the length of time for the message to be displayed before it expires. Time can range from 1 to 99999.</p> |
| Date/Time | <p>Appears only if Expiration Mode is set to Date/Time. The default is set to the current date and time. To change the date, select the calendar and pick the date and time.</p> |
| Zones | <p>Select the zone or zones. Messages will be sent to the display devices in the selected zones.</p> |
| Stations | <p>The message is sent to the specified stations and any stations that belong to the specified zones.</p> |
| Identifier | <p>Used to identify the message so it can be deleted by a Routine action.</p> |
| Priority | <p>Select the message priority, which can range from 0 (Lowest) to 6 (Fullscreen).</p> <p>Priority 6 (Fullscreen) is the highest priority, and when a message is assigned this priority, only the messages with this priority appear on the display with the Scheduled Event Name and Date being temporarily removed.</p> <p>If Priority 5 (Exclusive) is selected, the Scheduled Event Name and Date remain on the display, but all other messages with lower priorities are removed.</p> <p><i>Note:</i> Priority 5 (Exclusive) is disabled for Image messages and enabled for Text messages.</p> |

Table 25. Display Message Options (Continued)

| | |
|-------------------------|--|
| Image Type | <p>If the Type field was set to Image, select one of the following values to specify how the image will be displayed:</p> <ul style="list-style-type: none">• Full Screen (1920x1080): Image will be displayed full screen.• Left (925x1040): Image will be displayed on the left side of the screen.• Right (925x1040): Image will be displayed on the right side of the screen. |
| Image Priority | <p>Select the image priority for this message, which determines precedence when an Image message and Text message have the same message priority:</p> <ul style="list-style-type: none">• Text Over Image: Text message will be given precedence.• Image Over Text: Image message will be given precedence. |
| Message Image | <p>The name of the saved Message Image to be displayed. For more information, see "<i>Create or Edit a Message Image</i>" on page 107.</p> |
| Background Color | <p>Select the color for the message background. You can select a color by:</p> <ul style="list-style-type: none">• Using the color picker• Entering a hex color (for example: #000000, for black)• Entering an RGB color (for example: rgb(0,0,0) for black)• Entering a color alias name (for example: red, blue, etc.) <p>For more information, see "<i>Using Color in Display Messages</i>" on page 100.</p> |
| Font | <p>Select the down arrow to view a list of available fonts and then select the desired font for the message text. Available fonts are:</p> <ul style="list-style-type: none">Comic-ReliefCourier-PrimeGelasioLiberation SansLinux Libertine |
| Font Size | <p>Enter the desired font size.</p> |
| Font Color | <p>Select the color for the message text.</p> <p>You can select a color by:</p> <ul style="list-style-type: none">• Using the color picker• Entering a hex color (for example: #000000, for black)• Entering an RGB color (for example: rgb (0,0,0) for black)• Entering a color alias name (for example: red, blue, etc.) <p>For more information, see "<i>Using Color in Display Messages</i>" on page 100.</p> |
| Font Styles | <p>Place your cursor in the Add Styles box to select Bold or Italic. Otherwise, the Font Style remains at Regular.</p> |

Using Color in Display Messages

You can select colors for display messages three different ways:

- Background, text, and time colors via GA10PV **Display Configuration**
- Background and font colors for individual messages by selecting **Display Message** from the dashboard
- Background and font colors for individual messages via the **Display-Msg** routine action **Type**

You can select colors by:

- Using the color picker
- Entering a hex color (for example: #000000, for black)
- Entering an RGB color (for example: rgb(0,0,0) for black)
- Entering a color alias name (for example: red, blue, etc.)

When you enter a color alias name, the corresponding hex color code appears in the text portion of the color field and the swatch (color box) portion changes to the selected color. When entering a color alias, you cannot use spaces, and the system accepts only the default color alias listed in *Table 26*:

Table 26. Default Color Alias

| Color Alias | Corresponding Hex Code | Color Alias | Corresponding Hex Code |
|--------------------|-------------------------------|--------------------|-------------------------------|
| aliceblue | f0f8ff | antiquewhite | faebd7 |
| aqua | 00ffff | aquamarine | 7fffd4 |
| azure | f0ffff | beige | f5f5dc |
| bisque | ffe4c4 | black | 000000 |
| blanchedalmond | ffeacd | blue | 0000ff |
| blueviolet | 8a2be2 | brown | a52a2a |
| burlywood | deb887 | cadetblue | 5f9ea0 |
| chartreuse | 7fff00 | chocolate | d2691e |
| coral | ff7f50 | cornflowerblue | 6495ed |
| cornsilk | fff8dc | crimson | dc143c |
| cyan | 00ffff | darkblue | 00008b |
| darkcyan | 008b8b | darkgoldenrod | b8860b |
| darkgray | a9a9a9 | darkgreen | 006400 |
| darkkhaki | bdb76b | darkmagenta | 8b008b |
| darkolivegreen | 556b2f | darkorange | ff8c00 |
| darkorchid | 9932cc | darkred | 8b0000 |

Table 26. Default Color Alias (Continued)

| Color Alias | Corresponding Hex Code | Color Alias | Corresponding Hex Code |
|----------------------|-------------------------------|--------------------|-------------------------------|
| darksalmon | e9967a | darkseagreen | 8fbc8f |
| darkslateblue | 483d8b | darkslategray | 2f4f4f |
| darkturquoise | 00ced1 | darkviolet | 9400d3 |
| deeppink | ff1493 | deepskyblue | 00bfff |
| dimgray | 696969 | dodgerblue | 1e90ff |
| firebrick | b22222 | floralwhite | fffaf0 |
| forestgreen | 228b22 | fuchsia | ff00ff |
| gainsboro | dcdcdc | ghostwhite | f8f8ff |
| gold | ffd700 | goldenrod | daa520 |
| gray | 808080 | green | 00ff00 |
| greenyellow | adff2f | honeydew | f0fff0 |
| hotpink | ff69b4 | indianred | cd5c5c |
| indigo | 4b0082 | ivory | fffff0 |
| khaki | f0e68c | lavender | e6e6fa |
| lavenderblush | fff0f5 | lawngreen | 7cfc00 |
| lemonchiffon | fffacd | lightblue | add8e6 |
| lightcoral | f08080 | lightcyan | e0ffff |
| lightgoldenrodyellow | fafad2 | lightgreen | 90ee90 |
| lightgrey | d3d3d3 | lightpink | ffb6c1 |
| lightsalmon | ffa07a | lightseagreen | 20b2aa |
| lightskyblue | 87cefa | lightslategray | 778899 |
| lightsteelblue | b0c4de | lightyellow | ffffe0 |
| lime | 00ff00 | limegreen | 32cd32 |
| linen | faf0e6 | magenta | ff00ff |
| maroon | 800000 | mediumaquamarine | 66cdaa |
| mediumblue | 0000cd | mediumorchid | ba55d3 |
| mediumpurple | 9370d8 | mediumseagreen | 3cb371 |
| mediumslateblue | 7b68ee | mediumspringgreen | 00fa9a |
| mediumturquoise | 48d1cc | mediumvioletred | c71585 |
| midnightblue | 191970 | mintcream | f5fffa |

Table 26. Default Color Alias (Continued)

| Color Alias | Corresponding Hex Code | Color Alias | Corresponding Hex Code |
|--------------------|-------------------------------|--------------------|-------------------------------|
| mistyrose | ffe4e1 | moccasin | ffe4b5 |
| navajowhite | ffdead | navy | 000080 |
| oldlace | fdf5e6 | olive | 808000 |
| olivedrab | 6b8e23 | orange | ffa500 |
| orangered | ff4500 | orchid | da70d6 |
| palegoldenrod | eee8aa | palegreen | 98fb98 |
| paleturquoise | afeeee | palevioletred | d87093 |
| papayawhip | ffefd5 | peachpuff | ffdab9 |
| peru | cd853f | pink | ffc0cb |
| plum | dda0dd | powderblue | b0e0e6 |
| purple | #800080 | red | ff0000 |
| rosybrown | bc8f8f | royalblue | 4169e1 |
| saddlebrown | 8b4513 | salmon | fa8072 |
| sandybrown | f4a460 | seagreen | 2e8b57 |
| seashell | fff5ee | sienna | a0522d |
| silver | c0c0c0 | skyblue | 87ceeb |
| slateblue | 6a5acd | slategray | 708090 |
| snow | fffafa | springgreen | 00ff7f |
| steelblue | 4682b4 | tan | d2b48c |
| teal | 008080 | thistle | d8bfd8 |
| tomato | ff6347 | transparent | transparent |
| turquoise | 40e0d0 | violet | ee82ee |
| wheat | f5deb3 | white | ffffff |
| whitesmoke | f5f5f5 | yellow | ffff00 |
| yellowgreen | 9acd32 | | |

Removing Messages

The Remove Message window allows you to remove multiple messages from the display message queue. It also is the only way to expire a message that was created using **Manually Removed** as the **Expiration Mode**.

To remove a message via the Remove Message button:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

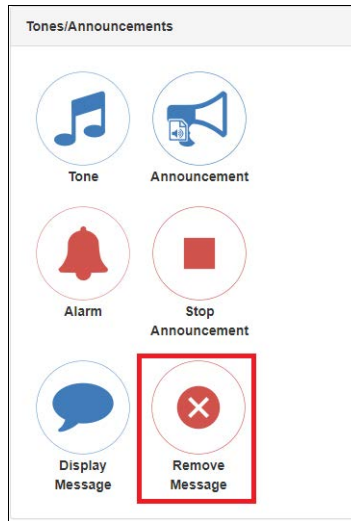


Figure 90. Remove Message Button

- 2 Select the **Remove Message** button from the Tones/Announcements section.

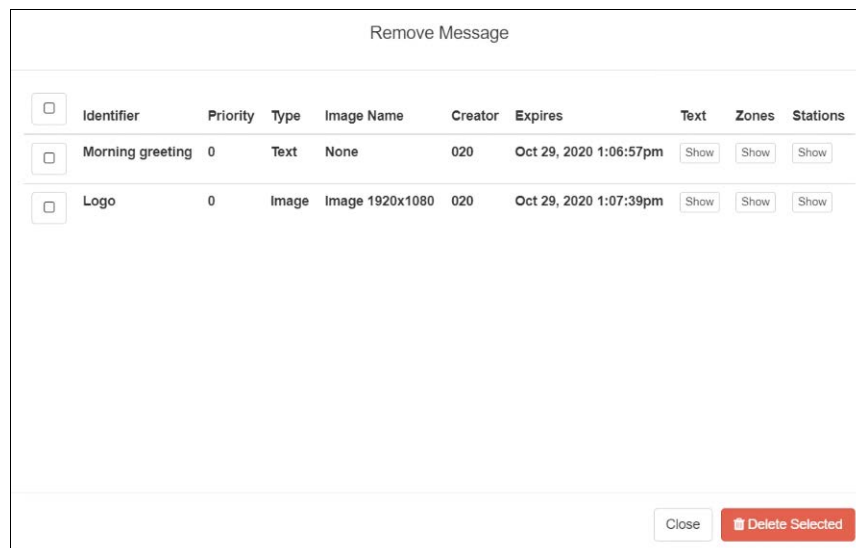


Figure 91. Remove Message

- 3 Select one or more messages to be removed.
- 4 Select **Delete Selected**.

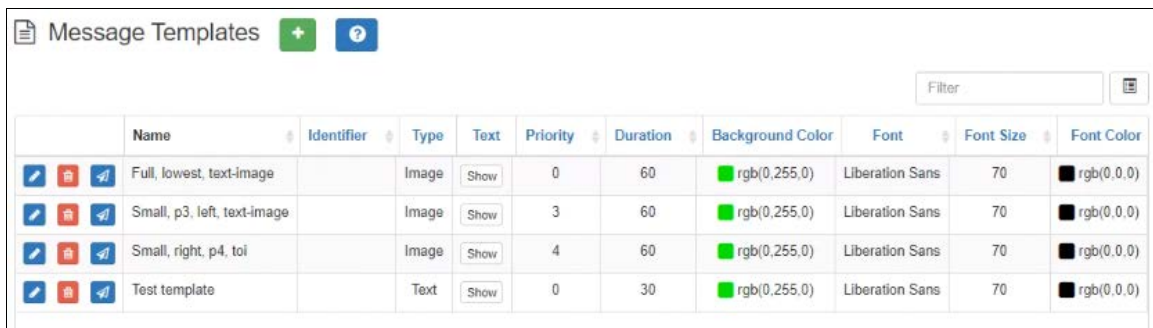
Removing an Event Name from a Display

If you create a scheduled event with **Display Event Name** enabled, the event remains on the display that is connected to an NQ-GA10PV until the next scheduled event replaces it.

To clear the event name from the display, create another scheduled event with the **Name** set to **No-Event**.

Viewing Message Templates

The **Message Templates** page allows you to quickly view saved message details; create a message to be added to the database; and edit, delete, or send a message. Messages appearing on the **Message Templates** page also include messages that were started using the **Send and Save** button on the Display Message popup (see "Creating a Display Message" on page 96).























| | Name | Identifier | Type | Text | Priority | Duration | Background Color | Font | Font Size | Font Color |
|---|-----------------------------|------------|-------|------|----------|----------|--|-----------------|-----------|--|
|    | Full, lowest, text-image | | Image | Show | 0 | 60 |  rgb(0,255,0) | Liberation Sans | 70 |  rgb(0,0,0) |
|    | Small, p3, left, text-image | | Image | Show | 3 | 60 |  rgb(0,255,0) | Liberation Sans | 70 |  rgb(0,0,0) |
|    | Small, right, p4, toi | | Image | Show | 4 | 60 |  rgb(0,255,0) | Liberation Sans | 70 |  rgb(0,0,0) |
|    | Test template | | Text | Show | 0 | 30 |  rgb(0,255,0) | Liberation Sans | 70 |  rgb(0,0,0) |

Figure 92. Message Templates

To view saved message templates:

- 1 From the navigation bar, select **Messages** then **Message Templates**.

The **Message Templates** page displays the following fields for each saved message:

Table 27. Message Templates

| | |
|----------------------|---|
| Edit button | Edits the message template. |
| Delete button | Deletes the message template. |
| Send button | Displays the Display Message page, from which a message can be sent (see "Display Message Options" on page 97 for further details). |
| Name | Specifies a name for this message. |
| Identifier | Used to identify the message so it can be deleted by a Routine action. |

Table 27. Message Templates

| | |
|-------------------------|--|
| Type | <p>The type of message to be sent:</p> <ul style="list-style-type: none">• Text: A text message will be displayed.• Image: An image will be displayed. |
| Text | <p>Place the mouse over the Show icon to view the text message that is to appear on the display monitor. For Image messages, this does nothing.</p> |
| Priority | <p>Displays the message priority, which can range from 0 (Lowest) to 6 (Fullscreen).</p> <p>Priority 6 (Fullscreen) is the highest priority, and when a message is assigned this priority, only the messages with this priority appear on the display with the Scheduled Event Name and Date being temporarily removed.</p> <p>If Priority 5 (Exclusive) is selected, the Scheduled Event Name and Date remain on the display, but all other messages with lower priorities are removed.</p> |
| Duration | <p>Sets the length of time in seconds for the message to be displayed before it expires. Time can range from 1 to 99999.</p> |
| Background Color | <p>Displays the color for the message background. For more information, see <i>"Using Color in Display Messages"</i> on page 100.</p> |
| Font | <p>Specifies the font for the message text.</p> |
| Font Size | <p>Specifies the font size for the message text.</p> |
| Font Color | <p>Displays the color for the message text.</p> <p>For more information, see <i>"Using Color in Display Messages"</i> on page 100.</p> |
| Font Styles | <p>Displays the style (bold, italic) for the text. If blank, the message will use the regular style.</p> |
| Image Type | <p>If the Type field was set to Image, displays one of the following values to specify how the image will be displayed:</p> <ul style="list-style-type: none">• Full: Image will be displayed full screen. This value is also shown for text message templates.• Left: Image will be displayed on the left side of the screen.• Right: Image will be displayed on the right side of the screen. |
| Message Image | <p>For text message templates, "None" is shown. For image templates, the Name of the image to be displayed.</p> |
| Image Priority | <p>Displays the image priority for this message, which determines precedence when an Image message and Text message have the same message priority:</p> <p>Text Over Image: Text message will be given precedence.</p> <p>Image Over Text: Image message will be given precedence.</p> |

Viewing Message Images

The **Message Images** page allows you to quickly view message image details; create a message to be added to the database; and edit, delete, or send a message. Messages appearing on the **Message Templates** page include messages that were started using the **Send and Save** button on the Display Message popup (see "Creating a Display Message" on page 96).



| | Name | File Name | Type | Width | Height |
|---|-----------------|--|------|-------|--------|
|   | Image 1920x1080 | testmessageimage1920x1080_1603126542.png | PNG | 1920 | 1080 |
|   | Image 925x1040 | testmessageimage (1)_1602803718.png | PNG | 925 | 1040 |

Figure 93. Message Images

To view saved message images:

- 1 From the navigation bar, select **Messages** then **Message Images**.

The **Message Images** page displays the following fields for each saved image:

Figure 94. Message Images properties

| | |
|----------------------|--|
| Edit button | Edits the message image. |
| Delete button | Deletes the message image. |
| Name | Name of the message image. |
| File Name | Name of the image file for this message image. This field is a link, which allows you to see a preview of the image. |
| Type | Format of the image. Allowed image formats include: <ul style="list-style-type: none">• PNG• JPEG |
| Width | Image width (in pixels). Possible values: 1920 or 925. |
| Height | Image height (in pixels). Possible values: 1080 or 1040. |

Creating a Message Template via the Message Templates Page

You can create messages in advance which can be easily selected for use when needed. Selecting a saved message fills in a form with the message data. Information about which zones or stations will receive the message, though, is not included in this form. You specify the zone or station when you send the message.

These saved messages can also be used in Routines.

Create or Edit a Message Image

If the message is to display an image, you must first define one or more Message Images. An image can be used by one or more message templates, or even by an ad-hoc Display Message command.

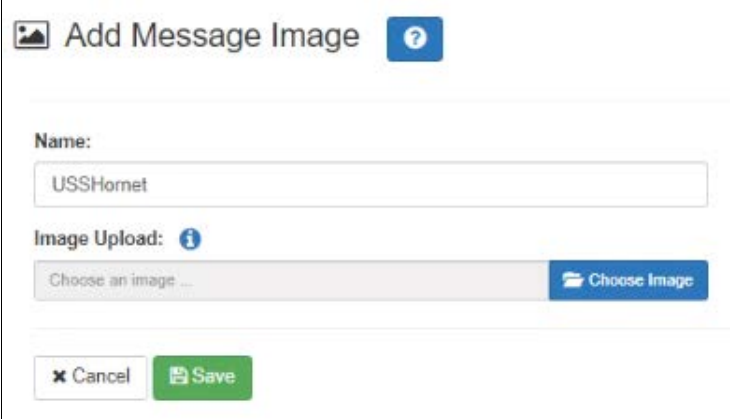


Figure 95. Add Message Image

To create (or edit) a message image:

- 1 On the navigation bar, select **Messages**, then **Message Images**.
- 2 Select the **Add** icon (or the Edit icon next to an existing **Message Image**).
- 3 Assign a name for this image.
- 4 Select the **Choose Image** button and select an image file to upload.

Note: An image to be used in a message must be in the PNG or JPEG format. The PNG format has the advantage of supporting transparency, which allows the background to display through the image.

Note: The image must have dimensions of either 925x1040 or 1920x1080, depending on whether it will be used full screen (1920x1080) or half screen (925x1040).

- 5 Select **Save**.

Create or Edit a Message Template

A Message Template predefines a message and all of its properties so that it can easily be sent at a later time, whether manually or from a triggered Action in a Routine.

Figure 96. Add Message Template

To create (or edit) a message template:

- 1 On the navigation bar, select **Messages**, then **Message Templates**.
- 2 Select the **Add** icon (or the Edit icon next to an existing **Message Template**).
- 3 Provide a descriptive **Name** for the image.
- 4 Complete the options on the **Add Message Template** page.
- 5 Select **Save**.

Note: You can edit saved messages, but if the message is called by a routine, it won't be dynamically updated when the routine starts.

Table 28. Add/Edit Message Template parameters

| | |
|-------------------|--|
| Name | Specifies a name for this message. This is used if the message is to be saved. |
| Identifier | Used to identify the message so it can be deleted by a Routine action. |

Table 28. Add/Edit Message Template parameters

| | |
|-------------------------------|--|
| Type | <p>Select the type of message to be sent:</p> <ul style="list-style-type: none">• Text: A text message will be displayed.• Image: An image will be displayed. <p><i>Note:</i> Disables Priority "5 (Exclusive)" option and sets Image Priority to "0 (Lowest)."</p> <p>This value will determine which of several following parameters will be displayed.</p> |
| Text | <p>Type the message that is to appear on the display monitor.</p> <p>You can format text using basic HTML tags, such as:</p> <ul style="list-style-type: none">• <code>bold</code>• <code><i>italic</i></code>• <code><u>underline</u></code>• <code>styled text</code> <p><i>Note:</i> Be aware that entering a new line, even within HTML tags, will create a new line in the final message.</p> |
| Priority | <p>Select the message priority, which can range from 0 (Lowest) to 6 (Fullscreen).</p> <p>Priority 6 (Fullscreen) is the highest priority, and when a message is assigned this priority, only the messages with this priority appear on the display with the Scheduled Event Name and Date being temporarily removed.</p> <p>If Priority 5 (Exclusive) is selected, the Scheduled Event Name and Date remain on the display, but all other messages with lower priorities are removed.</p> <p><i>Note:</i> Priority 5 (Exclusive) is disabled for Image messages and enabled for Text messages.</p> |
| Display Time (seconds) | <p>Sets the length of time for the message to be displayed before it expires. Time can range from 1 to 99999.</p> |
| Image Type | <p>Select the image type to specify how the image will be displayed:</p> <ul style="list-style-type: none">• Full Screen (1920x1080): Image will be displayed full screen.• Left (925x1040): Image will be displayed on the left side of the screen.• Right (925x1040): Image will be displayed on the right side of the screen. |

Table 28. Add/Edit Message Template parameters

| | |
|-------------------------|---|
| Image Priority | <p>Select the image priority for this message, which determines precedence when an Image message and Text message have the same message priority:</p> <ul style="list-style-type: none">• Text Over Image: Text message will be given precedence.• Image Over Text: Image message will be given precedence. |
| Message Image | <p>Select the image to be displayed for this message from the list of Message Images. Note that the dimensions of this image must match the dimensions implied by the Image Type.</p> |
| Background Color | <p>Select the color for the message background. You can select a color by:</p> <ul style="list-style-type: none">• Using the color picker• Entering a hex color (for example: #000000, for black)• Entering an RGB color (for example: rgb(0,0,0) for black)• Entering a color alias name (for example: red, blue, etc.) <p>For more information, see "<i>Using Color in Display Messages</i>" on page 100.</p> |
| Font | <p>Select the down arrow to view a list of available fonts and then select the desired font for the message text. Available fonts are:</p> <ul style="list-style-type: none">Comic-ReliefCourier-PrimeGelasioLiberation SansLinux Libertine |
| Font Size | <p>Enter the desired font size.</p> |
| Font Color | <p>Select the color for the message text.</p> <p>You can select a color by:</p> <ul style="list-style-type: none">• Using the color picker• Entering a hex color (for example: #000000, for black)• Entering an RGB color (for example: rgb(0,0,0) for black)• Entering a color alias name (for example: red, blue, etc.) <p>For more information, see "<i>Using Color in Display Messages</i>" on page 100.</p> |
| Font Styles | <p>Place your cursor in the Add Styles box to select Bold or Italic. Otherwise, the Font Style remains at Regular.</p> |

Displaying a Message from the Message Templates Page

You can display a message based on a previously created Message Template from the **Message Templates** page.

To display a message based on a previously created Message Template:

- 1 On the navigation bar, select **Messages**, then **Message Templates**.
- 2 Select the **Send** icon next to the Message Template upon which you want your new message to be based.
- 3 On the **Display Message** popup, select the zones or stations at which you want the message to be displayed.

Note: The selected zones and station will not be saved.

- 4 Make changes to the message options as needed (*see "Display Message Options" on page 97*).
- 5 Select **Send**, or if you have made changes and want those changes to be saved to the Message Template, select **Send and Save**.

Deleting a Saved Message Template

To delete a saved Message Template:

- 1 On the navigation bar, select **Message Templates**.
- 2 Select the **Delete** icon next to the Message Template that you want to delete.
- 3 When prompted, select **Delete**.

Routines and Other Tasks

Other tasks that you can perform from the dashboard include:

- Starting or stopping routines
- Viewing schedules
- Manually controlling output contacts

Using Routines

A routine automatically launches a procedure, or sequence of actions, that the Nyquist system executes as a result of an input trigger. Routines can support your crisis plans for situations such as site lockdown, weather events, or emergency evacuation.

Important: You should *always* run a test of a routine after creating or editing it.

If you have the proper permissions and your station has the necessary CoS parameter set, you can manually launch a routine via the dashboard.

Note: Routines are created from the Routines selection on the navigation bar. The navigation bar does not appear if you are not authorized to make changes to the C4000 configuration. For more information, refer to the *Nyquist C4000 System Administrator Guide*.

A routine also can be automatically launched:

- by an event, such as playing a specific announcement;
- via third-party switch contact closures recognized by the Nyquist I/O Controller;
- as a Scheduled Routine; or
- via a Routines API that can be used by third-party systems, including fire systems, access control systems, and video security systems.

A routine that has **Allow DTMF** enabled does not need a trigger. However, most routines will have at least one associated trigger and one or more actions. For example, if an administrator manually triggers a lockdown routine, several actions could result, such as:

- Play a lockdown announcement
- Display lockdown instructions on monitors connected to NQ-GA10PV devices.
- Close I/O controller output contacts to trigger third-party systems that lock doors
- Initiate the check-in process
- Start an emergency all-call announcement

To use the Routines feature, you must have the appropriate permissions and the station being used to start the routine must have the CoS parameter **Execute Routines** enabled.

To allow a third-party system to launch a routine via the Routines API, you must enable **Allow API** for the routine.

You can import or export routines by selecting the appropriate button from the **Routines** view. When importing a routine, the routine file must have an SQL extension. See the *Nyquist C4000 System Administrator Guide* for more information.

Starting and Stopping Routines from the Web UI

You can manually launch a routine that has **Allow DTMF** enabled and stop a running routine from the dashboard.

In addition to the routine needing **Allow DTMF** enabled, the dashboard must have **Execute Routines** CoS enabled.

To start a routine from the dashboard:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

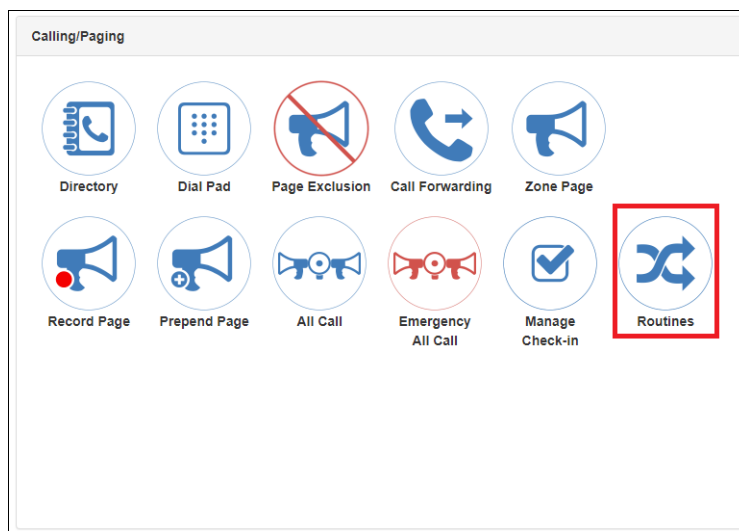


Figure 97. Routines Button

- 2 Under Calling/Paging, select **Routines**.

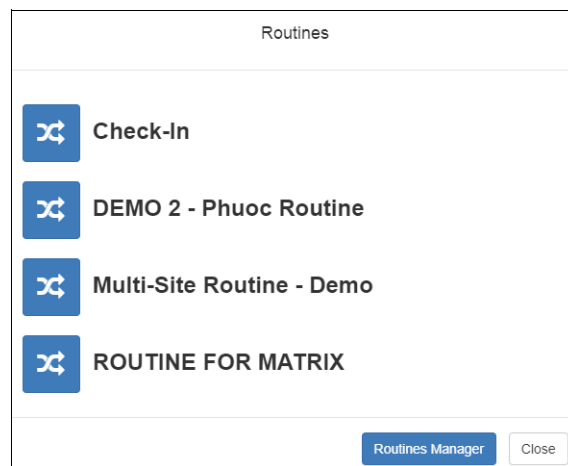


Figure 98. Routines List

- 3 Select one of the listed routines.

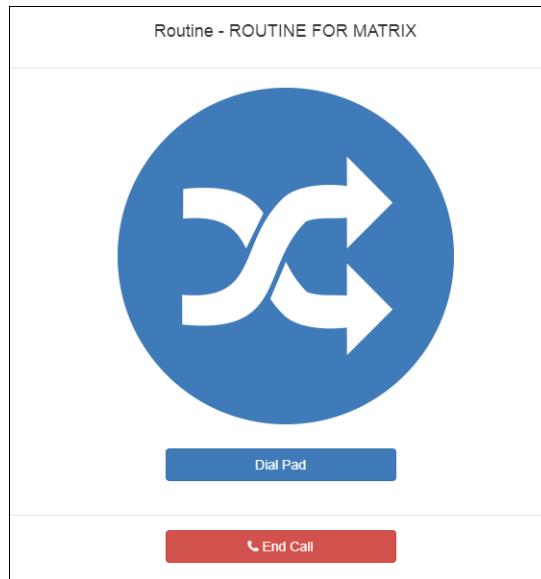


Figure 99. Routine Page

- 4 If you must enter a password to complete this task, select **Dial Pad** and enter the 4-digit password.
- 5 If prompted, enter **1** for confirmation.
- 6 To end the routine, select **Stop**.

To stop a routine via the dashboard:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 Under Calling/Paging, select **Routines**.
- 3 Select **Routines Manager**.

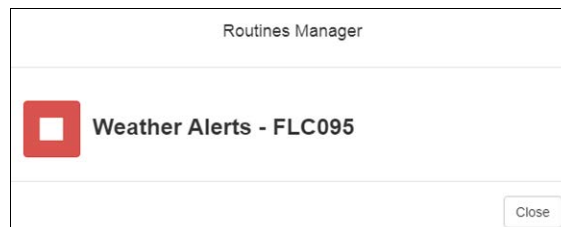


Figure 100. Routines Manager

- 4 Select the routine that you want to stop (icons of running routines are red).

Note: Stopping a routine does not reverse any actions that the routine has already started. You may need to clear the actions manually.

- 5 Select **Yes**.

Starting and Stopping a Routine from the Admin Phone

You can manually start a routine that has **Allow DTMF** enabled from an Admin Phone by doing one of the following:

Note: Parameters (and their preceding asterisks) are only required if the Routine uses them.

- Dial: *94<routine-DTMF-code>*<parameter1>*<parameter2>
- Dial: 0000094<routine-DTMF-code>*<parameter1>*<parameter2>
- Select the **Routines** menu from the Admin Phone and then select the routine that you want to start.

Note: Only routines with **Allow DTMF** enabled appear in the menu.

Example:

```
*94123*60*120
```

This example will execute Routine 123, passing 60 as \$cmdParam1 and 120 as \$cmdParam2. The variables \$cmdParam1 and \$cmdParam2 are available to CODE: segments of the Routine Action's Condition field. For example:

```
CODE:  
$user_var[1] = $cmdParam1;  
$user_var[2] = $cmdParam2;
```

Then you can use the \$user_var[] variables in Routine Action fields that support the use of the \$user_var[] variables.

In addition to the routine needing **Allow DTMF** enabled, the Admin Phone must have **Execute Routines** CoS enabled.

If you disconnect the call during a routine, the routine continues until finished. If the routine includes **Pause** actions, the call will not disconnect until all **Pause** actions have been executed.

A routine started from the Admin Phone may end with any of the following page commands, provided the Admin Phone has the appropriate CoS enabled:

- All-Call
- Emergency-All-Call
- Facility-Page
- Multi-Site-All-Call
- Multi-Site-Emergency-All-Call
- Zone-Page

You can stop a specific routine by dialing one of the following:

- *95<Routine-DTMF-Code>
- 0000095<Routine-DTMF-Code>

Note: If the **Allow DTMF** parameter for the specified routine is set to **No**, you will be prompted to enter the system password.

Viewing the Event Schedule for the Week

From the dashboard, you can view this week's schedule or use the **Prev** and **Next** buttons to view the schedule for other weeks. If you select a specific schedule for a day, you also can view details of that schedule.

To view this week's schedule:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---------------------|------------------------|--------------------|--------------------|--------------------|--------------------------|---------------------|
| Oct 13 SCT: None | Oct 14 Columbus Day | Oct 15 SCT: TTH | Oct 16 SCT: MWF | Oct 17 SCT: TTH | Oct 18 SCT: Demo Days | Oct 19 SCT: None |

Figure 101. Weekly Schedule Section of Dashboard

- 2 Scroll to the Weekly Schedule section.
- 3 To view details of a schedule, select a schedule listed, or use the **Prev** or **Next** buttons to navigate to the desired schedule and select that schedule.

The Schedule popup window appears.

| Time | Name | Zones | Tone | Scheduled Audio |
|------------|---------------------|--|-------------------|-----------------|
| 2:17:30 pm | Happily Ever After | Amp Time Zone | Triumphal Fanfare | 🟢 Disney World |
| 2:18:00 pm | Magic Parade | Amp Time Zone | Caramel | 🔴 Stop Playlist |
| 2:39:00 pm | Let the Magic Begin | A2120 - MONO, A2300 - 504, A2300 - 505, All Time Zone, Amp Time Zone, Time zone - 1, Zone 10 | Triumphal Fanfare | 🟢 Disney World |
| 2:39:49 pm | Closing Hours | A2120 - MONO, A2300 - 504, A2300 - 505, All Time Zone, Amp Time Zone, Time zone - 1, Zone 10 | Caramel | 🔴 Stop Playlist |

Close

Figure 102. Schedule Page

- 4 Select **Close** when done viewing.

Using the Calendars Feature

Nyquist provides a calendar view of the schedule used for past days, the schedule for the current and future days, and the scheduled holidays. The view is for the current month, but you can use the **<Prev>** and **<Next>** buttons to display other months.

The Calendar view also provides access to the calendars of Facilities that are defined in the Facilities view. You can view and modify calendars of any Facilities that are configured to allow access via the Remote Calendar Control settings.

The Calendars feature also provides a quick way to change the schedule. For example, if you normally use an Early Release schedule for Wednesdays but want to use this schedule for Monday through Friday for the last week of the year, you can use the Calendars feature to create exceptions for your schedule.

To view or change a monthly calendar:

- 1 On the navigation bar, expand **Schedules**.
- 2 Under Schedules, select **Calendars**.
- 3 Select the **Facility** whose calendar you wish to view.

Note: If the **Remote Calendar Control** setting for the selected Facility does not allow access to your Nyquist server, an error will be displayed and your Facility selection will be rejected.

- 4 Select either **Top View** or the tab that displays your site's name.
- 5 To change the schedule for the current or future dates, make sure you are the tab for your site and use the drop-down menu for the date or dates to select the replacement schedule.
- 6 To view events scheduled for a date, make sure you are on the **Top View** tab and select the date. Events for the schedule are detailed in the Schedule popup window that appears.
- 7 When done viewing events, select **Close**.

Schedule Popup Window Parameters

The Schedule popup window appears when viewing events for a date from either the monthly view (see "Using the Calendars Feature" on page 117) or from the dashboard's Weekly Schedule panel.

The Schedule popup window displays the name, the day, and the date of the schedule. It also contains the following parameters:

Table 29. Schedule Popup Window Parameters

| | |
|--------------|--|
| Time | Identifies the time of the event start in HH:MM:SS format. |
| Name | Identifies the user provided name for the event. <i>Note:</i> Valid characters include uppercase letters (A-Z), lowercase letters (a-z), numerals (0-9), space, and the following special characters: !@\$*?-,., |
| Zones | Identifies the zones and types of zones that are specified for this event. |
| Tone | Identifies the name of the tone used for this event. |

Table 29. Schedule Popup Window Parameters (Continued)

| | |
|------------------------|---|
| Scheduled Audio | Identifies a playlist, Matrix Mixer Pre-Amp channel, amplifier, or Airable/SoundMachine source to use if the Scheduled Audio feature is used for this event. Otherwise, the option appears as None . |
|------------------------|---|

Manually Controlling Output Contacts

If you are using the Nyquist I/O Controller to recognize third-party contact closures, you can manually control output contacts.

Prerequisites for using manual controls are (1) adding an I/O Controller as a station and (2) configuring a controller rule for at least one output contact with the Action set as Manual.

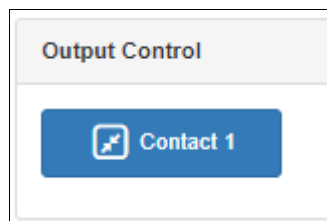


Figure 103. Output Control Section



Figure 104. Manual Control Buttons

To manually control an output contact:

- 1 If not already on your dashboard, select **Dashboard** from the navigation bar.
- 2 In the Output Contact Control section, select the desired contact.

Note: If you have set up a rule with a duration of zero (0), then selecting the contact displays two buttons—one for opening and one for closing the circuit. If duration is set to a number other than zero (0), you can only close the circuit.

- 3 Select the button for the action that you want. The button labels are set in the rule for the output contact.

Appendix A: Bogen Digital Certificate Authority

Installing the Bogen Digital Certificate Authority

The C4000 server's digital certificate is sent to the client (e.g., a web browser) to authenticate the identity of the C4000 web server. The client then uses the Certificate Authority (CA) to authenticate the server's digital certificate, which verifies that the client is connecting to a valid server. If you do not install the CA, the browser will display a warning that it was unable to authenticate the server by displaying a red *Not secure* warning immediately to the left of the browser's address bar when you attempt to access the C4000 system server.

Installing Certificate Authority on Windows System

To download and install the Certificate Authority on a Windows device:

- 1 From your Chrome or Edge browser, type `http://<server>/ssl/bogenCA.crt` in the address bar, where `<server>` is the Nyquist system server's IP address (for example, `http://192.168.1.0/ssl/bogenCA.crt`).
- 2 Select the downloaded file and select **Open**.
- 3 Select Open when prompted with "Do you want to open this file?"
- 4 Select the **Install Certificate...** button. The Certificate Import Wizard starts.
- 5 Select **Current User**, and then select **Next**.

Note: To allow *all* users on this Windows client to access the Nyquist server, select **Local Machine** instead of **Current User**. You may be prompted for administrator credentials.

- 6 Select "Place all certificates in the following store", then select **Browse**.
- 7 Select **Trusted Root Certification Authorities**, and then select **OK**.
- 8 Select **Next**.
- 9 Select **Finish**.
- 10 Restart the browser and log in to the C4000 web server.

Note: You can also download and install the Certificate Authority using a PowerShell command prompt or script, which involves fewer steps.

To download the certificate to a CRT file, execute the following PowerShell command, replacing `<server>` with the IP address of the Nyquist server:

```
Invoke-WebRequest -Uri http://<server>/ssl/bogenCA.crt -OutFile $env:TEMP\bogenCA.crt
```

If you wish to validate the certificate before importing it, execute the following command after retrieving the CRT file:

```
(New-Object -TypeName Security.Cryptography.X509Certificates.X509Certificate2 -Argument-List "$env:temp\bogenCA.crt").GetCertHashString()
```

The output will be the hash value (i.e., thumbprint) of the downloaded certificate, which should match the following:

```
0A8248F69D970F8DD855D0E0592972DA64B1A845
```

To install the certificate, execute the following command:

```
Import-Certificate -CertStoreLocation cert:\CurrentUser\Root -FilePath $env:TEMP\bogenCA.crt
```

These commands install the CA into the CurrentUser certificate store, which only applies to the current user. To install for all users on this machine, which requires administrator privileges to execute, replace **CurrentUser** with **LocalMachine** in the preceding command.

Note: These commands can also be executed remotely using PowerShell Remoting, which may be helpful if the certificate needs to be installed on many client machines.

Installing Certificate Authority on Mac System

To download and install the Certificate Authority on a Mac:

- 1 From your Chrome or Edge browser, type `http://<server>/ssl/bogenCA.crt` in the address bar, where `<server>` is the Nyquist system server's IP address (for example, `http://192.168.1.0/ssl/bogenCA.crt`).
- 2 Save the downloaded `bogenCA.crt` file to the desktop.
- 3 Double-click the certificate file on the desktop. The Keychain Access App opens.
- 4 Double-click the certificate to reveal the trust settings.
- 5 Change the top trust setting to **Always Trust**.
- 6 Close the Trust Setting window and enter the computer administrative password to save.
- 7 Restart the browser and log in to the Nyquist web server.

Installing Certificate Authority on an Android Device

Note: The Android device WiFi must be connected to the same network as the C4000 server or System Controller.

To download and install the Certificate Authority on an Android device:

- 1 From your Chrome or Edge browser, type `http://<server>/ssl/bogenCA.crt` in the address bar, where `<server>` is the Nyquist system server's IP address (for example, `http://192.168.1.0/ssl/bogenCA.crt`).
- 2 If prompted, verify your identity (e.g., enter your PIN or fingerprint).
- 3 Type a certificate name (e.g., "Bogen CA"), specify "VPN and apps" under "Used for", and select **OK** to install the certificate.

Viewing the Certificate

The following steps outline how to view and verify the TLS/SSL certificate that was provided by the Nyquist server.

- 1 Browse to the Bogen C4000 application in your browser (Chrome or Edge).
- 2 Select the lock icon on the address bar of the browser (to the left of the URL).
- 3 Display the certificate by following one of the following steps:
 - a) On the Chrome or Edge browser, select **Connection is secure**, then select either **Certificate is valid** (Windows) or **Certificate information** (Android) to display the Certificate dialog.
 - b) On the Safari browser [MacOS only], select **Show Certificate** in the window that appears.
 - c) As an alternative on Android devices, select the Android system's **Settings > Biometrics and security > Other security settings > View security certificates**, select the **USER** tab, and select the Bogen certificate.
- 4 To verify that the certificate is valid, verify that the displayed SHA-1 fingerprint value matches the following (it may display with colons or spaces between characters):
`0A:82:48:F6:9D:97:0F:8D:D8:55:D0:E0:59:29:72:DA:64:B1:A8:45`
- 5 Validate the certificate (Windows).
 - a) Select the Certification Path tab.
 - b) Select Bogen CA at the top of the **Certification path** and verify that the **Certificate status** property says, "This certificate is OK."
 - c) Select **View Certificate**.
 - d) Select the Details tab and verify that the Thumbprint matches this value:
`0a8248f69d970f8dd855d0e0592972da64b1a845`

Appendix B: Nyquist DTMF Feature Dialing Codes

Note: The use of feature dial codes is restricted by the station's CoS assignments.

Alarm/Tone Activation

| Description | DTMF Code | Required CoS |
|--|---------------------------|--------------------------------|
| Start Alarm specified by {DTMF-code} | *91{DTMF-code} | Activate Alarm Signals |
| | 0000091{DTMF-code} | Activate Alarm Signals |
| Start Tone specified by {DTMF-code}, play to {zone} <i>Note:</i> *{zone} is optional. | *96{DTMF-code}*{zone} | Manually Activate Tone Signals |
| | 0000096{DTMF-code}*{zone} | Manually Activate Tone Signals |
| Start Tone specified by {DTMF-code} | *96{DTMF-code} | Manually Activate Tone Signals |
| Prompts user to enter a tone number and tone parameters (e.g., times to play) and starts the tone at all Time-type zones | *96 | Manually Activate Tone Signals |

Announcements

| Description | DTMF Code | Required CoS |
|---|--------------------|---------------|
| Start Announcement specified by {DTMF-code} to station's configured "Announcement Zone" <i>Note:</i> If "Announcement Zone" is not configured, the caller will be prompted to enter a zone number. | *92{DTMF-code} | All-Call Page |
| | 0000092{DTMF-code} | All-Call Page |

Announcements (Continued)

| Description | DTMF Code | Required CoS |
|---|--|---|
| Start Announcement specified by {DTMF-code}, play to {zone} | *92{DTMF-code}*{zone} | Zone Paging |
| | 000092{DTMF-code}*{zone} | Zone Paging |
| Start Announcement specified by {DTMF-code} to all Facilities (including local facility) | *97{DTMF-code}#0 | Multi-Site Paging Inter-Facility Call/Page |
| Start Announcement specified by {DTMF-code} to Facility specified by {facility-page-number} | *97{DTMF-code}#{facility-page-number} | Inter-Facility Call/Page |
| Start Announcement specified by {DTMF-code} to dialed Facilities <i>Note:</i> Use "0" for {facility-page-number} to include the local facility. <i>Note:</i> The number of dialed digits cannot exceed 70 digits. | *97{DTMF-code}#{facility-page-number}*{facility-page-number} | Multi-Site Paging Inter-Facility Call/Page |
| Stop Announcement currently playing to {Zone-Number} | *93{zone-number} | |
| | 000093{zone-number} | |

Calling

| Description | DTMF Code | Required CoS |
|--|---------------------------------------|--------------------------|
| Call {extension} speaker (intercom, auto-answer) | {extension} | Call Any Station |
| Call {extension} ringer (telephonic, ringing) | *{extension} | Call Any Station |
| Join conversation at {extension} | *#{extension} | Join Conversation |
| Call {extension} at {facility-page-number} | ##*{facility-page-number}*{extension} | Inter-Facility Call/Page |

Calling (Continued)

| Description | DTMF Code | Required CoS |
|---|-----------------|-----------------------|
| Place long distance call with area code (AAA = Area code, NNNNNNN = number) | 981AAANNNNNNN | Outside Access rights |
| Place local ten-digit call with area code | 98AAANNNNNNN | Outside Access rights |
| Place local seven-digit call | 98NNNNNNN | Outside Access rights |
| Place 911 emergency call | 911 | |
| <i>Note:</i> Based on Station's 911 Route setting, call may be directed to Admin Station, PSTN-based 911, or denied. | 98911 | |
| Place Emergency call to designated Admin station | **** | |
| Place call to PBX system (via SIP Trunk) by dialing {DTMF-codes} | ***{DTMF-codes} | Outside Access rights |
| <i>Note:</i> {DTMF-codes} can be as simple as an extension number on the attached PBX system. | | |

Call Forwarding

| Description | DTMF Code | Required CoS |
|-------------------------------|----------------|-----------------|
| Call Forwarding Menu | 970 | Call Forwarding |
| All-Calls (CFALL) | 971{extension} | Call Forwarding |
| When Busy (CFBS) | 972{extension} | Call Forwarding |
| When No Answer (CFNA) | 973{extension} | Call Forwarding |
| When Busy or No Answer (CNBN) | 974{extension} | Call Forwarding |
| Cancel Call Forwarding | 975 | Call Forwarding |

Call Forwarding (Continued)

| Description | DTMF Code | Required CoS |
|--------------------------------------|-----------|-----------------|
| Call Forwarding Status (Caller only) | 976 | Call Forwarding |
| Call Forwarding Status (All users) | 977 | Call Forwarding |

Call Parking/Call Pickup

| Description | DTMF Code | Required CoS |
|---|---------------|---------------|
| Park call (during call) | #72 | |
| <i>Note:</i> To pick up a parked call, dial the parked call's extension (by default, extensions 21-29) that was provided when the call was parked using #72. The parking lot extensions can be changed at the Admin Web UI through System Parameters . | | |
| Call pickup {extension} when ringing | 7*{extension} | Remote Pickup |

Call Transfer

| Description | DTMF Code | Required CoS |
|---|---------------|---------------|
| Blind transfer (during call) | #1{extension} | Call Transfer |
| Attended transfer (during call) | *1{extension} | Call Transfer |
| Complete attended transfer, dropping out of call | *2 | Call Transfer |
| Complete attended transfer, but stay in the call | *3 | Call Transfer |
| Swap to the other party (during attended transfer) | *4 | Call Transfer |
| Transfer (drop) call from Speaker to associated Phone | *3 | Call Transfer |
| Transfer (drop) call from Speaker to associated Phone | #### | Call Transfer |

Call Transfer (Continued)

| Description | DTMF Code | Required CoS |
|--|-----------------------|---------------|
| Transfer call from Phone to associated Speaker | #1{speaker-extension} | Call Transfer |

Conferencing

| Description | DTMF Code | Required CoS |
|---|------------|-------------------------------------|
| Create/Enter Dynamic Conference {number} | **{number} | Conference Admin Conference User |
| <p><i>Note:</i> If the conference owner enters 0000 as the password, the conference will be deleted. If an Admin station user type enters 0000 as the password but is not the conference owner, the user will be prompted for the system password. If the correct system password is entered, the conference will be deleted.</p> | | |
| Start system playback of list of created conferences that includes the conference number and the extension that created the conference | **0 | |

Monitoring/Recording

| Description | DTMF Code | Required CoS |
|--|----------------|-------------------------|
| Monitor call or location at {extension} | 978{extension} | Monitor Calls/Locations |
| <p><i>Note:</i> Spy Mode monitoring cannot be used on a station that has been set to Privacy Mode.</p> | | |
| Enable "spy mode" (MUTE) during call monitoring | 4 | |
| Enable "whisper mode" during call monitoring | 5 | |
| Enable "barge mode" during call monitoring | 6 | |

Monitoring/Recording (Continued)

| Description | DTMF Code | Required CoS |
|--|-----------|-------------------|
| Record Message (Announcement) | *990 | All-Call Paging |
| <p><i>Note:</i> When you record an announcement by dialing *990 or by selecting Record Announcement on the Admin phone's Announce menu, the initial DTMF Code for the recorded and saved announcement will be set to the announcement's row ID. You can change the DTMF Code after the announcement is saved by editing the announcement in the web interface Announcements view.</p> <p>The saved announcement has Play to Zone set to blank (no zone selected). This means that when you play an announcement via an IP phone Announcement menu selection, you will be asked to enter a zone number (where 0 = All Speakers). You can define a permanent zone number for the saved announcement by updating Play to Zone after the recorded announcement has been saved.</p> | | |
| Playback recorded calls MENU: 1–Emergency, 2–Monitored, 3–Urgent, 4–Standard | 999 | Manage Recordings |
| Start/Stop recording (DTMF used during a call) | *3 | Record Calls |

Paging

Note: The "##" prefix is used to indicate multi-facility paging operations.

| Description | DTMF Code | Required CoS |
|------------------------------------|-----------|---|
| Multi-Site Emergency All-Call Page | ##0911 | Emergency All-Call Multi-Site Paging |
| Multi-Site All Call Page | ##0 | All-Call Paging Multi-Site Paging |
| Emergency All-Call Page | #0911 | Emergency All-Call |

Paging (Continued)

Note: The "##" prefix is used to indicate multi-facility paging operations.

| Description | DTMF Code | Required CoS |
|---|--|---|
| Multi-Facility Emergency All-Call Page | ##0912{facility-page-number}*{facility-page-number}... | Emergency All-Call Multi-Site Paging |
| Emergency All-Call Page | 951 | Emergency All-Call |
| All-Call Page | #0 | All-Call Paging |
| | #00 | All-Call Paging |
| | 000000 | All-Call Paging |
| Page to {zone} | #{zone} | Zone Paging |
| | 0000099{zone} | Zone Paging |
| Real-time Page to {zone} that belongs to a queue | #{zone>* | Zone Paging |
| All-Call Page to {facility-page-number} | ##{facility-page-number} | Inter-Facility Call/Page |
| Multi-Facility All-Call Page | ##{facility-page-number}*{facility-page-number}... | Inter-Facility Call/Page |
| Zone Page to {zone-number} at {facility-page-number} | ##{facility-page-number}#{zone-number} | Inter-Facility Call/Page |
| Real-time page to {zone-number} that belongs to a queue at {facility-page-number} | ##{facility-page-number}#{zone-number>* | Inter-Facility Call/Page |
| Record page; system will prompt for Zone Number | *991 | Zone Paging |
| Record page for {zone-number} | *991*{zone-number} | Zone Paging |

Paging (Continued)

Note: The "##" prefix is used to indicate multi-facility paging operations.

| Description | DTMF Code | Required CoS |
|---|--------------------|--------------|
| Cancel Recorded Page <i>Note: Only works if made from the same extension that created the recorded page.</i> | *992 | Zone Paging |
| Cancel Recorded Page for {zone-number} <i>Note: Only works if made from the same extension that created the recorded page.</i> | *992*{zone-number} | Zone Paging |

Voicemail

| Description | DTMF Code | Required CoS |
|---|-----------------|--------------|
| Voicemail for current caller | 900 | Voicemail |
| Voicemail for specified {extension} | 904{extension} | Voicemail |
| Leave voicemail for specified {extension} | 904{extension}* | Voicemail |

Walking CoS

| Description | DTMF Code | Required CoS |
|---|---------------------------|--------------------------|
| Current IP phone's extension becomes {extension} <i>Note: If Auth Code is set to 0000 in the Admin Web UI's System Parameters, this feature is disabled.</i> | 3*{auth-code}*{extension} | Walking Class of Service |

Dial Codes Used for Simulating Calls to Admin Station from Station Call Switches

| Description | DTMF Code | Required CoS |
|--|-----------|--------------|
| Normal call to admin <i>Note:</i> During the Check-In process, a Normal call starts the check-in process for a station. | 0 | |
| Emergency call to admin | *0 | |
| Urgent call to admin | *00 | |
| Outside line calling in (uses night-ring logic) | *000 | |

Routines

| Description | DTMF Code | Required CoS |
|--|--|------------------|
| Execute Routine with {routine-DTMF-code} | *94{routine-DTMF-code} | Execute Routines |
| <i>Note:</i> Only routines with Allow DTMF can be executed from the Admin Phone. | 0000094{routine-DTMF-code} | Execute Routines |
| Execute Routine with {routine-DTMF-code} specifying values for parameters \$cmdParam1 and \$cmdParam2. | *94{routine-DTMF-code}*{parameter1}*{parameter2} | Execute Routine |
| Only routines with Allow DTMF can be executed from the Admin Phone. | 0000094{routine-DTMF-code}*{parameter1}*{parameter2} | Execute Routine |
| Stop Routine with {routine-DTMF-code} | *95{routine-DTMF-code} | Execute Routines |
| <i>Note:</i> If the Allow DTMF parameter for the specified routine is set to No , you will be prompted to enter the system password. | 0000095{routine-DTMF-code} | Execute Routines |

Audio Distribution

| Description | DTMF Code | Required CoS |
|--|---------------------|--------------------|
| Start Audio Distribution where {DTMF-code} is the DTMF code for the desired Audio Distribution | 987*{DTMF-code} | Audio Distribution |
| | 00000987{DTMF-code} | Audio Distribution |
| Stop Audio Distribution where {DTMF-code} is the DTMF code for the desired Audio Distribution | 980*{DTMF-code} | Audio Distribution |
| | 00000980{DTMF-code} | Audio Distribution |
| Stop ALL Scheduled Audio | 920 | Audio Distribution |

Miscellaneous Dial Codes

| Description | DTMF Code | Required CoS |
|--|----------------------------------|------------------------|
| Restart Nyquist system server <i>Note:</i> User is prompted for System Password. | #*349 | |
| Toggle Audio Distribution to associated speaker | *9 | |
| Disable Audio | 0000097 | Disable Audio |
| Enable Audio | 0000098 | Enable Audio |
| Stop Scheduled Audio | 920 | Audio Distribution |
| Close {contact-number} on I/O Controller {extension} (For example, dialing 942#120#1 closes contact number 1 on I/O Controller 120.) | 942#{extension}#{contact-number} | Manage Output Contacts |
| Open {contact-number} on I/O Controller {extension} <i>Note:</i> For example, dialing 943#120#1 opens contact number 1 on I/O Controller 120. | 943#{extension}#{contact-number} | Manage Output Contacts |

Miscellaneous Dial Codes (Continued)

| Description | DTMF Code | Required CoS |
|---|---|-------------------------|
| Request a callback during a call | *7 | Call Any Station |
| Cancel a callback request during a call | *8 | Call Any Station |
| Request a callback from a specific extension | *7{extension} | Call Any Station |
| Cancel a callback request from a specific extension | *8{extension} | Call Any Station |
| Start Nyquist Features on Remote Facilities | ##*{facility-page-number}*{feature-DTMF-digits} | Inter-Facility Features |
| Examples: | | |
| Start Announcement 1 on Facility 1 | ##*1*00000921 | |
| Start Audio Distribution 6 on Facility 5 | ##*5*000009876 | |
| Execute Routine 5 on Facility 10 | ##*10*00000945 | |

Index

A

- Add Announcement Page 36
- Add icon, about 5
- Alarm
 - defined 44
 - starting and stopping 44
- announcement
 - create 35
 - delete 43
 - edit 41
 - launching from dashboard 30
 - record 35
 - starting and stopping 30
 - upload file 36
 - view 40
- announcement files
 - defined 30
 - editing 41
 - viewing 40
- Announcements Page 40
- audio distribution
 - creating zone for 7
 - defined 7
 - using 7
- audio management feature 7
- audio prompts for Check-In feature 89

C

- calendar, view monthly 117
- Calendars feature 117
- Callback Request Indicator 62
- calls
 - dial pad 64
 - directory 63
 - managing via dashboard 62
- Check-In log 92
- Check-In, **See** Manage Check-In
- color-coded check-in status 85
- configuring check-in options 89
- confirmation messages for Check-In process 89

D

- dashboard
 - described 1
- Default Color Alias 100
- Delete icon, about 5
- Display Configuration 94
- Display Message
 - color alias 100
 - overview 94
 - removing event name 104
 - removing messages 103
 - selecting colors 100
 - setting options 97
 - using color 100
- display message
 - creating 96
- Display Message page 97
- DTMF
 - list of DTMF dialing codes 122
 - used for manual announcement activation 40
- Dual Tone Multi-Frequency, **See** DTMF

E

- Edit Announcement Page 41
- Edit icon, about 5
- Edit Song page 14
- enabling Check-In feature 89
- Exclusion List for Check-In feature 90

G

- GUI, defined 1

H

- Hamburger icon, about 5
- Help icon, about 5
- https
 - used for UI 2

I

- Internet Radio Services

- adding a source 21
- Overview 20
- Viewing 20

M

- Manage Check-In
 - audio files 89
 - color-coded status 84
 - confirmation messages 89
 - Display Options 85
 - Exclusion List 90
 - log file 92
 - overview 84
 - Reset 88
 - Start 86
 - Stop 87
 - Vacancy List 90
 - viewing status 84
- Manage tool 16
- Managed Check-In
 - Configuration options 89
- manually control output contacts 118
- Map Feature
 - starting pages 79
- Maps Feature
 - calling extension 81
- multiple songs, adding 13

N

- navigation bar
 - described 3
- Nyquist
 - Login 2

P

- paging
 - All Call 71
 - Emergency All Call 72
 - excluding station from 76
 - Facility 74
 - Facility Announcement 32
 - Multi-Site All Call 75
 - Multi-Site Emergency All Call 75
 - single zone 67
- PC, defined 1
- playlist

- change song order 19
- changing song order 19
- create 16
- deleting song from 19
- editing 19
- overview 15
- view 15

R

- Remove Message page 103
- resetting the check-in process 88
- routine
 - launching from the Admin Web UI 113
- routines
 - starting and stopping from the Admin Phone 114

S

- schedule
 - viewing from dashboard 116
- Schedule page 117
- song
 - add to playlist 18
 - delete 15
 - deleting 15
 - deleting song in playlist 10
 - edit 14
 - editing 14
 - managing 10
 - overview 10
 - viewing 10
- song list
 - viewing 11
- Songs page 10
- SOUNDMACHINE
 - managing credentials 23
 - start announcement 30
 - starting the check-in process 86
- station
 - exclude from paging 76
- stop announcement 30
- stopping the check-in process 87

T

- tone
 - add 49

- duration 52
- edit 54
- generate 51
- hide 48
- line input 53
- upload 50
- using Matrix Mixer Pre-Amp channel
as source 52

tones

- defined 45
- editing 54
- overview 44
- starting and stopping 45
- uploading 49
- view 47
- viewing 48

U

UI

- about 1
- how to use 5

V

- Vacancy List for Check-In feature 90

W

- web-based UI 1

Z

- Zone Control 56
 - setup 57
 - using 59