

NetSpire Web Administration R3.3

Reference Manual

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Amendment History

VERSION	DATE	AUTHOR	NOTES
1.0	30/05/2014	Alex Scholte	Initial Draft for R2.13
1.1	25/06/2014	Alex Scholte	Incorporated review comments from Brendan Dooley; updates to captions for consistency; complete spell and grammar check; updates to wording for consistency; updated section references; updated document references
1.2	16/07/2014	Alex Scholte	Recovered version of document after crash. Added Setup: Preferences section; Added Introduction sections and content; General formatting clean-up; Added Media Manager Section
1.3	28/07/2014	Alex Scholte	Minor formatting and text changes. Document base lined for peer review.
1.4	23/07/2014	Alex Scholte	Incorporated review comments from Hooman Mirhadi, Sirish Masur Mohan, Mathew Hill and Alex Scholte. Document base lined for peer review.
1.5	31/07/2014	Alex Scholte	Incorporated review comments from Ashish Nangia, Mark Lewis, Jian Zhang.
1.6	10/11/2014	Alex Scholte	Incorporated changes for Release 2.14 of the NetSpire software; Updates include Summary Information screen; Alarms Information screen; Audio Information screen; Redundancy Information screen; Date & Time Information screen; Announcements Setup Screen; Audio Sources and Zones Setup screen; Display Management screen; Redundancy Setup screen; Voice Archiving screen; DVA Operations screen; Maintenance Administration screen; Maintenance Redundancy screen Fixed broken references. Spell checked; fixed typos and grammatical errors.
1.7	2/12/2014	Alex Scholte	Added enhanced section for Condition Monitor
1.8	2/12/2014	Alex Scholte	Field updated; Removed cropped image portions; Spell and grammar check. Initial draft for R2.14 baseline for review.
1.9	28/01/2015	John Abdelsater	Added section for Alarm logs
2.0	21/8/2015	Mahmut Fettahlioglu	Added document to add/update Automatic Update Manager section, scheduled DVA announcements, announcement priority selection.
2.1	29/9/2015	John Abdelsater	Initial draft for R3.0 baseline for review.
3.0	18/12/2015	John Abdelsater	Added Quick Start screen.
3.1	3/6/2016	Beant Singh	Updates Screenshots to match new firmware version WEB UI Added Volume Profiles section.
3.2	6/9/2016	Mathew Hill	Added Voice Archive Server audio file review and playback screen.
3.3	17/01/2016	John Abdelsater	Added Screen Designer and Displays screens.

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1 Introduction

1.1 About This Manual

This document provides a reference guide for accessing and using the NetSpire Web Administration Interface for configuring, monitoring and controlling the NetSpire system.

The NetSpire Web Administration interface is consistent across the range of NetSpire devices and software, although not all devices support all features available in the interface.

This document covers all aspects of the NetSpire Administration interface features and functions for all NetSpire devices.

This document is not intended to provide a step by step guide to setting up and configuring a system, but simply a reference and description of all the screens and functions of the NetSpire Web Administration Interface.

For information on setting up a system and devices please refer to the NetSpire Quick Start Guides and NetSpire System Commissioning Guides.

1.2 References

#	DOCUMENT NUMBER	TITLE
1	OA/DSR00100	NetSpire System Alarms Reference
2	OA/DSR00300	NetSpire SDK API Reference
3	OA/DSR00400	NetSpire SNMP Reference
4	OA/DSR00600	NetSpire System Events Reference

Table 1 – References

2 Glossary

TERM	MEANING
AFIL	Audio Frequency Induction Loop. AFILs are a conductive loop that provides audio frequency inductive audio for hearing impaired users with compatible hearing aids. Also refer to HIIL.
ANC	Ambient Noise Compensation. A facility where system volume level is automatically adjusted to compensate for the environmental ambient noise level
ANS	Ambient Noise Sensing. A microphone that is used as part of an ANC system.
Audio Dictionary	The NetSpire System supports an Audio Dictionary which is a set of pre-recorded audio segments used for the playback of consistent messages through the public address system.
Audio Segment	Audio Segments are pre-recorded audio messages. Audio Segments may contain a complete message, or may be a partial message which is used with other segments to build a complete meaningful phrase containing dynamic information.
Audio Source	An Audio Source represents an audio input to the system. Audio Sources may be a physical audio input port, a network audio stream or virtual sources such as provided by the DVA function integrated in NetSpire devices.
Audio Zone	Audio Zone represents a physical area where audio can be targeted. An Audio Zone may include one or more physical audio output ports.
BGM	Background Music
CAC	NetSpire Crew Audio Controller (CAC). The CAC is a network enabled audio interface for interconnection with radio devices. The CAC also supports driving cabin preview speakers.
Call	A telephone call between a calling party and a called party.
CC	NetSpire Crew Controller (CC). The CC is a graphical touch screen crew interface. Support is provided for public address, digital voice announcement, crew and passenger communications functions. The graphical interface can be tailored to customer specific requirements.
CDR	Call Detail Record. Records maintained for telephony calls including parties involved and call times.
CI	NetSpire Crew Intercom (CI). The CI is a network enabled crew interface supporting public address, crew and passenger communications. The unit incorporates a ruggedized handset.
Conference	A telephony call where two or more participants can communicate at the same time in a tele-conference meeting.
Conference Call	A telephone call with 2 or more parties. Commonly called a teleconference.
Conference Centre	Conference Centres are accessed by a phone number and provide the tele-conferencing facilities of the NetSpire Telephony system. Each Conference Centre can have one or more Conference Rooms configured.
Conference Room	Conference Rooms are part of a Conference Centre, and are accessed by user using a PIN number.
CP	NetSpire Crew Panel. The CP is a network enabled crew interface supporting public address, crew and passenger communications functions. The unit supports an external headset.
CXS	NetSpire Communications Exchange (CXS). The CXS is a communications server for managing and controlling large NetSpire systems. The CXS provides centralised Alarm Management, Status Monitoring, System-wide Configuration and Audio Dictionary management. The CXS also acts as a Telephony PBX and supports software upgrade staging.
Dial Plan	A set of rules for routing telephone calls to and from Trunks to external telephony systems.
DVA	Digital Voice Announcement. Pre-recorded audio messages.
Extension	General name referring to telephony devices, end points or phone numbers configured in a NetSpire system.
HIIL	Hearing Impaired Induction Loop. HIILs are a conductive loop that provides audio frequency inductive audio for hearing impaired users with compatible hearing aids.

TERM	MEANING
	Also refer to AFIL.
IP	The Internet Protocol (IP) is the principal communications protocol in the Internet protocol suite for relaying datagrams across network boundaries. Its routing function enables internetworking.
IPPA	NetSpire IP Public Address Call Station (IPPA). The IPPA is a graphical touch screen interface supporting paging, public address, voice announcement and general communication.
Multicast	Multicast (one-to-many or many-to-many distribution) is group communication where information is addressed to a group of destination computers simultaneously.
NAC	NetSpire Network Audio Controller (NAC). The NAC is a network enabled amplifier with integrated DSP, DVA, Speaker Supervision and Microphone Supervision. The NAC supports up-to 8 channels of amplified audio. Amplified channels may be low impedance (2 ohm), High Impedance (70/100V) or current amplifying for driving Audio Frequency Induction Loops (AFIL).
NAM	NetSpire Network Amplifier Module (NAM). The NAM is a network enabled amplifier suitable for mounting in outdoor and industrial environments. The NAM has integrated DSP, DVA, Speaker Supervision and Microphone Supervision and supports up to 8 channels of amplified audio output.
NAR	NetSpire Network Audio Router (NAR). The NAR is a network enabled analogue audio router. The device can be used to interface to operator's microphones, analogue audio sources or to network enable legacy amplifiers.
NetSpire	The NetSpire range of products is manufactured by Open Access. The products include a range of devices for implementing network enabled communication and audio systems.
NTP	Network Time Protocol. IP Network protocol for synchronising clocks between devices on the network as specified in RFC 1305.
PA	Public Address. A public address system (PA system) is an electronic sound amplification and distribution system with microphones, amplifiers and loudspeakers, used to allow a person to address a large area with audio and speech. The NetSpire system transmits all audio in a digital form over a standard IP packet network,
PEI	Passenger Emergency Intercom
Ring Group	A group of extensions which can be configured to ring simultaneously, or in a predetermined sequence when an extension number is dialled.
RTP	Real-time Protocol. RFC 3550. For the transmission of real-time audio and video stream over an IP packet network.
SIP	Session Initial Protocol. RFC 3261. The Session Initiation Protocol is a signalling communications protocol, widely used for controlling multimedia communication sessions such as voice and video calls over IP packet networks.
Stream	A stream refers to real-time media (audio, video, etc.) sent over the IP packet network.
TCP/IP	The Transmission Control Protocol (TCP) is one of the core protocols of the Internet protocol (IP) suite. TCP provides reliable, ordered and error-checked delivery of a stream of octets between programs running on computers connected to a local area network, intranet or the public Internet.
TCX	NetSpire Train Communications Exchange (TCX). The NetSpire TCX is a rolling stock certified communications server for managing communication in rolling stock environments. The TCX provides similar facilities to the CXS.
TGU	NetSpire Train Gateway Unit (TGU). The TGU is a rail certified, network enabled amplifier with integrated DSP, DVA, Speaker Supervision and Microphone Supervision.
Trunk	Interface for communication with external telephony environments or the public network. The NetSpire system supports SIP, E1/T1 and analogue trunk interfaces.
UDP	User Datagram Protocol. UDP is one of the core members of the Internet protocol (IP) suite defined in RFC 768. UDP is a connectionless protocol where messages (datagrams) are sent between computers on the network.
Unicast	Unicast packet transmission is sending messages to a single network destination identified by a unique address.

Table 2 – Glossary

3 Getting Started

This section provides information on accessing the Web Administration Interface, and basic information about the conventions used in the manual and the layout of the interface.

3.1 Conventions Used in this Manual

This manual covers each of the screens of the Web Administration Interface.

Where screenshots are shown, attention may be drawn to a specific screen element using a red arrow, show below:



The arrow indicated an element of the screen discussed in the paragraph preceding or following the screenshot.

The following capabilities matrix is shown in the left margin of the document at the start of each section documenting the use of a screen. This is a quick lookup showing which NetSpire devices support the particular screen described in the section. Devices which support the screen are marked with an 'X' next to the device type.

Supported by	
CXS	
IPPA	
NAR	X
NAC	X
NAM	X
TCX	
TGU	X
CI	
CP	
CC	
CAC	
PEI	

Figure 1 – Example Capabilities Matrix

In the example above, the screen would be supported by the NetSpire NAR, NAC, NAM and TGU devices.

3.2 Accessing the Web Administration Interface

To access the Web Administration Interface open your preferred web browser.

Open Access recommends using the following web browsers, in order of preference:

- ▶ Chrome 13-31
- ▶ Firefox 4
- ▶ Safari 5-6
- ▶ Internet Explorer 11

To access the Web Administration Interface, enter the IP Address of the device you wish to access in the Address Bar of the browser.

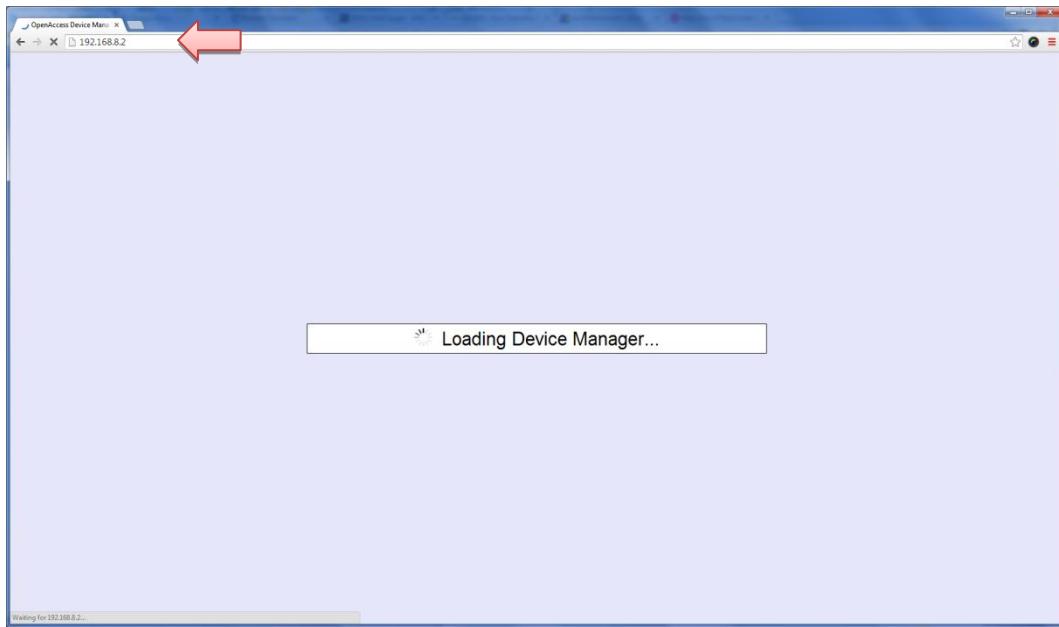


Figure 2 – Accessing the Web Administration Interface: Enter the IP Address in the Browser’s Address Bar

3.3 Web Administration Interface Layout

The following diagram shows the layout and main components of the Web Administration Interface:



Figure 3 – Web Administration Interface Layout and Main Components

All screens in the Web Administration Interface share the following common features:

Title Bar

The title bar is the region at the top of the screen that contains the OA Logo and other device information.

Device Name

The Device Name is shown in the middle of the Title Bar. This name indicates which device is connected and serving the web interface.

Connection Status

The Connection Status is shown at the right of the Title Bar, and provides status information about the network connection to the device.

Main Menu

The Main Menu is shown below the Title Bar and provides access to all the screens in the Web Administration Interface for configuring and controlling the device.

Main Screen

The Main Screen is the area of the screen below the Main Menu and is the area that displays information and controls for the items selected in the Main Menu.

3.4 Web Administration Interface Menu Hierarchy

The following diagram shows the menu hierarchy which is accessible from the Main Menu of the Web Administration Interface:

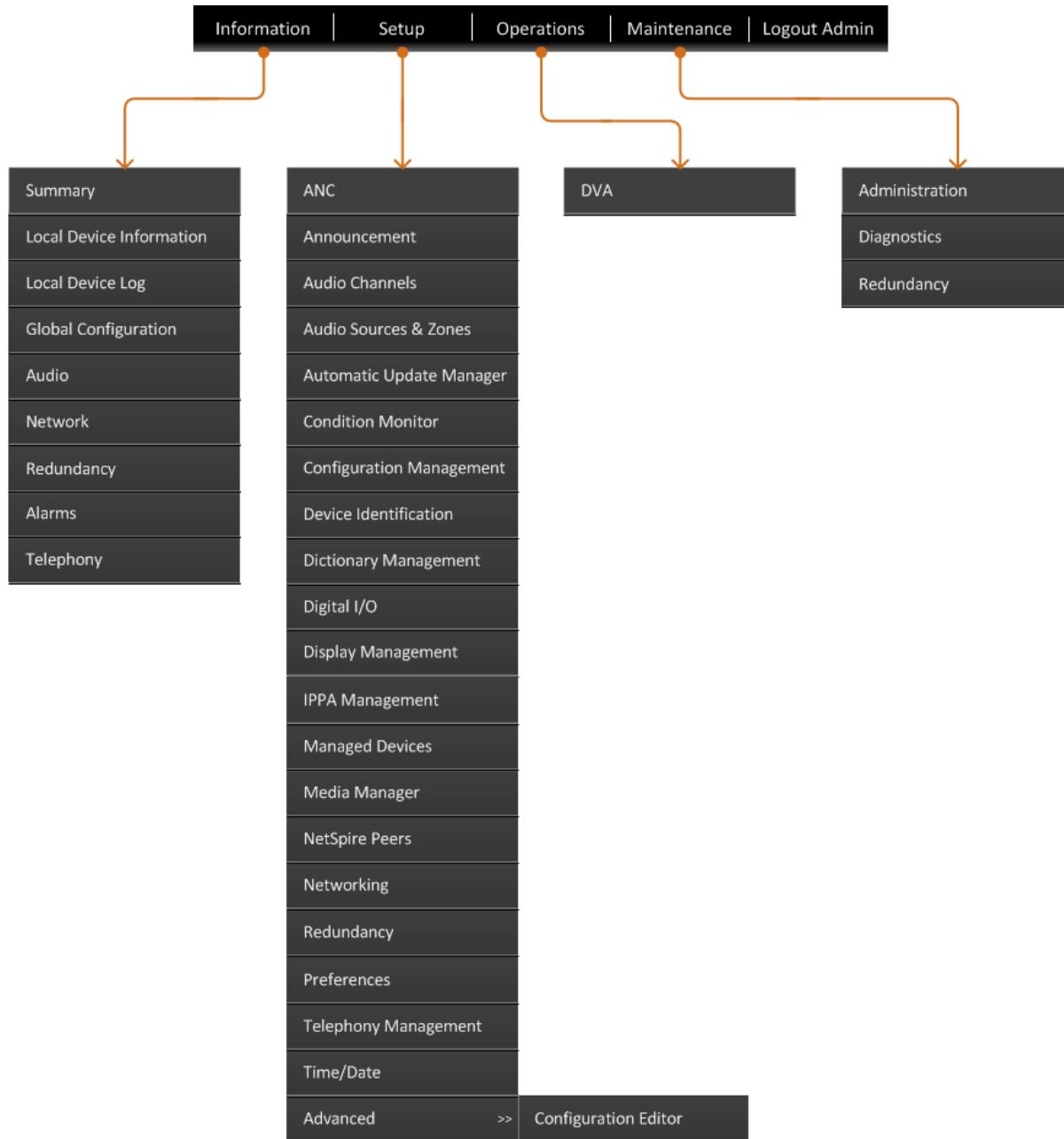


Figure 4 – Web Administration Interface Menu Hierarchy

NOTE: NOT ALL MENU ITEMS ARE AVAILABLE ON ALL DEVICES

Not all menu items shown in the menu hierarchy are available on all devices. Please refer to the documentation for each screen accessed through the menu items. Each section in the document covering a screen has a capabilities matrix in the left margin providing information about functions supported by different types of NetSpire devices.

4 Quick Start Screen

A new NetSpire device which has not been pre-configured prior to delivery will display a Quick Start screen when opening the Web Interface of the device:

The screenshot shows the 'New Device' configuration page. It includes fields for Device Name (NAC), Device Location (Not Set), Device Description (CONAC01/2024:FM), Location ID (001-999) (000), Device Index (000-999) (000), Timezone (+00:00), Admin Password, and a table for Device IP Configuration with one entry for interface iface1 (static IP 10.205.29.20, Mask 255.255.255.0, Gateway 10.205.29.1). There is also a section for Netspire Peers (Optional) with an 'Add Peer' button and a 'Save Settings' button at the bottom.

Figure 5 – Quick Start Screen

This screen allows the entry of very basic device configuration including device identification, timezone, admin password and networking settings in order that the device should become part of a system even though not fully functional as yet.

When a device that has not been pre-configured is received from the factory, it is set to a default IP address (192.168.0.250). Connecting more than one device in this state to the same network will result in an IP conflict. This screen allows an administrator to quickly set basic configuration settings to avoid IP conflict and get all devices that make up their system online before configuration to bring the system to a functional state is performed.

5 Information Screens

The Information screens are accessed through the Information menu.

Information		Operations	Maintenance	Logout admin
Summary				
Local Device Information				
Local Device Log				
Global Configuration	OCC-CXS02			
Network	Comms Exchange Server 2			
Redundancy	OCC			
Alarms	SVLCX01			
Telephony	Release 2.14			
Time/Date	Not Isolated			
	OCC-CXS02: Active			

Figure 6 - Information Menu

The Information screens provide details about the status of the particular device. In the case of the NetSpire CXS or NetSpire TCX servers, information about the broader system is also available.

The Information screens include:

- ▶ Summary Information
- ▶ Local Device Information
- ▶ Local Device Log Information
- ▶ Global Configuration
- ▶ Network Information
- ▶ Redundancy Information
- ▶ Alarms Information
- ▶ Audio Information
- ▶ Telephony Information
- ▶ Date and Time Information

Each of the Information screens is described in the following sections.

5.1 Information: Summary Screen

The Summary Information screen is supported by all NetSpire devices and is the first screen to appear after logging onto a device.

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The screenshot displays the 'Summary' page of the NetSpire Web Administration interface. At the top, there's a navigation bar with links for 'Information', 'Setup', 'Operations', 'Maintenance', and 'Logout admin'. Below the navigation bar, the word 'Summary' is centered. The main content area is divided into two sections: 'General' and 'Time/Date'. The 'General' section contains 12 rows of device information, each with a key and a value. The 'Time/Date' section contains 4 rows of time-related information. Performance metrics like Storage Used (3%) and CPU Load (8%) are shown with progress bars.

General	
Device Name	OCC-CXS02
Device Description	Comms Exchange Server 2
Device Location	OCC
Device Model	SVLCX01
Software Release	Release 2.14
Isolation State	Not Isolated
Failover Servers	OCC-CXS02: Active
SIP Identity	2008002
Device Status	29 Unacknowledged Alarms
Uptime	5 days, 21 hours
Restart Count	114
Storage Used	<div style="width: 3%; background-color: #2e6b2e; height: 10px;"></div> 3%
CPU Load	<div style="width: 8%; background-color: #2e6b2e; height: 10px;"></div> 8%
Temperature	Unavailable

Time/Date	
Local Time	26 Nov 2014 Wed 02:41:10 pm
UTC Time Offset	+11 hours
NTP Client Sync State	Not synchronised

Figure 7 – NetSpire Intercom Summary Information Screen

The Summary Information screen provides an overview of the status and configuration of the device. The information shown on the screen will depend on the particular capabilities of the device, and can include:

Device Name:

Administrator assigned name configured on the device, useful for identifying a device, and/or its function in the system. For information on assigning device names refer to section 6.14 *Setup: Device Identification Screen*.

Device Description:

Administrator assigned description for the device such as name, description, location or asset number. For information on assigning device descriptions refer to section 6.14 *Setup: Device Identification Screen*.

Device Identification Information:

The Device Location ID and Device Index are used to uniquely identify NetSpire devices in the system and also used when configuring associations between devices for Configuration Management and Alarm Management. For information on assigning device identification information refer to section *6.14 Setup: Device Identification Screen*.

Isolation status:

The Isolation Status shows whether a device is in normal or isolated operational state. When a device has been put into the Isolated state, it is functionally disabled, while still being remotely accessible for fault investigation on the network through the Web Administration Interface. For more information on device Isolation refer to section *8.1.6 Isolating the Device*.

SIP Information

The SIP information includes the SIP identity and SIP registration status of the device.

Alarm Information

The Alarm Information includes the number of unacknowledged alarms on the device. For more information on managing alarms refer to section *5.8 Information: Alarms Screen*.

General Information

The General Information includes the uptime, restart count, storage usage, CPU status and temperature of the device.

Time and Date Status

The Time and Date Status includes the current date and time; and status of NTP Client services on the device. For information on configuring the time settings refer to section *6.26 Setup: Time / Date Screen*.

Redundancy and Failover status

The Redundancy and Failover status includes whether the server is in active or standby mode, and eligibility of the server for master election.

Digital Input and Output states

The Digital Input and Output information includes the state of each digital input and output for the device.

Information	Setup	Operations	Maintenance	Logout admin																														
Summary																																		
<table border="1"> <thead> <tr> <th colspan="2">General</th> </tr> </thead> <tbody> <tr> <td>Device Name</td><td>CPK-PAVMS-NAC01</td></tr> <tr> <td>Device Description</td><td>standalone CONAC01/4004:70FM</td></tr> <tr> <td>Device Location</td><td>Century Park</td></tr> <tr> <td>Device Model</td><td>CONAC01/4004:70FM</td></tr> <tr> <td>Software Release</td><td>Release 2.14.1 RC</td></tr> <tr> <td>Isolation State</td><td>Not Isolated</td></tr> <tr> <td>Failover Servers</td><td>ETS-PAVMS-CXS01 Active</td></tr> <tr> <td>SIP Identity</td><td>2037001</td></tr> <tr> <td>Device Status</td><td>2 Unacknowledged Alarms</td></tr> <tr> <td>Uptime</td><td>2 hours, 9 minutes</td></tr> <tr> <td>Restart Count</td><td>31</td></tr> <tr> <td>Storage Used</td><td><div style="width: 40%;">40%</div></td></tr> <tr> <td>CPU Load</td><td><div style="width: 73%;">73%</div></td></tr> <tr> <td>Temperature</td><td>41°C</td></tr> </tbody> </table>					General		Device Name	CPK-PAVMS-NAC01	Device Description	standalone CONAC01/4004:70FM	Device Location	Century Park	Device Model	CONAC01/4004:70FM	Software Release	Release 2.14.1 RC	Isolation State	Not Isolated	Failover Servers	ETS-PAVMS-CXS01 Active	SIP Identity	2037001	Device Status	2 Unacknowledged Alarms	Uptime	2 hours, 9 minutes	Restart Count	31	Storage Used	<div style="width: 40%;">40%</div>	CPU Load	<div style="width: 73%;">73%</div>	Temperature	41°C
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Uptime	2 hours, 9 minutes																																	
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Storage Used	<div style="width: 40%;">40%</div>																																	
CPU Load	<div style="width: 73%;">73%</div>																																	
Temperature	41°C																																	
Time/Date				Digital Inputs																														
				Port	Label																													
				DIN1	Digital Input 8																													
				DIN2	Digital Input 7																													
				DIN3	Digital Input 6																													
				DIN4	Digital Input 5																													
				DIN5	Digital Input 4																													
				DIN6	Digital Input 3																													
				DIN7	Digital Input 2																													
				DIN8	Digital Input 1																													
Digital Outputs				DOUT1	Digital Out 8																													
				DOUT2	Digital Out 7																													
				DOUT3	Digital Out 6																													
				DOUT4	Digital Out 5																													
				DOUT5	Digital Out 4																													
				DOUT6	Digital Out 3																													
				DOUT7	Digital Out 2																													

Figure 8 – NetSpire NAC Summary Information Screen

The screenshots above show an example of the Summary Information screen for the NetSpire NAC device.

5.2 Information: Local Device Information Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Local Device Information screen is supported by all NetSpire devices and contains information relating to the device's hardware and software configuration and revision.

This section includes several examples of the Local Device Information screen for various NetSpire devices.

Information		Hardware		
Device Model	SVLCX01	Revision Number	1.0	
Device Serial Number	2014010105	Component	Version	Variant
Production Date	2013-09-18	Controller Board	N/A	
Boot Firmware Version	CXS 12.04.3	DSP	N/A	
Firmware Version	21204			
Software Release	Release 2.13			

Figure 9 – NetSpire CXS Local Device Information Screen

Information		Hardware		
Device Model	IPPA01L01_r2.0	Revision Number	1	
Device Serial Number	13040001	Component	Version	Variant
Production Date	2013-04-30	Controller Board	1.3	0
Boot Firmware Version	NAC282 2.2.1-18	DSP	2.1	2
Firmware Version	21205			
Software Release	Release 2.13			

Figure 10 – NetSpire IPPA Local Device Information Screen

The Local Device Information screen contains the following information:

Device Model

The Device Model shows the NetSpire model number, identifying the type of device.

Device Serial Number

The factory assigned serial number of the device.

Production Date

The Production Date shows the date of manufacture for the device.

Boot Firmware Version

The Boot Firmware Version shows the boot loader software version installed on the device. The boot loader is a low level software module responsible for initialising the device systems during start-up.

Firmware Version

The Firmware Versions shows the software build number installed on the device.

Software Release

The Software Release shows the official software release version installed on the device.

The Local Device Information screen also shows hardware revision information and revision information for components of the device as applicable.

5.3 Information: Local Device Log Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Local Device Log Information screen is supported by all NetSpire devices and shows a table of events which have occurred on the device. Events can include:

- ▶ Device Restarts
- ▶ PA and DVA Announcements (PA/DVA start, stop, cancelled)
- ▶ NTP Synchronisation Events
- ▶ Telephony Events (Call start, hold, release)
- ▶ Device Log Cleared Events

For more information about the events logged by the system, refer to the *NetSpire System Events Reference*⁽⁴⁾.

The information presented can be filtered based on the date, category or the ID of the event. The table can be downloaded in CSV file format by clicking the “Download to CSV file” button at the bottom of the page.

The screenshot shows the 'Local Device Log' section of the NetSpire Web Administration interface. The title bar includes the Open Access logo and the device name 'ETS-PAVSM-CXS01'. The navigation menu at the top has links for 'Information', 'Setup', 'Operations', 'Maintenance', and 'Logout admin'. Below the menu, there are search filters for 'From', 'Category' (set to 'All'), 'To', 'ID', and a 'Search/Refresh' button. A checkbox for 'Refresh Automatically (every 10 seconds)' is also present. The main content area is titled 'Device Log' and contains a table with the following columns: Event, Date/Time, IP Address, Device Name, Device Location, Event Category, Event Code, Event ID, and Event Parameters. The table lists numerous events from May 26, 2016, such as announcements completed, started, and queued, along with their corresponding parameters. At the bottom of the table, there are buttons for 'Clear Log' and 'Download CSV'.

Event	Date/Time	IP Address	Device Name	Device Location	Event Category	Event Code	Event ID	Event Parameters
7296	2016-05-26 23:42:47	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4015	ANNOUNCEMENT_COMPLETED	AnnouncementID: 939214c8-064b-46f6-b0be-b2821606396b Priority: 1 Ty
7295	2016-05-26 23:42:23	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4014	ANNOUNCEMENT_STARTED	AnnouncementID: 939214c8-064b-46f6-b0be-b2821606396b Priority: 1 Ty
7294	2016-05-26 23:42:23	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4013	ANNOUNCEMENT_QUEUED	AnnouncementID: 939214c8-064b-46f6-b0be-b2821606396b Priority: 1 Ty
7293	2016-05-26 23:41:30	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4015	ANNOUNCEMENT_COMPLETED	AnnouncementID: 7e6b18b7-e814-49bb-98b5-c650b0212330 Priority: 1 Ty
7292	2016-05-26 23:33:21	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4015	ANNOUNCEMENT_COMPLETED	AnnouncementID: 99fc64ed-3c67-47c1-8609-3180d646d80b Priority: 500
7291	2016-05-26 23:33:17	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4014	ANNOUNCEMENT_STARTED	AnnouncementID: 99fc64ed-3c67-47c1-8609-3180d646d80b Priority: 500
7290	2016-05-26 23:33:17	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4013	ANNOUNCEMENT_QUEUED	AnnouncementID: 99fc64ed-3c67-47c1-8609-3180d646d80b Priority: 500
7289	2016-05-26 23:33:14	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4015	ANNOUNCEMENT_COMPLETED	AnnouncementID: b50f8db3-4829-4e22-a495-a9212c163091 Priority: 500
7288	2016-05-26 23:33:10	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4014	ANNOUNCEMENT_STARTED	AnnouncementID: b50f8db3-4829-4e22-a495-a9212c163091 Priority: 500
7287	2016-05-26 23:33:10	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4013	ANNOUNCEMENT_QUEUED	AnnouncementID: b50f8db3-4829-4e22-a495-a9212c163091 Priority: 500
7286	2016-05-26 23:31:25	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4015	ANNOUNCEMENT_COMPLETED	AnnouncementID: 728f4f9f-7c5d-44b2-897d-42102d9abb6b Priority: 500 T
7285	2016-05-26 23:31:21	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4014	ANNOUNCEMENT_STARTED	AnnouncementID: 728f4f9f-7c5d-44b2-897d-42102d9abb6b Priority: 500 T
7284	2016-05-26 23:31:20	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4013	ANNOUNCEMENT_QUEUED	AnnouncementID: 728f4f9f-7c5d-44b2-897d-42102d9abb6b Priority: 500 T
7283	2016-05-26 23:31:12	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4015	ANNOUNCEMENT_COMPLETED	AnnouncementID: bb875637-bf07-4d20-8492-d88a18d7f852 Priority: 500
7282	2016-05-26 23:31:07	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4014	ANNOUNCEMENT_STARTED	AnnouncementID: bb875637-bf07-4d20-8492-d88a18d7f852 Priority: 500
7281	2016-05-26 23:31:07	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4013	ANNOUNCEMENT_QUEUED	AnnouncementID: bb875637-bf07-4d20-8492-d88a18d7f852 Priority: 500
7280	2016-05-26 23:31:00	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4015	ANNOUNCEMENT_COMPLETED	AnnouncementID: 3412c0ff1bf-4b08-9ce8-8691186cc80 Priority: 500 T
7279	2016-05-26 23:30:56	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4014	ANNOUNCEMENT_STARTED	AnnouncementID: 3412c0ff1bf-4b08-9ce8-8691186cc80 Priority: 500 T
7278	2016-05-26 23:30:56	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4013	ANNOUNCEMENT_QUEUED	AnnouncementID: 3412c0ff1bf-4b08-9ce8-8691186cc80 Priority: 500 T
7277	2016-05-26 23:30:40	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4015	ANNOUNCEMENT_COMPLETED	AnnouncementID: 32db22c8-e851-4478-9865-12581cabcf3 Priority: 500
7276	2016-05-26 23:30:36	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4014	ANNOUNCEMENT_STARTED	AnnouncementID: 32db22c8-e851-4478-9865-12581cabcf3 Priority: 500
7275	2016-05-26 23:30:35	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4013	ANNOUNCEMENT_QUEUED	AnnouncementID: 32db22c8-e851-4478-9865-12581cabcf3 Priority: 500
7274	2016-05-26 23:29:53	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4015	ANNOUNCEMENT_COMPLETED	AnnouncementID: 27be4763-a288-4bd3-b538-8040649e2e3c Priority: 500
7273	2016-05-26 23:29:48	10.194.77.11	ETS-PAVSM-CXS01	Metrolinx Test Rack	Audio	4014	ANNOUNCEMENT_STARTED	AnnouncementID: 27be4763-a288-4bd3-b538-8040649e2e3c Priority: 500

Figure 11 – Local Device Log Information Screen

5.4 Information: Global Configuration Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	X
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Global Configuration Information screen is only supported by the NetSpire CXS and TCX devices and shows the currently configured global system settings.

The global system settings are Key / Value pairs which determine operational behaviour of the system.

The global system settings can only be changed using the NetSpire SDK. For more information about the NetSpire SDK, refer to the *NetSpire SDK API Reference*⁽²⁾.

For more information about the Global Settings, refer to the section *Dynamic Global Configuration Variables* in *NetSpire SDK API Reference Manual Reference*⁽²⁾.

Key	Value
Default_Monitor_Speaker_Gain	0
Default_Handset_Speaker_Volume	7
Default_Handset_Microphone_Volume	7
Default_Disabled_PEI_Volume	7
Default_Standard_PEI_Volume	3
PEI_Driver_Escalation_Ms	1800000
Escalation_Alert_Ms	1900000
PEI_Train_Radio_Escalation_Ms	2000000
PEI_Train_Radio_Escalation_Timeout_Ms	2100000
PEI_Long_Held_Button_Ms	1000
DVA_Post_Announcement_Delay_Ms	2000
Default_Amplifier_Gain_dB	0
Commercial_Radio_Interrupt_Ms	30000
Default_CP_Spk_Volume_dB	0
Default_CP_Mic_Volume_dB	0
Default_Standard_PEI_Spk_Volume_dB	0
Default_Standard_PEI_Mic_Volume_dB	0
Enable_PEI_Monitoring	1

Export All To File

Figure 12 – Global Configuration Information Screen

The Global Configuration information can be exported to CSV file by clicking the “Export All to File” button located at the bottom of the table.

5.5 Information: Audio Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Audio Information screen is supported by all NetSpire devices that have audio interfacing capabilities.

The Audio Information screen displays the following information about the devices audio interfaces:

- ▶ Physical Audio Input configuration and status information
- ▶ Physical Audio Output configuration and status information
- ▶ NetSpire Audio Sources configured on the device
- ▶ NetSpire Audio Sinks configured on the device
- ▶ Mappings between Audio Sources and physical audio inputs on the device
- ▶ Mappings between Audio Zones and physical audio outputs on the device



Figure 13 – Audio Information Screen

There are 3 tabs on the audio screen; Announcement, Audio Channels and Sources and Sinks.

The Announcement tab shows status information for announcements currently being made and has the ability to end these announcements from the WEB UI. The CXS will show all announcements from all peered devices, while the NAC will only show the local announcements.

The Audio Channels tab shows each of the physical audio inputs and outputs in the system.
The Sources and Sinks tab shows all the available audio sources and sinks.

For information on configuring the audio capabilities of devices refer to sections 6.4 *Setup: Audio Channels Screen* and 6.9 *Setup: Audio Routing Screen*.

5.5.1 Physical Audio Inputs

The Physical Audio Inputs table lists each of the physical audio input ports on the device. The table includes information for the configuration of each of the ports.

Physical Audio Inputs ?													
Port #	Name	Type	Health Monitoring		VOX Monitoring		Mic. Type	ANS Source	DSP Filters	DSP Bypass	Dynamics	Delay (mS)	Gain (dB)
			Enabled	State	Enabled	State							
1	Analog Input 1	Line Level	No	<input checked="" type="radio"/> N/A	No	<input checked="" type="radio"/> N/A	None	No	No	No	No	0.000	-96.00
2	Test	Line Level	No	<input checked="" type="radio"/> N/A	No	<input checked="" type="radio"/> N/A	None	No	No	No	No	0.000	9.60
3	Palm mix (VOX)	Mic Level	No	<input checked="" type="radio"/> N/A	Yes	<input checked="" type="radio"/> Off	Phantom	No	Yes	No	No	0.000	17.00
4	Palm Mic (DIN activated)	Mic Level	No	<input checked="" type="radio"/> N/A	No	<input checked="" type="radio"/> N/A	Phantom	No	No	No	No	0.000	17.00

Figure 14 – Audio Information Screen: Physical Audio Inputs Table

The following configuration information is shown for each physical input port:

Port

Shows the physical input port number as shown on the chassis of the device.

Name

Name of the physical input port. This name can be modified by the administrator.

Type

The type of the physical audio port which can be Line Level or Microphone Level.

Health Monitoring

The health state of the port and attached microphone can be shown if microphone health is enabled for the input.

VOX Monitoring

The VOX state of the port and attached microphone can be shown if microphone health is enabled for the input.

Mic Type

The type of Mic that is attached to the port. The Mic type available are None, Electret, Avionics, Phantom or Dynamic.

ANS Source

Shows whether the input is configured as an ANS Source and can provide an input for Ambient Noise Compensation (ANC) of output ports.

DSP Filters

Shows whether DSP filters have been configured on the input.

DSP Bypass

Shows whether the DSP bypass has been enabled on the input.

Dynamics

Shows whether Dynamics (Compression and Limiting) have been enabled on the input.

Delay

Shows the relative delay configured for the input.

Gain

Shows the gain configured for the input.

For more information on configuring the settings for the physical audio inputs on a device refer to section 6.5 *Setup: Audio Channels: Input Channels*.

5.5.2 Physical Audio Outputs

The Physical Audio Output table lists each of the physical audio output ports on the device. The table includes information for the configuration of each of the ports.

Physical Audio Outputs		Activity	Amplifier					Speaker Bus			DSP			Delay (ms)	Gain (dB)	Muted	ANC	
Port #	Name		Type	Health	Power Mode	Power State	Calibration	Test Result	Test Scheduled	Filters	Bypass	Dynamics	Enabled	Source				
1	Output 1	Idle	70/100V	Healthy	Auto	Off	Calibrated	Normal	No	No	No	0.000	-18.000	No	No	No		
2	Output 2	Idle	70/100V	Healthy	Auto	Off	Calibrated	Normal	No	Yes	No	0.000	-18.000	No	No	No		
3	Output 3	Idle	HIZL	Healthy	Off	Off	Out-of-range	N/A	No	No	No	0.000	-78.375	Yes	No	No		
4	Output 4	Idle	HIZL	Healthy	Off	Off	Out-of-range	N/A	No	No	No	0.000	-78.375	Yes	No	No		

Figure 15 – Audio Information Screen: Physical Audio Outputs Table

The following configuration information is shown for each physical output port:

Port

Shows the physical output port number as shown on the chassis of the device.

Name

Name of the physical output port. This name can be modified by the administrator.

Activity

The State of the physical output shows whether the port is idle or actively playing an announcement.

Amplifier: Type

The type of the physical audio port which can be Line Out, High LZ, 100V and 70V.

Amplifier: Health

The health of the port and associated amplifier hardware if any.

Amplifier: Power Mode

For high powered amplified outputs, this shows the power mode configured for the output. The power mode can be On, Off and Auto.

Amplifier: Power State

The current state of power supplied to the output. The power status can be On or Off.

Speaker Bus: Calibration

Shows the current status of speaker supervision calibration for the output.

Speaker Bus: Test Result

The result of the last speaker supervision test performed on each port.

Speaker Bus: Test Schedule

Shows whether a schedule has been set to perform speaker supervision tests periodically on each port.

DSP: Filters

Shows whether DSP filters have been configured on the output.

DSP: Bypass

Shows whether the DSP bypass has been enabled on the output.

DSP: Dynamics

Shows whether Dynamics (Compression and Limiting) have been enabled on the output.

Delay

Shows the relative delay configured for the output.

Gain

Shows the gain configured for the output.

Muted

Shows whether the output is muted.

Gain

Shows the gain configured for the output.

ANC: Enabled

Shows whether Ambient Noise Compensation (ANC) is enabled for the output.

ANC: Source

Show which physical audio input is configured for controlling ANC.

For more information on configuring the settings for the physical audio outputs on a device refer to section 6.6 *Setup: Audio Channels: Output Channels*.

5.5.3 Audio Sources

The Audio Sources table lists each of the Audio Sources configured on the device. Audio Sources are devices or inputs that can provide a source of audio into the system.

The table includes information for the configuration of each of the Audio Sources.

Audio Sources 				
ID	Enabled	Location	Input	Send Audio Via
201100101	Yes	Weston	Analog Input 1	Auto
201100102	Yes	Weston	Test	Auto
201100103	Yes	Weston	Palm mix (VOX)	Auto
201100104	Yes	Weston	Palm Mic (DIN activated)	Auto
201100105	Yes	Weston NAC	Telephone Call	Auto

Figure 16 – Audio Information Screen: Audio Sources Table

The following configuration information is shown for each physical output port:

ID

System wide unique identification number for the Audio Source assigned automatically by the system.

Enabled

Whether the Audio Source is enabled and can be routed to an Audio Zone.

Location

Location description assigned by the Administrator to represent the physical location of the Audio Source in the system

Input

Physical audio input associated with the Audio Source.

Send Audio Via

Shows the network transport used for transmission of the audio information on the data network.

For more information on configuring the settings for the Audio Sources on a device refer to section 6.9 *Setup: Audio Routing Screen*.

5.5.4 Audio Sinks

The Audio Sinks table lists each of the Audio Sinks configured on the device. Audio Sinks represent the physical announcement areas or locations where audio can be heard. Audio Sinks can be configured to include one or more physical outputs.

The table includes information for the configuration of each of the Audio Sinks.

Audio Sinks <small>?</small>					
ID	Enabled	Location	Label	Physical Output(s)	Receive Audio Via
201100101	Yes	Weston	Sink 1	Output 1 (Port 1) Output 3 (Port 3)	Auto
201100102	Yes	Weston	Sink 2	Output 2 (Port 2) Output 4 (Port 4)	Auto
201100103	No	Weston	Sink 3	Output 3 (Port 3)	Auto
201100104	No	Weston	Sink 4	Output 4 (Port 4)	Auto
201100105	No	Weston	Sink 5	None	Auto
201100106	No	Weston	Sink 6	None	Auto
201100107	No	Weston	Sink 7	None	Auto
201100108	No	Weston	Sink 8	None	Auto

Figure 17 – Audio Information Screen: Audio Zones Table

The following configuration information is shown for each physical output port:

ID

System wide unique identification number for the Audio Zone assigned automatically by the system.

Enabled

Whether the Audio Zone is enabled and can be routed to from an Audio Source.

Location

Location description assigned by the Administrator to represent the physical location of the Audio Zone in the system

Label

Label assigned by the Administrator to represent the function of the Audio Zone in the system

Physical Output(s)

Physical audio outputs associated with the Audio Zone.

Receive Audio Via

Shows the network transport used for transmission of the audio information on the data network.

For more information on configuring the settings for the Audio Sources on a device refer to section 6.9 *Setup: Audio Routing Screen*.

5.6 Information: Network Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Network Information screen is supported by all NetSpire devices and provides network related configuration and status information for the device.

The Network Information screen shows four tables covering the following information:

Network Interfaces

The Network Interfaces provides a list of logical layer 3 network interfaces and address information configured on the device.

Network Ports

The NetSpire Ports provides a list of physical network ports and their physical layer link status on the device. For more information on configuring the device network settings refer to section 6.22 *Setup: Networking Screen*.

Netspire Peers

The Netspire Peers provides a list of NetSpire Peer connections to other NetSpire devices and the status of the NetSpire Peer connection to each device. For more information on configuring the NetSpire Peer connections refer to section 6.21 *Setup: NetSpire Peers Screen*.

Configuration Servers

The Configuration Servers provides a list of NetSpire Configuration Servers configured for this device. For more information on NetSpire Configuration Servers refer to section 6.13 *Setup: Configuration Management Screen*.

The screenshot displays the NetSpire NAC Network Information Screen. At the top, there is a navigation bar with links for Information, Setup, Operations, Maintenance, and Logout admin. Below the navigation bar, there are four main sections represented as tables:

- Network Interfaces (Setup Networking):** This table lists a single interface named "iface1" with the following details: MAC address 00:03:19:30:BD:36, IP Address 10.205.29.20, Mask 255.255.255.0, and Gateway (default) 10.205.29.1.
- Network Ports:** This table lists a single port named "iface1" with the following details: Media type Ethernet, and Status Link Up.
- NetSpire Peers (Setup Netspire Peers):** This table lists two peers: ETS-PAVSM-CXS01 and ETS-PAVSM-CXS02. Both peers are located at Metrolinx Test Rack, have IP Address : Port 10.194.77.11:20000, and are in a Connected status.
- Configuration Servers (Setup Configuration Management):** This table is currently empty, showing columns for Name, Location, Loc. ID, Dev. Index, and Type.

Figure 18 – NetSpire NAC Network Information Screen

The screenshot displays the 'Network' section of the NetSpire Web Administration interface. It includes four main tables:

- Network Interfaces (Setup Networking):**

Name	MAC	IP Address	Mask	Gateway (default)
iface1	00:03:19:6A:D7:C0	10.199.77.17	255.255.255.0	10.199.77.1
- Network Ports:**

Name	Media	Status
iface1	Ethernet	Link Up
- NetSpire Peers (Setup Netspire Peers):**

Name	Location	IP Address : Port	Status
ETS-PAVSM-CXS01	Metrolinx Test Rack	10.194.77.11:20000	Connected
ETS-PAVSM-CXS02	Metrolinx Test Rack	10.194.77.12:20000	Connected
Weston NAC	Weston	10.205.29.20:20000	Connected
Bloor NAC	Bloor	10.205.28.20:20000	Connected
- Configuration Servers (Setup Configuration Management):**

Name	Location	Loc. ID	Dev. Index	Type

Figure 19 – NetSpire IPPA Network Information Screen

This screenshots above show several examples of the Network Information screen for various NetSpire devices.

5.7 Information: Redundancy Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	X
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Redundancy Information screen is only supported by the NetSpire CXS and TCX devices and shows the current state of the NetSpire servers configured in redundant Server Pools.

Redundancy Information		
Current Server Pool	Failover Servers	
Local Server Role	Active	
Local Server Election State	Available for Election	

Pool Members		
Server Name	Status	Role
ETS-PAVSM-CXS01	Online	Active
ETS-PAVSM-CXS02	Online	Inactive

Figure 20 – Redundancy Information Screen

The Redundancy Information screen has two sections called Redundancy Information and Pool Members.

Redundancy Information	
Current Server Pool	Failover Servers
Local Server Role	Active
Local Server Election State	Available for Election

Figure 21 – Redundancy Information Screen: Redundancy Information Table

The Redundancy Information table shows the current state information for the local server, including:

Current Server Pool

Shows the name of the server pool that the local server is a member of.

Local Server Role

Shows the current role being performed by the server. The role can be Active, if the server is the current (only) active server controlling the system; or Inactive if the server is not currently the active server.

Local Server Election State

Shows the current state of the server and whether it is available for election.

The Pool Members table show the other members of the Server Pool and each server's current status and role.

Pool Members		
Server Name	Status	Role
ETS-PAVSM-CXS01	Online	Active
ETS-PAVSM-CXS02	Online	Inactive

Figure 22 – Redundancy Information Screen: Pool Members Table

5.8 Information: Alarms Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Alarms Information screen is supported by all NetSpire devices and provides information relating to Alarms for the device.

Alarms in the NetSpire system represent an unexpected condition that was detected in the system that may require external intervention to resolve. Typically, Alarms represent a fault that has been detected in the system.

Types of conditions in the system that can generate Alarms include:

- ▶ Communications Fault
- ▶ Detectable Device Hardware Fault
- ▶ Detectable Device Software Fault
- ▶ Detectable Environmental Faults (Over temperature, Under Voltage, Short Circuit)
- ▶ Unmanaged Device Resets
- ▶ Managed Device Resets
- ▶ Supervised Speaker Failures
- ▶ Supervised Microphone Failures
- ▶ Peer Connection Failures
- ▶ Device Specific Diagnostic Test Failures

For a detailed list of the supported Alarms in the NetSpire system refer to *NetSpire System Alarms Reference*⁽¹⁾.

The Alarms in the NetSpire system can be centrally managed from the NetSpire CXS or NetSpire TCX Administration interfaces. For information on how to control parameters of alarms on NetSpire devices refer to section 6.1 Setup: Alarm Configuration.

Alarms on individual devices are automatically propagated to NetSpire CXS and TCX Servers if the device has a peer connection configured with the server. If the peer connection is disrupted, the Alarms will be automatically propagated when the peer connection is re-established.

Alarms in the NetSpire system can be Stateful or Stateless.

Stateful Alarms

Stateful Alarms relate to conditions which have a determinable state. Stateful Alarms can be Active or Not Active, reflecting the current status of the condition. For example a device over-temperature condition may occur for a period of time, and then resolve itself when the ambient temperature drops. The resulting Alarm would be Active during the period the device was over temperature, and would become Not Active automatically when the temperature has dropped to an acceptable level.

Stateless Alarms

Stateless Alarms relate to one-time conditions which do not have an inherent or determinable state. Examples of non-stateful Alarms include unmanaged device restarts, call failures, power on self-test failures, etc. Stateless Alarms must be cleared by an operator by Acknowledging the Alarm.

The administrator is able to Acknowledge Alarms and Protect Alarms in the system.

Acknowledged Alarms

The Alarms interface provides the ability for an administrator to Acknowledge Alarms in the system. When Alarms are acknowledged, the alarm is marked as Acknowledged and an acknowledgement comment can be entered into the system. The circumstances and procedures relating to when Alarms should be acknowledged are a site specific installation and operational policy.

Protected Alarms

The Alarms interface provides the ability for an administrator to Protect Alarms in the system. When Alarms are protected, the alarm will not be discarded by the system and will remain in the Alarms list. By default, the NetSpire system is configured to store the last 1000 alarms on CXS / TCX.

The Alarms Information screen shows an Alarms table and an Alarm Events table. The Alarms table shows a list of Alarms and information about each alarm. The Alarms shown on the screen can be controlled or filtered using the “Hide Inactive Alarms” and “Hide Acknowledged Alarms” check boxes located to the right of the table.

Alarm	Device	Module Name	Alarm Code	First Received	Last Activated	Repeat Count	Status	Active	Severity	Protected	Error Text	Ack'd	Ack Text
6	ETS-PAVMS-CXS01-01LC03-10 4240	default	1010	2014-11-30 17:47:26	2014-11-30 17:47:26	0	No	No	Info	No	Device Managed Restart Detected	No	
12	IPPA-IPPAEUD-10 4 240 113	default	1010	2014-11-30 18:03:29	2014-11-30 18:03:29	0	No	No	Info	No	Device Managed Restart Detected	No	
13	ETS-PAVMS-CXS01-01LC03-10 4 240	default	1014	2014-11-30 19:18:57	2014-11-30 19:18:57	0	No	No	Major	No	Device Unmanaged Restart Detected	No	
14	IPPA-IPPAEUD-10 4 240 113	default	1014	1999-12-31 17:01:11	2014-11-30 22:32:23	1	No	No	Major	No	Device Unmanaged Restart Detected	No	

Event	Device	Module Name	Event Time	Alarm State	Severity	Protected	Alarm Code	Error Text	Ack Event	Ack EndPT	Ack User	Ack Text
73	IPPA-IPPAEUD-10 4 240 113	default	1999-12-31 17:01:11	Not Applicable	Major	No	1014	Device Unmanaged Restart Detected	No			
108	IPPA-IPPAEUD-10 4 240 113	default	2014-11-30 22:32:23	Not Applicable	Major	No	1014	Device Unmanaged Restart Detected	No			

Figure 23 –Alarms Information Screen

5.8.1 Viewing Alarm Details

When an Alarm is selected in the Alarms table, all the Alarm Events associated with the Alarm are shown in the Alarm Events table. The Alarm Events represent all the discrete conditions that are aggregated and represented by the Alarm.

Double-clicking on an Alarm in the Alarms table will result in the Alarm Details screen being shown.

Alarm			
Error Text	Device Unmanaged Restart Detected		
Alarm Code	1014	First Received	2014-11-30 19:18:57
Active	0	Last Activated	2014-11-30 19:18:57
Severity	Major	Repeat Count	0
Protected	No	Stateful	No

Device			
Device	ETS-PAVMS-CXS01-SVLCX03-10.4.240.112	Module Name	default

Acknowledgement			
Acknowledged	No	User	
Time		Endpoint	
Description			

Figure 24 – Alarms Detail Dialogue

Each Alarm in the system has the following fields:

Error Text

Human readable description of the error condition that caused the alarm

Alarm Code

Unique numeric code representing the type of alarm

Active

Field indicating whether the alarm is still active, or not-active. This field only has meaning for a Stateful alarm.

Severity

The severity indicates the importance of the alarm. The severity can be Critical, Major, Minor and Info.

Severity	Description
Critical	Event has occurred that will disrupt operation
Major	Event has occurred that may cause operational degradation
Minor	Event has occurred that may have short term impact to operation or no operational impact
Info	Informational alarm with no user impact

Protected

The Administrator can protect alarms using the Protect button. Protected alarms will be maintained in the system and will not be automatically deleted when they become inactive.

First Received

The date and time the first instance of the condition causing the alarm was observed by the system. Multiple conditions or events causing the same alarm type are automatically aggregated by the system.

Last Updated

The date and time the last instance of the condition causing the alarm was observed by the system.

Repeat Count

The repeat is the total number of times the condition or event resulting in the alarm has occurred. Rather than generating multiple Alarms, events resulting in the same alarm are aggregated into a single alarm.

Stateful

Shows whether the Alarm is Stateful or Stateless.

Device

The device that generated the alarm.

Each Alarm also has an Acknowledgement section which contains the following information:

Acknowledged

The Acknowledged field indicates whether the Alarm has been acknowledged. The circumstances and procedures relating to when Alarms should be acknowledged is a site specific installation and operational policy.

User

The user name of the administrator that acknowledged the alarm.

Time

The time and date when the alarm was acknowledged

Endpoint

The IP Address of the computer where the alarm was acknowledged.

Description

The description entered by the administrator when the alarm was acknowledged.

5.8.2 Alarm Acknowledgement

The Alarms interface provides a facility for an administrator to Acknowledge Alarms in the system.

When an Alarm is acknowledged, the alarm is marked as Acknowledged and an acknowledgement comment can be entered into the system.

The circumstances and procedures relating to when Alarms should be acknowledged are a site specific installation and operational policy.

To Acknowledge an Alarm, click on the line in the Alarm table. The line will be shown highlighted in yellow.

Alarms	Device	Module Name	Alarm Code	First Received	Last Activated	Repeat Count	Status	Active	Severity	Protected	Error Text	Ackd	As
<input type="checkbox"/>	6	ETS-PAV/MS-CXS01-SVLCX03-10.4.240	default	1999	2014-11-29 17:47:26	2014-11-29 17:47:26	0	No	Not Applicable	Info	No	Device Managed Restart Detected	No
<input type="checkbox"/>	12	IPPA-IPPA01L02-10.4.240.113	default	1999	2014-11-30 19:10:29	2014-11-30 19:10:29	0	No	Not Applicable	Info	No	Device Managed Restart Detected	No
<input type="checkbox"/>	13	ETS-PAV/MS-CXS01-SVLCX03-10.4.240	default	1999	2014-11-30 19:10:57	2014-11-30 19:10:57	0	No	Not Applicable	Major	No	Device Unmanaged Restart Detected	No
<input checked="" type="checkbox"/>	14	IPPA-IPPA01L02-10.4.240.113	default	1999	1999-12-31 07:51:15	2014-11-29 22:32:23	1	No	Not Applicable	Major	No	Device Unmanaged Restart Detected	No

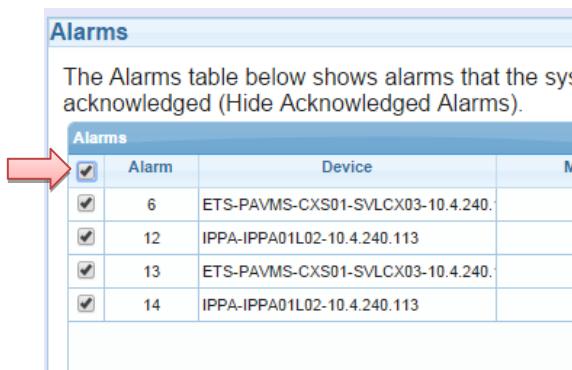
Figure 25 –Alarms Information Screen: Selecting Alarms

Multiple Alarms can be selected for Acknowledgement by clicking each of the checkboxes on the left side of the Alarms table.

Alarms	
The Alarms table below shows alarms that the system has raised due to an error condition. The check boxes to the right select whether to hide stateful alarms that are not currently active (Hide Active Alarms) or to hide stateful and stateless alarms that have been acknowledged (Hide Acknowledged Alarms).	
Alarms	Device
<input type="checkbox"/>	6 ETS-PAV/MS-CXS01-SVLCX03-10.4.240
<input checked="" type="checkbox"/>	12 IPPA-IPPA01L02-10.4.240.113
<input checked="" type="checkbox"/>	13 ETS-PAV/MS-CXS01-SVLCX03-10.4.240
<input type="checkbox"/>	14 IPPA-IPPA01L02-10.4.240.113

Figure 26 –Alarms Information Screen: Selecting Multiple Alarms

Finally, all Alarms can be selected by clicking the checkbox on the left side of the Alarm Table heading row.



Alarm	Device	Message
6	ETS-PAVMS-CXS01-SVLCX03-10.4.240.113	IPPA-IPPA01L02-10.4.240.113
12	IPPA-IPPA01L02-10.4.240.113	IPPA-IPPA01L02-10.4.240.113
13	ETS-PAVMS-CXS01-SVLCX03-10.4.240.113	IPPA-IPPA01L02-10.4.240.113
14	IPPA-IPPA01L02-10.4.240.113	IPPA-IPPA01L02-10.4.240.113

Figure 27 –Alarms Information Screen: Selecting All Alarms

When the required Alarms have been selected, clicking the Acknowledge Alarm(s) button will display the Alarm Acknowledge dialogue, which is shown below:

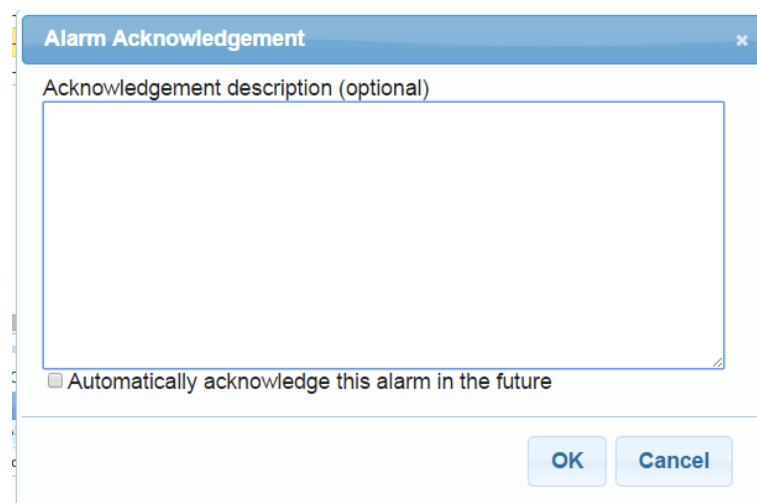


Figure 28 –Alarm Acknowledgement Dialogue

The Alarm Acknowledgement dialogue allows a description of the Acknowledgement reason to be entered. This description is stored with the Alarm for future reference.

The information entered into this description should be covered by a site specific operational policy.

Click the OK button to Acknowledge the selected Alarms.

5.8.3 Alarm Auto-Acknowledgement

When Acknowledging Alarms, the administrator can choose for future Alarms of the same type to be automatically acknowledged by the system.

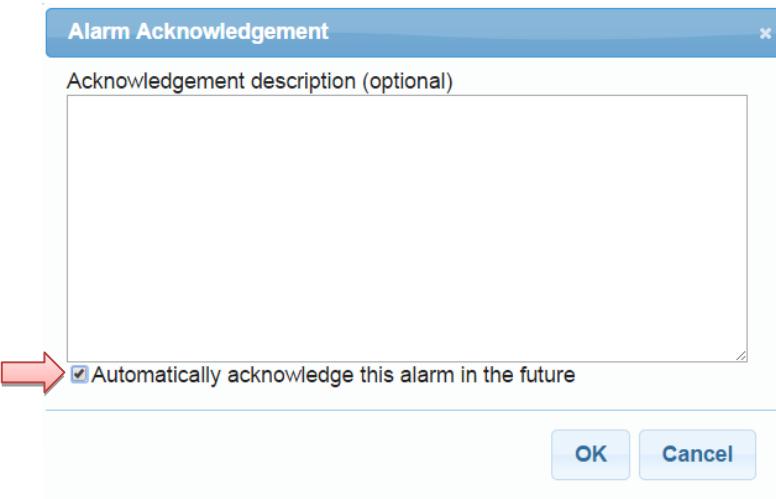


Figure 29 –Alarm Acknowledgement Dialogue: Automatic Acknowledgement

To setup automatic Acknowledgement of an Alarm Type, click the “Automatically acknowledge this alarm in the future” checkbox.

Click the OK button to Acknowledge the selected Alarms, and apply Auto-Acknowledgement to future Alarms or the same type.

5.8.4 Removing Auto-Acknowledgements

The administrator can remove previously configured Alarm Auto-Acknowledgements for each Alarm Type. To view Alarms which are configured to be Auto-Acknowledged, clear the Hide Acknowledged Alarms checkbox to the right of the Alarms table.

The screenshot shows a table titled 'Alarms' with columns: Alarm, Device, Module Name, Alarm Code, First Received, Last Activated, Repeat Count, Stateful, Active, Severity, Protected, Error Text, Ack'd, and Ack'd Date. Four rows are listed, with the fourth row (ID 14) highlighted in yellow. The right side of the screen features a toolbar with several buttons:

- Hide Inactive Alarms
- Hide Acknowledged Alarms (highlighted with a red arrow)
- Acknowledge Alarm(s)
- Remove Automatic Acknowledgement(s) (highlighted with a red arrow)
- Protect Alarm(s)
- Unprotect Alarm(s)

Figure 30 –Alarms Information Screen: Show Acknowledged Alarms

The Alarm table will include all previously Acknowledged Alarms. Alarms that have been configured to be Auto-Acknowledged will have the value of Permanent shown in the Ack'd field of the table.

The screenshot shows a table with columns: #, Error Text, Ack'd, and Ack'd Date. It contains four rows, with the second row (Device Managed Restart Detected) highlighted in yellow and showing 'Permanent' in the Ack'd column. The right side of the screen features a toolbar with several buttons:

- Hide Inactive Alarms
- Hide Acknowledged Alarms
- Acknowledge Alarm(s)
- Remove Automatic Acknowledgement(s) (highlighted with a red arrow)
- Protect Alarm(s)
- Unprotect Alarm(s)

Figure 31 –Alarms Information Screen: Ack'd Permanent Alarms

To remove the Auto-Acknowledgement, select the Alarm by clicking on the line in the Alarm table, and then clicking the Remove Automatic Acknowledgement button to the right of the table.

5.8.5 Alarm Protection

The Alarms interface provides the ability for an administrator to protect Alarms in the system. When Alarms are protected, the alarm will not be discarded by the system and will remain in the Alarms list. By default, the NetSpire system is configured to store the last 1000 alarms on CXS / TCX.

Protecting Alarms is useful for ensuring information about a fault is preserved for reference at some time in the future, and not discarded should the volume of Alarms in the system risk the information will be lost.

To Protect an Alarm in the system, selected the Alarm(s) to protect in the Alarms table. For information on selected Alarms, refer to section 5.8.2 *Alarm Acknowledgement*.

Click on the Protect Alarm(s) button to the right of the Alarms table.

The screenshot shows a table of alarms with various columns including Alarm ID, Device, Module Name, Alarm Code, First Received, Last Activated, Repeat Count, Stateful, Active, Severity, Protected, Error Text, Ack'd, and Ack. A red arrow points to the 'Protect Alarm(s)' button located on the right side of the screen.

Alarm	Device	Module Name	Alarm Code	First Received	Last Activated	Repeat Count	Stateful	Active	Severity	Protected	Error Text	Ack'd	Ack
6	ET5-PA(M)-C101-0-0/C03-10-4-240	default	1010	2014-11-30 17:47:26	2014-11-30 17:47:26	0	No	Not Applicable	Info	No	Device Managed Restart Detected	No	
12	IPPA-IPPA(ILD-10-4-240-113	default	1010	2014-11-30 18:03:29	2014-11-30 18:03:29	0	No	Not Applicable	Info	No	Device Managed Restart Detected	No	
13	ET5-PA(M)-C101-0-0/C03-10-4-240	default	1014	2014-11-30 19:18:57	2014-11-30 19:18:57	0	No	Not Applicable	Major	No	Device Unmanaged Restart Detected	No	
14	IPPA-IPPA(ILD-10-4-240-113	default	1014	1099-12-31 17:01:11	2014-11-30 22:32:23	1	No	Not Applicable	Major	No	Device Unmanaged Restart Detected	No	

Figure 32 –Alarms Information Screen: Protecting Alarms

The Alarm will be immediately protected. To confirm the Alarm is protected, the value in the Protected field of the table should be ‘Yes’.

The screenshot shows a table of alarms with the 'Protected' column highlighted for the second row, which contains the value 'Yes'. A red arrow points to this value.

vated	Repeat Count	Stateful	Active	Severity	Protected	Error Text	Ack'd
17:47:26	0	No	Not Applicable	Info	No	Device Managed Restart Detected	No
19:18:57	0	No	Not Applicable	Major	Yes	Device Unmanaged Restart Detected	No
22:32:23	1	No	Not Applicable	Major	No	Device Unmanaged Restart Detected	No

Figure 33 –Alarms Information Screen: Protected Alarm

To Unprotect an Alarm, select the Protected Alarm in the Alarm table and click the Unprotect Alarm button to the right of the Alarm table.

5.8.6 Alarm Logs

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Alarms Information screen is supported by all NetSpire devices and provides information relating to Alarms for the device.

The alarm events table can be downloaded in CSV file format by clicking the “Download to CSV file” button at the bottom of the page.

Event	Device	Module Name	Event Time	Alarm State	Severity	Protection

Figure 34 – Alarms Information Screen: Alarm Logs

5.9 Information: Telephony Screens

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Information screens are only supported by the NetSpire CXS devices. The screens provide information about the currently configured settings and status of the NetSpire Telephony subsystem.

The Telephony Information screens include:

- ▶ Active Calls
- ▶ Active Conferences
- ▶ Conference Sessions
- ▶ Call Detail Records
- ▶ Call Detail Statistics
- ▶ Trunk Status

The screens are accessed by selecting “Telephony” from the Information menu.

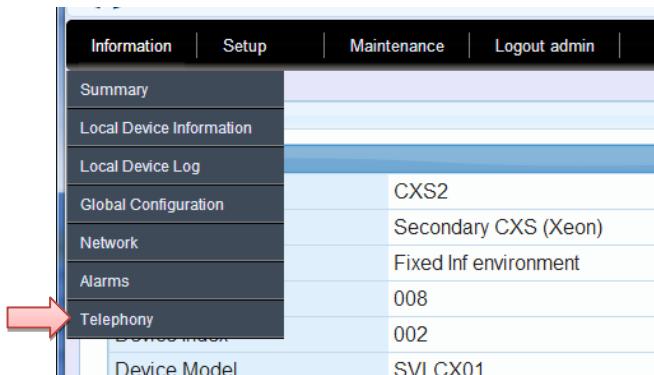


Figure 35 - Information Menu

The individual Telephony Information screens can be accessed by clicking the name of the screen on the menu at the left side of the page.

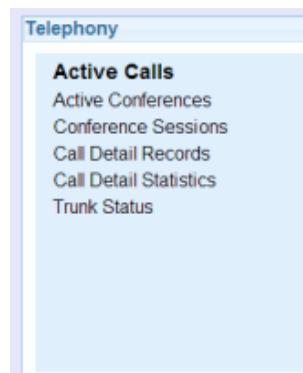


Figure 36 – Telephony Menu

Each of the Telephony Information screens is described in the following sections.

5.9.1 Information: Telephony: Active Calls Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The screenshot shows the 'Active Calls' section of the NetSpire Web Administration interface. The table contains the following data:

Created	Call Log	Caller ID Name	Caller ID Number	Destination	Application	TX/RX Codec	Actions
2016-05-27 01:42:24	3001	3001	3001	1017	bridge:user/1017	L16:8000 / PCMU:8000	
2016-05-27 01:42:24	1017	3001	3001	1017			

Figure 37 – Telephony Active Calls Information Screen

The Active Calls table shows the following information for the active calls in the system:

Created

The time and date the call was created in the system.

Call Log

Unique number identifying the call in the log.

Caller ID Name

Identification or name of the caller.

Caller ID Number

Extension number of the caller.

Destination

Extension number of the callee.

Application

Application specific information for the call.

TX/RX Codec

The Tx and Rx codec selected for the call (with respect to the caller).

Actions

The action to be taken on the particular call.

5.9.1.1 Terminating Active Calls

The administrator is able to terminate active telephony calls by clicking the Terminate Call icon next to each of the calls in the Action column.

The screenshot shows the 'Active Calls' section of the OpenAccess web interface. The table lists two active calls. The 'Actions' column contains a red circular icon with a white end-of-call symbol for each row. A large red arrow points from the bottom right towards these icons.

Created	Call Log	Caller ID Name	Caller ID Number	Destination	Application	TX/RX Codec	Actions
2016-05-27 01:42:24	3001	3001	3001	1017	bridge:user/1017	L16:8000 / PCMU:8000	
2016-05-27 01:42:24	1017	3001	3001	1017			

Figure 38 – Telephony Active Calls Information Screen: Terminate Call Icon

For information on configuring telephony extensions and other telephony related configuration refer to section 6.25.1 *Setup: Telephony Management: Extensions Screen*.

5.9.2 Information: Telephony: Active Conferences Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Active Conferences Information screen is only supported by the NetSpire CXS devices. The screen provides a list of all active telephony conferences in the system.

Name	Member Count	
Conf room 1	2	View

Figure 39 – Telephony Active Conferences Information Screen

Detailed information about the participants in the conference can be shown by clicking the “View” link for the chosen conference. The Conference Participants Information screen will be shown.

ID	Caller ID Name	Caller ID Number	Joined	Hear	Speak	Talking	Last Talked	Video	Has Floor	Tools
2	3006	3006	2' 19"	yes	yes	no	0' 2"	no	yes	kick
1	3005	3005	2' 31"	yes	yes	no	0' 1"	no	no	kick

Figure 40 – Telephony Conferences Participants Information Screen

The Conference Participants are shown in a list which includes the following information:

ID

Identification number assigned to the participant by the system when they join the conference.

Caller ID Name

Name of the participant (if available), otherwise the participant extension number is shown.

Caller ID Number

Extension number of the participant.

Joined

Time elapsed since the participant joined the conference.

Hear

Indicates whether the participant can hear the conference.

Speak

Indicates whether the participant can speak in the conference.

Talking

Indication whether the participant is currently talking in the conference.

Last Talked

Time elapsed since the participant last talked.

Video

Indication if there is video streaming.

Has Floor

Indication of which participant is talking the most in the conference.

The administrator can remove selected participants from the conference by clicking the "Kick" link at the right side of the table.

For information on configuring conferences refer to section 6.25.3 *Setup: Telephony Management: Conference Settings Screen*.

5.9.3 Information: Telephony: Conference Sessions Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Conference Sessions Information screen is deprecated and will not be supported in future releases of the NetSpire Web Administration interface.

The screenshot shows a web-based administration interface for 'open access network audio innovation'. The top navigation bar includes links for 'Information', 'Setup', 'Maintenance', and 'Logout admin'. The top right corner displays the system status as 'Online' with the timestamp '11:35:25 30/05/2014'. The main menu on the left lists 'Active Calls', 'Active Conferences', 'Conference Sessions', 'Call Detail Records', 'Call Detail Statistics', and 'Trunk Status'. The 'Conference Sessions' link is currently selected, highlighted in blue. The central content area is titled 'Conference Sessions' and contains a brief description: 'The table displays a list of the active conference sessions in the system. A Conference session identifies an ongoing active conference in a Conference room.' Below this is a table with three columns: 'Room Name', 'Session ID', and 'Duration'. A single row is visible, showing 'Conf room 1' as the Room Name, '3775b1d3-2c2c-4de8-be1c-c64a8de0819c' as the Session ID, and '00:03:22' as the Duration.

Room Name	Session ID	Duration
Conf room 1	3775b1d3-2c2c-4de8-be1c-c64a8de0819c	00:03:22

Figure 41 – Telephony Conference Sessions Information Screen (Deprecated)

5.9.4 Information: Telephony: Call Detail Records Screen

Supported by
CXS X
IPPA
NAR
NAC
NAM
TCX
TGU
CI
CP
CC
CAC
PEI

The Telephony Call Detail Records Information screen is only supported by the NetSpire CXS devices. The screen provides a history of telephony calls made in the system.

Source	Destination	Call Type	Response Time	Call Start Time	Duration	Hangup Cause
3001	1017	Operator	0 seconds	27 May 2016 01:42:24	0:00:09	Originator Cancel
3001	1017	Operator	0 seconds	27 May 2016 01:42:12	0:00:09	Originator Cancel
3001	1017	Operator	0 seconds	27 May 2016 01:41:18	0:00:03	Originator Cancel
3001	70000	Operator	0 seconds	26 May 2016 21:52:17	0:00:13	Normal Clearing
3001	70000	Operator	0 seconds	26 May 2016 21:47:12	0:00:08	Normal Clearing
3001	70000	Operator	0 seconds	26 May 2016 21:46:54	0:00:08	Normal Clearing
3001	70000	Operator	0 seconds	26 May 2016 21:45:41	0:00:08	Normal Clearing
3001	70000	Operator	0 seconds	26 May 2016 21:45:17	0:00:08	Normal Clearing
3001	70000	Operator	0 seconds	26 May 2016 21:44:54	0:00:08	Normal Clearing
3001	555603000	Operator	0 seconds	26 May 2016 21:44:48	0:00:00	Normal Clearing
1017	555-111-1111	Operator	0 seconds	26 May 2016 21:35:48	0:00:00	Normal Clearing
1017	555-111-1111	Operator	0 seconds	26 May 2016 20:57:17	0:00:00	Normal Clearing
3001	7777	Operator	0 seconds	25 May 2016 21:51:02	0:00:00	Normal Clearing
3001	7777	Operator	0 seconds	25 May 2016 21:50:41	0:00:01	Normal Clearing
3001	5555	Operator	0 seconds	25 May 2016 21:50:37	0:00:00	Normal Clearing
3001	7777	Operator	0 seconds	25 May 2016 21:50:24	0:00:00	Normal Clearing
3001	7777	Operator	0 seconds	25 May 2016 21:47:53	0:00:00	Normal Clearing
3001	54321	Operator	0 seconds	25 May 2016 02:43:03	0:00:20	Normal Clearing
3001	54321	Operator	0 seconds	25 May 2016 02:26:08	0:00:31	Normal Clearing

Figure 42 – Telephony Call Detail Records (CDR) Information Screen

The screen provides the ability to filter the Call Detail Records by the following fields:

- ▶ Source Extension Number
- ▶ Destination Extension Number
- ▶ Response Time
- ▶ Start Date
- ▶ Hang Up Cause

The information in the Call Details Records list can be exported to a CSV file by clicking the "Export CSV" button at the top right of the screen.

5.9.5 Information: Telephony: Call Detail Statistics Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Call Statistics Information screen is only supported by the NetSpire CXS devices. The screen provides an aggregated history of telephony calls made in the system.

The screen shows 2 tables of telephony call statistics.

The first table shows the last 24 hours of activity, aggregated into 1 hour blocks.

The screenshot shows the 'Call Detail Record Statistics' table from the 'Telephony' section of the CXS2 interface. The table displays data for 24 one-hour intervals on May 30th. The columns are Hours, Date, Time, Volume, Minutes, and Calls Per Min. The data shows varying levels of call activity throughout the day, with a peak around 12:00-13:00.

Hours	Date	Time	Volume	Minutes	Calls Per Min
1	30 May	12:00 - 13:00	102	8.53	1.7
2	30 May	11:00 - 12:00	223	18.92	3.72
3	30 May	10:00 - 11:00	185	10.6	3.08
4	30 May	09:00 - 10:00	162	0.48	2.7
5	30 May	08:00 - 09:00	232	15.05	3.87
6	30 May	07:00 - 08:00	220	19.08	3.67
7	30 May	06:00 - 07:00	221	19.1	3.68
8	30 May	05:00 - 06:00	223	19.25	3.72
9	30 May	04:00 - 05:00	235	18.67	3.92
10	30 May	03:00 - 04:00	229	18.73	3.82
11	30 May	02:00 - 03:00	213	19.43	3.55
12	30 May	01:00 - 02:00	233	18.77	3.88
13	30 May	00:00 - 01:00	234	19	3.9
14	29 May	23:00 - 00:00	243	18.53	4.05
15	29 May	22:00 - 23:00	219	19.32	3.65
16	29 May	21:00 - 22:00	236	18.67	3.93
17	29 May	20:00 - 21:00	222	19.15	3.7
18	29 May	19:00 - 20:00	54	10.17	0.9
19	29 May	18:00 - 19:00	80	8.17	1.33
20	29 May	17:00 - 18:00	7	1.02	0.12
21	29 May	16:00 - 17:00	6	0.82	0.1
22	29 May	15:00 - 16:00	9	2.25	0.15

Figure 43 – Telephony Call Statistics Information Screen (24 hour history)

The second table shows the last 30 days of activity, aggregated into last 1 day, the last 7 day and the last 30 day periods.

The screenshot shows the 'Call Detail Record Statistics' table from the 'Telephony' section of the CXS2 interface. The table displays data for three time periods: 1 day, 7 days, and 30 days. The columns are Days, Time, Volume, Minutes, Calls Per Min, Missed, ASR¹, and ALOC². The data shows a significant increase in call volume over the 30-day period compared to the 1-day and 7-day periods.

Days	Time	Volume	Minutes	Calls Per Min	Missed	ASR ¹	ALOC ²
1	29 May 12:26 - 30 May 12:26	3805	307.27	2.64	0	100	0.08
7	23 May 12:26 - 30 May 12:26	3963	341.25	0.39	0	100	0.09
30	30 Apr 12:26 - 30 May 12:26	4359	453.43	0.1	0	100	0.1

Figure 44 – Telephony Call Statistics Information Screen (30 day history)

5.9.6 Information: Telephony: Trunk Status Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Trunk Status Information screen is only supported by the NetSpire CXS devices. The screen provides information about the telephony trunks configured on the server.

The screen shows a list of trunks configured in the system, and includes information about the type of trunk, a description for the trunk (entered during configuration) and the current status of the trunk connection.

Trunk Name	Type	Description	Status
SIP1	SIP Trunk		Not Registered
SIP2	SIP Trunk		Not Registered

Figure 45 – Telephony Trunk Status Information Screen

Trunk status could be one of the following:

- For SIP trunks –
 - Registration Ok – indicates that's the registration has been successful
 - Not Registered – indicates that the registration is unsuccessful as a result of Register option unchecked in the Trunk settings
 - Registration Failed - indicates that the registration is unsuccessful as a result of authentication failure with the remote trunk
- For E1 trunks – Status is reported for both Physical Layer(L1) as well as Signalling Layer (L2/3)
 - Up – indicates that the status of the layer is OK
 - Down – indicates that the specified layer has problems and is not fully functional

For information on supported Trunk types and configuring Trunks refer to section 6.25.5 *Setup: Telephony Management: Trunk Settings Screen*.

5.10 Information: Date & Time Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Date & Time Information screen is supported by all NetSpire devices and provides information relating to configuration and status of time synchronisation for the device.

Figure 46 – Date & Time Information Screen

The Date & Time Information screens show information about the current status and configuration of the time services on the device. The Date/Time table contains the following information:

Local Time

The Local Time row shows the actual time on the device as configured. The time shown is accurate to one second.

UTC Time Offset

The UTC Time Offset row is the local time zone offset from UTC time.

NTP Server Enabled

The NTP Server Enabled row shows whether the device's NTP Server module is enabled.

NTP Server Stratum

The NTP Server Stratum row shows the value reported for this device's NTP Server, if enabled.

NTP Client Enabled

The NTP Client Enabled row shows whether the device's NTP Client module is enabled.

NTP Client Sync State

The NTP Client Sync State row shows whether the NTP Client on this device is synchronised with an NTP Server.

NTP Client Last Sync Time

The NTP Client Last Sync Time row shows the last time the NTP Client on this device was synchronised with an NTP Server.

NTP Client Last Sync Server

The NTP Client Last Sync Server row shows the last server that the NTP Client was synchronised with.

For more information on configuring the time and date on a device refer to section 6.26 *Setup: Time / Date Screen*.

6 Setup Screens

The Setup screens are accessed through the Setup menu.

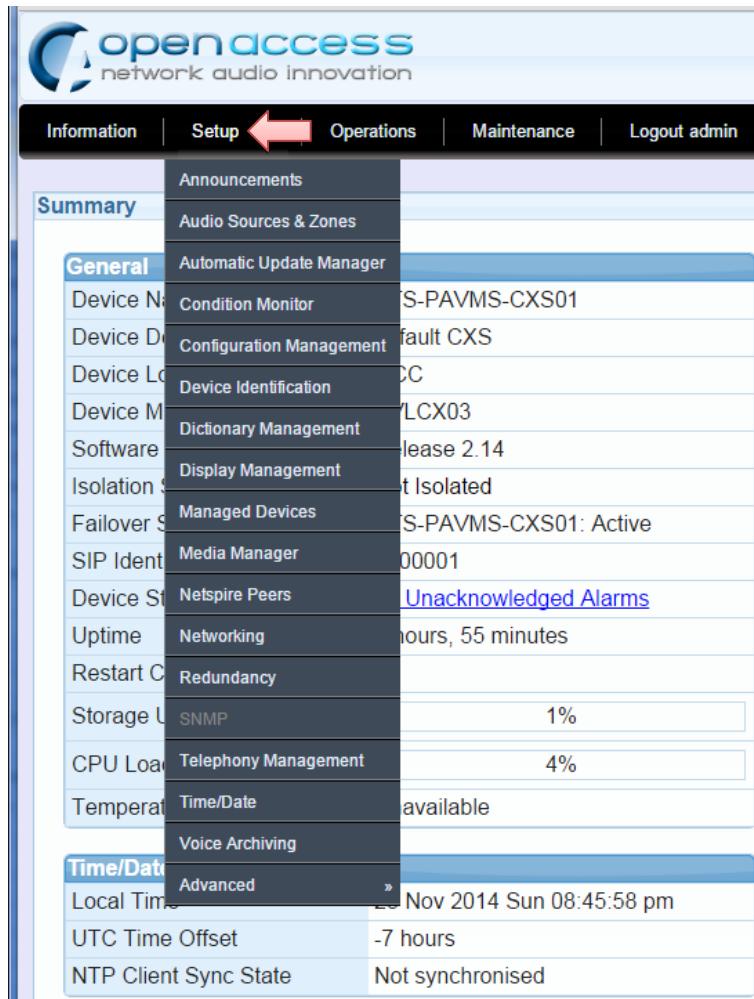


Figure 47 – Setup Menu

The Setup screens allow the administrator change the configuration and behaviour of the device or, in the case of the NetSpire CXS and TCX servers, the broader system.

Each of the Setup screens is described in the following sections, and includes:

- ▶ Alarm Configuration
- ▶ ANC
- ▶ Announcements
- ▶ Audio Recording
- ▶ Audio Channels
- ▶ Audio Zones
- ▶ Audio Routing
- ▶ Automatic Update Manager

- ▶ Condition Monitor
- ▶ Configuration Management
- ▶ Device Identification
- ▶ Dictionary Management
- ▶ Digital I/O
- ▶ Redundancy
- ▶ Display Management
- ▶ IPPA Management
- ▶ Managed Devices
- ▶ Media Manager
- ▶ NetSpire Peers
- ▶ Networking
- ▶ Telephony Management
- ▶ Time / Date
- ▶ Voice Archiving
- ▶ Advanced: Configuration Manager

6.1 Setup: Alarm Configuration

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Alarm Configuration Setup screen in this section is supported by NetSpire devices that support alarms. The screen allows the administrator to control the parameters of alarms propagated through the NetSpire system.

The screenshot shows the 'Alarm Configuration' setup screen. It includes fields for retaining the last 1000 unprotected alarms, deleting alarms older than a specified number of days, setting minimum alarm severity to forward (Info), setting minimum alarm severity to report (Minor), and an option to send alarm information by email with an input field for the email address.

Figure 48 – Alarm Configuration Setup Screen

The Alarm Configuration Setup screen allows the Alarm Configuration settings for managing Alarms on the device to be controlled by the administrator. For information on the display of Alarms on NetSpire devices refer to section 5.8 Information: Alarms Screen.

The Alarm Configuration dialogue allows the administrator to specify retained alarms, set rules for deleting older alarms, alarm severity forwarding / reporting as well as email alerts. These parameters are described below:

Retain the last 1000 unprotected alarms.

This is a user configurable item (number) that allows the selection of the last unprotected alarms to be retained on the device. For example, if the user inputs “1000” then this retains the last 1000 unprotected alarms in the system.

Delete alarms that are older than [] days.

A tick box selection is also available where alarms those are older than the number specified (user configurable) are deleted in the system. For example, if the user inputs “365” then this deletes alarms in the system older than 365 days.

Minimum alarm severity to forward: Info ▾

A drop down menu is available for indicating the minimum alarm severity to forward to the parent device such as the CXS / TCX. The drop down menu options are Info, Minor, Major, Severe. For example, if the user selects “Info”, then all alarms with higher severity than info is forwarded.

Minimum alarm severity to report:

A drop down menu is available for indicating the minimum alarm severity to report to the system displayed in the top right hand corner of the interface. The drop down menu options are Info, Minor, Major, Severe. For example, if the user selects “Minor”, then all alarms with higher severity than Minor is reported to the webUI.

Send alarm information by email.
Email Address: ([configure email server](#))

A selection box is available if alarm information is to be sent via email. The email address must be added, and configuration of the email server to ensure alarm information generated are sent to the correct email server.

6.2 Setup: ANC Screen

Supported by
CXS
IPPA
NAR X
NAC X
NAM X
TCX
TGU X
CI
CP
CC
CAC
PEI

The ANC Setup screen in this section is supported by NetSpire devices that support audio output capabilities.

The screen allows the administrator to control the parameters of the Ambient Noise Compensation (ANC) module.

The screenshot displays the 'Ambient Noise Compensation' setup screen. At the top, there's a navigation bar with links for Information, Setup, Operations, Maintenance, and Logout admin. Below the navigation bar, the title 'Ambient Noise Compensation' is shown, followed by a sub-instruction: 'Select Output from Zones table below to view current Noise Level and edit ANC Parameters.' The main area is divided into two sections: 'ANC Settings for Audio 1' and 'Zones'.

ANC Settings for Audio 1: This section contains eight sliders for configuring ANC parameters. The parameters and their current values are:

- SPL (dB(Z) F): 74.0
- Threshold (dB): 70
- Boost Ratio: 1.1
- Maximum Boost (dB): 10
- Attack (ms): 1000
- Sustain (ms): 3000
- Decay (ms): 500
- Current Boost (dB): 4.6

Zones: This section is a table where zones are assigned to audio outputs. The table has columns for Zone/Output, ANS Sources (Disabled and Analog Input 3), and a 'Calibrate' button. The rows represent different zones (Zone 1 through Zone 6) and their assigned audio outputs (Audio 1 through Audio 6). A red arrow points to the 'Calibrate' button in the Zone 1 row.

Zone/Output	ANS Sources	
	Disabled	Analog Input 3
Zone 1	<input type="radio"/>	<input checked="" type="radio"/>
Audio 1	<input type="radio"/>	<input checked="" type="radio"/>
Audio 2	<input checked="" type="radio"/>	<input type="radio"/>
Zone 2	<input checked="" type="radio"/>	<input type="radio"/>
Audio 2	<input checked="" type="radio"/>	<input type="radio"/>
Zone 3	<input checked="" type="radio"/>	<input type="radio"/>
Audio 3	<input checked="" type="radio"/>	<input type="radio"/>
Zone 4	<input checked="" type="radio"/>	<input type="radio"/>
Audio 4	<input checked="" type="radio"/>	<input type="radio"/>
Zone 5	<input checked="" type="radio"/>	<input type="radio"/>
Audio 5	<input checked="" type="radio"/>	<input type="radio"/>
Zone 6	<input checked="" type="radio"/>	<input type="radio"/>
Audio 6	<input checked="" type="radio"/>	<input type="radio"/>

Buttons at the bottom: 'Cancel Changes' and 'Save ANC Settings'.

Figure 49 – Ambient Noise Compensation (ANC) Setup Screen

The ANC Setup screen allows the Ambient Noise Compensation settings for each channel assigned to each Audio Zone on the device to be controlled by the administrator. For

information on how to setup Audio Zones on NetSpire devices refer to section *6.9 Setup: Audio Routing Screen*.

The Zones list at the bottom of screen shows all the Zones configured on the device. Each Zone shows the physical outputs assigned to the Zone. For information on how to setup an Audio Input as an ANS Source refer to section *6.9 Setup: Audio Routing Screen*.

Zone/Output	ANS Sources	
	Disabled	Analog Input 3
		Calibrate
Zone 1		
Audio 1	<input type="radio"/>	<input checked="" type="radio"/>
Audio 2	<input checked="" type="radio"/>	<input type="radio"/>
Zone 2		
Audio 2	<input checked="" type="radio"/>	<input type="radio"/>
Zone 3		
Audio 3	<input checked="" type="radio"/>	<input type="radio"/>
Zone 4		
Audio 4	<input checked="" type="radio"/>	<input type="radio"/>
Zone 5		
Audio 5	<input checked="" type="radio"/>	<input type="radio"/>
Zone 6		
Audio 6	<input checked="" type="radio"/>	<input type="radio"/>

[Cancel Changes](#) [Save ANC Settings](#)

Figure 50 – ANC Setup Screen: Zones List

Each physical output in a zone can be associated with an Ambient Noise Sensing (ANS) Source. To associate an ANS Source, click on the radio button under the name of the ANS Source.

The ANC Settings section at the top of the page, displays the information related to the selected physical output in the Zones table.

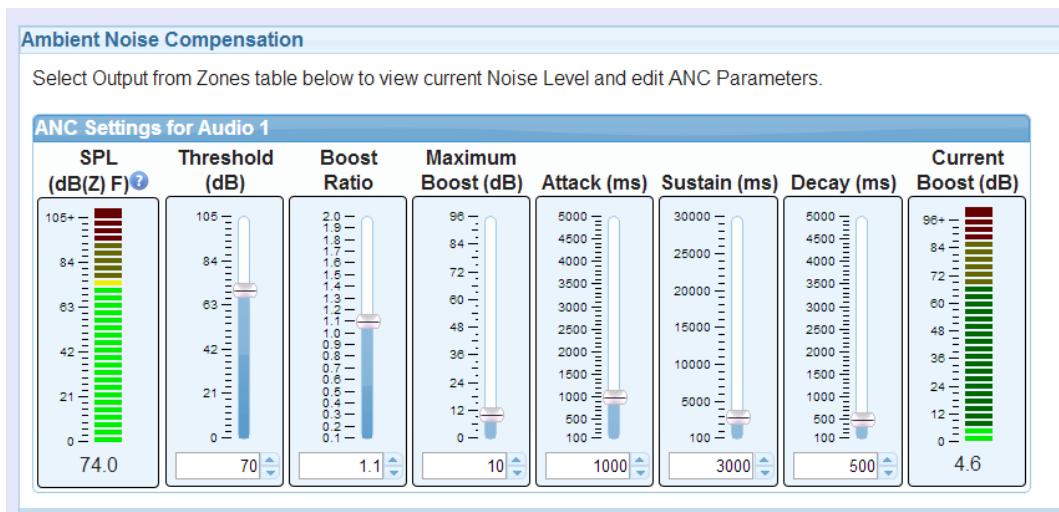


Figure 51 – ANC Setup Screen: ANC Settings

The following sections describe each of the features of the ANC Settings shown in the diagram above.

6.2.1 SPL Meter

The SPL VU Meter at the left of the ANC Settings section shows the current Sound Pressure Level (SPL) estimate of ambient noise for the select physical output's ANS Source.

The SPL VU Meter is zero weighted dB and Fast sampling in accordance with IEC61672.

The level displayed by the SPL VU Meter can be calibrated by setting the gain of the ANS Source input so this meter matches the value measured at the Ambient Noise Sensing (ANS) microphone with a calibrated SPL meter.

This is accomplished by adjusting the input gain for the ANS Microphone so that the level displayed on the SPL Level meter matches the dB SPL levels as measured at the location of the microphone with a calibrated SPL measurement device.

The system does not make any compensation for non-linear behaviour of the ANS microphone, specifically non-linearity between ambient sound pressure and the microphone output levels.

NOTE: BY DEFAULT NO FREQUENCY WEIGHTING IS APPLIED

Please note that by default there is no frequency weighting applied in accordance with IEC standard for flat weight dB SPL.

The ambient noise estimate shown on the Noise Level meter is adjusted to approximately compensate for sound pressure resulting from program material being output into the zone. Convergence speed of the ambient noise estimate will vary in accordance with the characteristics of the program source and fastest convergence is achieved when the program contains quiet or silent sections.

Typically the values on the screen are updated multiple times per second, with the values shown being averaged over the interval.

6.2.2 Current Boost Meter

The Current Boost meter shows the actual amount of additional gain being applied to the output level of the selected audio channel in order to compensate for ambient noise. The scale of this meter is in relative dB, and represents the increase in gain for the channel. In instances where other system limits are reached such as maximum amplifier output levels the Current Boost value displayed does not reflect this.

6.2.3 ANC Control Settings

The ANC Control Settings control the characteristics of the Ambient Noise Compensation algorithm so it can be tailored to different environments. These settings apply to the currently selected physical audio output in the Zone table.

Adjustments made via these controls will have immediate effect on the system so that it is easy to experiment to find an optimal configuration. The new values are made permanent by pressing the Save button.

The impact of adjustments can be monitored via the Current Boost meter.

The following diagram shows the relationship between Ambient Noise Estimate and the Current Boost applied to the associated channel.

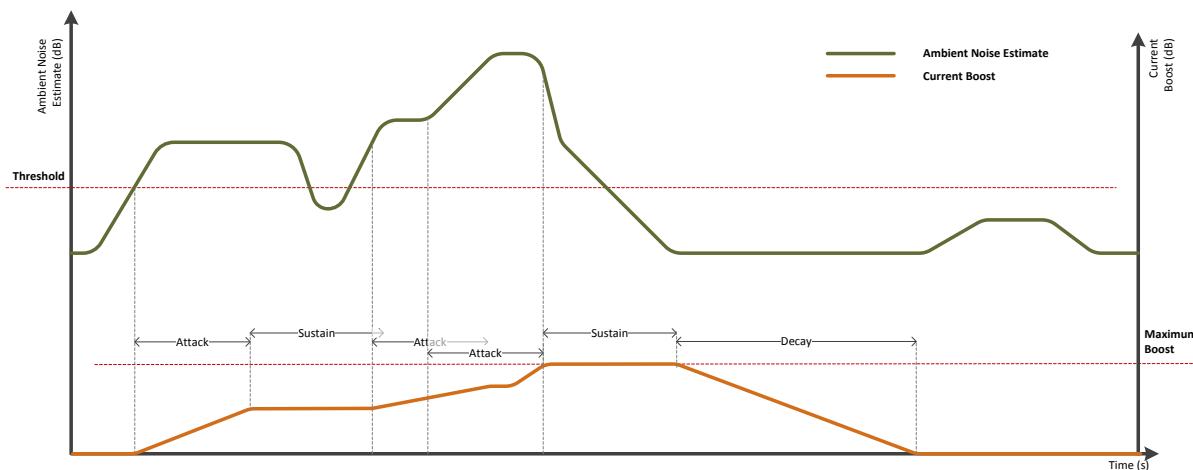


Figure 52 – ANC Operation Graph

Each of the parameters controlling the ANC algorithm is described in detail in the following sections.

6.2.3.1 Threshold

The Threshold setting specifies the minimum levels at which compensation will be applied. The Threshold dB values are relative to the levels as reported by the Noise Level meter. If the noise estimate displayed on the Noise Level meter is below the value set in the Threshold, no ambient noise compensation will be applied.

Setting the Threshold to the maximum value of 105dB will effectively disable all ANC.

6.2.3.2 Boost Ratio

The Boost Ratio setting specifies the ratio between increases in the boost gain relative to changes in the estimated noise levels over the threshold.

The ratio range is from 0.1:1 to 2.0:1 and if set to a value of 1.0:1 would result in an increase of 1dB of gain per additional 1 dB of estimated noise beyond the Threshold setting.

6.2.3.3 Maximum Boost

The Maximum Boost setting allows a limit to be set for the maximum level of boost that can be applied by the ANC system. This value is specified as a relative dB value and the limit is only applicable where other system limits, such as full amplifier output gain have not already been reached. Setting the Maximum Boost to zero will effectively disable all ANC.

6.2.3.4 Attack

The Attack setting controls the rate at which ANC gain is increased to meet target ANC gain. The Attack setting specifies the time period over which any increase in gain due to a rise in ambient noise will occur.

The range of the Attack setting is from 500 milliseconds to 5 seconds and gain is increased in a linear profile.

6.2.3.5 Sustain

The Sustain setting controls the amount of time the ANC gain will be held constant after an increase has occurred, before allowing any decrease in the gain due to a drop in ambient noise level.

The range of the Sustain setting is from 500 milliseconds to 30 seconds. Note, that this period does not affect subsequent increase in gain due to a rise in ambient noise levels.

6.2.3.6 Decay

The Decay setting controls the rate at which ANC gain is decreased to meet the target ANC gain. The Decay setting specifies the time period over which any decrease in gain due to a fall

in ambient noise will occur. The range of the Decay setting is from 500 milliseconds to 5 seconds and gain is decreased in a linear profile.

6.3 Setup: Announcements Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Announcements Setup screen is supported by the NetSpire CXS, TCX, IPPA and audio amplifier devices. The Announcement Setup screen allows the administrator to configure settings controlling Public Address (PA) and Digital Voice Announcements (DVA) in the system.

The screenshot shows the 'Announcements' setup screen. It includes three main sections: 'DVA Settings' (with 'Synchronised mode' set to 'Enabled'), 'Unicast Network Settings' (with port range 'Start: 59501' and 'End: 59600'), and 'Multicast Network Settings' (listing two entries: '239.250.1.3' with ports '59501' to '59600'). Buttons for 'Add', 'Cancel Changes', and 'Save Settings' are at the bottom.

Figure 53 – Announcements Setup Screen

The screen contains the following sections:

- ▶ DVA Settings
- ▶ Unicast Network Settings
- ▶ Multicast Network Settings

6.3.1 DVA Settings

The DVA Settings section is only available on NetSpire CXS and TCX Server, and audio amplifier devices. The settings allow synchronised mode for DVA to be enabled and handling for arbitration of DVA messages to be configured.

The screenshot shows the 'DVA Settings' section with 'Synchronised mode' checked and 'Enabled'.

Figure 54 – Announcements Setup Screen: DVA Settings Section

Synchronised Mode

When enabled, DVA Announcements between different NetSpire devices are synchronised. If one of the devices becomes off-line during the synchronization

process, there will be a delay of 10 seconds between initiating the announcement and the announcement commencing.

6.3.2 Unicast Network Settings

The Unicast Network Settings section configures the UDP port range for the NetSpire RTP Audio Transport protocol used for streaming PA announcements.

The screenshot shows a configuration interface titled "Unicast Network Settings". It has a section labeled "Unicast port range" with two input fields: "Start:" containing "59501" and "End:" containing "59600". There is also a small "Info" icon next to the start field.

Figure 55 – Announcements Setup Screen: Unicast Section

The system will use Unicast transport for Audio Sources and/or Audio Zones which have been configured to use a unicast transport.

Refer to section 6.9 *Setup: Audio Routing Screen* for information on configuring Audio Sources and Audio Zones.

6.3.3 Multicast Network Settings

The Multicast Network Settings section configures the IP Address Range and UDP port range for the NetSpire RTP Audio Transport protocol used for streaming PA announcements.

The screenshot shows a configuration interface titled "Multicast Network Settings". It displays a table with three columns: "Multicast Address", "Start Port", and "End Port". A single row is present with the values "239.250.1.3", "59501", and "59600". To the right of the table is a "Actions" column with "Edit" and "Delete" buttons. At the bottom left is a blue "Add" button.

Multicast Address	Start Port	End Port	Actions
239.250.1.3	59501	59600	Edit Delete

Figure 56 – Announcements Setup Screen: Multicast Settings Section

The system will use Multicast transport for Audio Sources and/or Audio Zones that have been configured to use a multicast transport.

Refer to section 6.9 *Setup: Audio Routing Screen* for information on configuring Audio Sources and Audio Zones.

6.4 Setup: Audio Channels Screen

Supported by	
CXS	
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	X

The Audio Channels Setup screen in this section is supported by NetSpire Intercom devices and allows the administrator to control the audio functions of the Intercom devices.

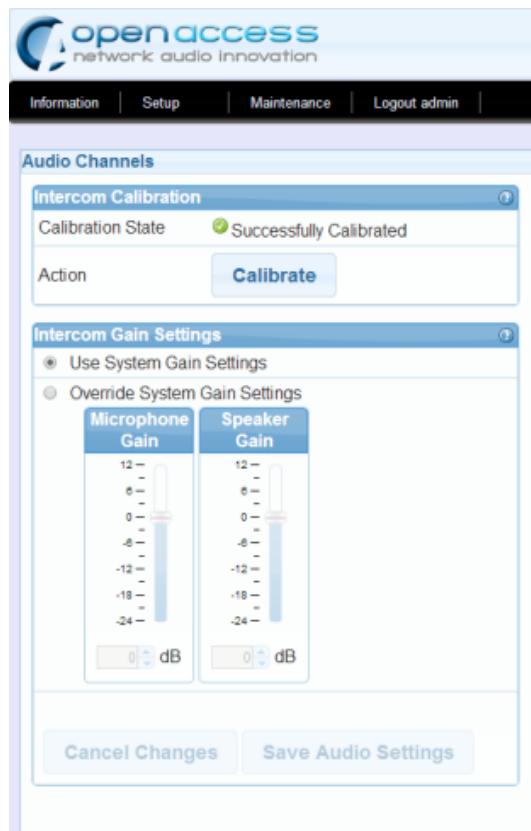


Figure 57 – Intercom Audio Channels Setup Screen

The screen is divided into the following two sections:

- ▶ Intercom Calibration
- ▶ Intercom Gain Settings

6.4.1 Intercom Calibration

The Intercom Calibration section allows the administrator to calibrate the Intercom's Audio Loop Back Self-Test. To calibrate the device simply click on the "Calibrate" button. The intercom will be heard emitting a high pitched sound in order to calibrate the test within the environment the intercom is installed.

To manually initiate an Audio Loop Back Test refer to section 8.3.1 *Self Test Diagnostics*.

6.4.2 Intercom Gain Settings

The Intercom Gain Settings section allows the administrator to configure the gain and volume levels of the Intercom microphone and speaker output.

The “Use System Gain Settings” radio selection ensures the Intercom is configured with consistent gain settings across the system as specified in the Global Configuration on the NetSpire CXS or TCX server.

Refer to section *5.4 Information: Global Configuration Screen* for information on Global Configuration settings.

The “Override System Gain Settings” radio selection allows the gain settings for each individual intercom to be controlled. The setting for the Microphone Gain and Speaker Gain are set using the slider controls, or entered directly into the input boxes.

6.5 Setup: Audio Channels: Input Channels

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	

The Audio Channels Setup screen in this section is supported by NetSpire devices that have Microphone and Line Level Analogue Inputs. Note that NetSpire Intercoms support the screen described in the previous section.

The screen allows the administrator to control the parameters of the audio input channels.

The screenshot shows the 'Audio Channels' setup interface. It has three tabs at the top: 'Input Channels' (selected), 'Output Channels', and 'Speaker Calibrate/Test'. The main area is divided into four columns, each representing an input channel (Input 1, Input 2, Input 3, Input 4). Each column contains several configuration sections:

- Health:** Includes a globe icon and dropdown menus for 'Port Labels' (set to 'None') and 'Mic. Type' (set to 'None').
- Labels:** Buttons for 'Edit' and 'Bypass'.
- DSP Settings:** Buttons for 'Edit' and 'Bypass'.
- VU Source:** A dropdown menu set to 'Post-DSP'.
- VU Value (dB):** Displays values of -96.0 dB for all four inputs.
- Gain (dB):** Includes a VU meter and a gain slider set to 0.0 dB.
- Delay (milliseconds):** Displays values of 0.000 ms for all four inputs.

At the bottom are 'Cancel Changes' and 'Save Audio Settings' buttons.

Figure 58 – Audio Input Channels Setup Screen

The screen provides the ability to control the parameters associated with each of the physical input channels on the device. These parameters include:

Health

Globe indicating the health status attached to the input

Label

User defined name for the channel to help with function identification in the system.

Mic Type

A dropdown box to choose the type of Mic

Health Monitoring

Setup parameters for Health monitoring attached to the input.

VOX

Setup parameters for a Voice Operated Switch (VOX) associated with the input.

DSP Settings

Edit parametric equalisation, dynamics and delay settings for the input.

Gain

Adjust the gain for the input channel.

Delay

Adjust the relative delay of the channel relative to other input channels.

In addition to the settings listed above, the screen also provides VU metres that are useful for measuring audio levels at different points in the processing chain and calibrating the system during commissioning.

The following diagram shows the structure of an input channel in the system and the relationship with the user interface controls.

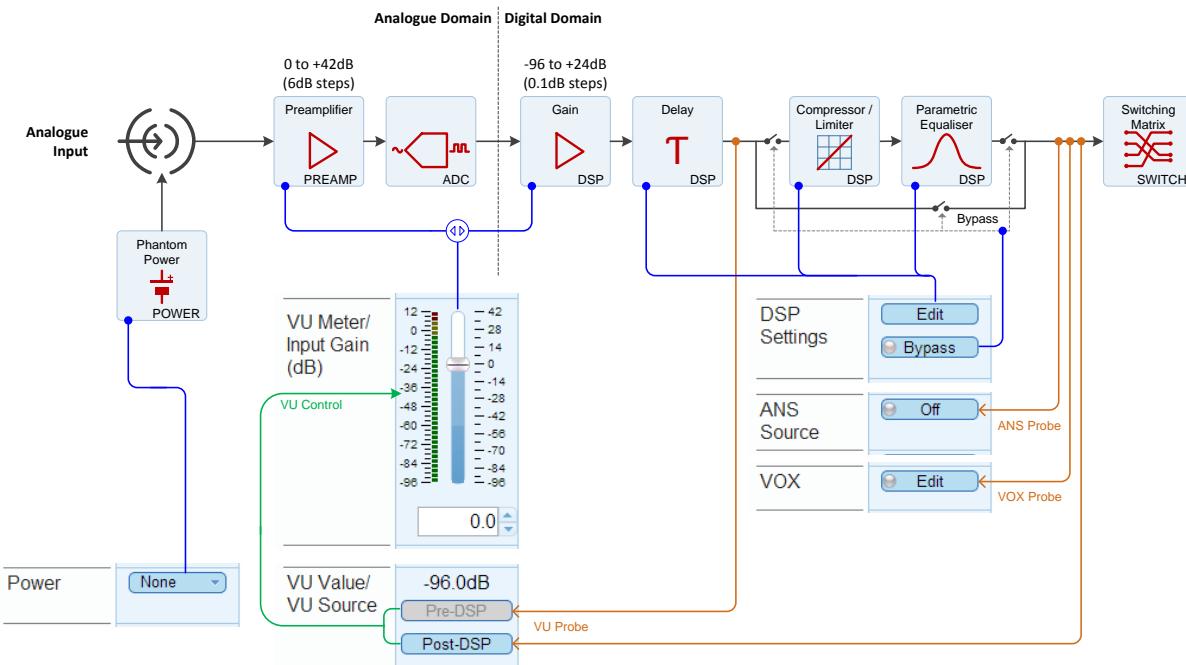


Figure 59 – NetSpire Analogue Input Channel Structure

Each of the settings for the Input Channels is covered in the following sections.

6.5.1 Channel Name

The name of the input channels can be modified by the administrator to provide a functional description of the use of the channel in a specific installation.

Clicking the “Labels” button will show the Audio Input Edit Labels dialog, shown below:

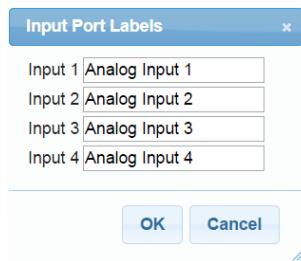


Figure 60 – Audio Input Channels Edit Labels Dialogue

The labels of each input channel can be modified and then saved by clicking the OK button.

6.5.2 Mic Type

The Power section of the channel allows the phantom power supplied to the input to be controlled. Clicking the drop down box provides a list of options:

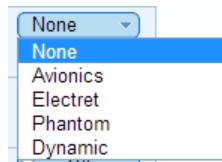


Figure 61 – Audio Input Channels Setup Screen: Power Dropdown

The options for audio input phantom power are described below:

None

No power is applied to the input.

Avionics

Avionics power is applied to the input (12VDC current limited by a series 680Ω in each line to 8mA).

Electret

Power suitable for Electret microphones is applied to the input (5VDC current limited by a 2200Ω in each line to 1mA).

Phantom

P12 Phantom Power is applied to the input (IEC61938 / P12).

Dynamic

Small sense current is applied to the input. Used for supervision of dynamic microphones.

NOTE: SETTING INCORRECT POWER SETTINGS MAY DAMAGE YOUR MICROPHONE

Before configuring the Power settings, ensure you have connected a compatible microphone.

6.5.3 Health Monitoring

The Health monitoring section of the channel allows health monitoring /microphones supervision to be enabled. Clicking the Health Monitoring dropdown provides a list of options.

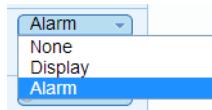


Figure 62 –Audio Input Channels Setup Screen: Health Monitoring Dropdown

The options for Health Monitoring are described below:

None

Health / Microphone monitoring is disabled.

Display

The status of the health is shown via the status globe at the top of the channel. Green indicates a healthy microphone, and yellow indicates a faulty microphone or the microphone is not connected for example.

Alarm

Detection of a faulty microphone will generate an Alarm.

NOTE: MICROPHONE POWER MUST BE ENABLED FOR HEALTH MONITORING

Health monitoring requires one of the powered microphone modes to be enabled in the power dropdown. For microphones that do not require power (e.g. Dynamic microphones), select the 'Dynamic' power option.

6.5.4 VOX Monitoring

The VOX Monitoring section of the channel allows the administrator to configure a Voice Operated Switch (VOX) that detects voice activity and can be used to control other aspects of the system.

The VOX switch can be used to control audio routing and other system functions using Condition Monitor. Refer to section 6.12 *Setup: Condition Monitor Screen* for more information on using Condition Monitor.

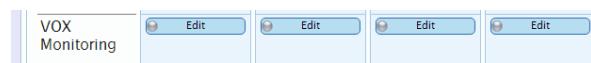


Figure 63 – Audio Input Channels Setup Screen: VOX Settings

Clicking the VOX Edit button displays the VOX Settings dialogue as shown below:

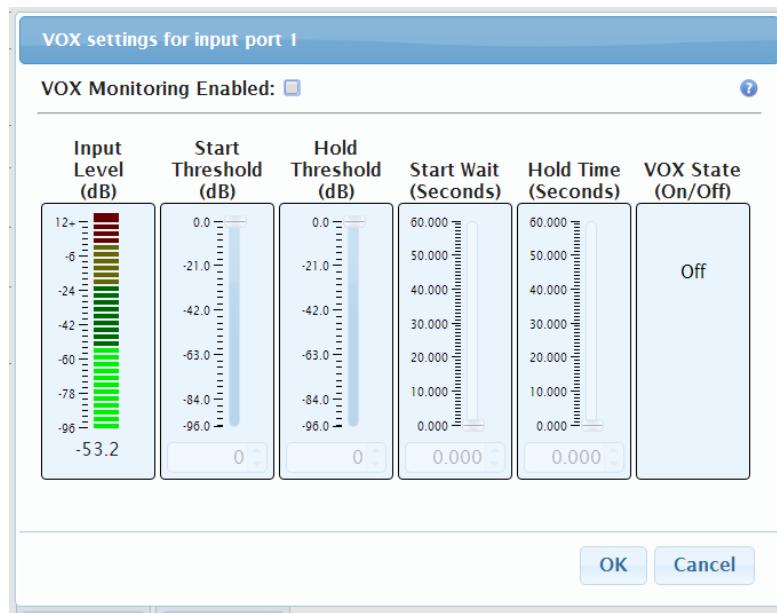


Figure 64 – Audio Input Channels VOX Setup Screen: VOX Monitoring Enabled

The VOX can be enabled by clicking the VOX Monitoring Enabled checkbox. When enabled, the administrator can manipulate the parameters that control the VOX switch.

The Input Level VU Meter shown on the left of the dialogue allows the administrator to visualise the energy levels of the voice input under various test conditions. The VOX State panel on the right of the dialogue displays the current state of the VOX switch, whether it is “On” or “Off”.

The VU Meter and the VOX State panel provide feedback to the administrator for tuning the parameters which control when the switch is “On” and “Off”.

The following parameters are set using the slider controls and determine the activation and deactivation conditions for the switch.

Start Threshold

The Start Threshold specifies the energy level that must be exceeded for the VOX to be turned “On”. The Start Threshold is specified in dB and is relative to the energy level displayed on the VU meter.

Hold Threshold

The Hold Threshold specifies the energy level that must be maintained for the VOX switch to remain in the “On” state. The Hold Threshold must be equal to, or less than the Start Threshold. The Hold Threshold is specified in dB and is relative to the energy level displayed on the VU meter.

Start Wait

The Start Wait period specifies the time that the Start Threshold must be exceeded before the VOX is turned “On”. If the energy level drops below the Start Threshold during this period, the timer is reset and subsequent energy

levels measured above the Start Threshold must remain above the Start Threshold for the Start Wait period.

Hold Time

The Hold Time specifies the period that the VOX will remain in the “On” state after the energy level drops below the Hold Threshold.

The following graph illustrates the operation of the VOX relative to the Start and Hold Thresholds and the Start Wait and Hold Time parameters.

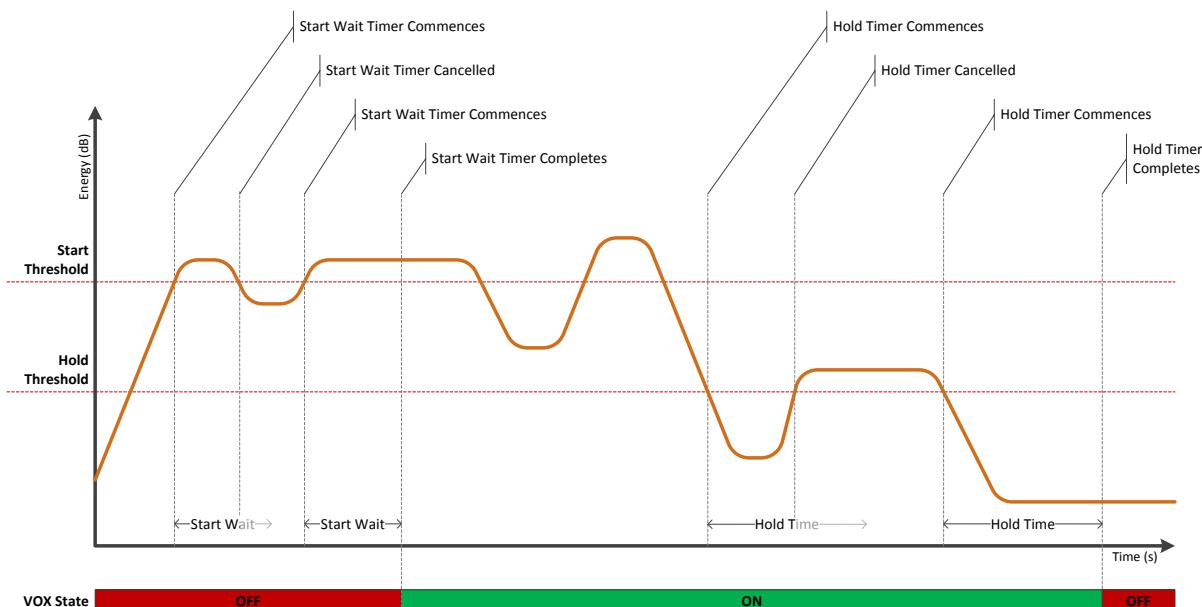


Figure 65 – VOX Operation Graph

When the VOX parameters have been adjusted, click the OK button on the VOX Settings dialogue to return the Audio Inputs Channels screen.

The VOX is shown as active by a blue globe on the VOX Edit button, as shown below:

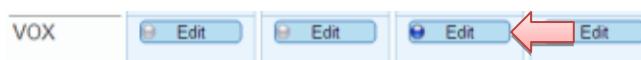


Figure 66 – Audio Input Channel Setup Screen: VOX Enabled

6.5.5 DSP Settings

The DSP Settings section of the channel allows the administrator to configure parametric equalisation, dynamics and delay settings of the Audio Input Channels.

Clicking the DSP Settings Edit button will display the DSP Settings dialogue shown below:

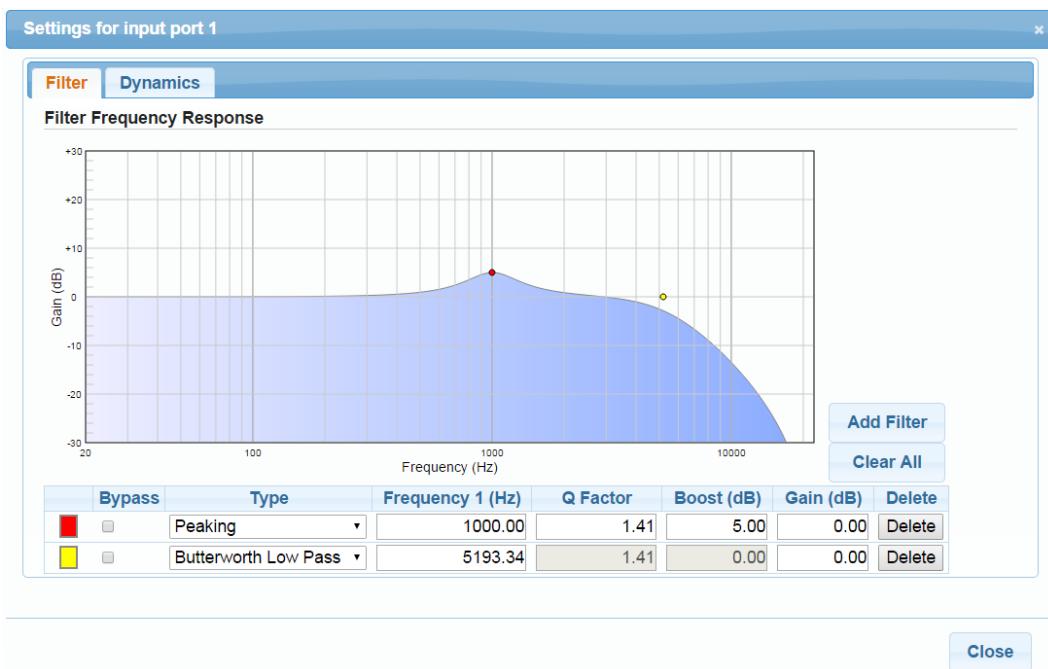


Figure 67 – Audio Channels DSP Settings Dialogue

For more information on configuring the DSP settings using the Web Administration interface please refer to section 6.8 Setup: Audio Channels: DSP Settings.

The DSP processing for a channel can be bypassed by clicking the DSP Settings Bypass button. When the DSP Bypass is active, the button displays a red globe, as shown below:

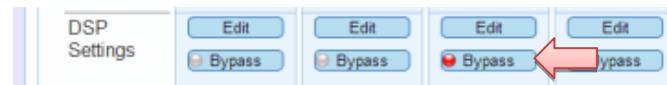


Figure 68 – Audio Input Channels Setup Screen: Bypass Active

When channels have the DSP Bypass enabled, the Parametric Equalisation Filters, and the Dynamics Compression settings have no effect.

NOTE: DELAY SETTINGS STILL TAKE EFFECT WITH BYPASS ENABLED

Please note, the delay settings still take effect with Bypass enabled.

6.5.6 Input Gain

The Input Gain section of the channel allows the administrator to adjust the gain of the channel.

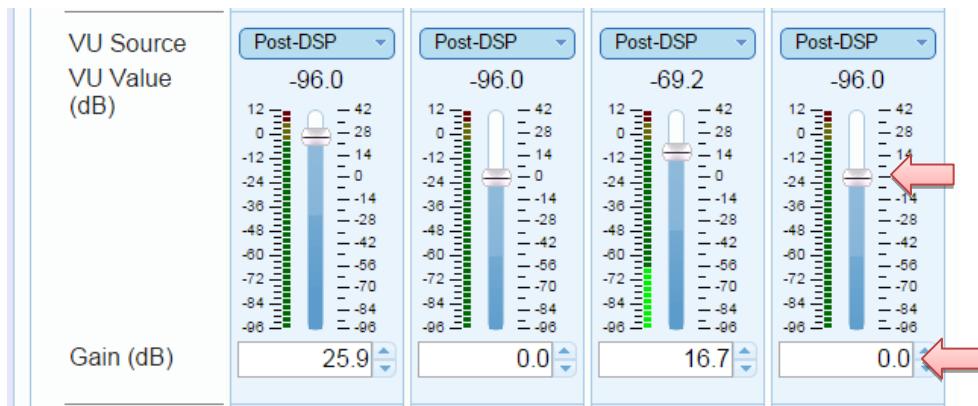


Figure 69 – Audio Input Channels Screen: Gain Settings

The gain can be changed by dragging the slider controls, or by entering the gain directly into the spinner control located at the bottom of the section.

6.5.7 VU Meter and VU Source

The VU Meter section of the channel displays the real-time audio activity of each input channel.

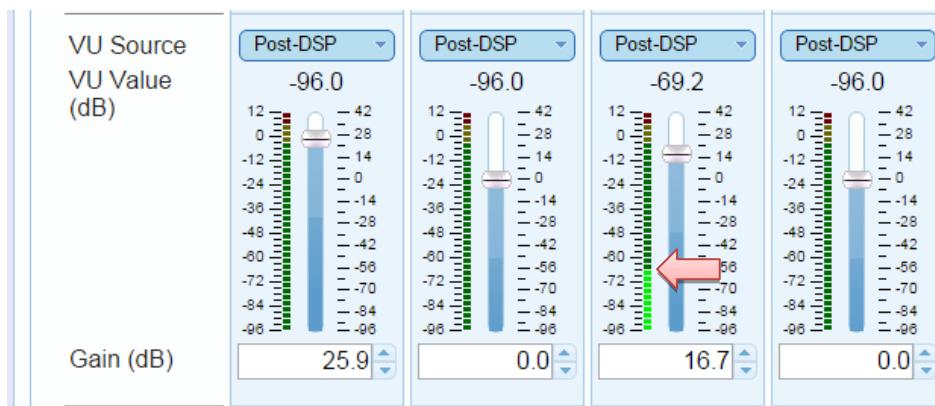


Figure 70 – Audio Input Channels Screen: VU Meters

The VU Value / Source section of the channel displays the numerical value of the VU meter. For input channels only the Post-DSP value is viewable.

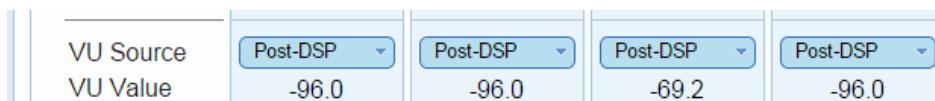


Figure 71 – Audio Input Channels Screen: VU Source

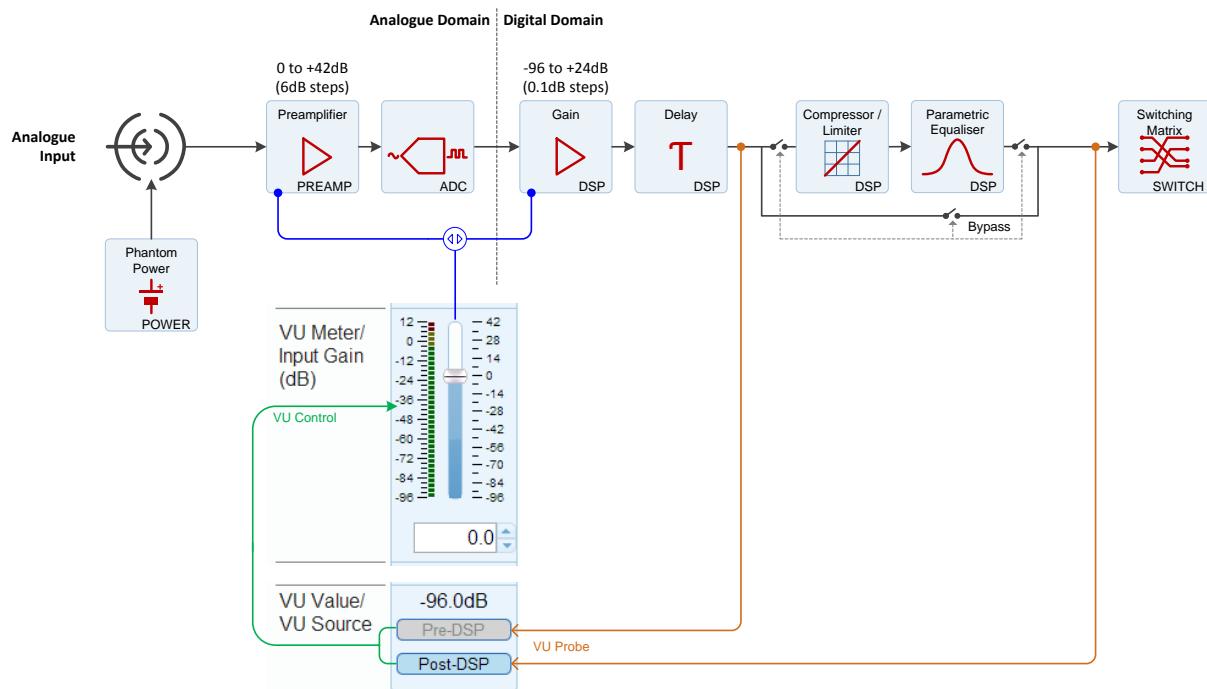


Figure 72 – NetSpire Audio Input Channel Processing and VU Meter Probes

6.5.8 Delay

The Delay setting allows the administrator to control the amount of delay inserted into a channel relative to other channels on the device.

Channel	Delay (milliseconds)	Units
1	0.000	(milliseconds)
2	0.000	(milliseconds)
3	0.000	(milliseconds)
4	0.000	(milliseconds)

Figure 73 – Audio Input Channels: Delay

Delay can be entered as a time value, or a distance in meters. The time value represents the amount of time the audio signal is delayed. The distance value represents the distance sound will travel in the air during the delay period.

The distance value estimate assumes the air is at a temperature of 20⁰ Celsius and at altitude 0 meters above sea level.

The units can be changed between milliseconds and metres by clicking on the Units button at the left of the Delay section.

6.6 Setup: Audio Channels: Output Channels

Supported by	
CXS	
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	

The Audio Output Channels Setup screen in this section is supported by NetSpire devices that have line level and/or amplified analogue outputs.

The screen allows the administrator to control the parameters of the audio output channels.

The screenshot shows the 'Audio Channels' setup screen with four output channels. Each channel has a green globe icon indicating health. The columns represent different settings:

- Port Labels:** Amp Out 1 (Output 1), Amp Out 2 (Output 2), Amp Out 3 (Output 3), Amp Out 4 (Output 4).
- Mute:** Mute buttons for each channel.
- Power Mode:** Auto dropdowns for each channel.
- Power State:** Off dropdowns for each channel.
- Health Monitoring:** Alarm dropdowns for each channel.
- DSP Settings:** Edit and Bypass buttons for each channel.
- VU Source:** Final dropdowns for each channel.
- VU Value (dBFS):** -96.0 for all channels.
- Gain (dBFS):** -12.000 for all channels.
- Delay (milliseconds):** 0.000 for all channels.

Figure 74 – Audio Output Channels Setup Screen

The screen provides the ability to control the parameters associated with each of the physical analogue output channels on the device. These parameters include:

Health

Globe indicating the health status attached to the output

Port

On some devices channels can be shared between a line out and an amplified output. On these devices the output mode can be selected using the dropdown.

Label

User defined name for the channel to help with function identification in the system.

Mute

The Mute setting determines whether the channel output is muted. When the channel is muted, no audio will be output from the channel.

Power Mode

Settings for the amplifier power supply (only for channels supporting this feature).

Health Monitoring

Setup parameters for Health monitoring attached to the output.

DSP Settings

Edit parametric equalisation, dynamics and delay settings for the channel.

Gain

Adjust the gain for the channel.

Delay

Adjust the delay for the channel relative to the other output channels.

In addition to the settings listed above, the screen also provides VU metres that are useful for measuring audio levels at different points in the processing chain and calibrating the system during commissioning.

The following diagram shows the structure of an output channel in the system and the relationship with the user interface control.

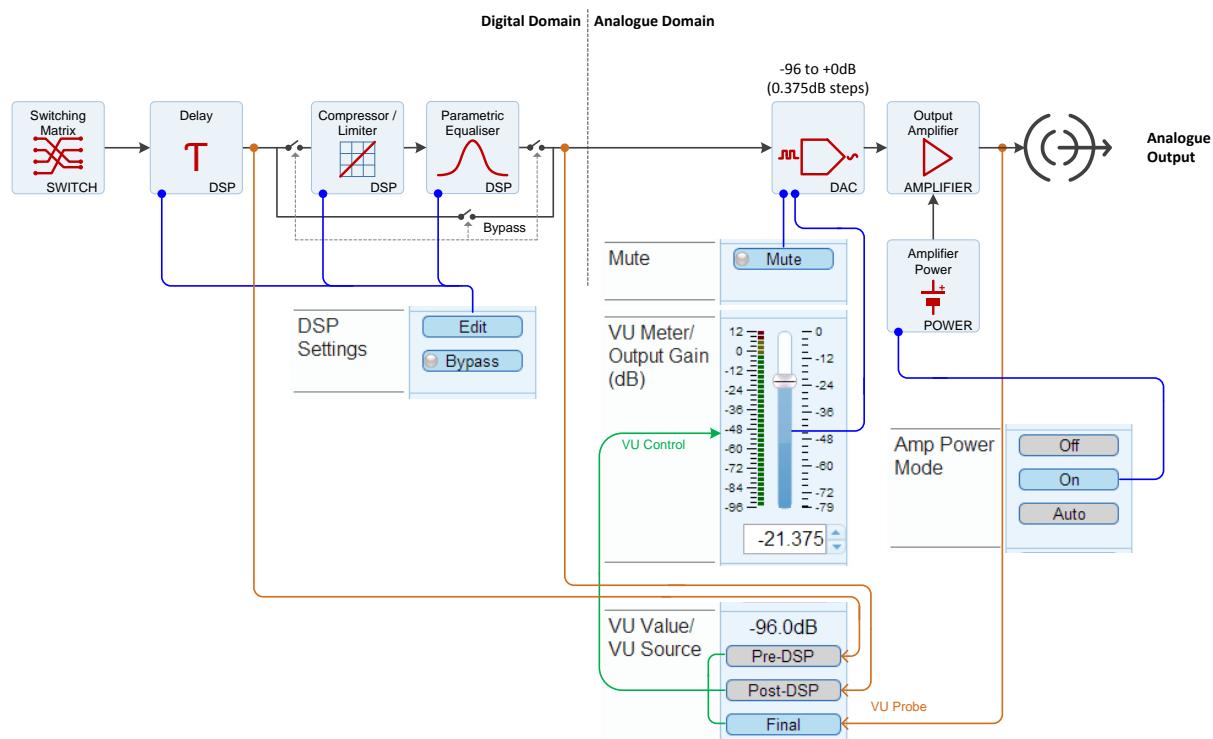


Figure 75 – NetSpire Analogue Output Channel Structure

Each of the settings for the Output Channels is covered in the following sections.

6.6.1 Channel Name

The name of the output channels can be modified by the administrator to provide a functional description of the use of the channel in a specific installation.

Clicking the “Label” button will display the Audio Output Edit Labels dialog, shown below:

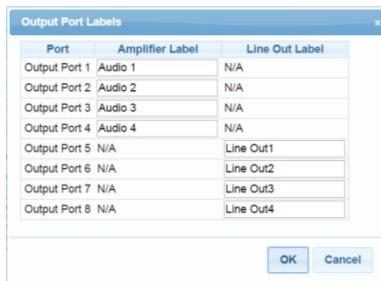


Figure 76 – Audio Output Channels Edit Labels Screen

Output Ports that are shared between power amplifiers and line level output (for example on the NetSpire NAC), can be assigned a name for the line out and the power amplified output separately.

The names can be modified and then saved by clicking the OK button.

6.6.2 Output Mode

The Output section of the channel determines which physical port a channel is associated with, or the mode of the output for the channel.

This setting is only applicable to some devices where a single channel shares the line level analogue output ports and the power amplifier outputs.

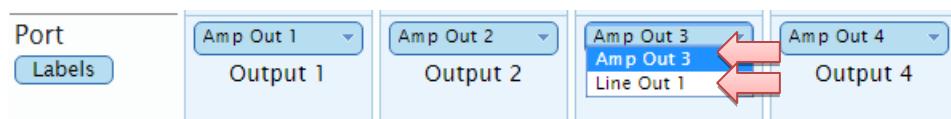


Figure 77 – Audio Output Channels Screen: Output Port Mode Selection

Clicking the drop box shows the available output mode. Clicking on the desired mode will cause the box to have that mode displayed.

6.6.3 Mute

The Mute section of the channel allows the administrator to mute the channel output.



Figure 78 – Audio Output Channels Setup Screen: Mute Enabled

To mute the channel output, click the Mute button. When the channel is muted, the Mute button displays a red globe.

6.6.3.1 Amplifier Power Mode

The Amplifier Power Mode section of the channel allows the administrator to control the power supply of the channels which have a power amplifier output.

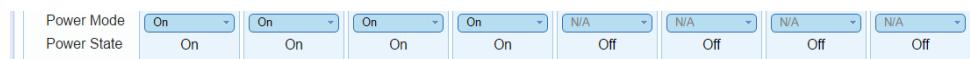


Figure 79 – Audio Output Channels Setup Screen: Power Mode Settings

The amplifier power can be set to one of the following:

- ▶ Off: Power to the amplifier is turned off. In this state there will be no output from the amplifier, and it will not consume power or contribute to heat output of the device.
- ▶ On: Power to the amplifier is turned on. In this state the amplifier will operate and audio will be output from the amplifier. In this state the amplifier will continue to consume power and contribute to the heat output of the device even when no audio is output.
- ▶ Auto: Power to the amplifier is automatically controlled by the NetSpire system. When audio is required to be output through the amplified channel, the system will automatically power the amplifier. After a period of inactivity, the amplifiers are power down automatically by the system. This option provides efficient use of power and keeps the heat output of the device to a minimum.

The Power State indicates the current state of the amplifier power. It is shown as either ‘On’ or ‘Off’.

6.6.4 Health Monitoring

The Health monitoring section of the channel allows health monitoring / amplifier supervision to be enabled. Clicking the Health Monitoring dropdown provides a list of options.

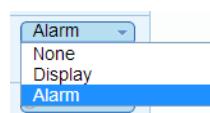


Figure 80 – Audio Outputs Channels Setup Screen: Health Monitoring Dropdown

The options for Health Monitoring are described below:

None

Health / Amplifier monitoring is disabled.

Display

The status of the health is shown via the status globe at the top of the channel. Green indicates a healthy amplifier, and yellow indicates a faulty amplifier for example.

Alarm

Detection of a faulty amplifier will generate an Alarm.

NOTE: AMPLIFIER POWER MUST BE ENABLED FOR HEALTH MONITORING

Health monitoring requires one of the powered amplifier modes to be enabled in the power dropdown.

6.6.5 DSP Settings

The DSP Settings section of the channel allows the administrator to configure parametric equalisation, dynamics and delay settings of the Audio Output Channels.

Clicking the DSP Settings Edit button will display the DSP Settings dialogue shown below:

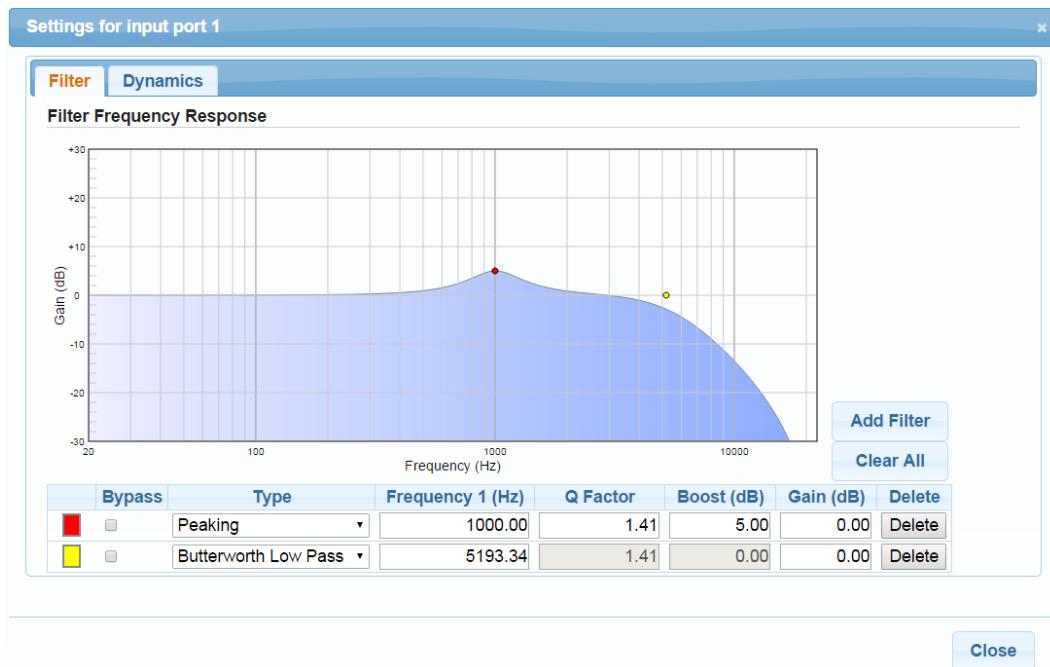


Figure 81 – Audio Channels DSP Settings Dialogue

For more information on configuration of the DSP settings using the Web Administration interface please refer to section 6.8 Setup: Audio Channels: DSP Settings.

The DSP processing for a channel can be bypassed by clicking the DSP Settings Bypass button. When the DSP Bypass is active, the Bypass button displays a red globe, as shown below:



Figure 82 – Audio Output Channels Setup Screen: Bypass Enabled

When channels have the DSP Bypass enabled, the Parametric Equalisation Filters, and the Dynamics Compression and limiter setting have no effect.

NOTE: DELAY SETTINGS STILL TAKE EFFECT WITH BYPASS ENABLED

Please note, the delay settings still take effect with Bypass enabled.

6.6.6 Output Gain

The Output Gain section of the channel allows the administrator to adjust the gain of the channel.

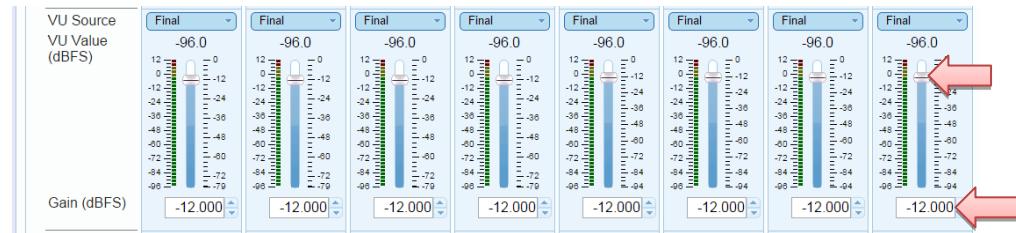


Figure 83 – Audio Output Channels Screen: Gain Settings

The gain can be changed by dragging the slider controls, or by entering the gain directly into the spinner control located at the bottom of the section.

6.6.7 VU Meter

The VU Meter section of the channel displays the real-time audio activity of each output channel.

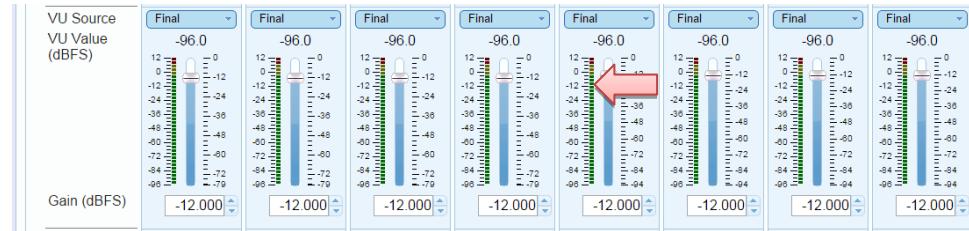


Figure 84 – Audio Output Channels: VU Meters

The VU Value / Source section of the channel displays the numerical value of the VU meter, and allows the administrator to select the probe point of the VU meter.

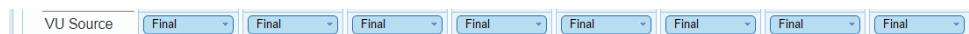


Figure 85 – Audio Output Channels: VU Source

Choosing the Post-DSP option from the dropdown sets the probe point in the processing chain after the DSP filter and dynamics processing.

Choosing the Pre-DSP option from the dropdown sets the probe point in the processing change prior to the DSP filter and dynamics processing.

Choosing the Final option from the dropdown sets the probe point at the output of the channel after the final gain adjustments are applied.

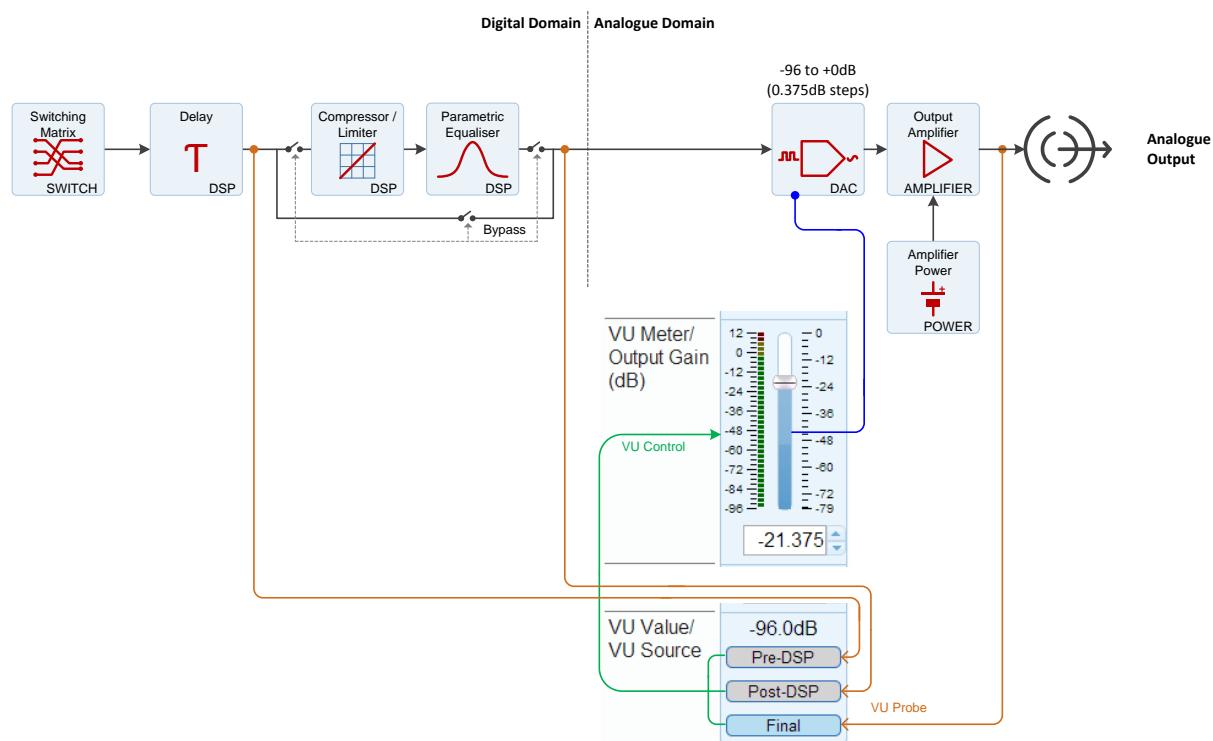


Figure 86 – NetSpire Audio Output Channel Processing and VU Meter Probes

6.6.8 Delay

The Delay setting allows the administrator to control the amount of delay inserted into a channel relative to other channels on the device.

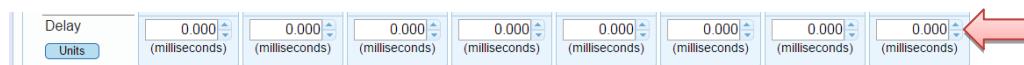


Figure 87 – Audio Output Channels: Delay

Delay can be entered as a time value, or a distance in meters. The time value represents the amount of time the audio signal is delayed. The distance value represents the distance sound will travel in the air during the delay period.

The distance value estimate assumes the air is at a temperature of 20⁰ Celsius and at altitude 0 meters above sea level.

The units can be changed between milliseconds and metres by clicking on the Units button at the left of the Delay section.

6.7 Setup: Audio Channels: Speaker Calibration/Test

Supported by	
CXS	
IPPA	
NAR	
NAC	X
NAM	X
TCX	
TGU	X
CI	
CP	
CC	
CAC	X
PEI	

The Speaker Calibration/Test Setup screen in this section is supported by NetSpire devices which have amplified output channels, and allows the administrator to setup and monitor speaker supervision and health monitoring functions.

The NetSpire devices which perform speaker supervision have the ability to measure the impedance of the speaker bus. The devices are able to determine any deviation from the expected impedance of the speaker bus and generate an Alarm in the system.

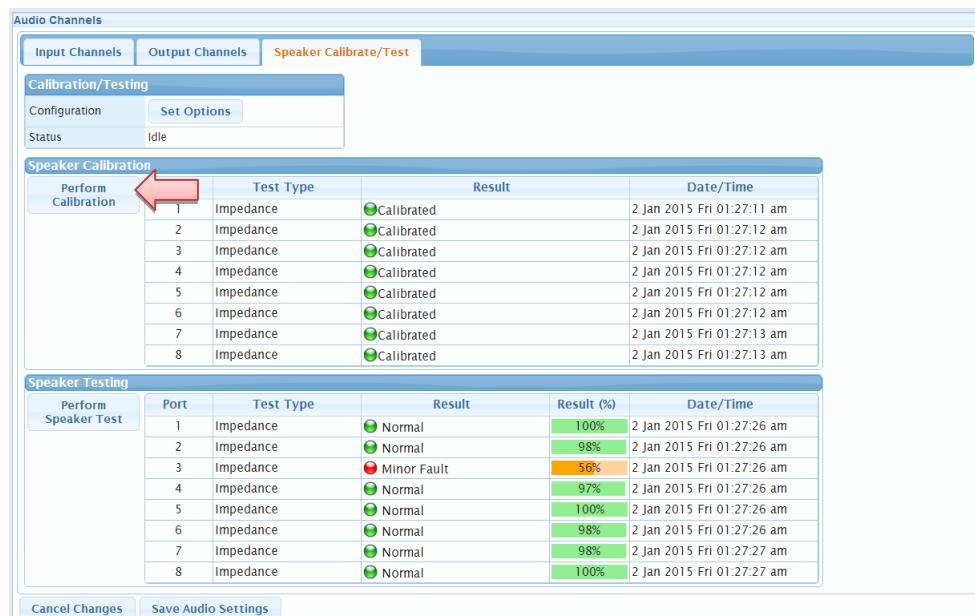
Configuring a device to perform loud speaker supervision requires the following steps:

- ▶ Commission the device and connect to the loud speaker bus
- ▶ Calibrate the NetSpire speaker supervision
- ▶ Verify the NetSpire speaker supervision using a manual test
- ▶ Setup NetSpire speaker supervision test schedule

The Audio Channels Speaker Calibration Setup screen provides the administrator the ability to calibrate, verify and schedule speaker supervision for a device.

6.7.1 Speaker Supervision Calibration

The following screenshot shows the Audio Channels Speaker Calibration Setup screen prior to any speaker calibration being performed on the device. This is the state of the device after a factory reset. Click the Perform Calibration button to begin calibration.

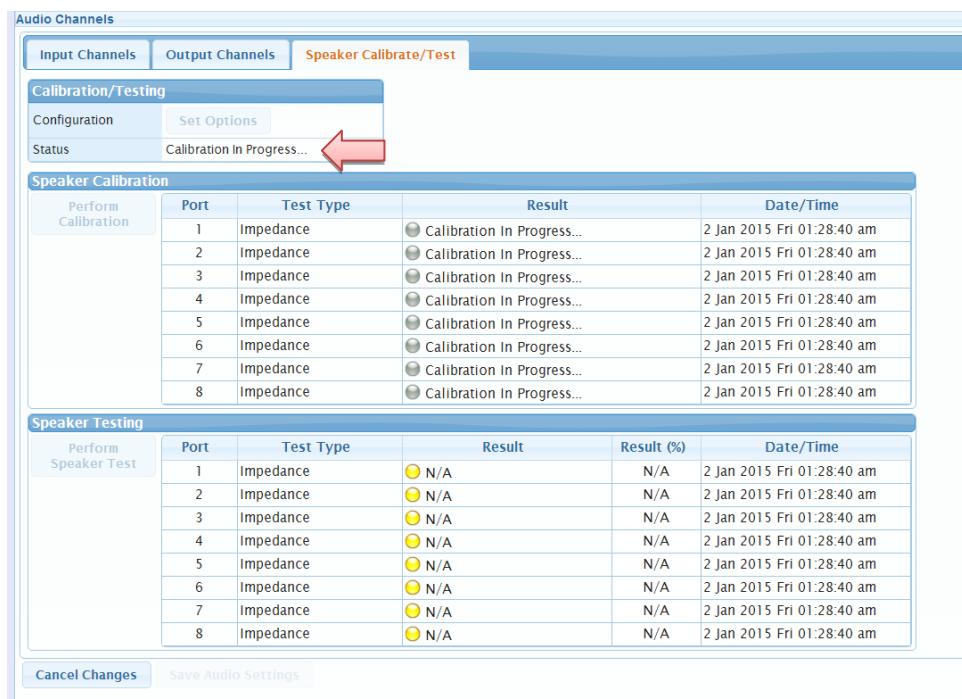


The screenshot shows the 'Speaker Calibration' section of the setup screen. It includes a table with columns for Port, Test Type, Result, and Date/Time. All entries show 'Calibrated' results. Below this is a 'Speaker Testing' section with similar columns and data. Buttons for 'Perform Calibration' and 'Perform Speaker Test' are visible at the bottom.

Port	Test Type	Result	Date/Time
1	Impedance	Calibrated	2 Jan 2015 Fri 01:27:11 am
2	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
3	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
4	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
5	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
6	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
7	Impedance	Calibrated	2 Jan 2015 Fri 01:27:13 am
8	Impedance	Calibrated	2 Jan 2015 Fri 01:27:13 am

Port	Test Type	Result	Result (%)	Date/Time
1	Impedance	Normal	100%	2 Jan 2015 Fri 01:27:26 am
2	Impedance	Normal	98%	2 Jan 2015 Fri 01:27:26 am
3	Impedance	Minor Fault	56%	2 Jan 2015 Fri 01:27:26 am
4	Impedance	Normal	97%	2 Jan 2015 Fri 01:27:26 am
5	Impedance	Normal	100%	2 Jan 2015 Fri 01:27:26 am
6	Impedance	Normal	98%	2 Jan 2015 Fri 01:27:26 am
7	Impedance	Normal	98%	2 Jan 2015 Fri 01:27:27 am
8	Impedance	Normal	100%	2 Jan 2015 Fri 01:27:27 am

Figure 88 – Audio Channels Speaker Calibration Setup Screen



The screenshot shows the 'Speaker Calibration' section of the 'Calibration/Testing' tab. A red arrow points to the 'Status' field which displays 'Calibration In Progress...'. Below this, the 'Speaker Calibration' table lists 8 ports, all of which are currently in the 'Calibration In Progress...' state.

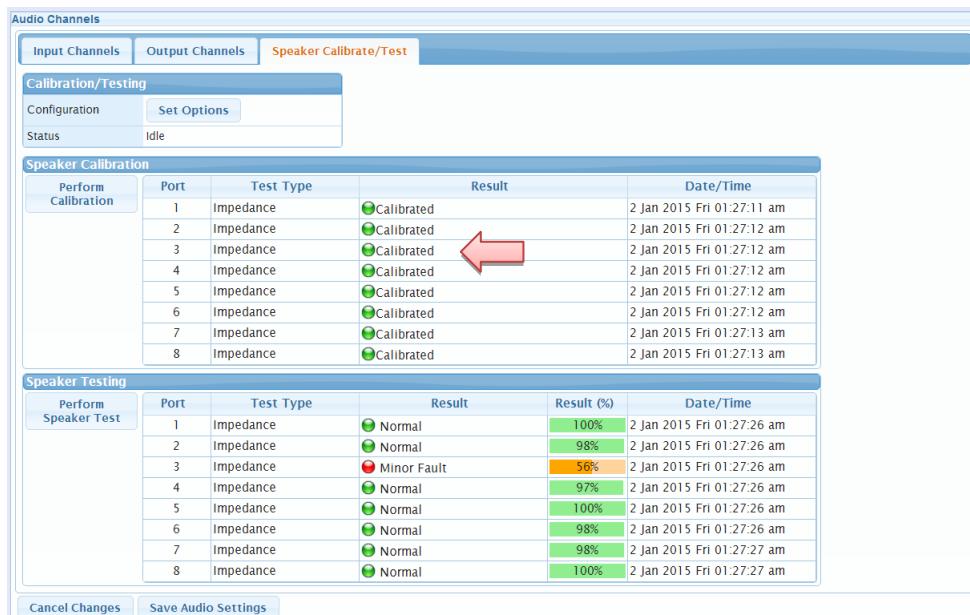
Port	Test Type	Result	Date/Time
1	Impedance	Calibration In Progress...	2 Jan 2015 Fri 01:28:40 am
2	Impedance	Calibration In Progress...	2 Jan 2015 Fri 01:28:40 am
3	Impedance	Calibration In Progress...	2 Jan 2015 Fri 01:28:40 am
4	Impedance	Calibration In Progress...	2 Jan 2015 Fri 01:28:40 am
5	Impedance	Calibration In Progress...	2 Jan 2015 Fri 01:28:40 am
6	Impedance	Calibration In Progress...	2 Jan 2015 Fri 01:28:40 am
7	Impedance	Calibration In Progress...	2 Jan 2015 Fri 01:28:40 am
8	Impedance	Calibration In Progress...	2 Jan 2015 Fri 01:28:40 am

Figure 89 – Audio Channels Speaker Calibration Setup Screen: Calibration in Progress

During calibration the status will display the message, “Calibration In Progress ...”. Calibration will take a number of seconds to complete.

The calibration process measures the impedance of the speaker bus, and stores the value for future reference. Any changes to the architecture of the speaker bus (i.e. the number or type of speakers) will require the calibration process to be performed again.

When calibration is complete the status display will show “Idle”, and the date and time of each channels last calibration will be shown.



The screenshot shows the 'Speaker Calibration' section of the 'Calibration/Testing' tab. A red arrow points to the 'Status' field which displays 'Idle'. Below this, the 'Speaker Calibration' table lists 8 ports, all of which are now in the 'Calibrated' state.

Port	Test Type	Result	Date/Time
1	Impedance	Calibrated	2 Jan 2015 Fri 01:27:11 am
2	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
3	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
4	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
5	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
6	Impedance	Calibrated	2 Jan 2015 Fri 01:27:12 am
7	Impedance	Calibrated	2 Jan 2015 Fri 01:27:13 am
8	Impedance	Calibrated	2 Jan 2015 Fri 01:27:13 am

Figure 90 – Audio Channels Speaker Calibration Setup Screen: Calibration Complete

NOTE: CHANNELS WITH NO SPEAKERS CONNECTED SHOULD BE MUTED

Channels which do not have any speakers connected should be muted or the amplifier power turned off in the Audio Channels Output Screen. Muting the channel or turning the amplifier power off disables the speaker test features for that channel.

6.7.2 Speaker Supervision Testing

To verify the speaker supervision function, click the Test Speakers Now button in the Speaker Testing section.

Speaker Calibration					
Perform Calibration	Port	Test Type	Result	Date/Time	
	1	Impedance	Calibrated	2 Jan 2015 Fri 01:29:14 am	
	2	Impedance	Calibrated	2 Jan 2015 Fri 01:29:14 am	
	3	Impedance	Calibrated	2 Jan 2015 Fri 01:29:14 am	
	4	Impedance	Calibrated	2 Jan 2015 Fri 01:29:14 am	
	5	Impedance	Calibrated	2 Jan 2015 Fri 01:29:14 am	
	6	Impedance	Calibrated	2 Jan 2015 Fri 01:29:15 am	
	7	Impedance	Calibrated	2 Jan 2015 Fri 01:29:15 am	
	8	Impedance	Calibrated	2 Jan 2015 Fri 01:29:15 am	

Speaker Testing					
Perform Speaker Test	Port	Test Type	Result	Result (%)	Date/Time
	1	Impedance	Normal	100%	2 Jan 2015 Fri 01:30:01 am
	2	Impedance	Normal	98%	2 Jan 2015 Fri 01:30:01 am
	3	Impedance	Normal	98%	2 Jan 2015 Fri 01:30:01 am
	4	Impedance	Normal	97%	2 Jan 2015 Fri 01:30:01 am
	5	Impedance	Normal	97%	2 Jan 2015 Fri 01:30:01 am
	6	Impedance	Normal	92%	2 Jan 2015 Fri 01:30:02 am
	7	Impedance	Normal	95%	2 Jan 2015 Fri 01:30:02 am
	8	Impedance	Normal	97%	2 Jan 2015 Fri 01:30:02 am

Cancel Changes **Save Audio Settings**

Figure 91 – Audio Channels Speaker Calibration Setup Screen: Test Speakers Now Button

The speaker test will take a number of seconds, and when complete the results will be shown in the Speaker Testing section.

The results should all show green, indicating the speaker bus impedance was measured close to the expected value determined during calibration.

The example above shows an example of a no fault on the speaker.

The following screenshot shows a system with multiple major and minor speaker faults.

Speaker Testing					
Perform Speaker Test	Port	Test Type	Result	Result (%)	Date/Time
	1	Impedance	Normal	100%	2 Jan 2015 Fri 01:27:26 am
	2	Impedance	Normal	98%	2 Jan 2015 Fri 01:27:26 am
	3	Impedance	Minor Fault	56%	2 Jan 2015 Fri 01:27:26 am
	4	Impedance	Normal	97%	2 Jan 2015 Fri 01:27:26 am
	5	Impedance	Normal	100%	2 Jan 2015 Fri 01:27:26 am
	6	Impedance	Normal	98%	2 Jan 2015 Fri 01:27:26 am
	7	Impedance	Normal	98%	2 Jan 2015 Fri 01:27:27 am
	8	Impedance	Normal	100%	2 Jan 2015 Fri 01:27:27 am

[Cancel Changes](#)[Save Audio Settings](#)**Figure 92 –Speaker Testing Section: Major and Minor Faults**

6.7.3 Speaker Supervision Schedules

Speaker supervision testing can be scheduled to occur at regular intervals. In Configuration select the Set Options button.

Audio Channels					
Calibration/Testing					
Configuration	Set Options				
Status	Idle				
Speaker Calibration					
Perform Calibration	Port	Test Type	Result	Result (%)	Date/Time
	1	Impedance	Calibrated	100%	1 Jan 2015 Thu 08:11:35 pm
	2	Impedance	Calibrated	100%	1 Jan 2015 Thu 08:11:36 pm
	3	Impedance	Out-of-range	100%	1 Jan 2015 Thu 08:11:36 pm
	4	Impedance	Out-of-range	100%	1 Jan 2015 Thu 08:11:36 pm
Speaker Testing					
Perform Speaker Test	Port	Test Type	Result	Result (%)	Date/Time
	1	Impedance	Normal	99%	1 Jan 2015 Thu 08:17:00 pm
	2	Impedance	Minor Fault	94%	1 Jan 2015 Thu 08:17:00 pm
	3	Impedance	N/A	N/A	1 Jan 2015 Thu 08:11:36 pm
	4	Impedance	N/A	N/A	1 Jan 2015 Thu 08:11:36 pm

Figure 93 –Speaker Testing Section: Set Options

In the Speaker Test Gain/Threshold screen, to enable scheduled testing click on the Schedule speaker test checkbox.

Speaker Test Gain/Thresholds					
Port	Max. Calibration Gain	Minor Fault Threshold	Major Fault Threshold	Short Circuit Threshold	
1	-4.875 dB	94 %	50 %	10 Ω	
2	-4.875 dB	94 %	50 %	10 Ω	
3	-4.500 dB	70 %	50 %	10 Ω	
4	-4.500 dB	70 %	50 %	10 Ω	

Test Audio Frequency Hz (This is an advanced feature. Check to enable changes.)

Note: After changing the test frequency, perform a calibration to ensure that future tests work correctly.

Test On Startup Always perform a speaker test on device startup

Enable Schedule speaker tests

Frequency once a day repeating every (HH:MM)

Time at

Days only on Mo Tu We Th Fr Sa Su

[OK](#) [Cancel](#)

Figure 94 –Speaker Testing Section: Test Schedule

The start time, days and the frequency of the test can be specified.

When the schedule has been entered, click the Save Test Schedule button to commit the changes to the system.

Alternatively, it is also possible to automatically perform a speaker test upon startup of device. To enable this feature, click the Test On Startup checkbox.

Port	Max. Calibration Gain	Minor Fault Threshold	Major Fault Threshold	Short Circuit Threshold
1	-4.875 dB	94 %	50 %	10 Ω
2	-4.875 dB	94 %	50 %	10 Ω
3	-4.500 dB	70 %	50 %	10 Ω
4	-4.500 dB	70 %	50 %	10 Ω

Test Audio Frequency: 30 Hz (This is an advanced feature. Check to enable changes.)

Note: After changing the test frequency, perform a calibration to ensure that future tests work correctly.

Test On Startup Always perform a speaker test on device startup

Enable Schedule speaker tests

Frequency once a day repeating every 01:00 (HH:MM)

Time at 00:00

Days only on Mo Tu We Th Fr Sa Su

Figure 95 –Speaker Testing Section: Test On Startup

6.7.4 Speaker Supervision Thresholds

The thresholds settings for speaker supervision determine when the system generates a minor or major fault based the measurements of the characteristics of the speaker bus. The Speaker Test Gain/Thresholds screen allows the administrator to change the settings for the minor fault and major fault thresholds for each channel.

Also within Configuration select the Set Options button. In the Speaker Test Gain/Threshold screen, to change the speaker supervision thresholds, drag or enter the threshold value in the required field.

Port	Max. Calibration Gain	Minor Fault Threshold	Major Fault Threshold	Short Circuit Threshold
1	-4.875 dB	94 %	50 %	10 Ω
2	-4.875 dB	94 %	50 %	10 Ω
3	-4.500 dB	70 %	50 %	10 Ω
4	-4.500 dB	70 %	50 %	10 Ω

Figure 96 – Audio Channels Speaker Calibration Setup Screen: Gain/Threshold Button

The Max calibration gain and short circuit threshold for each port may be modified as required.

Speaker Test Gain/Thresholds

Port	Max. Calibration Gain	Minor Fault Threshold	Major Fault Threshold	Short Circuit Threshold
1	-4.875 dB	94 %	50 %	10 Ω
2	-4.875 dB	94 %	50 %	10 Ω
3	-4.500 dB	70 %	50 %	10 Ω
4	-4.500 dB	70 %	50 %	10 Ω

Test Audio Frequency Hz (This is an advanced feature. Check to enable changes.)

Note: After changing the test frequency, perform a calibration to ensure that future tests work correctly.

Test On Startup Always perform a speaker test on device startup

Enable	<input checked="" type="checkbox"/> Schedule speaker tests
Frequency	<input checked="" type="radio"/> once a day <input type="radio"/> repeating every <input type="text" value="01:00"/> (HH:MM)
Time	at <input type="text" value="00:00"/>
Days	only on <input checked="" type="checkbox"/> Mo <input checked="" type="checkbox"/> Tu <input checked="" type="checkbox"/> We <input checked="" type="checkbox"/> Th <input checked="" type="checkbox"/> Fr <input checked="" type="checkbox"/> Sa <input checked="" type="checkbox"/> Su

OK **Cancel**

Figure 97 – Speaker Test Gain/Thresholds Screen

The settings that can be changed for each channel include:

Max. Calibration Gain

The Max. Calibration Gain settings sets the maximum gain that will be applied to the channel during the speaker calibration and test procedures. The maximum gain can be lowered to protect particular speaker types on the bus that would be overloaded by the low frequency test tone.

Minor Fault Threshold

The Minor Fault Threshold determines at what percentage deviant from the expected speaker bus characteristics the system will generate a minor alarm. The expected speaker bus characteristics are measured and stored during the speaker calibration process described earlier in this section. The percentage deviation for the Minor Fault Threshold must be less than or equal to the Major Fault Threshold.

Major Fault Threshold

The Major Fault Threshold determines at what percentage deviant from the expected speaker bus characteristics the system will generate a major alarm. The expected speaker bus characteristics are measured and stored during the speaker calibration process described earlier in this section. The percentage deviation for the Major Fault Threshold must be greater than or equal to the Minor Fault Threshold.

Short Circuit Threshold

The Short Circuit Threshold specifies the impedance in ohms that is the minimum value that will be determined to be a short circuit on the speaker bus. The system will generate an Alarm and disable the amplifier if the measured impedance is below the Short Circuit threshold.

6.8 Setup: Audio Channels: DSP Settings

The Audio Channels DSP Settings dialogue is accessed by clicking on the DSP Settings Edit button on either the Audio Input Channels or Audio Output Channels tabs. Both tabs are shown below:

Supported by
CXS
IPPA
NAR
NAC
NAM
TCX
TGU
CI
CP
CC
CAC
PEI

Figure 98 – Audio Channels Input and Output Channels: DSP Settings Edit buttons

Clicking the DSP Settings Edit button will display the Audio Channels DSP Settings dialogue, shown below:

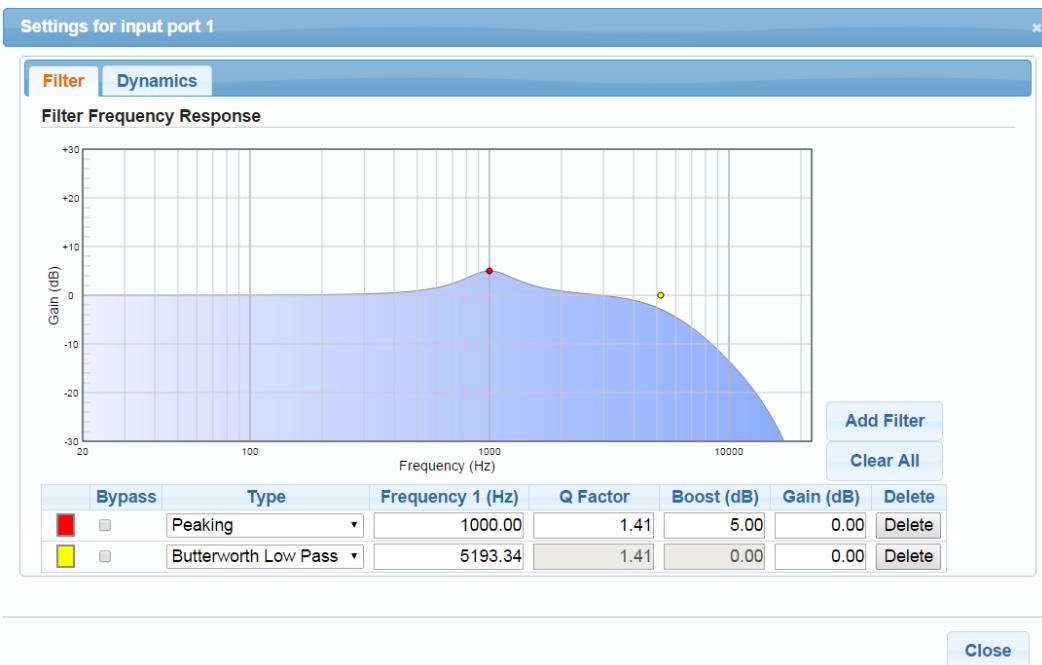


Figure 99 – NetSpire Audio Channels DSP Settings Dialogue

The Audio Channels DSP Settings dialogue contains two tabs at the top of the dialogue called Filters and Dynamics.

Filters

The Filters tab allows the administrator to apply parametric equalisation by adding multiple filters to a channel.

Dynamics

The Dynamics tab allows the administrator to apply dynamic range compression and limiting to a channel

The Filters and Dynamics tabs are covered in the following sections.

6.8.1 DSP Settings: Filters

The Audio Channels DSP Settings Filters tab is shown below:

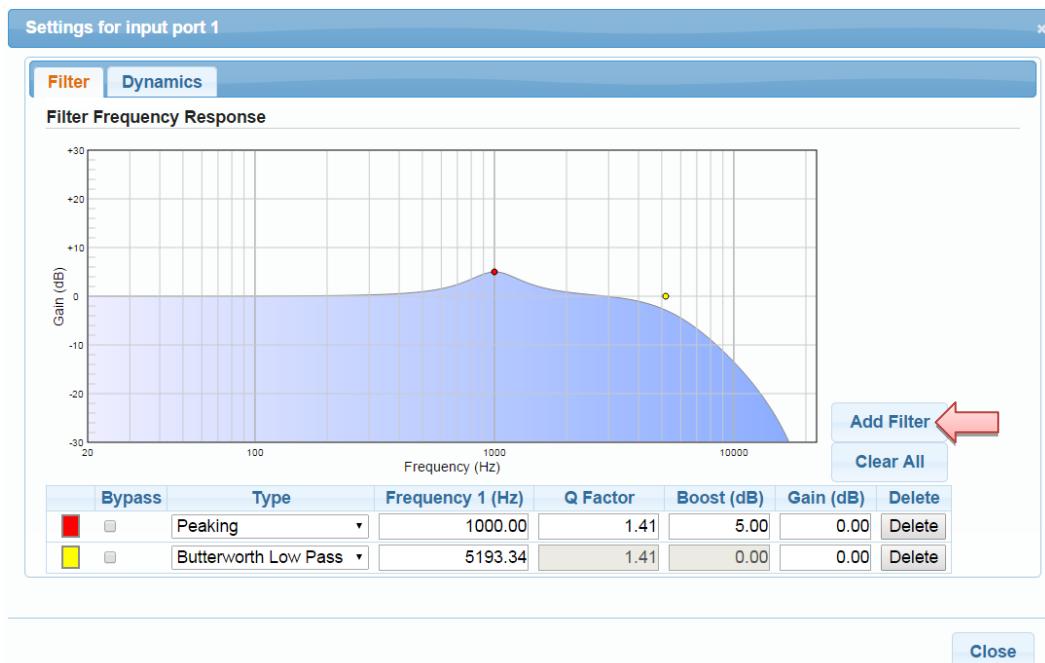


Figure 100 – NetSpire Audio Channels DSP Settings Dialogue: Filter Tab

The Filter tab allows the administrator to add a number of parametric filters to the channel. To add a new filter, click the Add Filter button.

A new filter will appear in the list at the bottom of the dialogue. The type of filter can be selected from the Type dropdown.

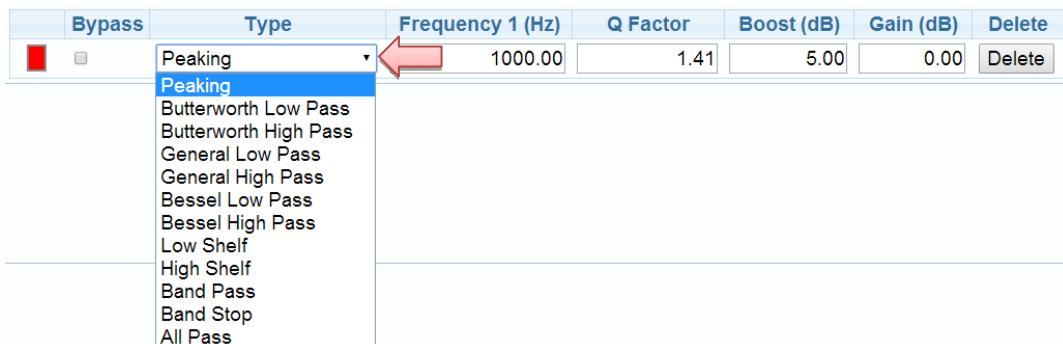


Figure 101 – Filter Type Dropdown

Each filter added has an independent filter type and settings for each filter stage. The Parametric EQ filters provide the functionality of the General (2nd-Order) filter with a graphical filter design tool.

The filters have multiple options for bi-quad filters. The filters are based on Robert Bristow-Johnson's work in this field.

General (2nd-Order) Filter Transfer Function:

$$H(z) = \frac{b_0 + b_1 z^{-1} + b_2 z^{-2}}{1 + a_1 z^{-1} + a_2 z^{-2}}$$

Common variables:

$$A = 10^{\text{boost}/40}$$

$$\omega_0 = 2\pi \frac{f_0}{f_s}$$

$$\text{gainLinear} = 10^{\text{gain}/20}$$

The available filters include:

Filter Type	Transfer Function (Laplace)	Coefficients
Peaking	$H(s) = \frac{s^2 + \frac{A}{Q}s + 1}{s^2 + \frac{s}{A \times Q} + 1}$	<pre> alpha = sin(omega0)/(2*Q) a0 = 1 + alpha/A a1 = -2 * cos(omega0) a2 = 1 - alpha/A b0 = (1 + alpha*A) * gainLinear b1 = -(2 * cos(omega0)) * gainLinear b2 = (1 - alpha*A) * gainLinear </pre>
Butterworth Low Pass	$H(s) = \frac{1}{s^2 + \sqrt{2}s + 1}$	<pre> alpha = sin(omega0) / (2.0 * 1/sqrt(2)) a0 = 1 + alpha a1 = -2*cos(omega0) a2 = 1 - alpha b0 = (1 - cos(omega0)) * gainLinear / 2 b1 = 1 - cos(omega0) * gainLinear b2 = (1 - cos(omega0)) * gainLinear / 2 </pre>
Butterworth High Pass	$H(s) = \frac{s^2}{s^2 + \sqrt{2}s + 1}$	<pre> alpha = sin(omega0) / (2.0 * 1/sqrt(2)) a0 = 1 + alpha a1 = -2*cos(omega0) a2 = 2*cos(omega0) a3 = 1 - alpha b0 = -(1 + cos(omega0)) * gainLinear / 2 b1 = -(1 + cos(omega0)) * gainLinear b2 = -(1 + cos(omega0)) * gainLinear / 2 </pre>
General Low Pass	$H(s) = \frac{1}{s^2 + \frac{s}{Q} + 1}$	<pre> alpha = sin(omega0)/(2*Q) a0 = 1 + alpha a1 = -2*cos(omega0) a2 = 1 - alpha b0 = (1 - cos(omega0)) * gainLinear / 2 b1 = 1 - cos(omega0) * gainLinear b2 = (1 - cos(omega0)) * gainLinear / 2 </pre>
General High Pass	$H(s) = \frac{1}{s^2 + \frac{s}{Q} + 1}$	<pre> alpha = sin(omega0)/(2*Q) a0 = 1 + alpha a1 = -2*cos(omega0) a2 = 1 - alpha b0 = (1 + cos(omega0)) * gainLinear / 2 b1 = -(1 + cos(omega0)) * gainLinear b2 = (1 + cos(omega0)) * gainLinear / 2 </pre>
Bessel Low Pass	$H(s) = \frac{3}{s^2 + 3s + 3}$	<pre> alpha = sin(omega0) / (2.0 * 1/sqrt(3)) a0 = 1 + alpha a1 = -2*cos(omega0) a2 = 1 - alpha b0 = (1 - cos(omega0)) * gainLinear / 2 b1 = 1 - cos(omega0) * gainLinear b2 = (1 - cos(omega0)) * gainLinear / 2 </pre>
Bessel High Pass	$H(s) = \frac{s^2}{s^2 + 3s + 3}$	<pre> alpha = sin(omega0) / (2.0 * 1/sqrt(3)) a0 = 1 + alpha a1 = -2*cos(omega0) a2 = 1 - alpha b0 = -(1 + cos(omega0)) * gainLinear / 2 b1 = -(1 + cos(omega0)) * gainLinear b2 = -(1 + cos(omega0)) * gainLinear / 2 </pre>

Filter Type	Transfer Function (Laplace)	Coefficients
Low Shelf	$H(s) = A * \frac{s^2 + \frac{\sqrt{A}}{Q}s + A}{As^2 + \frac{\sqrt{A}}{Q}s + 1}$	$\alpha = \sin(\omega_0)/2 * \sqrt{(A + 1/A)*(1/Q - 1) + 2}$ $a0 = (A+1) + (A-1)\cos(\omega_0) + 2\sqrt{A}\alpha$ $a1 = -2*(A-1) + (A+1)\cos(\omega_0)$ $a2 = (A+1) - (A-1)\cos(\omega_0) - 2\sqrt{A}\alpha$ $b0 = A*(A+1) - (A-1)\cos(\omega_0) + 2\sqrt{A}\alpha * \text{gainLinear}$ $b1 = 2*A*(A-1) - (A+1)\cos(\omega_0) * \text{gainLinear}$ $b2 = A*(A+1) - (A-1)\cos(\omega_0) - 2\sqrt{A}\alpha * \text{gainLinear}$
High Shelf	$H(s) = A * \frac{As^2 + \frac{\sqrt{A}}{Q}s + 1}{s^2 + \frac{\sqrt{A}}{Q}s + A}$	$\alpha = \sin(\omega_0)/2 * \sqrt{(A + 1/A)*(1/Q - 1) + 2}$ $a0 = (A+1) - (A-1)\cos(\omega_0) + 2\sqrt{A}\alpha$ $a1 = 2*(A-1) - (A+1)\cos(\omega_0)$ $a2 = (A+1) - (A-1)\cos(\omega_0) - 2\sqrt{A}\alpha$ $b0 = A*(A+1) - (A-1)\cos(\omega_0) + 2\sqrt{A}\alpha * \text{gainLinear}$ $b1 = -2*A*(A-1) + (A+1)\cos(\omega_0) * \text{gainLinear}$ $b2 = A*(A+1) + (A-1)\cos(\omega_0) - 2\sqrt{A}\alpha * \text{gainLinear}$
Band Pass	$H(s) = \frac{s}{s^2 + \frac{s}{Q} + 1}$	$\alpha = \sin(\omega_0) * \sinh(\ln(2)/2 * \text{bandwidth} * \omega_0 / \sin(\omega_0))$ $a0 = 1 + \alpha$ $a1 = -2\cos(\omega_0)$ $a2 = 1 - \alpha$ $b0 = \alpha * \text{gainLinear}$ $b1 = 0$ $b2 = -\alpha * \text{gainLinear}$
Band Stop	$H(s) = \frac{s^2 + 1}{s^2 + \frac{s}{Q} + 1}$	$\alpha = \sin(\omega_0) * \sinh(\ln(2)/2 * \text{bandwidth} * \omega_0 / \sin(\omega_0))$ $a0 = 1 + \alpha$ $a1 = -2\cos(\omega_0)$ $a2 = 1 - \alpha$ $b0 = 1 * \text{gainLinear}$ $b1 = -2\cos(\omega_0) * \text{gainLinear}$ $b2 = 1 * \text{gainLinear}$
All Pass	$H(s) = \frac{s^2 - \frac{s}{Q} + 1}{s^2 + \frac{s}{Q} + 1}$	$\alpha = \sin(\omega_0) / (2 * Q);$ $\text{coef->}a0 = 1 + \alpha;$ $\text{coef->}a1 = -2 * \cos(\omega_0);$ $\text{coef->}a2 = 1 - \alpha;$ $\text{coef->}b0 = (1 - \alpha) * \text{gainLinear};$ $\text{coef->}b1 = -2 * \cos(\omega_0) * \text{gainLinear};$ $\text{coef->}b2 = (1 + \alpha) * \text{gainLinear};$

Table 3 – Filter Transfer Functions and Coefficients

In addition, multiple 2nd order filter stages can be cascaded to create complex filter responses. Each channel can support high order filtering by cascading 2nd order filters (maximum of 15).

Bypass	Type	Frequency 1 (Hz)	Q Factor	Boost (dB)	Gain (dB)	Delete
<input checked="" type="checkbox"/>	Peaking	1000.00	1.41	5.00	0.00	<input type="button" value="Delete"/>
<input checked="" type="checkbox"/>	BUTTERWORTH HIGH PASS	1000.00	1.41	0.00	0.00	<input type="button" value="Delete"/>
<input checked="" type="checkbox"/>	Band Stop	1000.00	1.41	0.00	0.00	<input type="button" value="Delete"/>

Figure 102 – Filter Bypass Checkbox

The individual filters in the list can be bypassed by clicking the Bypass check box on the filter.

6.8.2 DSP Settings: Dynamics

The Audio Channels DSP Settings Dynamics tab is shown below:

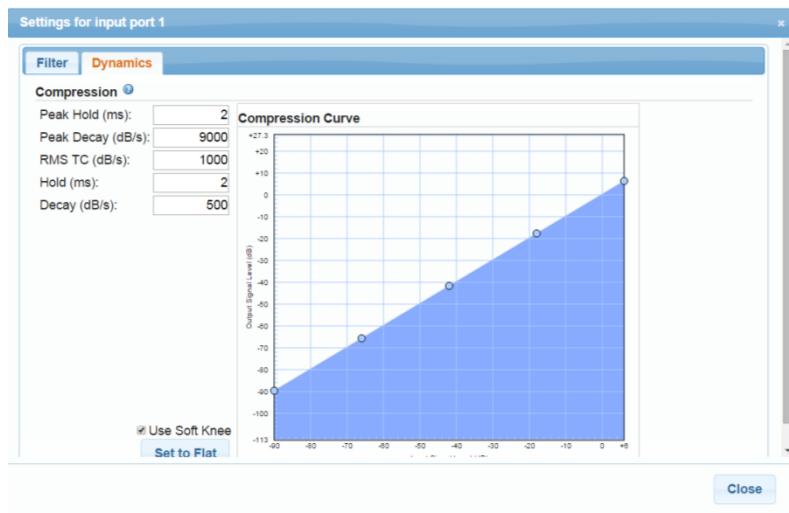


Figure 103 – NetSpire Audio Channels DSP Settings Dialogue – Dynamics Tab

The Dynamics tab allows the administrator to control the Dynamic Range Compression for the channel.

Dynamic Range Compression (DRC) reduces the volume of loud sounds or amplifies quiet sounds by narrowing or "compressing" an audio signal's dynamic range.

Examples of compression include *downward* compression and *upward* compression. Downward compression reduces loud sounds over a certain threshold while quiet sounds remain unaffected.

Upward compression increases the loudness of sounds below a threshold while leaving louder sounds unchanged.

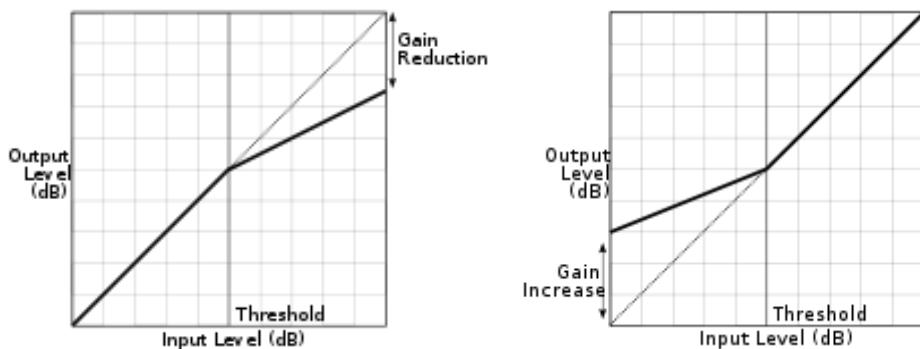


Figure 104 – Downward and Upward Compression Curve Examples

The compression curve can be manipulated directly in the user interface by dragging the control points with the mouse. Simply drag the control points of the compression curve to the

desired position. To add additional control points (up to 10) click on the curve. To remove control points, click on the control point.

The compressor is a dual detection path compressor. Both Peak and RMS detection are performed on the detection input signal and then a combination of the two detection methods is used for the final gain application of the compressor.

Depending on the time constants, Peak or RMS can dominate the effect on either the attack or release. The idea behind this combination detection is to provide the best of both worlds between the two detection methods, allowing fast reaction to undesired peaks, while still having a natural auditory quality to audio compression.

The compressor parameters are described in the following table.

Parameter	Default Value	Range	Function Description
Peak Hold (ms)	2	0-1000	Controls the hold time constant used in the Peak detection path
Peak Decay (dB/s)	9000	0 -10000	Controls the decay time constant used in the Peak detection path
RMS TC (dB/s)	1000	1-10000	Controls the RMS attack time constant used in the RMS detection path
Hold (ms)	2	0 -2000	Controls the hold time constant used in the RMS detection path
Decay (dB/s)	500	0 - RMS TC	Controls the decay time constant used in the RMS detection path. The max value of the decay for the RMS path is limited by the RMS time constant value

Table 4 – Compressor Parameters

6.9 Setup: Audio Routing Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	

The Audio Routing Setup screen in this section is enabled for NetSpire devices that have or control analogue audio inputs and outputs. It allows the administrator to set up Sources, Sinks, Sink/Zones Mapping and Routing on the device. The Sources and Sinks are available for use by peered devices.

The NetSpire system uses the concept of Sources and Sinks. Sources are devices or inputs that can provide a source of audio into the system. Examples of Sources include NetSpire IPPA or NetSpire NAR with attached microphone or a NetSpire NAC with attached background music.

Sinks represent the physical audio output where audio can be heard. An Audio Zone is an announcement area or locations where audio can be heard – this may be configured to include one or more sinks.

The Audio Routing Setup screen has four tables for configuring the Sources, Sinks, Sink/Zones Mapping and Routing respectively, and is shown below:

ID	Enabled	Location	Label	Audio Feed	Output(s)	Edit Outputs	Transport	Enabled
250100101	<input checked="" type="checkbox"/>	Bloor	Sink 1	Netspire Channel 25	Output 1 (70/100V)/Line Out 1 @ Local	Edit Outputs	Netspire	Auto
250100102	<input checked="" type="checkbox"/>	Bloor	Sink 2	Netspire Channel 25	Output 2 (70/100V)/Line Out 2 @ Local	Edit Outputs	Netspire	Auto
250100103	<input checked="" type="checkbox"/>	Bloor	Sink 3	Netspire Channel 25	Output 3 (70/100V)/Line Out 3 @ Local	Edit Outputs	Netspire	Auto
250100104	<input checked="" type="checkbox"/>	Bloor	Sink 4	Netspire Channel 25	Output 4 (70/100V)/Line Out 4 @ Local	Edit Outputs	Netspire	Auto
250100105	<input checked="" type="checkbox"/>	Bloor	Sink 5	Netspire Channel 25	Output 5 (70/100V) @ Local	Edit Outputs	Netspire	Auto
250100106	<input checked="" type="checkbox"/>	Bloor	Sink 6	Netspire Channel 25	Output 6 (70/100V) @ Local	Edit Outputs	Netspire	Auto
250100107	<input checked="" type="checkbox"/>	Bloor	Sink 7	Netspire Channel 25	Output 7 (HIL) @ Local	Edit Outputs	Netspire	Auto
250100108	<input checked="" type="checkbox"/>	Bloor	Sink 8	Netspire Channel 25	Output 8 (HIL) @ Local	Edit Outputs	Netspire	Auto
250100201	<input checked="" type="checkbox"/>	Bloor	Sink 9	Netspire Channel 25	(Port 1) @ Bloor NAR_1	Edit Outputs	Netspire	Auto
250100202	<input checked="" type="checkbox"/>	Bloor	Sink 10	Netspire Channel 25	(Port 2) @ Bloor NAR_1	Edit Outputs	Netspire	Auto
250100203	<input checked="" type="checkbox"/>	Bloor	Sink 11	Netspire Channel 25	(Port 3) @ Bloor NAR_1	Edit Outputs	Netspire	Auto
250100204	<input checked="" type="checkbox"/>	Bloor	Sink 12	Netspire Channel 25	(Port 4) @ Bloor NAR_1	Edit Outputs	Netspire	Auto
250100205	<input type="checkbox"/>	Bloor	Sink 13	Netspire Channel 25	(Port 5) @ Bloor NAR_1	Edit Outputs	Netspire	Auto

Figure 105 – Audio Routing Setup Screen

6.9.1 Sources Tab

The Sources Tab on the Audio Routing Setup screen shows the Audio Sources configured for the device, and in the case of the NetSpire CXS and TCX Servers, for the entire system.

ID	Enabled	Location	Label	Input	Priority	Role	Transport	Encoding	Send	Multicast Port	Unicast Port	Gain Pre-emphasis
200510001	<input checked="" type="checkbox"/>	Weston	Analog Input 1	Analog Input 1 @ Weston NAR	500	None	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
200510002	<input checked="" type="checkbox"/>	Weston	Analog Input 2	Analog Input 2 @ Weston NAR	500	None	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
200510003	<input checked="" type="checkbox"/>	Weston	ANC Mic 1	ANC Mic 1 @ Weston NAR	500	ANC	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
200510004	<input checked="" type="checkbox"/>	Weston	ANC Mic 2	ANC Mic 2 @ Weston NAR	500	ANC	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
200510005	<input checked="" type="checkbox"/>	Weston NAR	Telephone Call	Telephone Call @ Weston NAR	500	None	Netspire	Uncompressed	Match Receiver	Auto	Auto	0 dB
201100101	<input checked="" type="checkbox"/>	Weston	Analog Input 1	Analog Input 1 @ Local	500	None	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
201100102	<input checked="" type="checkbox"/>	Weston	Test	Test @ Local	500	None	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
201100103	<input checked="" type="checkbox"/>	Weston	Palm mix (VOX)	Palm mix (VOX) @ Local	700	None	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
201100104	<input checked="" type="checkbox"/>	Weston	Palm Mic (DIN active)	Palm Mic (DIN activated) @ Local	500	None	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
201100105	<input checked="" type="checkbox"/>	Weston NAC	Telephone Call	Telephone Call @ Local	500	None	Netspire	Uncompressed	Match Receiver	Auto	Auto	0 dB
210000101	<input checked="" type="checkbox"/>	ETS-PAVSM-CXS01	Telephone Call	Telephone Call @ ETS-PAVSM-CXS01	500	None	Netspire	Uncompressed	Match Receiver	Auto	Auto	0 dB
210000201	<input checked="" type="checkbox"/>	ETS-PAVSM-CXS02	Telephone Call	Telephone Call @ ETS-PAVSM-CXS02	500	None	Netspire	Uncompressed	Match Receiver	Auto	Auto	0 dB
210402101	<input checked="" type="checkbox"/>	OCC	Gooseneck Microphone	Gooseneck Microphone @ IPPA01L0	600	None	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
210402102	<input checked="" type="checkbox"/>	OCC	Headset/ Handset	Headset/ Handset @ IPPA01L02	600	None	Netspire	Auto	Match Receiver	Auto	Auto	0 dB
210402103	<input checked="" type="checkbox"/>	IPPA01L02	Headset/ Handset	Headset/ Handset @ IPPA01L02	500	None	Netspire	Uncompressed	Match Receiver	Auto	Auto	0 dB

Figure 106 – Audio Routing Setup Screen: Sources Tab

Sources are devices or inputs that can provide a source of audio into the system. Examples of Audio Sources include NetSpire IPPA or NetSpire NAR with attached microphone, background music player.

The Sources table displays the list of available Audio Sources on a device or system.

ID	Enabled	Location	Label	Input	Priority	Role	Transport	Encoding
210001001	<input checked="" type="checkbox"/>	CXS01	Telephone Call	Telephone Call @ CXS01	50	None	Netspire	Uncompressed
21000101	<input checked="" type="checkbox"/>	CXS02	Telephone Call	Telephone Call @ CXS02	50	None	Netspire	Uncompressed
250100101	<input checked="" type="checkbox"/>	Bloor	VOX	VOX @ Local	50	None	Netspire	Auto
250100102	<input type="checkbox"/>	Bloor	Analog Input 2	Analog Input 2 @ Local	50	None	Netspire	Auto
250100103	<input checked="" type="checkbox"/>		Analog Input 3	Analog Input 3 @ Local	50	None	Netspire	Auto

Figure 107 – Audio Source Table

Each source can be enabled in the system by clicking the Enabled checkbox.

The Location and Label fields can be changed by the Administrator to represent the physical location and function of the Audio Source in the system.

The details of the audio transport sent from the source over the network can also be controlled. The Send dropdown provides an option for selecting Match Receiver, or Unicast Only.

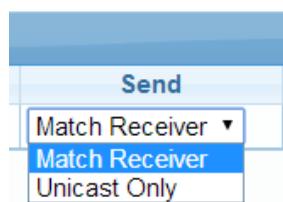


Figure 108 – Audio Sources: Send Dropdown

The Send dropdown options are described below:

Match Receiver

Selecting the Match Receiver option allows the NetSpire system to select an audio transport mechanism that matches the receiving Audio Sink(s). When Match Receiver is selected the NetSpire system will default to UDP Multicast for the audio transport if supported by all target Audio Zones.

Unicast Only

Selecting the Unicast Only option forces audio from this Audio Source to be sent using the UDP unicast network transport.

For information on address configuration for UDP Unicast and Multicast Transports for the RTP protocol refer to sections *6.3.2 Unicast Network Settings* and *6.3.3 Multicast Network Settings*.

The details of the audio codec sent from the source over the network can also be controlled. The Encoding dropdown provides an option for selecting Audio or Uncompressed.

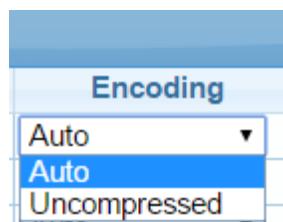


Figure 109 – Audio Sources: Encoding Dropdown

The Encoding dropdown options are described below:

Auto

The NetSpire system will automatically determine the codec for sending audio based on the capabilities of the Audio Source device and Audio Sink device(s). The NetSpire system will select a high fidelity compressed audio codec where possible by default.

Uncompressed

The Uncompressed option ensures audio is always sent as an uncompressed 16-bit 48 kHz PCM audio stream.

The Transport, Multicast Port and Unicast Port are always selected automatically by the NetSpire system based on the capabilities of the devices.

The gain pre-emphasis allows a gain to be applied to the source prior to being emitted to the network. This setting is currently only supported on the NetSpire CXS for 'Telephone Call' Audio Source Types.

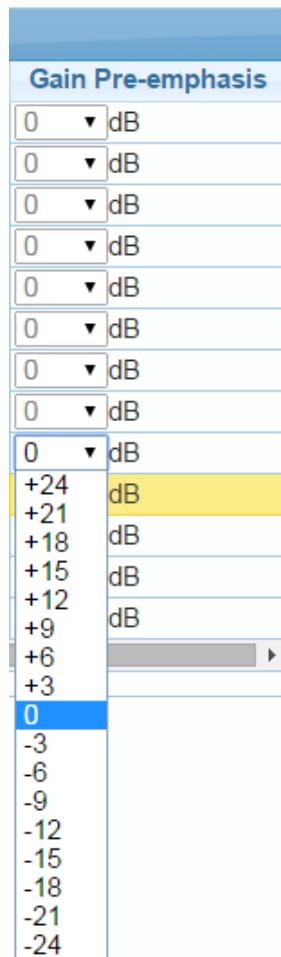


Figure 110 – Audio Sources: Gain Pre-emphasis

The Sources Tab on the NetSpire CXS and TCX Servers shows all the Audio Sources configured in the system. Audio Sources configured on other devices cannot be modified.

The option for these Audio Sources can be changed using the Web Administration Interface on the device that supports the Audio Source.

Audio Sources/Zones								
Sources		Sinks	Routing					
ID	Enabled	Location	Label	Input	Priority	Role	Transport	Encoding
200200101	<input checked="" type="checkbox"/>	GTCC - USBT	Gooseneck Microph	Gooseneck Microphone @ IPPA01	60	<input type="button" value="None"/>	Netspire	Auto
200200102	<input checked="" type="checkbox"/>	GTCC - USBT	Headset/ Handset	Headset/ Handset @ IPPA01	60	<input type="button" value="None"/>	Netspire	Auto
200200103	<input checked="" type="checkbox"/>	IPPA01	Headset/ Handset	Telephone Call @ IPPA01	50	<input type="button" value="None"/>	Netspire	Uncompressed
200200201	<input checked="" type="checkbox"/>	OCC	Gooseneck Microph	Gooseneck Microphone @ IPPA02	50	<input type="button" value="None"/>	Netspire	Auto
200200202	<input checked="" type="checkbox"/>	OCC	Headset/ Handset	Headset/ Handset @ IPPA02	50	<input type="button" value="None"/>	Netspire	Auto
200200203	<input checked="" type="checkbox"/>	IPPA02	Headset/ Handset	Telephone Call @ IPPA02	50	<input type="button" value="None"/>	Netspire	Uncompressed
210001001	<input checked="" type="checkbox"/>	CXS01	Telephone Call	Telephone Call @ Local	50	<input type="button" value="None"/>	Netspire	Uncompressed
210001101	<input checked="" type="checkbox"/>	CXS02	Telephone Call	Telephone Call @ CXS02	50	<input type="button" value="None"/>	Netspire	Uncompressed
250100101	<input checked="" type="checkbox"/>	Bloor	VOX	VOX @ Bloor NAC_1	50	<input type="button" value="None"/>	Netspire	Auto
250100102	<input type="checkbox"/>	Bloor	Analog Input 2	Analog Input 2 @ Bloor NAC_1	50	<input type="button" value="None"/>	Netspire	Auto
250100103	<input checked="" type="checkbox"/>	Bloor	Analog Input 3	Analog Input 3 @ Bloor NAC_1	50	<input type="button" value="None"/>	Netspire	Auto
250100104	<input type="checkbox"/>	Bloor	Analog Input 4	Analog Input 4 @ Bloor NAC_1	50	<input type="button" value="None"/>	Netspire	Auto
250100105	<input checked="" type="checkbox"/>	Bloor NAC 1	Telephone Call	Telephone Call @ Bloor NAC_1	50	<input type="button" value="None"/>	Netspire	Uncompressed
250100201	<input type="checkbox"/>	Bloor	Analog Input 5	Analog Input 5 @ Bloor NAR_1	50	<input type="button" value="None"/>	Netspire	Auto
250100202	<input type="checkbox"/>	Bloor	Analog Input 6	Analog Input 6 @ Bloor NAR_1	50	<input type="button" value="None"/>	Netspire	Auto

Figure 111 – NetSpire CXS and TCX: Audio Routing Setup Screen: Sources Tab

6.9.2 Sinks Tab

The Sinks Tab on the Audio Routing Setup screen shows the Audio Sinks configured for the device, and in the case of the NetSpire CXS and TCX Servers, for the entire system.

Sinks represent the physical audio output where audio can be heard. An Audio Zone is an announcement area or locations where audio can be heard – this may be configured to include one or more sinks.

Audio Sources/Zones									
Sources		Sinks		Sink/Zones Mapping		Routing			
Sinks ?									
ID	Enabled	Location	Label	Audio Feed	Output(s)	Edit Outputs	Transport	En	
250100101	<input checked="" type="checkbox"/>	Bloor	Sink 1	Netspire Channel 25(Output 1 (70/100V)/Line Out 1 @ L	Edit Outputs	Netspire ▾	Auto		
250100102	<input checked="" type="checkbox"/>	Bloor	Sink 2	Netspire Channel 25(Output 2 (70/100V)/Line Out 2 @ L	Edit Outputs	Netspire ▾	Auto		
250100103	<input checked="" type="checkbox"/>	Bloor	Sink 3	Netspire Channel 25(Output 3 (70/100V)/Line Out 3 @ L	Edit Outputs	Netspire ▾	Auto		
250100104	<input checked="" type="checkbox"/>	Bloor	Sink 4	Netspire Channel 25(Output 4 (70/100V)/Line Out 4 @ L	Edit Outputs	Netspire ▾	Auto		
250100105	<input checked="" type="checkbox"/>	Bloor	Sink 5	Netspire Channel 25(Output 5 (70/100V) @ Local	Edit Outputs	Netspire ▾	Auto		
250100106	<input checked="" type="checkbox"/>	Bloor	Sink 6	Netspire Channel 25(Output 6 (70/100V) @ Local	Edit Outputs	Netspire ▾	Auto		
250100107	<input checked="" type="checkbox"/>	Bloor	Sink 7	Netspire Channel 25(Output 7 (HILL) @ Local	Edit Outputs	Netspire ▾	Auto		
250100108	<input checked="" type="checkbox"/>	Bloor	Sink 8	Netspire Channel 25(Output 8 (HILL) @ Local	Edit Outputs	Netspire ▾	Auto		
250100201	<input checked="" type="checkbox"/>	Bloor	Sink 9	Netspire Channel 25(Port 1) @ Bloor NAR_1	Edit Outputs	Netspire ▾	Auto		
250100202	<input checked="" type="checkbox"/>	Bloor	Sink 10	Netspire Channel 25(Port 2) @ Bloor NAR_1	Edit Outputs	Netspire ▾	Auto		

Figure 112 – Audio Routing Setup Screen: Sinks Tab

The Sinks table displays the list of available Audio Sinks on a device.

Audio Sources/Zones									
Sources		Sinks		Sink/Zones Mapping		Routing			
Sinks ?									
ID	Enabled	Location	Label	Audio Feed	Output(s)	Edit Outputs	Transport	En	
250100101	<input checked="" type="checkbox"/>	Bloor	Sink 1	Netspire Channel 25(Output 1 (70/100V)/Line Out 1 @ L	Edit Outputs	Netspire ▾	Auto		
250100102	<input checked="" type="checkbox"/>	Bloor	Sink 2	Netspire Channel 25(Output 2 (70/100V)/Line Out 2 @ L	Edit Outputs	Netspire ▾	Auto		
250100103	<input checked="" type="checkbox"/>	Bloor	Sink 3	Netspire Channel 25(Output 3 (70/100V)/Line Out 3 @ L	Edit Outputs	Netspire ▾	Auto		
250100104	<input checked="" type="checkbox"/>	Bloor	Sink 4	Netspire Channel 25(Output 4 (70/100V)/Line Out 4 @ L	Edit Outputs	Netspire ▾	Auto		
250100105	<input checked="" type="checkbox"/>	Bloor	Sink 5	Netspire Channel 25(Output 5 (70/100V) @ Local	Edit Outputs	Netspire ▾	Auto		
250100106	<input checked="" type="checkbox"/>	Bloor	Sink 6	Netspire Channel 25(Output 6 (70/100V) @ Local	Edit Outputs	Netspire ▾	Auto		
250100107	<input checked="" type="checkbox"/>	Bloor	Sink 7	Netspire Channel 25(Output 7 (HILL) @ Local	Edit Outputs	Netspire ▾	Auto		
250100108	<input checked="" type="checkbox"/>	Bloor	Sink 8	Netspire Channel 25(Output 8 (HILL) @ Local	Edit Outputs	Netspire ▾	Auto		
250100201	<input checked="" type="checkbox"/>	Bloor	Sink 9	Netspire Channel 25(Port 1) @ Bloor NAR_1	Edit Outputs	Netspire ▾	Auto		

Figure 113 – Sinks Table: Enabled Checkbox

Each Sink can be enabled in the system by clicking the Enabled checkbox for the corresponding Sink.

The Location and Label fields can be changed by the Administrator to represent the physical location and function of the Audio Sink in the system.

To modify the physical outputs on the device which are associated with the Sink, click the Edit Outputs button for the corresponding Zone.

ID	Enabled	Location	Label	Audio Feed	Output(s)	Edit Outputs	Transport	En	
250100101	<input checked="" type="checkbox"/>	Bloor	Sink 1	Netspire Channel 25(Output 1 (70/100V)/Line Out 1 @ L	Edit Outputs	Netspire ▾	Auto		
250100102	<input checked="" type="checkbox"/>	Bloor	Sink 2	Netspire Channel 25(Output 2 (70/100V)/Line Out 2 @ L	Edit Outputs	Netspire ▾	Auto		
250100103	<input checked="" type="checkbox"/>	Bloor	Sink 3	Netspire Channel 25(Output 3 (70/100V)/Line Out 3 @ L	Edit Outputs	Netspire ▾	Auto		
250100104	<input checked="" type="checkbox"/>	Bloor	Sink 4	Netspire Channel 25(Output 4 (70/100V)/Line Out 4 @ L	Edit Outputs	Netspire ▾	Auto		
250100105	<input checked="" type="checkbox"/>	Bloor	Sink 5	Netspire Channel 25(Output 5 (70/100V) @ Local	Edit Outputs	Netspire ▾	Auto		
250100106	<input checked="" type="checkbox"/>	Bloor	Sink 6	Netspire Channel 25(Output 6 (70/100V) @ Local	Edit Outputs	Netspire ▾	Auto		

Figure 114 –Sinks Table: Edit Outputs Button

The Physical Output Assignment dialogue will be displayed and is shown below:

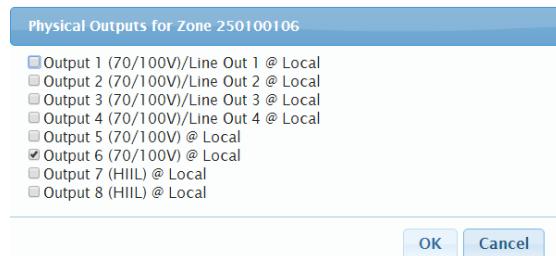


Figure 115 – Audio Sink Physical Channel Assignment Dialogue

The administrator can select which physical outputs are included in the Sink, by clicking the checkbox next to each of the items. Each physical output can be included in more than one Sink.

NOTE: CHANNELS ASSIGNED TO MULTIPLE SINKS MIX AUDIO FROM EACH ZONE

When output channels are assigned to multiple sinks, the audio which is targeted at each of the sink will be mixed. There is no queuing or priority support for output channels assigned to multiple sinks.

The details of the audio transport received from the source over the network can be controlled. The Send dropdown provides an option for selecting Multicast or Unicast, or Unicast Only.

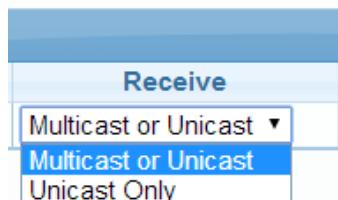


Figure 116 –Sources: Send Dropdown

The Send dropdown options are described below:

Multicast or Unicast

When the Multicast or Unicast option is selected, the audio transport used over the network will match the sending Audio Source's transport settings. If the Audio Source is using Match Receiver, then the UDP Multicast transport will be used by default.

Unicast Only

When the Unicast Only option is selected, then the audio transport used over the network will be UDP unicast packets.

For information on address configuration for UDP Unicast and Multicast Transports for the RTP protocol refer to sections 6.3.2 *Unicast Network Settings* and 6.3.3 *Multicast Network Settings*.

The details of the audio codec received from the source over the network can also be controlled. The Encoding dropdown provides an option for selecting Auto or Uncompressed.

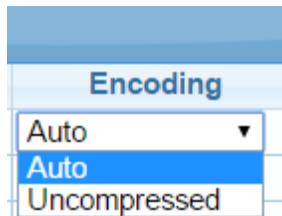


Figure 117 –Sources: Encoding Dropdown

The Encoding dropdown options are described below:

Auto

The NetSpire system will automatically determine the codec for the audio based on the capabilities of the Audio Source device and Audio Sink device(s). The NetSpire system will select a high fidelity compressed audio codec where possible by default.

Uncompressed

The Uncompressed option ensures audio is always sent as an uncompressed 16-bit 48 kHz PCM audio stream.

The Transport, Multicast Port and Unicast Port are always selected automatically by the NetSpire system based on the capabilities of the devices.

The Sinks Tab on the NetSpire CXS and TCX Servers shows all the Audio Sinks configured in the system. Audio Sinks configured on other devices cannot be modified.

The options for these Audio Sinks can be changed using the Web Administration Interface on the device that supports the Audio Sinks. The options for Audio Sinks which cannot be modified are shown as greyed out.

6.9.3 Sink/Zones Mapping Tab

The Sink/Zones Mapping Tab on the Audio Routing Setup screen can be used to associate / map Audio Sink(s) to an Audio Zone.

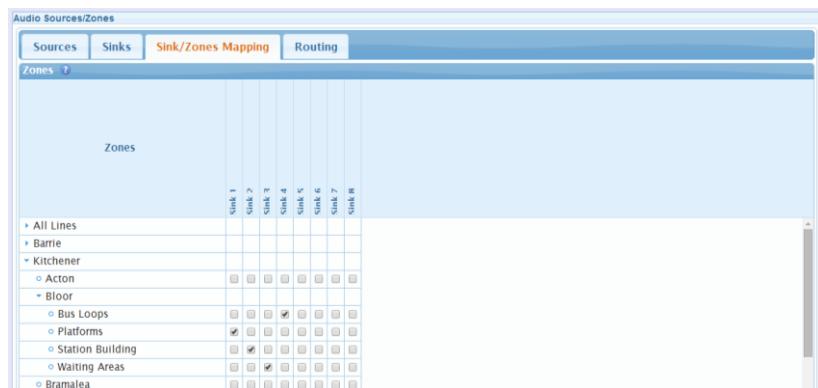


Figure 118 – Audio Routing Setup Screen: Sink/Zones Mapping Tab

The Sink/Zones Mapping Table displays the list of configured Audio Zones in the system. Each Audio Sink may be associated to one or more Audio Zone by ticking the associated check box. It is crucial that the Audio Zones are created in the system prior to mapping Sink/Zones.

The Sink/Zones Mapping Tab are not available on the NetSpire CXS and TCX. Sink/Zones Mapping can be changed using the Web Administration Interface on the device that supports the Sink/Zone Mapping.

NOTE: CHANNELS ASSIGNED TO MULTIPLE ZONES MIX AUDIO FROM EACH ZONE

When output channels are assigned to multiple zones, the audio which is targeted at each of the zones will be mixed. There is no queuing or priority support for output channels assigned to multiple zones.

6.9.4 Routing Tab

The Routing Tab on the Audio Routing Setup screen can be used setup and manage audio routing from inputs (Audio Sources) to outputs (Audio Zones).

Audio Routes represent the connections between Audio Sources in the system with Audio Zones. The connection can be made at system startup, and can be created dynamically based on events in the system, such as the activation of a digital input, VOX detection and receiving a phone call.

Source	Trigger	Value	Priority	All Lines	Barrie	Kitchener	Lakeshore East	Lakeshore West	Milton	Richmond Hill	Stratford	Weston
Telephone Call @ CXS01	Call Received	6011 (IVR)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	6006 (DVA)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	6008 (TTS)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	6009 (PA w/preview)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	6012 (DVA w/preview)	Absolute (50)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	5553000000 (IVR)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Telephone Call @ CXS01	Call Received	5553000099 (PA w/p)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	5553060100 (Live PA)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	5553060101 (Live PA)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	5553060102 (Live PA)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	5553060103 (Live PA)	Absolute (50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone Call @ CXS01	Call Received	6100 (IVR)	Absolute (90)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Route

Cancel Changes **Save Source/Zone Settings**

Figure 119 – Audio Routing Setup Screen: Routing Tab

The Routing Table displays the list of configured Audio Routes on a device. Each Audio Route has the following fields display in the table:

Source

The Source field shows the Audio Source that will be routed. The format of the field is Source@Location, where the Source is the name of the Audio Source, and the Location is the name of the Location configured on the device supporting the Audio Source.

Trigger

The Trigger represents the condition that will cause the Audio Route to be activated. The types of Triggers available are dependent on the Audio Source type, and include Digital Input, VOX, Call Received, BGM Schedule.

Value

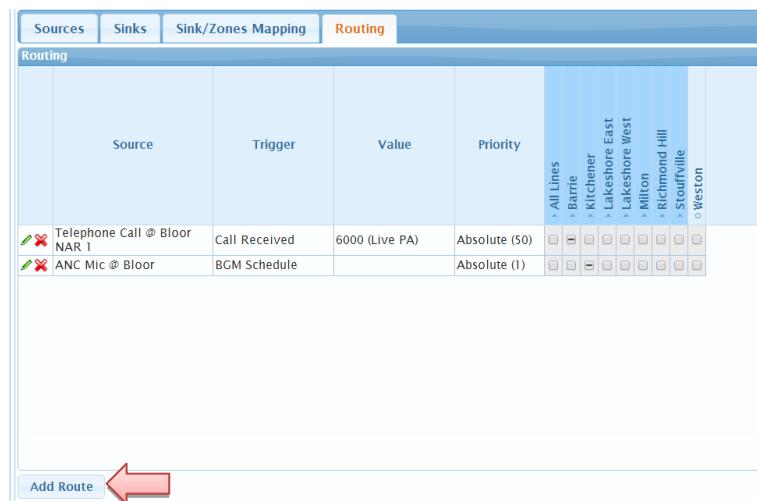
The Value field is a parameter that is passed to the trigger. For example in the case of a Digital Input trigger the value is the number of the Digital Input Port to use. In the case of a VOX Trigger it is the Audio Input Port to perform the VOX function on.

Priority

Specifies the priority level of the announcement resulting from the audio route. Selecting Use Custom Priority allows the user to specify an individual priority level for the announcement. Alternatively, Use Source Priority can be selected for the announcement priority to be determined based on the priority assigned to the Audio Source.

Zone Matrix

The Zone Matrix allows the connection between the Audio Source and multiple Audio Zones to be configured. The check boxes in the matrix can be checked to enable an Audio Route between the Audio Source and the Audio Zones when the Trigger Condition is active.



Source	Trigger	Value	Priority	All Lines	Barrie	Kitchener	Lakeshore East	Milton	Richmond Hill	Stouffville	Weston
Telephone Call @ Bloor NAR 1	Call Received	6000 (Live PA)	Absolute (50)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ANC Mic @ Bloor	BGM Schedule		Absolute (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

Figure 120 – Audio Routing Table: Add Route Button

New Audio Routes can be added to the device by clicking the Add Route button.

Existing Audio Routes can be modified by clicking the Edit icon on the left of each route in the table.

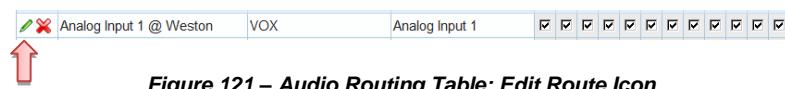


Figure 121 – Audio Routing Table: Edit Route Icon

Existing Routes can be removed by clicking the Delete icon at the left of each route in the table.

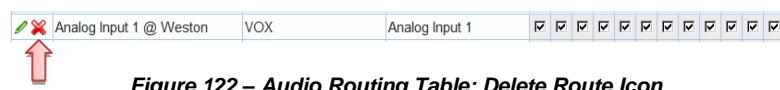


Figure 122 – Audio Routing Table: Delete Route Icon

Clicking the Add Route button or the Edit Route icon will display the Add Audio Route dialogue, shown below:

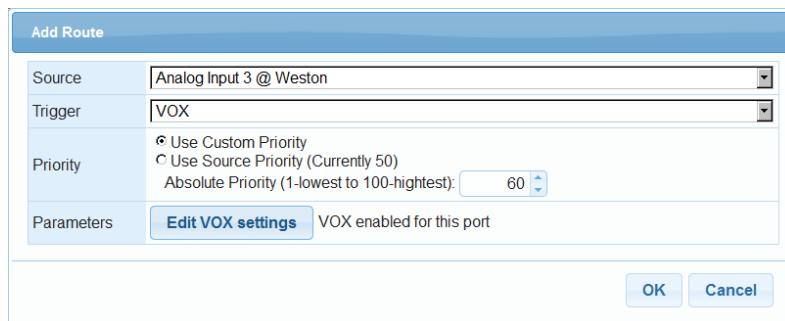


Figure 123 – Add Audio Route Dialogue

The Add Route dialogue allows the administrator to select the Audio Source, priority, the Route Trigger and parameters that are specific to the type of trigger selected. These parameters are described below:

Source

The Source dropdown allows selection of the available Audio Sources configured on the device.

Priority

Specifies the priority level of the announcement resulting from the audio route. Selecting Use Custom Priority allows the user to specify an individual priority level for the announcement. Alternatively, Use Source Priority can be selected for the announcement priority to be determined based on the priority assigned to the Audio Source.

Trigger

The Trigger dropdown allows selection of the type of Trigger that will control the route. The types of Triggers available for selection depend on the type of Source selected.

Parameters

The parameters section changes depending on the type of Trigger selected.

The following sections describe each of the Trigger types available in the NetSpire system for controlling Audio Routes.

6.9.4.1 Trigger Type: Digital Input

The Digital Input Trigger allows isolated digital inputs to be used to control Audio Routes.

The Digital Input Trigger type is available on all NetSpire devices which support isolated digital inputs and analogue audio inputs. The Digital Input Trigger type can be used to control audio routing for analogue audio inputs.

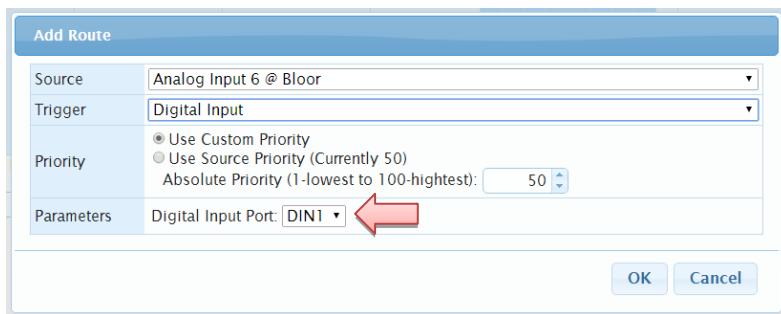


Figure 124 – Add Audio Route Dialogue: Digital Input Trigger Types

The parameters for the Digital Input Trigger type is the port number of the Digital Input port that will control the Audio route. The Digital Input port can be selected from the Parameters dropdown.

6.9.4.2 Trigger Type: VOX

The VOX Trigger is a Voice Operated Switch that can be used to control Audio Routes when voice activity or audio energy is detected on an analogue input.

The VOX Trigger type is available on all NetSpire devices which support analogue audio inputs. The Digital Input Trigger type can be used to control audio routing for analogue audio inputs.

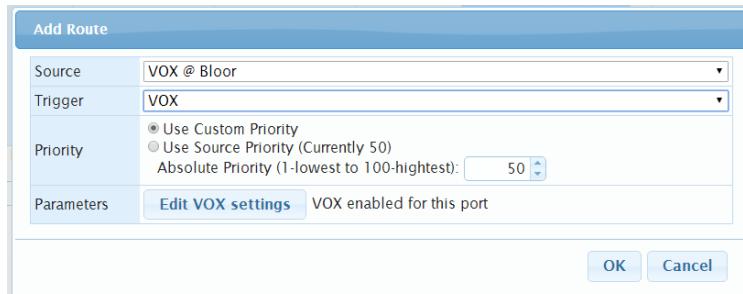


Figure 125 – Add Audio Route Dialogue: VOX Trigger Types

The VOX Trigger does not require any parameters; however it is important that VOX is enabled on the analogue audio input on the Audio Channels screen for the Audio Route to function. For more information on configuring VOX refer to section 6.5.4 VOX.

NOTE: VOX MUST BE ENABLED ON THE AUDIO CHANNELS SCREEN

For more information on configuring VOX refer to section 6.5.4 VOX.

6.9.4.3 Trigger Type: Call Received

The Call Received Trigger allows reception of telephony calls to control Audio Routes and perform various announcements using standard telephony interfaces as the operator paging station.

The Call Received Trigger type is available on all NetSpire devices which support telephony interfaces such as the NetSpire CXS. The Call Received Trigger type can be used to control audio routing for telephone calls placed into the system.

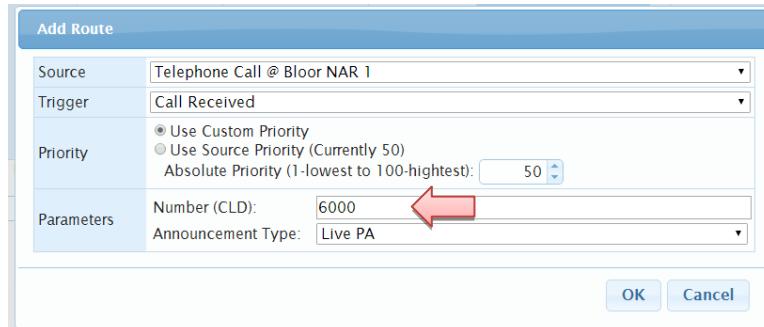


Figure 126 – Add Audio Route Dialogue: VOX Trigger Types

The parameters for the Call Received Trigger type are the CLD and Announcement Type. The CLD (Number) is the number dialled by the operator making the telephone call into the system. The announcement type is the type of announcement associated to that particular call which includes:

- Live PA – Live Public Address Announcement
- Live PA with preview – Recorded Live Public Address Announcement (with preview before play)
- DVA – Manual Pre-recorded Announcement
- DVA with preview – Manual Pre-recorded Announcement (with preview before play)
- TTS Generated – Text-to-speech Generated Announcements
- User selectable (IVR) – IVR menu is presented for user selection using the phone dial

Multiple Audio Routes can be configured using the Call Received Trigger with each using a different CLD to determine which Audio Zones the public address announcement is routed to.

6.9.4.4 Trigger Type: BGM Schedule

The BGM Schedule Trigger allows analogue audio inputs to be used to control Audio Routes; in particular Background music.

The BGM Schedule Trigger type is available on all NetSpire devices which support analogue audio inputs.

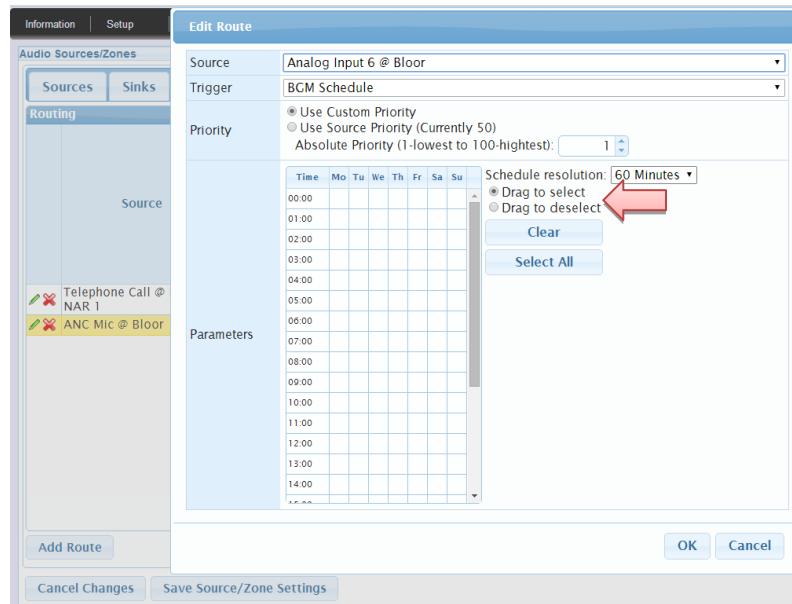


Figure 127 – Add Parameters Dialogue: BGM Schedule Trigger Types

The parameter for the BGM Schedule Trigger type is indicating the start and end time to control the Audio route for BGM. The BGM Schedule can be selected from the Parameters schedule by highlighting the associated schedule as required.

6.10 Setup: Audio Zones Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Audio Zones Setup screen is displayed on most NetSpire devices.

The screen provides zone management across all NetSpire devices using a central interface.

The screen is also used to ensure zone consistency; such that any changes to zones are synchronised within the Audio Zones table of all devices. To ensure the zone has propagated to all devices, ensure all changes are saved.

The layout of the interface is shown in the picture below.

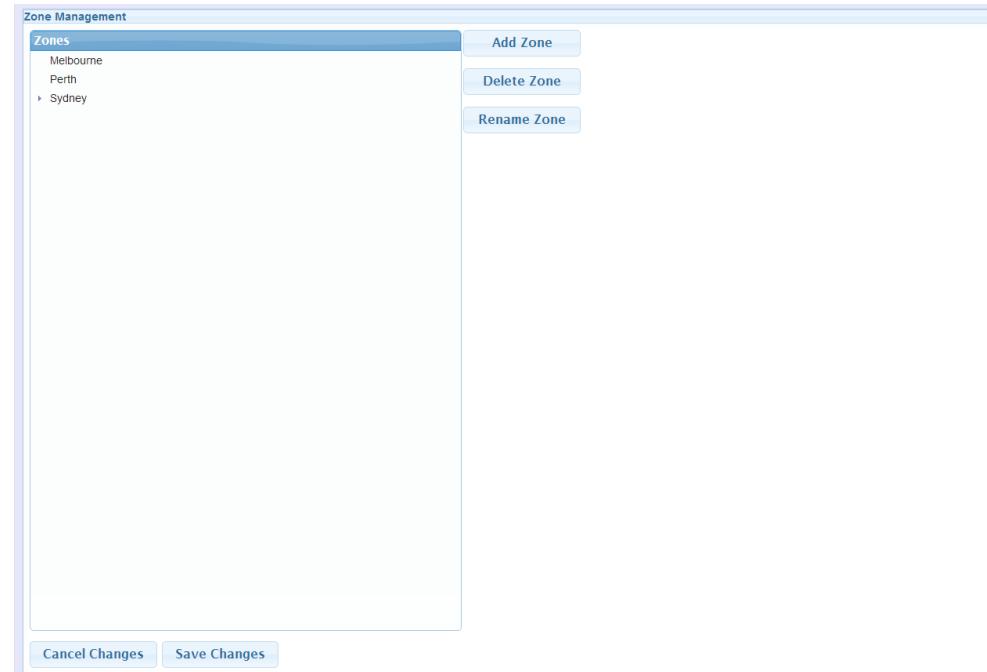


Figure 128 – Audio Zones Setup Screen

To add a new zone to the system, select the Add Zone button.

Add Zone

Figure 129 – Audio Zone – Add Zone

To add a zone to an existing zone (sub zone), select the existing zone and select the Add Zone button or Add to Selected Button. Otherwise to add a new zone, press Add to Root.

The dialog box is titled 'Add New Zone'. It contains a text input field labeled 'New zone name:' with a note below it: '(Note: only 0-9, a-z, A-Z, hyphen, space and apostrophe characters are accepted.)'. At the bottom are three buttons: 'Add to Selected', 'Add to Root', and 'Cancel'.

Figure 130 – Audio Zone – Add to Selected Add to Root

To delete a zone to the system, select the Delete Zone button.



Delete Zone

Figure 131 – Audio Zone – Delete Zone

Upon initiating deletion of zone, the system will prompt you. Click Ok.

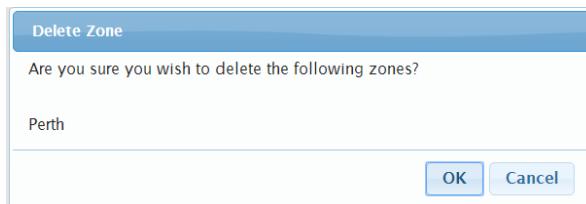


Figure 132 – Audio Zone – Delete Zone Prompt

To rename a zone to the system, select the Rename Zone button.



Rename Zone

Figure 133 – Audio Zone – Rename Zone

To rename an existing zone (Current Zone Name), enter the new zone name in the New Zone Name field. Click Ok.

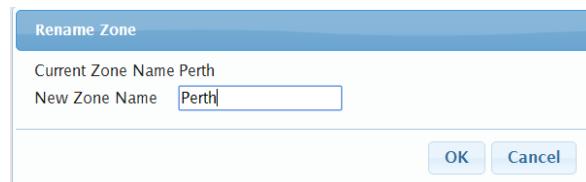


Figure 134 – Audio Zone – Rename Zone Prompt

6.11 Setup: Automatic Update Manager Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	X
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Automatic Update Manager Setup screen is displayed by NetSpire CXS and TCX devices.

The screen provides the ability to manage firmware revision of all NetSpire devices using a central interface. The screen is also used to enable system consistency checks for the firmware versions of NetSpire devices under management of the server.

The layout of the interface is shown in the picture below.

Firmware Revisions				
Device	Revision	Build	Date Loaded	Status
Netspire CXS	3.0 RC	21448	17 Aug 2015 Mon 06:23:44 pm	Currently Active
NetSpire TCX				
NetSpire VCU3				
Netspire Generation 3 Devices	3.0 RC	21448	17 Aug 2015 Mon 06:11:58 pm	Currently Active

Figure 135 – Automatic Update Manager Setup Screen

The Options section contains the “Raise Alarm” check box, which allows the administrator to enable an Alarm to be generated if all NetSpire devices under management of the server are not running the same firmware version as the CXS or TCX server.

Firmware Revisions section allows firmware installers to be uploaded, activated, scheduled for activation and removed for different NetSpire device families.

NetSpire devices are categorised into the following device families:

- NetSpire CXS: Communications Exchange Servers.
- NetSpire TCX: Train Communications Exchange Servers.
- NetSpire VCU3: Video Controller Unit Revision 3 PIDS control devices.
- NetSpire Generation 3 Devices: All other NetSpire devices including NAC, NAM, NAR, CP, CI, PEI, TGU and IPPA.

The button Add Firmware File, when clicked, opens a file browser allowing the Administrator to browse for and select a firmware installation file as shown in the picture below:

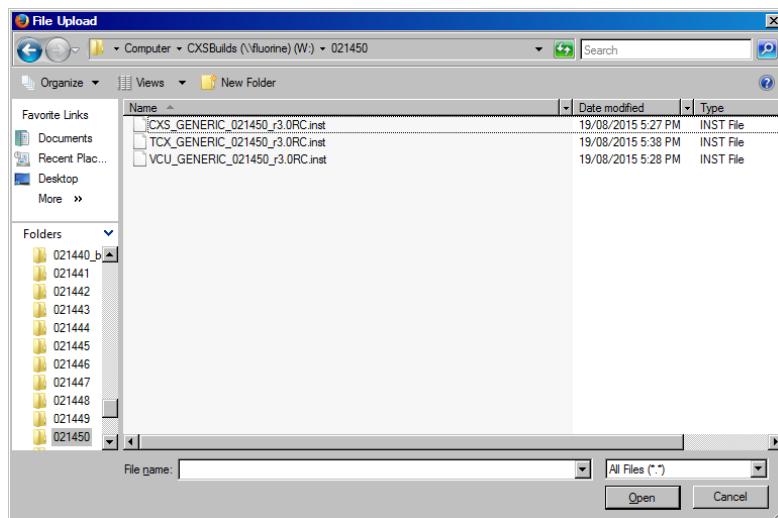


Figure 136 – Automatic Update Manager – Firmware File Browser Dialog

On selection of a firmware installer, the selected file will be uploaded to the system.

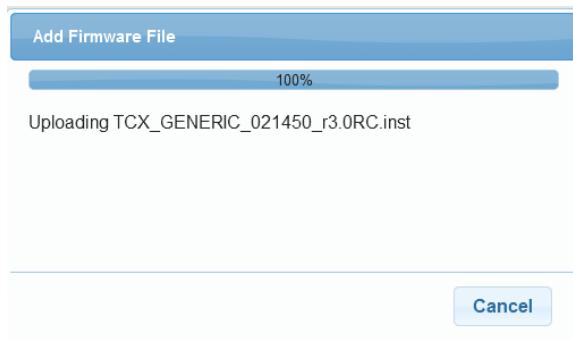


Figure 137 – Automatic Update Manager – Firmware Upload Dialog

After the installer is uploaded, the system will check the firmware installer for validity, and will present a confirmation dialog displaying details on the selected installer. Select Yes on the dialog to add the firmware package to the list of packages stored on the server.

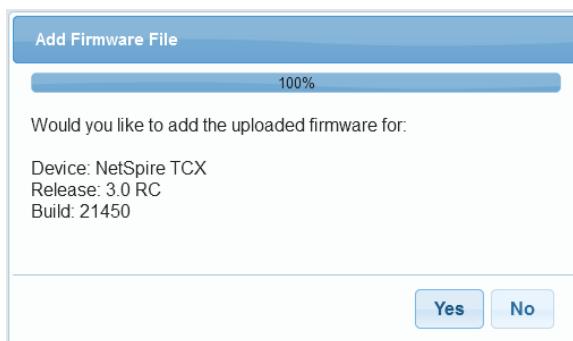


Figure 138 – Automatic Update Manager – Firmware Upload Confirmation

After a firmware package is uploaded the system, it will need to be activated as the currently active firmware revision for the device type. When a package is activated, all managed devices

of the selected type will automatically update their firmware revision to the activated firmware revision.

Any firmware release can be activated immediately using the Activate Now button.

Alternatively, activation can be scheduled to occur in the future using the Schedule Activation button.

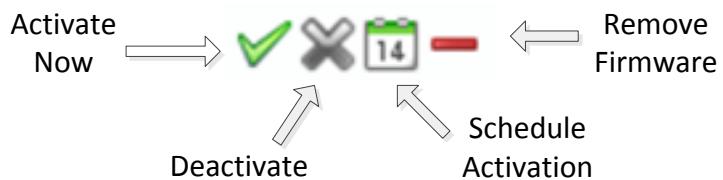


Figure 139 – Automatic Update Manager – Firmware Activation

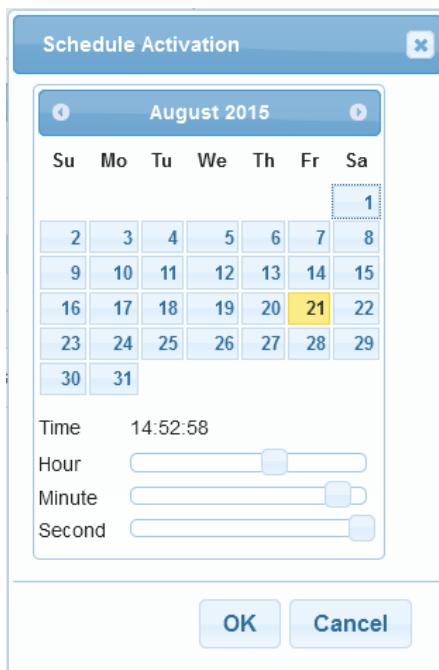


Figure 140 – Automatic Update Manager – Scheduling Firmware Activation

6.12 Setup: Condition Monitor Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Condition Monitor Setup screen is supported by all NetSpire devices and allows the administrator to construct Boolean logic for controlling the behaviour of the system.

The Condition Monitor provides a drag and drop interface that allows inputs in the system to be used to trigger actions based on Boolean logic. The screenshots below provide examples of condition monitor logic.

Note that while the Condition Monitor screen is available on all NetSpire devices, the available Inputs and Actions will change depending on the features and functions supported by each type of device.

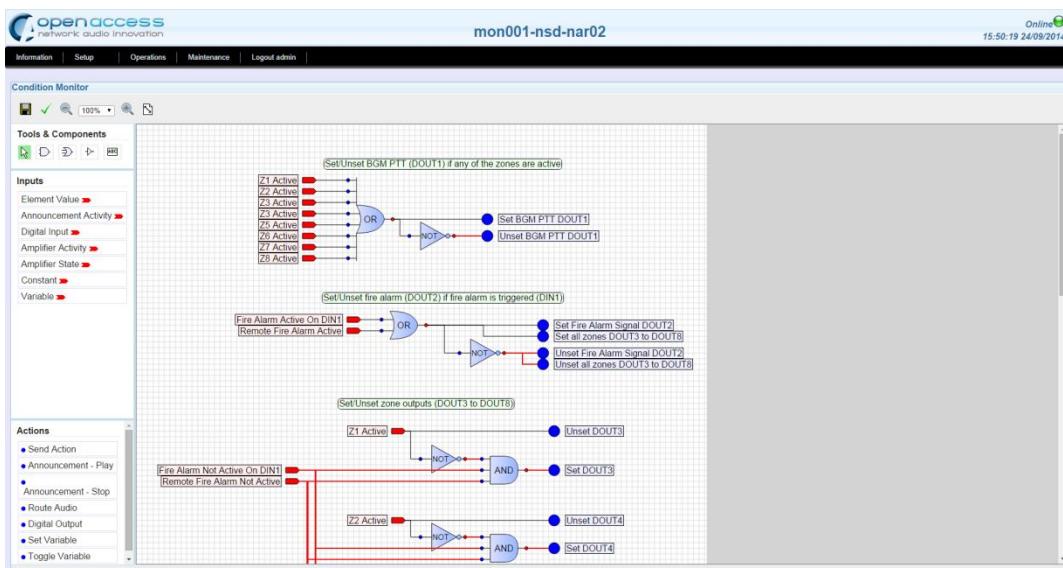


Figure 141 – Condition Monitor Setup Screen: Example 1

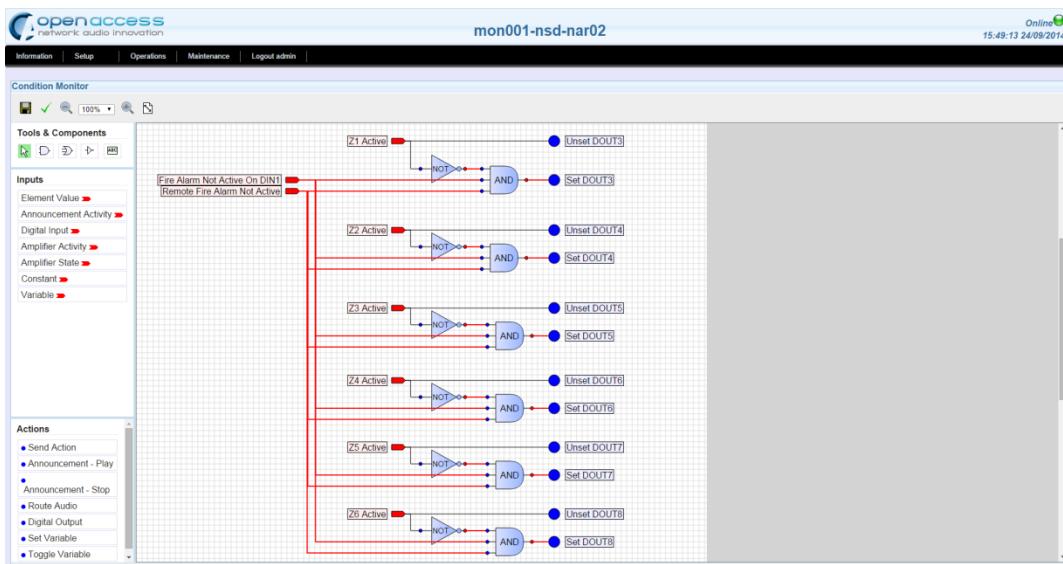


Figure 142 – Condition Monitor Setup Screen: Example 2

6.12.1 Using Condition Monitor

The Condition Monitor screen is divided into 5 regions:

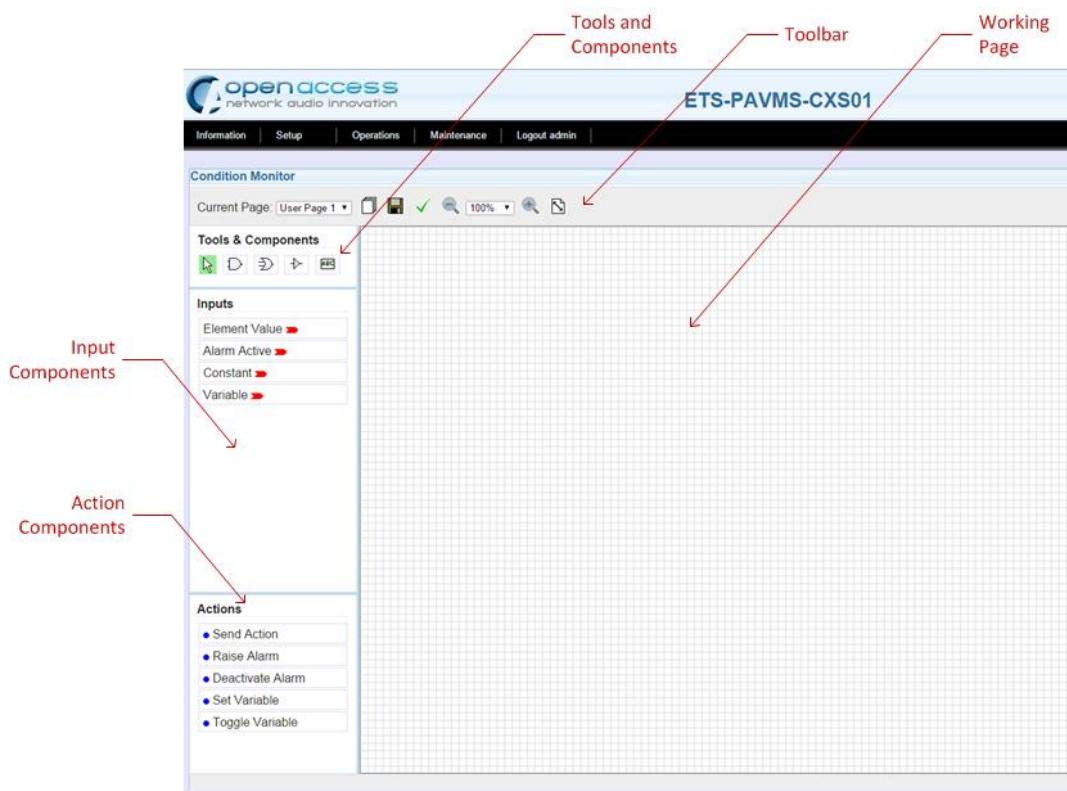


Figure 143 – Condition Monitor Setup Screen

Toolbar

The Toolbar provides access to functions for selecting the current working page, creating and editing new pages, saving the condition monitor logic, verifying the logic and page zoom settings.

Tools & Components

The Tools & Components section provides access tools for selecting and labelling portions of the logic diagram. This section also includes the basic logic components for building control logic.

Input Components

The Input Components section lists all the Input components that can be used to control logic functions. The Input components available are different for each of the NetSpire devices.

Action Components

The Action Components section lists all the Action components that can be used to control logic functions. The Action components available are different for each of the NetSpire devices.

Working Page

The Working Page is the area of the screen where the logic diagram is constructed and modified. The Working Page shows the page selected in the Current Page dropdown on the Toolbar.

6.12.2 Adding Components to the Working Page

To add components onto the Working Page click on the component in the Tools & Components, Input Components or Action Components section.

Move the mouse cursor over the Working Page and an outline of the selected component will follow the cursor.

Click on the working page at the position you wish to place the component.

When the component is placed, a dialogue box will be shown allowing the behaviour of the component to be configured.

To move a component after placement, click and drag the component to the new position.

To delete a component after placement, click the component and press the “Delete” button on the keyboard. Alternatively right click on the component, and choose the Delete option from the context menu.

6.12.3 Connecting Components

Each component has a number of outputs and inputs. Outputs of one component can be connected to the input of another component.

The component outputs are shown by a Red triangular shape on Input components, or be a Red circle shape on logic components.

The component inputs are shown by a Blue circle shape on Output and Logic components

To connect the outputs of components to the inputs of other components, click on the output of one component (Red triangular or circle shape) and a connection line will appear that follows the mouse cursor. To complete the connection, click on the input of another component (Blue circle shape).

A line will be shown connecting the output of the component to the input of the other component.

The following screenshot shows a simple logic diagram which opens and closes isolated digital outputs based on whether the device has active alarms.

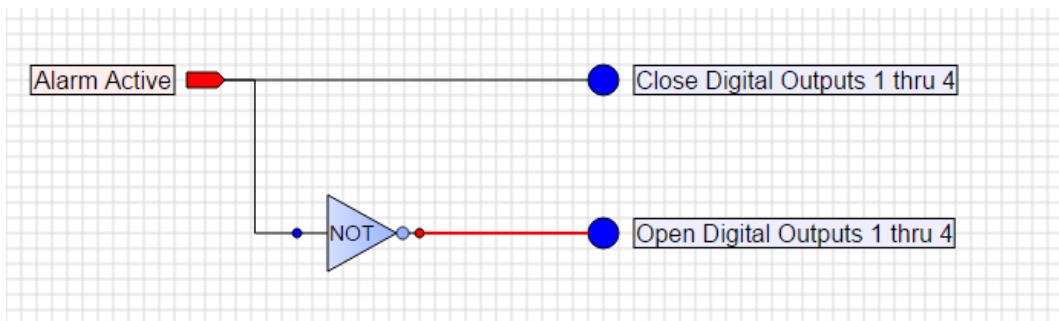


Figure 144 – Condition Monitor Logic Example – Simple Alarm to Digital Out

In the screenshot above there is an Input Component which provides an output that is Active if there is an active Alarm on the device. The Alarm Input is connected to both a Digital Output Action Component, and a NOT Logic Component.

Finally, the NOT Logic Component is connected to another Digital Output Action Component.

The connecting lines between component outputs and inputs also show the state of the component output.

If the line is Red, the output is in the True state. If the line is Black, the output is in the False state. This information is useful when debugging logic and is updated in real-time to reflect actual changes in the NetSpire system.

6.12.4 Logic Components

The Logic Components are accessed in the Tools & Components section of the screen. The Logic components provide basic combinational Boolean logic functions which can be used to construct simple and complex logic diagrams for customising and controlling many aspects of the NetSpire system.

Tools & Components

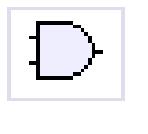


Figure 145 – Condition Monitor: Tools & Components: Logic Components

There are three Logic Components that can be selected, called AND, OR and NOT.

6.12.4.1 AND Logic Component

The AND Logic Component performs a Boolean AND operation on its inputs and provides the result as its output. The following truth table shows the relationship between the inputs and output of the AND Logic Component.

AND	Input 1	Input 2	Output
			
	False	False	False
	True	False	False
	False	True	False
	True	True	True

The basic rule for the AND Logic Component is that the output will be True only if all inputs are True.

When the AND Logic Component is placed, or when the component is double clicked, a Components Properties dialogue will be displayed, which is shown below.

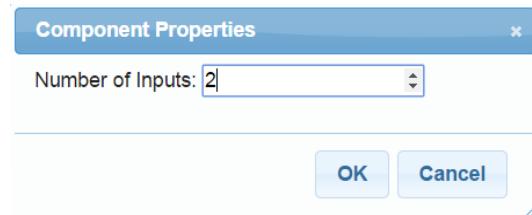


Figure 146 – Condition Monitor: Component Properties Dialogue

The Component Properties dialogue allows the number of Inputs to the AND Logic component to be changed.

6.12.4.2 OR Logic Component

The OR Logic Component performs a Boolean OR operation on its inputs and provides the result as its output. The following truth table shows the relationship between the inputs and output of the OR Logic Component.

OR	Input 1	Input 2	Output
			
	False	False	False
	True	False	True
	False	True	True
	True	True	True

The basic rule for the OR Logic Component is that the output will be True if any inputs are True.

When the OR Logic Component is placed, or when the component is double clicked, a Components Properties dialogue will be displayed, which is shown below.

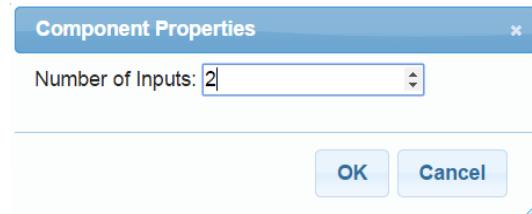
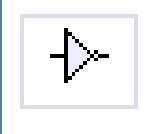


Figure 147 – Condition Monitor: Component Properties Dialogue

The Component Properties dialogue allows the number of Inputs to the OR Logic component to be changed.

6.12.4.3 NOT Logic Component

The NOT Logic Component performs a Boolean NOT operation on its input and provides the result as its output. The following truth table shows the relationship between the input and output of the OR Logic Component.

OR	Input	Output
		
	False	True
	True	False

The basic rule for the NOT Logic Component is that the output will be True if the input is False, and the output will be False if the input is True.

The number of Inputs to the NOT Logic component cannot be modified.

6.12.5 Input Components

The Input Components are accessed in the Input Components section of the screen. The Input components provide information about the NetSpire system that can be used in Boolean logic diagrams to control other aspects of the system.

A screenshot of a web-based interface titled "Inputs". The title is in bold blue text at the top left. Below it is a vertical list of eight items, each in a separate row, with a small red arrow icon to the right of the text. The items are: "Element Value", "Alarm Active", "Announcement Activity", "Digital Input", "Amplifier Activity", "Amplifier State", "Constant", and "Variable".

Inputs	
Element Value	►
Alarm Active	►
Announcement Activity	►
Digital Input	►
Amplifier Activity	►
Amplifier State	►
Constant	►
Variable	►

Figure 148 – Condition Monitor: Tools & Components: Input Components

The Input Components available on each NetSpire device is different and reflects the capabilities of the device. The following table lists all the available Input Components in the NetSpire system, and the devices that support them.

Input Component	Description	Supported Devices
Alarm Active	The Alarm Active Input Component provides an output which indicates whether Alarms are active on the device.	All
Digital Input	The Digital Input Input Component provides an output which reflects the state of an isolated digital input port on the device.	All devices supporting isolated digital inputs.
Constant	The Constant Input Component provides an output which is a constant value, either True or False.	All
Variable	The Variable Input Component allows a variable with an initial value of True or False to be defined. The Variable can be subsequently set using the Set Variable or Toggle Variable Action Components.	All
Announcement Activity	The Announcement Activity Input Component provides an output that reflects the state of audio activity on an amplified or line level analogue audio output.	IPPA, TGU, NAC, NAM, NAR, CAC, CI, CC, CP
IPPA PTT Button Pressed	The IPPA PTT Button Pressed Input Component provides an output that reflects whether the IPPA Push to Talk button is pressed.	IPPA only
IPPA Soft Button Pressed	The IPPA Soft Button Pressed Input Component provides an output that reflects whether an IPPA Soft Button is pressed.	IPPA only
Amplifier Activity	The Amplifier Activity Input Component provides an output that reflects whether there is audio activity on an amplified output.	TGU, NAC, NAM, CAC, CI, CC, CP
Amplifier State	The Amplifier State Input Component provides an output that reflects the health state of an amplifier module in the device.	TGU, NAC, NAM, CAC, CI, CC, CP
Element Value	For advanced use only. Provides access to NetSpire internal system state information which is not generally supported for end user configuration. Contact Open Access for more information if required.	All

Table 5 – Condition Monitor Input Components

The follow sections provide detailed information about each of the Input Components

6.12.5.1 Alarm Active Input Component

The Alarm Active Input Component provides an output which indicates whether Alarms are active on the device.

The Alarm Active Parameters dialogue allows the behaviour of the Input Component to be modified.

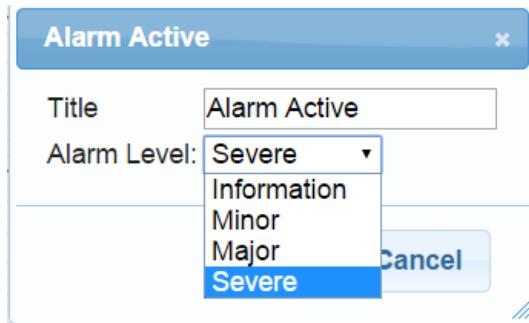


Figure 149 – Condition Monitor: Alarm Active Input Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Alarm Level field allows the alarm level to be specified which affects the output of the component.

Severe

Any active, unacknowledged alarms at level Severe or below will result in the output being True.

Major

Any active, unacknowledged alarms at level Major or below will result in the output being True.

Minor

Any active, unacknowledged alarms at level Minor or below will result in the output being True.

Information

Any active, unacknowledged alarms at level Information will result in the output being True.

6.12.5.2 Digital Input Input Component

The Digital Input Input Component provides an output which indicates the state of a specified isolated digital input port on the device.

The Digital Input Parameters dialogue allows the behaviour of the Input Component to be modified.

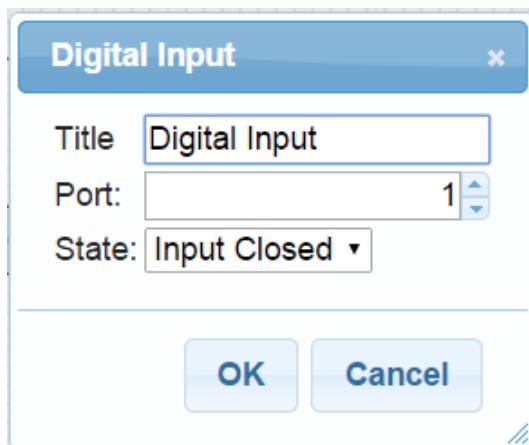


Figure 150 – Condition Monitor: Digital Input Input Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Port field allows the physical isolated digital input port to be specified on the device

The State field allows the isolated digital input state to be specified when the output of the component is True.

6.12.5.3 Constant Input Component

The Constant Input Component provides an output which is a constant value, either True or False.

The Constant Parameters dialogue allows the behaviour of the Input Component to be modified.

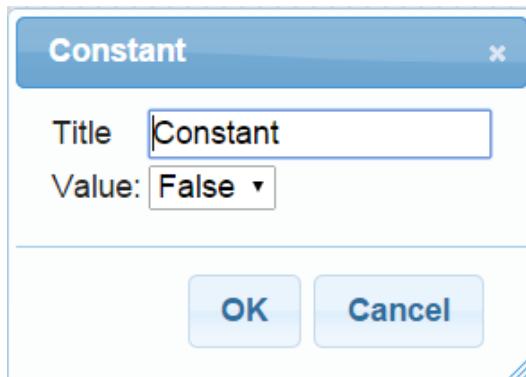


Figure 151 – Condition Monitor: Constant Input Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Value field allows the output of the component to be specified.

6.12.5.4 Variable Input Component

The Variable Input Component provides an output which is the value of a Boolean variable in the system.

The Constant Parameters dialogue allows the behaviour of the Input Component to be modified.

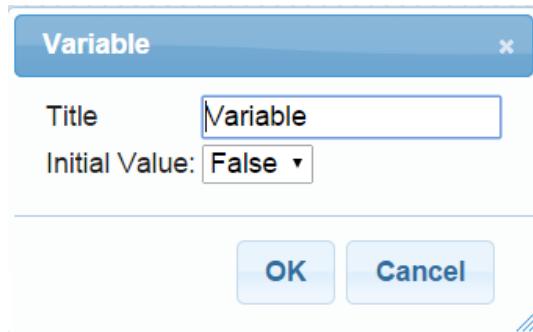


Figure 152 – Condition Monitor: Variable Input Component Parameters Dialogue

The Title field is the name of the variable in the system. This name is used to reference the variable in the Set Variable and Toggle Variable Action Components. The name is also shown next to the component on the logic schematic.

The Initial Value field allows the initial value of the variable at system start up to be specified.

6.12.5.5 Announcement Activity Input Component

The Announcement Activity Input Component provides an output which indicates whether particular types of announcements are active on a specified analogue output.

The Announcement Activity Parameters dialogue allows the behaviour of the Input Component to be modified.

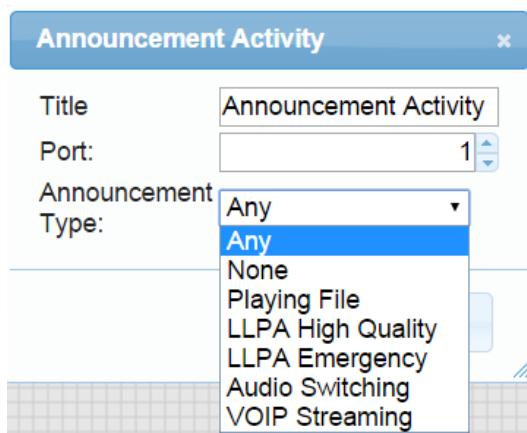


Figure 153 – Condition Monitor: Announcement Activity Input Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Port field allows the physical analogue output port to be specified on the device

The Announcement Type field allows the type of announcement on the specified port:

Any

Any type of audio will result in the output being True.

None

When there is no audio present the output will be True.

Playing File

Digital Voice Announcement (DVA) or pre-recorded audio will result in the output being True.

LLPA High Quality

Long Line Public Address (LLPA) will result in the output being True.

LLPA Emergency

Long Line Public Address (LLPA) Emergency Announcements will result in the output being True.

Audio Switching

@@@

VOIP Streaming

Telephony calls will result in the output being True.

6.12.5.6 IPPA PTT Button Pressed Input Component

The IPPA PTT Button Pressed Input Component provides an output which reflects whether the Push to Talk (PTT) button on the IPPA is pressed.

The IPPA PTT Button Pressed Parameters dialogue allows the behaviour of the Input Component to be modified.

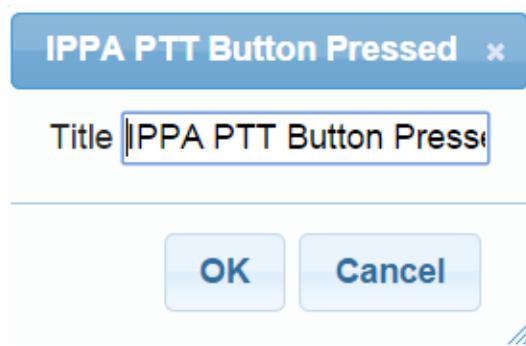


Figure 154 – Condition Monitor: Variable Input Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

6.12.5.7 IPPA Soft Button Pressed Input Component

The IPPA Soft Button Pressed Input Component provides an output which reflects the pressed state of a soft button configured on the IPPA operators interface. For information about configuring soft buttons on the IPPA refer to section 6.17.3.2 *Soft Buttons*.

The IPPA Soft Button Pressed Parameters dialogue allows the behaviour of the Input Component to be modified.

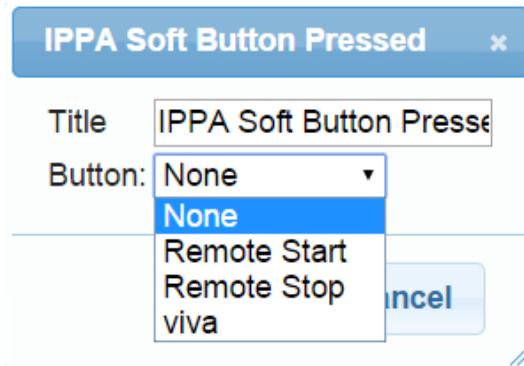


Figure 155 – Condition Monitor: IPPA Soft Button Pressed Input Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Button field allows IPPA soft button to be selected. The dropdown shows a list of the soft buttons defined on the IPPA operators interface.

6.12.5.8 Amplifier Activity Input Component

The Amplifier Activity Input Component provides an output which reflects whether audio is present on an amplifier output.

The Amplifier Activity Parameters dialogue allows the behaviour of the Input Component to be modified.

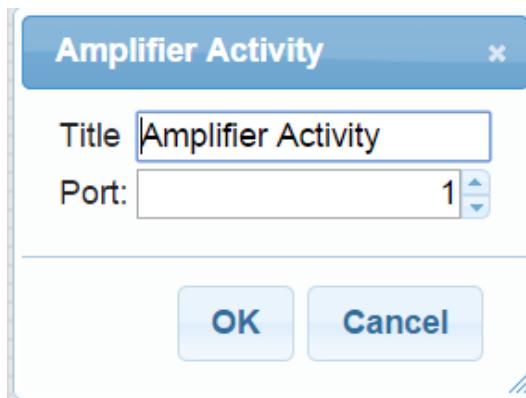


Figure 156 – Condition Monitor: Amplifier Activity Input Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Port field allows the physical analogue amplifier output port to be specified on the device

6.12.5.9 Amplifier State Input Component

The Amplifier State Input Component provides an output which reflects the health of an amplified audio output port on the device.

The Amplifier State Parameters dialogue allows the behaviour of the Input Component to be modified.

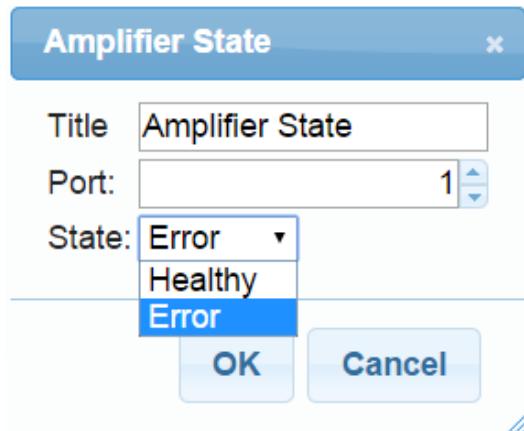


Figure 157 – Condition Monitor: Amplifier Activity Input Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Port field allows the physical analogue amplifier output port to be specified on the device

The State field indicates the state of health of the amplifier when the output will be True. The value can be Healthy, where the output is True if the amplifier is healthy; or Error, where the output is True if an error has been detected with the amplifier.

6.12.5.10 Element Value Input Component

The Element Value Input Component provides advanced access to information within the NetSpire system.

The Element Value Input Component provides access to NetSpire internal system state information which is not generally supported for end user configuration. Contact Open Access for more information if required.

6.12.6 Action Components

The Action Components are accessed in the Action Components section of the screen. The Action components control different aspects of the NetSpire system such as the state of isolated digital outputs.



Figure 158 – Condition Monitor: Action Components

The Action Components available on each NetSpire device is different and reflects the capabilities of the device. The following table lists all the available Action Components in the NetSpire system, and the devices that support them.

Action Component	Description	Supported Devices
Raise Alarm	Raises a user defined Alarm in the system when the component input is True.	All
Deactivate Alarm	Deactivates a user defined Alarm in the system when the component input is True.	All
Digital Output	Sets the output state of one or more isolated digital outputs when the component input is True.	
Set Variable	Sets the value of a Boolean variable defined by a Variable Input Component when the component input is True.	All
Toggle Variable	Toggles the value of a Boolean variable defined by a Variable Input Component when the component input is True.	All
Announcement - Play	Initiates a Digital Voice Announcement (DVA) on one or more analogue outputs when the component input is True.	All NetSpire devices with analogue outputs or preview speakers
Announcement - Stop	Stops a Digital Voice Announcement (DVA) on one or more analogue outputs when the component input is True.	All NetSpire devices with analogue outputs or preview speakers
Route Audio	Changes routing of audio between analogue input and output port when the component input is True.	All NetSpire devices with analogue inputs, outputs and/or preview speakers
Send Action	For advanced use only. Provides access to NetSpire internal system controls which is not generally supported for end user configuration. Contact Open Access for more information if required.	All

Table 6 – Condition Monitor Action Components

The follow sections provide detailed information about each of the Action Components

6.12.6.1 Raise Alarm Action Component

The Raise Alarm Action Component provides the ability to generate a user defined alarm when the components input is True.

The Raise Alarm Parameters dialogue allows the behaviour of the Alarm Component to be modified.

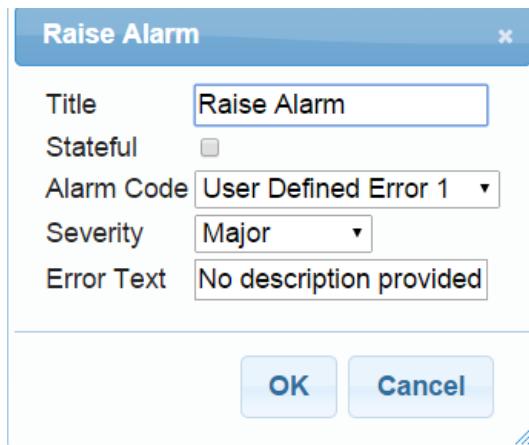


Figure 159 – Condition Monitor: Raise Alarm Action Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Stateful field determines if the alarm generated is a stateful alarm. Stateful alarms can be deactivated using the Deactivate Alarm Action component. For more information on Stateful and Stateless Alarms, refer to section 5.8 *Information: Alarms Screen*.

The Alarm Code field allows the user defined alarm code to be selected from the dropdown.

The Severity field allows the severity of the generated Alarm to be specified.

The Error Text field allows a description of the Alarm condition to be entered. This description is displayed with the Alarm on the Alarms Information screen.

6.12.6.2 Deactivate Alarm Action Component

The Deactivate Alarm Action Component deactivates a previously generated stateful Alarm when the component input is True.

The Deactivate Alarm Parameters dialogue allows the behaviour of the Alarm Component to be modified.



Figure 160 – Condition Monitor: Deactivate Alarm Action Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Alarm Code field allows the user defined alarm code to be selected from the dropdown.

6.12.6.3 Digital Output Action Component

The Digital Output Action Component sets the output state of one or more isolated digital outputs on the device when the components input is True.

The Digital Output Parameters dialogue allows the behaviour of the Alarm Component to be modified.

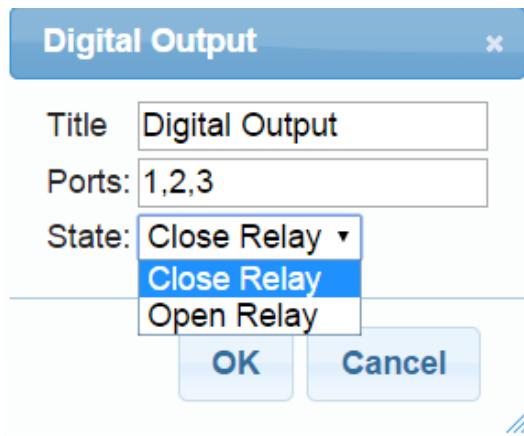


Figure 161 – Condition Monitor: Digital Output Action Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Ports field specifies one or more isolated digital outputs on the device. Multiple outputs are separated by commas as shown in the example above.

The State field shows the state the isolated digital output will be set to when the component input is True.

6.12.6.4 Set Variable Action Component

The Set Variable Action Component sets the value of a Boolean variable defined by a Variable Input Component when the component input is True.

The Set Variable Parameters dialogue allows the behaviour of the Alarm Component to be modified.

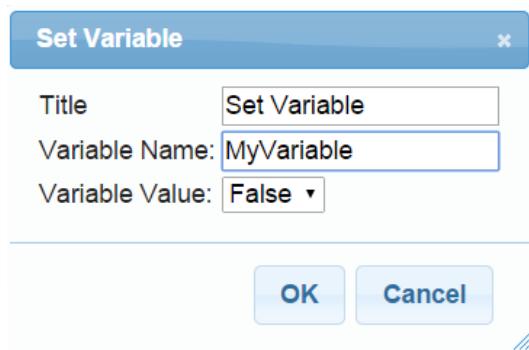


Figure 162 – Condition Monitor: Set Variable Action Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Variable Name specifies the name of the variable to set. This is the name defined by the corresponding Variable Input Component.

The Variable Value field specifies the value to set this variable when the component input is True.

6.12.6.5 Toggle Variable Action Component

The Toggle Variable Action Component toggles the value of a Boolean variable defined by a Variable Input Component when the component input is True. Toggling means that if the value of the variable was True, it will be changed to False; if the value was False, it will be changed to True.

The Toggle Variable Parameters dialogue allows the behaviour of the Alarm Component to be modified.

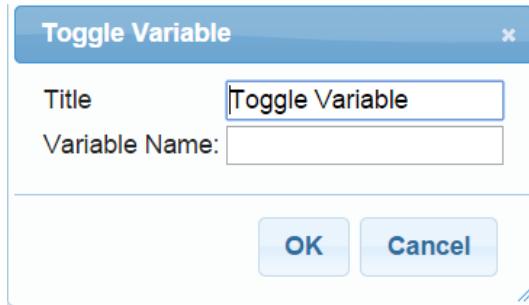


Figure 163 – Condition Monitor: Toggle Variable Action Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Variable Name specifies the name of the variable to toggle. This is the name defined by the corresponding Variable Input Component.

6.12.6.6 Announcement Play Action Component

The Announcement Play Action Component initiates a Digital Voice Announcement (DVA) on one or more analogue outputs when the component input is True.

The Announcement Play Parameters dialogue allows the behaviour of the Alarm Component to be modified.

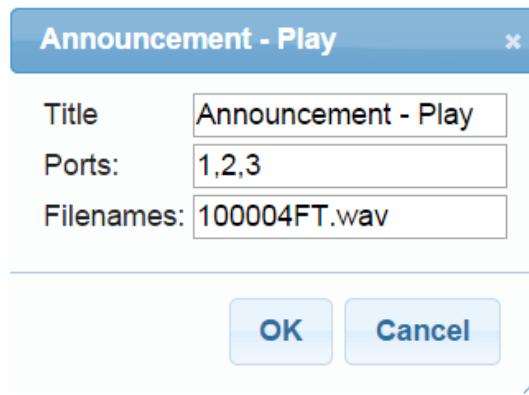


Figure 164 – Condition Monitor: Announcement Play Action Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Ports field specifies one or more analogue outputs on the device. Multiple outputs are separated by commas as shown in the example above.

The Filenames field specifies the name of one or more audio files to play. Multiple filenames are separated by commas.

For a list of audio files on the device refer to section 6.15 *Setup: Dictionary Management Screen*.

6.12.6.7 Announcement Stop Action Component

The Announcement Stop Action Component stops a Digital Voice Announcement (DVA) on one or more analogue outputs when the component input is True.

The Announcement Stop Parameters dialogue allows the behaviour of the Alarm Component to be modified.

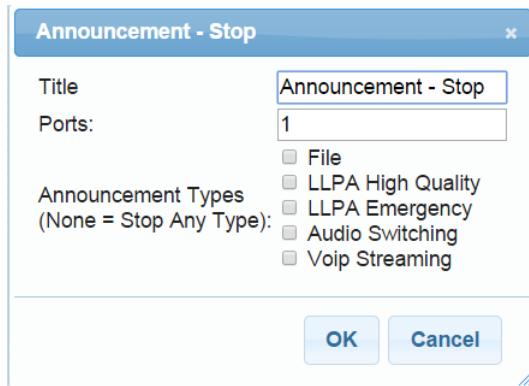


Figure 165 – Condition Monitor: Announcement Stop Action Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Ports field specifies one or more analogue outputs on the device. Multiple outputs are separated by commas.

The Announcement Types field is a list of checkboxes nominated which type of announcements should be stopped. If no checkboxes are selected, then all types of announcements will be stopped.

6.12.6.8 Route Audio Action Component

The Route Audio Action Component stops a Digital Voice Announcement (DVA) on one or more analogue outputs when the component input is True.

The Route Audio Parameters dialogue allows the behaviour of the Alarm Component to be modified.

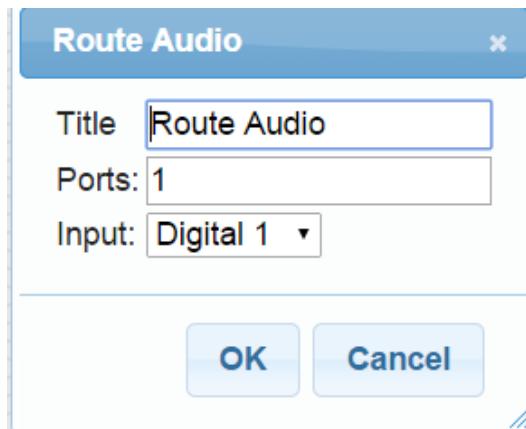


Figure 166 – Condition Monitor: Route Audio Action Component Parameters Dialogue

The Title field allows a description to be entered which is shown next to the component on the logic schematic.

The Ports field specifies one or more analogue outputs on the device. Multiple outputs are separated by commas.

The Input field specifies an analogue input that is to be routed to the analogue outputs when the component input is True.

6.12.6.9 Send Action Action Component

The Send Action Action Component provides advanced access to control within the NetSpire system.

The Element Value Input Component Provides access to NetSpire internal system controls which is not generally supported for end user configuration. Contact Open Access for more information if required.

6.12.7 Managing Condition Monitor Pages

The Toolbar of the Condition Monitor screen provides the ability to manage multiple pages of logic schematics. This can be useful in large systems where keeping functionally related items together on a single working page is preferable.



Figure 167 – Condition Monitor: Toolbar

The Toolbar contains the following tools for managing multiple pages:

Current Page Dropdown

The Current Page dropdown allows the current working page to be selected from the pages already created on the device.



Manage Pages Icon

The Manage Pages icon shows a dialogue that allows pages to be created, modified and deleted from the device.



Change Canvas Size Icon

The Change Canvas Size icon shows a dialogue that allows the canvas size of the current working page to be changed.



6.12.7.1 Creating a New Page

To create a new page, click the Manage Pages Icon on the Toolbar.



Figure 168 – Condition Monitor: Toolbar: Manage Pages Icon

The Manage Pages dialogue will be displayed, which is shown below:

Manage Pages		
Actions	Page Name	Type
[Edit] [Delete]	User Page 1	Page
[Edit] [Delete]	My New Page	Page

At the bottom of the dialogue are two buttons: 'Add Page' and 'Close'.

Figure 169 – Condition Monitor: Manage Pages Dialogue

To add a new page, click the Add Page button at the bottom of the dialogue. The Page Details dialogue will be displayed, which is shown below.

The 'Edit Page Details' dialogue box contains two input fields: 'Name' (set to 'My Newest Page') and 'Type' (set to 'Page'). At the bottom are 'OK' and 'Cancel' buttons.

Figure 170 – Condition Monitor: Page Details Dialogue

Enter a name for the new page into the Name field, and click the OK button.

6.12.7.2 Deleting an Existing Page

To delete an existing page, click the Manage Pages Icon on the Toolbar.



Figure 171 – Condition Monitor: Toolbar: Manage Pages Icon

The Manage Pages dialogue will be displayed, which is shown below:

A screenshot of the 'Manage Pages' dialogue. It contains a table with three columns: Actions, Page Name, and Type. There are two rows of data. In the first row, the 'Delete' button is highlighted with a red arrow. In the second row, both the 'Edit' and 'Delete' buttons are highlighted with red boxes. At the bottom are 'Add Page' and 'Close' buttons.

Actions	Page Name	Type
[Edit] [Delete]	Page 1	Page
[Edit] [Delete]	My New Page	Page

Figure 172 – Condition Monitor: Manage Pages Dialogue

Click the Delete button next to the page that is to be deleted. A confirmation dialogue will be displayed to confirm the operation.

NOTE: DELETE A PAGE IS IRREVERSIBLE AND INFORMATION WILL BE LOST

Deleting a page will lose all the information for the logic schematic present on the page.
Deleting a page cannot be undone or reversed.

6.12.7.3 Changing the Canvas Size of a Page

To change the canvas size of an existing page, click the Change Canvas Size icon on the Toolbar.



Figure 173 – Condition Monitor: Toolbar: Change Canvas Size Icon

The Canvas Size dialogue will be displayed, which is shown below:



Figure 174 – Condition Monitor: Canvas Size Dialogue

Enter in the new width and weight of the canvas and click the OK button.

6.13 Setup: Configuration Management Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Configuration Management Setup screen is supported by all NetSpire devices and allows the administrator to establish the rules for managing configuration for a NetSpire device.

The NetSpire system can support centralised management of all device configurations, across multiple tiers. This allows the system to scale to a large number of devices, while maintaining the ability to manage the configuration for all devices in the system from a central location.

In addition to centralised management, the Configuration Management function allows devices to be replaced, and the new device will automatically download the correct configuration based on the device's Configuration Identification.

The following diagram shows an example architecture of a complex, multi-tier configuration management setup.

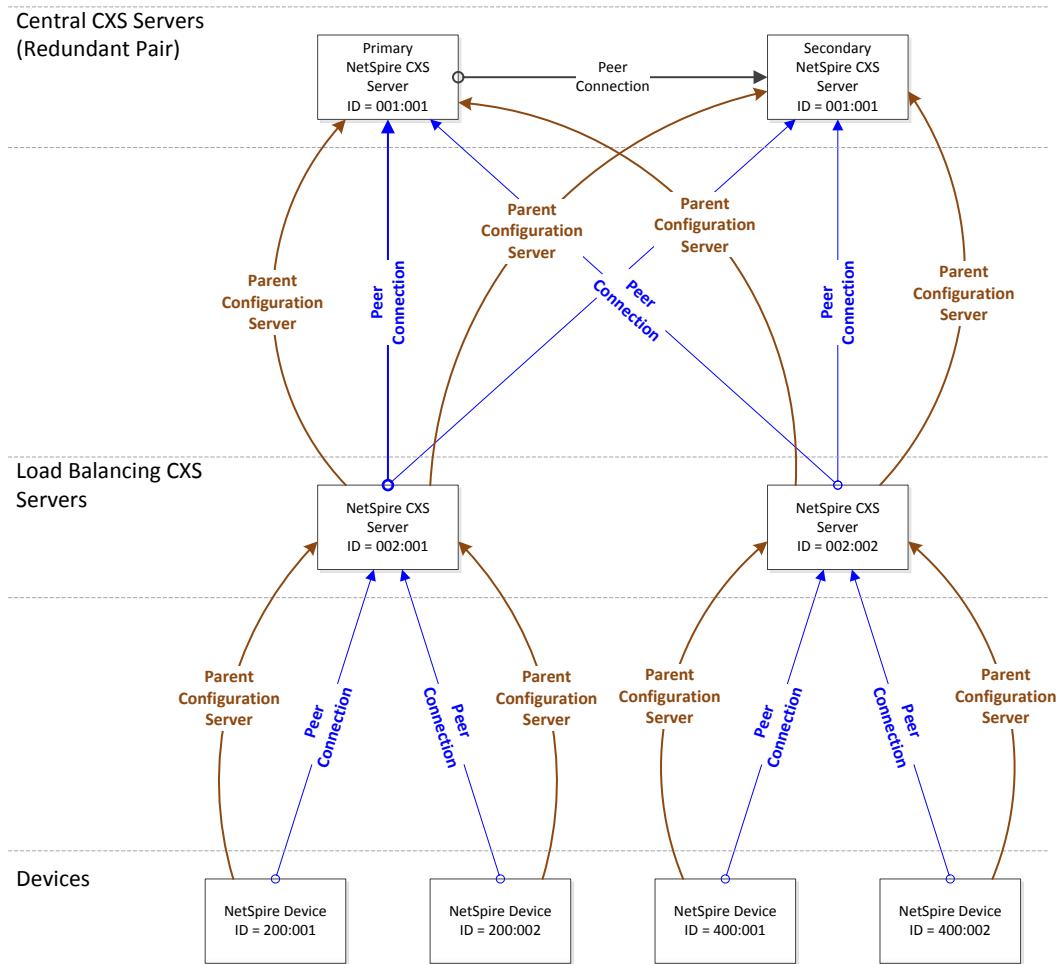


Figure 175 – NetSpire Configuration Management Architecture

The architecture above depicts a three tier architecture with redundant CXS servers at the core, and a second layer of CXS servers used to distribute the system load.

The diagram shows the Parent Configuration relationships between the devices and the CXS servers. Configuration information is passed through the peer connections, and a copy of all configuration information is propagated and stored on the Central CXS Servers.

Changes to configuration of the device using the Web Administration Interface is automatically propagated to all the Configuration Servers configured for the device, and parents of those Configuration Servers.

The Configuration Management Setup screen is shown below:



Figure 176 – Configuration Management Setup Screen

The Configuration Management Setup screen allows the following settings to be configured:

Configuration Mode

Configuration can be managed in stand alone mode or client/server mode.

Configuration Identification Method

Identification method this device uses to retrieve or identify its configuration information and data.

Configuration Sync Servers

List of Configuration Servers configured for the device.

The following sections cover the settings on this screen.

6.13.1 Configuration Mode

The Configuration Mode can be managed in two modes; stand alone and client/server.



A Configuration Mode must be selected during setup of the system.

- Stand alone mode - In this mode, all configuration for the device is stored on the device itself and is never synchronised with any other server or device.
- Client/server mode - In this mode, the device's configuration is synchronised with the nominated server or servers. This has the advantage that the device's configuration is then automatically backed up and if the device is replaced, the new device will automatically receive the latest configuration from a server.

6.13.2 Configuration Sync Servers

The list of Configuration Servers can either be pushed down from a CXS Server with a peer connection to the device, or manually configured on the device by the administrator.

The System Managed Servers are a centrally managed list of configuration servers for all devices in the system. This list of Configuration Servers is pushed to the device from a CXS Server with a peer connection to the device.

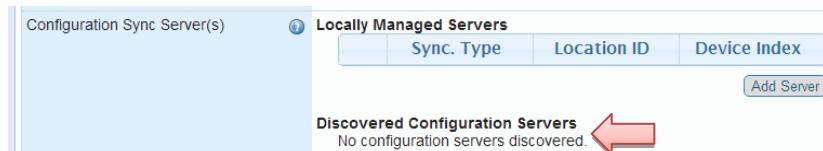


Figure 177 – Configuration Management Setup Screen: System Managed Servers

Parent Configuration Servers can also be manually added to the device by adding Location ID and Device Index pairs to the list of Locally Managed Servers.

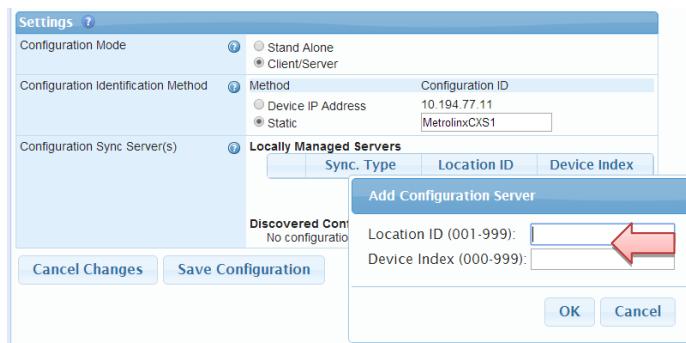


Figure 178 – Configuration Management Setup Screen: Locally Managed Servers

Servers may be added by pressing the Add Server button and filling in the server's Location ID and Device Index into the new text boxes.

NOTE: CONFIGURATION SERVERS NEED TO BE ADDED AS NETSPIRE PEERS

Specifying the Location ID and Device Index of a Configuration Server is not sufficient to enable the configuration connection. The configuration server must also be added to the list of NetSpire Peers for the device.

Refer to section 6.21 Setup: NetSpire Peers Screen

6.13.3 Configuration Identification Method

The Configuration Identification Method determines how a device identifies itself to the configuration system, and retrieves the correct configuration information and data from the system.

Configuration Identification Method	<input type="radio"/> Method	Configuration ID
	<input checked="" type="radio"/> Device IP Address	10.194.77.11
	<input type="radio"/> Static	MetrolinxCXS1

Figure 179 – Configuration Management Setup Screen: Identification Method

The options for the Configuration Identification Method are described below:

Device IP Address

The IP Address of the device is used to identify the device to the configuration server, and determines the configuration information it receives. This option is only suitable for systems using DHCP Option 82 or Static IP Address assignment.

Carrier ID

Devices such as the NetSpire NAM support a carrier or docking interface that has an embedded unique identification number. When a device is replaced the carrier stays in place and the body of the unit is replaced. In this case the unique Carrier Id is used to determine which configuration information the device receives.

Static

The Static option allows the administrator to specify a statically assigned unique string. These strings need to be managed and assigned by the Administrator of the system. The unique string determines which configuration information the device receives.

6.14 Setup: Device Identification Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Device Identification Setup screen is supported by all NetSpire devices and allows the administrator to enter unique identification information for the device in the NetSpire system.

Devices in the NetSpire system are uniquely identified using a pair of numbers called Location ID and Device Index. Both numbers are 3 digit decimal numbers.

Location ID can range from 0 to 999, while Device Index can range from 1 to 999.

NOTE: LOCATION ID AND DEVICE INDEX PAIR MUST BE UNIQUE

The combination of Location ID and Device Index must be unique for all devices in the NetSpire system.

Figure 180 – Device Identification Setup Screen

In addition to the unique identification number, the interface allows a Device Name, Device Location and a Description for the device to be assigned.

Device Name

Typically the Device Name will be given an Asset number or similar identification moniker in line with the site specific asset management process.

Device Location

The Device Location is intended to describe the physical location of the device.

Device Description

The Device Description can contain any additional information relevant to the device or installation.

The SIP Identity is displayed for appropriate devices such as NetSpire Intercoms and NetSpire IPPA devices. The SIP Identity is generated from the Location ID and Device Index and cannot be directly modified by the administrator.

6.15 Setup: Dictionary Management Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Dictionary Management screen is supported by all NetSpire devices and allows the administrator to manage the pre-recorded messages stored in the dictionary.

The set of pre-recorded announcements loaded into the NetSpire system is referred to as the Audio Dictionary.

The administrator is able to:

- ▶ View and preview the items stored in the Audio Dictionary
- ▶ Load new items into the Audio Dictionary
- ▶ Remove items from the Audio Dictionary
- ▶ Choose whether the Audio Dictionary is centrally or locally managed

The screenshot shows the 'Dictionary Management' interface. At the top, it displays 'Mode: Read/Write (Active Server)' and 'Default Dictionary ID Range: 99000-99999'. Below this is a table listing various audio files with columns for ID, File Name, Category, Type, Encoding, Upload Date, Size, and Description. A yellow highlight is on the row for file ID 99003. At the bottom of the table, there's a summary row 'Totals' with a size of 37,692 KB. Below the table is an options panel containing a media player with play/pause controls, a volume slider, and a timestamp '00:00' to '00:23'. It also includes buttons for 'Add/Replace Dictionary Item', 'Options' (which is highlighted with a red arrow), 'Cancel Changes', and 'Save Media'. A status message '99003 (A Call Cannot Be Placed)' is displayed at the bottom of the panel.

Figure 181 – Dictionary Management Setup Screen: Options Shown

The “Options” button allows the administrator to control and modify the parameters of dictionary management.

The options panel allows the following parameters to be modified:

“User can override default dictionary items” checkbox

The administrator can allow default dictionary items provided with the NetSpire system to be replaced by user recorded items.

Dictionary Management:

Radio buttons allow “Standalone” and “Centrally Managed” options

Default Encoding

Drop down menu allows 48 KHz PCM and OA Celt options. By default, it is set to 48 KHz PCM.

Standalone dictionaries are individually managed on each device.

Centrally Managed dictionaries are generally preferred for larger systems. Choosing the “Centrally Managed” option ensures the device will automatically synchronise with the dictionary as managed on the NetSpire CXS/TCX Server(s). The NetSpire CXS/TCX Servers must be configured as Peer devices.

For information on NetSpire Peer Connections refer to section 6.21 Setup: NetSpire Peers Screen.

In the case of the “Centrally Managed” option, the local dictionary will be read only, and local changes on the devices are not permitted.

6.15.1 Viewing Audio Dictionary Items

The Dictionary Management screen shows a list of the items in the Audio Dictionary for the device. Each item has the following information:

ID

Number identifying the pre-recorded announcement in the system

File Name

Name of the dictionary item file name in the system

Category

User defined category for the item

Type

Type of audio content. (Currently limited to Flat inflection)

Encoding

File encoding of audio content. (Either 48 KHz or OA Celt)

Upload Date

The date that the file was loaded into the system. Files that are installed as part of a customer specific configuration package do not have an upload date.

Size

The disc space required by the audio file.

Description

User provided description, usually to describe the content or meaning of the recorded message.

6.15.2 Previewing Audio Dictionary Items

Existing items in the Audio Dictionary can be previewed by:

- Preview the content from the integrated media player to preview on the local machine connected to the web interface. The media player preview one dictionary item at a time – with facility to play, stop, repeat and change preview volume.

ID	File Name	Category	Type	Encoding	Upload Date	Size	Description
23006	23006FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	938 KB	Customers Pram Pusher
50155	50155FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	1,063 KB	Smoking is not Permitted
50350	50350FT.wav	Greetings	Audio (Flat)	48k-PCM	N/A	162 KB	Good afternoon ladies and gentlemen
50351	50351FT.wav	Greetings	Audio (Flat)	48k-PCM	N/A	132 KB	Good evening ladies and gentlemen
50352	50352FT.wav	Greetings	Audio (Flat)	48k-PCM	N/A	165 KB	Good morning ladies and gentlemen
50508	50508FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	552 KB	Mind The Gap
50521	50521FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	350 KB	Due to Depart
50713	50713FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	287 KB	Spread along the Platform
50719	50719FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	896 KB	Wheelchairs Prams Bicycles
50750	50750FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	837 KB	Riding bicycles skateboards scooters
60000	60000FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	5 KB	Slippery
60001	60001FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	5 KB	Surveillance
70100	70100FT.wav	Signals and Silences	Audio (Flat)	48k-PCM	N/A	184 KB	Chime
99001	99001FT.wav	System	Audio (Flat)	48k-PCM	16/09/2015	264 KB	Stand Clear Doors Closing
99002	99002FT.wav	System	Audio (Flat)	48k-PCM	16/09/2015	558 KB	Door Obstruction Message
99003	99003FT.wav	Ring Tones and Prompt	Audio (Flat)	8k-ALAW	16/09/2015	361 KB	A Call Cannot Be Placed
99004	99004FT.wav	Ring Tones and Prompt	Audio (Flat)	8k-ALAW	16/09/2015	342 KB	Your Call Is In A Queue
Totals							
37,692 KB							

Below the table is a media player control bar with buttons for play, stop, repeat, and volume. A red arrow points to the volume slider. The text "99003 (A Call Cannot Be Placed)" is displayed below the control bar.

Figure 182 – Dictionary Management Setup Screen: Media Player

- Downloading the audio file and using your preferred audio file player to preview the contents.

ID	File Name	Category	Type	Encoding	Upload Date	Size	Description
23006	23006FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	938 KB	Customers Pram Pusher
50155	50155FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	1,063 KB	Smoking is not Permitted
50350	50350FT.wav	Greetings	Audio (Flat)	48k-PCM	N/A	162 KB	Good afternoon ladies and gentlemen
50351	50351FT.wav	Greetings	Audio (Flat)	48k-PCM	N/A	132 KB	Good evening ladies and gentlemen
50352	50352FT.wav	Greetings	Audio (Flat)	48k-PCM	N/A	165 KB	Good morning ladies and gentlemen
50508	50508FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	552 KB	Mind The Gap
50521	50521FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	350 KB	Due to Depart
50713	50713FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	287 KB	Spread along the Platform
50719	50719FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	896 KB	Wheelchairs Prams Bicycles
50750	50750FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	837 KB	Riding bicycles skateboards scooters
60000	60000FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	5 KB	Slippery
60001	60001FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	5 KB	Surveillance
70100	70100FT.wav	Signals and Silences	Audio (Flat)	48k-PCM	N/A	184 KB	Chime
99001	99001FT.wav	System	Audio (Flat)	48k-PCM	16/09/2015	264 KB	Stand Clear Doors Closing
99002	99002FT.wav	System	Audio (Flat)	48k-PCM	16/09/2015	558 KB	Door Obstruction Message
99003	99003FT.wav	Ring Tones and Prompt	Audio (Flat)	8k-ALAW	16/09/2015	361 KB	A Call Cannot Be Placed
99004	99004FT.wav	Ring Tones and Prompt	Audio (Flat)	8k-ALAW	16/09/2015	342 KB	Your Call Is In A Queue
Totals							
37,692 KB							

Below the table is a media player control bar with buttons for play, stop, repeat, and volume. A red box highlights the download icon (a downward arrow) next to the item "50713FT.wav". The text "99003 (A Call Cannot Be Placed)" is displayed below the control bar.

Figure 183 – Dictionary Management Setup Screen: Download Icon

To download an existing item from the Audio Dictionary, click on the Download icon next to the desired item. The item will download by the browser, ready to load into your preferred audio file player.

6.15.3 Loading Items or Replacing into the Audio Dictionary

To load new items (or replace existing items) in the Audio Dictionary, click on the “Add/Replace” button located at the bottom left of the screen.

The screenshot shows the 'Dictionary Management' interface. At the top, it displays 'Mode: Read/Write (Active Server)' and 'Default Dictionary ID Range: 99000-99999'. Below is a grid of audio files with columns for ID, File Name, Category, Type, Encoding, Upload Date, Size, and Description. A yellow highlight is on the row for item 99003 ('A Call Cannot Be Placed'). At the bottom, there's a media player preview for item 99003, followed by buttons for 'Add/Replace Dictionary Item' (highlighted with a red arrow), 'Options', 'Cancel Changes', and 'Save Media'.

Figure 184 – Dictionary Management Setup Screen: Add/Replace Button

The Add/Replace Media File dialogue will be displayed and is shown in the figure below:

The dialogue box has a title 'Add/Replace Media File'. It contains fields for 'Media File' (with a 'Select File' button highlighted with a red arrow), 'Upload Progress' (0%), 'Upload Status' (Idle), and checkboxes for 'Item ID' (Auto) and 'Description'. Below these are dropdown menus for 'Category' (System), 'Audio Inflection' (Flat), and 'Encoding' (48k PCM). At the bottom are 'OK' and 'Cancel' buttons.

Figure 185 – Dictionary Management Add/Replace Media File Dialogue

To choose a file to upload, click the Select File button.

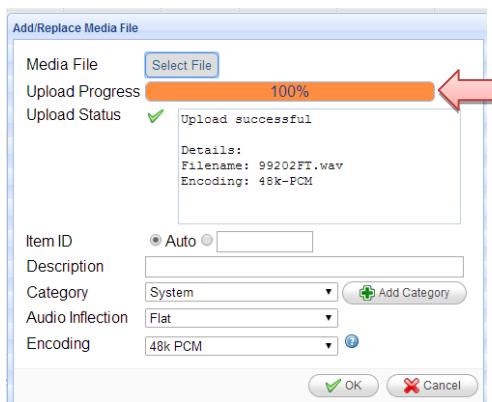


Figure 186 – Dictionary Management Add/Replace Media File Dialogue: Upload

The progress bar will indicate when the file has been uploaded to a staging area on the device. When uploaded the details of the file will be displayed, along with the status of the upload.

Different NetSpire devices support different file formats which can be loaded into the Voice Dictionary. The following file formats are supported on each device:

Device Type	File Formats Supported
NetSpire CXS	Audio 8k-PCM, 48k-PCM and OA Celt; Images; Video files
NetSpire TCX	Audio 8k-PCM, 48k-PCM and OA Celt; Images
NetSpire intercoms	Audio 8k-PCM Only
NetSpire NAC, TGU, NAM, NAR	48k-PCM and OA Celt
NetSpire CAC, CI, CP, CC, IPPA	Audio 8k-PCM, 48k-PCM and OA Celt.

The following information can now be entered for the Audio Segment:

Item ID

The administrator can either allow the system to automatically assign an identification number to the Voice Segment, or can manually assign one. If a manually assigned identification number matches an item already in the system, it will be overwritten and replaced.

Description

Description of the Voice Segment. This is text describing the contents, or the literal spoken words in the recording.

Category

Category for the new Voice Segment. New categories can be added to the system by clicking the Add Category button.

Audio Inflection

For recordings that are partial sentences or single words, the inflection should be chosen to reflect the inflection in the speaker's voice. This allows automated announcements to be created which sound more natural. Typically sentences finish with a falling inflection. These sentence endings are recorded as a partial

sentence or single word. The inflection should be chosen to reflect the inflection used during natural language.

Recordings of a complete sentence should be marked a Flat inflection.

Encoding

The Encoding of the file cannot be changed, and this field simply provides feedback to the administrator about the detected format of the file loaded.

When the information has been changed, click the OK button.

The file is now in a staging area (pending) on the system, which can be seen on the user interface, as shown below:

ID	File Name	Category	Type	Encoding	Upload Date	Size	Description
99374	99374FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	2000Hz 0dB 10secs
99375	99375FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	2500Hz 0dB 10secs
99376	99376FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	3150Hz 0dB 10secs
99377	99377FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	4000Hz 0dB 10secs
99378	99378FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	5000Hz 0dB 10secs
99380	99380FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	19 KB	DTMF Tone 0
99381	99381FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 1
99382	99382FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 2
99383	99383FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 3
99384	99384FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 4
99385	99385FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 5
99386	99386FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 6
99387	99387FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	15 KB	DTMF Tone 7
99388	99388FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	19 KB	DTMF Tone 8
99389	99389FT.wav	Ring Tones and Prompt	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 9
99900	99900FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	1,320 KB	Walkthrough Test Tone
Pending 2	Pending 2.wav	System	Audio (Flat)	48k-PCM	02/10/2015	84 KB	Test
Totals							
32.241 KB							

Add/Replace Dictionary Item Options Cancel Changes Save Media media list has changed

Figure 187 – Dictionary Management Add/Replace Media File Dialogue: Staging

When all changes have been completed, click the Save Media button to commit the changes to the system.

6.15.4 Removing Items from the Audio Dictionary

To remove an existing item from the Audio Dictionary, click on the Delete icon next to the item to remove.

ID	File Name	Category	Type	Encoding	Upload Date	Size	Description
23006	23006FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	938 KB	Customers Pram Pusher
50155	50155FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	1,063 KB	Smoking is not Permitted
50350	50350FT.wav	Greetings	Audio (Flat)	48k-PCM	N/A	162 KB	Good afternoon ladies and gentlemen
50351	50351FT.wav	Greetings	Audio (Flat)	48k-PCM	N/A	132 KB	Good evening ladies and gentlemen
50352	50352FT.wav	Greetings	Audio (Flat)	48k-PCM	N/A	165 KB	Good morning ladies and gentlemen
50508	50508FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	552 KB	Mind The Gap
50521	50521FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	350 KB	Due to Depart
50713	50713FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	287 KB	Spread along the Platform
50719	50719FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	896 KB	Wheelchairs Prams Bicycles
50758	50758FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	837 KB	Riding bicycles skateboards scooters
60000	60000FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	5 KB	Slippery
60001	60001FT.wav	Safety	Audio (Flat)	48k-PCM	N/A	5 KB	Surveillance
70100	70100FT.wav	Signals and Silences	Audio (Flat)	48k-PCM	N/A	184 KB	Chime
99001	99001FT.wav	System	Audio (Flat)	48k-PCM	16/09/2015	264 KB	Stand Clear Doors Closing
99002	99002FT.wav	System	Audio (Flat)	48k-PCM	16/09/2015	558 KB	Door Obstruction Message
99003	99003FT.wav	Ring Tones and Prompts	Audio (Flat)	8k-ALAW	16/09/2015	361 KB	A Call Cannot Be Placed
99004	99004FT.wav	Ring Tones and Prompts	Audio (Flat)	8k-ALAW	16/09/2015	342 KB	Your Call Is In A Queue
Totals						37,692 KB	

Buttons at the bottom: Add/Replace Dictionary Item, Options, Cancel Changes, Save Media.

Message bar: 99003 (A Call Cannot Be Placed)

Figure 188 – Dictionary Management Setup Screen: Delete Icon

The item will be shown with strike-through text, as shown below.

ID	File Name	Category	Type	Encoding	Upload Date	Size	Description
99374	99374FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	2000Hz 0dB 10secs
99375	99375FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	2500Hz 0dB 10secs
99376	99376FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	3150Hz 0dB 10secs
99377	99377FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	4000Hz 0dB 10secs
99378	99378FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	938 KB	5000Hz 0dB 10secs
99380	99380FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	19 KB	DTMF Tone 0
99381	99381FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 1
99382	99382FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 2
99383	99383FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 3
99384	99384FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 4
99385	99385FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 5
99386	99386FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 6
99387	99387FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	15 KB	DTMF Tone 7
99388	99388FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	19 KB	DTMF Tone 8
99389	99389FT.wav	Ring Tones and Prompts	Audio (Flat)	48k-PCM	02/10/2015	17 KB	DTMF Tone 9
99900	99900FT.wav	Test Tones	Audio (Flat)	48k-PCM	02/10/2015	1,320 KB	Walkthrough Test Tone
100044	99900FT.wav	System	Audio (Flat)	8k-ALAW	02/10/2015	24 KB	Test
Totals						32,181 KB	

Buttons at the bottom: Add/Replace Dictionary Item, Options, Cancel Changes, Save Media.

Message bar: 99386 (DTMF Tone 6) ←

Figure 189 – Dictionary Management Setup Screen: Strike-through Item

More items can be selected for removal by clicking each of the Delete icons. To reverse a deletion, click the green tick icon next to an item already removed.

When all changes have been completed, click the Save Media button to commit the changes to the system.

6.16 Setup: Digital I/O Screen

Supported by
CXS
IPPA
NAR
X
NAC
X
NAM
X
TCX
X
TGU
X
CI
X
CP
X
CC
X
CAC
X
PEI
X

The Digital I/O Setup screen is supported by NetSpire devices that support isolated digital input and output ports.

The Digital I/O Setup screen allows the administrator to configure the behaviour of the digital inputs and outputs on the device.

The screenshot shows the 'Digital I/O' setup interface. At the top is a header 'Digital I/O'. Below it are two tables:

- Digital Inputs:** A table with columns: Port, Label, Current State, Alarm Code, Alarm Severity, Alarm When, and Alarm Text. It lists 8 ports (DIN1-DIN8) all labeled 'Digital Input X' and set to 'Open'.
- Digital Outputs:** A table with columns: Port, Label, Current State, Startup State, and Binding. It lists 8 ports (DOUT1-DOUT8) all labeled 'Digital Out X' and set to 'Relay Open'.

At the bottom of the screen are two buttons: 'Cancel Changes' and 'Save Settings'.

Figure 190 – Digital I/O Setup Screen

6.16.1 Digital Inputs

The Digital Inputs table is shown at the top of the screen. This table lists each of the isolated digital inputs supported by the device.

Digital Inputs						
Port	Label	Current State	Alarm Code	Alarm Severity	Alarm When	Alarm Text
DIN1	Digital Input 1	Open				
DIN2	Digital Input 2	Open				
DIN3	Digital Input 3	Open				
DIN4	Digital Input 4	Open				
DIN5	Digital Input 5	Open				
DIN6	Digital Input 6	Open				
DIN7	Digital Input 7	Open				
DIN8	Digital Input 8	Open				

Figure 191 – Digital I/O Setup Screen: Digital Inputs Table

The Digital Inputs table has the following fields:

Port

The Port field lists the name of the physical isolated digital input port on the device.

Label

The Label field is a descriptive label which can be used to describe the function of the digital input within the system. The Label can be changed by clicking the Edit button at the right of the table.

Current State

The Current State field shows the current state of the digital input. The states can be 'Open' or 'Closed'.

Alarm Code

The Alarm Code field lists an alarm that will be generated by the digital input if configured. The Alarm associated with a digital input can be modified by clicking the Edit button at the right of the table.

Alarm Severity

The Alarm Severity field shows the severity of the Alarm generated

Alarm When

The Alarm When field shows the condition of the digital input that will cause the Alarm specified in the Alarm Code field to be generated. The Alarm State associated with a digital input can be modified by clicking the Edit button at the right of the table.

Alarm Text

The Alarm Text field shows a descriptive label which is included in any generated Alarm. The Alarm Text associated with a digital input can be modified by clicking the Edit button at the right of the table.

Digital Inputs						
Port	Label	Current State	Alarm Code	Alarm Severity	Alarm When	Alarm Text
DIN1	Digital Input 1	<input checked="" type="radio"/> Open	3000	Major	Input Closed	User Error Detected



Figure 192 – Digital Input Table: Alarm Bindings Example

Clicking the Edit button at the right side of the table displays the Digital Input dialogue, shown below:

Digital Input

Port:	DIN1
Label:	<input type="text" value="Digital Input 1"/>
Alarm Code:	<input type="text" value="3000 - User Defined Error 1"/>
Severity:	<input type="button" value="Major"/>
Alarm When:	<input type="button" value="Input Closed"/>
Alarm Text:	<input type="text" value="User Error Detected"/>

Figure 193 – Digital I/O Setup Screen: Digital Input Dialogue

The Digital Input dialogue allows the settings for the Label, Alarm Code, Alarm When and Alarm Text to be modified by the administrator. To save the settings, click the OK button.

6.16.2 Digital Outputs

The Digital Outputs table is shown at the bottom of the screen. This table lists each of the isolated digital outputs supported by the device.

Digital Outputs					
Port	Label	Current State	Startup State	Binding	
DOUT1	Digital Out 1	<input checked="" type="radio"/> Relay Open	Relay Open	None	
DOUT2	Digital Out 2	<input checked="" type="radio"/> Relay Open	Relay Open	None	
DOUT3	Digital Out 3	<input checked="" type="radio"/> Relay Open	Relay Open	None	
DOUT4	Digital Out 4	<input checked="" type="radio"/> Relay Open	Relay Open	None	
DOUT5	Digital Out 5	<input checked="" type="radio"/> Relay Open	Relay Open	None	
DOUT6	Digital Out 6	<input checked="" type="radio"/> Relay Open	Relay Open	None	
DOUT7	Digital Out 7	<input checked="" type="radio"/> Relay Open	Relay Open	None	
DOUT8	Digital Out 8	<input checked="" type="radio"/> Relay Open	Relay Open	None	

Figure 194 – Digital I/O Setup Screen: Digital Inputs Table

The Digital Outputs table has the following fields:

Port

The Port field lists the name of the physical isolated digital output port on the device.

Label

The Label field is a descriptive label which can be used to describe the function of the digital output within the system. The Label can be changed by clicking the Edit button at the right of the table.

Current State

The Current State field shows the current state of the digital output. The states can be 'Relay Open' or 'Relay Closed'.

Default

The Default field shows the default of the digital output after start-up or rebooting the device.

Binding

The current revision of software does not support any binding of functions to the digital output. Please refer to section 6.12 *Setup: Condition Monitor Screen* for information on controlling digital output behaviour.

Clicking the Edit button at the right side of the table displays the Digital Output dialogue, shown below:

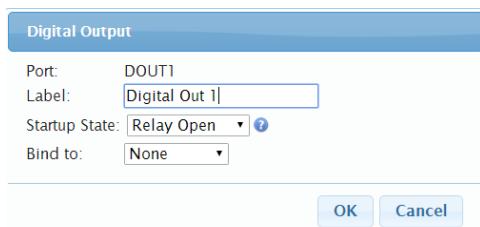


Figure 195 – Digital I/O Setup Screen: Digital Output Dialogue

The Digital Output dialogue allows the settings for the Label, Default State and Binding to be modified. To save the settings, click the OK button.

6.17 Setup: IPPA Management Screen

Supported by	
CXS	
IPPA	X
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	X
CAC	
PEI	

The IPPA Management screen is supported by NetSpire devices with an operators interface like the NetSpire IPPA and Crew Controller devices.

The screen allows an administrator to setup the operator's interfaces for accessing audio zones, controlling system functions and making DVA Announcements.

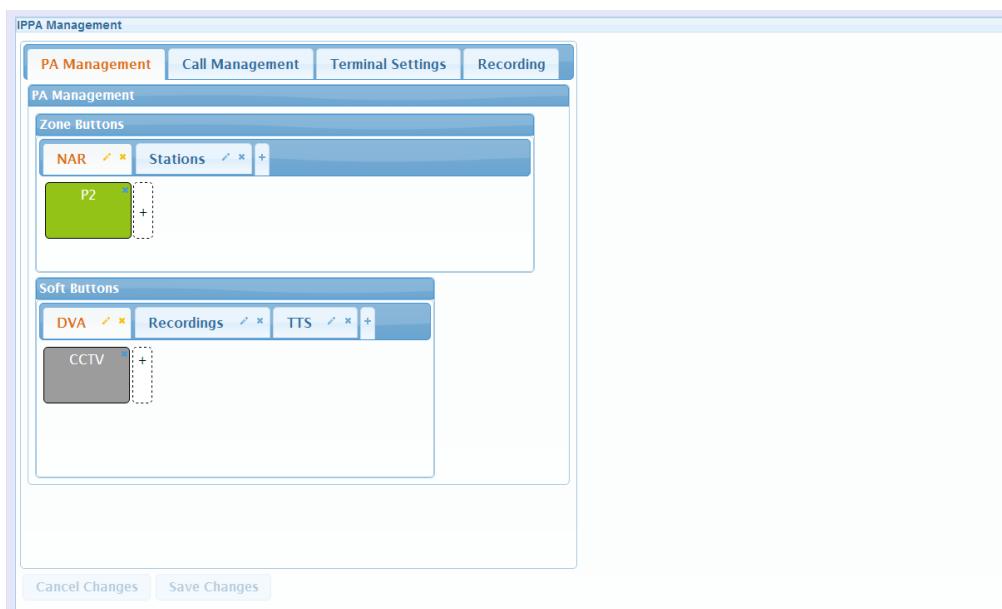


Figure 196 – IPPA Management Screen

The IPPA Management screen is divided into four sections called PA Management, Call Management, Terminal Settings and Recording. These sections are described below:

PA Management

Configuration of interface for general announcement functions.

Call Management

Call handling for emergency and information calls from NetSpire intercoms.

Terminal Settings

General settings relating to the operation of the operators interface.

Recording

Configuration of interface for announcement recording functions.

6.17.1 Terminal Settings

The Terminal Settings section of the IPPA Management screen is shown below:

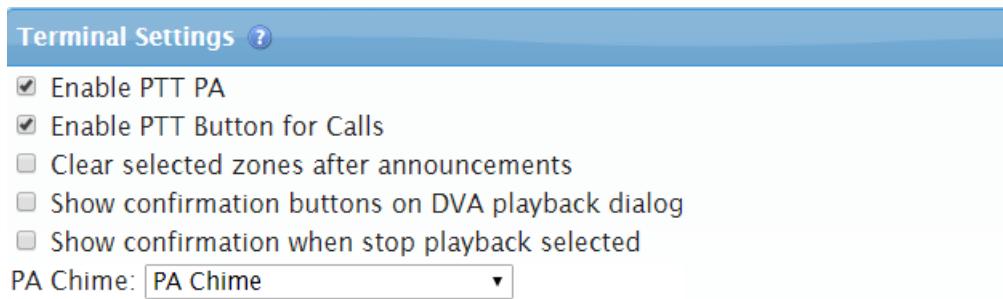


Figure 197 – IPPA Management Screen: Terminal Settings Section

The Terminal Settings section provides control over the following behaviours of the device:

PTT Button for PA

The Enable PTT Button for PA setting allows the administrator to control whether the Push-To-Talk (PTT) button on the IPPA will start a live public address announcement to the selected zones.

If this checkbox is cleared, the operator on the IPPA will not be able to make live public address announcements.

PTT Button for Calls

The Enabled PTT Button for Calls setting allows the administrator to control whether the operator of the IPPA must press the Push-To-Talk (PTT) button in order to talk on a phone call.

If this checkbox is ticked, the operator must press the PTT button in order to speak on a phone call to the remote party.

Clear selected zones after announcements

This setting allows the administrator to control whether the selected zones on the IPPA LCD screen will be cleared or not after a DVA or live public address announcements.

If this checkbox is ticked, the selected zones will be cleared automatically after the DVA or live public address announcements has been completed

Show confirmation button on DVA playback dialog

This settings allows the administrator to choose whether to display confirmation buttons on the DVA playback dialog

If this checkbox is cleared, there will be no confirmation buttons on the dialog and the user will have to press on the soft button a second time for the DVA to be played.

Show confirmation when stop playback selected

This settings allows the administrator to choose whether to display confirmation prompt when an announcement is trying to be stopped by the stop button

If this checkbox is cleared, there will be no confirmation prompt when the announcement in progress is stopped

PA Chime

This setting allows the administrator to choose from the dropdown box what kind of chime is to be played before any announcement is sent.

6.17.2 Call Management

The Call Management section of the IPPA Management screen is shown below:

Call Management		
<input checked="" type="checkbox"/> Enable Call Management		
Call Type	Can Reject	Ring Tone
PEI Type 1	<input type="checkbox"/>	Intercom Ringtone
PEI Type 2	<input type="checkbox"/>	Intercom Ringtone

Order calls by

- Time Originated (ascending)
- Call Type (PEI Type 1 followed by PEI Type 2)
- Call Type (PEI Type 2 followed by PEI Type 1)

Allow Call Transfers

Allow Outbound Calls

Figure 198 – IPPA Management Screen: Call Management Section

The Call Management section provides control over the following behaviours of the device:

Enable Call Management

The Enable Call Management setting allows the administrator to control access to the Call Management screen on the device.

If the Enable Call Management checkbox is ticked, the operator of the device will be able to access the Call Management screen. If the checkbox is cleared, the operator will not be able to access the Call Management screen, or any functions associated with call management.

Call Rejection

The Can Reject checkbox in the Call Type table, allows the administrator to control whether an operator can reject a call without answering the call first.

Call Type	Can Reject	Ring Tone
PEI Type 1	<input type="checkbox"/>	Intercom Ringtone
PEI Type 2	<input type="checkbox"/>	Intercom Ringtone

Figure 199 – IPPA Management: Call Reject Checkbox

This setting can be determined independently for the 2 call types supported by the system.

Call Ring Tones

The Ring Tone dropdown in the Call Type table, allows the administrator to select an independent ringtone for the 2 call types supported by the system.

Call Type	Can Reject	Ring Tone
PEI Type 1	<input type="checkbox"/>	Intercom Ringtone
PEI Type 2	<input type="checkbox"/>	Intercom Ringtone

Figure 200 – IPPA Management: Ring Tone Dropdown

Call Ordering

The Order Calls by radio buttons allow the administrator to control the order incoming calls are shown in the queue on the operators interface for the device.

Order calls by	<input checked="" type="radio"/> Time Originated (ascending) <input type="radio"/> Call Type (PEI Type 1 followed by PEI Type 2) <input type="radio"/> Call Type (PEI Type 2 followed by PEI Type 1)
----------------	--

Figure 201 – IPPA Management: Call Queue Ordering

The calls can be queued according to the following schemes:

- Time Originated (ascending) – Calls are listed in the operators queue in the order they were placed into the system.
- Call Type (PEI Type 1 followed by PEI Type 2) – Calls are listed in the operators queue with PEI Type 1 call at the top of the queue, and PEI Type 2 calls at the bottom of the queue. Calls of the same type are listed in the order they were placed.
- Call Type (PEI Type 2 followed by PEI Type 1) – Calls are listed in the operators queue with PEI Type 2 call at the top of the queue, and PEI Type 1 calls at the bottom of the queue. Calls of the same type are listed in the order they were placed.

Allow Call Transfer

The Allow Call Transfers setting allows the administrator to control whether the operator can transfer calls using this device.

Allow Call Transfers	<input type="checkbox"/>
----------------------	--------------------------

Figure 202 – IPPA Management: Call Transfers

If the Allow Call Transfers checkbox is ticked, calls shown in the call queue on the device will have the Transfer Call function button enabled on the interface.

Allow Outbound Calls

The Allow Outbound Calls setting allows the administrator to control whether the operator can make outbound calls from the device.

Allow Outbound Calls	<input type="checkbox"/>
----------------------	--------------------------

Figure 203 – IPPA Management: Outbound Calls

If the Allow Call Transfers checkbox is ticked, the operator will be able to make outbound calls from the device through the Directory and Keypad screens.

If the Allow Call Transfers checkbox is cleared, the operator will not be able to initiate any outbound calls from the device.

6.17.3 PA Management

The PA Management section of the IPPA Management screen is shown below:

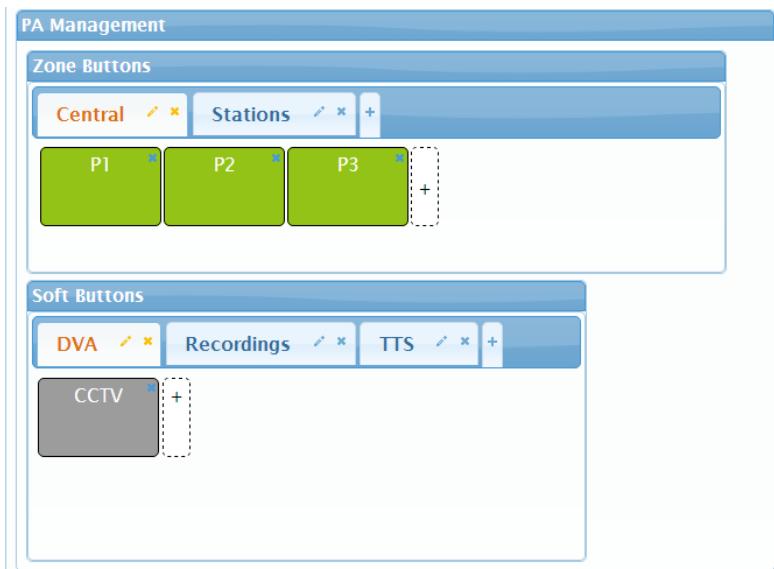


Figure 204 – IPPA Management: PA Management Section

The PA Management screen allows the administrator to control which Zones, DVA Announcements and Control functions are available to the operator on the device.

6.17.3.1 Zones Section

The Zones section allows the administrator to provide access to a predefined group of Audio Zones for operators using the device.

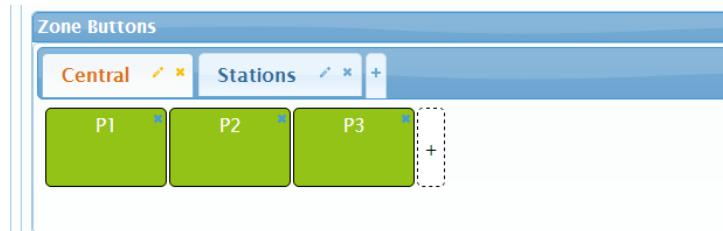


Figure 205 – IPPA Management: Zones Section

The Zones section has a set of Tabs at the top of the section. These tabs represent Zone Categories which are used to group the Audio Zones in a logical structure.

Add Zone Category

To add a new Zone Category click the "+" button next to the last category in the list.

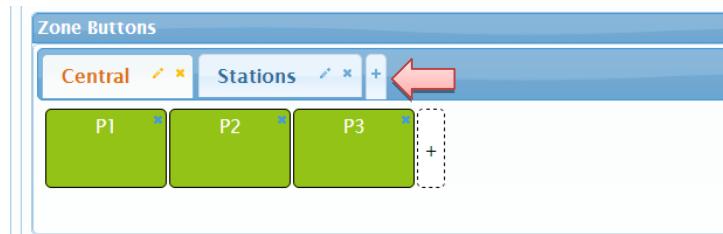


Figure 206 – IPPA Management: Add Zone Category Button

A dialogue will appear which allows the name of the new category to be entered.



Figure 207 – IPPA Management: New Category Name Dialogue

Edit Zone Category

To edit an existing Zone Category click the Pencil icon next to the category name.

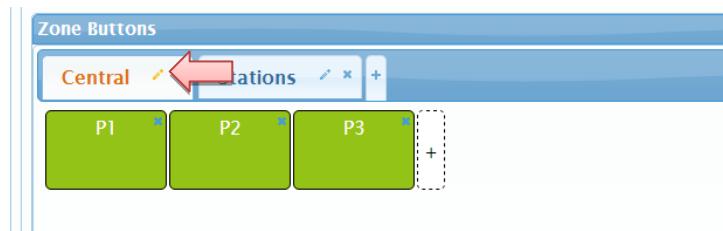


Figure 208 – IPPA Management: Edit Zone Category Icon

A dialogue will appear which allows the name of the category to be modified.

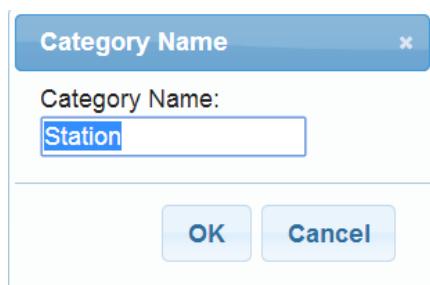


Figure 209 – IPPA Management: Edit Category Name Dialogue

Delete Zone Category

To delete an existing Zone Category click the Cross icon next to the category name.

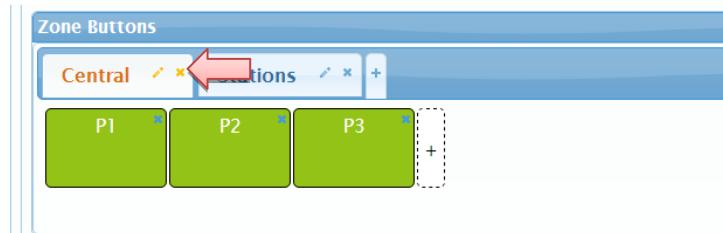


Figure 210 – IPPA Management: Delete Zone Category Icon

A dialogue will appear asking to confirm the operation to delete the category.

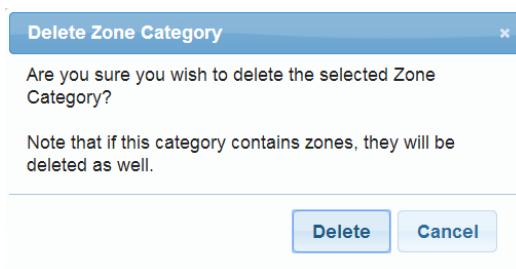


Figure 211 – IPPA Delete Zone Category Confirmation Dialogue

NOTE: DELETING A ZONE CATEGORY REMOVES ANY CONTAINED ZONES

When a Zone Category is deleted, any Zones configured within the category will also be lost.

Add Zone Button

To add a new Zone Button to the selected Zone Category, click the “+” symbol in the dash button outline, shown at the end of the button list.

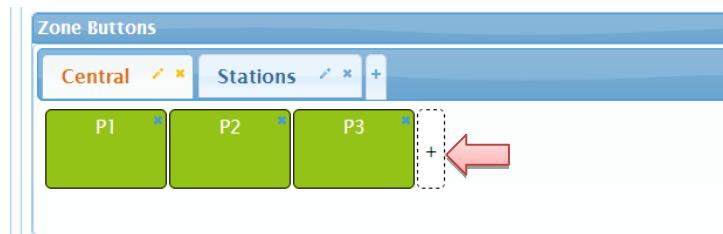


Figure 212 – IPPA Management: Add Zone Button

The Zone Button Configuration dialogue will be displayed and is shown in the following screenshot:

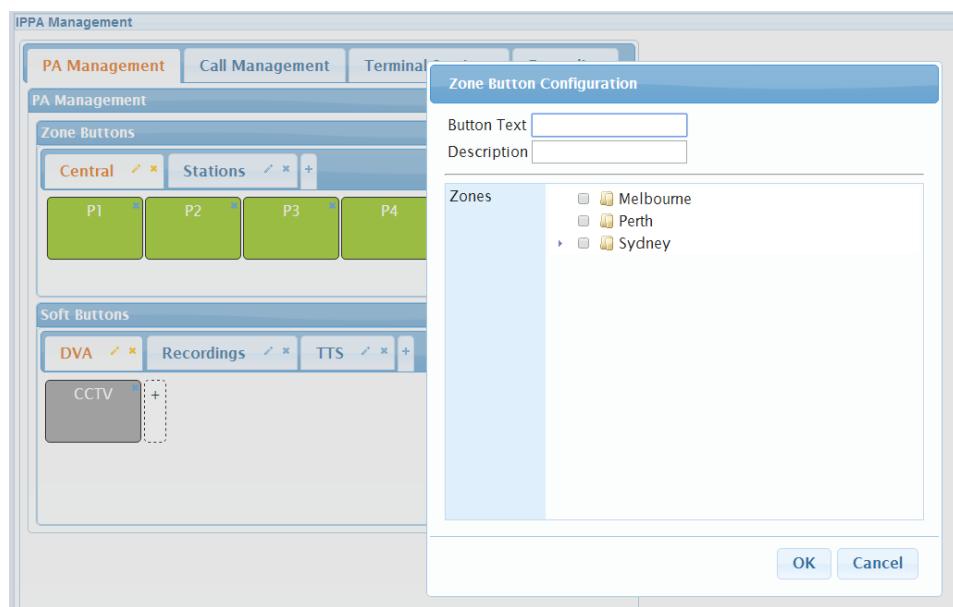


Figure 213 – IPPA Management Screen: Zone Button Configuration Dialogue

The Zone Button can be given configured as one Audio Zone or a group of Audio Zones.

Zone Buttons: Type Zone

Zone Buttons which assigned the type “Zone” allow the operator of the device to toggle selection of the zone as a target for an announcement.

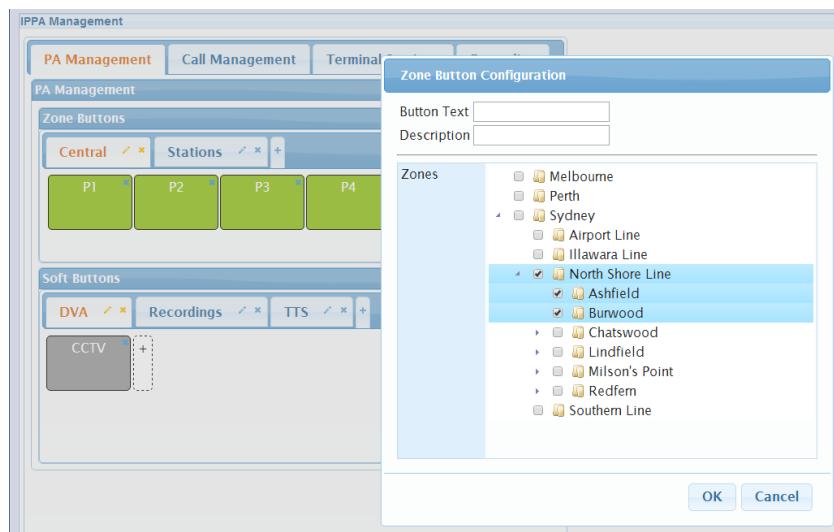


Figure 214 – IPPA Management Screen: Zone Button Configuration Dialogue

The administrator can set the Button Text, and provide a description of the button. Only the Button Text is visible on the Operators interface.

The administrator can associate the Zone button with an Audio Zone configured in the system. To associate the button with an Audio zone, the zone can be selected from the Zones checklist, shown below:

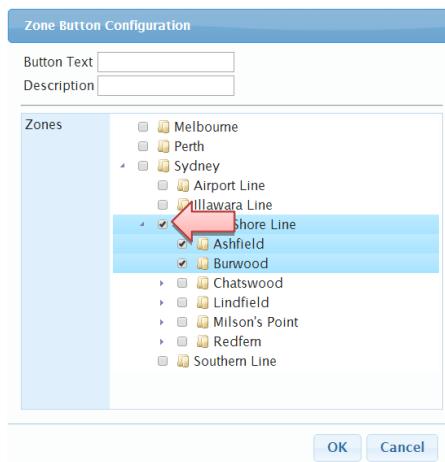


Figure 215 – Zone Button Configuration Dialogue: Audio Zone Checkbox

The Audio Zones shown in the list are all the Audio Zones defined on devices that are NetSpire Peers of this device. Peering can either be performed directly between the devices, or the devices can be peered to a NetSpire CXS Server.

For more information about NetSpire Peering refer to section 6.21 *Setup: NetSpire Peers Screen*.

In additional Audio Zones, Visual Displays can be associated with a Zone Button. The Displays list shows a list of visual display configured in the system. Displays are configured on the NetSpire CXS Server, and the device must be peered with the NetSpire CXS Server.

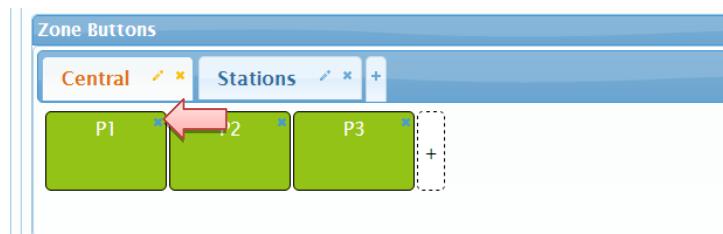


Figure 216 – IPPA Management: Delete Zone Button

To delete an existing zone, click on the cross next to the zone name. The Zone Button will be removed immediately.

6.17.3.2 Soft Buttons

The Soft Buttons section allows the administrator to provide access to a predefined group of DVA announcement, BGM, TTS and system functions to the operator using the device.

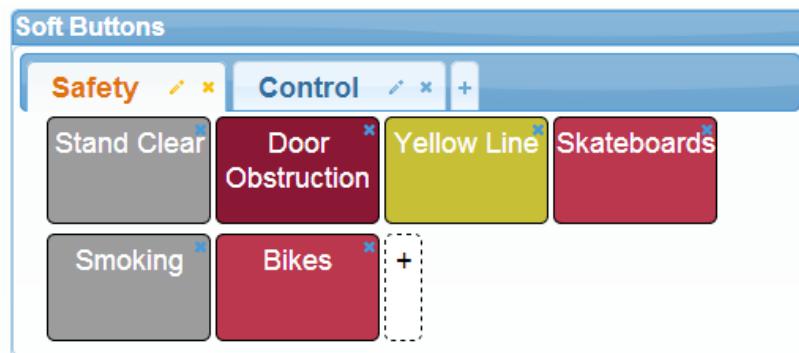


Figure 217 – IPPA Management: Soft Button Management

The Soft Buttons section has a set of Tabs at the top of the section. These tabs represent Soft Button Categories which are used to group the Soft Buttons in a logical structure.

Add Soft Button Category

To add a new Soft Button Category click the “+” button next to the last category in the list.

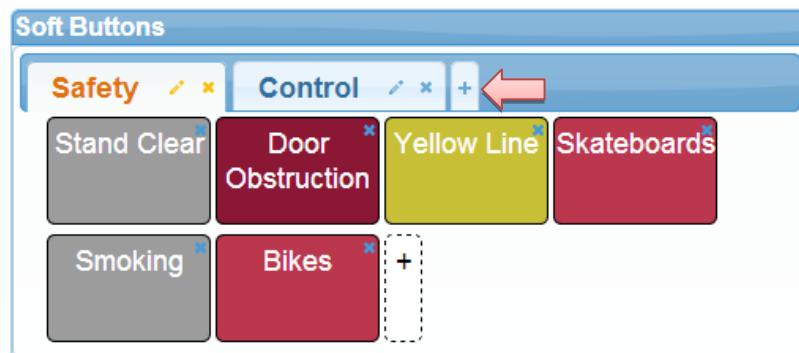


Figure 218 – IPPA Management: Add Soft Button Category Button

A dialogue will appear which allows the name of the new category to be entered.



Figure 219 – IPPA Management: New Category Name Dialogue

Edit Soft Button Category

To edit an existing Soft Button Category click the Pencil icon next to the category name.

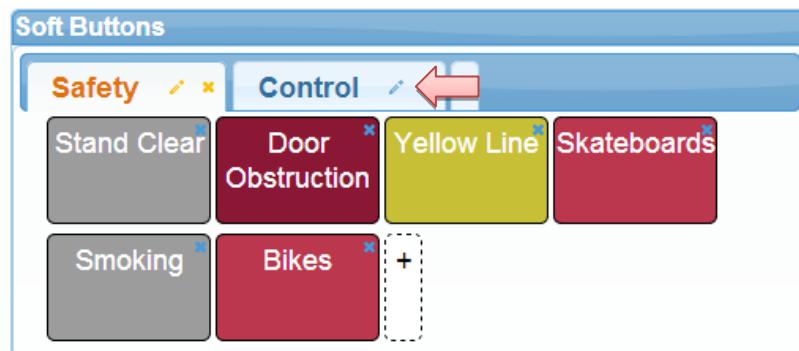


Figure 220 – IPPA Management: Edit Soft Button Category Icon

A dialogue will appear which allows the name of the category to be modified.



Figure 221 – IPPA Management: Edit Category Name Dialogue

Delete Soft Button Category

To delete an existing Soft Button Category click the Cross icon next to the category name.

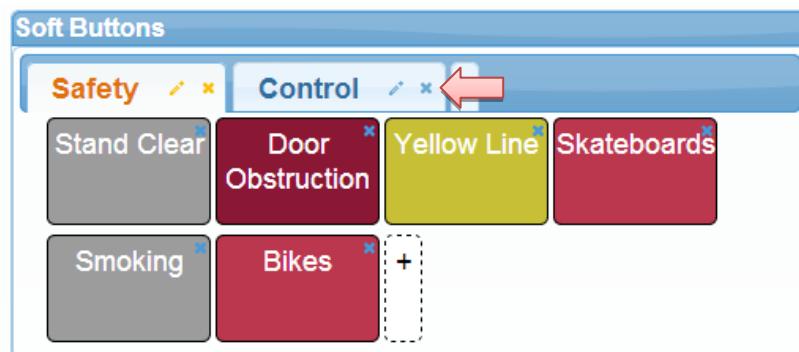


Figure 222 – IPPA Management: Delete Soft Button Category Icon

A dialogue will appear asking to confirm the operation to delete the category.

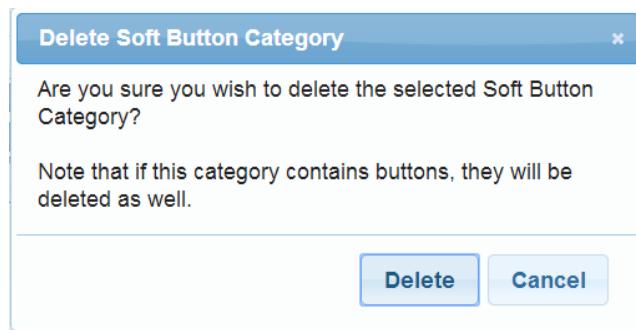


Figure 223 – Delete Soft Button Category Confirmation Dialogue

NOTE: DELETING SOFT BUTTON CATEGORIES REMOVES CONTAINED SOFT BUTTONS

When a Soft button Category is deleted, any Soft Buttons configured within the category will also be lost.

Add Soft Button

To add a new Soft Button to the selected Soft Button Category, click the “+” symbol in the dash button outline, shown at the end of the button list.

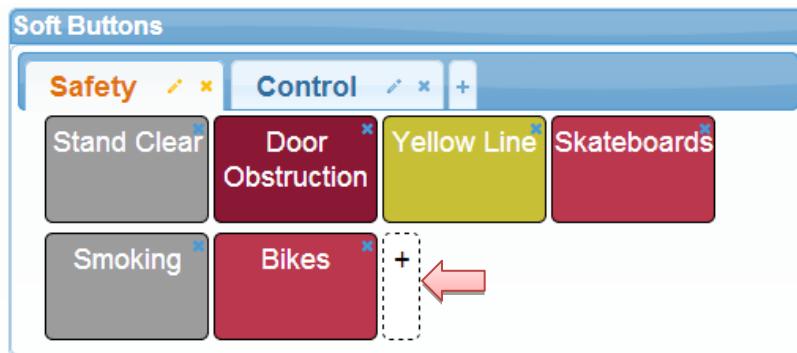


Figure 224 – IPPA Management: Add Soft Button

The Soft Button Configuration dialogue will be displayed and is shown in the following screenshot:

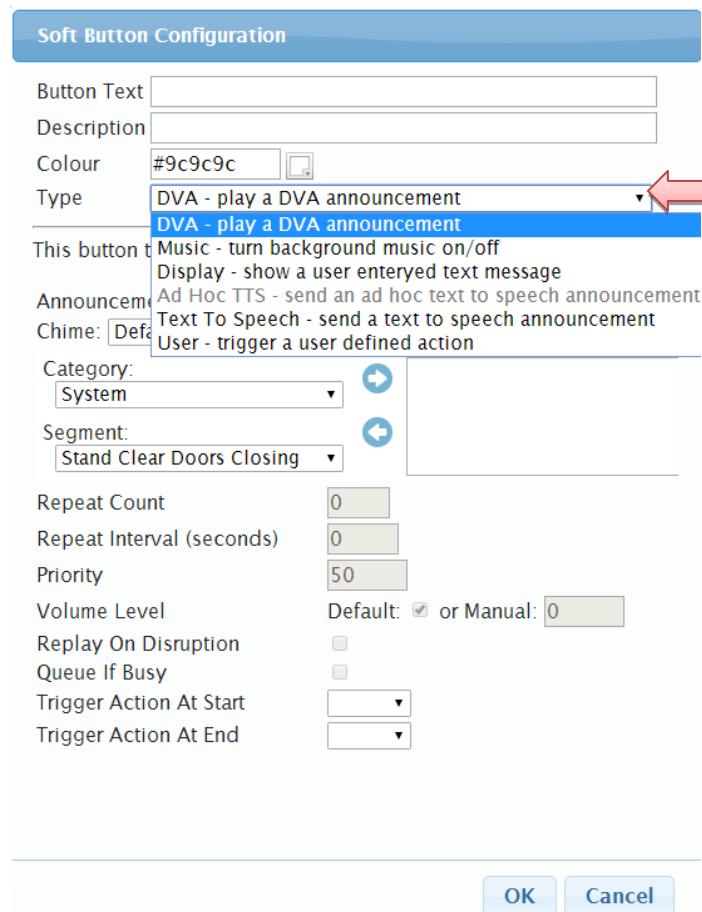


Figure 225 – IPPA Soft Button Configuration Dialogue

The Soft Button can be given the following types:

DVA

Create a button for a DVA Announcement on the operators interface.

Music

Create a button for Background music ON or OFF on the operators interface.

Display

Create a button for displaying user entered text message on the operators interface.

Ad Hoc TTS

Creates a button for displaying user entered adhoc TTS on the operators interface.

Text To Speech

Creates a button for displaying user entered TTS on the operators interface.

User

The button can be used to access events and functions in the greater system using Condition Monitor.

Soft buttons: DVA

Soft Buttons which assigned the type “DVA” allow the operator of the device to initiate DVA Announcement to the Audio Zones represented by the selected Zone Buttons.

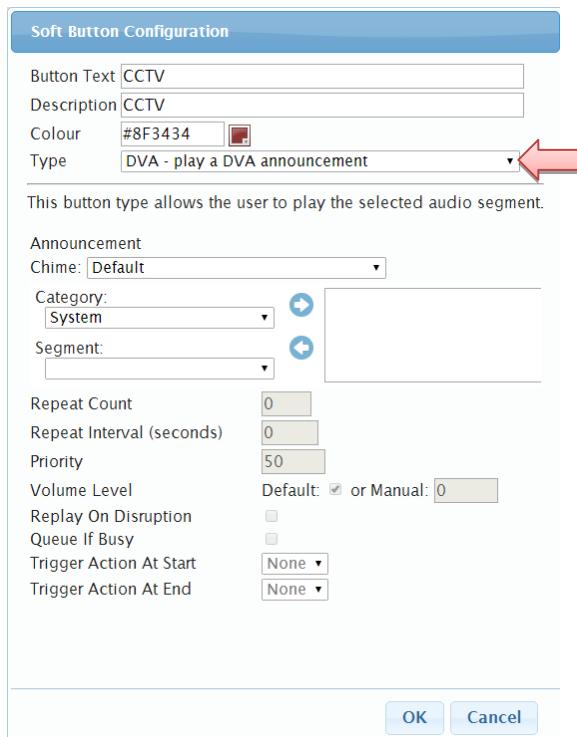


Figure 226 – IPPA Soft Button - DVA

The administrator can set the Button Text, and a Description of the button. Only the Button Text is visible on the Operators interface.

The colour of the button can also be chosen using the colour dropdown selector. If a specific colour is required, it can be entered in the Colour textbox.

The Announcement associated with this button can be selected by choosing the Category and Segment from the dropdowns. The Categories and Segments shown in the dropdowns are the items that have been loaded into the Audio Dictionary.

For information on the Audio Dictionary refer to section 6.15 *Setup: Dictionary Management Screen*.

The Chime to play before the announcement can be chosen from the Chime dropdown.

Soft buttons: Music

Soft Buttons which are assigned the type “Music” allow the operator of the device to control BGM from the Music button. A toggle button is created which turns background music ON or OFF.

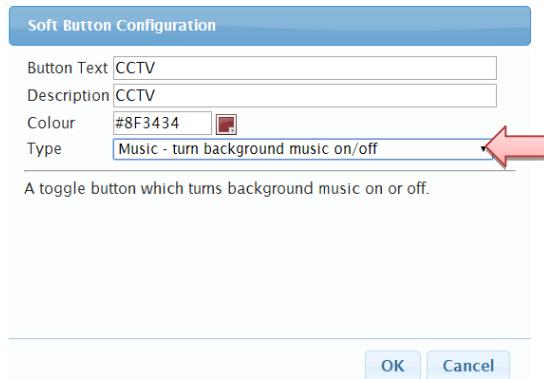


Figure 227 – IPPA Soft Button – Music

Soft buttons: Display

Soft Buttons which are assigned the type “Display” allow the operator of the device to control the message on the display from the Display button. When the button is pressed, a message may be entered on the touchscreen and sent to displays in the selected zones.



Figure 228 – IPPA Soft Button – Display

Soft buttons: Adhoc TTS

Soft Buttons which are assigned the type “Adhoc TTS” allow the operator of the device to enter the adhoc message on the display from the Adhoc TTS button. When the button is pressed, an adhoc TTS message may be entered on the touchscreen and sent to the Audio Zones in the selected zones as a TTS. This button may be used to generate adhoc TTS without storing each TTS message as a soft button.

Soft buttons: Text to Speech

Soft Buttons which are assigned the type “Text to Speech” allow the operator of the device to initiate a pre-entered message from the Text to Speech button. When the button is pressed, a TTS message is sent to the Audio Zones in the selected zones as a TTS. A new button is generated for each new TTS message created on the system.



Figure 229 – IPPA Soft Button – Text to Speech

Soft buttons: User

Zone Buttons which assigned the type “USER” allow the operator of the device to initiate actions in the greater NetSpire system.

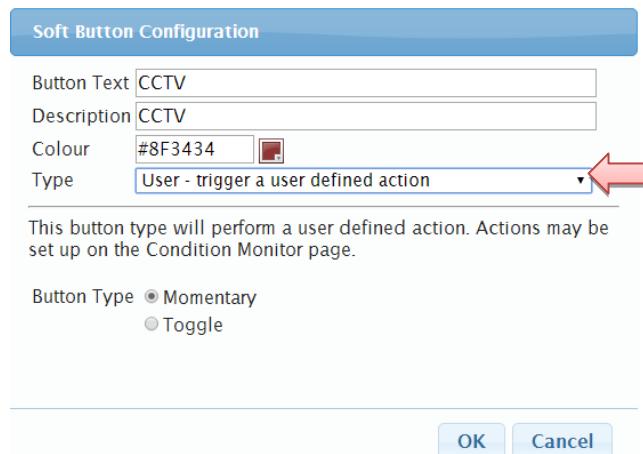


Figure 230 – IPPA User Soft Button Configuration Dialogue

The administrator can set the Button Text, and a Description of the button. Only the Button Text is visible on the Operators interface.

For User Soft Buttons, the Button Text also identifies the button in the system. The button can be used by Condition Monitor to control a broad range of system functions, for example:

- ▶ Initiating Health Checking on other devices
- ▶ Controlling Digital Outputs
- ▶ Integrating through the NetSpire SDK
- ▶ Changing Volume

The Button Type radio allows the button to be a Momentary function button, or a Toggle button. The choice of momentary or toggle button types depends on what the button function will be and what it controls.

For more information on configuring Condition Monitor and User Soft Buttons refer to section [*6.12 Setup: Condition Monitor Screen*](#).

6.17.4 Recording

The Recording section of the IPPA Management screen is shown below:

The screenshot shows the IPPA Management interface with the 'Recording' tab selected. The 'Record From Microphone' section contains fields for enabling recording, setting the maximum number of recordings (100), maximum duration per recording (30 seconds), and maximum disk space (1000 MB). The 'Category' is set to 'Recordings'. The 'Text To Speech' section has an 'Enable' checkbox unchecked, a 'Category' dropdown set to 'TTS', and a 'Languages' section with three tabs: 'Voice', 'Heading', and 'Prompt'. At the bottom are 'Cancel Changes', 'Save Changes', and a red 'Settings Modified' button.

Figure 231 – IPPA Management: Recording Section

The Recording screen allows the administrator to control recording functions available to the operator on the device. The recording facility includes Text to Speech (TTS) and Record from Microphone (Instant Recording)

6.17.4.1 Record From Microphone

The Record From Microphone (Instant Recording) section allows the administrator to control and modify recording from microphone functions on the operator deskset.

This screenshot shows the 'Record From Microphone' configuration section. It includes fields for enabling recording, setting the maximum number of recordings (100), maximum duration per recording (30 seconds), and maximum disk space (1000 MB). The 'Category' is set to 'Recordings'. The configuration is identical to Figure 231.

Figure 232 – IPPA Management: Recording

Enable

The Enable checkbox in the Record From Microphone table, allows the administrator to enable the Record From Microphone facility from the operator deskset.



Figure 233 – IPPA Management: Enable Record from Microphone

Max. Number of Recordings

The Max Number of Recordings in the Record From Microphone table, allows the administrator to enter the maximum number of recordings.



Figure 234 – IPPA Management: Max Number of Recordings

Max. Duration Per Recordings

The Max Duration Per Recordings in the Record From Microphone table, allows the administrator to enter the maximum duration per recording in seconds.



Figure 235 – IPPA Management: Max Duration Per Recordings

Max. Disk Space

The Max Disk Space in the Record From Microphone table, allows the administrator to enter the maximum disk space allocated for recording in the system in Mb.



Figure 236 – IPPA Management: Max Disk Space

Category

The Category in the Record From Microphone table, allows the administrator to select the category where recordings will be stored on the operator deskset.



Figure 237 – IPPA Management: Category Record from Microphone

6.17.4.2 Text To Speech

The Text To Speech (TTS) section allows the administrator to control and modify TTS functions on the operator deskset.

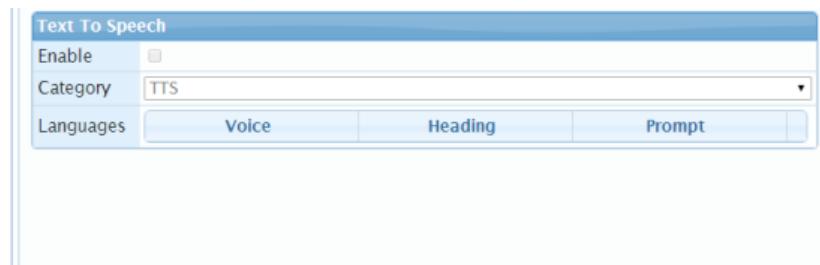


Figure 238 – IPPA Management: Text To Speech

Enable

The Enable checkbox in the Text To Speech table, allows the administrator to enable the Text To Speech facility from the operator deskset.



Figure 239 – IPPA Management: Enable Text To Speech

Category

The Category in the Text To Speech table, allows the administrator to select the category where Text To Speech will be stored on the operator deskset.



Figure 240 – IPPA Management: Category Text To Speech

Languages

The Language in the Text To Speech table, allows the administrator to view and select the available language where Text To Speech will be stored / streamed on the operator deskset.



Figure 241 – IPPA Management: Languages

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	X
TGU	
CI	
CP	
CC	
CAC	
PEI	

6.18 Setup: Display Management

The Display Management Setup screen is only supported by the NetSpire CXS and TCX devices. The screen allows the administrator to configure the control of LED and LCD information displays.

The screenshot shows a table titled 'Display Summary' with columns: Actions, Name, Location, Status, Protocol, Display ID, IP Address, Transport, and Port. There are eight rows of data. An 'Add Display' button is located at the bottom left of the table area, with a red arrow pointing to it.

Display Summary								
Actions	Name	Location	Status	Protocol	Display ID	IP Address	Transport	Port
	Concourse	Concourse	Offline	ADV	ID1	192.168.13.89	UDP	10001
	Platform 1A	Platform 1 City End	Offline	ADV	ID1	192.168.13.90	TCP	5000
	Platform 1B	Platform 1 Country End	Offline	ADV	ID1	192.168.13.91	TCP	5001
	Platform 2A	Platform 2 City End	Offline	ADV	ID1	192.168.13.92	TCP	5000
	Platform 2B	Platform 2 Country End	Offline	ADV	ID1	192.168.13.93	TCP	5000

Figure 242 – Display Management Setup Screen

The Display Management Setup screen shows a table listing all the Display devices configured on the server. To add a new display to the system, click the Add Display button under the table.

The Display table has the following fields:

Actions

The Actions column shows icons for editing and deleting each display listed in the table.

Name

The Name field shows a description of the display. The Name of the display can be modified by clicking the Pencil icon in the Actions column.

Location

The Location field shows a description of the location of the display. The Location of the display can be modified by clicking the Pencil icon in the Actions column.

Status

The Status field shows the current communications status with the display. This field can be ‘Offline’ or ‘Online’ corresponding to no communications, or successful communications respectively.

Protocol

The Protocol field shows the protocol being used to communicate with the display. The Protocol of the display can be modified by clicking the Pencil icon in the Actions column.

Display ID

The Display ID field shows the type of display. The Display ID available for selection is determined by the setting of the Protocol. The Display ID of the display can be modified by clicking the Pencil icon in the Actions column.

IP Address

The IP Address field shows the IP Address of the display. The IP Address of the display can be modified by clicking the Pencil icon in the Actions column.

Transport

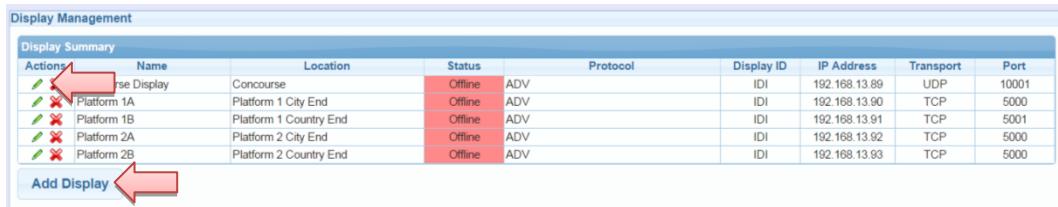
The Transport field shows the IP layer 3 transport protocol used to communicate to the display. The Transport can be the UDP or TCP protocol. The Transport used to communication to the display can be modified by clicking the Pencil icon in the Actions column.

Port

The Port field shows the IP layer 3 transport protocol port used to communicate to the display. The Port used to communication to the display can be modified by clicking the Pencil icon in the Actions column.

6.18.1 Adding and Modifying Displays

Clicking on the Add Display button or the Pencil Edit icon will allow the administrator to add new displays under management, or editing an existing display in the list.

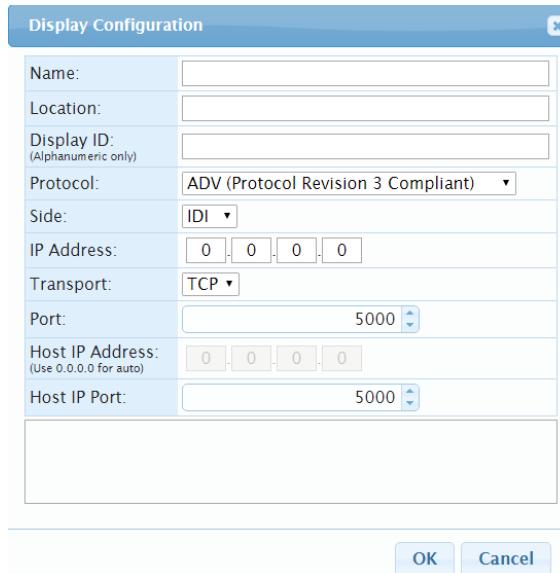


The screenshot shows a table titled 'Display Summary' with columns for Actions, Name, Location, Status, Protocol, Display ID, IP Address, Transport, and Port. There are six rows of data. Below the table is a blue button labeled 'Add Display' with a red arrow pointing to it.

Actions	Name	Location	Status	Protocol	Display ID	IP Address	Transport	Port
	Use Display	Concourse	Offline	ADV	IDI	192.168.13.89	UDP	10001
	Platform 1A	Platform 1 City End	Offline	ADV	IDI	192.168.13.90	TCP	5000
	Platform 1B	Platform 1 Country End	Offline	ADV	IDI	192.168.13.91	TCP	5001
	Platform 2A	Platform 2 City End	Offline	ADV	IDI	192.168.13.92	TCP	5000
	Platform 2B	Platform 2 Country End	Offline	ADV	IDI	192.168.13.93	TCP	5000

Figure 243 – Display Management Setup Screen: Add Display Button and Edit Display Icon

Clicking on the Add Display button or the Pencil Edit icon will display the Display Configuration dialogue, shown below:



The screenshot shows the 'Display Configuration' dialogue with the following fields:

- Name: [Input field]
- Location: [Input field]
- Display ID: (Alphanumeric only) [Input field]
- Protocol: ADV (Protocol Revision 3 Compliant) [Dropdown]
- Side: IDI [Dropdown]
- IP Address: [Input field] (with sub-fields for octets)
- Transport: TCP [Dropdown]
- Port: 5000 [Input field] (with up/down arrows)
- Host IP Address: (Use 0.0.0.0 for auto) [Input field] (with sub-fields for octets)
- Host IP Port: 5000 [Input field] (with up/down arrows)

At the bottom are 'OK' and 'Cancel' buttons.

Figure 244 – Display Management Setup Screen

The Display Configuration dialogue allows the Protocol, Display ID, Name, Location, IP Address, Transport and Port number to be specified. To save the changes, click the OK button.

6.19 Setup: Managed Devices Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	X
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Managed Devices Setup screen is only supported by the NetSpire CXS and TCX devices. The screen allows the administrator to view all the NetSpire devices under management of the CXS or TCX Server.

Managed Devices													
Device Summary													
Name	Location	Type	Model	IP Address	Loc. ID	Dev. Index	Status	Release	Firmware Version	Updates	Actions		
Bloor NAC	Bloor	Network Audio Controller (NAC)	CONAC01/2024.FM	10.205.28.20	003	001	Online	Updating...	Updating...	Automatic			
Bloor NAR	Bloor	Network Audio Router (NAR4c)	CONAR401	10.205.28.80	033	001	Online	Release 3.0.D	21601	Automatic			
ETS-PAVSM-CX501	OCC	Communication Exchange Server	SVLCX03	10.194.77.11	100	001	Online	Release 3.0.D	21601	Manual			
GTCI IPPA1	GTCC	IP Paging Station (IPPA)	IPPA01L02	10.199.77.17	104	021	Online	Updating...	Updating...	Automatic			
IPPA Naked	OCC	IP Paging Station (PPA)	IPPA01L01	10.199.77.19	077	019	Online	Updating...	Updating...	Automatic			
IPPA01L02	Ash Desk	IP Paging Station (IPPA)	IPPA01L02	10.199.77.18	077	018	Online	Updating...	Updating...	Automatic			
Kipling NAC	Kipling	Network Audio Controller (NAC)	CONAC01/4040.FM	10.205.21.20	004	001	Online	Release 3.0.D	21601	Automatic			
Weston NAC	Weston	Network Audio Controller (NAC)	CONAC01/2024.FM	10.205.29.20	011	001	Online	Updating...	Updating...	Automatic			
Weston NAR	Weston	Network Audio Router (NAR4c)	CONAR401	10.205.29.80	005	100	Online	Updating...	Updating...	Automatic			
nvdNAC-10	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.10	240	010	Online	Updating...	Updating...	Automatic			
nvdNAC-100	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.100	240	100	Online	Updating...	Updating...	Automatic			
nvdNAC-101	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.101	240	101	Online	Updating...	Updating...	Automatic			
nvdNAC-102	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.102	240	102	Online	Updating...	Updating...	Automatic			
nvdNAC-103	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.103	240	103	Online	Updating...	Updating...	Automatic			
nvdNAC-104	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.104	240	104	Online	Updating...	Updating...	Automatic			
nvdNAC-105	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.105	240	105	Online	0	Automatic				
nvdNAC-106	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.106	240	106	Online	Updating...	Updating...	Automatic			
nvdNAC-107	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.107	240	107	Online	Updating...	Updating...	Automatic			
nvdNAC-108	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.108	240	108	Online	0	Automatic				
nvdNAC-109	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.109	240	109	Online	Updating...	Updating...	Automatic			
nvdNAC-11	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.11	240	011	Online	Updating...	Updating...	Automatic			
nvdNAC-110	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.110	240	110	Online	Updating...	Updating...	Automatic			
nvdNAC-111	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.111	240	111	Online	Updating...	Updating...	Automatic			
nvdNAC-112	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.112	240	112	Online	Updating...	Updating...	Automatic			
nvdNAC-113	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.113	240	113	Online	Updating...	Updating...	Automatic			
nvdNAC-114	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.114	240	114	Online	0	Automatic				
nvdNAC-115	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.115	240	115	Online	Updating...	Updating...	Automatic			
nvdNAC-116	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.116	240	116	Online	Updating...	Updating...	Automatic			
nvdNAC-117	Not Set	Network Audio Controller (NAC)	CONAC01/4040.FM	10.4.240.117	240	117	Online	Updating...	Updating...	Automatic			

Figure 245 – Managed Devices Setup Screen

The devices under management will be peered with the NetSpire CXS or TCX server. For more information on NetSpire peering refer to section 6.21 Setup: NetSpire Peers Screen.

The Managed Devices Setup screen shows a Device Summary list. The list includes all the devices under management and a summary of key information about each device.

The information for each device includes:

Name

Name of the device as entered into the Setup: Device Identification Web Administration Screen.

Location

Location of the device as entered into the Setup: Device Identification Web Administration Screen.

Type

Description of the type (model) of the device.

Model

Manufacturer's Model Number of the device.

IP Address

IP network address of the device.

Location ID

Location ID of the device as entered into the Setup: Device Identification Web Administration Screen.

Dev. Index

Device Index of the device as entered into the Setup: Device Identification Web Administration Screen

Status

Indication whether the device is Online (contactable over the network) or Offline (not contactable over the network).

Release

Release version of software running on the device

Firmware Version

Build number of the software running on the device

Updates

Software update initiation – whether automatic or manual

Action

Current action or status of that particular device

Devices which are marked as Offline can also be removed from the list by clicking the Remove Device button in the Actions column of the list.

If the device re-establishes a peer connection with the CXS or TCX server it will automatically be added back into the list.

6.20 Setup: Media Manager Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Media Manager Setup screen is only supported by the NetSpire CXS. The screen allows the administrator to view and manage video media in the system.

The Media Manager Setup screen provides the following capabilities:

- ▶ Upload new media files into the system
- ▶ Create Playlists of media files
- ▶ Schedule Media Playlists to play in the system on supported devices

The diagram below shows the Media Manager Setup screen.

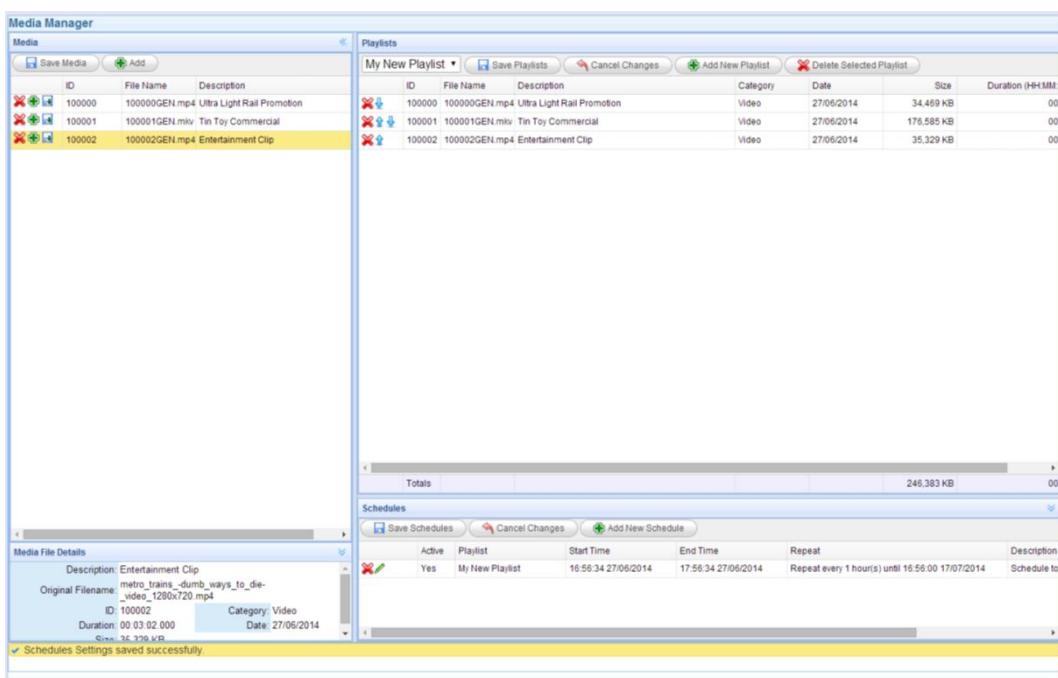


Figure 246 – Media Manager Setup Screen

The Media Manager screen shows a list of media files loaded into the system in the top left hand-pane. Playlists that have been configured in the system are shown in the top right-hand pane. Schedules are shown in the bottom right-hand pane.

6.20.1 Adding New Media Files

New media files can be loaded onto the system by clicking the Add Media button, shown in the diagram below:

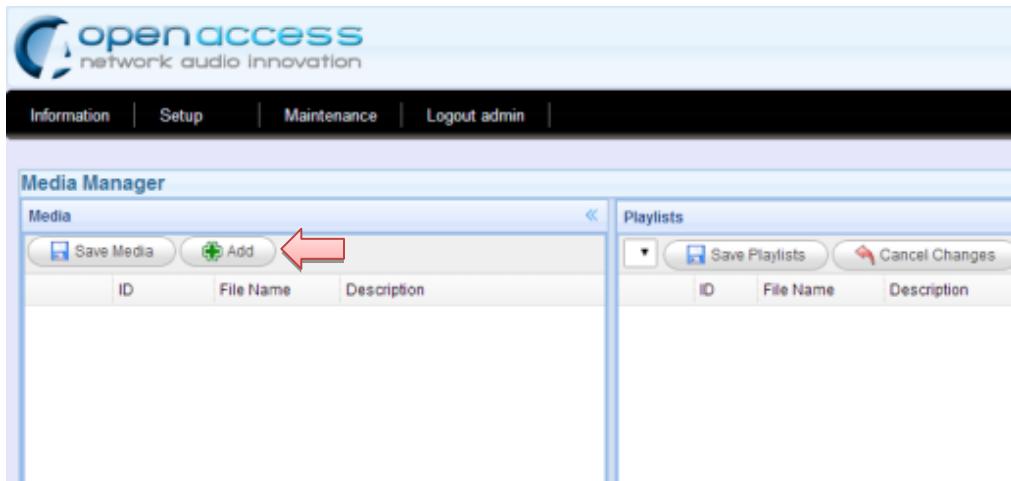


Figure 247 – Media Manager Setup Screen: Add Media Button

After clicking the Add Media button, the Add Media File Dialogue will be displayed, as shown below:

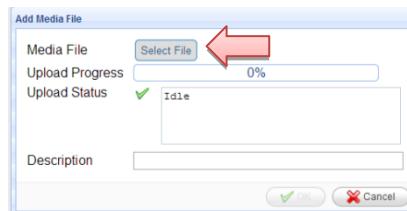


Figure 248 – Media Manager Add Media File Dialogue

Click the Select File button, and choose the media file to load from the file system. Media files can be video files with the following extensions: avi, m4v, mkv, mp4, mpg, mpeg, wmv, m2ts.

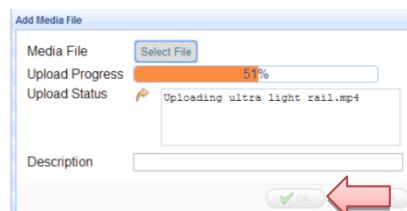


Figure 249 – Media Manager Add Media File Dialogue: Upload In Progress

When the file is selected it will be automatically uploaded to the server, and the format and details of the file will be checked. The progress of loading the file to the server is shown by the Upload Progress status bar.

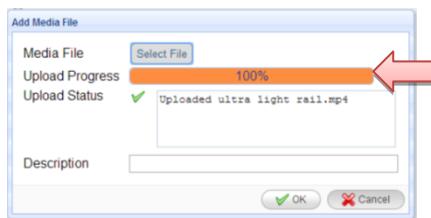


Figure 250 – Media Manager Add Media File Dialogue: Upload Complete

When the upload is complete, click the OK button. The new Media File will now be shown in the Media file list at the left-hand side of the screen.

A screenshot of the 'Media Manager' interface. On the left, there's a 'Media' section with a table showing one row: ID Pending 1, File Name ultra light rail.mp4, Description Ultra Light Rail Promotion. Above the table are 'Save Media' and 'Add' buttons. On the right, there's a 'Playlists' section with a table showing one row: ID and File Name. A red arrow points to the 'Save Media' button.

Figure 251 – Media Manager Setup Screen: Save Media Button

More files can be loaded at this stage. To save the changes to Media File list click the Save Media button located above the list.

The Media files are now committed into the system, and will begin to be automatically distributed to the client devices that support video playback.

NOTE: CHANGES TO THE MEDIA FILE LIST WILL BE LOST IF NOT SAVED

For the changes to the Media File list to be committed to the system, the Save Media button must be clicked by the user. If the changes are not saved, then they will be lost when the browser session ends or is refreshed.

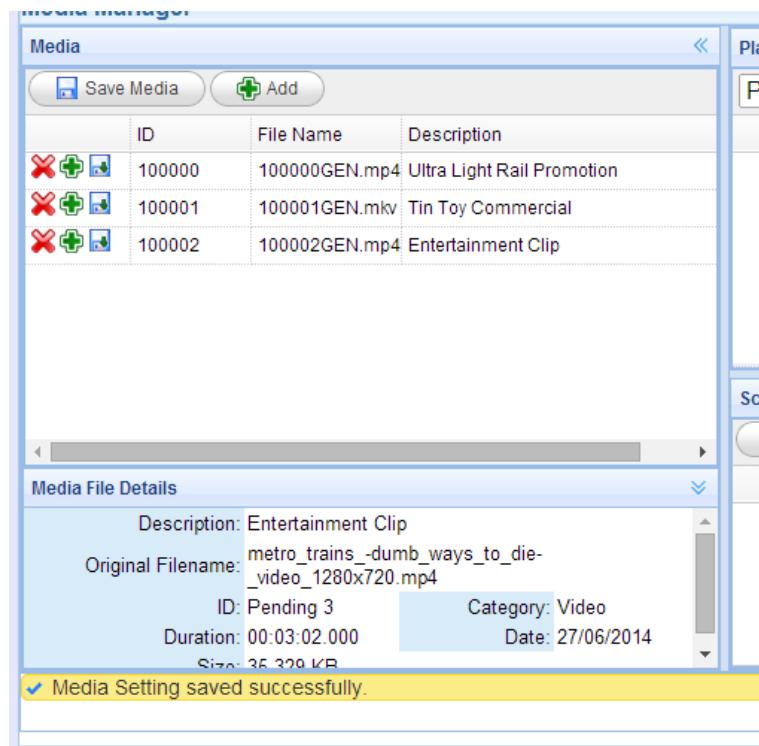


Figure 252 – Media Manager Setup Screen: Media File Details

Clicking on a Media File in the list displays details about the file in the Media File Details pane located at the bottom left of the screen.

6.20.2 Downloading Media Files

Previously loaded media files can be downloaded from the system for preview and inspection by clicking the Download Media icon next to the desired file.

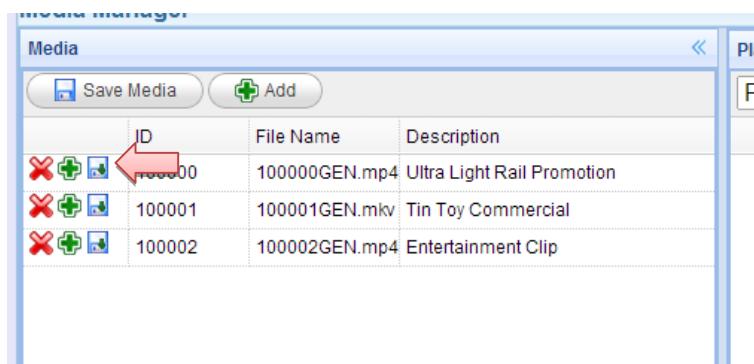


Figure 253 – Media Manager Setup Screen: Download Media Icon

The media file will be downloaded by the browser and can be opened using software appropriate for the file type.

6.20.3 Deleting Media Files

Previously loaded media files can be removed or deleted from the system by clicking the Delete Media icon next to the desired file.

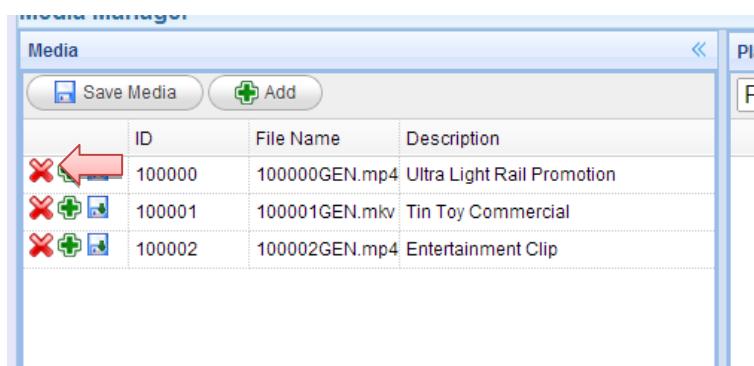


Figure 254 – Media Manager Setup Screen: Delete Media Icon

A confirmation dialogue will appear asking the administrator to confirm the operation.

When all required changes to the Media File list are complete, click the Save Media button located above the Media File List.

NOTE: CHANGES TO THE MEDIA FILE LIST WILL BE LOST IF NOT SAVED

For the changes to the Media File list to be committed to the system, the Save Media button must be clicked by the user. If the changes are not saved, then they will be lost when the browser session ends or is refreshed.

6.20.4 Adding New Playlists

Playlists are a list of Media Files that can be scheduled for playback in the system. The order of the files in the play list determines the order they are played on the target devices.

To add a new Playlist, click the Add New Playlist button located above the Playlist list.

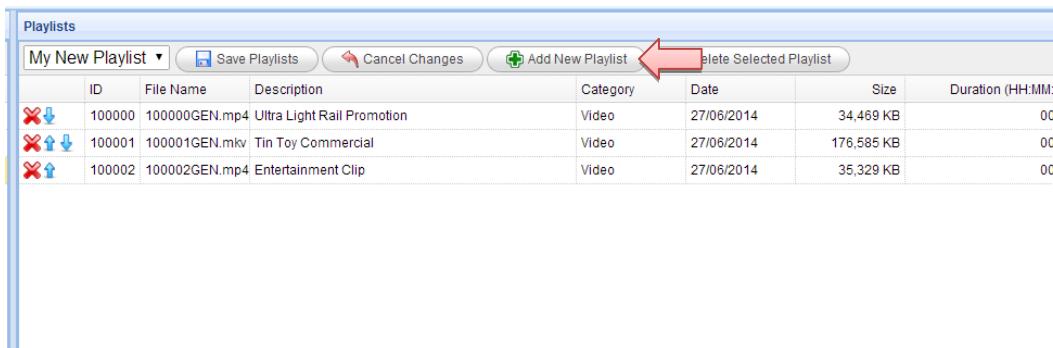


Figure 255 – Media Manager Setup Screen: Add New Playlist Button

The Add Playlist dialogue will be displayed, shown below:

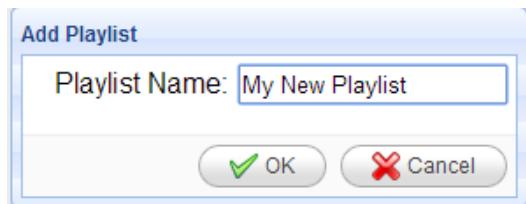


Figure 256 – Media Manager Add Playlist Dialogue

Enter the name of the new Playlist and click the OK button.

The new Playlist will be empty. To add Media Files to the playlist, click on the Add Media File to Playlist Icon located to the left of each of the Media files.

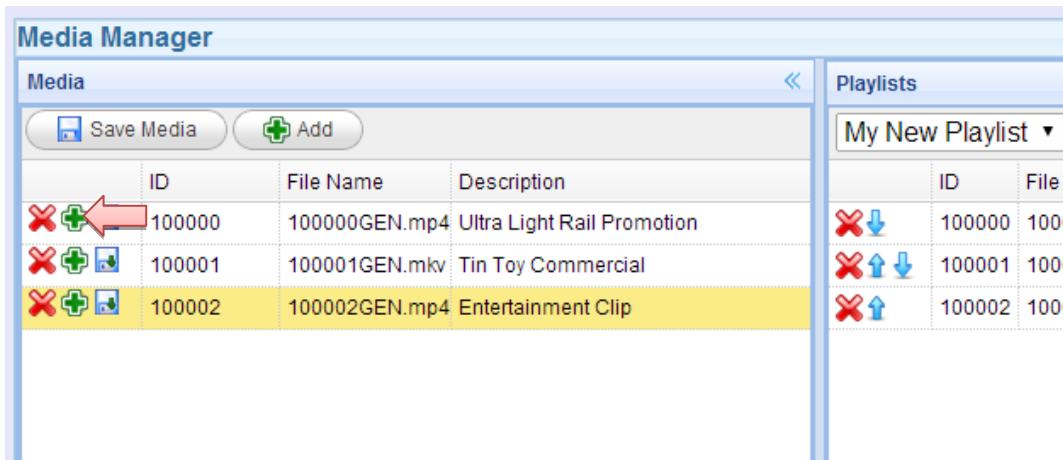


Figure 257 – Media Manager Setup Screen: Add To Playlist Icon

The order of the files in the Playlist can be changed by clicking the Move Up and Move Down Arrow icons next to each of files in the Playlist list.

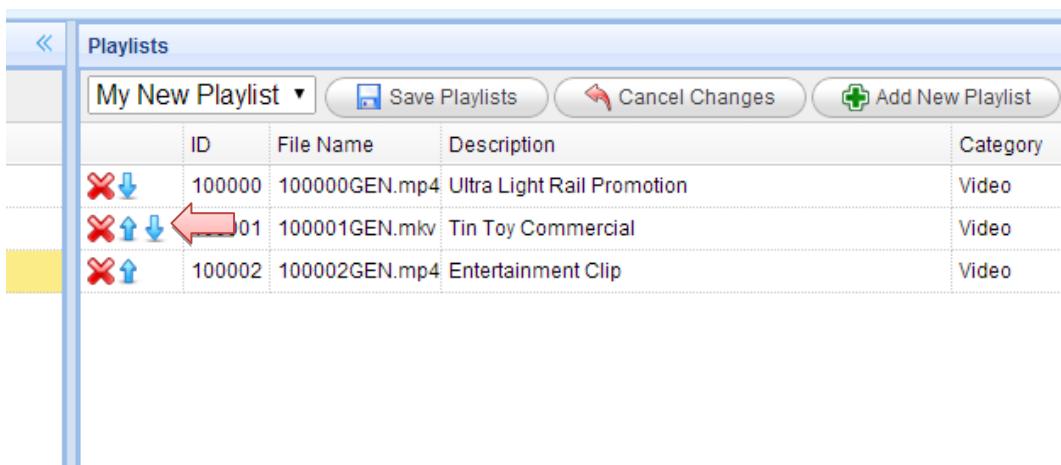


Figure 258 – Media Manager Setup Screen: Move Up and Move Down Playlist Icons

When changes to the Playlists are complete, click on the Save Playlists button to commit the changes to the system. At this point, the playlists will be automatically distributed to devices in the system with the ability to execute media playlists.

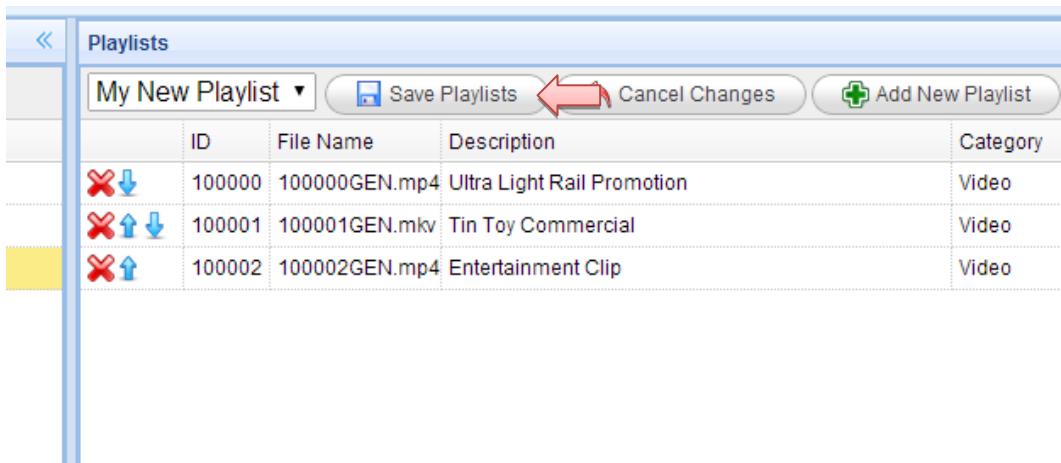


Figure 259 – Media Manager Setup Screen: Save Playlists Button

NOTE: CHANGES TO THE PLAYLIST LIST WILL BE LOST IF NOT SAVED

For the changes to the Playlist list to be committed to the system, the Save Playlist button must be clicked by the user. If the changes are not saved, then they will be lost when the browser session ends or is refreshed.

6.20.5 Editing an Existing Playlist

To edit an existing Playlist, select the playlist from the Playlist dropdown.

The screenshot shows the 'Playlists' section of the Media Manager. A dropdown menu is open, showing 'My New Playlist' with a red arrow pointing to it. Below the dropdown is a table with three rows of media files:

	ID	File Name	Description	Category
X	100000	100000GEN.mp4	Ultra Light Rail Promotion	Video
X	100001	100001GEN.mkv	Tin Toy Commercial	Video
X	100002	100002GEN.mp4	Entertainment Clip	Video

Figure 260 – Media Manager Setup Screen: Playlist Dropdown

Files can be added to the playlist using the Add To Playlist Icon next to the file in the Media File list, or removed from Playlist using the Remove Media File from Playlist icon.

The screenshot shows the 'Media' and 'Playlists' sections of the Media Manager. On the left, under 'Media', there is a table with three rows of media files. The second row has a red arrow pointing to the 'Add To Playlist' button (a green plus sign with a blue square). On the right, under 'Playlists', there is a table with three rows. The first row has a red arrow pointing to the 'Remove From Playlist' button (an X with a red circle).

Figure 261 – Media Manager Setup Screen: Add/Remove Media File to Playlist Buttons

The order of the files in the Playlist can be changed by clicking the Move Up and Move Down Arrow icons next to each of files in the Playlist list.

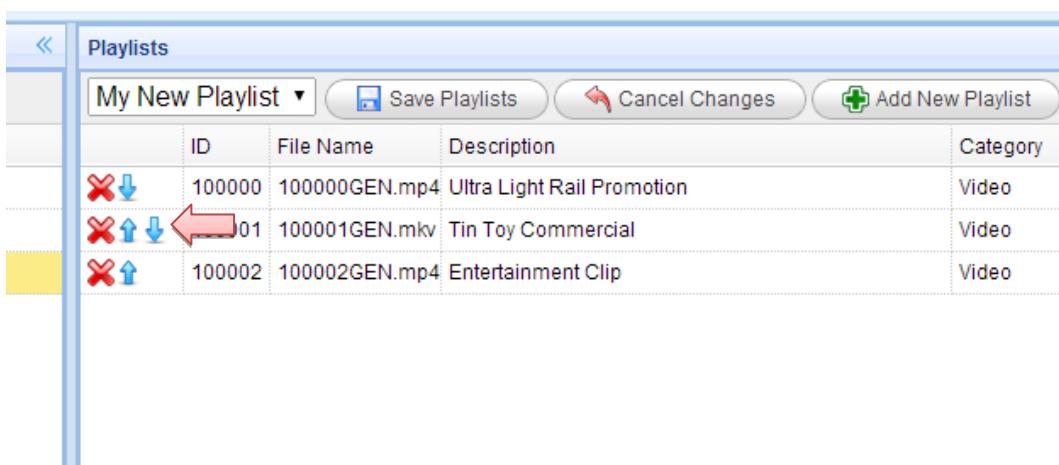


Figure 262 – Media Manager Setup Screen: Move Up and Move Down Playlist Icons

When changes to the Playlists are complete, click on the Save Playlists button to commit the changes to the system. At this point, the playlists will be automatically distributed to devices in the system with the ability to execute media playlists.

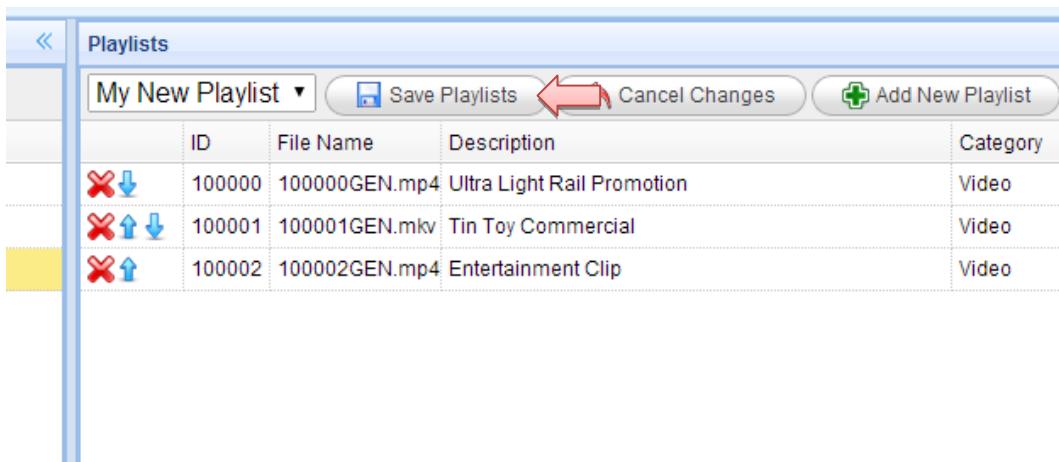


Figure 263 – Media Manager Setup Screen: Save Playlists Button

NOTE: CHANGES TO THE PLAYLIST LIST WILL BE LOST IF NOT SAVED

For the changes to the Playlist list to be committed to the system, the Save Playlist button must be clicked by the user. If the changes are not saved, then they will be lost when the browser session ends or is refreshed.

6.20.6 Deleting an Existing Playlist

To delete an existing Playlist from the system, select the Playlist from the Playlist dropdown.

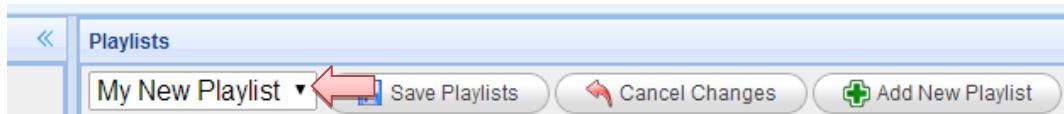


Figure 264 – Media Manager Setup Screen: Playlist Dropdown

The Media Files in the Playlist will be shown in the Playlist list.

ID	File Name	Description	Category	Date	
100000	100000GEN.mp4	Ultra Light Rail Promotion	Video	27/06/2014	34,
100001	100001GEN.mkv	Tin Toy Commercial	Video	27/06/2014	176,
100002	100002GEN.mp4	Entertainment Clip	Video	27/06/2014	35,

Figure 265 – Media Manager Setup Screen: Delete Selected Playlist Button

Click the Delete Selected Playlist button to remove the Playlist from the system.

When changes to the Playlists are complete, click on the Save Playlists button to commit the changes to the system. At this point, the playlists will be automatically distributed to devices in the system with the ability to execute media playlists.

ID	File Name	Description	Category
100000	100000GEN.mp4	Ultra Light Rail Promotion	Video
100001	100001GEN.mkv	Tin Toy Commercial	Video
100002	100002GEN.mp4	Entertainment Clip	Video

Figure 266 – Media Manager Setup Screen: Save Playlists Button

NOTE: CHANGES TO THE PLAYLIST LIST WILL BE LOST IF NOT SAVED

For the changes to the Playlist list to be committed to the system, the Save Playlist button must be clicked by the user. If the changes are not saved, then they will be lost when the browser session ends or is refreshed.

6.20.7 Adding New Schedules

To schedule the Playlist for play back on capable devices, click the Add New Schedule button.

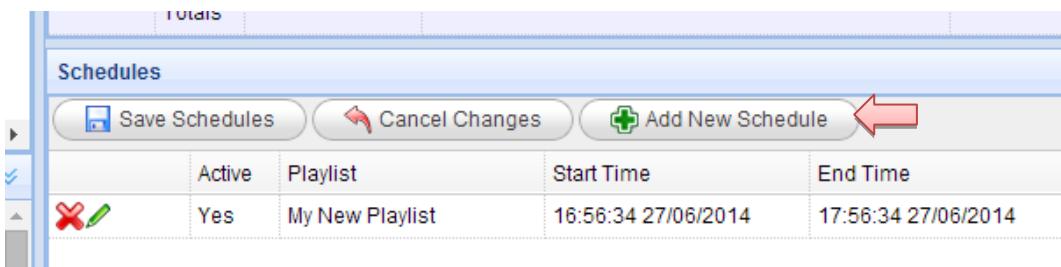


Figure 267 – Media Manager Setup Screen: Schedule Added

The Add Schedule dialogue will be displayed, shown below:

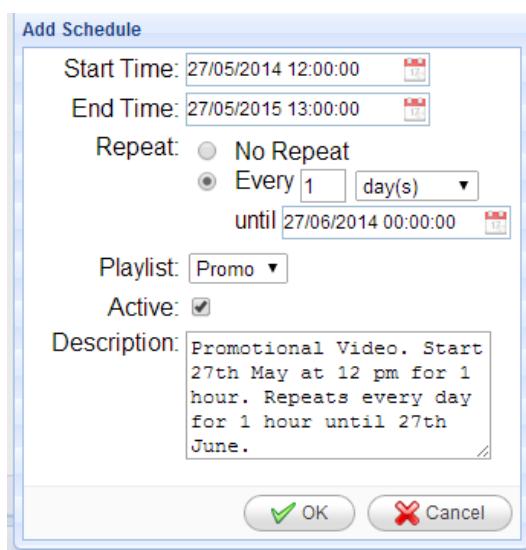


Figure 268 – Media Manager Add Schedule Dialogue

The Add Schedule dialogue allows the administrator to schedule the play back time and frequency of the Playlist by setting the following values:

Start Time

The Start Time specifies the date and time the schedule will start to take effect in the system. The Start Time also specifies the playback window in conjunction with the End Time. The playback window is the period of time that the Playlist will be continually replayed.

End Time

The End Time specifies the window of time the Playlist will continually be replayed relative to the Start Time.

Repeat

The Repeat setting specifies at what rate the playback window is repeated in the future. The setting No Repeat means the playback window defined between the Start Time and End Time will occur once.

The administrator can choose to repeat the playback window every minute, hour, day, week, month, year, weekends or weekdays until a specified date and time.

Playlist

The Playlist dropdown allows the administrator to select the Playlist to schedule.

Active

The Active setting determines whether the schedule is enabled in the system and will take effect.

Description

The Description allows a general description of the schedule to be entered describing its function.

SCHEDULE EXAMPLE 1

- Start Time = 1/1/2014 8:00
- End Time = 1/1/2014 10:00
- Repeat = Every 1 day(s)
- Until = 1/2/2014

This schedule will begin on the 1st of January at 8am. The Playlist will be replayed for 2 hours (between 8am and 10am) every day until the 1st of February.

SCHEDULE EXAMPLE 2

- Start Time = 1/1/2014 8:00
- End Time = 1/1/2014 16:00
- Repeat = Every Weekend
- Until = 1/1/2015

This schedule will begin on the 1st of January, 2014 at 8am. The Playlist will be replayed for 8 hours (between 8am and 4pm) every weekend (Saturday and Sunday) until the 1st of January, 2015 (1 year).

When changes to the Schedules are complete, click on the Save Schedules button to commit the changes to the system. At this point, the Schedules will be automatically distributed to devices in the system with the ability to execute scheduled playlists.

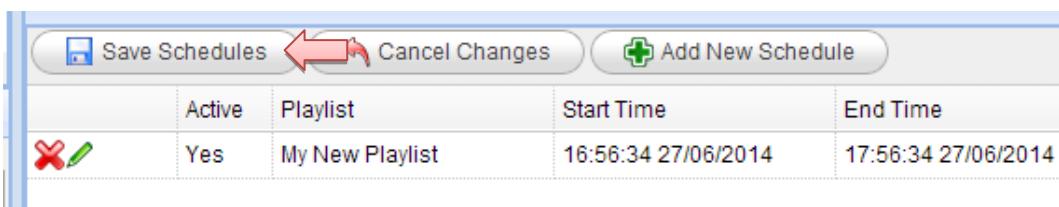


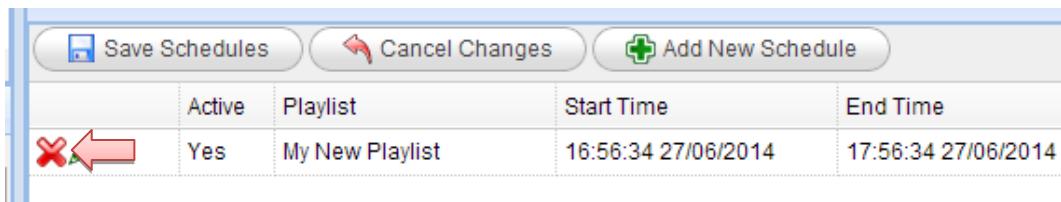
Figure 269 – Media Manager Setup Screen: Save Schedules Button

NOTE: CHANGES TO THE SCHEDULE LIST WILL BE LOST IF NOT SAVED

For the changes to the Schedule list to be committed to the system, the Save Schedules button must be clicked by the user. If the changes are not saved, then they will be lost when the browser session ends or is refreshed.

6.20.8 Deleting Existing Schedules

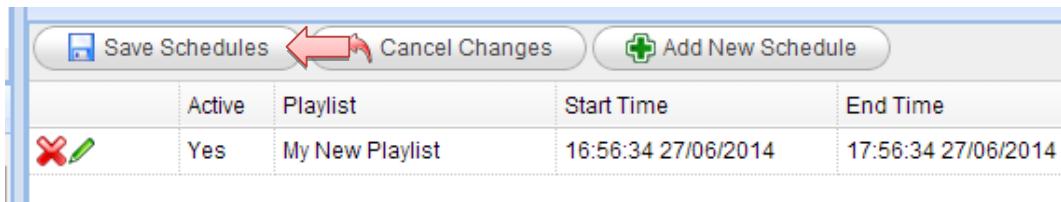
To delete a Schedule previously configured in the system, click the Delete Schedule icon next to the schedule to be removed.



	Active	Playlist	Start Time	End Time
	Yes	My New Playlist	16:56:34 27/06/2014	17:56:34 27/06/2014

Figure 270 – Media Manager Setup Screen: Delete Schedule Icon

When changes to the Schedules are complete, click on the Save Schedules button to commit the changes to the system. At this point, the Schedules will be automatically distributed to devices in the system with the ability to execute scheduled playlists.



	Active	Playlist	Start Time	End Time
	Yes	My New Playlist	16:56:34 27/06/2014	17:56:34 27/06/2014

Figure 271 – Media Manager Setup Screen: Save Schedules Button

NOTE: CHANGES TO THE SCHEDULE LIST WILL BE LOST IF NOT SAVED

For the changes to the Schedule list to be committed to the system, the Save Schedules button must be clicked by the user. If the changes are not saved, then they will be lost when the browser session ends or is refreshed.

6.20.9 Schedule Priorities

If more than one schedule is defined in the system and their playback windows overlap, the playlist associated with the first schedule in the list with an active playback window will be played. Schedules can be moved up and down in the list to set their priority by using the Move Up and Move Down arrow icons to the left of each schedule.

6.21 Setup: NetSpire Peers Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

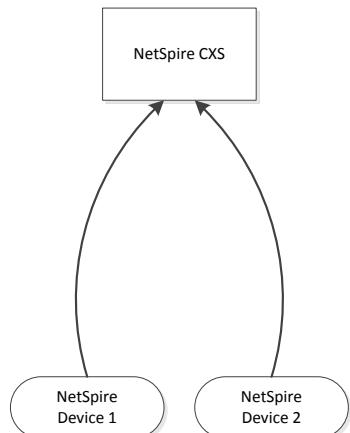
The NetSpire Peers Setup screen is supported by all NetSpire devices and allows the administrator to manage the NetSpire peer network connections between devices.

NetSpire Peer connections are network control connections that allow different NetSpire devices to share status and control information. Peer connections are used in a number of different topologies which depend on the specific requirements of a particular installation.

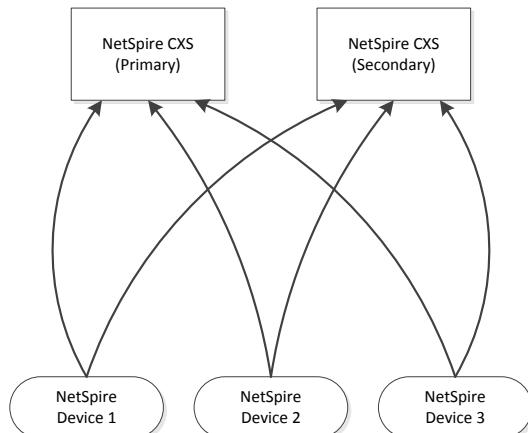
NetSpire Peer connections can be used in the following scenarios:

- ▶ Peer connection from each device to Central CXS Server
- ▶ Peer connection from each rolling stock device to TCX Server
- ▶ Secondary peer connections to redundant CXS / TCX servers
- ▶ Peer connections to other devices for offline (no server) operation. For example a Peer connection from NetSpire IPPA to NetSpire NAC to support offline PA.

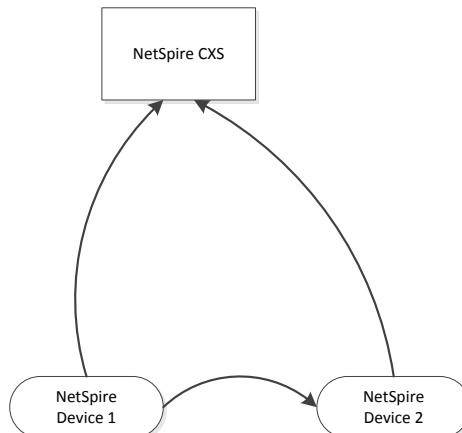
Single CXS Server Peer Connections



Peer Connections to Redundant CXS Servers



Peer Connection for Offline Mode



Adhoc Device Peers with no Central Server

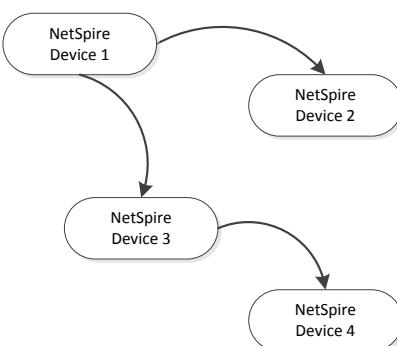


Figure 272 – NetSpire Peer Connection Topologies

The list of NetSpire Peer connections are managed using the NetSpire Peers Setup screen, shown below:

The screenshot shows a web-based administration interface for 'openaccess network audio innovation'. The top navigation bar includes links for 'Information', 'Setup', 'Operations', 'Maintenance', and 'Logout admin'. The main title 'IPPA' is displayed prominently. Below the navigation, a sub-header 'NetSpire Peers' is visible. A table titled 'Netspire Peers' lists a single peer entry: IP Address 192.168.104.20 and TCP Port 20000. To the left of the IP address column is a row of icons: a pencil for edit, a delete button (red X), and a refresh symbol. Below the table are buttons for 'Add Peer', 'Cancel Changes', and 'Save Changes'.

Figure 273 – NetSpire Peers Setup Screen

6.21.1 Add a New Peer Connection

To add a new Peer connection, click the Add Peer button and enter the IP Address and TCP Port number. Always use a port number of 20000.

6.21.2 Remove an Existing Peer Connection

To remove an existing Peer connection, click on the Delete button next to the IP Address and TCP Port number of the peer you wish to remove.

Click the Apply Changes button when you have finished modifying the list, to commit the changes to the system.

6.22 Setup: Networking Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Networking Setup screen is supported by all NetSpire and allows the administrator to manage the IP Address of devices.

The Networking Setup screen allows the administrator to select between DHCP assigned, or statically assigned IP Addresses, and is shown below:

Device IP Configuration													
Interface	Mode	Address			Mask		Gateway						
bond0	<input type="radio"/> DHCP <input checked="" type="radio"/> Static	192	168	8	2	255	255	0	0	192	168	100	254

Figure 274 – Networking Setup Screen

For each supported logical network interface, the Mode of the addressing can be selected:

DHCP

Select the DHCP radio button for DHCP assigned IP network addressing. NetSpire devices support the DHCP User Class Option which allows the IP Address assignment to be associated with the physical circuit id (Ethernet port) that the NetSpire device is connected. The network infrastructure and DHCP Server must support DHCP Option 82, for this feature to work correctly.

Static

Select the Static radio button for statically assigned IP Addressing. The administrator can enter the IP Address, Subnet Mask, and Gateway information in to the relevant text boxes.

When the changes have been completed, click the Apply Changes button to commit the changes to the system.

6.23 Setup: Redundancy Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	X
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Redundancy Setup screen is only supported by the NetSpire CXS and TCX devices. The screen allows the administrator to configure redundant failover between NetSpire server devices.

The screenshot shows the 'Redundancy Settings' page for the CXS device. It includes:

- Server Pools:** A table with one row for 'Failover Servers' (CXS) at 'Not Set' location, ID 104, index 020. Actions include a green plus sign and a red minus sign.
- Failover Triggers:** A table listing triggers: General server failure (checked), E1 Trunks, SIP Trunks, SDK, Digital Input, Network Packet Loss, and UPS. Each has a edit icon.
- Demotion Actions:** A table listing actions: Disable Trunks, Disable SNMP, and Disable Call Management. Each has a edit icon.
- Notification:** A table listing methods: Email and Digital Output. Each has a edit icon.
- Options:** A section with 'Failover Interval' set to 60 seconds and 'On Fault Resolution' checked for 'Force re-election'.
- Buttons:** 'Cancel Changes' and 'Save Changes'.

Figure 275 – Redundancy Setup Screen

The Redundancy Setup screen provides settings relating to Server Pools, Failover Triggers, Failover Interval, Election on Fault Resolution, Demotion actions and Notifications.

Server Pools

The Server Pools table lists the available server pools in the system. Currently only one Server Pool can be configured for each NetSpire CXS or TCX Server. Server Pools are a list of servers that will form a redundant failover relationship. Only one server in the pool will be active at any time.

Failover Triggers

The Failover Triggers table lists the conditions under which a server will be determined ineligible for election. These settings currently cannot be modified through the interface and are factory configured for a particular installation.

Options

The Options determine the failover interval after detecting a fault, and the server failing over to another server in the Server Pool.

Demotion Actions

The Demotion Actions table determines what actions are performed by the server in the event it is no longer active due to a fault or due to an election where another server has become active. These settings currently cannot be modified through the interface and are factory configured for a particular installation.

Notification

The Notification table determines the notifications that are sent when a servers eligibility for election changes state, or a server change to or from the active server. These settings currently cannot be modified through the interface and are factory configured for a particular installation.

To view the status of the Server Pool, the current eligibility for election and the current active status of a server refer to section 5.7 *Information: Redundancy Screen*.

6.23.1 Adding a Server to the Server Pool

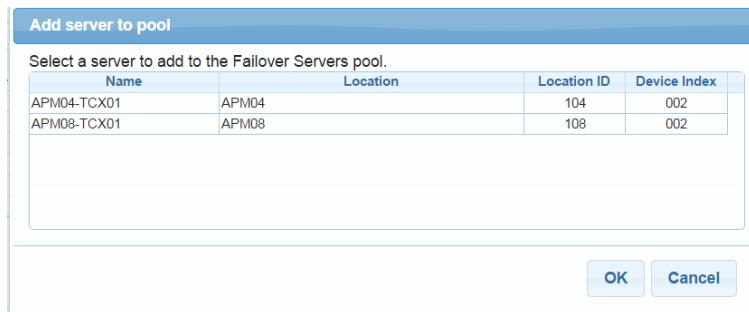
The Server Pool table allows additional servers to be added to the Server Pool by clicking on the Add Server icon at the right side of the table. By default, the current server is always present in the Server Pool and cannot be removed.



Server Pools	Server Pool	Member	Location Name	Location ID	Device Index	Actions
Failover Servers	OCC-CXS02	OCC	008	002		

Figure 276 – Redundancy Setup Screen: Server Pools Table

Clicking the Add Server icon displays the Add Server to Pool dialog, which is shown below:



Name	Location	Location ID	Device Index
APM04-TCX01	APM04	104	002
APM08-TCX01	APM08	108	002

Figure 277 – Add Server to Pool Dialogue

The Add Server to Pool dialogue allows the administrator to select from the available servers in the system to add to the pool. To add a server from the list, selected the server by clicking the line and clicking the OK button.

To ensure servers are listed for selection in a Server Pool, the servers must be peered. Refer to section 6.21 *Setup: NetSpire Peers Screen* for more information on NetSpire Peers and creating peer connections between devices.

NOTE: SERVERS SHOULD BE ADDED TO SERVER POOLS ON BOTH SERVERS

When adding servers to the Server Pool, the corresponding servers should be added to the pool on both servers.

6.23.2 Removing a Server from the Server Pool

The Server Pool table allows servers to be removed from the Server Pool by clicking on the Delete Server icon at the right side of the table on the line to be removed. By default, the current server is always present in the Server Pool and cannot be removed.

Server Pools	Server Pool	Member	Location Name	Location ID	Device Index	Actions
Failover Servers	OCC-CXS02	OCC	008	002		 
	APM04-TCX01	APM04	104	002		 

Figure 278 – Redundancy Setup Screen: Server Pools Table

NOTE: SERVERS SHOULD BE REMOVED FROM SERVER POOLS ON BOTH SERVERS

When removing servers from the Server Pool, the corresponding servers should be removed from the pool on both servers.

6.24 Setup: Preferences Screen

Supported by
CXS
IPPA
NAR
NAC
NAM
TCX
TGU
CI
CP
CC
CAC
PEI
X

The Preferences Setup screen is provided by all NetSpire Intercom devices and allows the administrator to manage the behaviour of the intercom functions.

Button and Call Progress Settings

- Button Activation Duration: 300 milliseconds
- "Call Failed" Message: 99003FT.wav - A Call Cannot Be Placed
- Connection Timeout: Timeout (Seconds): 5 seconds
Message: 99003FT.wav - A Call Cannot Be Placed
- Button 1 Profile: Profile 5

Button behaviour

- Action: Make Emergency Call
- Call Address: 50000
- LED behaviour**
- Device Faulty: Off
- Idle: Green on
- Alerting: Red slow flash
- Connected/Active: Red fast flash

Buttons: Cancel Changes, Save Preferences

Figure 279 – Intercom Preferences Setup Screen

The Button and Call Progress Settings section provides a number of options for tailoring the behaviour of the intercom for a particular installation. These options include:

Button Activation Duration

The Button Activation Duration specifies the number of milliseconds the button must be pressed before initiating an intercom call.

"Call Failed" Message

The "Call Failed" Message specifies the audio file that is used to provide feedback to the user of the intercom in the case where a call cannot be made in the system. New files can be loaded into the system using the Dictionary Management facilities. Only 8khz mono audio files are supported for this message.

Refer to section 6.15 Setup: Dictionary Management Screen for information on dictionary management.

Connection Timeout

The Connection Timeout options allow the administrator to specify the number of seconds to attempt making an intercom call before providing feedback to the user that the call cannot be placed. If there is a known condition preventing a

call from being placed, this timeout does not apply and the unit will provide feedback to the user immediately.

The Message dropdown specifies the audio file that is used to provide feedback to the user of the intercom in the case where a call cannot be made in the system. New files can be loaded into the system using the Dictionary Management facilities. Only 8khz mono audio files are supported for this message.

Refer to section [6.15 Setup: Dictionary Management Screen](#) for information on dictionary management.

Button 1 Profile

The Button 1 Profile allows the behaviour of the button to be selected from a number of pre-configured behaviour profiles in the system.

Multiple Button Profile options will be presented for intercoms with more than one button (the profile and behaviour can be specified for each button).

Profile 5	Button behaviour
Action:	Make Emergency Call
Call Address:	50000
LED behaviour	
Device Faulty:	Off
Idle:	Green on
Alerting:	Red slow flash
Connected/Active:	Red fast flash

Figure 280 – Intercom Preferences Setup Screen: Button Profiles

The Button Profiles allows the following behaviours to be chosen:

Button Behaviour

The Action specifies whether the call is an emergency call, or an informational call. The Call Address specifies the number to be called when the button is pressed.

LED Behaviour

The behaviour of the LEDs including colour and flash rate when faulty, idle, alerting and connected/active on a call can be specified.

6.25 Setup: Telephony Management Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Management Setup screens are only supported by the NetSpire CXS devices. The screens provide the administrator with the ability to configure all aspects of the telephony subsystem, including:

- ▶ Extensions
- ▶ Call Restriction Classes
- ▶ Dial plan
- ▶ Conference Settings
- ▶ Ring Groups
- ▶ Trunk Settings
- ▶ Help Point System
- ▶ Voicemail Settings

The screens are accessed by selecting “Telephony Management” from the Setup drop down menu.

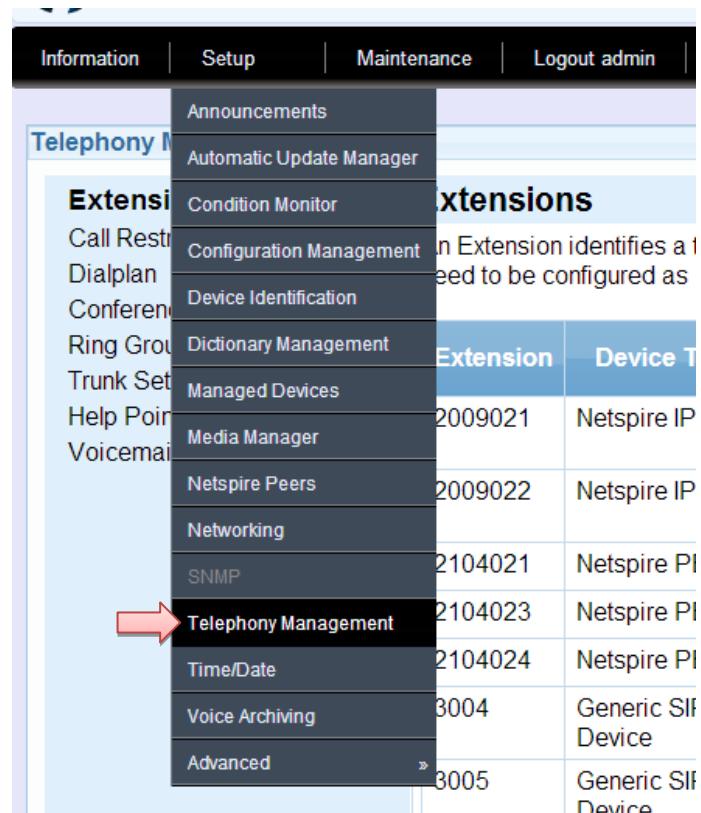


Figure 281 – Information Dropdown Menu

The individual Telephony screens can be accessed by clicking the name of the screen on the menu at the left side of the page.



Figure 282 – Telephony Management Screen Menu

Each of the Telephony Management Setup screens is described in the following sections.

6.25.1 Setup: Telephony Management: Extensions Screen

Supported by
CXS X
IPPA
NAR
NAC
NAM
TCX
TGU
CI
CP
CC
CAC
PEI

The Telephony Extensions Setup screen is only supported by the NetSpire CXS devices. The screen provides a list of currently configured telephony extensions in the system and allows the administrator to add, edit and remove the extensions configured in the system.

Extension	Device Type	Device Role	Location	Outbound Call Restriction	Inbound Call Restriction	Description	Enabled
2009021	Netspire IPPA	Operator				Backup OCC Operator	✓ ✓
2009022	Netspire IPPA	Operator				OCC Operator	✓ ✓
2104021	Netspire PEI/HP	Intercom/Help Point				Station Intercom	✓ ✓
3005	Generic SIP Device	General Purpose Telephony	Desk 20			SNOM300	✓ ✓
3006	Generic SIP Device	General Purpose Telephony	Desk 19			SNOM370	✓ ✓
7018	Generic SIP Device	General Purpose Telephony	Desk 21	International Call Restriction		Visitors Phone	✓ ✓
8888	Generic SIP Device	General Purpose Telephony	Basement			Maintenance Phone 1	✓ ✓

Figure 283 – Telephony Extensions Setup Screen

Extensions in the NetSpire system represent telephony devices like phones, intercoms and call stations. For a device to be used in the system an Extension entry must be created representing the device.

6.25.1.1 Adding New Extensions

To add a new Extension to the system, click the New Extension button located to the right and below the Extensions list.

Figure 284 – Telephony Extensions Setup Screen: New Extension Button

The Telephony Management Extensions Details screen will be displayed and is shown in the following screenshot:

Figure 285 – Telephony Extensions Detail Screen

For a description of each of the fields in the Telephony Extension Detail screen, please refer to the following section.

6.25.1.2 Editing Existing Extensions

To edit an existing Extension in the system, click the Edit Extension icon located next to the extension that requires changes in the Extensions list.

Extensions							
An Extension identifies a telephony device in the system, such as Operator phones, Help points, or other Generic phone devices. All telephony devices in the system need to be configured as Extensions.							
Extension	Device Type	Device Role	Location	Outbound Call Restriction	Inbound Call Restriction	Description	Enabled
2009021	Netspire IPPA	Operator				Backup OCC Operator	<input checked="" type="checkbox"/>
2009022	Netspire IPPA	Operator				OCC Operator	<input checked="" type="checkbox"/>
2104021	Netspire PEIHP	Intercom/Help Point				Station Intercom	<input checked="" type="checkbox"/>
3005	Generic SIP Device	General Purpose Telephony	Desk 20			SNOM300	<input checked="" type="checkbox"/>
3006	Generic SIP Device	General Purpose Telephony	Desk 19			SNOM370	<input checked="" type="checkbox"/>
7018	Generic SIP Device	General Purpose Telephony	Desk 21	International Call Restriction		Visitors Phone	<input checked="" type="checkbox"/>
8888	Generic SIP Device	General Purpose Telephony	Basement			Maintenance Phone 1	<input checked="" type="checkbox"/>

Figure 286 – Telephony Extensions Setup Screen: Edit Extension Icon

The Telephony Management Extensions Details screen will be displayed.

There are three different types of Extensions supported by the NetSpire system:

- ▶ Generic SIP Device
- ▶ NetSpire Intercoms
- ▶ NetSpire Call Stations and Crew Interfaces

The parameters required to configure each of the three device types is covered in the following sections.

Generic SIP Device

The Generic SIP Device or Generiv Help Point Extension type is used to support third party SIP telephones or help points. Only devices compliant with SIP RFC 3261 are supported by the NetSpire system.

The Extension Details screen for a Generic SIP Device is shown below:

Extension		Apply Changes	Back
Extension Number	3005		
Description	SNOM300		
Device Type (Role)	Generic SIP Device (General Purpose Telephony)		
Location Description	Desk 20		
Auto Create Dialplan Route	<input checked="" type="checkbox"/> Enabled		
Ping Testing	<input checked="" type="checkbox"/> Enabled <input type="radio"/> Device Hostname: <input type="text"/> * IP Address: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		
Outbound Call Restriction	<input type="text"/> None		
Inbound Call Restriction	<input type="text"/> None		
Voicemail	<input checked="" type="checkbox"/> Enabled, Timeout (5-300 Seconds): <input type="text"/> 30 , Password (numerics only, 0-10 digits): <input type="text"/>		
Enabled	<input checked="" type="checkbox"/>		

Figure 287 – Telephony Extensions Details Screen: Generic SIP Device

The Extension Details screen allows the following parameters to be specified or changed for a Generic SIP Device Extensions:

Extension Number

The extension number or phone number of the device in the system.

Description

The administrator can enter a description of the device.

Location Description

The administrator can enter a description of the location of the device.

Auto Create Dial Plan Route

If enabled, a dial plan entry will be automatically created to route calls to a specified trunk when a call is made to this extension.

Ping Testing

If enable, the system performs ICMP ping testing to the device as specified by the hostname or IP Address. This allows extended health information to be provided about the device.

Outbound Call Restriction

Allows restrictions to be placed on this device for outbound calls. Choose one of the Call Restriction Classes defined in the system. For more information on Call Restriction Classes refer to section 6.25.1.4 *Setup: Telephony Management: Call Restriction Classes Screen*.

Inbound Call Restriction

Allows restrictions to be placed on this device for inbound calls. Choose one of the Call Restriction Classes defined in the system. For more information on Call Restriction Classes refer to section 6.25.1.4 *Setup: Telephony Management: Call Restriction Classes Screen*.

Voicemail

If enabled, a voicemail service is allocated for this device. The password to access the mail box and a timeout before voicemail is presented to the caller can be specified.

Enabled

If enabled, this Extension is available for use and make and receive calls. If disabled, this Extension cannot make or received calls.

NetSpire Intercoms

The NetSpire PEI/HP (Intercom/Help Point) Extension type is used to configure NetSpire Intercoms as Extensions in the telephony subsystem. The NetSpire Intercoms are SIP RFC 3261 compliant, but also support extensions allowing extended diagnostics and health testing information.

The Extension Details screen for a NetSpire PEI/HP (Intercom/Help Point) is shown below:

Extension	
Extension Number	<input type="text" value="2104021"/>
Description	<input type="text" value="APM04-PEI01 Added by Alex during UAT"/>
Device Type (Role)	Netspire PEI/HP (Intercom/Help Point)
Outbound Call Restriction	<input type="text" value="None"/>
Inbound Call Restriction	<input type="text" value="None"/>
Enabled	<input checked="" type="checkbox"/>

Figure 288 – Telephony Extensions Edit Screen: NetSpire Intercom

The Extension Details screen allows the following parameters to be specified or changed for a NetSpire PEI/HP (Intercom/Help Point) Extensions:

Extension Number

Extension number or phone number of the device in the system. This number should match the *SIP Identity* of the device (visible on the Summary Information screen of the Web Administration Interface for that specific device).

Outbound Call Restriction

Allows restrictions to be placed on this device for outbound calls. Choose one of the Call Restriction Classes defined in the system. For more information on Call Restriction Classes refer to section 6.25.1.4 *Setup: Telephony Management: Call Restriction Classes Screen*.

Inbound Call Restriction

Allows restrictions to be placed on this device for inbound calls. Choose one of the Call Restriction Classes defined in the system. For more information on Call Restriction Classes refer to section 6.25.1.4 *Setup: Telephony Management: Call Restriction Classes Screen*.

Enabled

If enabled, this Extension is available for use and make and receive calls. If disabled, this Extension cannot make or received calls.

NetSpire Call Stations

The NetSpire IPPA (Operator) Extension type is used to configure NetSpire Call Stations and Paging Station such as the NetSpire IPPA or the NetSpire Crew Controller as Extensions in the telephony subsystem. The NetSpire Call Stations are SIP RFC 3261 compliant, but also support extensions allowing extended diagnostics and health testing information.

The Extension Details screen for a NetSpire IPPA (Operator) is shown below:

Extensions		Extension	Apply Changes	Back
Call Restriction Classes		Extension Number <input type="text" value="2009021"/>		
Dialplan		Description <input type="text" value="TDMO-IPPA01 Added by Alex in UAT"/>		
Conference Settings		Device Type (Role) <input type="text" value="Netspire IPPA (Operator)"/>		
Ring Groups		Outbound Call Restriction <input type="text" value="None"/>		
Trunk Settings		Inbound Call Restriction <input type="text" value="None"/>		
Help Point System		Enabled <input checked="" type="checkbox"/>		
Voicemail Settings				

Figure 289 – *Telephony Extensions Edit Screen: NetSpire Call Station*

The Extension Details screen allows the following parameters to be specified or changed for IPPA (Operator) Extensions:

Extension Number

Extension number or phone number of the device in the system. This number should match the *SIP Identity* of the device (visible on the Summary Information screen of the Web Administration Interface for that specific device)

Outbound Call Restriction

Allows restrictions to be placed on this device for outbound calls. Choose one of the Call Restriction Classes defined in the system. For more information on Call Restriction Classes refer to section 6.25.1.4 *Setup: Telephony Management: Call Restriction Classes Screen*.

Inbound Call Restriction

Allows restrictions to be placed on this device for inbound calls. Choose one of the Call Restriction Classes defined in the system. For more information on Call Restriction Classes refer to section 6.25.1.4 *Setup: Telephony Management: Call Restriction Classes Screen*.

Enabled

If enabled, this Extension is available for use and make and receive calls. If disabled, this Extension cannot make or received calls.

6.25.1.3 Removing Existing Extensions

To remove an existing Extension in the system, click the Remove Extension icon located next to the extension.

Extension	Device Type	Device Role	Location	Outbound Call Restriction	Inbound Call Restriction	Description	Enabled
2009021	Netspire IPPA	Operator				Backup OCC Operator	<input checked="" type="checkbox"/>
2009022	Netspire IPPA	Operator				OCC Operator	<input checked="" type="checkbox"/>
2104021	Netspire PEI/HP	Intercom/Help Point				Station Intercom	<input checked="" type="checkbox"/>
3005	Generic SIP Device	General Purpose Telephony	Desk 20			SNOM300	<input checked="" type="checkbox"/>
3006	Generic SIP Device	General Purpose Telephony	Desk 19			SNOM370	<input checked="" type="checkbox"/>
7018	Generic SIP Device	General Purpose Telephony	Desk 21	International Call Restriction		Visitors Phone	<input checked="" type="checkbox"/>
8888	Generic SIP Device	General Purpose Telephony	Basement			Maintenance Phone 1	<input checked="" type="checkbox"/>

Figure 290 – Telephony Extensions Setup Screen: Remove Extension Icon

A confirmation dialogue will displayed to confirm the Extension is to be permanently removed from the system configuration.

6.25.1.4 Setup: Telephony Management: Call Restriction Classes Screen

The Telephony Call Restriction Classes Setup screen is only supported by the NetSpire CXS and TCX devices. The screen provides a list of currently configured Call Restriction Classes in the system and allows the administrator to add, edit and remove restrictions in the system.

Class Name	Description
International Call Restriction	Restricts Call to Internal Calls Only

Figure 291 – Telephony Call Restrictions Setup Screen

Call Restriction Classes are filters that match calls in the system using either a range of dialled numbers, or by pattern matching the prefix of the dialled number. Calls matching the range or the prefix can then be blocked or allowed to proceed.

For Call Restriction Classes to take effect they need to be assigned to the outbound or inbound call restrictions for Extensions (refer to section 6.25.1 *Setup: Telephony Management: Extensions Screen*).

6.25.1.5 Adding New Call Restriction Classes

Figure 292 – Telephony Call Restrictions Setup Screen

To create a new Call Restriction Class click the New Restriction button at the bottom right of the Call Restriction Classes list.

The New Restriction screen will be displayed and is shown in the following screenshot:

The screenshot shows the 'Telephony Management' section of the CXS2 web interface. On the left, a sidebar lists 'Extensions', 'Call Restriction Classes' (which is the active tab), 'Dialplan', 'Conference Settings', 'Ring Groups', 'Trunk Settings', 'Help Point System', and 'Voicemail Settings'. The main area is titled 'Call Restriction Class' and contains fields for 'Class Name' (with a help icon) and 'Description' (with a help icon). Below these are sections for 'Settings' and 'Priority Order', 'Type', 'Action', 'Range', 'Start Pattern', and 'Number of Digits to Follow'. Buttons for 'Apply Changes', 'Back', and 'New Rule' are at the top right.

Figure 293 – Telephony Call Restrictions New Restriction Screen

The following section describes the parameters for the Call Restriction Class and adding pattern to the class.

6.25.1.6 Editing Existing Call Restriction Classes

To edit an existing Call Restriction Class, click on the Edit icon next to the Call Restriction Class which requires changes.

The screenshot shows the 'Telephony Management' section of the CXS2 web interface. The sidebar is identical to Figure 293. The main area is titled 'Call Restriction Classes' and displays a table with one row. The row contains 'International Call Restriction' in the 'Class Name' column and 'Restricts Call to Internal Calls Only' in the 'Description' column. A red arrow points to the 'Edit' icon (pencil symbol) in the far right of the table row.

Figure 294 – Telephony Call Restrictions Setup Screen

The Edit Restriction screen will be displayed and is shown in the following screenshot:

The screenshot shows the 'Telephony Management' section of the CXS2 web interface, similar to Figure 293. The sidebar and main area are identical, showing the 'Call Restriction Class' configuration with fields for 'Class Name' (International Call Restriction) and 'Description' (Restricts Call to Internal Calls Only). The 'Settings' section below includes columns for 'Priority Order', 'Type' (Number Pattern), 'Action' (Block), 'Range' (0011), 'Start Pattern' (Any), and 'Number of Digits to Follow'. A toolbar with icons for edit, delete, and save is at the bottom right.

Figure 295 – Telephony Call Restrictions Edit Screen

The Call Restriction Class can be given a name and a general description of the purpose of the class.

The Call Restriction Class can have one or more Rules added to the class, defining which calls are Allowed, or Blocked by the class.

The Rules are shown in the Rule list at the bottom of the screen.

Each Rule is applied to the call number in the order they appear in the Rule list. The first Rule matching a dialled number will be applied, and no further Rules will be considered. To change the order of Rules in the Rules list use the arrow icons at the right of the list to move the relative position of Rules in the list up and down.

Priority Order ?	Type	Action	Range	Start Pattern	Number of Digits to Follow	
1	Number Pattern	Block		0011	Any	

[New Rule](#)

Figure 296 – Telephony Call Restrictions Edit Screen: Move Rule Icon

6.25.1.7 Adding a New Rule to a Call Restriction Class

To add a new Rule to the Call Restriction Class, click on the New Rule button at the bottom-right of the Rule list.

Priority Order ?	Type	Action	Range	Start Pattern	Number of Digits to Follow	
1	Number Pattern	Block		0011	Any	

[New Rule](#)

Figure 297 – Telephony Call Restrictions Edit Screen: New Rule Button

The Telephony Call Restrictions New Rule screen will be displayed and is shown in the following screenshot:

The screenshot shows the 'Call Restriction - Range Based Settings' page. On the left, there's a sidebar with links like Extensions, Call Restriction Classes, Dialplan, Conference Settings, Ring Groups, Trunk Settings, Help Point System, and Voicemail Settings. The main content area is titled 'Call Restriction - Range Based Settings'. It has three main sections: 'Type' (set to 'Number Range'), 'Action' (set to 'Allow'), and 'Range' (with fields for 'Starting Number' and 'Ending Number'). At the bottom right of this section is a button labeled 'Add Range'. At the top right of the main content area are 'Apply Changes' and 'Back' buttons.

Figure 298 – Telephony Call Restrictions New Rule Screen

The Rule can be one of two types, which is selected from the Type dropdown.

Number Range

Restricts calls within the range of numbers specified (inclusive starting and ending numbers)

Number Pattern

Restricts calls matching the numeric pattern specified.

For Rules with type Number Range, multiple number ranges can be added by clicking the Add Range button.

6.25.1.8 Editing an Existing Rule in a Call Restriction Class

To edit an existing Rule, click on the Edit icon to the right of the Rule that requires changes.

The screenshot shows the 'Call Restriction Class' page. On the left, there's a sidebar with links like Extensions, Call Restriction Classes, Dialplan, Conference Settings, Ring Groups, Trunk Settings, Help Point System, and Voicemail Settings. The main content area is titled 'Call Restriction Class'. It has two main sections: 'Class Name' (set to 'International Call Restriction') and 'Description' (set to 'Restricts Call to Internal Calls Only'). Below these is a table titled 'Settings' with columns for Priority Order, Type, Action, Range, Start Pattern, and Number of Digits to Follow. The first row in the table has values: Priority Order 1, Type Number Pattern, Action Block, Range 0011, Start Pattern Any, and Number of Digits to Follow 4. To the right of the table is a red arrow pointing to the edit icon (a pencil symbol) located at the bottom right of the table row.

Figure 299 – Telephony Call Restrictions Edit Screen: Edit Rule Icon

Call Restrictions Edit Rule screen will be displayed and is shown in the following screenshot:

The screenshot shows the 'Telephony Management' section of the CXS2 interface. On the left, there's a sidebar with links like 'Information', 'Setup', 'Maintenance', and 'Logout admin'. The main content area is titled 'Call Restriction - Pattern Based Settings'. It contains a table with the following data:

Type	Number Pattern
Action	Block
Start Pattern	0011
Number of Digits to Follow	Any

Buttons for 'Apply Changes' and 'Back' are located at the top right of the form.

Figure 300 – Telephony Call Restrictions Edit Rule Screen

The Edit Rule screen does not allow the Type of the Rule to be changed.

For Number Range Rule types the range of numbers can be modified and new ranges can be added, or existing ranges can be removed. Action can be modified as required

For Number Pattern Rule types the Start Pattern, Number of Digits to follow and the Action can be modified as required.

6.25.1.9 Deleting an Existing Rule from a Call Restriction Class

To delete an existing Rule in the Call Restriction Class, click on the Delete Rule icon next to the Rule in the Rule list.

The screenshot shows the 'Telephony Management' section of the CXS2 interface. On the left, there's a sidebar with links like 'Information', 'Setup', 'Maintenance', and 'Logout admin'. The main content area is titled 'Call Restriction Class'. It contains a table with the following data:

Priority Order	Type	Action	Range	Start Pattern	Number of Digits to Follow
1	Number Pattern	Block	0011	Any	

Buttons for 'Apply Changes' and 'Back' are located at the top right of the form. A red arrow points to the delete icon (red X) in the last column of the table.

Figure 301 – Telephony Call Restrictions Edit Screen: Delete Rule Icon

6.25.1.10 Deleting Existing Call Restriction Classes

To delete an existing Call Restriction Class, click on the Delete Rule icon next to the item in the Call Restriction Class list.

The screenshot shows the 'Call Restriction Classes' section of the OpenAccess CXS2 Telephony Management interface. On the left, a sidebar lists options like Extensions, Call Restriction Classes, Dialplan, Conference Settings, Ring Groups, Trunk Settings, Help Point System, and Voicemail Settings. The main area displays a table with one row:

Class Name	Description
International Call Restriction	Restricts Call to Internal Calls Only

A red arrow points to the delete icon (a small red square with a white 'X') located to the right of the table.

Figure 302 – Telephony Call Restrictions Setup Screen: Delete Icon

6.25.2 Setup: Telephony Management: Dial Plan Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Dial Plan Setup screen is only supported by the NetSpire CXS devices. The screen provides management of the Dial Plan for the Telephony subsystem.

The Dial Plan is a set of rules describing how to route inbound calls from trunks and how outbound calls reach external telephony systems through trunks.

For information on Trunks refer to section 6.25.5 *Setup: Telephony Management: Trunk Settings Screen*.

The screenshot shows the 'Dialplan' section of the 'Telephony Management' setup screen. The left sidebar lists various configuration options under 'Dialplan'. The main area displays three tables:

- Inbound Routes:** A table with columns Name, DID Prefix, Number of Digits to Follow, Destination Type, and Destination. One row is shown: Reception, 9000, Any, Extension, 2009021, R.
- Outbound Routes:** A table with columns Name, Prefix, Number of Digits to Follow, Trunk, and Truncate Prefix. Two rows are shown: 9978xxx2, 9978, 4, SIP2, No; 9978xxxx, 9978, 4, SIP1, No.
- Automatic Routes:** A section stating that automatic routes are created due to Extension settings.

Figure 303 – Telephony Dial Plan Setup Screen

The Telephony Dial Plan Setup screen is divided into three sections, which include:

- ▶ Inbound Routes
- ▶ Outbound Routes
- ▶ Automatic Routes

Inbound Routes

Inbound Routes define rules for handling calls received from Trunks configured in the system. Calls received from a trunk are evaluated against each of the Inbound Routes in the order the routes appear in the listed. The route specified in the first rule matching incoming call details takes effect.

The Inbound Routes section contains a list of the Inbound Routes configured in the system. The following sections describe adding, editing and removing Inbound Routes

Name	DID Prefix	Number of Digits to Follow	Destination Type	Destination	Description
Reception	9000	Any	Extension	2009021	Reception General Enquiries

New Inbound Route

Figure 304 – Telephony Dial Plan Setup Screen: Inbound Routes Section

6.25.2.1 Add New Inbound Routes

To add a new Inbound Route, click on the New Inbound Route button at the bottom-right of the Rule list.

Name	DID Prefix	Number of Digits to Follow	Destination Type	Destination	Description
Reception	9000	Any	Extension	2009021	Reception General Enquiries

New Inbound Route

Figure 305 – Telephony Dial Plan Setup Screen: Inbound Routes Section: New Inbound Route Button

The Telephony Dial Plan New Inbound Route Screen will be displayed and is shown in the following screenshot:

openaccess network audio innovation CXS2

Information | Setup | Maintenance | Logout admin |

Telephony Management

Inbound Route

Name: Description: Apply Changes Back

DID Prefix:

Number of Digits to Follow: Any 0

Destination: Type: Extension Extension: 2009021

Figure 306 – Telephony Dial Plan New Inbound Route Screen

The Inbound Route requires the following information:

Name

Administrator assigned name for the route to help identify its purpose

Description

Administrator assigned description to clarify the purpose of the route

DID Prefix

DID (Direct Inward Dialling) is a feature which helps the system map an external number to an internal extension, ring group, conference or voicemail service. An external user can reach the internal extension/service via trunk by dialling the DID number.

DID prefix defines the prefix of a DID number. The pattern can contain digits 0 to 9, '+', or could be left blank. To specify an exact number with no pattern matching, enter the complete number in the DID Prefix field, and set Number of Digits to Follow as 0.

Number of Digits to Follow

The number of digits following the DID Prefix for this route to be selected, between 0 and 12 or "Any" can be selected.

Destination

The destination to route the call. Select the destination type and corresponding extension.

The Destination for the call can be one of the following types:

Extension

Route the call to a fixed extension identified by the Extension number. For information about Extensions refer to section *6.25.1 Setup: Telephony Management: Extensions Screen*.

Ring Group

Route the call to a Ring Group configured in the system. For information about Ring Groups refer to section *6.25.4 Setup: Telephony Management: Ring Groups Screen*.

Conference Room

Route the call to a Conference Room configured in the system. For information about Conference Rooms refer to section *6.25.3 Setup: Telephony Management: Conference Settings Screen*.

Voicemail

Route the call to the Voicemail system. For information about Voice Mail refer to section *6.25.7 Setup: Telephony Management: Voicemail Settings Screen*.

6.25.2.2 Edit Existing Inbound Routes

To edit an existing Inbound Route, click on the Edit icon to the right of the route that requires changes.

Name	DID Prefix	Number of Digits to Follow	Destination Type	Destination	Description
Reception	9000	Any	Extension	2009021	Reception General Enquiries

[New Inbound Route](#)

Figure 307 – Telephony Dial Plan Setup Screen: Inbound Routes Section: Edit Route Icon

The Telephony Dial Plan Edit Inbound Route screen will be displayed and is shown in the following screenshot:

Inbound Route		Apply Changes	Back
Name	Reception		
Description	Reception General Enquiries		
DID Prefix	9000		
Number of Digits to Follow	Any		
Destination	Type: Extension	Extension: 2009021	

Figure 308 – Telephony Dial Plan Edit Inbound Route Screen

The Telephony Dial Plan Edit Inbound Route screen allows the Name, Description, DID Prefix, Number of Digits to Follow and the Destination parameters for the Inbound Route to be modified.

For a description of the parameters refer to the previous section.

6.25.2.3 Delete Existing Inbound Routes

To delete an existing Inbound Route, click on the Delete Rule icon next to the item in the Inbound Route list.

Name	DID Prefix	Number of Digits to Follow	Destination Type	Destination	Description
Reception	9000	Any	Extension	2009021	Reception General Enquiries

[New Inbound Route](#)

Figure 309 – Telephony Dial Plan Setup Screen: Inbound Routes Section: Delete Route Icon

Outbound Routes

Outbound Routes are rules for reaching external telephony systems using the Trunks configured in the system.

The Outbound Routes section contains a list of the Outbound Routes configured in the system. The following sections describe adding, editing and removing Outbound Routes

Name	Prefix	Number of Digits to Follow	Trunk	Truncate Prefix	Description
9978xxx2	9978	4	SIP2	No	duplicated route
9978xxxx	9978	4	SIP1	No	

New Outbound Route

Figure 310 – Telephony Dial Plan Setup Screen: Outbound Routes Section

6.25.2.4 Add New Outbound Routes

To add a new Outbound Route, click on the New Outbound Route button at the bottom-right of the Rule list.

Name	Prefix	Number of Digits to Follow	Trunk	Truncate Prefix	Description
9978xxx2	9978	4	SIP2	No	duplicated route
9978xxxx	9978	4	SIP1	No	

New Outbound Route

Figure 311 – Telephony Dial Plan Setup Screen: Outbound Routes Section: New Outbound Route Button

The Telephony Dial Plan New Outbound Route Screen will be displayed and is shown in the following screenshot:

Figure 312 – Telephony Dial Plan New Outbound Route Screen

The Outbound Route requires the following information:

Name

Administrator assigned name for the route to help identify its purpose

Description

Administrator assigned description to clarify the purpose of the route

Trunk

The matching calls will be routed to the selected Trunk. For information about Trunks refer to section 6.25.5 *Setup: Telephony Management: Trunk Settings Screen*.

Prefix

The pattern matching the first digits of the dialled number. The pattern can contain digits 0 to 9, '+', or could be left blank

Number of Digits to Follow

The number of digits following the prefix for this route to be selected, between 0 and 12 or "Any" can be selected.

Truncate Prefix

If enabled, the prefix of the dialled number is removed before presenting dialled the number to the destination trunk.

6.25.2.5 Edit Existing Outbound Routes

To edit an existing Outbound Route, click on the Edit icon to the right of the route that requires changes.

Name	Prefix	Number of Digits to Follow	Trunk	Truncate Prefix	Description
9978xxx2	9978	4	SIP2	No	duplicated route
9978xxxx	9978	4	SIP1	No	

New Outbound Route

Figure 313 – Telephony Dial Plan Setup Screen: Outbound Routes Section: Edit Route Icon

The Telephony Dial Plan Edit Outbound Route screen will be displayed and is shown in the following screenshot:

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Information | Setup | Maintenance | Logout admin |

Telephony Management

Outbound Route		Apply Changes	Back
Name	9978xxx2		
Description	duplicated route		
Trunk	SIP2		
Prefix	9978		
Number of Digits to Follow	Any 4		
Truncate Prefix			

Figure 314 – Telephony Dial Plan Edit Outbound Route Screen

The Telephony Dial Plan Edit Outbound Route screen allows the Name, Description, Trunk, Prefix, Number of Digits to Follow and Truncate Prefix parameters for the Outbound Route to be modified.

For a description of the parameters refer to the previous section.

6.25.2.6 Delete Existing Outbound Routes

To delete an existing Outbound Route, click on the Delete Rule icon next to the item in the Outbound Route list.

Name	Prefix	Number of Digits to Follow	Trunk	Truncate Prefix	Description
9978xxx2	9978	4	SIP2	No	duplicated route
9978xxxx	9978	4	SIP1	No	

New Outbound Route

Figure 315 – Telephony Dial Plan Setup Screen: Outbound Routes Section: Delete Route Icon

6.25.2.7 Automatic Routes

The Automatic Routes section of the Telephony Dial Plan Setup screen shows the routes created in the system automatically when extensions are created with “Auto Create Dialplan Route” option checked. For a description of the “Auto Create Dialplan Route” option refer to the section 5.16.1.2

Automatic Routes					
The outbound routes shown below have been automatically created due to Extension settings.					
Name	Trunk	Prefix	Number of Digits to Follow	Truncate Prefix	Description
7018	SIP1	7018	0	N	Automatic route created due to Extension 7018 settings
8888	SIP1	8888	0	N	Automatic route created due to Extension 8888 settings

Figure 316 – Telephony Dial Plan Setup Screen: Automatic Routes Section

6.25.3 Setup: Telephony Management: Conference Settings Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Dial Plan Setup screen is only supported by the NetSpire CXS devices. The screen provides management of the tele-conferencing facilities for the Telephony subsystem.

Conference Centres are created and assigned an extension number that can be dialled by users to access the conferencing facilities. Each Conference Centre can have one or more Conference Rooms, which are accessed by entering a unique PIN number after dialling the Conference Centre extension.

Conference Rooms provide tele-conferencing facilities which allow more than two participants to join a call where all parties are able to hear each other talk.

Name	Extension	Description
Conf Centre 1	4000	

Conference Room Name	Conference Centre	Secure	Announce	Enabled	Description
Conf room 1	Conf-Centre-1	false	true	true	

Figure 317 – Telephony Conference Setup Screen

The Telephony Conference Setup Screen is divided into two sections:

Conference Centres

List of Conference Centres configured in the system

Conference Rooms

List of Conference Rooms configured in the system

Conference Centres

6.25.3.1 Add New Conference Centre

To add a new Conference Centre, click on the New Centre button at the bottom-right of the Conference Centre list.

Conference Centres		
Name	Extension	Description
Conf Centre 1	4000	
		Edit Delete

New Centre ←

Figure 318 – Telephony Conference Setup Screen: New Centre Button

The Telephony Conference Settings New Conference Centre screen will be displayed and is shown in the following screenshot:

Conference Centre		Apply Changes	Back
Name	<input type="text"/>		
Description	<input type="text"/>		
Extension	<input type="text"/>		
PIN Length	<input type="text"/> 9		

Figure 319 – Telephony Conference Settings New Conference Centre Screen

The Conference Centre requires the following information:

Name

Administrator assigned name for the Conference Centre to help identify its purpose

Description

Administrator assigned description to clarify the purpose of the Conference Centre

Extension

Extension number for users to access the Conference Centre

Pin Length

Length of PIN Numbers required for accessing Conference Rooms associated with the Conference Centre.

6.25.3.2 Edit Existing Conference Centre

To edit an existing Conference Centre, click on the Edit icon to the right of the centre that requires changes.

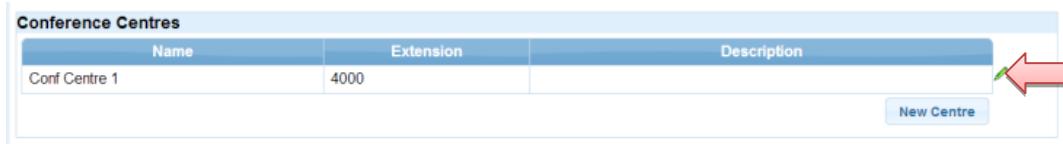


Figure 320 – Telephony Conference Setup Screen: Edit Centre Icon

The Telephony Conference Settings Edit Conference Centre screen will be displayed and is shown in the following screenshot:

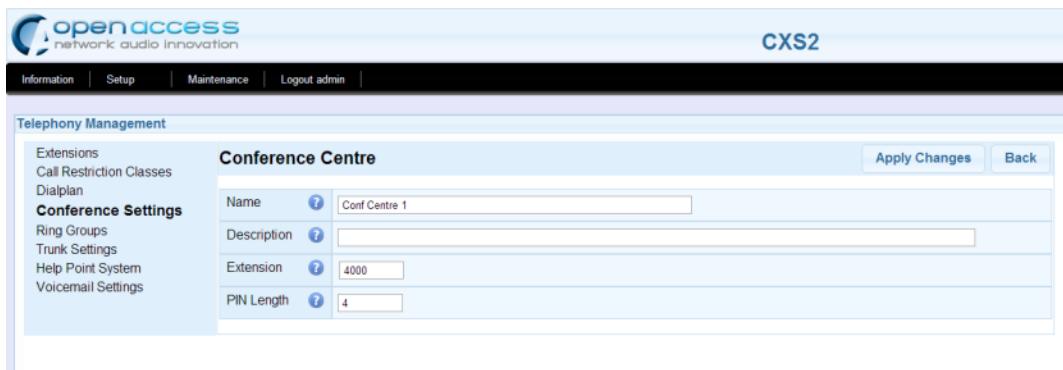


Figure 321 – Telephony Conference Settings Edit Conference Centre Screen

The Telephony Conference Settings Edit Conference Centre screen allows the Name, Description, Extension and PIN Length parameters for the Conference Centre to be modified.

For a description of the parameters refer to the previous section.

6.25.3.3 Delete Existing Conference Centre

To delete an existing Conference Centre, click on the Delete Centre icon next to the item in the Conference Centre list.

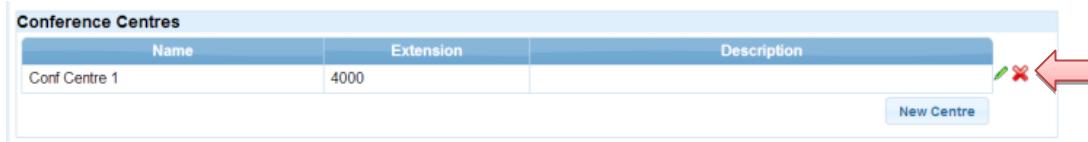


Figure 322 – Telephony Conference Setup Screen: Delete Centre Icon

Conference Rooms

6.25.3.4 Add New Conference Room

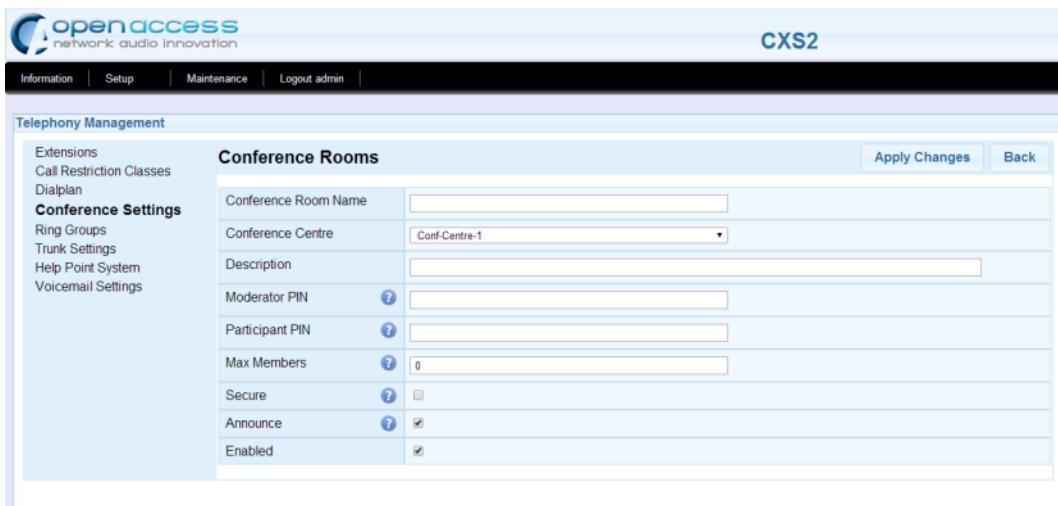
To add a new Conference Room, click on the New Room button at the bottom-right of the Conference Room list.



Conference Rooms					
Conference Room Name	Conference Centre	Secure	Announce	Enabled	Description
Conf room 1	Conf-Centre-1	false	true	true	

Figure 323 – Telephony Conference Setup Screen: New Room Button

The Telephony Conference Settings New Conference Room screen will be displayed and is shown in the following screenshot:



The screenshot shows the CXS2 interface under the 'Telephony Management' section. On the left, there's a sidebar with links like 'Extensions', 'Call Restriction Classes', 'Dialplan', 'Conference Settings' (which is currently selected), 'Ring Groups', 'Trunk Settings', 'Help Point System', and 'Voicemail Settings'. The main area has tabs for 'Information', 'Setup', 'Maintenance', and 'Logout admin'. Below these tabs, it says 'CXS2'. Under 'Conference Settings', there's a 'Conference Rooms' section with fields for 'Conference Room Name' (with a red arrow pointing to it), 'Conference Centre' (set to 'Conf-Centre-1'), 'Description', 'Moderator PIN', 'Participant PIN', 'Max Members' (set to 0), 'Secure', 'Announce', and 'Enabled'. At the top right of this section are 'Apply Changes' and 'Back' buttons.

Figure 324 – Telephony Conference Settings New Conference Room Screen

The Conference Room requires the following information:

Name

Administrator assigned name for the Conference Room to help identify its purpose

Conference Centre

Select the Conference Centre where this room will reside

Description

User assigned description to clarify the purpose of the Conference Centre

Moderator PIN

The pin number that must be entered by the moderator of the conference to join the conference. The moderator has more privileges for controlling the conference while in progress.

Participant PIN

The pin number that must be entered by participants of the conference to join the conference.

Max Members

The maximum number of participants that can join this conference room (including the moderator). A value of 0 means the number of participants is unrestricted.

Secure

If enabled, Participants are unable to talk to or hear each other before the Moderator enters the Conference Room. If disabled, the Participants can talk to and hear each other before the Moderator enters the Conference Room.

Announce

If enabled, the Moderator and Participant activities, such as entering or leaving the room, will be announced.

Enabled

Determines whether this Conference Room is active. If enabled the room is active and available for calls. If not enabled, the Conference Room will not accept calls.

6.25.3.5 Edit Existing Conference Room

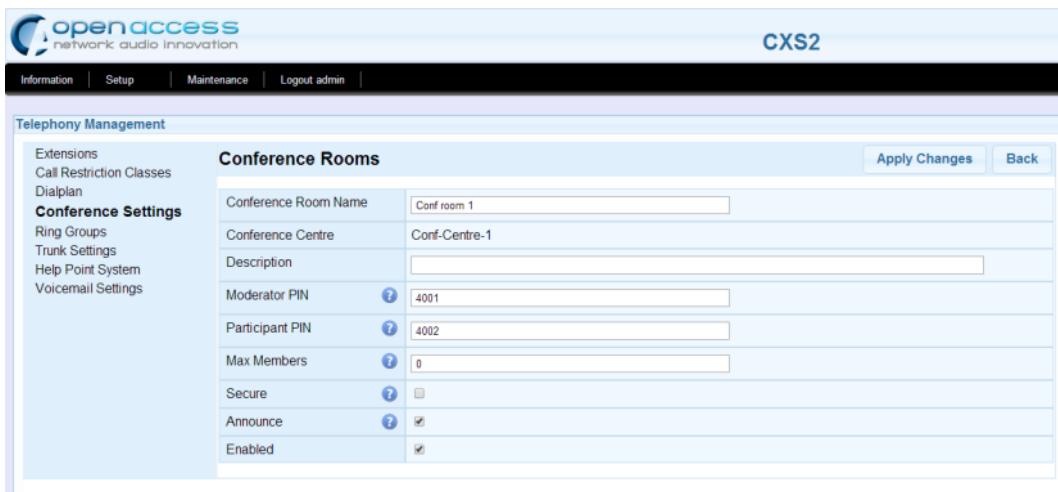
To edit an existing Conference Room, click on the Edit icon to the right of the room that requires changes.



Conference Rooms					
Conference Room Name	Conference Centre	Secure	Announce	Enabled	Description
Conf room 1	Conf-Centre-1	false	true	true	
Edit					

Figure 325 – Telephony Conference Setup Screen: Edit Room Icon

The Telephony Conference Settings Edit Conference Room screen will be displayed and is shown in the following screenshot:



Conference Rooms		Apply Changes	Back
Conference Room Name	Conf room 1		
Conference Centre	Conf-Centre-1		
Description			
Moderator PIN	4001		
Participant PIN	4002		
Max Members	0		
Secure	<input type="checkbox"/>		
Announce	<input checked="" type="checkbox"/>		
Enabled	<input checked="" type="checkbox"/>		

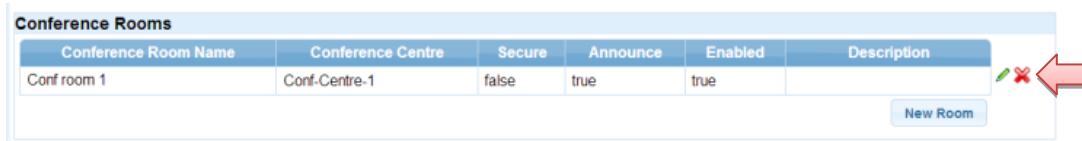
Figure 326 – Telephony Conference Settings Edit Conference Room Screen

The Telephony Conference Settings Edit Conference Room screen allows the Name, Conference Centre, Description, Moderator PIN, Participant PIN, Max Members, Secure, Announce and Enabled parameters for the Conference Room to be modified.

For a description of the parameters refer to the previous section.

6.25.3.6 Delete Existing Conference Room

To delete an existing Conference Room, click on the Delete Room icon next to the item in the Conference Room list.



Conference Rooms					
Conference Room Name	Conference Centre	Secure	Announce	Enabled	Description
Conf room 1	Conf-Centre-1	false	true	true	
Edit Delete					

Figure 327 – Telephony Conference Setup Screen: Delete Room Icon

6.25.4 Setup: Telephony Management: Ring Groups Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Ring Groups Setup screen is only supported by the NetSpire CXS devices. The screen provides management of Ring Groups for the Telephony subsystem.

Ring Groups allows multiple extensions to be grouped together and accessed through a single extension number. The Ring Group can be configured to ring all the extensions simultaneously, or in a predefined sequence.

Name	Extension	Description
Reception General Enquiries Group	7009	First line Enquiries

Figure 328 – Telephony Ring Groups Setup Screen

The Telephony Ring Groups screen allows the administrator to create, edit and delete Ring Groups from the system. These operations are covered in the following sections.

6.25.4.1 Add New Ring Group

To add a new Ring Group, click on the New Ring Group button at the bottom-right of the Ring Group list.

Figure 329 – Telephony Ring Groups Setup Screen: New Ring Group Button

The Telephony Ring Groups New Ring Group screen will be displayed and is shown in the following screenshot:

The screenshot shows the 'Telephony Management' section of the CXS2 interface. On the left, a sidebar lists various settings: Extensions, Call Restriction Classes, Dialplan, Conference Settings, Ring Groups (selected), Trunk Settings, Help Point System, and Voicemail Settings. The main panel is titled 'Ring Group'. It contains a brief description of what a Ring Group is and how it works. Below this are several input fields: 'Name' (empty), 'Extension' (empty), 'Description' (empty), 'Strategy' (set to 'Simultaneous'), 'Ring timeout' (set to '30'), 'Action on No answer' (set to 'Transfer to Alternate Ring group'), 'Timeout Destination' (set to '7009'), 'Ring Tone' (set to 'Default'), and 'Member Extension List' (empty). There are 'Apply Changes' and 'Back' buttons at the top right.

Figure 330 – Telephony Ring Groups New Ring Group Screen

The Ring Group requires the following information:

Name

Administrator assigned name for the Ring Group to help identify its purpose

Extension

The extension number to access the Ring Group

Description

Administrator assigned description to clarify the purpose of the Conference Centre

Strategy

Select Simultaneous or Sequence. Simultaneous Ring Groups call all extensions in the Member Extension List immediately at the same time. Sequence Ring Groups call each extension in turn in the order they appear in the Member Extensions List.

Ring Timeout

The time in seconds that each extension is alerted before determining the call has not been answered and applying the “Action on No Answer” call treatment.

Action on No Answer

Select “Transfer to Alternate Ring Group” or Hang-up.

Timeout Destination

In the case “Transfer or Alternate Ring Group” is selected as the action for the Action on No Answer field, this determined the Extension number the call will be transferred to.

Ring Tone

Select the desired ring tone for the Ring Group as heard by the caller.

Member Extension List:

Add members to the list by selecting the extension from the dropdown, and clicking the Add Member button.

6.25.4.2 Edit Existing Ring Group

To edit an existing Ring Group, click on the Edit icon to the right of the Ring Group that requires changes.

Name	Extension	Description
Reception General Enquiries Group	7009	First line Enquiries



Figure 331 – Telephony Ring Groups Setup Screen: Edit Ring Group Icon

The Telephony Ring Groups Edit Ring Group screen will be displayed and is shown in the following screenshot:

Ring Group		Apply Changes	Back
Ring Groups are called using a single extension. The Ring Group contains a list of extensions that will be called with a user defined ring strategy. The strategy can be used to call all the extensions simultaneously, or in a predefined sequence.			
Name	Reception General Enquiries Group	Apply Changes	Back
Extension	7009		
Description	First line Enquiries		
Strategy	Simultaneous		
Ring timeout	20		
Action on No answer	Hangup		
Ring Tone	Default		
Member Extension List	3005 3006		

Figure 332 – Telephony Ring Groups Edit Ring Group Screen

The Telephony Ring Groups Edit Ring Group screen allows the Name, Extension, Description, Strategy, Ring Timeout, and Action on No Answer, Ring Tone and Member Extension List parameters for the Ring Group to be modified.

For a description of the parameters refer to the previous section.

6.25.4.3 Delete Existing Ring Group

To delete an existing Ring Group, click on the Delete Ring Group icon next to the item in the Ring Group list.

Name	Extension	Description	
Reception General Enquiries Group	7009	First line Enquiries	 

Figure 333 – Telephony Ring Groups Setup Screen: Delete Ring Group Icon

6.25.5 Setup: Telephony Management: Trunk Settings Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Telephony Trunk Setup screen is only supported by the NetSpire CXS devices. The screen provides management of Trunks for the Telephony subsystem.

Trunks are connections to external telephony systems. To provide user access to a Trunk, an Outbound Route must be created in the Dial Plan

Similarly, for controlling the routing of inbound calls from a Trunk, Inbound Routes are created in the Dial Plan.

For information on configuration Outbound and Inbound Routes in the Dial Plan refer to section 6.25.2 *Setup: Telephony Management: Dial Plan Screen*.

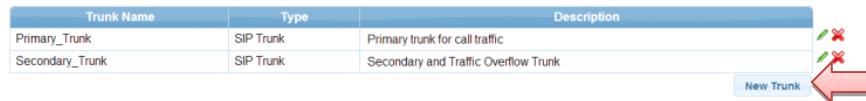
Trunk Name	Type	Description
Primary_Trunk	SIP Trunk	Primary trunk for call traffic
Secondary_Trunk	SIP Trunk	Secondary and Traffic Overflow Trunk

Figure 334 – **Telephony Trunk Setup Screen**

The Telephony Trunk Setup screen allows the administrator to create, edit and delete Trunks in the system. These operations are covered in the following sections.

6.25.5.1 Add New SIP Trunk

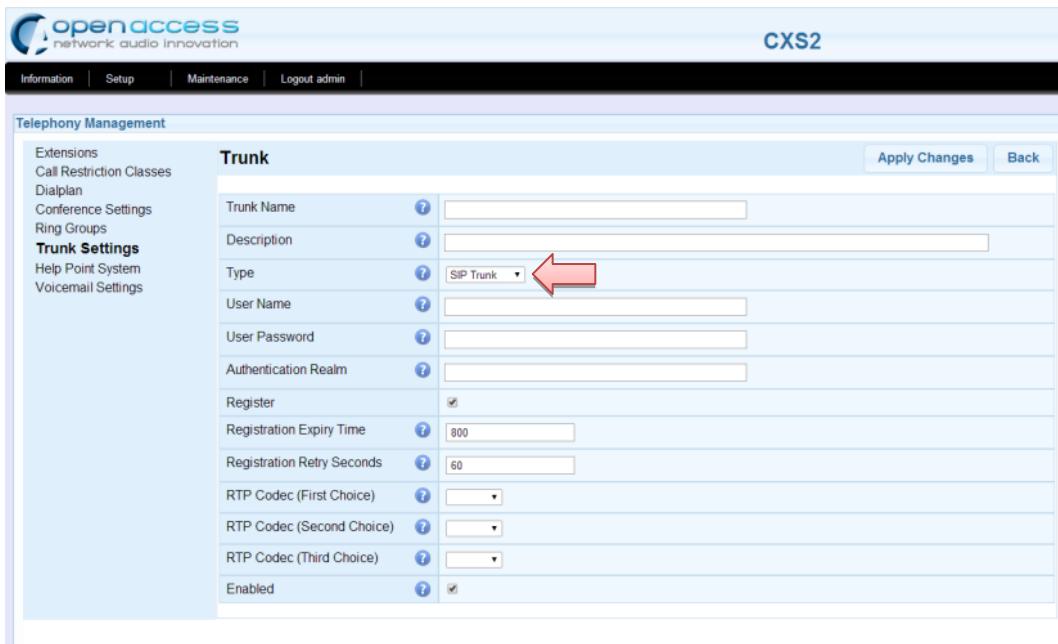
To add a new Trunk, click on the New Trunk button at the bottom-right of the Trunk list.



Trunk Name	Type	Description
Primary_Trunk	SIP Trunk	Primary trunk for call traffic
Secondary_Trunk	SIP Trunk	Secondary and Traffic Overflow Trunk

Figure 335 – Telephony Edit E1/T1 Trunk Setup Screen: New Trunk Button

The Telephony Trunk Settings New Trunk screen will be displayed and is shown in the following screenshot:



The screenshot shows the 'Telephony Management' interface under 'CX52'. On the left, a sidebar lists 'Extensions', 'Call Restriction Classes', 'Dialplan', 'Conference Settings', 'Ring Groups', 'Trunk Settings' (which is selected), 'Help Point System', and 'Voicemail Settings'. The main panel is titled 'Trunk' and contains the following fields:

- Trunk Name: [Input field]
- Description: [Input field]
- Type: A dropdown menu set to "SIP Trunk", highlighted with a red arrow.
- User Name: [Input field]
- User Password: [Input field]
- Authentication Realm: [Input field]
- Register: [Check box]
- Registration Expiry Time: [Input field] (value: 800)
- Registration Retry Seconds: [Input field] (value: 60)
- RTP Codec (First Choice): [Dropdown menu]
- RTP Codec (Second Choice): [Dropdown menu]
- RTP Codec (Third Choice): [Dropdown menu]
- Enabled: [Check box]

Buttons at the top right include 'Apply Changes' and 'Back'.

Figure 336 – Telephony Trunk Settings New Trunk Screen: SIP Trunk

To specify a SIP Trunk, select “SIP Trunk” from the Type dropdown.

The SIP Trunk requires the following additional information:

Trunk Name

Administrator assigned name for the Trunk to help identify its purpose.

Description:

Administrator assigned description to clarify the purpose of the Trunk.

Type

For SIP Trunks selection “SIP Trunk” from the dropdown.

User Name

Account name for registration with the SIP Proxy or SIP Registrar.

User Password

Password for the user name (Account) for registration with the SIP Proxy or SIP Registrar.

Authentication Realm

The authentication realm specifies the IP Address of the far end SIP Server of the trunk connection.

Register

If enabled, the SIP Trunk will attempt registration with the SIP Server. Calls can only be made in and out through the trunk if the registration is successful.

Registration Expiry Time

Time in seconds that the system will re-register with the SIP Proxy or SIP Registrar.

Registration Retry Seconds

Time in seconds between successive attempts to register with the SIP Proxy or SIP Registrar if registration has failed.

RTP Codec (First Choice)

The preferred RTP Audio Codec for this SIP trunk.

RTP Codec (Second Choice)

The next preferred RTP Audio Codec for this SIP trunk, should the remote end not support a more preferred codec.

RTP Codec (Third Choice)

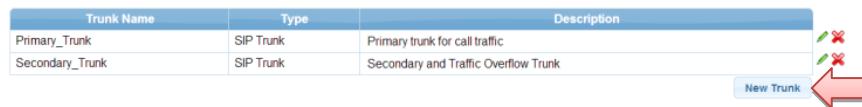
The next preferred RTP Audio Codec for this SIP trunk, should the remote end not support a more preferred codec.

Enabled

If enabled the Trunk is active and available to receive and place calls (assuming registration is checked and successful, or unchecked).

6.25.5.2 Add New E1/T1 Trunk

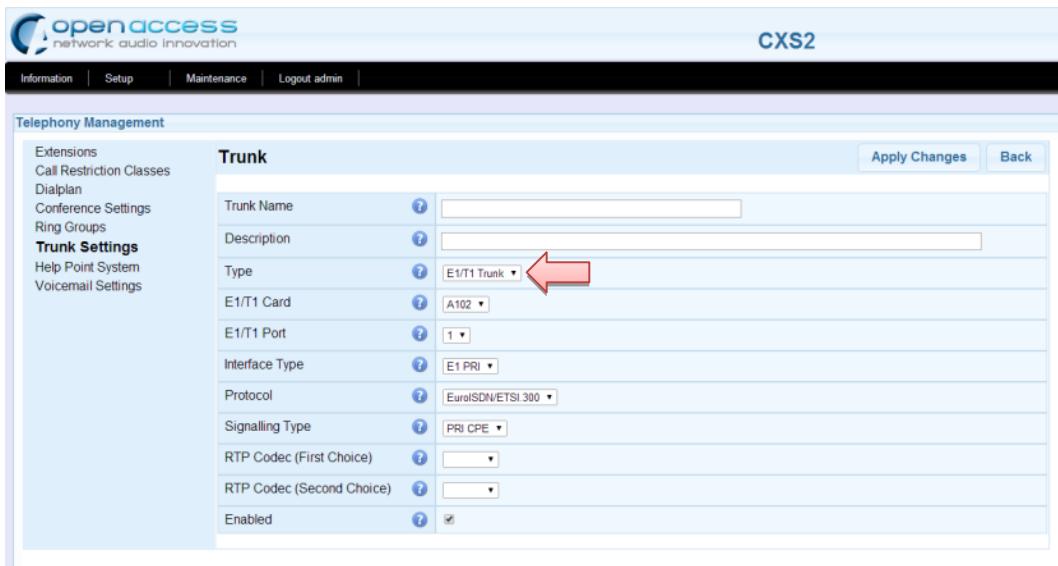
To add a new Trunk, click on the New Trunk button at the bottom-right of the Trunk list.



Trunk Name	Type	Description	
Primary_Trunk	SIP Trunk	Primary trunk for call traffic	X
Secondary_Trunk	SIP Trunk	Secondary and Traffic Overflow Trunk	X

Figure 337 – Telephony Trunk Setup Screen: New Trunk Button

The Telephony Trunk Settings New Trunk screen will be displayed and is shown in the following screenshot:



openaccess network audio innovation CXS2

Information | Setup | Maintenance | Logout admin |

Telephony Management

Trunk

Trunk Name	<input type="text"/>	Apply Changes	Back
Description	<input type="text"/>		
Type	E1/T1 Trunk	<input type="button" value=""/>	
E1/T1 Card	A102		
E1/T1 Port	1		
Interface Type	E1 PRI		
Protocol	EuroISDN/ETSI 300		
Signalling Type	PRI CPE		
RTP Codec (First Choice)	<input type="text"/>		
RTP Codec (Second Choice)	<input type="text"/>		
Enabled	<input checked="" type="checkbox"/>		

Figure 338 – Telephony Edit Trunk Screen: E1/T1 Trunk

To specify an E1/T1Trunk, select “E1/T1 Trunk” from the Type dropdown.

The E1/T1 Trunk requires the following additional information:

Trunk Name

Administrator assigned name for the Trunk to help identify its purpose.

Description

Administrator assigned description to clarify the purpose of the Trunk.

E1/T1 Card

The physical E1/T1 Card installed in the server.

E1/T1 Port

The physical port on the E1/T1 Card installed in the server.

Interface Type

The type of interface supported by the Trunk. Currently E1 PRI is the only supported option.

Protocol

The protocol supported by the interface. Currently EuroISDN/ETSI.300 and QSIG are supported.

Signalling Type

The signalling type for the interface. Currently PRI CPE and PRI NET are supported.

RTP Codec (First Choice)

The preferred RTP Audio Codec for this trunk.

RTP Codec (Second Choice)

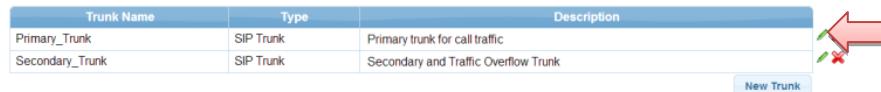
The next preferred RTP Audio Codec for this trunk.

Enabled

If enabled the Trunk is active and available to receive and place calls (assuming connection with remote end has been successful).

6.25.5.3 Edit Existing Trunk

To edit an existing Trunk, click on the Edit icon to the right of the Trunk that requires changes.

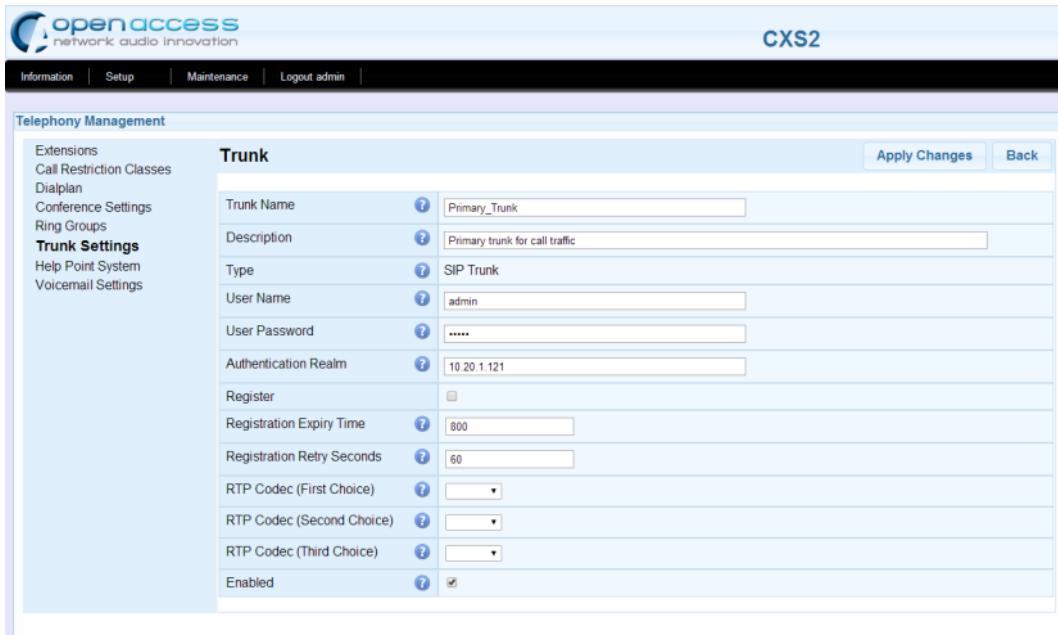


A screenshot of the 'Telephony Trunk Setup' screen. It shows a table with three columns: 'Trunk Name', 'Type', and 'Description'. There are two entries: 'Primary_Trunk' (SIP Trunk, Primary trunk for call traffic) and 'Secondary_Trunk' (SIP Trunk, Secondary and Traffic Overflow Trunk). To the right of the table is a red arrow pointing towards the 'Edit' icon (a pencil icon) next to the 'Primary_Trunk' entry. Below the table is a 'New Trunk' button.

Trunk Name	Type	Description
Primary_Trunk	SIP Trunk	Primary trunk for call traffic
Secondary_Trunk	SIP Trunk	Secondary and Traffic Overflow Trunk

Figure 339 – Telephony Trunk Setup Screen: Edit Trunk Icon

The Telephony Trunk Settings Edit Trunk screen will be displayed and is shown in the following screenshot:



A screenshot of the 'Telephony Management' interface under 'Trunk Settings'. On the left is a sidebar with links like Extensions, Call Restriction Classes, Dialplan, Conference Settings, Ring Groups, Trunk Settings (which is selected), Help Point System, and Voicemail Settings. The main area is titled 'Trunk' and contains a form for editing a trunk named 'Primary_Trunk'. The form fields include: Description (Primary trunk for call traffic), Type (SIP Trunk), User Name (admin), User Password (*****), Authentication Realm (10.20.1.121), Register (unchecked), Registration Expiry Time (800), Registration Retry Seconds (60), RTP Codec (First Choice) (dropdown menu), RTP Codec (Second Choice) (dropdown menu), RTP Codec (Third Choice) (dropdown menu), and Enabled (checked). At the top right are 'Apply Changes' and 'Back' buttons.

Figure 340 – Telephony Trunk Settings Edit Trunk Screen

The Type of Trunk cannot be changed in the Telephony Trunk Settings Edit Trunk Screen. Once a Trunk is created its type cannot be modified.

In the case of SIP Trunks, the Telephony Trunk Settings Edit Trunk screen allows the Trunk Name, Description, User Name, User Password, Authentication Realm, Register, Registration Expiry Time, Registration Retry Time, RTP Codecs and Enabled parameters for the Trunk to be modified.

In the case of E1/T1 Trunks, the Telephony Trunk Settings Edit Trunk screen allows the Trunk Name, Description, E1/T1 Card, E1/T1 Port, Interface Type, Protocol, Signalling Type RTP Codecs and Enabled parameters for the Trunk to be modified.

For a description of the parameters refer to the previous sections describing the configuration of a new trunk.

6.25.5.4 Delete Existing Trunk

To delete an existing Trunk, click on the Delete Trunk icon next to the item in the Trunk list.

Trunk Name	Type	Description	
Primary_Trunk	SIP Trunk	Primary trunk for call traffic	 
Secondary_Trunk	SIP Trunk	Secondary and Traffic Overflow Trunk	 

Figure 341 – Telephony Trunk Setup Screen: Delete Trunk Icon

6.25.6 Setup: Telephony Management: Help Point System Screen

Supported by
CXS X
IPPA
NAR
NAC
NAM
TCX
TGU
CI
CP
CC
CAC
PEI

The Telephony Help Point System Setup screen is only supported by the NetSpire CXS devices. The screen provides management of Help Point Multi-tier Escalation management for the Telephony subsystem.

Help Point System
The Help Point System allows multiple tier escalation strategies to be defined for emergency and information calls.

Help Point Access Extensions
Help Point Access Extensions are extensions for accessing Escalation Targets. Help Points dialing access extensions defined in the Escalation Rules table.

Access Extension	Description
50002	Help Point Call, Informational
50200	Help Point Call, Emergency

Call Timeout Configuration
The call timeout settings affect long calls can remain in a given state before they are automatically terminated. All in 30 seconds and a maximum value of 10 days (864,000 seconds).

Ring timeout	120
Call duration timeout	14400
Call hold timeout	1800

Barge-in
When call barge-in is allowed, an extension can place a call to an Help Point even when the Help Point is in a different Prefix followed by the Help Point extension to be connected to the call. When a Help Point call is barged in a three-

Caller Groups
Caller Groups allow the Help Point Phones and Intercoms to be grouped that will share the same escalation treatment.

Caller Group Name	Device Type	Device Role	Description
Passenger Intercom		All Station Intercoms	

Escalation Targets
Escalation targets are potential destinations for a Help Point call. Escalation targets can be a trunk and dial out number, or a group of operator phones or call stations.

Target Name	Type	Description
OCC and Backup OCC	Operator Group	Operators for Handling Emergency and Informational Calls
PSTN Emergency Services	Trunk Group	Emergency Services 000 Call

Escalation Rules
Escalation Rules manage the calls from each Caller Group and define how and when the call is presented to Escalation Targets.

Caller Group	Escalation Level	Escalation Target	Queue on Busy	Stop Alerting Previous Targets	Queue Timeout	Next Escalation Level	Enabled
Passenger Intercoms	1	OCC and Backup OCC	Yes	Yes	30	2	Yes
Passenger Intercoms	2	PSTN Emergency Services	Yes	Yes	30	1	Yes

Figure 342 – Telephony Help Point System Setup Screen

The Telephony Help Point System Setup screen is divided into a number of sections:

Help Point Access Extensions

Allows changing the description of pre-defined access extensions to Help Point system.

Call Timeout Configuration

Allows general timeouts to be specified for various phases of the Help Point call.

Barge-in

Allows control of the barge-in feature for calls from Help Points.

Caller Groups

Allows help points to be placed into groups. Each group can have a different escalation treatment applied by the system.

Escalation Targets

Allows operators to be placed in groups, a dynamic target be specified or a Trunk and out-dial number to be specified. Different Escalation Targets can be specified at different levels of call escalation.

Escalation Rules

Allows a list of hierarchical rules to be created which apply different treatment to call originating from each Caller Group, and for each level of escalation.

The following diagram shows the interaction between Caller Groups, Escalation Targets and Escalation Rules in the system.

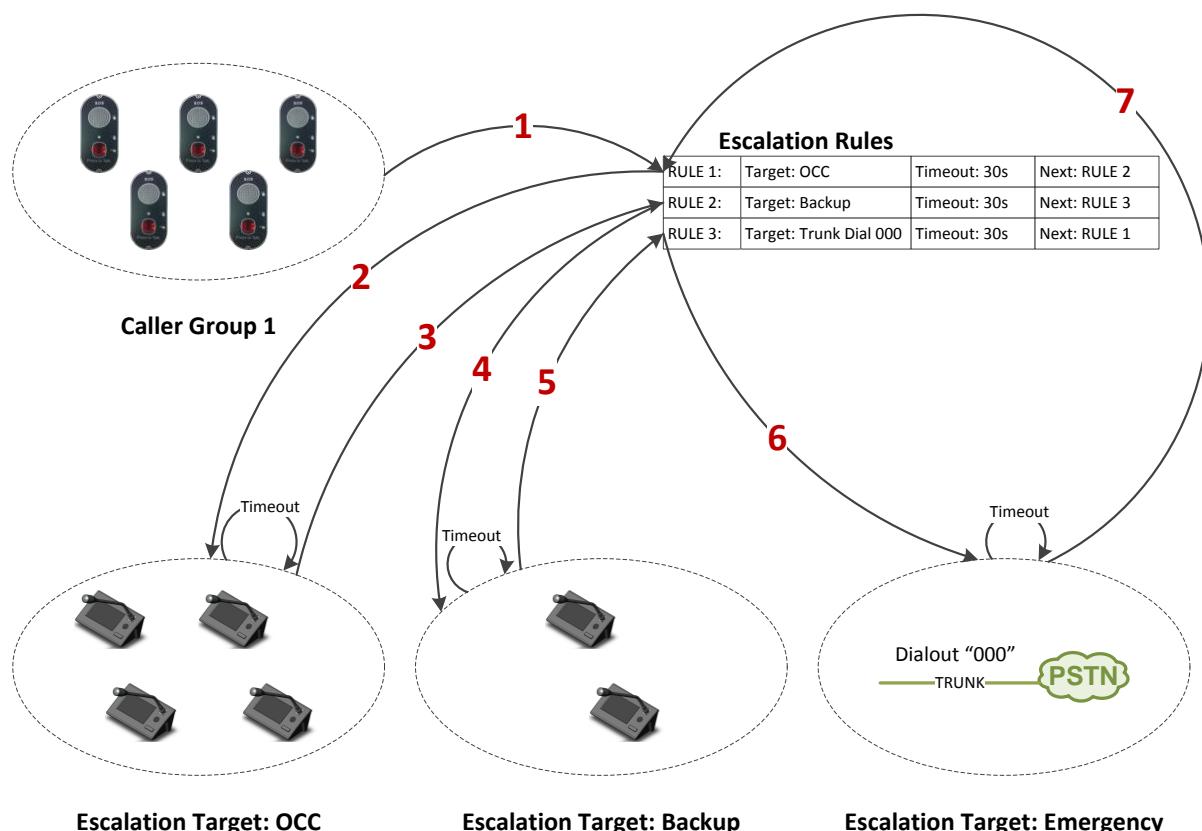


Figure 343 – Help Point System Escalation

The scenario shows a 3 tier escalation strategy where calls from a Caller Group are first presented to a group of local operators. After a subsequent timeout, the call is presented to a group of central operators. Finally the call is present to the emergency services number on the PSTN.

The following sections describe the details of the Telephony Help Point System Setup screen, and configuring Caller Groups, Escalation Targets and Escalation Rules.

6.25.6.1 Change Help Point Access Extensions

The Help Point Access Extensions section shows a list of extension configured in the system for accessing the Help Point system.

To modify the description of the extension, click the Edit Extension icon to the right of the item which requires change.

Help Point Access Extensions	
Help Point Access Extensions are extensions for accessing Escalation Targets. Help Points dialing access extensions will be routed to Escalation Targets as defined in the Escalation Rules table.	
Access Extension	Description
50002	Help Point Call, Informational
50200	Help Point Call, Emergency

Figure 344 – Help Point Access Extensions Section

The Help Point Access Extension Edit screen will be displayed and is shown in the following screenshot:

Help Point Access Extension		Apply Changes	Back
Access Extension	<input type="text"/> 50002		
Description	<input type="text"/> Help Point Call, Informational		

Figure 345 – Help Point Access Extension Edit Screen

The Description of the Access Extension can be changed to reflect its purpose in the system.

Click the Apply Changes button to commit the change to the system.

6.25.6.2 Call Timeout Configuration

The Call Timeout Configuration section allows timeouts for different phases of a help point call to be specified.

Call Timeout Configuration

The call timeout settings affect long calls can remain in a given state before they are automatically terminated. All times are in seconds and have a minimum value of 30 seconds and a maximum value of 10 days (864,000 seconds).

Ring timeout	<input type="text" value="120"/>
Call duration timeout	<input type="text" value="14400"/>
Call hold timeout	<input type="text" value="1800"/>

Figure 346 – Help Point Call Timeout Configuration Section

The following timeouts can be specified in the system:

Ring Timeout

The number of seconds a call will alert an operator before being terminated if not answered (default behaviour). This setting can be overridden by the Escalation Rules applied to Help Points which are a member of a Caller Group.

Call Duration Timeout

The number of seconds a Help point call can persist after it has been answered. Calls existing for longer than this duration will be terminated.

Call Hold Timeout

The number of seconds a Help point call can remain on hold before being terminated.

6.25.6.3 Barge-in

The Barge-in feature allows an extension to place a call to a Help Point even when the Help Point is already in a call. The caller needs to dial the Barge-in Prefix prior to the Help Point's extension number.

After barge-in, a three party conference call is established between the original call participants and the new calling party.

The Barge-in section allows the Barge-in feature to be controlled.

Barge-in

When call barge-in is allowed, an extension can place a call to an Help Point even when the Help Point is in a different call. The caller needs to dial the Barge-In Prefix followed by the Help Point extension to be connected to the call. When a Help Point call is barged in, a three-way communication is established between the original call participants and the new calling party.

Enable	<input checked="" type="checkbox"/>
Barge-in Prefix	88

Figure 347 – Help Points Barge-in Section

The Barge-in feature allows the following parameters to be changed:

Enable

If enabled the barge-in feature is active and can be used.

Prefix

The prefix number to dial to activate the barge-in feature. The prefix should be dialled before the extension number of the Help Point.

Caller Groups

Caller Groups allow the Help Point Phones and Intercoms to be grouped that they will share the same escalation treatment.

6.25.6.4 Add New Caller Group

To add a new Caller Group, click on the New Group at the bottom-right of the Caller Group list.

The screenshot shows a table with four columns: 'Caller Group Name', 'Device Type', 'Device Role', and 'Description'. The first row contains the text 'Passenger Intercoms' under 'Caller Group Name', and 'All Station Intercoms' under 'Description'. To the right of the table are two icons: a green pencil and a red X. Below the table is a blue button labeled 'New Group' with a red arrow pointing to it from the left.

Caller Group Name	Device Type	Device Role	Description
Passenger Intercoms			All Station Intercoms

New Group ←

Figure 348 – Help Point Setup Screen: New Caller Group Button

The Help Point New Caller Group screen will be displayed and is shown in the following screenshot:

The screenshot shows a web interface for 'Telephony Management'. On the left, there is a sidebar with links: Extensions, Call Restriction Classes, Dialplan, Conference Settings, Ring Groups, Trunk Settings, **Help Point System**, and Voicemail Settings. The main area has a title 'Caller Group' with a sub-instruction: 'Caller Groups allow the Help Point Phones and Intercoms to be grouped that will share the same escalation treatment.' Below this are two input fields: 'Caller Group Name' and 'Description'. At the bottom is a table titled 'Caller Group Members' with columns: Active Member, Extension, Device Type, Device Role, Description, and Current Group. One row is listed: 2104021, Netspire PEI/HP, Intercom/Help Point, Station Intercom, and Passenger Intercoms.

Figure 349 – Help Point New Caller Group Screen

The Caller Group requires the following information:

Caller Group Name

User assigned name for the Call Group to help identify its purpose.

Description

User assigned description to clarify the purpose of the Caller Group.

Caller Group Members

List of member extensions that are included in the Caller Group. An extension can only be the member of a single Caller Group.

To add member extensions to the Caller Group, tick the Active Member checkbox next to each extension listed in the Caller Group Members list. Members which have already been added to another Caller Group cannot be selected.

6.25.6.5 Edit Existing Caller Group

To edit an existing Caller Group, click on the Edit icon to the right of the Caller Group that requires changes.

Caller Group Name	Device Type	Device Role	Description
» Passenger Intercoms			All Station Intercoms

New Group

Figure 350 – Help Point Setup Screen: Edit Caller Group Icon

The Help Point Edit Caller Group screen will be displayed and is shown in the following screenshot:

Active Member	Extension	Device Type	Device Role	Description	Current Group
<input checked="" type="checkbox"/>	2104021	Netspire PEI/HP	Intercom/Help Point	Station Intercom	Passenger Intercoms

Figure 351 – Help Point Edit Caller Group Screen

The Help Point Edit Caller Group screen allows the Caller Group Name, Description and Member Extension parameters for the Caller Group to be modified.

For a description of the parameters refer to the previous section.

6.25.6.6 Delete Existing Caller Group

To delete an existing Caller Group, click on the Delete Trunk icon next to the item in the Caller Group list.

The screenshot shows a table titled 'Caller Groups' with the following data:

Caller Group Name	Device Type	Device Role	Description
» Passenger Intercoms			All Station Intercoms

At the bottom right of the table, there is a 'New Group' button. The delete icon (a red X) is located to the right of the 'Description' column for the 'Passenger Intercoms' row. A red arrow points to this icon from the left.

Figure 352 – Help Point Setup Screen: Delete Caller Group Icon

Escalation Targets

Escalation targets are potential destinations for a Help Point call. Escalation targets can be a trunk and dial-out number, or a group of operator phones or call stations.

6.25.6.7 Add New Escalation Target

To add a new Escalation Target, click on the New Target button at the bottom-right of the Escalation Target list.

Escalation Targets

Escalation targets are potential destinations for a Help Point call. Escalation targets can be a trunk and dial out number, or a group of operator phones or call stations.

Target Name	Type	Description
OCC and Backup OCC	Operator Group	Operators for Handling Emergency and Informational Calls
PSTN Emergency Services	Trunk Group	Emergency Services 000 Call

New Target

Figure 353 – Help Point Setup Screen: New Target Button

The Help Point System New Escalation Target screen will be displayed and is shown in the following screenshot:

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Information | Setup | Maintenance | Logout admin |

Telephony Management

Escalation Target

Escalation targets are potential destinations for a Help Point call. Escalation targets can be a trunk and dial out number, or a group of operator phones or call stations.

Target Name: []

Description: []

Type: [] Operator Group

Escalation Target Members

Active Member	Extension	Target Type	Target Role	Description
[]	2009021	Netspire IPPA	Operator	Backup OCC Operator
[]	2009022	Netspire IPPA	Operator	OCC Operator
[]	3005	Generic SIP Device	General Purpose Telephony	SNOM300
[]	3006	Generic SIP Device	General Purpose Telephony	SNOM370
[]	7018	Generic SIP Device	General Purpose Telephony	Visitors Phone
[]	8888	Generic SIP Device	General Purpose Telephony	Maintenance Phone 1

Figure 354 – Help Point New Escalation Target Screen

The Escalation Target requires the following information:

Target Name

User assigned name for the Escalation Target to help identify its purpose.

Description

User assigned description to clarify the purpose of the Escalation Target.

Type

Type of escalation target.

Escalation Targets can be one of the following types:

Operator Group

Group of extensions which received Help Point calls.

Trunk

A trunk and dial out number

Dynamic Target

Dynamic Targets are a target that may change between an Operator Group and a Trunk as a result of an external event (for example Time of Day, Digital I/O)

Escalation Target Type: Operator Group

Escalation Targets which have the type *Operator Group*, are a list of operator extensions to call when a call is routed to the group. Operator extensions can exist in multiple Escalation Targets.

Escalation Target		Apply Changes	Back																																			
Escalation targets are potential destinations for a Help Point call. Escalation targets can be a trunk and dial out number, or a group of operator phones or call stations.																																						
Target Name	<input type="text"/>																																					
Description	<input type="text"/>																																					
Type	<input type="button" value="Operator Group"/>																																					
Escalation Target Members <table border="1"> <thead> <tr> <th>Active Member</th> <th>Extension</th> <th>Target Type</th> <th>Target Role</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>2009021</td> <td>Netspire IPPA</td> <td>Operator</td> <td>Backup OCC Operator</td> </tr> <tr> <td><input type="checkbox"/></td> <td>2009022</td> <td>Netspire IPPA</td> <td>Operator</td> <td>OCC Operator</td> </tr> <tr> <td><input type="checkbox"/></td> <td>3005</td> <td>Generic SIP Device</td> <td>General Purpose Telephony</td> <td>SNOM300</td> </tr> <tr> <td><input type="checkbox"/></td> <td>3006</td> <td>Generic SIP Device</td> <td>General Purpose Telephony</td> <td>SNOM370</td> </tr> <tr> <td><input type="checkbox"/></td> <td>7018</td> <td>Generic SIP Device</td> <td>General Purpose Telephony</td> <td>Visitors Phone</td> </tr> <tr> <td><input type="checkbox"/></td> <td>8888</td> <td>Generic SIP Device</td> <td>General Purpose Telephony</td> <td>Maintenance Phone 1</td> </tr> </tbody> </table>				Active Member	Extension	Target Type	Target Role	Description	<input type="checkbox"/>	2009021	Netspire IPPA	Operator	Backup OCC Operator	<input type="checkbox"/>	2009022	Netspire IPPA	Operator	OCC Operator	<input type="checkbox"/>	3005	Generic SIP Device	General Purpose Telephony	SNOM300	<input type="checkbox"/>	3006	Generic SIP Device	General Purpose Telephony	SNOM370	<input type="checkbox"/>	7018	Generic SIP Device	General Purpose Telephony	Visitors Phone	<input type="checkbox"/>	8888	Generic SIP Device	General Purpose Telephony	Maintenance Phone 1
Active Member	Extension	Target Type	Target Role	Description																																		
<input type="checkbox"/>	2009021	Netspire IPPA	Operator	Backup OCC Operator																																		
<input type="checkbox"/>	2009022	Netspire IPPA	Operator	OCC Operator																																		
<input type="checkbox"/>	3005	Generic SIP Device	General Purpose Telephony	SNOM300																																		
<input type="checkbox"/>	3006	Generic SIP Device	General Purpose Telephony	SNOM370																																		
<input type="checkbox"/>	7018	Generic SIP Device	General Purpose Telephony	Visitors Phone																																		
<input type="checkbox"/>	8888	Generic SIP Device	General Purpose Telephony	Maintenance Phone 1																																		

Figure 355 – Help Point New Escalation Target Screen: Operator Group

To add Operator Extension to the Escalation Target, click the Active Member checkbox for each extension required in the target.

Escalation Target Type: Trunk

Escalation Targets which have the type *Trunk*, allow Help Point calls to be routed to a specific Trunk with an out dial number.

Escalation Target

Escalation targets are potential destinations for a Help Point call. Escalation targets can be a trunk and dial out number, or a group of operator phones or call stations.

Target Name	<input type="text"/>	?
Description	<input type="text"/>	?
Type	<input type="text" value="Trunk"/> 	?
Trunk	<input type="text" value="Primary_Trunk"/> 	?
Number to Dial	<input type="text"/>	?

Figure 356 – Help Point New Escalation Target Screen: Trunk

Escalation Targets which have the type Trunk require the following information:

Trunk

Select a Trunk from the dropdown. For more information on Trunks refer to section 6.25.5 Setup: Telephony Management: Trunk Settings Screen.

Number to Dial

The number to dial when routing the call through the nominated Trunk.

Escalation Target Type: Dynamic Target

Escalation Targets which have the type *Dynamic Target*, allow Help Point calls to be routed to different destinations based on external events such as Digital Inputs and Time of day.

Escalation Target

Escalation targets are potential destinations for a Help Point call. Escalation targets can be a trunk and dial out number, or a group of operator phones or call stations.

Target Name	<input type="text"/>	?
Description	<input type="text"/>	?
Type	<input type="text" value="Dynamic Target"/> 	?
Dynamic Target ID	<input type="text"/>	?

Figure 357 – Help Point New Escalation Target Screen: Dynamic Target

Escalation Targets of type Dynamic Target require the following information:

- ▶ Dynamic Target ID

Using Dynamic Targets is an advanced system feature; please contact Open Access for more information.

6.25.6.8 Edit Existing Escalation Target

To edit an existing Escalation Target, click on the Edit icon to the right of the Escalation Target that requires changes.

Target Name	Type	Description
OCC and Backup OCC	Operator Group	Operators for Handling Emergency and Informational Calls
PSTN Emergency Services	Trunk Group	Emergency Services 000 Call

Figure 358 – Help Point Setup Screen: Edit Target Icon

The Telephony Help Point System Edit Escalation Target screen will be displayed and is shown in the following screenshot:

Active Member	Extension	Target Type	Target Role	Description
<input checked="" type="checkbox"/>	2009021	Netspire IPPA	Operator	Backup OCC Operator
<input checked="" type="checkbox"/>	2009022	Netspire IPPA	Operator	OCC Operator
<input type="checkbox"/>	3005	Generic SIP Device	General Purpose Telephony	SNOM300
<input type="checkbox"/>	3006	Generic SIP Device	General Purpose Telephony	SNOM370
<input type="checkbox"/>	7018	Generic SIP Device	General Purpose Telephony	Visitors Phone
<input type="checkbox"/>	8888	Generic SIP Device	General Purpose Telephony	Maintenance Phone 1

Figure 359 – Help Point Edit Escalation Target Screen

The Type of Escalation Target cannot be changed in the Help Point Edit Escalation Target Screen. Once an Escalation Target is created its type cannot be modified.

For Escalation Targets of type *Operator Group*, the Help Point Edit Escalation Target screen allows the Target Name, Description and Target Members list parameters for the Escalation Target to be modified.

For Escalation Targets of type *Trunk*, the Help Point Edit Escalation Target screen allows the Target Name, Description, Trunk and Number to Dial parameters for the Escalation Target to be modified.

For Escalation Targets of type *Dynamic Target*, the Help Point Edit Escalation Target screen allows the Target Name, Description, and Dynamic Target ID parameters for the Escalation Target to be modified.

For a description of the parameters refer to the previous section.

6.25.6.9 Delete Existing Escalation Target

To delete an existing Escalation Target, click on the Delete Target icon next to the item in the Escalation Target list.

Escalation Targets			Expand All	Collapse All
Target Name	Type	Description		
» OCC and Backup OCC	Operator Group	Operators for Handling Emergency and Informational Calls	 	
» PSTN Emergency Services	Trunk Group	Emergency Services 000 Call	 	
New Target				

Figure 360 –Help Point Setup Screen: Delete Target Icon

Escalation Rules

Escalation Rules manage the calls from each Caller Group and define how and when the calls are presented to Escalation Targets.

6.25.6.10 Add New Escalation Rule

To add a new Escalation Rule, click on the New Rule button at the bottom-right of the Escalation Rule list.

Escalation Rules
Escalation Rules manage the calls from each Caller Group and define how and when the call is presented to Escalation Targets.

Caller Group	Escalation Level	Escalation Target	Queue on Busy	Stop Alerting Previous Targets	Queue Timeout	Next Escalation Level	Enabled
Passenger Intercoms	1	OCC and Backup OCC	Yes	Yes	30	2	Yes
Passenger Intercoms	2	PSTN Emergency Services	Yes	Yes	30	1	Yes

New Rule

Figure 361 –Help Point Setup Screen: New Rule button

The Help Point New Escalation Rule screen will be displayed and is shown in the following screenshot:

CX52

Information | Setup | Maintenance | Logout admin |

Telephony Management

Escalation Rule

Escalation Rules allow the user to create a multi-tier strategy for managing calls from each Caller Group and how and when the call is presented to the Escalation Targets.

Caller Group	<input type="text" value="Passenger Intercoms"/>
Escalation Level	<input type="text"/>
Escalation Target	<input type="text" value="OCC and Backup OCC"/>
Queue on Busy	<input checked="" type="checkbox"/>
Stop Alerting Previous Targets	<input checked="" type="checkbox"/>
Queue Timeout	<input type="text"/>
Next Escalation Level	<input type="radio"/> <input type="radio"/> Terminate Call
Enabled	<input checked="" type="checkbox"/>

Apply Changes **Back**

Figure 362 – Help Point New Escalation Rule Screen

The Escalation Rule requires the following information:

Caller Group

Calls from the selected Caller Group will be controlled by this rule.

Escalation Level

Number specifying the order in which rules for the same Caller Group will be applied. Rules with Level 1 will be applied first.

Escalation Target

Select the Escalation Target where calls from the Caller Group will be routed under this rule.

Queue on Busy

If enabled, calls will be queued at this escalation level for the duration specified by Queue Timeout, even if all targets at the level are busy. After the timeout the call will be moved to the next Escalation Level. If disabled, the call will immediately be moved to the Next Escalation Level if all targets at the level are busy.

Stop Alerting Previous Targets

If enabled, Escalation Targets alerted from previous Escalation Levels will stop alerting. If disabled, all previous Escalation Targets will continue to be alerted in addition to the Escalation Target associated with this Escalation Rule.

Queue Timeout

The Queue Timeout specifies the duration in seconds that the call will be queued at this escalation level, before being moved to the Next Escalation Level.

Next Escalation Level

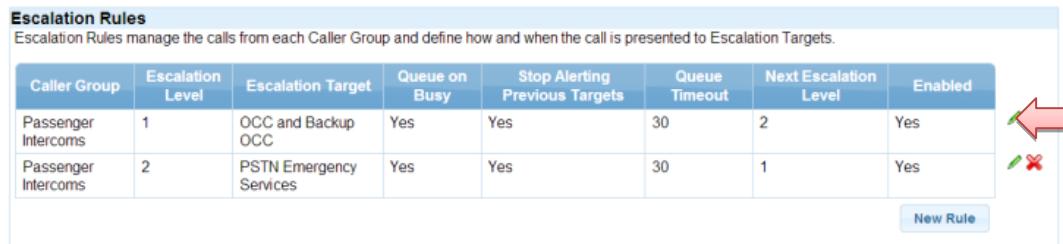
The level of the next Escalation Rule to apply. If Terminate Call is selected or if the level does not exist or is disabled, the call will be terminated.

Enabled

If disabled, this Escalation Rule will be ignored in call processing.

6.25.6.11 Edit Existing Escalation Rule

To edit an existing Escalation Rule, click on the Edit icon to the right of the Escalation Rule that requires changes.

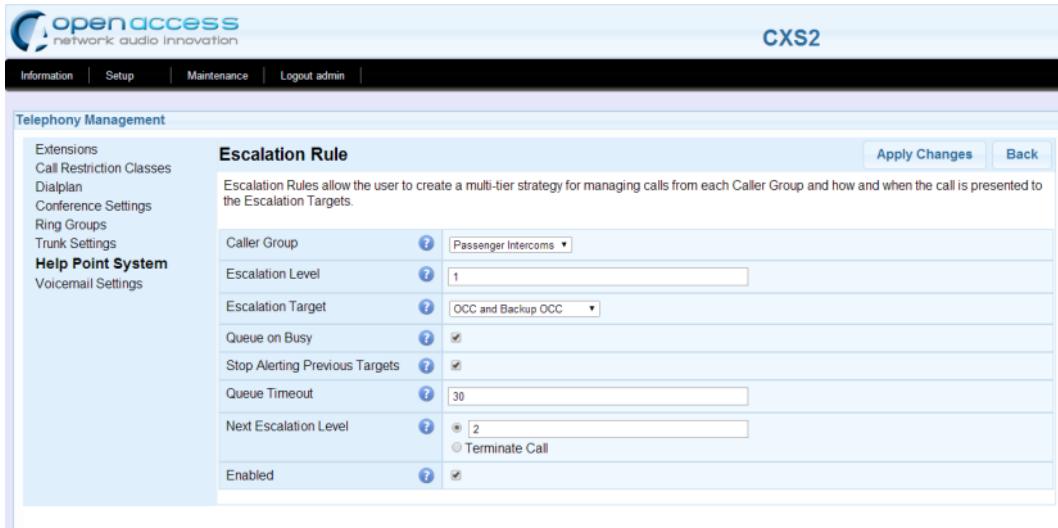


Caller Group	Escalation Level	Escalation Target	Queue on Busy	Stop Alerting Previous Targets	Queue Timeout	Next Escalation Level	Enabled
Passenger Intercoms	1	OCC and Backup OCC	Yes	Yes	30	2	Yes
Passenger Intercoms	2	PSTN Emergency Services	Yes	Yes	30	1	Yes

New Rule

Figure 363 – Help Point Setup Screen: Edit Rule icon

The Help Point Edit Escalation Rule screen will be displayed and is shown in the following screenshot:



openaccess network audio innovation CXS2

Information | Setup | Maintenance | Logout admin |

Telephony Management

Escalation Rule

Escalation Rules allow the user to create a multi-tier strategy for managing calls from each Caller Group and how and when the call is presented to the Escalation Targets.

Caller Group	<input type="text" value="Passenger Intercoms"/>
Escalation Level	<input type="text" value="1"/>
Escalation Target	<input type="text" value="OCC and Backup OCC"/>
Queue on Busy	<input checked="" type="checkbox"/>
Stop Alerting Previous Targets	<input checked="" type="checkbox"/>
Queue Timeout	<input type="text" value="30"/>
Next Escalation Level	<input checked="" type="radio"/> 2 <input type="radio"/> Terminate Call
Enabled	<input checked="" type="checkbox"/>

Apply Changes | Back

Figure 364 –Help Point Edit Escalation Rule Screen

The Help Point Edit Escalation Rule screen allows the Caller Group, Escalation Level, Escalation Target, Queue on Busy, Stop Alerting Previous Targets, Queue Timeout, Next Escalation Level and Enabled parameters for the Escalation Rule to be modified.

For a description of the parameters refer to the previous section.

6.25.6.12 Delete Existing Escalation Rule

To delete an existing Escalation Rule, click on the Delete Rule icon next to the item in the Escalation Rule list.

Escalation Rules							
Escalation Rules manage the calls from each Caller Group and define how and when the call is presented to Escalation Targets.							
Caller Group	Escalation Level	Escalation Target	Queue on Busy	Stop Alerting Previous Targets	Queue Timeout	Next Escalation Level	Enabled
Passenger Intercoms	1	OCC and Backup OCC	Yes	Yes	30	2	Yes
Passenger Intercoms	2	PSTN Emergency Services	Yes	Yes	30	1	Yes

Figure 365 – Help Point Setup Screen: Delete Rule Icon

6.25.7 Setup: Telephony Management: Voicemail Settings Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	

The screenshot shows the CXS2 web interface. At the top, there's a navigation bar with links for Information, Setup, Maintenance, and Logout admin. Below that is a sub-navigation menu for 'Telephony Management' with options like Extensions, Call Restriction Classes, Dialplan, Conference Settings, Ring Groups, Trunk Settings, Help Point System, and Voicemail Settings. The main content area is titled 'Voicemail Settings' and contains a section for 'Voicemail Extensions'. It says 'Voicemail may be retrieved by calling the following internal or external extension.' There are two input fields: 'Internal Extension' containing '1111' and 'External Extension' containing '1234'. A blue 'Apply Changes' button is located at the top right of this section.

Figure 366 – Telephony Voicemail Setup Screen

The Telephony Voicemail Setup screen allows the entry of the following access numbers:

Internal Extension

Phone number to access the voicemail system from an Extension registered with the NetSpire system.

External Extension

Phone number to access the voicemail system from an external phone, by calling into the system over a communications trunk.

To commit the configuration changes to the system, click the Apply Changes button.

6.26 Setup: Time / Date Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Time and Date Setup screen is supported by all NetSpire devices and allows the administrator to set the current date and time information, in addition to configuring the NTP time synchronisation protocol.

The Time and Date Setup screen is shown below:

The screenshot shows the 'Time/date' configuration page. At the top, there's a navigation bar with links for 'Information', 'Setup', 'Maintenance', and 'Logout admin'. Below the navigation bar, the main content area is divided into three sections:

- Local Clock Configuration:** Displays UTC Time (30 May 2014 Fri 04:16:41 am), Local Timezone (Australia/Sydney), and Local Time (30 May 2014 Fri 02:16:41 pm). A 'Set Date & Time' button is located below this section.
- NTP Server Configuration:** Contains settings for enabling the NTP server, broadcast period, stratum levels, and override options. It includes a 'Save NTP Server Configuration' button.
- NTP Client Configuration:** Contains settings for enabling the NTP client, primary and secondary servers, poll interval, holdover period, and alarm options. It includes a 'Save NTP Client Configuration' button.

Figure 367 – Time and Date Setup Screen

The Time and Date Setup screen has three sections, which include:

- ▶ Local Clock Configuration
- ▶ NTP Server Configuration
- ▶ NTP Client Configuration

Each of the screen sections are covered in the following sections.

6.26.1 Local Clock Configuration

The Local Clock Configuration section of the Time and Date Setup screen allows the current data and time and the local time zone information for the device to be specified.



Figure 368 – Time and Date Setup Screen: Local Clock Configuration Section

To set the date and time, click the Set Date & Time button at the bottom of the section. The Select Time and Date dialogue will be displayed and is shown in the following screenshot:

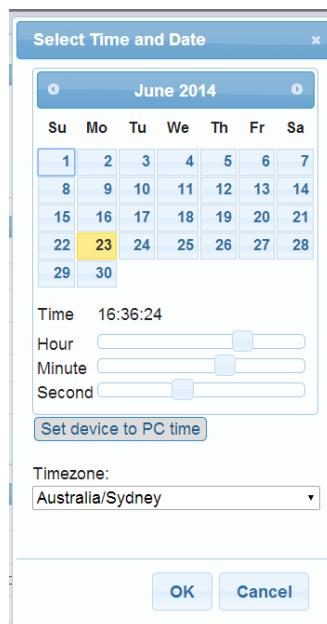


Figure 369 – Select Time and Date Dialogue

Use the dialog to select the date, specify the time and select the correct time zone for the device.

The Set device to PC time button will set the date and time of the device to same date and time of the computer being used to access the web interface.

When the correct date, time and time zone have been entered, click the OK button.

6.26.2 NTP Server Configuration

The NTP Server Configuration section allows the administrator to setup NetSpire devices to function as an NTP Server according to the Network Time Protocol as specified in RFC 1305.

To enable the NTP Server on the device, tick the Enabled NTP Server checkbox.

The screenshot shows the 'NTP Server Configuration' section of the NetSpire Web Administration interface. It includes the following fields:

- Enable NTP Server: A checked checkbox.
- NTP Broadcast Enabled: An unchecked checkbox.
- NTP Broadcast Period: A spinner set to 1 second(s).
- Free Running Stratum Level: A spinner set to 1.
- Override Remote Stratum: An unchecked checkbox.
- Override Stratum Level: A spinner set to 1.

At the bottom is a blue 'Save NTP Server Configuration' button.

Figure 370 –Time and Date Setup Screen: NTP Server Configuration Section

The NTP Server has the following parameters:

Free Running Stratum Level

Specifies the stratum level advertised by this NTP Server in the event it is not synchronised to another known stratum level clock server.

Override Remote Stratum

If enabled, allows the administrator to override the Stratum Level reported by the devices NTP Server. The Override Stratum Level spinner allows the reported Stratum Level to be set.

For more information on the NTP protocol, NTP Servers, NTP Clients and other NTP related information please refer to RFC 1305 – Network Time Protocol.

6.26.3 NTP Client Configuration

The NTP Client Configuration section allows the administrator to setup NetSpire devices as clients to an NTP Server in order to synchronise the devices clock according to the Network Time Protocol as specified in RFC 1305.

To enable the NTP client on the device, tick the Enable NTP Client checkbox.

The screenshot shows the 'NTP Client Configuration' dialog box. It includes fields for Primary and Secondary servers (IP addresses), poll intervals (Auto or Fixed at 1 second), holdover period expiry (1 day), and alarm settings (On Sync. Loss or On Holdover Expiry). A 'Save NTP Client Configuration' button is at the bottom.

NTP Client Configuration	
Enable NTP Client:	<input checked="" type="checkbox"/>
Primary Server:	10.211.190.3
Secondary Server:	0.0.0.0 Enabled
Ignore Unsynchronised Servers:	<input type="checkbox"/>
Poll Interval:	<input type="radio"/> Auto <input checked="" type="radio"/> Fixed at 1 second(s)
Holdover Period Expiry:	1 day(s)
Raise Alarm:	<input type="checkbox"/> On Sync. Loss <input type="checkbox"/> On Holdover Expiry

Figure 371 – Time and Date Setup Screen: NTP Client Configuration Section

The NTP Client has the following parameters:

Primary Server

The Primary Server address specifies the IP Address of the primary NTP Server to obtain clock synchronisation information from.

Secondary Server

The Secondary server can be specified as a backup clock synchronisation server in the event the primary server becomes uncontactable over the network.

Poll Interval

The Poll Interval allows the frequency at which the NTP Client sends a message to the NTP Server to initiate synchronisation. This can be set to Auto, where the system decides how often to poll the NTP Server. Alternatively a fixed period can be specified in seconds.

Holdover Period

The Holdover Period Expiry specifies the NTP holdover period in days.

For more information on the NTP protocol, NTP Servers, NTP Clients and other NTP related information please refer to RFC 1305 – Network Time Protocol.

6.27 Setup: Audio Recording Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	X
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Audio Recording Setup screen is only supported by the NetSpire CXS and TCX devices. The screen provides an administrator the ability to configure Voice Archiving parameters for the system.

The Audio Recording Setup screen is shown below.

Recording Server Settings		
<input type="radio"/> Send to External File Server		
Actions	Server IP Address	Transfer Method
<input type="button" value="Edit"/>	10.194.77.12	FTP
<input type="button" value="Add"/>		
<input type="radio"/> Send to SIPREC Compliant SIP Server		
Actions	SIP Gateway	SIP Extension
<input type="button" value="Edit"/>	Local (ETS-PAVSM-CXS0)	1017
<input type="button" value="Add"/>		
<input type="radio"/> Send to Netspire Device		
Actions	Device IP Address	
<input type="button" value="Edit"/>		
<input type="button" value="Add"/>		
<input type="radio"/> Send to Netspire VAS Server		
Actions	Device IP Address	
<input type="button" value="Edit"/>	10.211.190.144	
<input type="button" value="Add"/>		
Recording File Management		
<input checked="" type="checkbox"/> Discard recordings if not transferred within <input type="text" value="731"/> days		
Note that the maximum disk space used by non-transferred recordings is limited to 144.7 GB.		
<input type="button" value="Cancel Changes"/>		<input type="button" value="Save Settings"/>

Figure 372 – Audio Recording Setup Screen

The Audio Recording Setup is divided into three main sections:

Audio Recording Settings

The Audio Recordings Settings allows the administrator to select which types of audio are recorded to the recording server as well as the time stamp to be used.

Recording Server Settings

The Recording Server Settings allows the type and configuration of the external recording server to be specified.

Recording File Management

The Recording File Management Settings allow the management policies for the recorded audio to be specified.

Each of the following sections provides detailed information for the Voice Archiving Setup screen.

6.27.1 Audio Recording Settings

The Audio Recording Settings section of the Voice Archiving Setup screen allows the administrator to specifying which types of system audio will be recorded.



Figure 373 – Voice Archiving Setup Screen: Audio Recording Settings Section

The section provides the following options:

Record Calls

Selecting the Record Calls check box will enable recording for all calls managed by the CXS or TCX server.

Record PA Announcements

Selecting the Record PA Announcements checkbox will enable recording for all live public address announcements made in the system.

Record DVA Announcements

Selecting the Record DVA Announcements checkbox will enable recording for all pre-recorded Digital Voice Announcement (DVA) initiated in the system.

Recording Timestamp Timezone

The Recording Timestamp Timezone dropdown allows the administrator to choose the time zone of the timestamp placed on recordings that are sent to the Recording Server. The options are UTC or Local time.

6.27.2 Recording Server Settings

The Audio Recording Settings section of the Voice Archiving Setup screen allows the administrator to specifying which types of system audio will be recorded.

Recording Server Settings			
<input checked="" type="radio"/> Send to External File Server	Actions	Server IP Address	Transfer Method
	Edit Delete	10.194.77.12	FTP
Add			
<input type="radio"/> Send to SIPREC Compliant SIP Server	Actions	SIP Gateway	SIP Extension
	Edit Delete	Local (ETS-PAVSM-CX50)	1017
Add			
<input type="radio"/> Send to NetSpire Device	Actions	Device IP Address	
	Edit Delete	10.211.190.144	
Add			
<input type="radio"/> Send to NetSpire VAS Server	Actions	Device IP Address	
	Edit Delete	10.211.190.144	
Add			

Figure 374 – Voice Archiving Setup Screen: Recording Server Settings Section

The section allows the administrator to specify one of three types of Recording Server to send recorded audio. The three types of Recording Server supported include:

External File Server

Audio information is sent to an external file server using a file sharing protocol.
The only protocol currently supported is FTP.

SIPREC Compliant Server

Audio information is sent to a SIPREC compliance server for recording. The SIPREV protocol is defined in IETF standard RFC 6341.

NetSpire VAS Server

Audio information is sent to a NetSpire VAS server for recording.

NetSpire Device

Audio information is sent to a NetSpire Device.

To enable the selection of a Recording Server Type at least one of the types of audio must be selected for recording in the Audio Recording Settings section described in the previous section.

The configuration details of each type of recording server are covered in the following sections.

6.27.2.1 Recording Server: External File Server

The External File Server recording option allows recorded information to be sent to a regular file server using standard file sharing protocols. The current protocol supported is limited to FTP.



Figure 375 – Recording Server: External File Server

To add an External File Server to the list, click the Add button. The Server IP Address dialogue will be displayed, which is shown below:

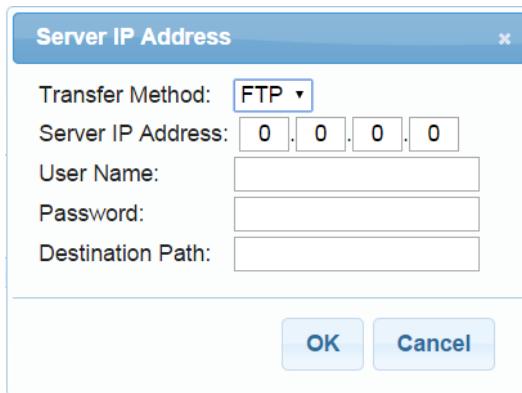


Figure 376 – External File Server: Server IP Address Dialogue

The Server IP Address dialogue allows the following settings to be configured:

Transfer Method

The Transfer Method specifies the file transfer protocol to use to communicate to the file server. Currently only FTP is supported.

Server IP Address

The Server IP Address specifies the IP address of the file server.

User Name

The User Name specifies the account user name to use when accessing the file server using FTP.

Password

The Password specifies the account password to use when accessing the file server using FTP.

Destination Path

The Destination Path is the file system path on the server where the audio information should be placed using FTP. The path should use forward slashes ('/') for delimiting directory or folder names.

To save the settings, click the OK button.

Multiple External File Servers can be added to the list which provides support for redundant Recording Servers.

6.27.2.2 Recording Server: SIPREC Compliant Server

The SIPREC Compliant Server recording option allows recorded information to be sent to a server using SIPREC protocol as defined in IETF standard RFC 634.

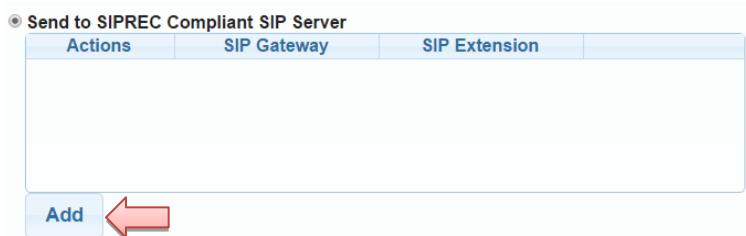


Figure 377 – Recording Server: SIPREC Compliant Server

To add an SIPREC Server to the list, click the Add button. The SIP Server dialogue will be displayed, which is shown below:

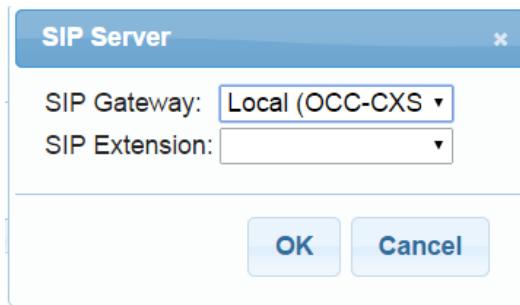


Figure 378 – External File Server: SIP Server Dialogue

The SIP Server dialogue allows the following settings to be configured:

SIP Gateway

The SIP Gateway specifies which server to use as the SIP gateway for the SIPREC communications. Typically the local CXS Server is used.

SIP Extension

The SIP Extensions specifies the SIP extension number or address to send the recorded audio information on the SIPREC server.

To save the settings, click the OK button.

Multiple SIPREC servers can be added to the list which provides support for redundant Recording Servers.

6.27.2.3 Recording Server: NetSpire Device/NetSpire VAS server

The NetSpire Device/ NetSpire VAS recording option allows recorded information to be sent to a NetSpire VAS server or a NetSpire device such as the NetSpire NAR for conversion to analogue audio. The analogue audio can be used as an input into a traditional analogue audio recording device.

Actions	Device IP Address
Edit	10.211.190.144

Figure 379 –Recording Server: NetSpire Device

To add a NetSpire device to the list, click the Add button. The Device IP Address dialogue will be displayed, which is shown below:

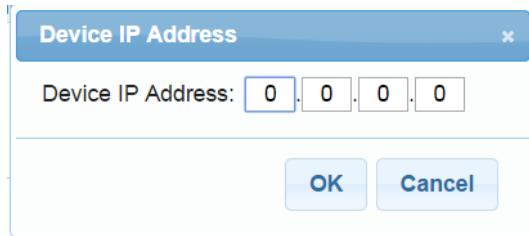


Figure 380 – External File Server: SIP Server Dialogue

The SIP Server dialogue allows the following settings to be configured:

Device IP Address

The Device IP Address specifies the IP Address of the NetSpire VAS server or the NetSpire device which will convert the recorded audio information into analogue audio. Typical devices included the NetSpire NAR and NetSpire NAC.

To save the settings, click the OK button.

Only a single NetSpire Device/NetSpire VAS Server can be specified as a recording server, which limits option for redundancy using this method.

6.27.3 Recording File Management

The Recording File Management Settings section of the Voice Archiving Setup screen allows the administrator to specifying how recordings are managed on the NetSpire Server.

Prior to transfer to the Recording Server(s), all recordings are stored locally in a local spool storage area on the NetSpire Server. When a recording has been successfully forwarded to the Recording Server(s), the recorded information on the NetSpire Server is automatically deleted.

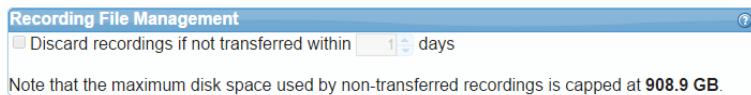


Figure 381 – Voice Archiving Setup Screen: Recording Server Settings Section

The section allows the administrator to specify recordings that remain in the local spool storage are handled in the event they cannot be transferred to the Recording Server(s) for a long period of time.

Discard records if not transferred within X days

The Discard Recording Option allows the administrator to specify whether recording stored in the local spool storage on the NetSpire Server will be discarded after a period of time, in the event the recordings could not be transferred successfully to the specified Recording Server(s)

The section also displays the maximum disk space that has been allocated for storing recordings in the local spool on the NetSpire Server. The actual amount of recording time depends on a particular systems usage patterns, the type of audio being recorded and relative amounts of audio of each type.

6.28 Setup: Volume Profiles

Supported by
CXS
IPPA
NAR X
NAC X
NAM X
TCX
TGU X
CI
CP
CC
CAC
PEI

The Volume Profile Setup screen is only supported by the NetSpire devices. The screen provides an administrator the ability to configure individual volume profiles which can then be applied to the system based on time schedules.

The Volume Profile Setup screen is shown below.

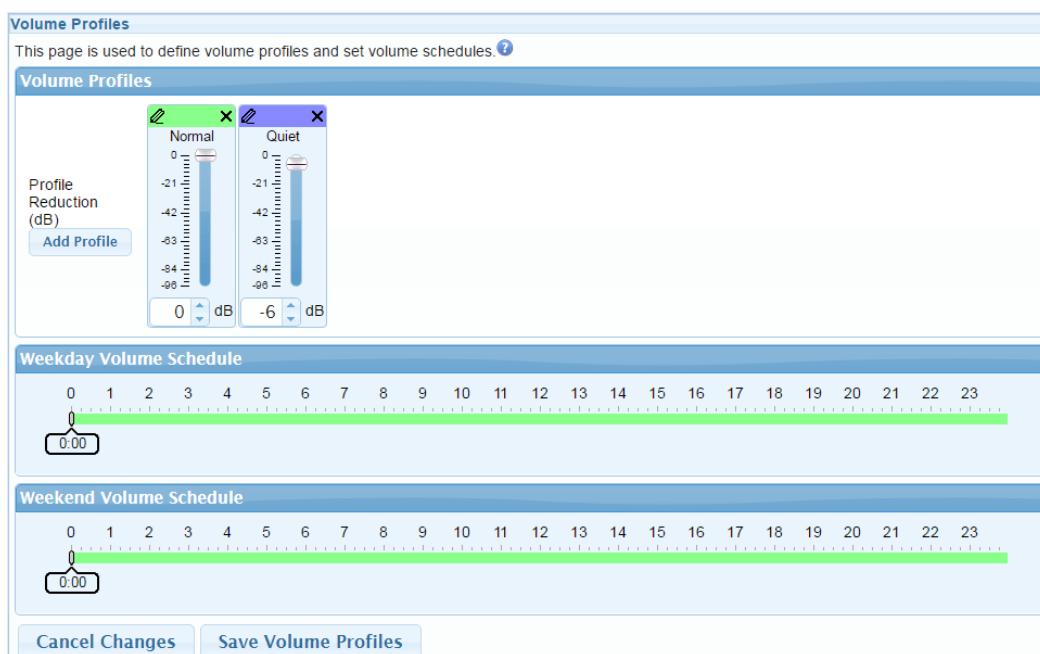


Figure 382 – Volume Profiles Setup Screen

The Volume Profiles Setup is divided into three main sections:

Volume Profiles Settings

The Volume Profiles Settings allows the administrator to create a new profile with a desired gain

Weekday Volume Schedule

The Weekday Volume Schedule allows the administrator to add in a volume profile to a certain time of day for a desired length which will be applied to weekdays

Weekend Volume Schedule

The Weekend Volume Schedule allows the administrator to add in a volume profile to a certain time of day for a desired length which will be applied to weekends.

Each of the following sections provides detailed information for the Volume Profiles Setup screen.

6.28.1 Volume Profiles

The Volumes Profile section allows for volume profiles with different gains to be created

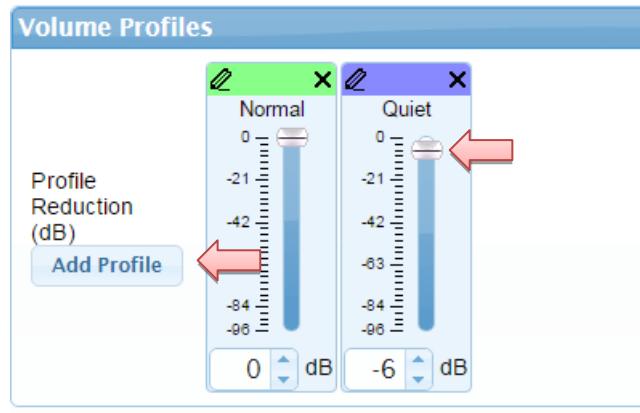


Figure 383 – Volume Profiles

The sliders can be used to adjust the gain of the volume profiles that have been created. The dB level can also be inserted into the box. To add a new profile, click on the Add Profile button which will pop up a dialog box as below.

The screenshot shows a 'Profile Settings' dialog box with a blue header. It contains two sections: 'Profile Name' with a text input field and 'Affected Output Channels' with a list of five checkboxes all marked with checked boxes. At the bottom are 'OK' and 'Cancel' buttons.

Figure 384 – Volume Profiles: New Profile

Insert the Profile name and click on OK to save the profile. In current revisions the affected output channels cannot be changed and all the channels are selected by default.

6.28.2 Weekday Volume Schedule

The Volumes Profile created can be applied to a schedule which will adjust the gain to follow the profile gain during the selected time. To add a profile, click on the Weekday Volume Schedule slider and click on add for the required profile

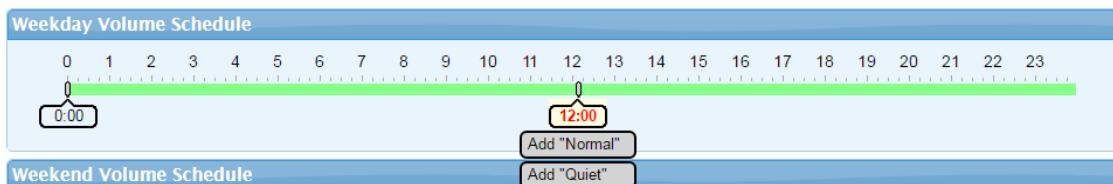


Figure 385 – Volume Profiles: Adding New Weekday Profile

The sliders can be used to adjust start time and it will run until the start of the next profile. To delete a profile, click on the delete button when mouse is hovered on the start of the profile. Click on save volume profile to save the changes in the volume profile

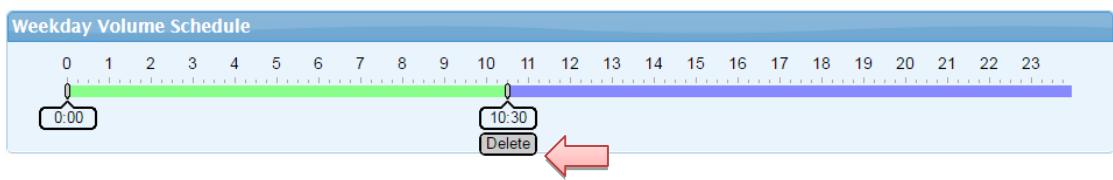


Figure 386 – Volume Profiles: Deleting Weekday Profile

6.28.3 Weekend Volume Schedule

The Volumes Profile created can be applied to a schedule which will adjust the gain to follow the profile gain during the selected time. To add a profile, click on the Weekend Volume Schedule slider and click on add for the required profile

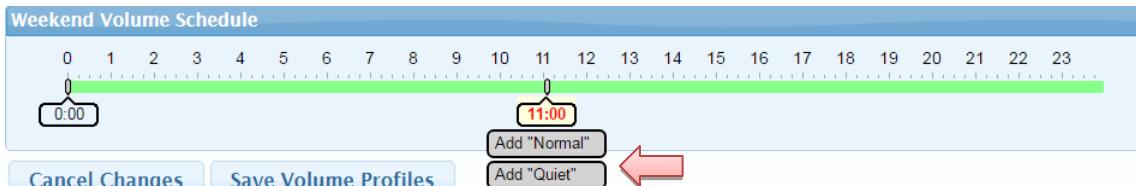


Figure 387 – Volume Profiles: Adding New Weekend Profile

The sliders can be used to adjust start time and it will run until the start of the next profile. To delete a profile, click on the delete button when mouse is hovered on the start of the profile. Click on save volume profile to save the changes in the volume profile

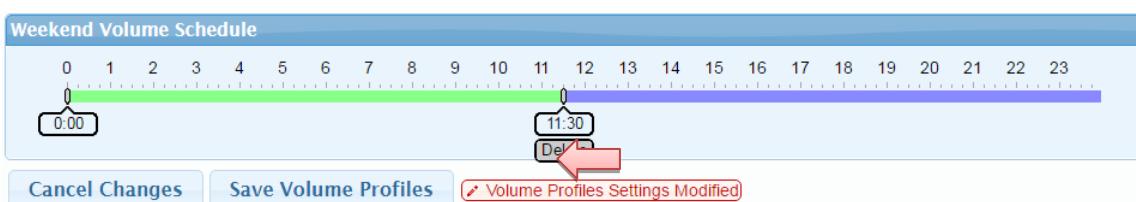


Figure 388 – Volume Profiles: Deleting Weekend Profile

6.29 Setup: Volume Profiles

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	
PID	

Screen Designer is only supported by NetSpire CXS devices. It provides administrators with the ability to configure display templates for NetSpire VCU

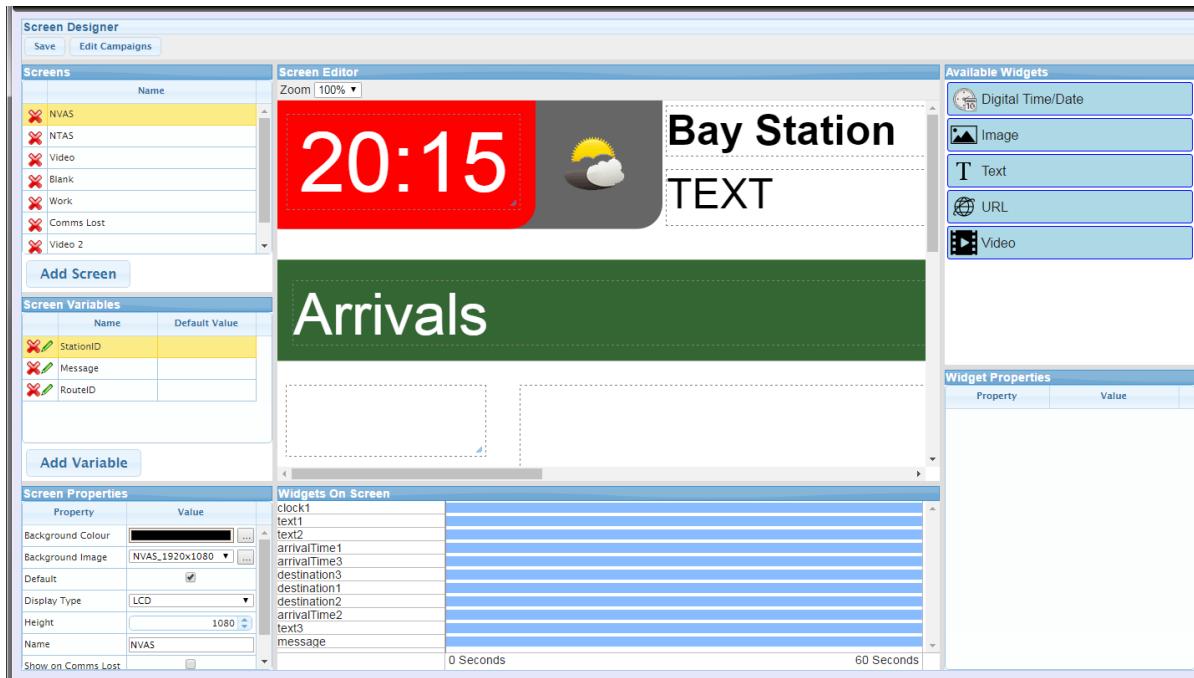
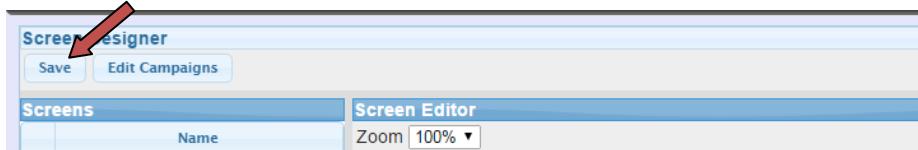


Figure 389 - Screen Designer

When making any changes in the Screen Designer, ensure the save button is pressed to commit changes to file. Uncommitted changes will be lost if page is closed or refreshed.



6.29.1 Terminology

- VCU:** Video Control Unit generates displays for LCD and LED screens
- Screen:** Visual template controls what is shown on VCU display
- Campaign:** Collection of Screens with timer component to change screen on continuous loop
- Widget:** Display object either static or dynamic which can be added to screen
- Screen Variable:** Data set dynamically, e.g. location information

6.29.2 Screens List

The Screens List is used to add, delete and select screens for editing.

To delete an existing screen, click the  beside the entry in the list.

Caution: No confirmation screen is given when deleting screens.

To edit a screen, click the screen entry in the list. Screen layout will appear in Screen Editor and Screen Properties are shown at the bottom of the page and includes setting of the screen name displayed in this list.

To add a screen click “Add Screen” button and a new screen is selected for editing.

Screens	
	Name
	NVAS
	NTAS
	Video
	Blank
	Work
	Comms Lost
	Video 2

Add Screen

Figure 390 - Screens List

6.29.3 Screen Variables

Screen variables are specific to the selected screen. Create, delete and edit screen variables as per Screens list. Variables in this list are automatically displayed in the Displays Operation screen and values are set in that screen.

6.29.4 Screen Properties

Screen properties allow setting of screen name (displayed in screen list), context (display type, size, etc) and background colour or image.

Background colour and image can be set statically or by variable. Background images are sourced from media manager (see section **Error! Reference source not found.**).

The ‘Default’ checkbox selects the screen to show when no screen has been configured for a VCU.

The ‘Show on Comms Lost’ checkbox selects the screen to show when a VCU cannot contact any CXS.

6.29.5 Available Widgets

Available Widgets shows the list of elements available to add to the screen. To add a widget, click and drag from available widgets into the desired location in screen editor

6.29.6 Widget Properties

A selected Widget added to screen will have properties displayed in this box. Display properties such as colours, transparency, fonts and styles can be changed here. Widget-specific properties are also displayed here. See Widget list for details (section 6.30)

6.29.7 Screen Editor

Screen Editor shows a visual representation of the screen and allows placement and resizing widgets. Use the zoom dropdown to zoom the screen for overall view or fine control of widget placement

6.29.7.1 Adding a Widget

Widgets are added by clicking and dragging from the available widgets list into the screen editor

6.29.7.2 Moving a Widget

To move a widget, hover mouse cursor over widget, and move cursor will be displayed. Click and drag to relocate widget as desired.

6.29.7.3 Deleting a Widget

Widgets can be deleted by clicking the widget in the screen editor and pressing delete on the keyboard.

6.29.7.4 Resizing a Widget

Resize a widget by moving mouse cursor to the bottom right corner of the widget in screen editor. Cursor will change to diagonal resize, then click and drag widget to desired size. Hold down the shift key on keyboard to resize with locked proportions.

For vertical or horizontal resize, move mouse cursor over bottom or right widget border respectively until cursor changes to desired resize arrows. Then click and drag widget to the desired size.

6.29.7.5 Edit Widget

Click a widget to highlight, and its properties are displayed in the Widget Properties box.

6.30 Widgets on Screen

Widgets on Screen show all the widgets by the name assigned in Widget Properties. Clicking a widget name will select it in the Screen Editor and display its properties in the Widget Properties.

The timeline feature of Widgets on Screen is not yet implemented.

6.31 Widgets

6.31.1 Digital Time/Date

Displays a time and date on screen from VCU system clock

6.31.1.1 Format Property

Use % codes listed below to control the date/time format. E.g. to show date and time in format "14 Jun 2016 - 06:45:15 PM" the code will be "%d %b %Y - %h:%M:%S %p"

- %a locale's abbreviated weekday name (e.g., Sun)
- %A locale's full weekday name (e.g., Sunday)
- %b locale's abbreviated month name (e.g., Jan)
- %B locale's full month name (e.g., January)
- %d day of month (e.g., 01)
- %H hour (00..23)
- %h hour (01..12)
- %m month (01..12)
- %M minute (00..59)
- %p AM or PM
- %S second (00..60)
- %U day suffix for long date (st, nd, rd, th)
- %Y year

6.31.2 Image

Image file is selected from media manager (see section **Error! Reference source not found.**).

Resizing the image widget does not resize image. Image portions outside the widget border will be hidden

6.31.3 Text

Text can be added to the screen.

6.31.3.1 Overflow Property

Overflow controls how text strings longer than the widget are handled. They can be scrolled, hidden or wrapped into multiple lines.

6.31.3.2 Scroll Speed Property

If overflow is set to scroll, this property controls the scrolling speed by setting value between 1 and 1000. Higher numbers cause faster scrolling.

6.31.3.3 Scroll Direction Property

If overflow is set to scroll, this property sets whether to scroll horizontally (right to left) or vertically (bottom to top)

6.31.4 URL

The URL Widget displays the content of a website

6.31.4.1 URL Property

URL property sets the web address to be shown by the widget. It must start with 'http://'.

6.31.5 Video

Video widget displays video from the media manager (see section **Error! Reference source not found.**).

6.32 Campaign Editor

Campaigns consist of multiple screens and are maintained by the Campaign Editor.

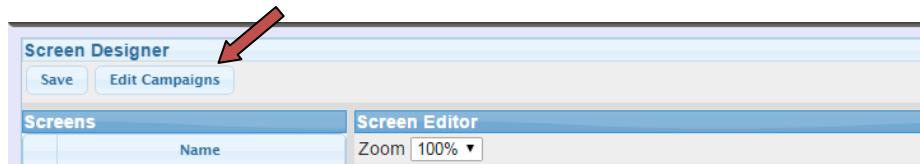


Figure 391 - Edit Campaigns button

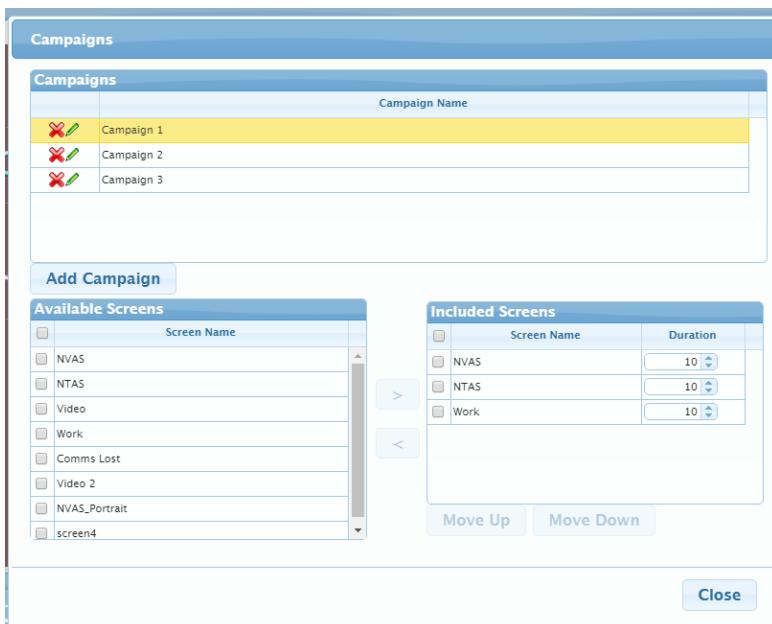


Figure 392 - Campaign Editor

Campaigns can be added by clicking the ‘add campaign’ button or renamed by clicking the button beside the campaign name. Campaigns can be deleted by the beside the campaign name.

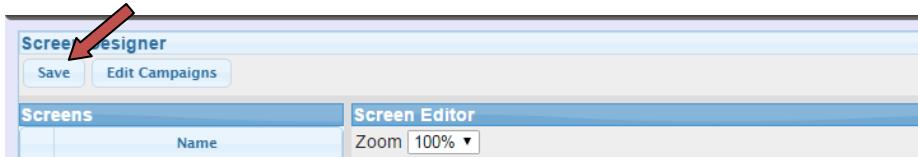
To edit the campaign content, click the desired campaign. Available screens are displayed below the campaign list.

To add screens to a campaign, check the box beside the desired screen in the available screens list and click the button. Similarly to remove screens from a campaign, select the check boxes from Included Screens and click the button.

Screens can be reordered by clicking them in the Included Screens list and using the move up/move down buttons.

Duration for each screen to be displayed is set in seconds in the duration input. When a displaying campaign reaches the end of the listed screens it will be looped back to the first screen again.

After making changes to campaigns, click close on the campaign editor. Be sure to commit changes to file by pressing the save button on the Screen Designer.



6.33 Setup: Advanced: Configuration Editor Screen

The Advanced Configuration Editor Setup screen is supported by all NetSpire devices and allows the administrator to access the low level configuration data for the devices.

The Configuration Editor provides access to all configuration data, and provides the ability to access features not available through the standard web interface. The interface can also be used to view the version history of configuration changes in the system.

NOTE: ADVANCED USE ONLY

This interface is for advanced use only and should only be used under the guidance of Open Access.

The screenshot shows the 'Configuration Editor' interface for a device with IP 192.168.104.23, Resource 57, Instance 1 (14 items). The left pane displays a tree view of resources, including a selected 'Instance 1' node. The right pane shows a detailed table of configuration parameters:

Key	Priority	Raw Value	Actual Value	Type	Description	Actions
APP_NAME	10	resVoIPPhone	resVoIPPhone			Edit
DEBUGLEVEL	10	2	2			Edit
IS_HELP_POINT	20	0	0			Edit
SIP_AUDIO_CODEC	20	PCMA	PCMA			Edit
SIP_AUDIO_RTP_PORT	20	7362	7362			Edit
SIP_IDENTITY	20	'\$@DEV_NAME'	'API4-PEI23'			Edit
SIP_PORT_NO	20	5342	5342			Edit
TAPI_BD	20	1/home/openaccess/rmrw	1/home/openaccess/rmrw			Edit
AUTO_ANSWER	30	YHF	YHF			Edit
ENABLE_PTT_CTRL	30	0	0			Edit
TAPI_HANDSFREE	30	1	1			Edit
TAPI_VOLUME	30	3	3			Edit
CALIBRATE_ATT_IDX_CONFIG	40	5 0 0 -1 0 -1 0 -1	5 0 0 -1 0 -1 0 -1			Edit
KEEP_TAP_RUNNING	40	0	0			Edit

Figure 393 – Advanced Configuration Editor Setup Screen

7 Operations Screens

The Operations screens are accessed through the Operations menu.

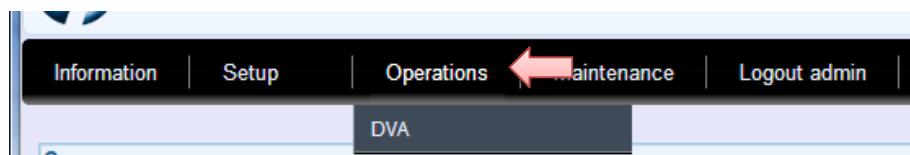


Figure 394 – Operations Menu

The Operations screens provide the administrator with basic control functions for the device.

The following screens are accessible from the Operations menu:

- ▶ DVA
- ▶ Voice Archive Server

7.1 Operations: DVA

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	

The DVA Operations screen is provided by all NetSpire devices except intercom devices and allows the administrator basic control over starting, stopping and scheduling DVA announcements on the device.

The DVA Operations screen is divided into the following sections:

- ▶ Target Zones
- ▶ Quick List
- ▶ Announcement
- ▶ Announcement Schedules

The list in the Target Zones section allows the operator to select which zones an announcement will be made to. The checkboxes on the left side of the list allow the Audio Zones to be selected.

The screenshot shows the DVA Operations screen with the following sections visible:

- Quick List:** Displays a list of announcements with columns for Actions, Announcement, Priority, and Gain (dB). One item is selected: "Stand Clear Doors Closing" with Priority Absolute: 500 and Gain 0 dB.
- Announcement:** A configuration panel for DVA and TTS. It includes fields for Category (System), Segment (Stand Clear Doors Closing), Priority (Use Custom Priority, Absolute Priority 500), Repeat (Play once, Play until stopped, Play 10 times), and Gain (dB) slider.
- Target Zones:** A table listing audio zones with columns for Zone, Health, and Announcement. The zones listed include All, Kitchener, Kitchener Line, Lakeshore East Line, Lakeshore West Line, MF Desk, Milton Line, Richmond Line, South Barrie Line, Stouffville Line, Vestibules, VirtualZone, and Weston - uncompressed. Most zones are marked as Healthy and Idle.
- Announcement Schedules:** A table for scheduling announcements with columns for Actions, Description, Date Range, Time Range, Repeat, and Days.

Figure 395 – DVA Operations Screen: Target Zones List

The Target Zones list shows each of the Audio Zones configured on the device or in the case of the NetSpire CXS and TCX, all the zones configured in the system. For information on Audio zones refer to section 6.9 Setup: Audio Zones Screen.

The Target Zones list also shows health and status information for each of the zones. The health status may be:

- ▶ **Healthy:** no faults or problems detected on the devices and channels supporting the zone.

- ▶ **Partially Healthy:** there is an active Minor Alarm raised on a device or channel supporting the zone.
- ▶ **Faulty:** there is an active Major Alarm raised on a device or channel supporting the zone.
- ▶ **Unknown:** Speaker supervision for the channels supporting the zone has not been calibrated and tested OR there no output channels associated for that zone.

The Target Zones list also shows status information for each zone, indicating when it is currently playing audio, or is idle.

Target Zones		
Zone	Health	Announcer
<input type="radio"/> C1-NOTIFY	Healthy	<input type="radio"/> Idle
<input checked="" type="radio"/> C1-PRI-MON	Healthy	<input checked="" type="radio"/> DVA
<input type="radio"/> C1-SEC-MON	Healthy	<input type="radio"/> Idle
<input type="radio"/> C8-NOTIFY	<input type="radio"/> Unknown	<input type="radio"/> Idle
<input type="radio"/> C8-PRI-MON	<input type="radio"/> Unknown	<input type="radio"/> Idle
<input type="radio"/> C8-SEC-MON	<input type="radio"/> Unknown	<input type="radio"/> Idle
<input type="radio"/> Decks	Partially Healthy	<input type="radio"/> Idle
<input type="radio"/> Side 1	<input type="radio"/> Unknown	<input type="radio"/> Idle
<input type="radio"/> Side 2	<input type="radio"/> Unknown	<input type="radio"/> Idle
<input type="radio"/> Vestibules	Partially Healthy	<input type="radio"/> Idle

Figure 396 – DVA Operations Screen: Target Zones Announcement Status Information

Clicking the Stop All button below the Target Zones list will stop all active announcements for each of the zones in the list.

The Announcement section allows a pre-recorded announcement from the Audio Dictionary to be selected. The Category dropdown shows a list of Audio Segment Categories from the Audio Dictionary. The Segment dropdown shows a list of Audio Segments from the selected Category.

Quick List				Target Zones		
Actions	Announcement	Priority	Gain (dB)	Zone	Health	Announcement
	Stand Clear Doors Closing	Absolute: 500	0	All	Healthy	Idle
	Stand Clear Doors Closing Stand Clear Doors Closing Stand Clear	Absolute: 500	0	Kitchener	Unknown	Idle
	0.5 seconds silence 0.5 seconds silence 0.5 seconds silence 0.5 s	Absolute: 500	0	Kitchener Line	Partially H	Idle
	Stand Clear Doors Closing	Absolute: 500	0	Lakeshore East Line	Unknown	Idle
				Lakeshore West Line	Unknown	Idle
				MF Desk	Healthy	Idle
				Milton Line	Partially H	Idle
				Richmond Line	Unknown	Idle
				South Barrie Line	Unknown	Idle
				Stouffville Line	Unknown	Idle
				Vestibules	Unknown	Idle
				VirtualZone	Healthy	Idle
				Weston - uncompressed	Unknown	Idle

Stop All Show All Zones Show Local Zones Only

Figure 397 – DVA Operations Screen: Announcement Section

Clicking the Play button will make the announcement on the selected Target Zones. A priority can be selected for each announcement played. The gain level can be adjusted. An option to play once, play until stop or repeat for a number of times is also available

The Announcements section allows compound announcements to be created by concatenating different pre-recorded messages from the Voice Dictionary.

Announcement		Date Range		Time Range		Repeat	Days
Actions	Description	Start	End	Start	End	(HH:MM:SS)	

Figure 398 – DVA Operations Screen: Compound Announcements

Clicking the '>' button moves the selected segment into the compound list. The example above shows a compound message consisting of a chime, half a second of silence, and a door obstruction messages.

The Quick List section can be populated with commonly used announcements. To add an item to the Quick List section, select the required category and segment in the Announcement section, and click the Add to Quick List button.

A priority and gain may also be added for each announcement in the Quick List.

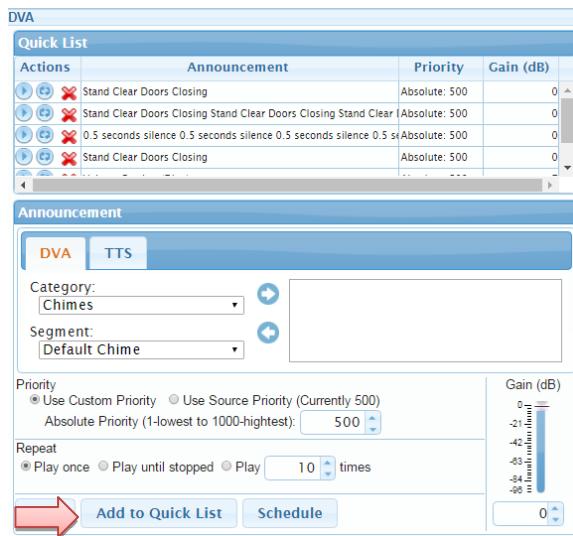


Figure 399 – DVA Operations Screen: Announcement Section

The Audio Segment will appear in the Announcement list. To send the announcement to the select Audio Zones in the Target Zone list, click on the Play button next to the item. Compound messages can also be added to the Quick List for later playback.

To remove and item from the Quick Selection Items list, click the remove button.

NetSpire devices support the ability to schedule announcements to occur once, or at repeating intervals in the future. The lower section of the DVA screen shows the currently scheduled announcements.

Announcement Schedules							
Actions	Description	Date Range		Time Range		Repeat	Days
		Start	End	Start	End		
	ISO 8201 Two Tone 0.5 seconds silence ISO 8201	21/8/2015	2/4/2016	09:00	17:00	00:10:00	Mo Tu We Th Fr Sa Su

Figure 400 – DVA Operations Screen: Announcement Schedules Section

The Announcement Schedule Section shows the Schedule list for each of the schedules that have previously been configured on the device.

To create a new schedule, select the category and segment in the Announcement section and click the Schedule button. Compound announcements can also be created and scheduled by clicking the Schedule button.

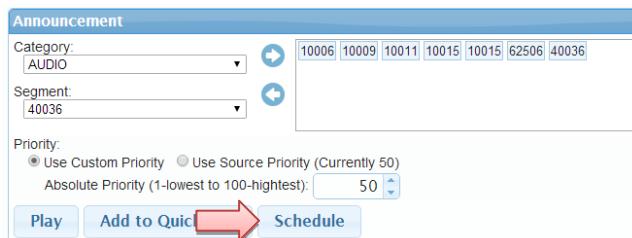


Figure 401 – DVA Operations Screen: Schedule Button

The Schedule dialogue will be displayed allowing the operator to configure the details of the new schedule.

The screenshot shows the 'Schedule' dialogue window. It contains sections for 'Description' (40036), 'Zones' (with options for C1-NOTIFY, C1-PRI-MON, C1-SEC-MON, C8-NOTIFY, and C8-PRI-MON, where C1-PRI-MON is checked), 'Announcement' (Category AUDIO, Segment 40036), 'Priority' (Custom Priority set to 50), 'Date Range' (from 12/10/2015 to 12/10/2015), 'Frequency' (repeating every 01:00:00), 'Time Range' (between 09:00 and 17:00 each day), and 'Days' (only on Mo, Tu, We, Th, Fr, Sa, Su). At the bottom are 'OK' and 'Cancel' buttons.

Figure 402 – Schedule Creation and Modification Dialogue

The Schedule dialogue allows the following details of the schedule to be entered:

Description

User defined description describing the purpose of the schedule. This defaults to the name of the scheduled segment(s).

Zones

Select the Zones where the announcement will be output. These default to the Zones selected in the Target Zones list when the schedule was created.

Announcement

Specifies the segment or compound announcement that will be output to the selected zones. The announcement selection works in the same fashion as the Announcement section on the Operations: DVA screen, and allows a sequence of segments to be concatenated in the announcement.

Priority

Specifies the priority level of the scheduled announcement. Selecting Use Custom Priority allows the user to specify an individual priority level for the announcement. Alternatively, Use Source Priority can be selected for the announcement priority to be determined based on the priority assigned to the Audio Source.

Date Range

The inclusive date range that the schedule is active.

Frequency

Specifies the frequency the announcement is repeated on each day in the date range.

Time Range

Specifies the times of each day that the schedule is active.

Days

Specifies the days of the week that the schedule is active.

To save the schedule, click the OK button.

7.2 Operations: Displays

The Displays Operations screen is provided by all NetSpire CXS/TCX devices including PIDS devices and allows the administrator basic control over starting and scheduling PID/ PIS announcements on the device.

The DVA Operations screen is divided into the following sections:

- ▶ Target Zones
- ▶ Screens
- ▶ Variables
- ▶ Display Options
- ▶ Display Schedules

The list in the Target Zones section allows the operator to select which zones a display message will be made to. The checkboxes on the left side of the list allow the Zones to be selected.

The screenshot shows the 'Operations Screen' with the following sections:

- Screens:** A list of screens including 'No Change', 'Campaign 1', 'Campaign 2', 'Campaign 3', 'NVAS', 'NTAS', and 'Videx'.
- Variables:** A list of variables including 'StationID', 'Message', and 'RouteID'.
- Display Options:** Priority settings (Use Custom Priority selected, Use Source Priority (Currently 500), Absolute Priority (1-lowest to 1000-highest) set to 500).
- Display Schedules:** A table for scheduling actions with columns for Actions, Description, Date Range, Time Range, Repeat, and Days.
- Target Zones:** A list of zones with columns for Zone and Health status. The zones listed are:
 - All Zones: Partially Offline (Yellow)
 - Kipling Station: Partially Offline (Yellow)
 - Union Station: Online (Green)

Figure 403 – Displays Operations Screen: Target Zones List

The Target Zones list shows each of the Zones configured on the device or in the case of the NetSpire CXS and TCX, all the zones configured in the system. For information on Audio zones refer to section 6.9 Setup: Audio Zones Screen.

The Target Zones list also shows health and status information for each of the zones. The health status may be:

- ▶ **Healthy:** no faults or problems detected on the devices and channels supporting the zone.
- ▶ **Partially Healthy:** there is an active Minor Alarm raised on a device or channel supporting the zone.
- ▶ **Faulty:** there is an active Major Alarm raised on a device or channel supporting the zone.
- ▶ **Unknown:** Speaker supervision for the channels supporting the zone has not been calibrated and tested OR there no output channels associated for that zone.

The Target Zones list also shows status information for each zone.

Target Zones	
Zone	Health
▼ All Zones	🟡 Partially Offline
▼ Kipling Station	🟡 Partially Offline
○ Stop 14240	🔴 Offline
○ Stop 14822	🟢 Online
▼ Union Station	🟢 Online
○ Stop 14806	🟢 Online

Sink ID	Location	Sink Name	Health	View

Show All Zones Show Local Zones Only

Figure 404 – Displays Operations Screen: Target Zones Status Information

The Target Zones may be expanded further and provides clarity to the user for the associated zones. When selecting a target zone, a list of each zone is displayed along with local information and health status details.

Target Zones	
Zone	Health
▼ All Zones	🟡 Partially Offline
▼ Kipling Station	🟡 Partially Offline
○ Stop 14240	🔴 Offline
○ Stop 14822	🟢 Online
▼ Union Station	🟢 Online
○ Stop 14806	🟢 Online

Sink ID	Location	Sink Name	Health	View
200105701	Kipling Station, Stop NUC HDMI PORT	🔴 Offline		
200105601	Kipling Station, Stop NUC HDMI PORT	🟢 Online	View	

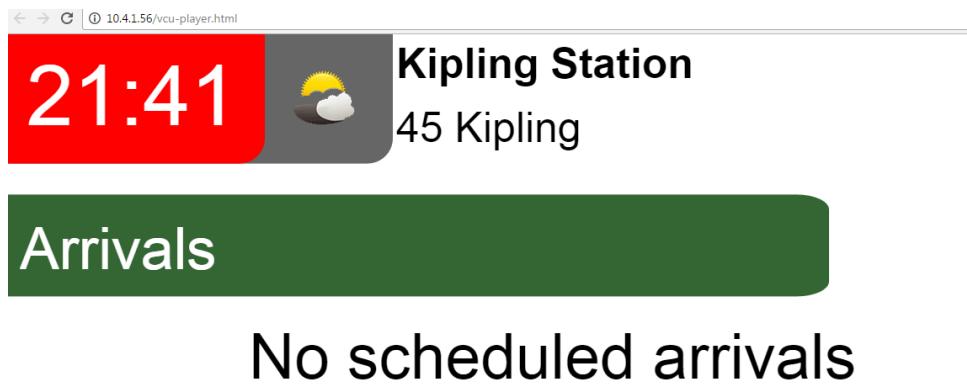
Show All Zones Show Local Zones Only

Figure 405 – Displays Operations Screen: Target Zones Status Information Expanded

A user can also use this mode to view the PIS content currently played (view available in a browser). This may be achieved by selecting View on the associated zone; this will play the content associated to that zone.

Sink ID	Location	Sink Name	Health	View
200105701	Kipling Station, Stop	NUC HDMI PORT	Offline	
200105601	Kipling Station, Stop	NUC HDMI PORT	Online	View

Show All Zones Show Local Zones Only

Figure 406 – Displays Operations Screen: Target Zones View**Figure 407 – Displays Operations Screen: Target Zones View Selected**

The Screens section allows a pre-configured campaign / screen to be selected. The table shows a list of campaigns / screens available in the system; the campaigns will need to be pre-configured to appear.

Campaigns are typically many screens populated together.

Screens			
	Name	Type	Details
<input type="radio"/>	No Change		
<input type="radio"/>	Campaign 1	Campaign	NVAS,NTAS,Work
<input checked="" type="radio"/>	Campaign 2	Campaign	Video,NVAS,NTAS,Work
<input type="radio"/>	Campaign 3	Campaign	NVAS_Portrait,Video
<input type="radio"/>	NVAS	screen	
<input type="radio"/>	NTAS	screen	
<input type="radio"/>	Video	screen	

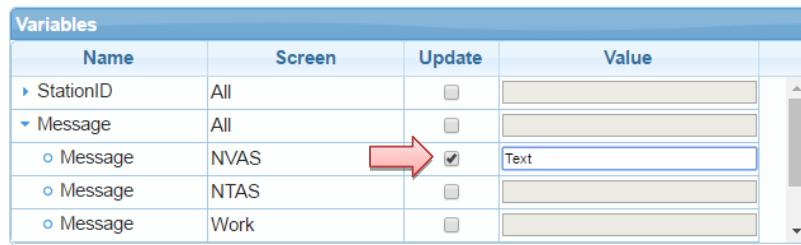
Figure 408 – Displays Operations Screen: Screens Section

Clicking the Set button will initiate the template / screen on the selected Target Zones. A priority can be selected for each template / screen set.

The Variables section allows variables within a campaign or screen to be modified prior to being set or initiated. This allows the operator to modify the variables applicable

The Variables screen lists the following template / screen items:

- ▶ **Name:** Variable name
- ▶ **Partially Healthy:** Select a screen, number of screens or all screens
- ▶ **Update:** Radio button required to be ticked if variables to be updated
- ▶ **Value:** Enter alphanumeric value to be displayed in the variable field.



Name	Screen	Update	Value
▶ StationID	All	<input type="checkbox"/>	
▼ Message	All	<input type="checkbox"/>	
○ Message	NVAS	<input checked="" type="checkbox"/>	Text
○ Message	NTAS	<input type="checkbox"/>	
○ Message	Work	<input type="checkbox"/>	

Figure 409 – Displays Operations Screen: Variable Section

The Display Options section specifies the priority level of the PID announcement. Selecting Use Custom Priority allows the user to specify an individual priority level for the announcement. Alternatively, Use Source Priority can be selected for the announcement priority to be determined based on the priority assigned to the Audio Source. This feature is not supported in revision R.3.3 or any previous revisions.

NetSpire devices support the ability to schedule PIS to occur once, or at repeating intervals in the future. The lower section of the PIS screen shows the currently scheduled announcements.



Display Schedules							
Actions	Description	Date Range		Time Range		Repeat (HH:MM:SS)	Days
		Start	End	Start	End		
	Campaign 1	17/1/2017	17/1/2017	09:00	-	Once a day	Mo Tu We Th Fr Sa Su

Figure 410 – Displays Operations Screen: Display Schedules Section

The Display Schedule Section shows the Schedule list for each of the schedules that have previously been configured on the device.

To create a new schedule, click the Schedule button under Display Options.

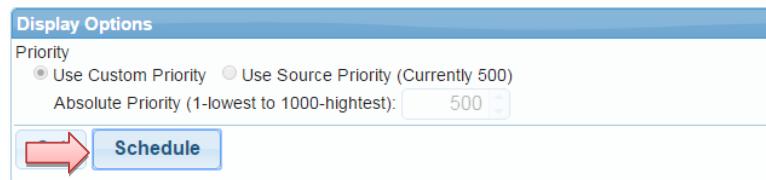


Figure 411 – DVA Operations Screen: Schedule Button

The Schedule dialogue will be displayed allowing the operator to configure the details of the new schedule.

The image shows the 'Schedule' dialogue box. At the top left is a 'Description' input field containing 'Campaign 1'. Below it is a tabbed navigation bar with 'Display' (selected), 'Target Zones', and 'Schedule'. The main area contains two tables. The first table, titled 'Details', lists segments: 'No Change', 'Campaign 1' (selected), 'Campaign 2', 'Campaign 3', 'NVAS', 'NTAS', and 'Video'. The second table, titled 'Value', lists variables: 'StationID' (All, Update checked, Value empty), 'Message' (All, Update checked, Value 'Text'), and three sub-options for 'Message': 'NVAS' (Update checked, Value empty), 'NTAS' (Update checked, Value empty), and 'Work' (Update checked, Value empty). At the bottom of the dialogue are priority settings: 'Use Custom Priority' (selected), 'Use Source Priority (Currently 500)', and an 'Absolute Priority' dropdown set to '500'. At the bottom right are 'OK' and 'Cancel' buttons.

Figure 412 – Schedule Creation and Modification Dialogue

The Schedule dialogue allows the following details of the schedule to be entered:

Description

User defined description describing the purpose of the schedule. This defaults to the name of the scheduled segment(s).

Display

Select the campaign / screen including any variables

Target Zones

Select the zone/s

Schedule

Date Range

The inclusive date range that the schedule is active.

Frequency

Specifies the frequency the display is repeated on each day in the date range.

Time Range

Specifies the times of each day that the schedule is active.

Days

Specifies the days of the week that the schedule is active.

To save the schedule, click the OK button.

7.3 Operations: Voice Archive Server

The Voice Archive Server screen is only available on Voice Archiving Servers (VAS). It allows a user to see details of audio recordings that have been stored on the VAS by other devices – generally CXS's.

Supported by	
CXS	
IPPA	
NAR	
NAC	
NAM	
TCX	
TGU	
CI	
CP	
CC	
CAC	
PEI	
VAS	X

The screenshot shows the 'Voice Archive Server' interface. On the left, a sidebar lists supported devices: CXS, IPPA, NAR, NAC, NAM, TCX, TGU, CI, CP, CC, CAC, PEI, and VAS (marked with an 'X'). The main area has two tabs: 'Recordings' and 'Participants'. The 'Recordings' tab displays a table of archived audio files with columns: Start Time, Stop Time, Duration, Type, Originator, Mode, Participants, and Clearing Cause. The table contains 18 entries. Below the table are buttons for 'Download CSV' and 'Search'. The 'Participants' tab shows a list of participants with columns: Participant and Mute. A participant named '20010101' is listed with the 'Mute' status set to 'No'. At the bottom, there are playback controls (play, stop, previous, next, last) and a timeline showing '00.00.000' at both ends. The timeline also indicates 'Current Offset: ---' and 'Current Time: ---'. Navigation buttons for pages 1 through 20 are also present.

Figure 413 – Voice Archiving Server operations screen

The screen has several sections but is essentially a filterable searchable list of archived audio files, which can be played back and downloaded.

The Archive and Filter sections allow the user to select the archive they wish to see the contents of, and then to filter that archive by several criteria in order to find the particular audio file they're interested in listening to.

Archive	
Archive ID	001 ▾
Filter	
From	06 Aug 2016 00:00
To	06 Sep 2016 23:59
Recording Type	All ▾
Participant (Only show recordings that include the given participant)	<input type="text"/>
Min. Duration	0 <input type="button"/> Sec.
Max. Duration (0 = No Maximum)	0 <input type="button"/> Sec.
Search	

Figure 414 – Archive selection and filter parameters section

The user can specify a date range, a recording type (out of DVA, PA or Telephony based recordings), a specific participant, as well as minimum and maximum durations to search on. The results of the search will then be displayed in the Recordings list.

Recordings							
Start Time	Stop Time	Duration	Type	Originator	Mode	Participants	Clearing Cause
5 Sep 2016 Mon 05:37:27 pm	5 Sep 2016 Mon 05:37:34 pm	00:07:000	PA-Std	200101001	Simplex	200101001	
5 Sep 2016 Mon 05:39:45 pm	5 Sep 2016 Mon 05:39:57 pm	00:12:000	PA-Std	200101001	Simplex	200101001	
5 Sep 2016 Mon 05:43:38 pm	5 Sep 2016 Mon 05:44:30 pm	00:52:000	Tel-Individual-Std-Call	2002051	Duplex	2002051,2002063	Normal Clearing
5 Sep 2016 Mon 05:46:08 pm	5 Sep 2016 Mon 05:46:17 pm	00:09:000	Tel-Individual-Std-Call	2002055	Duplex	2002055,2002063	Normal Clearing
5 Sep 2016 Mon 05:48:28 pm	5 Sep 2016 Mon 05:48:33 pm	00:05:000	PA-Std	2001010	Simplex	2001010	
5 Sep 2016 Mon 05:48:35 pm	5 Sep 2016 Mon 05:49:40 pm	00:05:000	PA-Std	2001010	Simplex	2001010	
5 Sep 2016 Mon 05:49:52 pm	5 Sep 2016 Mon 05:49:57 pm	00:05:000	PA-Std	2001010	Simplex	2001010	
5 Sep 2016 Mon 05:49:00 pm	5 Sep 2016 Mon 05:49:05 pm	00:05:000	PA-Std	2001010	Simplex	2001010	
5 Sep 2016 Mon 05:49:57 pm	5 Sep 2016 Mon 05:50:02 pm	00:05:000	PA-Std	2001010	Simplex	2001010	
5 Sep 2016 Mon 05:50:07 pm	5 Sep 2016 Mon 05:50:12 pm	00:05:000	PA-Std	2001010	Simplex	2001010	
5 Sep 2016 Mon 05:52:50 pm	5 Sep 2016 Mon 05:53:00 pm	00:10:000	PA-Std	2001010	Simplex	2001010	
5 Sep 2016 Mon 05:56:16 pm	5 Sep 2016 Mon 05:56:21 pm	00:05:000	PA-Std	200101001	Simplex	200101001	
6 Sep 2016 Tue 08:53:39 am	6 Sep 2016 Tue 08:53:40 am	00:01:000	PA-Std	200101001	Simplex	200101001	

View 1 - 20 of 21

Figure 415 – Recordings list

The recordings list displays details of recordings in the archive. Items in this list can be selected for playback and download. The entire displayed list can also be downloaded in CSV format via the button in the bottom left corner.

When an audio recording has been selected, the controls for playback and volume control become active.

**Figure 416 – Selected audio file playback and download**

This section displays the selected audio file, and provides playback controls and timeline information. There is also a button for downloading an audio file to the local device.

8 Maintenance Screens

The Maintenance screens are accessed through the Maintenance menu.

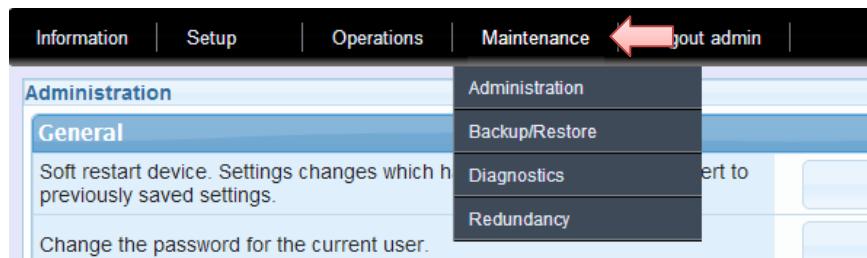


Figure 417 – Maintenance Menu

The Maintenance screens provide the administrator with access to maintenance diagnostic functions for the device. The following screens are accessible from the Maintenance menu:

- ▶ Administration
- ▶ Backup/Restore
- ▶ Diagnostics
- ▶ Redundancy

8.1 Maintenance: Administration Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Administration Maintenance screen is supported by all NetSpire devices and allows the administrator run diagnostic tests on the device.

The Maintenance Administration screen provides the following facilities:

- ▶ Restart the device
- ▶ Change user password
- ▶ Update firmware
- ▶ Factory reset
- ▶ Clear alarms
- ▶ Isolate the device
- ▶ Backup and Restore device configuration

The screenshot displays the CXS Administration Maintenance screen. At the top, there's a navigation bar with links for Information, Setup, Operations, Maintenance, Logout admin, and a user icon. Below the navigation bar is a header titled "Administration". The main content area is divided into sections: "General" and "Backup/Restore To File". The "General" section contains buttons for "Restart", "Change Password", "Update Firmware" (with a checked checkbox for "Allow updates to be pushed from server"), "Factory Reset" (with a checked checkbox for "Reset IP address to 192.168.0.250"), "Clear Alarms", and "Isolate Device". The "Backup/Restore To File" section shows a message "Current state: Last restore successful" and buttons for "Backup Device To File" and "Restore Device From File".

Figure 418 – Administration Maintenance Screen

Each of the facilities provided by the Maintenance Administration screen is covered in the following sections:

8.1.1 Restarting the Device

To restart a device, click the Restart button.



Figure 419 – Administration Maintenance Screen: Restart Button

The system will display a confirmation dialogue asking for confirmation of the restart operation. Click the Yes button to proceed with the restart.

8.1.2 Password Management

To change the password for the current user, click the Change Password button.

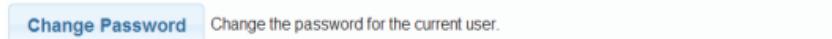


Figure 420 – Administration Maintenance Screen: Change Password button

The Change Password dialogue will be displayed and is shown in the following screenshot:

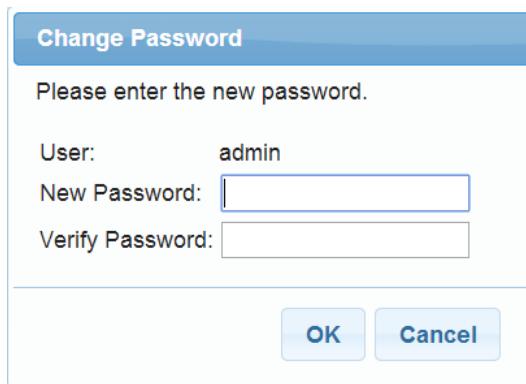


Figure 421 – Change Password Dialogue

Enter the new password into the New Password and Verify Password textbox. Click the OK button to change the password.

8.1.3 Updating Device Firmware

To update the firmware on a device, click the Update firmware button. To allow for the device to be automatically updated when a new firmware is added to the Automatic Update Manager section, tick the “Allow updates to be pushed from the server” checkbox



Figure 422 – Administration Maintenance Screen: Update Firmware Button

The update Firmware dialogue will be displayed and is shown in the following screenshot:

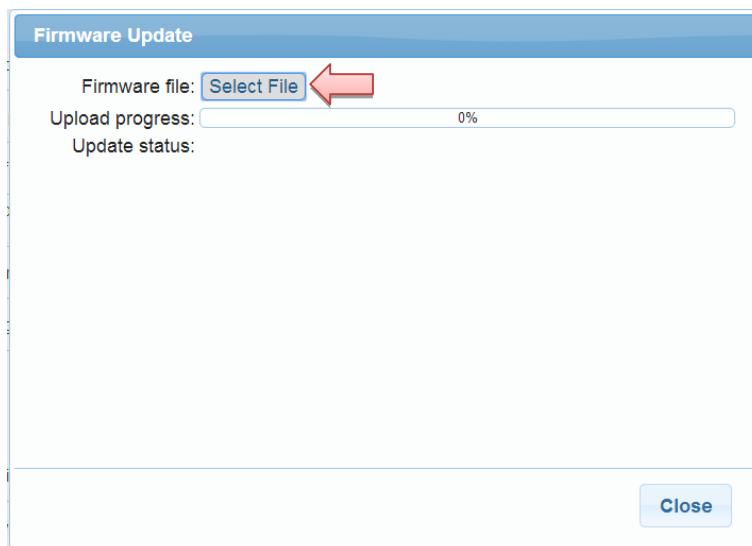


Figure 423 – Update Firmware Dialogue: Select File

Select the correct NetSpire firmware file to install. All NetSpire installations packages have a *.inst extension, and there are separate platform specific installations packages for the following platforms:

- ▶ CXS Servers
- ▶ TCX Servers
- ▶ VCU
- ▶ NAC282 Devices

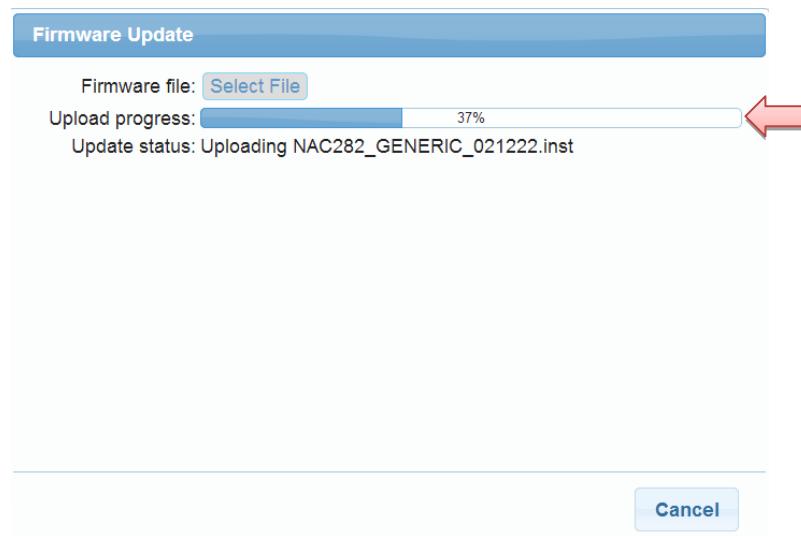


Figure 424 – Update Firmware Dialogue: Uploading

When an installation package is selected, it will be uploaded to the device. The status and progress of the upload is shown on the Firmware Update dialogue.

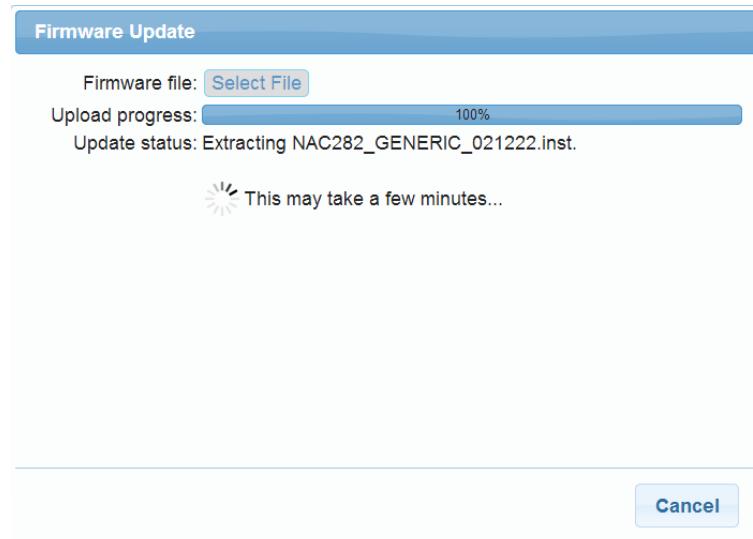


Figure 425 – Update Firmware Dialogue: Extracting

After the installation package is uploaded, the package is then extracted and verified by the device. This may take a number of minutes to complete.

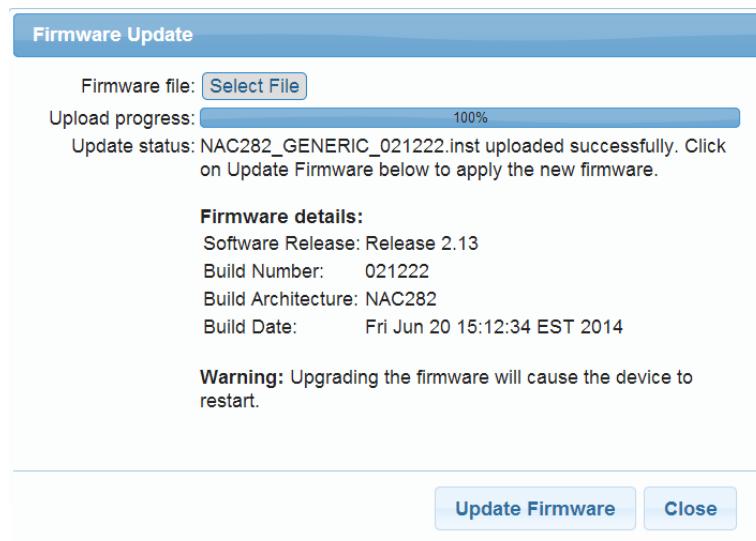


Figure 426 – Update Firmware Dialogue: Confirmation

Once the installation package is extracted and verified, the details of the package are shown on the Firmware Update dialogue. At this point the administrator can choose to continue with updating the firmware by clicking the Update Firmware button.

Clicking the Close button will cancel the firmware update, with no changes to the device software or configuration.

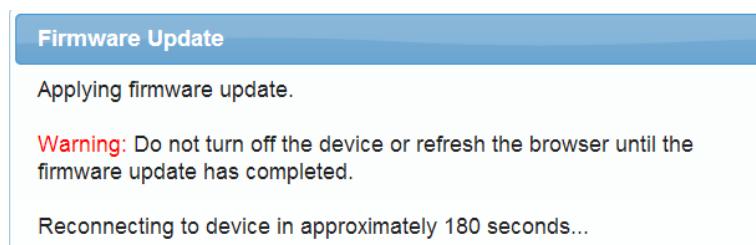


Figure 427 – Update Firmware Dialogue: Updating

When the firmware is being written to the device, the dialogue above is shown. The firmware update will take approximately 3 or more minutes.

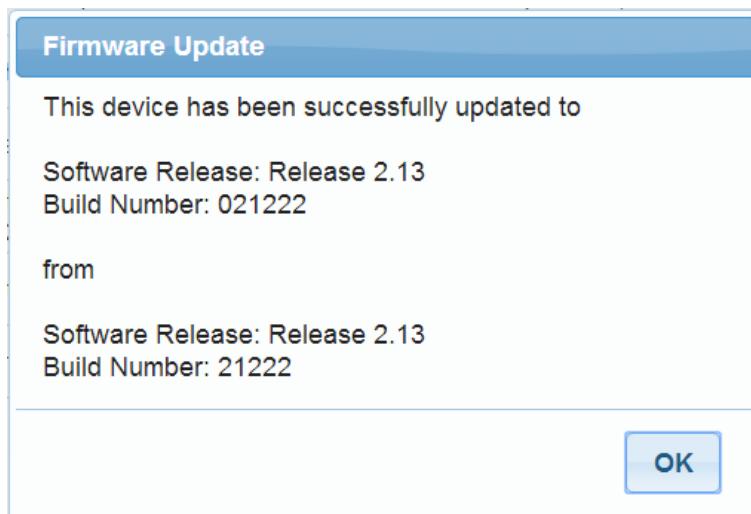


Figure 428 – Firmware Upgrade Confirmation Dialogue

When the firmware upgrade is completed and the device has rebooted, the web browser will reconnect after logging in, the dialogue above is displayed confirming the firmware update.

The confirmation dialogue is only shown to the first login after the device is updated.

8.1.4 Factory Reset

To reset all the configuration data on the device back to the state installed at the factory, click the Factory Reset button.



Figure 429 – Administration Maintenance Screen: Factory Reset Button

The system will display a confirmation dialogue asking for confirmation of the factory reset operation. Click the Yes button to proceed with the factory reset.

The administrator can optionally also reset the IP address of the device to 192.168.0.250 by clicking the Reset IP Address check box.

NOTE: ALL CONFIGURATION INFORMATION ON THE DEVICE WILL BE LOST

During a factory reset, all user configuration data on the device will be deleted and replaced with the configuration installed at the factory.

8.1.5 Clearing Alarms

The system alarms log can be cleared by clicking the Clear Alarms button.



Figure 430 – Administration Maintenance Screen: Clear Alarms Button

The system will display a confirmation dialogue asking for confirmation of the Clear Alarms operation. Click the Yes button to proceed and clear the alarm log.

NOTE: CLEARING ALARMS MAY BE NECESSARY

If there are some alarms active from a device that has subsequently been removed from the system, it may be necessary to clear the alarm log. Active alarms will appear in the log after a short period of time (less than 1 minute).

Active alarms for devices that are currently connected through a NetSpire Peer connection will automatically refresh and appear in the alarm log.

For more information on Alarms refer to section *5.8 Information: Alarms Screen*

8.1.6 Isolating the Device

To Isolate a device, click the Isolate Device button.



Figure 431 – Administration Maintenance Screen: Isolate Device Button

The device will immediately be isolated from the system, and the button text will be updated to Deisolate Device, and the status will be shown in red as Locally Isolated.



Figure 432 – Administration Maintenance Screen: Deisolate Device Button

To place the device back into service, click the Deisolate button.

When a device is in the isolated state, all user functions of the device will be disabled.

Status information and configuration functions will still be available through the Web Administration Interface and the NetSpire SDK. The device will also maintain NetSpire Peer connections with other devices if possible.

The following table shows which functions are enabled and which functions are disabled when a device is Isolated, for each NetSpire device type:

Device Type	Web Administration Interface	NetSpire SDK	Peer Connections	Active Server Eligible for Election	Output Audio	Digital Outputs	Make / Receive Telephony Calls	Operators Graphical Interface	Operators Function Buttons	Microphone Input	Headset audio Input and output	Handset audio input and output	Preview Speakers / Handsfree Speaker	Train Radio Call
CXS	E	E	E	D	-	-	D	-	-	-	-	-	-	-
TCX	E	E	E	D	-	D	D	-	-	-	-	-	-	-
NAC	E	-	E	-	D	D	-	-	-	D	-	-	-	-
TGU	E	-	E	-	D	D	-	-	-	D	-	-	-	-
NAM	E	-	E	-	D	D	-	-	-	D	-	-	-	-
NAR	E	-	E	-	D	D	-	-	-	D	-	-	-	-
Intercoms	E	-	E	-	D	D	D	-	D	D	-	-	D	-
IPPA	E	-	E	-	-	-	D	D	D	D	D	D	D	-
CC	E	-	E	-	-	-	D	D	D	D	-	D	D	-
CI	E	-	E	-	D	-	D	-	D	-	-	D	D	-
CP	E	-	E	-	D	-	D	-	D	D	D	-	-	-
CAC	E	-	E	-	D	D	D	-	-	D	D	D	D	D

Table 7 – Isolated Device: Enabled and Disabled Functions

8.1.7 Configuration Backup and Restore

The Backup and Restore section of the Maintenance Administration screen provides the administrator with the ability to back up the device configuration data, or restore a previous backup of configuration data onto the device. This is suitable single device backup and restore only.

For more information on backup/restore across multiple devices refer to sections 8.2 Maintenance: Backup/Restore Screen.

In the case of a NetSpire CXS or TCX server, it is possible to back up the configuration data for all managed devices if centralised configuration management has been configured for all devices.

For more information on configuration management refer to section 6.13 *Setup: Configuration Management Screen*.

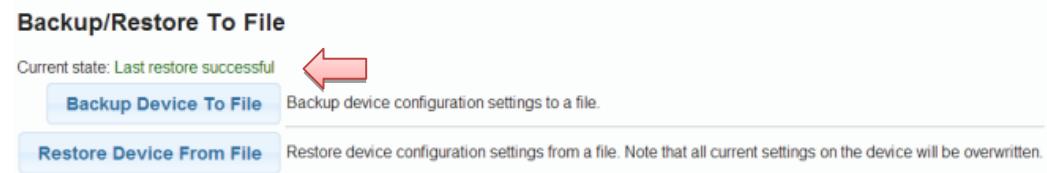


Figure 433 – Administration Maintenance Screen: Backup and Restore Section

The Backup and Restore section also shows the status of the last backup or restore operation performed on the device.

8.1.7.1 Device Configuration Backup

To Back-up the configuration data on a device, click the Backup Device To File button.



Figure 434 – Administration Maintenance Screen: Backup Device To File Button

The system will display a confirmation dialogue asking for confirmation of the Backup operation. Click the Yes button to proceed with the Backup.

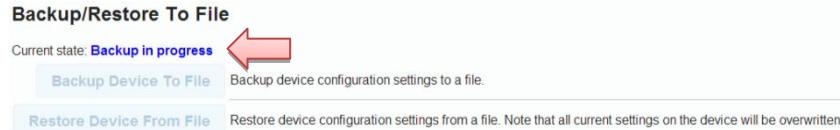


Figure 435 – Administration Maintenance Screen: Backup In Progress Status

The status of the backup will be shown as "Backup in progress" as shown above.

When the backup is complete, a file will automatically begin to be downloaded by the Web Browser.

8.1.7.2 Device Configuration Restore

To restore the configuration on a device from a previous backup, click the Restore Device From File button.

Restore Device From File Restore device configuration settings from a file. Note that all current settings on the device will be overwritten.

Figure 436 – Administration Maintenance Screen: Restore Device From File Button

The Restore Backup File dialogue will be displayed and is shown in the following screenshot:

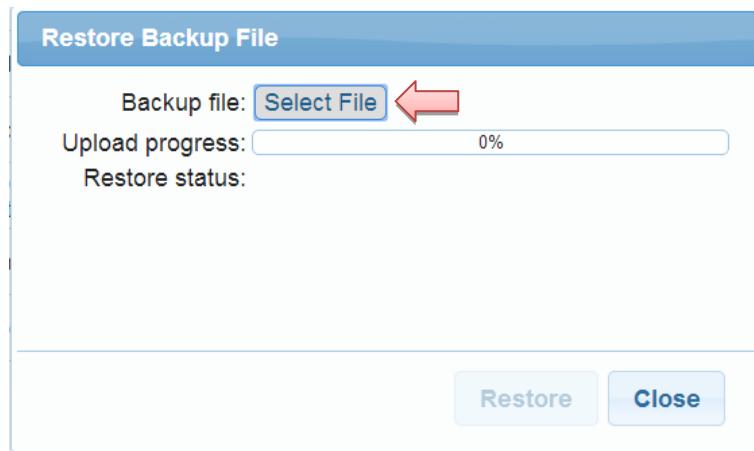


Figure 437 – Restore Backup File Dialogue

Click the Select File button, and choose a previous backup file for the device (or type of device). The file will be loaded and verified by the device. The Restore Backup File dialogue will ask for confirmation of the operation.

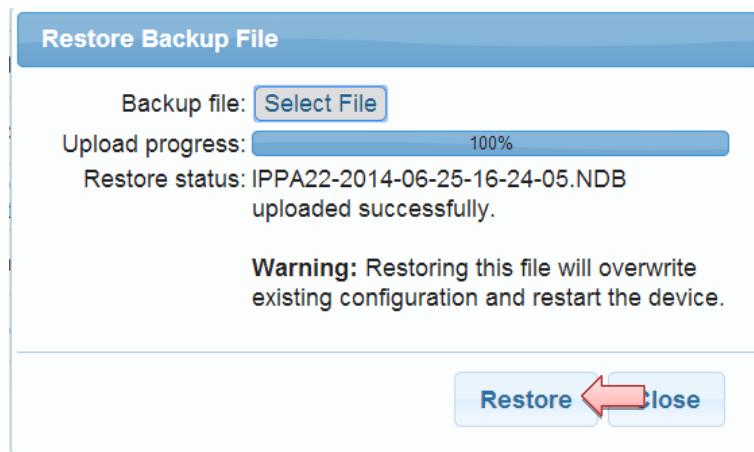


Figure 438 – Restore Backup File Dialogue: Confirm Restore

Click the Restore button to confirm the Configuration data on the device will be overwritten with the configuration data contained in the backup file.

The configuration data will be written to the device, and it will reboot with the new configuration. The Restore Backup File dialogue will display a message alerting the user that the Web Administration Interface will reconnect when the restore is complete.

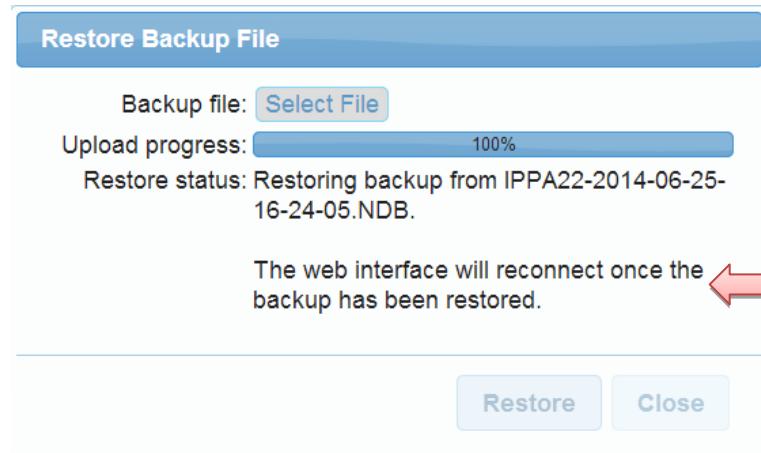


Figure 439 – Restore Backup File Dialogue: Restore Underway

After one or two minutes the web interface will reconnect.

8.2 Maintenance: Backup/Restore Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	X
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Backup/Restore Maintenance screen allows the administrator run diagnostic tests on the device.

The Backup/Restore Administration screen provides the following facilities:

- ▶ Devices
- ▶ Backup Schedules
- ▶ Backup Management

The screenshot shows the CXS Backup/Restore Maintenance screen. At the top, there's a header bar with the CXS logo, a message about 14 unacknowledged alarms, the date (13 Sep 2014), and the time (11:46:26 pm). Below the header is a navigation menu with links for Information, Setup, Operations, Maintenance, and Logout admin. The main content area is titled 'Backup/Restore Management' and contains a table with three tabs at the top: 'Devices' (selected), 'Backup Schedules', and 'Backup Management'. The 'Devices' tab displays a table with the following data:

Actions	Name	Location	Loc. ID	Device Index	Backup Status	Last Backup
<input type="checkbox"/>	IPPA	Not Set	002	002	Idle	
<input type="checkbox"/>	NAR4c	Not Set	100	032	Idle	
<input type="checkbox"/>	CXS	Not Set	104	020	Idle	
<input type="checkbox"/>	NAR4c	Not Set	104	022	Idle	

At the bottom left of the main content area is a blue button labeled 'Backup All Selected'.

Figure 440 – Backup/Restore Maintenance Screen

Each of the facilities provided by the Backup/Restore Administration screen is covered in the following sections:

8.2.1.1 Devices

To Back-up multiple devices, select the devices by clicking the device checkbox OR select all checkbox. Select either Backup All Selected button or Backup Device Icon 

Backup Management						
Actions	Name	Location	Loc. ID	Device Index	Backup Status	Last Backup
<input type="checkbox"/>	IPPA	Not Set	002	002	Idle	
<input checked="" type="checkbox"/>	NAR4c	Not Set	100	032	Idle	
<input type="checkbox"/>	CXS	Not Set	104	020	Idle	
<input checked="" type="checkbox"/>	NAR4c	Not Set	104	022	Idle	

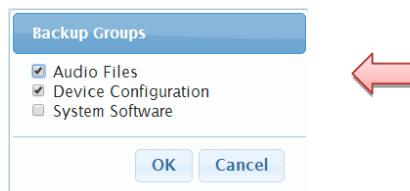
Figure 441 – Backup/Restore Maintenance Screen: Backup Selected Devices

Backup Management						
Actions	Name	Location	Loc. ID	Device Index	Backup Status	Last Backup
<input checked="" type="checkbox"/>	IPPA	Not Set	002	002	Idle	
<input checked="" type="checkbox"/>	NAR4c	Not Set	100	032	Idle	6 Oct 2015 Wed 02:36:18 pm
<input checked="" type="checkbox"/>	CXS	Not Set	104	020	Idle	
<input checked="" type="checkbox"/>	NAR4c	Not Set	104	022	Idle	

Figure 442 – Backup/Restore Maintenance Screen: Backup All Devices

The system will display a dialogue asking for selection of the Backup type.

Select from the Backup groups: Audio file, Device Configuration or System Software. Click the Ok button to proceed with the Backup. Note- one or many of the backup selection can be selected for this backup.

**Figure 443 – Administration Maintenance Screen: Backup Groups**

The system will display a confirmation dialogue asking for confirmation of the Backup operation. Click the Yes button to proceed with the Backup.

Backup Management						
Actions	Name	Location	Loc. ID	Device Index	Backup Status	Last Backup
<input type="checkbox"/>	IPPA	Not Set	002	002	Idle	
<input type="checkbox"/>	NAR4c	Not Set	100	032	Backing Up	
<input type="checkbox"/>	CXS	Not Set	104	020	Idle	
<input type="checkbox"/>	NAR4c	Not Set	104	022	Idle	

Figure 444 – Administration Maintenance Screen: Backup In Progress Status

The status of the backup will be shown as “Backing Up” as shown above. A time stamp of the backup will be managed in the Last Backup tab.

When the backup is complete, a file will automatically store on the NetSpire CXS or TCX.

To restore multiple devices, select the devices by clicking the device checkbox OR select all checkbox. Then select the Restore Device Icon 

Backup Management						
Actions	Name	Location	Loc. ID	Device Index	Backup Status	Last Backup
<input type="checkbox"/>	IPPA	Not Set	002	002	Idle	
<input checked="" type="checkbox"/>	NAR4c	Not Set	100	032	Idle	
<input type="checkbox"/>	CXS	Not Set	104	020	Idle	
<input checked="" type="checkbox"/>	NAR4c	Not Set	104	022	Idle	

Figure 445 – Backup/Restore Maintenance Screen: Restore Selected Devices

Backup Management						
Actions	Name	Location	Loc. ID	Device Index	Backup Status	Last Backup
<input checked="" type="checkbox"/>	IPPA	Not Set	002	002	Idle	
<input checked="" type="checkbox"/>	NAR4c	Not Set	100	032	Idle	6 Oct 2015 Wed 02:36:18 pm
<input checked="" type="checkbox"/>	CXS	Not Set	104	020	Idle	
<input checked="" type="checkbox"/>	NAR4c	Not Set	104	022	Idle	

Figure 446 – Backup/Restore Maintenance Screen: Restore All Devices

The system will display a dialogue asking for selection of the Restore type.

Select the file to restore from the list of backups available in the CXS / TCX.

Secondly Select from the Backup Groups to Restore: Audio file, Device Configuration or System Software. Click the Ok button to proceed with the Restore. Note- one or many of the restore selection can be selected for this restore.

Backup Files					
Backup File to Restore:					
Name	Loc. ID	Device Index	Groups	Time	
NAR4c	100	032	Device Configuration	6 Oct 2015 Tue 02:53:46 pm	
NAR4c	100	032	Device Configuration	6 Oct 2015 Tue 02:36:18 pm	

Backup Groups to Restore:		
<input type="checkbox"/> Audio Files	<input checked="" type="checkbox"/> Device Configuration	<input type="checkbox"/> System Software

OK **Cancel**

Figure 447 – Administration Maintenance Screen: Backup Groups to Restore

Click the Ok button to proceed with the Backup.

Actions	Name	Location	Loc. ID	Device Index	Backup Status	Last Backup
<input type="checkbox"/>	IPPA	Not Set	002	002	Idle	
<input type="checkbox"/>	NAR4c	Not Set	100	032	Restoring	6 Oct 2015 Wed 02:36:18 pm
<input type="checkbox"/>	CXS	Not Set	104	020	Idle	
<input type="checkbox"/>	NAR4c	Not Set	104	022	Idle	

Figure 448 – Administration Maintenance Screen: Restore In Progress Status

The status of the restore will be shown as “Restoring” as shown above.

When the backup is complete, the device will reboot. After one or two minutes, the web interface will reconnect.

8.2.1.2 Backup Schedules

The administrator may create backup schedules in the system.

To create a backup schedule, select the Add Backup Schedule button.



Figure 449 – Backup/Restore Maintenance Screen: Add Backup Schedule

The system will display a dialogue asking to create the Backup Schedule.

Backup Schedule																													
Description:	<input type="text"/>																												
Devices to Backup	<table border="1"> <thead> <tr> <th></th> <th>Name</th> <th>Location</th> <th>Loc. ID</th> <th>Device Index</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/></td> <td>IPPA</td> <td>Not Set</td> <td>002</td> <td>002</td> </tr> <tr> <td><input type="checkbox"/></td> <td>NAR4c</td> <td>Not Set</td> <td>100</td> <td>032</td> </tr> <tr> <td><input type="checkbox"/></td> <td>CXS</td> <td>Not Set</td> <td>104</td> <td>020</td> </tr> <tr> <td><input type="checkbox"/></td> <td>NAR4c</td> <td>Not Set</td> <td>104</td> <td>022</td> </tr> </tbody> </table>					Name	Location	Loc. ID	Device Index	<input type="checkbox"/>	IPPA	Not Set	002	002	<input type="checkbox"/>	NAR4c	Not Set	100	032	<input type="checkbox"/>	CXS	Not Set	104	020	<input type="checkbox"/>	NAR4c	Not Set	104	022
	Name	Location	Loc. ID	Device Index																									
<input type="checkbox"/>	IPPA	Not Set	002	002																									
<input type="checkbox"/>	NAR4c	Not Set	100	032																									
<input type="checkbox"/>	CXS	Not Set	104	020																									
<input type="checkbox"/>	NAR4c	Not Set	104	022																									
Groups to Backup	<input checked="" type="checkbox"/> Audio Files <input checked="" type="checkbox"/> Device Configuration <input checked="" type="checkbox"/> System Software																												
Backup Time	<input type="text" value="16:04"/>																												
Backup on	<input checked="" type="checkbox"/> Mo <input checked="" type="checkbox"/> Tu <input checked="" type="checkbox"/> We <input checked="" type="checkbox"/> Th <input checked="" type="checkbox"/> Fr <input checked="" type="checkbox"/> Sa <input checked="" type="checkbox"/> Su																												
<input type="button" value="OK"/> <input type="button" value="Cancel"/>																													

Figure 450 – Administration Maintenance Screen: Backup Schedule

Enter the description, select the devices to backup, groups to backup, backup time and backup on (Day). Click the Ok button to proceed with the Backup Schedule.

The backup Schedule is added to the schedule list. To modify the existing backup schedule, click the modify button on the schedule. To delete the existing backup schedule, click the delete button on the schedule.

Devices		Backup Schedules	Backup Management		
Actions	Description	Groups	Time	Days	
	Night Backup	Audio Files; Device Configuration; System Software	19:04	Mo Tu We Th Fr Sa Su	

Figure 451 – Administration Maintenance Screen: Backup Schedule List

8.2.1.3 Backup Management

The Backup Management section allows the administrator to control backup management functions available on the system. The Backup Management screen is shown below:

The screenshot shows the 'Backup/Restore Management' screen with the 'Backup Management' tab selected. In the 'Backup File Management' section, there are two input fields: 'Maximum Disk Space' set to 1000 MB and 'Maximum Backup Age' set to 7 Days. Below these fields is a 'Save Backup Configuration' button. The main area displays a table titled 'Backup Files' with two entries. The first entry is for 'NAR4c' with Loc. ID 100, Device Index 032, and Group 'Device Configuration'. The second entry is also for 'NAR4c' with the same details. Both entries show a timestamp of '6 Oct 2015 Tue 02:53:46 pm' and a size of '59.0 KB'. At the bottom of the table, it says '118.0 KB'. At the very bottom of the screen are two buttons: 'Refresh Backup List' and 'Delete Selected Backup Files'.

Figure 452 – Administration Maintenance Screen: Backup Management

Maximum Disk Space

The Maximum Disk Space in the Backup File Management table, allows the administrator to enter the maximum disk space allocated for backup in the system in Mb.

A close-up view of the 'Maximum Disk Space' input field. The field contains the value '1000 MB'. A red arrow points to the right side of the input field, indicating where a user might click to change the value.

Figure 453 – Administration Maintenance Screen: Maximum Disk Space

Maximum Backup Age

The Maximum Backup Age in the Backup File Management table, allows the administrator to enter the maximum backup age for storing backups in the system in days.

A close-up view of the 'Maximum Backup Age' input field. The field contains the value '7 Days'. A red arrow points to the right side of the input field, indicating where a user might click to change the value.

Figure 454 – Administration Maintenance Screen: Maximum Backup Age

Press the Save Backup Configuration Button after any changes in this section.

To view and delete backup in the system, select the devices by clicking the device checkbox
OR select all checkbox in the Backup File table.

Backup Files						
	Name	Loc. ID	Device Index	Groups	Time	Size
<input checked="" type="checkbox"/>	NAR4c	100	032	Device Configuration	6 Oct 2015 Tue 02:53:46 pm	59.0 KB
<input checked="" type="checkbox"/>	NAR4c	100	032	Device Configuration	6 Oct 2015 Tue 02:36:18 pm	59.0 KB

Figure 455 – Administration Maintenance Screen: Backup Files List

The Backup Files table lists the backup content such as Name, Location ID, Device index, Groups, Time and Size. The total backup size is list on the bottom of the table.

8.3 Maintenance: Diagnostics Screen

Supported by	
CXS	X
IPPA	X
NAR	X
NAC	X
NAM	X
TCX	X
TGU	X
CI	X
CP	X
CC	X
CAC	X
PEI	X

The Diagnostics Maintenance screen is supported by all NetSpire devices and allows the administrator run diagnostic tests on the device.

The screenshot shows the 'Diagnostics' maintenance screen. At the top, there's a navigation bar with links for 'Information', 'Setup', 'Maintenance', and 'Logout admin'. Below the navigation bar, the 'Diagnostics' section is divided into two main sections: 'Self Test' and 'Ping Test'. The 'Self Test' section contains a message 'Current status: Unit Healthy' and a blue 'Initiate Self Test' button. The 'Ping Test' section has input fields for 'Host address/name to ping:' and 'Ping count:' (set to 3), and a large text area for 'Ping results:' which is currently empty. At the bottom of the 'Ping Test' section are two buttons: 'Clear Ping Results' and 'Start Ping'.

Figure 456 – Diagnostics Maintenance Screen

The Diagnostics Maintenance screen has two sections:

- ▶ Self Test
- ▶ Ping Test

8.3.1 Self Test Diagnostics

The Self Test section allows the administrator to initiate self health tests for a device. To initiate self tests, click the Initiate Self Test button.



Figure 457 – Diagnostics Maintenance Screen: Self Test Section

The result of the self test will be shown above the button.

8.3.2 Ping Test Diagnostics

The Ping Test section allows the administrator to initiate a basic ping test for checking network connectivity to other IP devices on the network.

Ping Test

Host address/name to ping:

Ping count:

Ping results:

```
Pinging '192.168.9.22' 3 times. Please wait...
PING 192.168.9.22 (192.168.9.22): 56 data bytes
64 bytes from 192.168.9.22: seq=0 ttl=64 time=0.528 ms
64 bytes from 192.168.9.22: seq=1 ttl=64 time=0.398 ms
64 bytes from 192.168.9.22: seq=2 ttl=64 time=0.398 ms

--- 192.168.9.22 ping statistics ---
3 packets transmitted, 3 packets received, 0% packet loss
round-trip min/avg/max = 0.398/0.441/0.528 ms
```

Clear Ping Results **Start Ping**

Figure 458 – Diagnostics Maintenance Screen: Ping Test Section

To initiate a ping test:

- ▶ Enter the IP Address
- ▶ Change the ping count (if required)
- ▶ Click the Start Ping Button

The results of the ping test will be shown in the Ping Results text area.

8.4 Maintenance: Redundancy Screen

Supported by	
CXS	X
IPPA	
NAR	
NAC	
NAM	
TCX	X
TGU	
CI	
CP	
CC	
CAC	
PEI	

The Maintenance Redundancy screen is supported by NetSpire CXS and NetSpire TCX devices and allows the administrator control the failover between redundant servers manually.

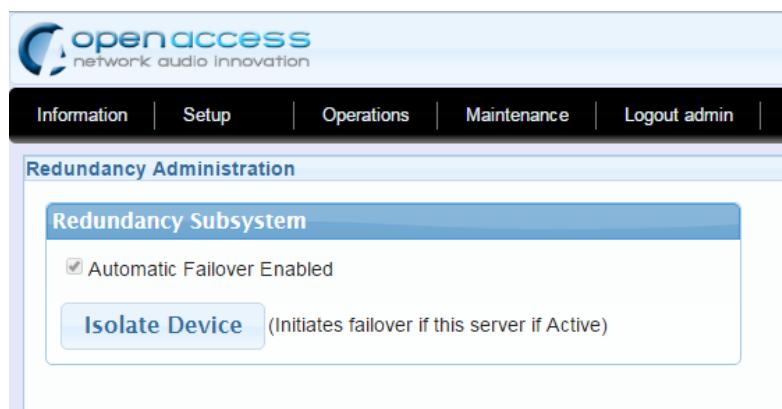


Figure 459 - Maintenance: Redundancy

The Maintenance Redundancy screen provides the following facilities:

Automatic Failover Enabled

The automatic Failover Enabled checkbox allows an administrator to disable automatic server failover. This may be useful when fixing a server failure and preventing the server coming online and taking the role of Active while the problem is still being resolved. In the current version of the interface this checkbox is disabled, and always checked.

Device Isolation

The Isolate Device button can be used to isolate the current server. If the server is Active, the system will failover to a redundant server in the pool, if one is available and eligible for election.

For more information on redundancy and failover refer to sections 5.7 *Information: Redundancy Screen* and 6.23 *Setup: Redundancy Screen*.