

# QX-mini

Emergency and Fire Alarm Audio System





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## 1.0 Introduction

This document provides information on programming the QX-mini Emergency and Fire Alarm Audio System.

Mircom strives to offer the highest quality products and services. To that end we encourage you to contact us with any inquiries, feedback or assistance you may require.

If you have any questions or concerns, please contact the Application Group at:  
**[applicationgp@mircomgroup.com](mailto:applicationgp@mircomgroup.com)**

## 2.0 Working with the Configurator

Supported Operating Systems: Windows 7, Windows 8 and Windows 10.

### 2.1 Creating a New Job

1. Open the MGC Emergency Communication Systems (ECS) configurator.
2. Click “New Job”.

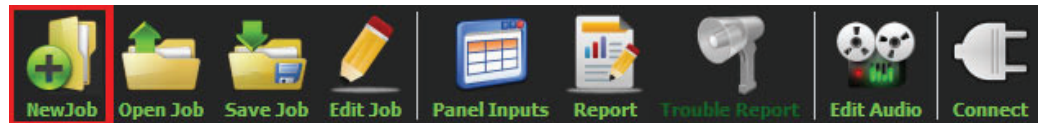
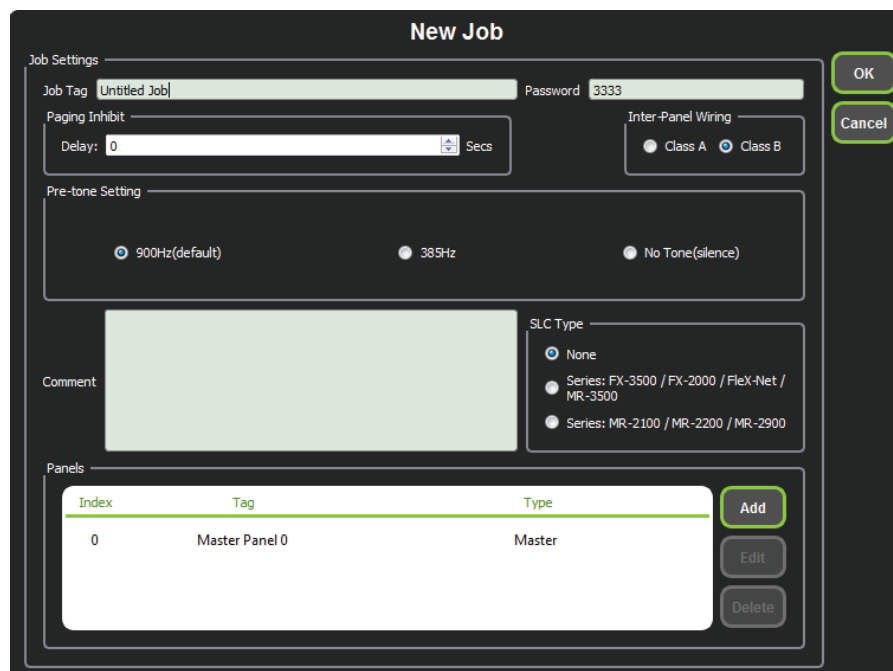


Figure 1 New Job button

3. Fill in the information in the “New Job” window. In order to add booster panels, click “Add” under “Panels”.



**New Job**

Job Settings

Job Tag:  Password:

Paging Inhibit: Delay:  Secs

Inter-Panel Wiring: ☐ Class A ☒ Class B

Pre-tone Setting

☒ 900Hz(default) ☐ 385Hz ☐ No Tone(silence)

Comment:

SLC Type

☒ None

☐ Series: FX-3500 / FX-2000 / Flex-Net / MR-3500

☐ Series: MR-2100 / MR-2200 / MR-2900

Panels

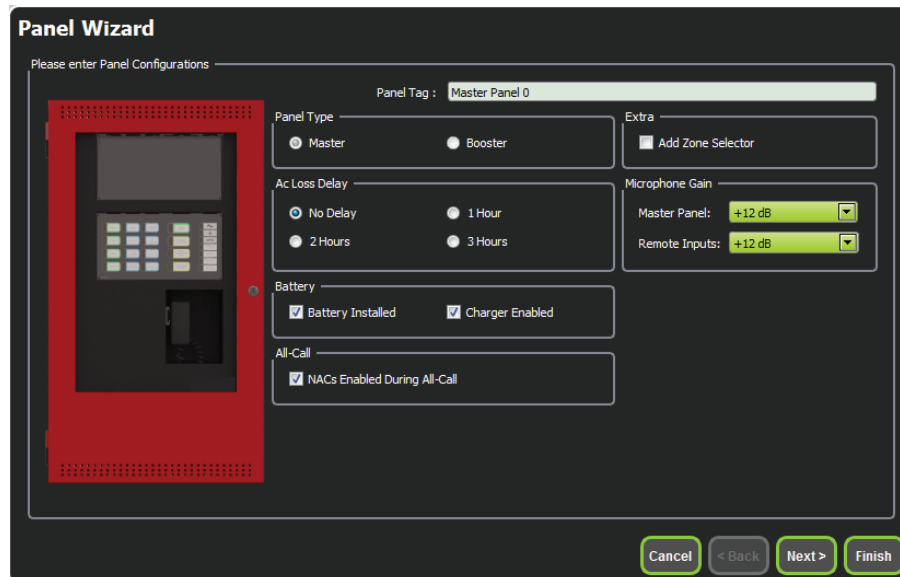
Index	Tag	Type
0	Master Panel 0	Master

Figure 2 New Job window

4. In the Pre-Tone Setting box, select the kind of pre-tone, or “No Tone”. If a pre-tone is selected, then the QX-mini automatically plays a pre-announcement tone when the operator holds down the push-to-talk (PTT) button on the microphone.
5. In the SLC box, select the appropriate SLC type. If relay input is being used then select “None”.

**Note:** A password is needed to re-open the job once it has been closed.

6. In the Edit Job window, click “Master Panel 0” then click “Edit” to make further changes to the job. Click “Add Zone Selector” if an extra zone selector has been installed. Microphone gain can be selected as per requirements.



**Panel Wizard**  
Please enter Panel Configurations

Panel Tag : Master Panel 0

Panel Type  
☒ Master  
☐ Booster

Extra  
☐ Add Zone Selector

Ac Loss Delay  
☒ No Delay  
☐ 1 Hour  
☐ 2 Hours  
☐ 3 Hours

Microphone Gain  
 Master Panel: +12 dB  
 Remote Inputs: +12 dB

Battery  
☒ Battery Installed  
☒ Charger Enabled

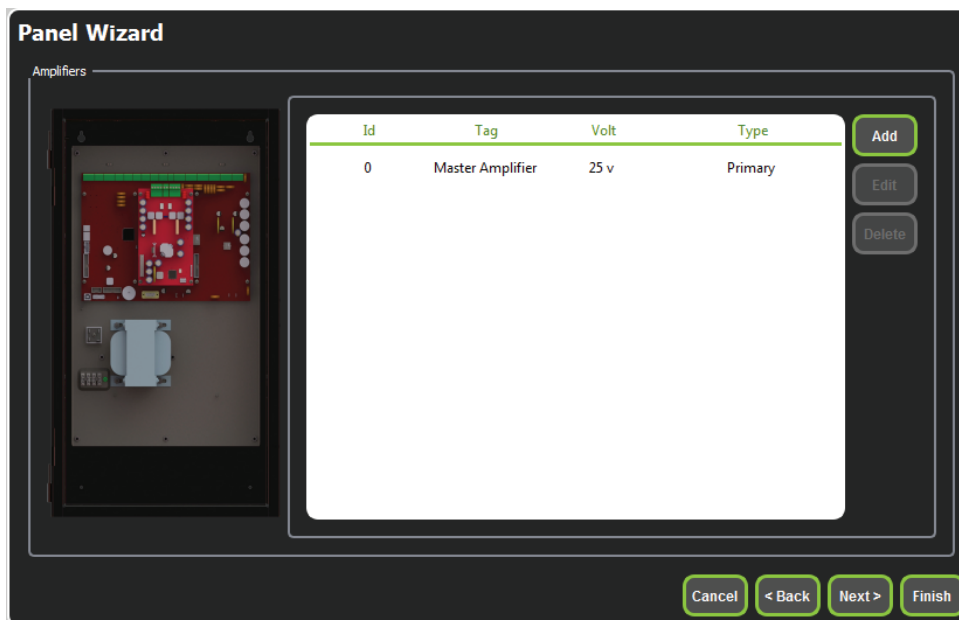
All-Call  
☒ NACs Enabled During All-Call

Cancel < Back Next > Finish

**Figure 3** Edit Job window

**Note:** "NAC's enabled during All-Call" feature allows strobes to flash while paging. If strobes are not required to flash during 'all call', this feature must be unselected.

7. Primary amplifier is included in the job by default. If a second amplifier has been installed, it can be configured by clicking “Add” under the “Amplifiers” window.



**Panel Wizard**  
Amplifiers

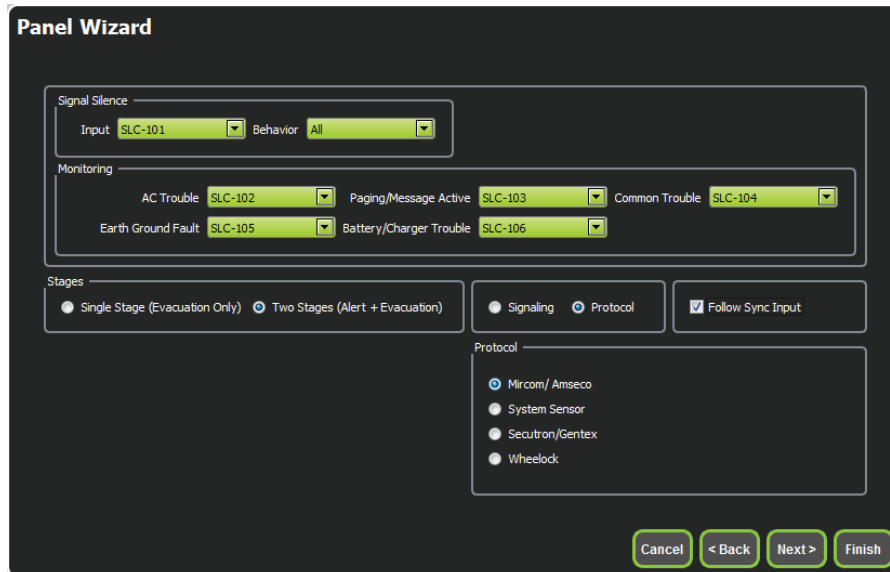
Id	Tag	Volt	Type
0	Master Amplifier	25 v	Primary

Add  
Edit  
Delete

Cancel < Back Next > Finish

**Figure 4** Amplifiers window

8. If using SLC, click 'next' until the window shown below appears. Choose the same corresponding addresses as used in the FACP for each reporting function. If one relay input is being used, you must select "Single Stage". Also, monitoring points will not be available when "None" has been selected as SLC type.



**Panel Wizard**

Signal Silence  
Input: SLC-101 Behavior: All

Monitoring  
AC Trouble: SLC-102 Paging/Message Active: SLC-103 Common Trouble: SLC-104  
Earth Ground Fault: SLC-105 Battery/Charger Trouble: SLC-106

Stages  
☐ Single Stage (Evacuation Only) ☒ Two Stages (Alert + Evacuation)

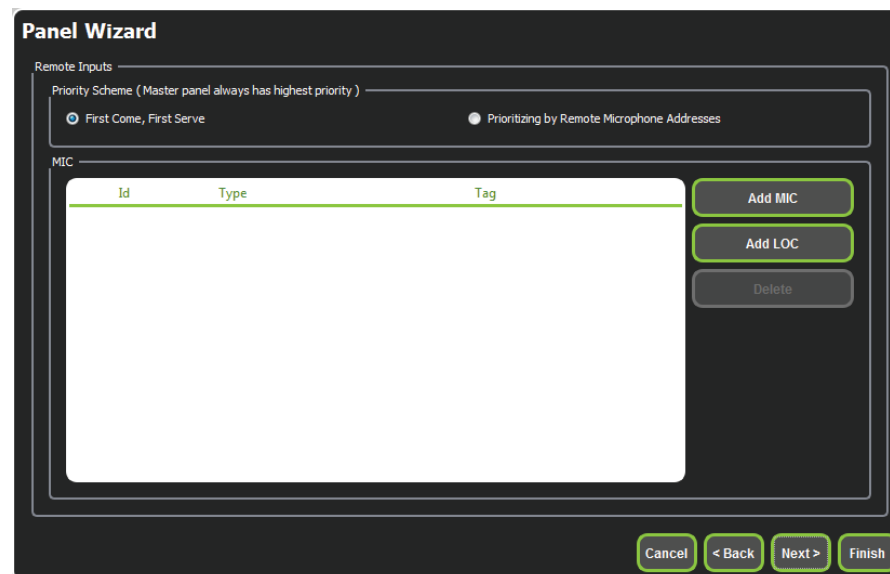
☐ Signaling ☒ Protocol ☒ Follow Sync Input

Protocol  
☒ Mircom/ Amseco  
☐ System Sensor  
☐ Secutron/Gentex  
☐ Wheelock

Cancel < Back Next > Finish

**Figure 5 Monitoring**

9. If NACs on FACP need to be in sync with NACs on QX-mini, select appropriate stage, strobe protocol, and select "Follow Sync Input".
10. Remote microphones ("Add MIC") and LOCs ("Add LOC") can be added as per requirement. Two priority schemes can be selected: "First come, first serve" and "Prioritize by remote microphone addresses" depending on the application. Master panel always has highest priority.



**Panel Wizard**

Remote Inputs  
Priority Scheme (Master panel always has highest priority)  
☒ First Come, First Serve ☐ Prioritizing by Remote Microphone Addresses

MIC

Id	Type	Tag

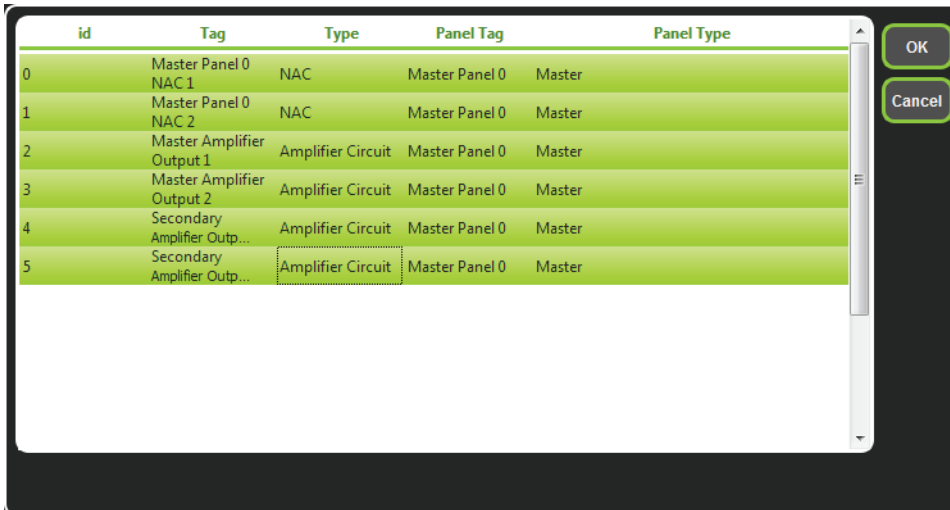
Add MIC  
Add LOC  
Delete

Cancel < Back Next > Finish

**Figure 6 Remote microphones**



11. Create zones as per requirement. Correlate these zones to appropriate NACs and speaker outputs.



id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

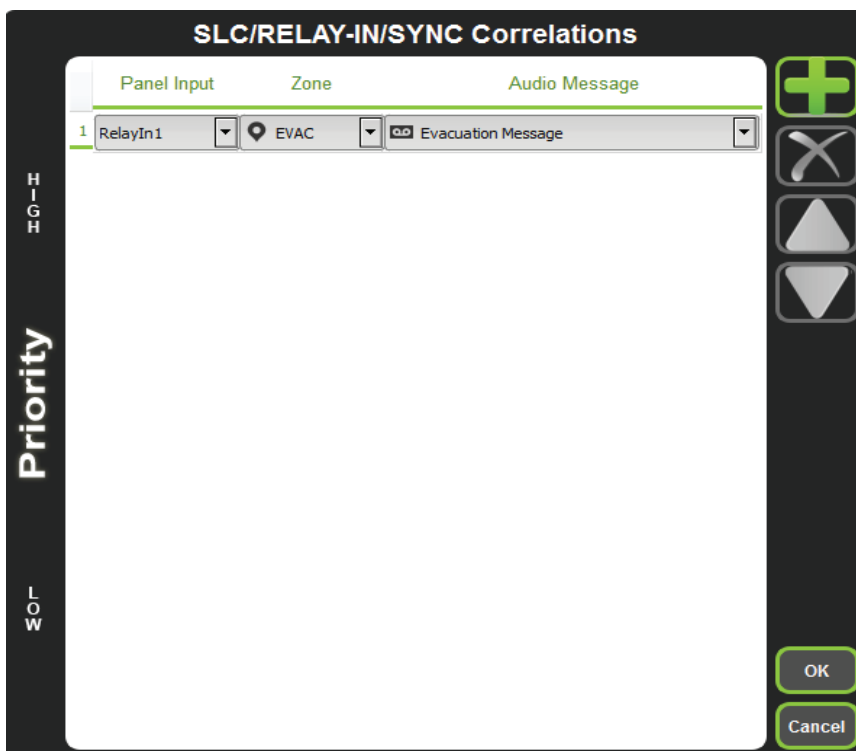
Figure 7 Zones

## 2.2 Panel Inputs

After zones are correlated to desired outputs, they can be assigned to SLC addresses, relay inputs or sync inputs for activation.

### 2.2.1 Relay/Sync Input Correlation

1. Click on panel inputs, click on the '+' sign. Select 'RelayIn' or 'Sync1' depending on the application. Select appropriate zone and audio message.



Panel Input	Zone	Audio Message
RelayIn1	EVAC	Evacuation Message

Figure 8 SLC/RELAY-IN/SYNC Correlations

## 2.2.2 SLC Input Correlation

1. Click on panel inputs, click on the '+' sign. Select Panel input address to activate EVAC zone. Ensure this address corresponds to "supervised output module" in the FACP job.

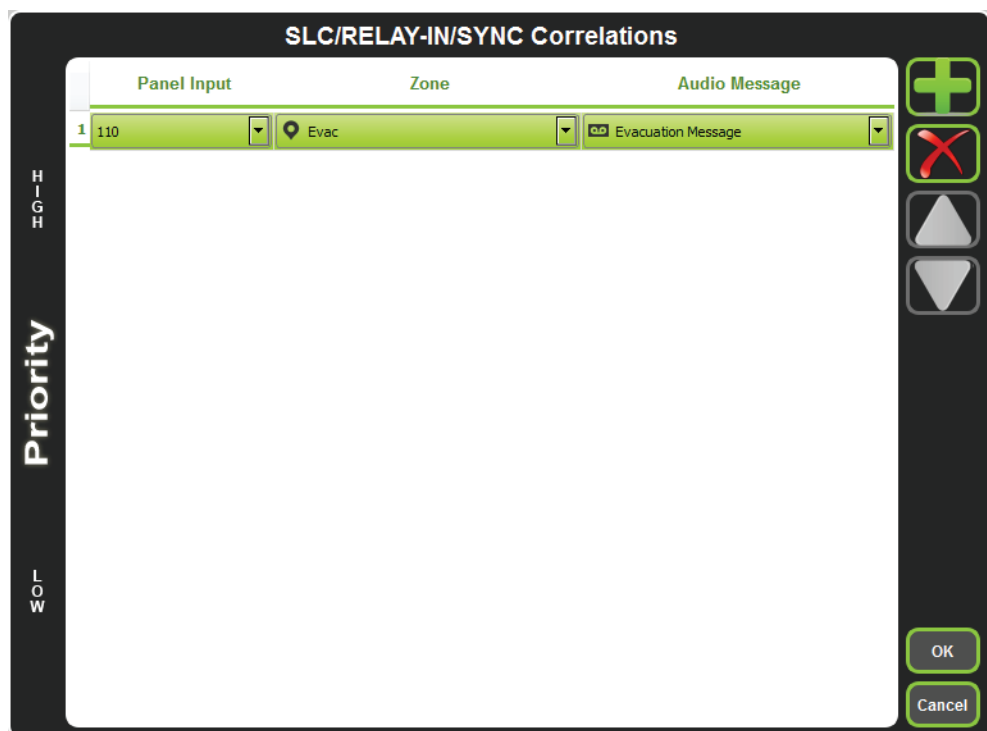


Figure 9 SLC/RELAY-IN/SYNC Correlations

## 2.3 Configuring Audio Messages

1. Click on "Edit Audio".

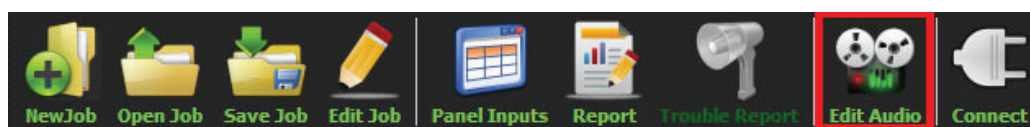
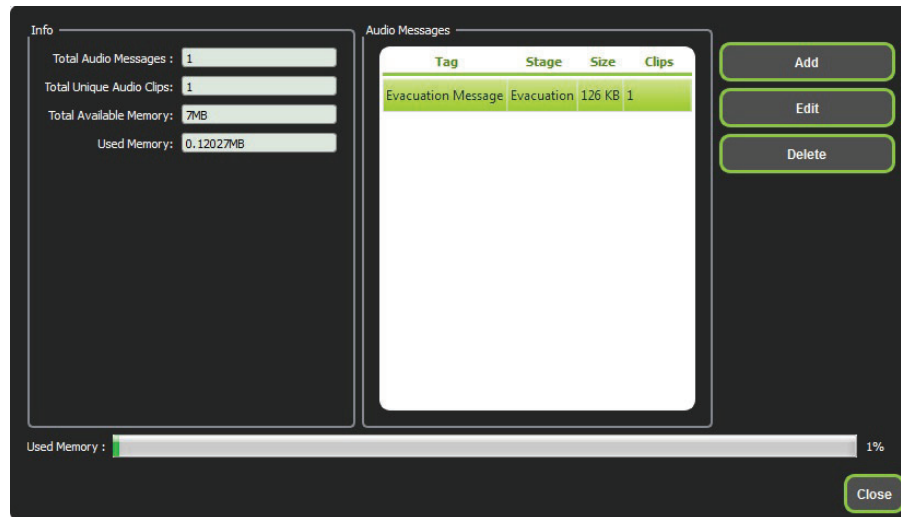


Figure 10 Edit Audio button

2. An evacuation message has already been configured by default. More messages can be added from existing library in the configurator by clicking “Add”.



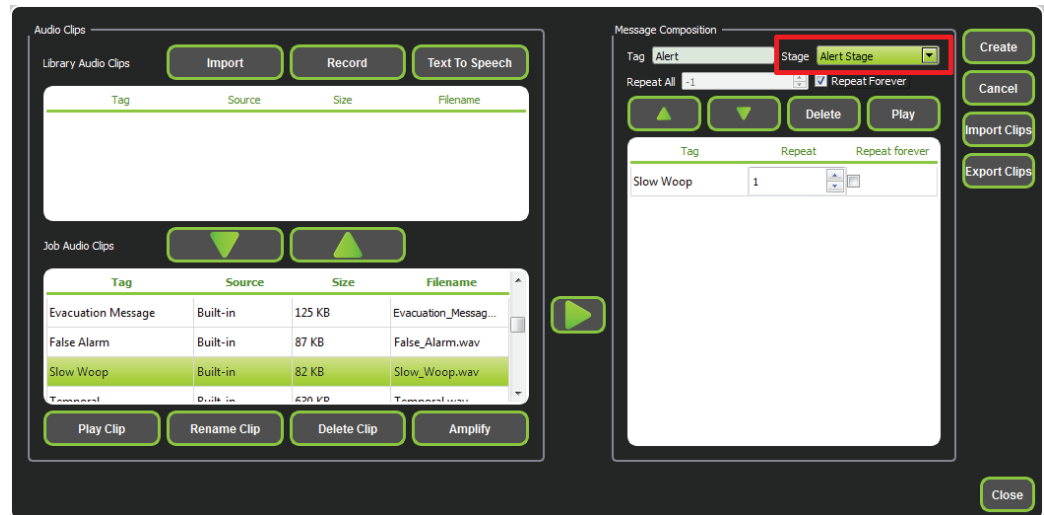
**Figure 11 Audio Messages**

3. Select audio clips from the library on the left and compose a message. Clips can be imported, recorded and created using “Text to Speech” feature. All audio formats are converted automatically when imported into QX-mini.



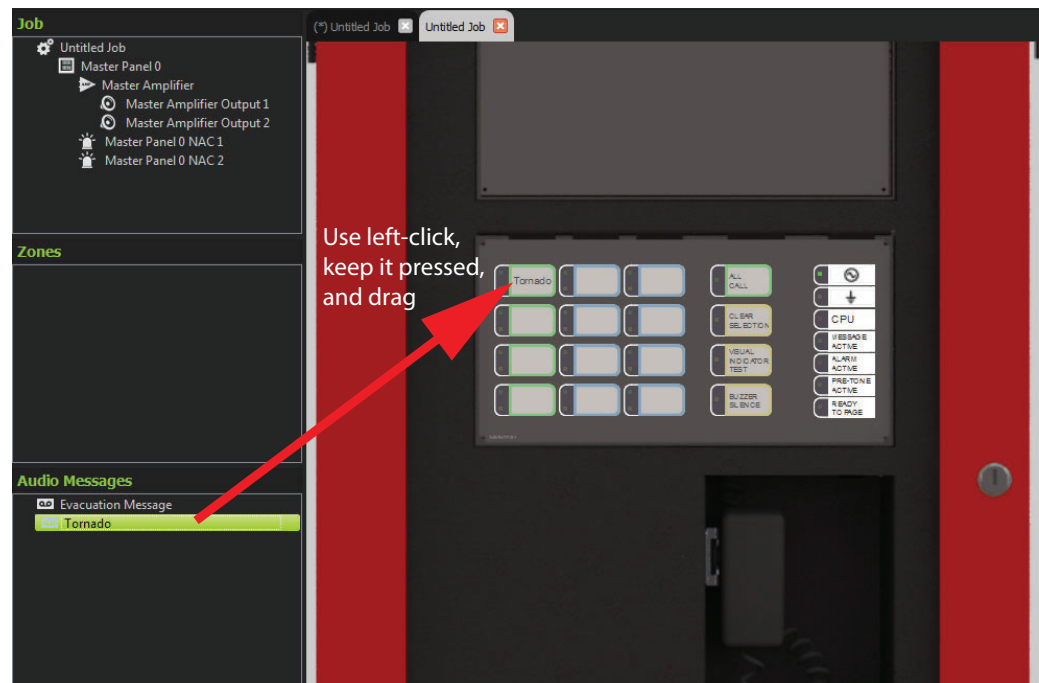
**Figure 12 Audio Clips**

4. Under message composition, when creating messages for evacuation and alert, ensure stage for evacuation, and alert is selected from the drop down as shown below. For any other messages, "manual" must be selected.



**Figure 13 Alert Stage**

5. Messages can be assigned to switches by using left click on the mouse, keeping it pressed and dragging the message to the appropriate switch.



**Figure 14 Click and drag the message to the appropriate switch**

- Zones can be assigned to switches similarly as shown in step 5.



Figure 15 Click and drag the zone to the appropriate switch

## 2.4 Saving a Job

- Click "Save Job". The Configurator does not automatically save the job.

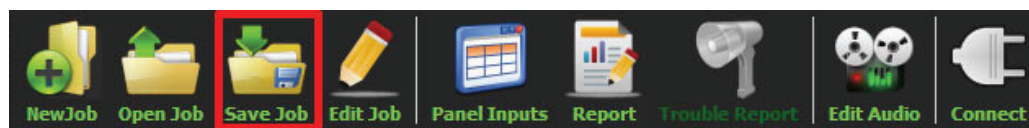


Figure 16 Save Job button

## 2.5 Connecting to a Panel

- Use the USB connector to connect to the USB port (JP1) on the panel.
- Click "Connect".

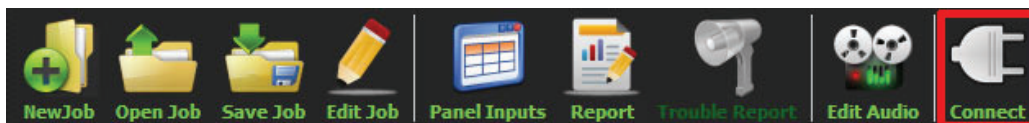


Figure 17 Connect button

3. Serial port is automatically detected. Click “OK”.

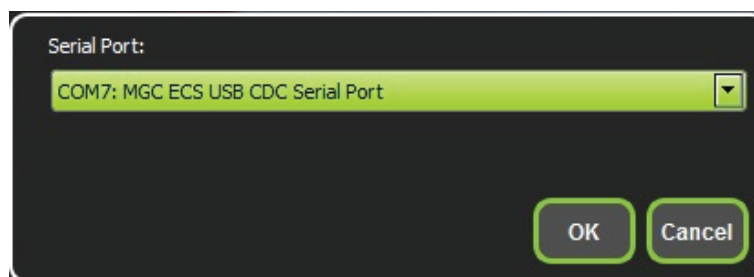


Figure 18 Serial port

## 2.6 Sending a Job



**Attention:** You must send the job to the Master and Booster panels individually.

Ensure that you are connected to the correct panel before you send the job.

1. Click “Send Job”.

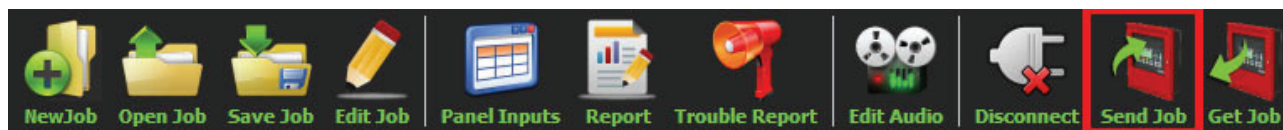


Figure 19 Send Job button

2. Do not unplug USB cable until job send is complete and connection is automatically disconnected.

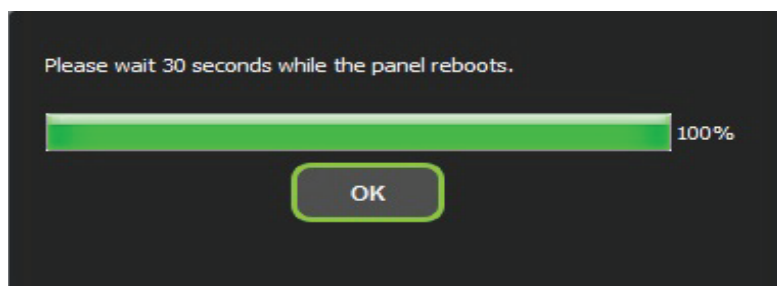


Figure 20 Please wait 30 seconds while the panel reboots

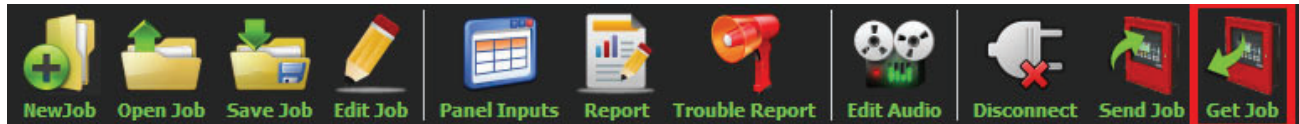
3. After job has been successfully sent to panel, connection will be lost. Disconnect the USB connector and wait for the panel to reboot.

## 2.7 Getting the Job



**Attention:** The Get Job feature works only with firmware and ECS configurator versions 2.1.4 and higher.

1. Click “Get Job”.



**Figure 21** Get Job button

2. Choose a location to save the job to, and choose a name for the job.  
A window appears saying that the job was successfully uploaded from the panel.
3. Click “OK”.
4. Enter the password assigned to this job.  
The configurator displays the job.



**Note:** A job that you get from the panel has the **qx2** extension. When you save the job in the configurator, it has the **qxm** extension. In this way, you can distinguish between jobs that you get from the panel and jobs that you have modified with the configurator.

## 2.8 Backup Amplifier

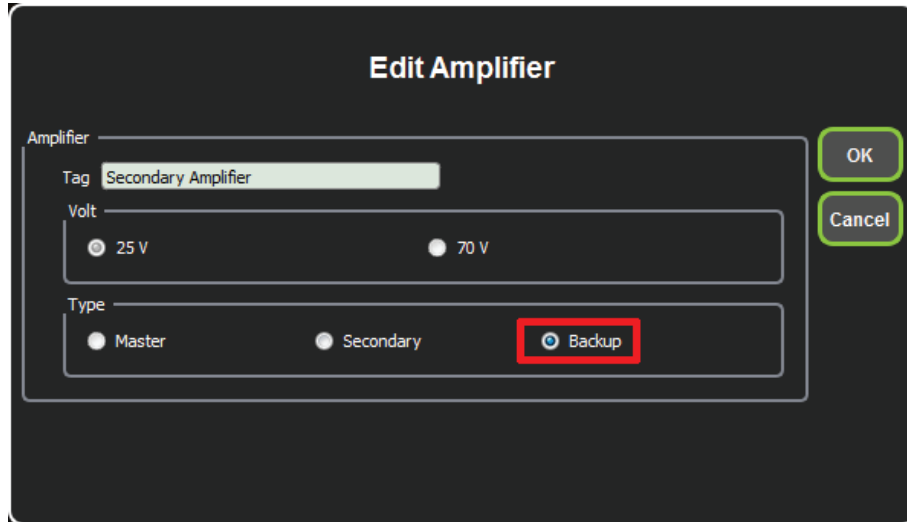
The secondary amplifier can be configured as a backup. If the master amplifier fails, the backup amplifier takes over.

Wire the backup amplifier as shown in LT-2077 QX-mini Installation Manual.

### To enable a backup amplifier

1. In the Edit Job window, click “Master Panel 0” then click “Edit”.
2. Click “Next”.
3. In the Amplifiers window, click “Add” to add a secondary amplifier. If there already is a secondary amplifier, select it, then click “Edit”.

4. Select "Backup".



**Figure 22** Configure a backup amplifier

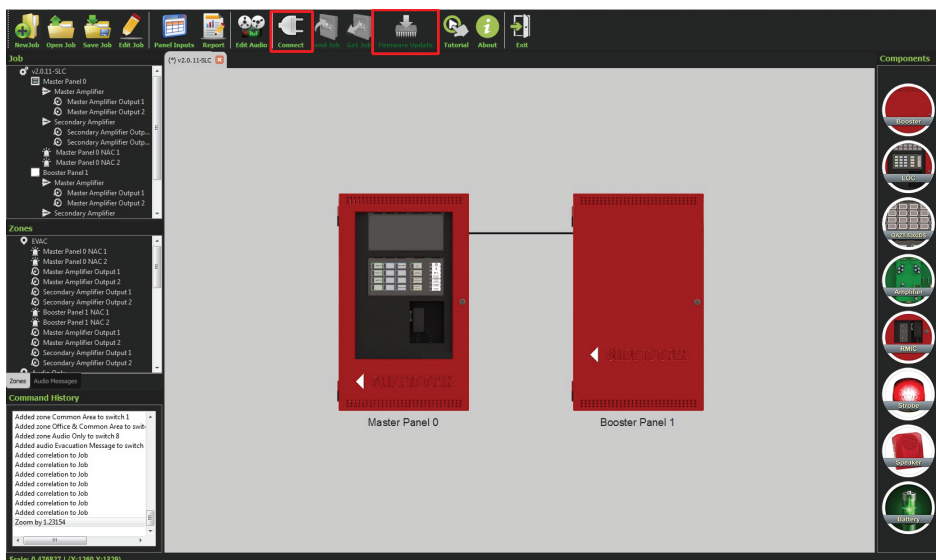
5. Click "OK".



## 3.0 Firmware Upgrade

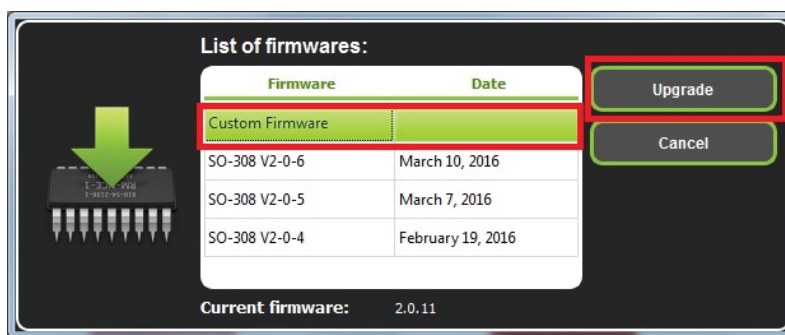
**Note:** Firmware upgrade must be performed to both the Master and Booster units individually.

1. Open the MGC Emergency Communication Systems (ECS) configurator.
2. Connect to the panel and then click "Firmware Upgrade"



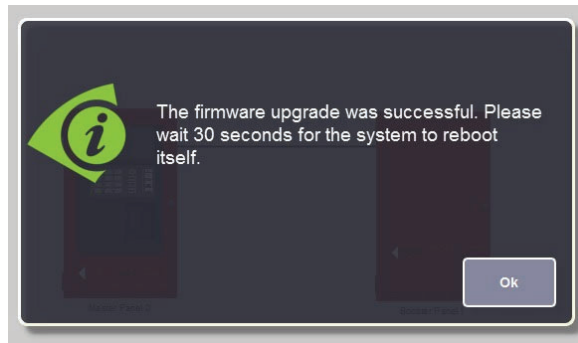
**Figure 23** Firmware Upgrade

3. Choose the latest firmware from the list and click "upgrade". If firmware file is saved on the computer, click on "Custom Firmware" and then click "Upgrade". Select the appropriate file.



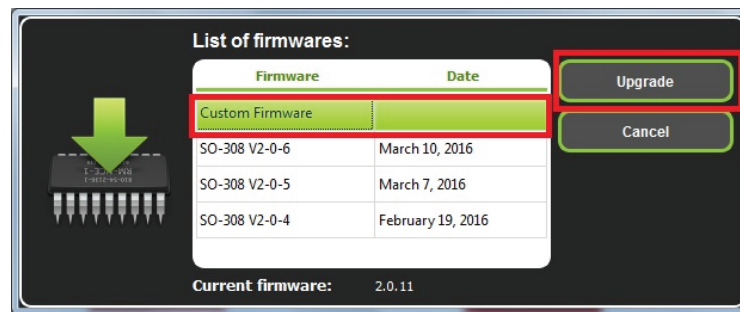
**Figure 24** List of firmwares

**Note:** Upgrade process takes approximately 1 minute. Wait for the following window before disconnecting.



**Figure 25** The firmware upgrade was successful

4. Once the upgrade is complete, reconnect and confirm the firmware version by clicking "Firmware Upgrade". The now current version is displayed at the bottom of the window.



**Figure 26** List of firmwares

**Note:** ECS configurator has audible notification feature which notifies you, the user, of firmware version. In order to confirm firmware version, ensure that computer volume is high.

## 4.0 SLC Integration - QX-mini and FleX-Net™ - Two Stage

### 4.1 Introduction

The QX-mini is designed to interface with Mircom FACP's over an SLC link where it is seen as a number of "virtual devices." This single link allows for zone-by-zone automatic control as well as specific trouble reporting back to the FACP.

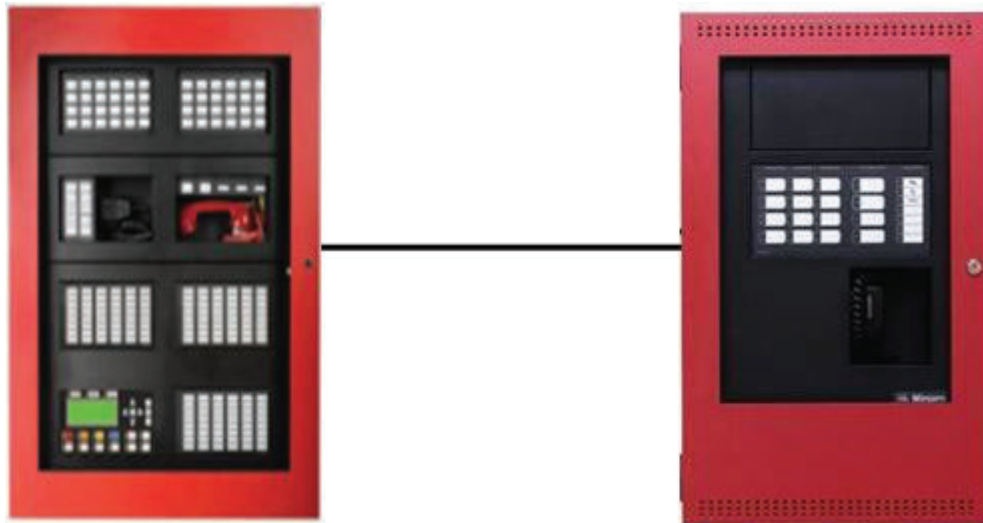


Figure 27 QX-mini and FleX-Net™

## 4.2 Wiring

For SLC integration: Connect wire from preferred loop of FleX-Net™ to SLC terminal on QX-mini Master.

**Note:** If system is comprised of a QX-mini Master and booster panels, only the QX-mini Master must be wired with FACP.

### 4.2.1 SLC-Class A

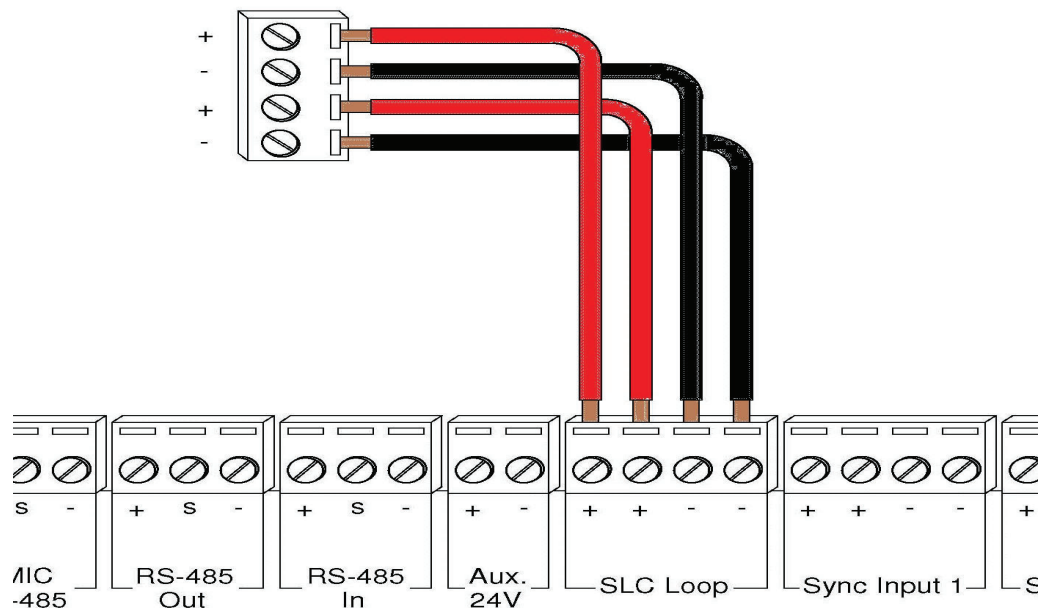


Figure 28 Class A wiring to connect FACP with QX-mini Master via SLC link

### 4.2.2 SLC-Class B

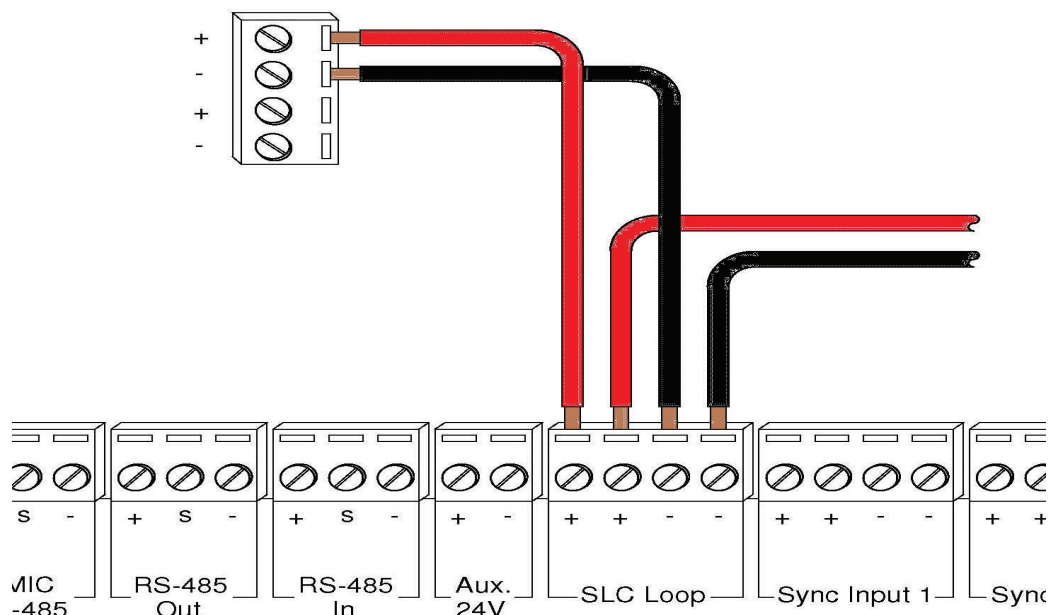
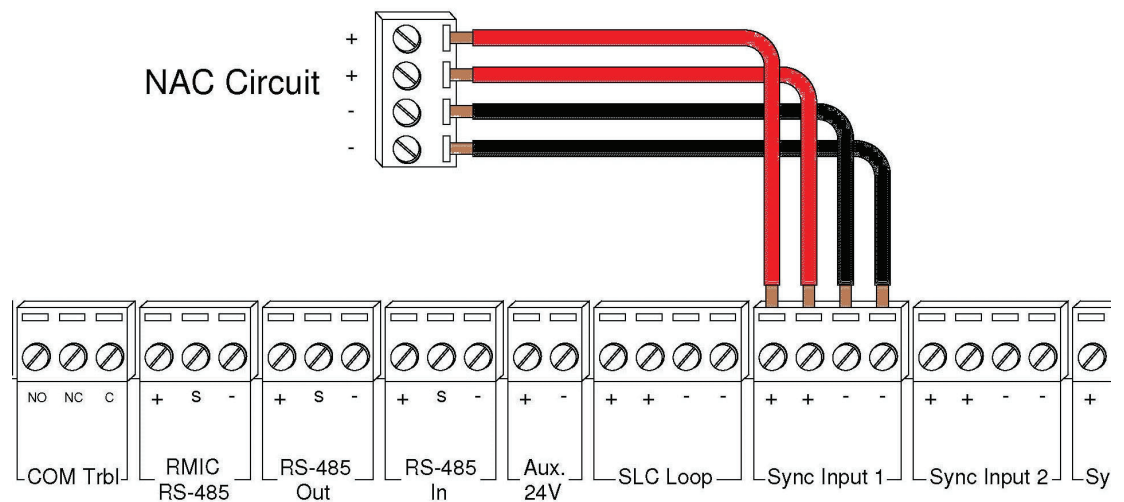


Figure 29 Class B wiring to connect FACP with QX-mini Master via SLC link

**Note:** If QX-mini system is required to follow sync from FACP, refer to below

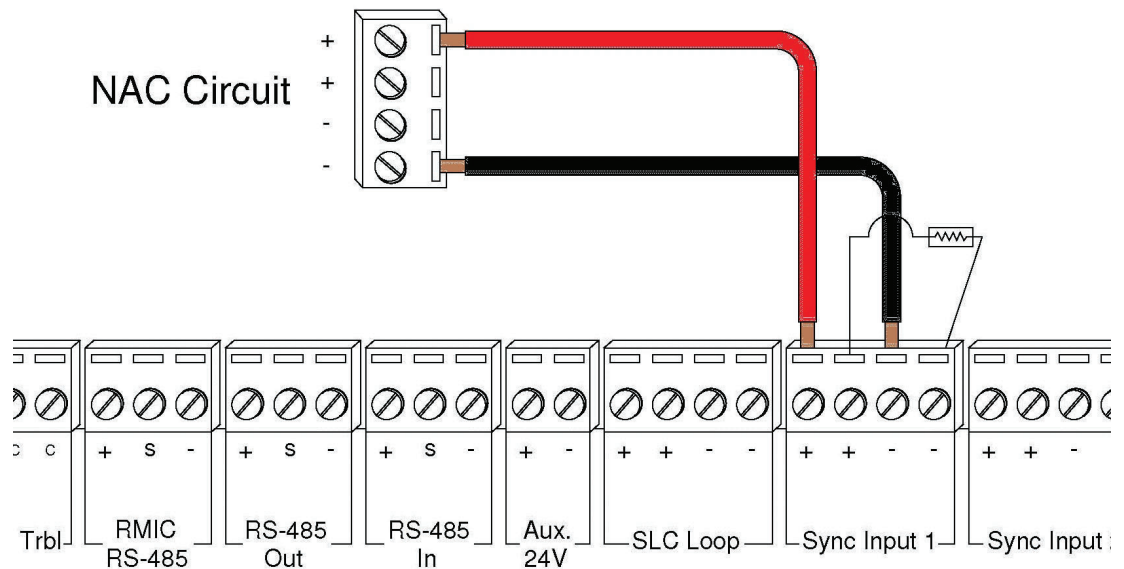
diagrams for wiring.

### 4.2.3 SYNC-Class A



**Figure 30 Class A Sync**

### 4.2.4 SYNC-Class B



**Figure 31 Class B Sync**

## 4.3 Configuration Steps

### 4.3.1 FleX-Net™ Configuration

1. Open FleX-Net™ configurator.
2. Create a new job or open an existing job.
3. Click on the loop that has been wired to SLC terminal on QX-mini Master.
4. Configure the loop as shown in the window below. See section 4.4 on page 26 for details.

**Note:** These devices are integrated in QX-mini as “virtual devices” and do not need to be physically installed on the loop. The number of “virtual SLC devices” depends on your configuration – you can use as many as your job requires.

Addr	Device	Type	SubType	F.	F2	F..	F4	S.	S	S	S	Tag (Line1)	Tag (Line2)
101	Ipt Module	Priority Alm	Manual Station									Pull Station	
103	Ipt Module	Trouble Input	Monitor Input									Common Trouble	
104	Relay Opt Mod	Relay	None									Signal Silence	
105	Ipt Module	Monitor	Monitor Input									Paging/Message	
106	Ipt Module	Trouble Input	Monitor Input									AC Trouble	
107	Ipt Module	Trouble Input	Monitor Input									Battery/Charger Trbl	
108	Ipt Module	Trouble Input	Monitor Input									Ground Fault	
130	Supv Opt Mod	Signal	None									1st Floor	Alert
131	Supv Opt Mod	Signal	None									2nd Floor	Alert
132	Supv Opt Mod	Signal	None									3rd Floor	Alert
133	Supv Opt Mod	Signal	None									4th Floor	Alert
134	Supv Opt Mod	Signal	None									5th Floor	Alert
135	Supv Opt Mod	Signal	None									6th Floor	Alert
150	Relay Opt Mod	Relay	None									1st Floor	Evac
151	Relay Opt Mod	Relay	None									2nd Floor	Evac
152	Relay Opt Mod	Relay	None									3rd Floor	Evac
153	Relay Opt Mod	Relay	None									4th Floor	Evac
154	Relay Opt Mod	Relay	None									5th Floor	Evac
155	Relay Opt Mod	Relay	None									6th Floor	Evac

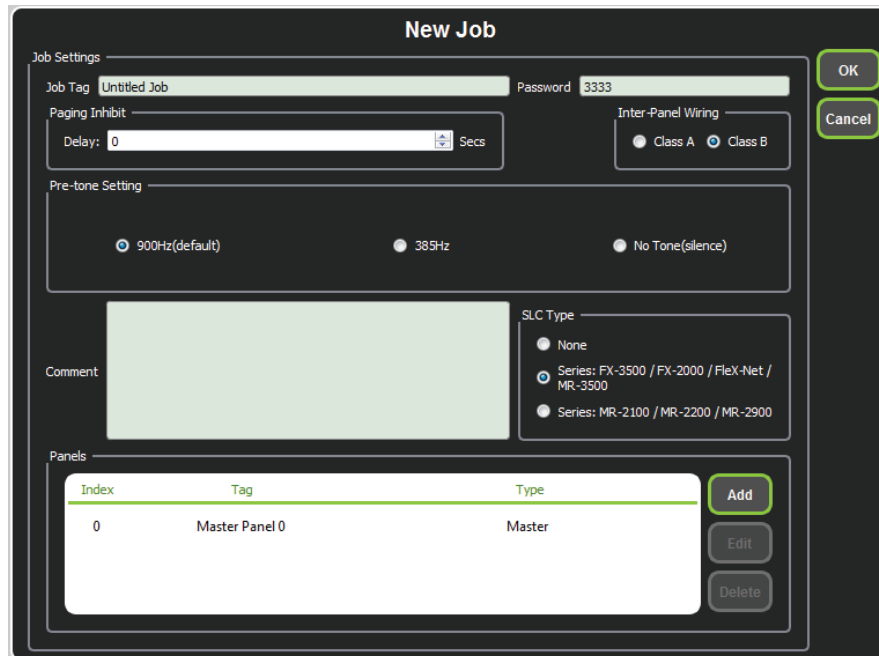
**Figure 32** Configure supervised output module for alert stage and relay output module for evac stage.

5. Ensure all the addresses are correct and job is validated. Connect to the FleX-Net™ panel and send the job.

### 4.3.2 QX-mini Steps

**Note:** Until the QX-mini Master is connected and configured, missing device troubles can be ignored.

1. Open MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job specifically.
4. Define timing for page inhibit delay as per requirements.
5. Select either Class A or Class B depending on the inter-panel wiring.
6. Click on “New Job” or “Edit Job” for an existing file and choose the SLC Type (Series: FX-3500/FX-2000/FleX-Net™/MR-3500).



**New Job**

Job Settings

Job Tag:  Password:

Paging Inhibit

Delay:  Secs

Inter-Panel Wiring

☐ Class A ☒ Class B

Pre-tone Setting

☒ 900Hz(default) ☐ 385Hz ☐ No Tone(silence)

Comment

SLC Type

☐ None ☒ Series: FX-3500 / FX-2000 / FleX-Net / MR-3500 ☐ Series: MR-2100 / MR-2200 / MR-2900

Panels

Index	Tag	Type
0	Master Panel 0	Master

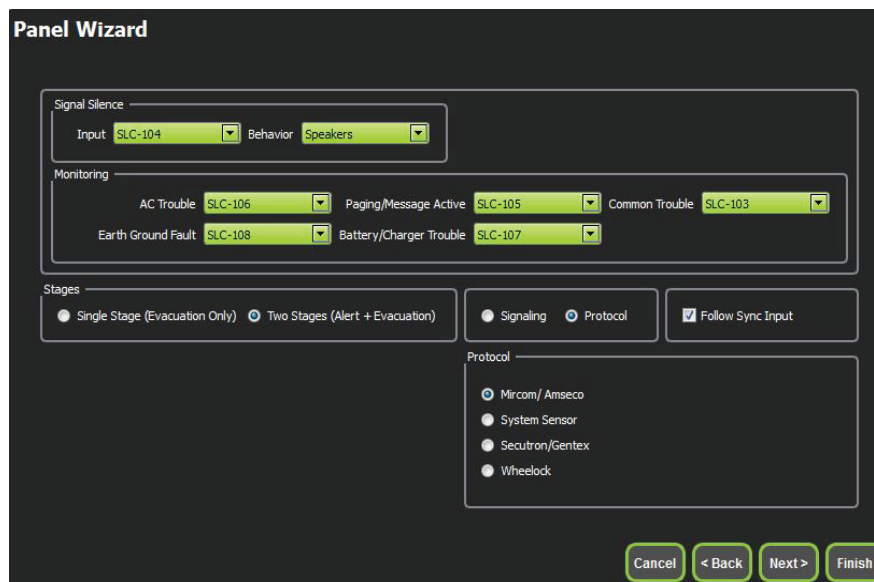
Add Edit Delete

OK Cancel

**Figure 33 New Job window**

7. Click on “Master Panel 0” and then click “Edit”.

8. Click next until the following window appears. Choose corresponding addresses as FACP for each reporting function. See section 4.4 on page 26 for details.



**Panel Wizard**

Signal Silence  
Input: SLC-104 Behavior: Speakers

Monitoring  
AC Trouble: SLC-106 Paging/Message Active: SLC-105 Common Trouble: SLC-103  
Earth Ground Fault: SLC-108 Battery/Charger Trouble: SLC-107

Stages  
☐ Single Stage (Evacuation Only) ☒ Two Stages (Alert + Evacuation)

☐ Signaling ☒ Protocol ☒ Follow Sync Input

Protocol  
☒ Mircom/ Amseco  
☐ System Sensor  
☐ Secutron/Gentex  
☐ Wheelock

Buttons: Cancel < Back Next > Finish

**Figure 34** Configure all the reporting addresses corresponding to addresses on FACP

**Note:** Under signal silence, three different behaviors can be selected: All, Speakers, Horn & Strobes. “All” turns off all the outputs, “Speakers” turns off speaker outputs only, and “Horn & Strobes” turns off NAC’s when signal silence on FACP is pressed.

9. If NAC’s on FACP need to be in sync with NAC’s on QX-mini, select appropriate stage, strobe protocol, and select “Follow Sync Input”.
10. Create zones as per requirement and correlate them to NAC’s and speaker outputs.

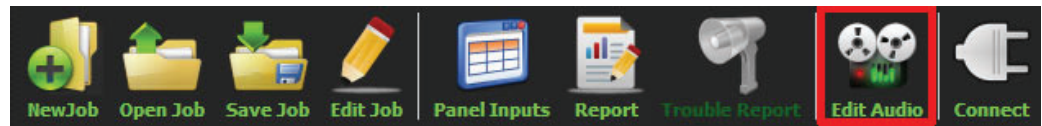
id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

Buttons: OK Cancel

**Figure 35** Create zones



11. Click on “Edit Audio”.



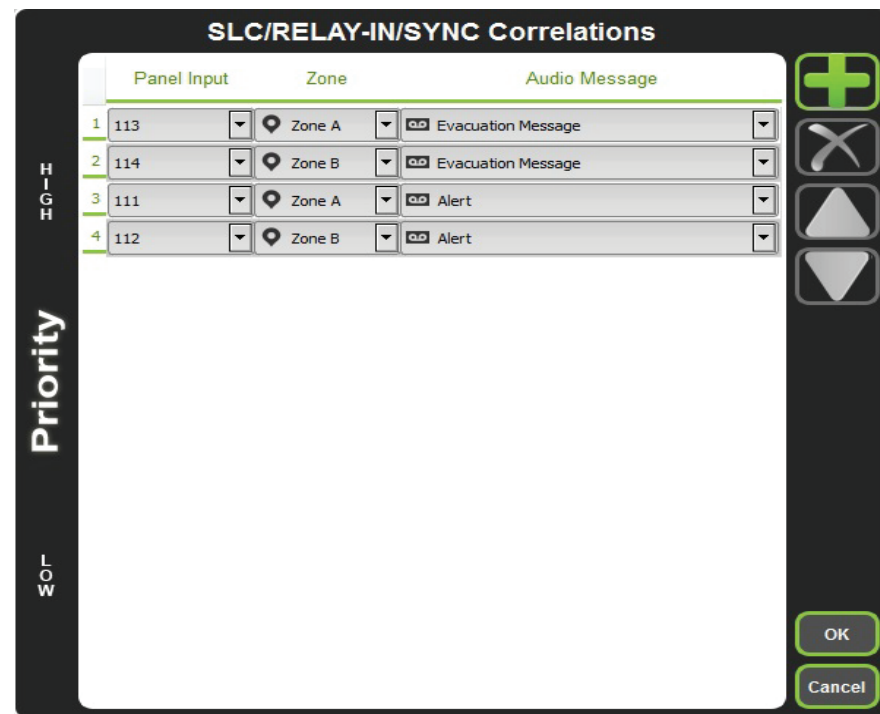
**Figure 36 Edit Audio button**

12. Click “Add” and create an alert and evac message based on the requirements. Ensure that stage for Alert and Evac is selected from the drop down box as shown below:



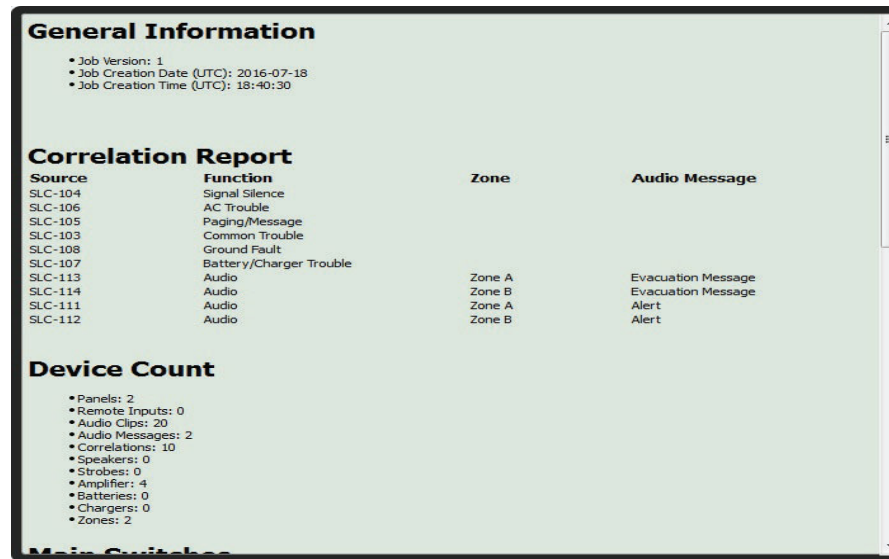
**Figure 37 Audio Clips**

13. Click on panel inputs, click on the ‘+’ sign. Select Panel input address to activate EVAC and Alert zones. Ensure this address corresponds to modules in Figure 32. Ensure to include two audio messages in the job file: Evac and Alert.



**Figure 38 SLC/RELAY-IN/SYNC Correlations**

14. In order to see “Page Inhibit” countdown, the feature can be assigned to one of the zone switches. Right click on the switch and select “Assign paging inhibit”. Flashing of the LED will indicate countdown of the inhibit.
15. All the correlations in job file can be viewed in “Report” as shown below.



**Figure 39 Report**

16. Save the job, connect to QX-mini and send the job.
17. After job has been successfully sent to the panel, disconnect the USB connector.

## 4.4 SLC Address Configuration

- **Alarm Input:** In Figure 32 on page 22, Input Module address 101 is an example of any alarm input in the job. It would need to be correlated to the Supervised Output module addresses to activate the Alert zone on QX-mini.
- **Common Trouble:** This feature allows the QX-mini to report any trouble(s) back to the FACP. Referring to Figure 32, address 103 is an example of trouble input. Configure the type as “trouble input” in the FACP configurator.
- **Signal Silence:** This feature allows FACP to silence audible and visible devices on the QX-mini.
  - Audible and Visual signal silence: Configure this as a relay output module, address 104 (shown in Figure 32), and correlate it to “signal silence” common status in the FACP configurator.
- **Paging/Message Active:** This feature reports to FACP when QX-mini has been manually activated. For example, when microphone is active or a message has been activated, trouble will report back to FACP. Configure this as an input module (Address 105 in Figure 32) in the FACP configurator, and select type as “building/property safety”.
- **AC Trouble:** This feature reports QX-mini AC failure to FACP. If QX-mini is configured for “AC Loss Delay” then a trouble will only be reported after the delay. Configure this as an input module (Address 106 in Figure 32), and select type as “trouble input” in the FACP configurator.
- **Battery/Charger Trouble:** This feature reports to FACP when QX-mini has a battery or battery charger trouble. Configure this as an input module (Address 107 in Figure 32), and select type as “trouble input” in the FACP configurator as shown in Figure 32.
- **Earth Ground Fault:** This feature reports to FACP when there is a ground fault detected on QX-mini system. Configure this as an input module (Address 108 in Figure 32) and select type as “trouble input” in the FACP configurator.

## 5.0 SLC Integration - QX-mini and FleX-Net™ - Single Stage

### 5.1 Introduction

The QX-mini is designed to interface with Mircom FACP's over an SLC link where it is seen as a number of "virtual devices." This single link allows for zone-by-zone automatic control as well as specific trouble reporting back to the FACP.

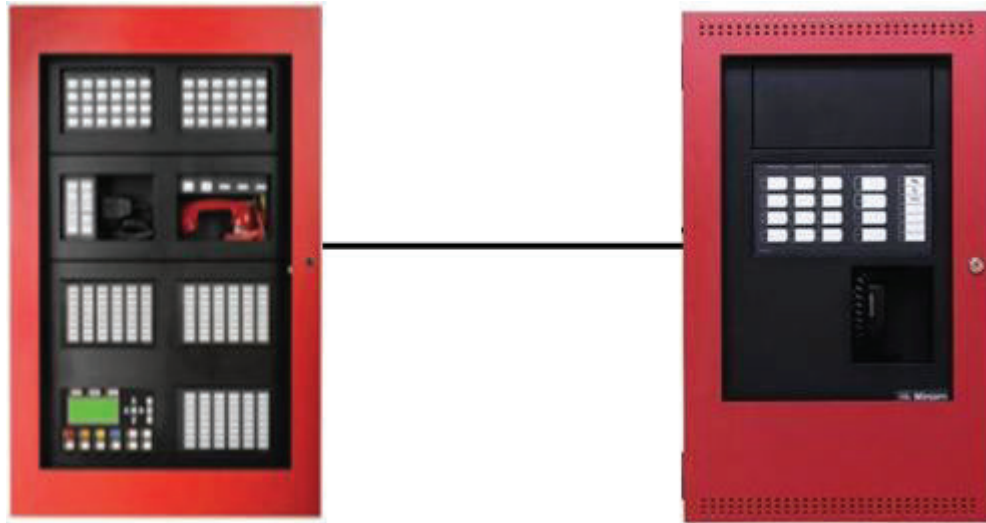


Figure 40 QX-mini and FleX-Net™

## 5.2 Wiring

For SLC integration, connect wire from preferred loop of FleX-Net™ to SLC terminal on QX-mini Master.

**Note:** If the system is comprised of a QX-mini Master and booster panels, only the QX-mini Master must be wired with FACP.

### 5.2.1 Class A

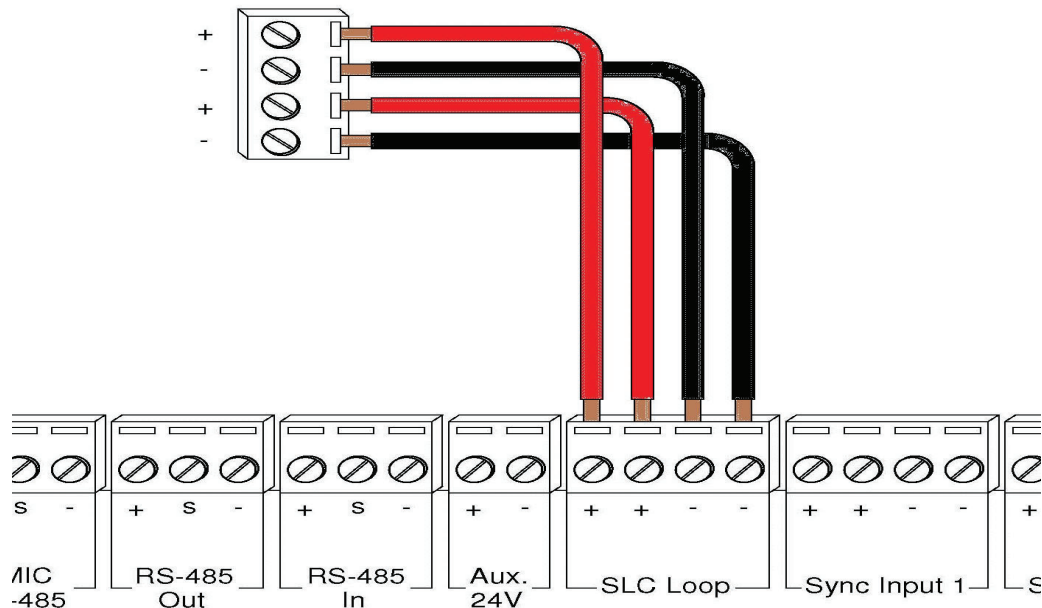


Figure 41 Class A wiring to connect FACP with QX-mini master via SLC link

### 5.2.2 Class B

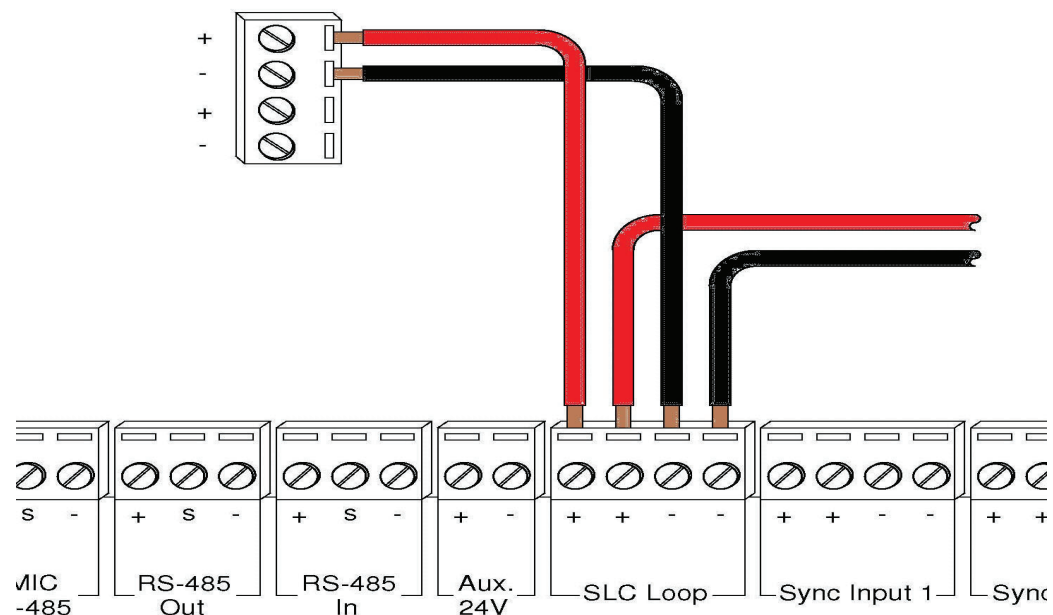


Figure 42 Class B wiring to connect FACP with QX-mini master via SLC link





7. Correlate “Trouble” zone to all trouble input devices as shown below.

Addr	Device	Type	SubType	Priority	F.	F..	Tag (Line1)
1	Input Zone	Alarm	None	Normal		N..	Alarm Zone
2	Input Zone	Trbl.	None	Normal		N..	Trouble Zone
3	Input Zone	Mon.	None	Normal		N..	Monitor Zone

<b>Inputs</b>	Signal	Relay	Display	Switches	UDACT Grp	Digitized Msgs	Advanced Logic
---------------	--------	-------	---------	----------	-----------	----------------	----------------

Type	Node	CPU	Lp	Addr	Device	P...	Tag
Trouble Input	Node 1	0	2	103	Ipt Module		QX Common Trouble
Trouble Input	Node 1	0	2	106	Ipt Module		QX AC Trouble
Trouble Input	Node 1	0	2	107	Ipt Module		QX Battery Trouble
Trouble Input	Node 1	0	2	108	Ipt Module		QX Ground Fault

**Figure 45 Trouble zone correlations**

8. Correlate “Monitor” zone to all monitor inputs.

Addr	Device	Type	SubType	Priority	F.	F..	Tag (Line1)
1	Input Zone	Alarm	None	Normal		N..	Alarm Zone
2	Input Zone	Trbl.	None	Normal		N..	Trouble Zone
3	Input Zone	Mon.	None	Normal		N..	Monitor Zone

<b>Inputs</b>	Signal	Relay	Proving	Display	Switches	UDACT Grp	Digitized Msgs	Advanced Logic
---------------	--------	-------	---------	---------	----------	-----------	----------------	----------------

Type	Node	CPU	Lp	Addr	Device	P...	Tag
Monitor	Node 1	0	2	105	Ipt Module		QX Audio Active

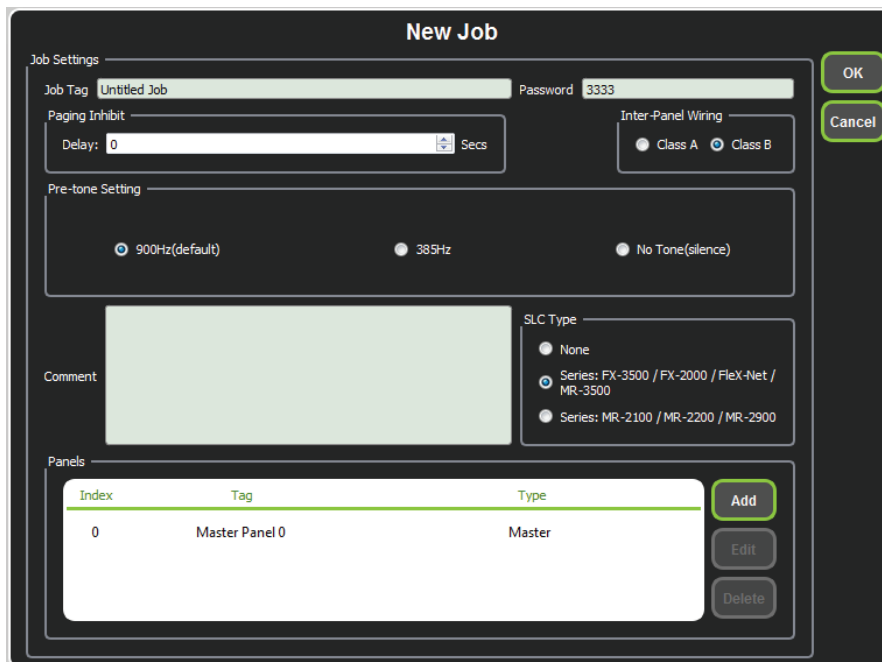
**Figure 46 Monitor zone correlations**

9. Ensure all the addresses are correct and job is validated. Connect to the FleX-Net™ panel and send the job.

### 5.3.2 QX-mini Steps

**Note:** Until the QX-mini Master is connected and configured, missing device troubles can be ignored.

1. Open MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job specifically.
4. Define timing for page inhibit delay as per requirements.
5. Select either Class A or Class B depending on the inter-panel wiring.
6. Click on “New Job” or “Edit Job” for an existing file and choose the SLC Type (Series: FX-3500/FX-2000/FleX-Net™/MR-3500).



**New Job**

Job Settings

Job Tag:  Password:

Paging Inhibit: Delay:  Secs

Inter-Panel Wiring: ☐ Class A ☒ Class B

Pre-tone Setting: ☒ 900Hz(default) ☐ 385Hz ☐ No Tone(silence)

Comment:

SLC Type: ☐ None ☒ Series: FX-3500 / FX-2000 / FleX-Net / MR-3500 ☐ Series: MR-2100 / MR-2200 / MR-2900

Panels:

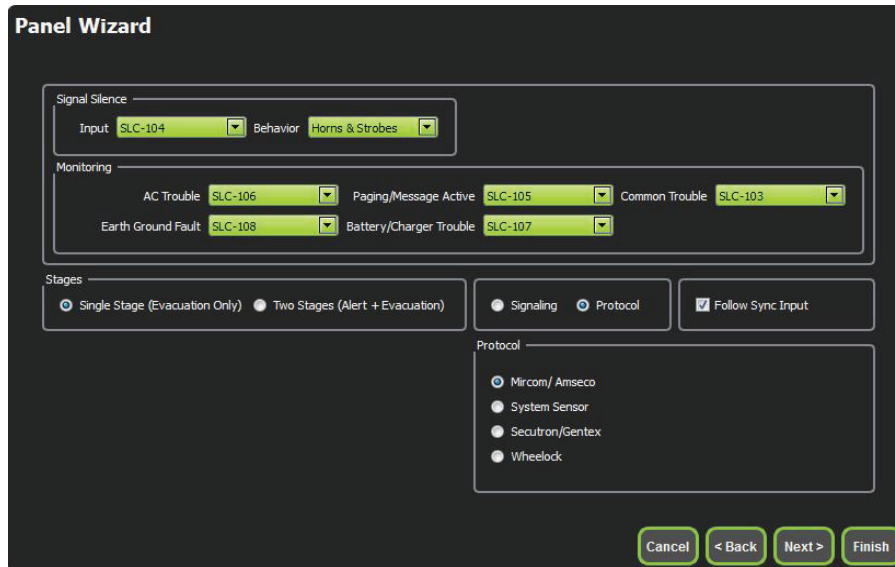
Index	Tag	Type
0	Master Panel 0	Master

Buttons: Add, Edit, Delete, OK, Cancel

**Figure 47 New Job window**

7. Click on “Master Panel 0” and then click “Edit”

8. Click next until the following window appears. Choose corresponding addresses as FACP for each reporting function. See section 5.4 on page 34 for details.



**Panel Wizard**

Signal Silence  
 Input: SLC-104 Behavior: Horns & Strobes

Monitoring  
 AC Trouble: SLC-106 Paging/Message Active: SLC-105 Common Trouble: SLC-103  
 Earth Ground Fault: SLC-108 Battery/Charger Trouble: SLC-107

Stages  
☒ Single Stage (Evacuation Only) ☐ Two Stages (Alert + Evacuation)

☐ Signaling ☒ Protocol ☒ Follow Sync Input

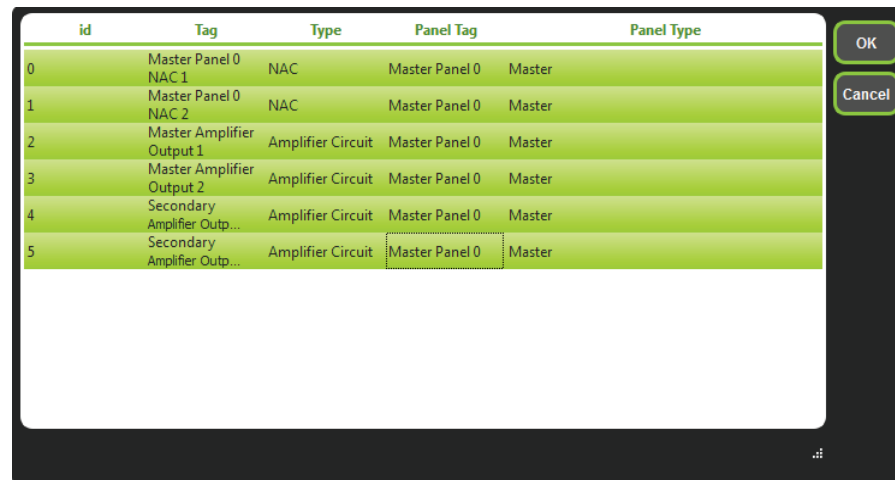
Protocol  
☒ Mircom/ Amseco  
☐ System Sensor  
☐ Secutron/Gentex  
☐ Wheelock

Buttons: Cancel < Back Next > Finish

**Figure 48** Configure all the reporting addresses corresponding to addresses on FACP.

**Note:** Under signal silence, three different behaviors are available for selection: All, Speakers, Horn & Strobes. “All” turns off all the outputs, “Speakers” turns off speaker outputs only, and “Horn & Strobes” turns off NACs when signal silence on FACP is pressed.

9. If NACs on FACP need to be in sync with NACs on QX-mini, select appropriate stage, strobe protocol, and select “Follow Sync Input”
10. Create a zone for EVAC. Correlate the NACs and amplifier outputs to that zone and assign an audio message.



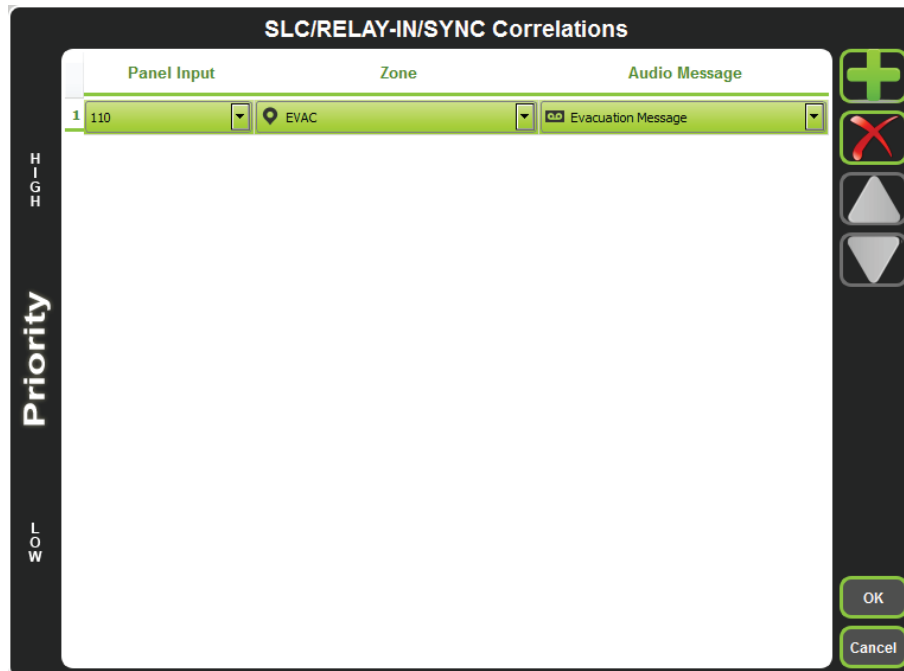
id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

Buttons: OK Cancel

**Figure 49** Create zones

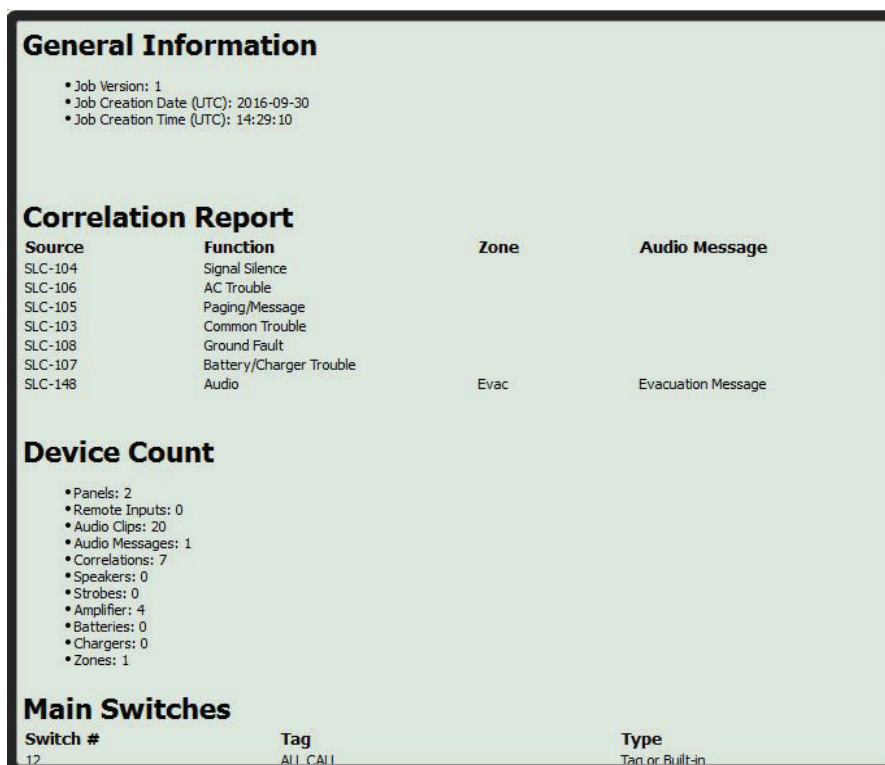


11. Click on panel inputs, click on the '+' sign. Select Panel input address to activate EVAC zone. Ensure this address corresponds to "supervised output module" in Figure 43.



**Figure 50 SLC-RELAY-IN/SYNC Correlations**

12. All the correlations in job file can be viewed in "Report" as shown below.



Source	Function	Zone	Audio Message
SLC-104	Signal Silence		
SLC-106	AC Trouble		
SLC-105	Paging/Message		
SLC-103	Common Trouble		
SLC-108	Ground Fault		
SLC-107	Battery/Charger Trouble		
SLC-148	Audio	Evac	Evacuation Message

Switch #	Tag	Type
12	ALL CALL	Tag or Built-in

**Figure 51 Report**

13. Save the job, connect to QX-mini and send the job.
14. After job has been successfully sent to the panel, disconnect the USB connector.

## 5.4 SLC Address Configuration

- **Alarm Input:** In Figure 43, Input Module address 101 is an example of any alarm input in the job. It would need to be correlated to the Supervised Output module address 110 to activate the EVAC zone on QX-mini.
- **Common Trouble:** This feature allows the QX-mini to report any trouble(s) back to the FACP. Referring to Figure 43, address 103 is an example of trouble input. Configure the type as “trouble input” in the FACP configurator.
- **Signal Silence:** This feature allows FACP to silence audible and visible devices on the QX-mini.
  - Audible and Visual signal silence: Configure this as a relay output module, address 104 (shown in Figure 43), and correlate it to “signal silence” common status in the FACP configurator.
- **Paging/Message Active:** This feature reports to FACP when QX-mini has been manually activated. For example, when microphone is active or a message has been activated, trouble will report back to FACP. Configure this as an input module (Address 105 in Figure 43) in the FACP configurator, and select type as “trouble input”.
- **AC Trouble:** This feature reports QX-mini AC failure to FACP. If QX-mini is configured for “AC Loss Delay” then a trouble will only be reported after the delay. Configure this as an input module (Address 106 in Figure 43), and select type as “trouble input” in the FACP configurator.
- **Battery/Charger Trouble:** This feature reports to FACP when QX-mini has a battery or battery charger trouble. Configure this as an input module (Address 107 in Figure 43), and select type as “trouble input” in the FACP configurator as shown in Figure 43.
- **Earth Ground Fault:** This feature reports to FACP when there is a ground fault detected on QX-mini system. Configure this as an input module (Address 108 in Figure 43) and select type as “trouble input” in the FACP configurator.

## 6.0 Relay Input - QX-mini and FleX-Net™

### 6.1 Introduction

The QX-mini is designed to interface with FACP's via relay inputs which provide zone activation functionality.

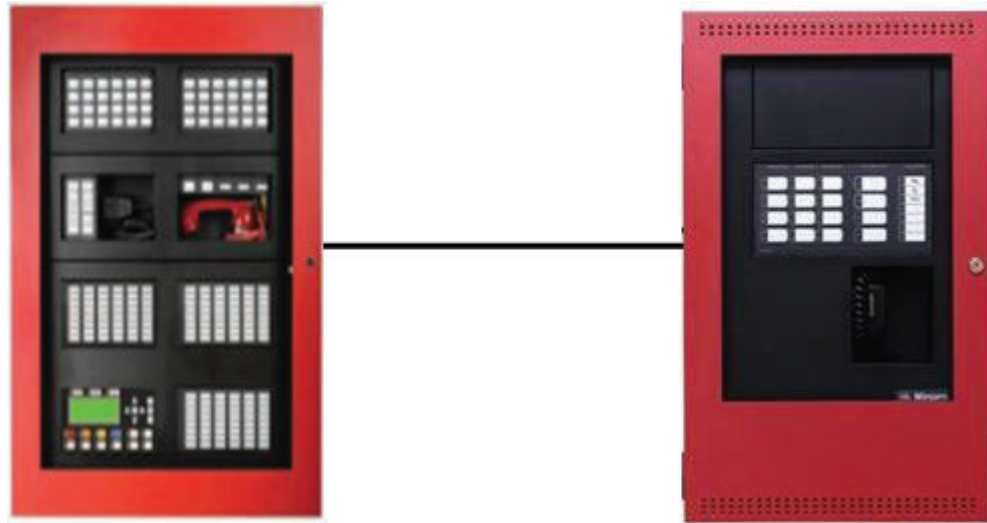
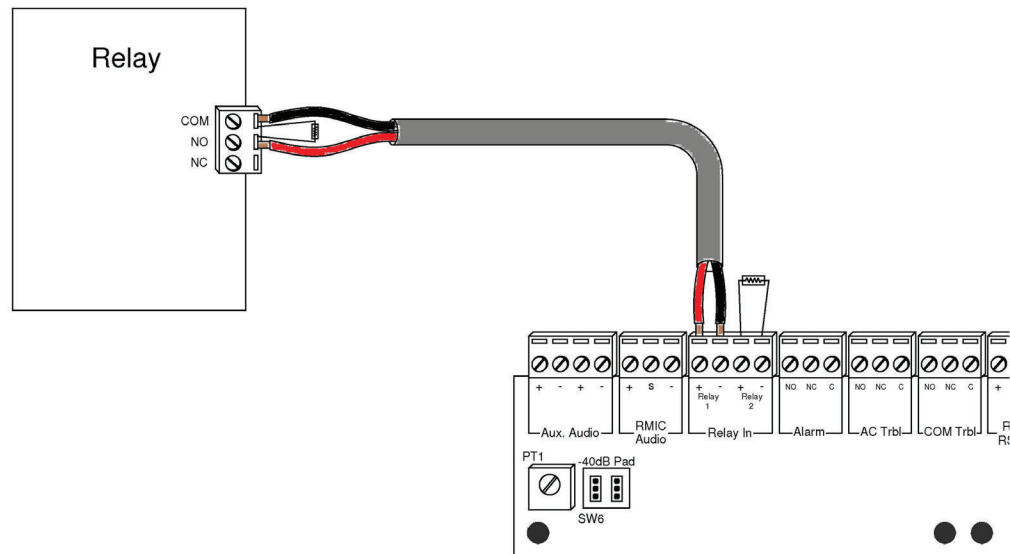


Figure 52 QX-mini and FleX-Net™

## 6.2 Wiring

For relay input integration: Connect the wire from a normally open relay contact to “relay 1” or “relay 2” terminal on the QX-mini Master.

**Note:** Note: If system is comprised of a QX-mini Master and booster panels, only the QX-mini Master must be wired. Relay inputs on booster panels are not configurable.



**Figure 53** Relay wiring

## 6.3 Configuration Steps

### 6.3.1 FleX-Net™ Configuration

1. Open FleX-Net™ configurator.
2. Create a new job or open an existing job.
3. Click on the loop that has been wired to SLC terminal on QX-mini Master.
4. Configure the loop as shown in the window below.

**Note:** In this particular example, relay output module (MIX-M500R) was used to activate the EVAC zone. This module must be correlated to all the alarm inputs in the job.

Addr	Device	Type	SubType	F	F.	F	S.	Tag (Line1)
101	Ipt Module	Alarm Input	Manual Station					1st Floor
102	Ipt Module	Alarm Input	Manual Station					2nd Floor
109	Relay Opt Mod	Strobe	None					QX-EVAC

**Figure 54** The addresses may vary depending on each application

5. Create an alarm input zone and correlate it to relay module dedicated for QX-mini zone activation.

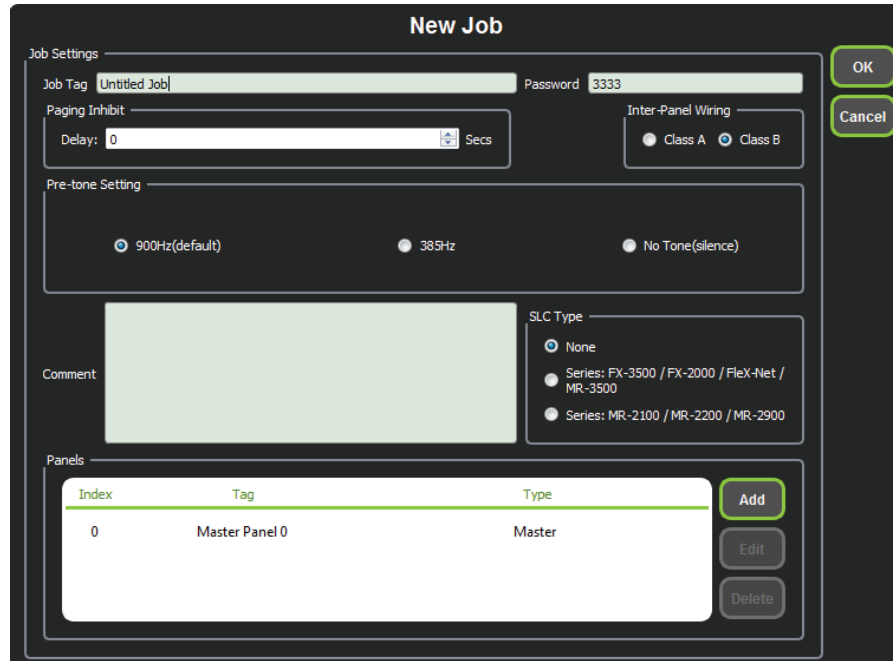
Alarm											
Supv.   Trbl.   Mon.   Status   Display   Switches   UDACT Grp   Advanced Logic											
Type	Node	CPU	Lp	Addr	Device	Priority	F1	F2	F3	Tag	
Alarm	Node 1	0	1		Input Zone	Normal				Alarm Zone	

**Figure 55** Alarm input zone

6. Ensure all the addresses are correct and job is validated. Connect to the FleX-Net™ panel and send the job.

### 6.3.2 QX-mini Steps

1. Open MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job specifically
4. Define timing for page inhibit delay as per local requirement
5. Select either Class A or Class B depending on the inter-panel wiring
6. Click on “New Job” or “Edit Job” for an existing file and choose “None” under SLC type.



**New Job**

Job Settings

Job Tag:  Password:

Paging Inhibit

Delay:  Secs

Inter-Panel Wiring

☐ Class A ☒ Class B

Pre-tone Setting

☒ 900Hz(default) ☐ 385Hz ☐ No Tone(silence)

Comment

SLC Type

☒ None ☐ Series: FX-3500 / FX-2000 / Flex-Net / MR-3500 ☐ Series: MR-2100 / MR-2200 / MR-2900

Panels

Index	Tag	Type
0	Master Panel 0	Master

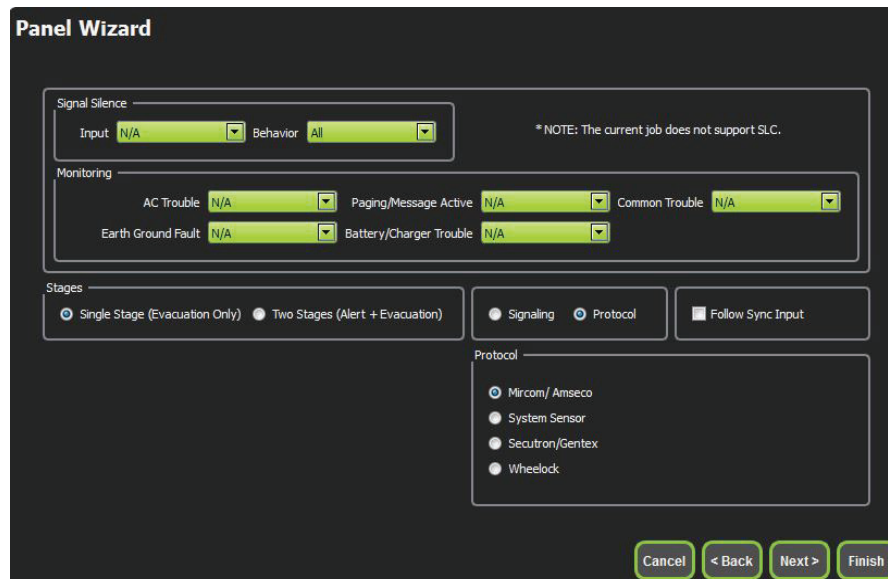
Add Edit Delete

OK Cancel

**Figure 56 New Job window**

7. Click on “Master Panel 0” and then click “Edit”

8. Click next until the following window appears. Select appropriate stage, strobe protocol, and select “Follow Sync Input” if NACs on QX-mini need to be in sync with NACs on FACP.



**Panel Wizard**

Signal Silence: Input  Behavior  \* NOTE: The current job does not support SLC.

Monitoring: AC Trouble  Paging/Message Active  Common Trouble   
Earth Ground Fault  Battery/Charger Trouble

Stages: ☒ Single Stage (Evacuation Only) ☐ Two Stages (Alert + Evacuation)

☐ Signaling ☒ Protocol ☐ Follow Sync Input

Protocol: ☒ Mircom/ Amseco ☐ System Sensor ☐ Secutron/Gentex ☐ Wheelock

Buttons: Cancel < Back Next > Finish

**Figure 57 Follow sync input**

**Note:** Signal silence cannot be performed via the relay input connection; this feature is only available through an SLC connection with a Mircom panel using addressable modules.

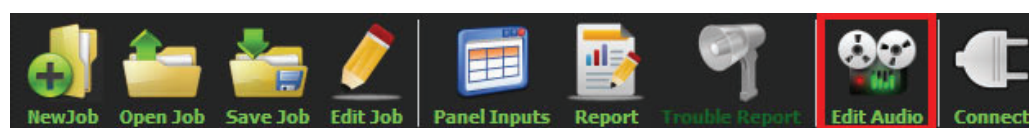
9. Create zones as per requirement and correlate them to NACs and speaker outputs.

id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

Buttons: OK Cancel

**Figure 58 Create zones**

10. Click on “Edit Audio”.



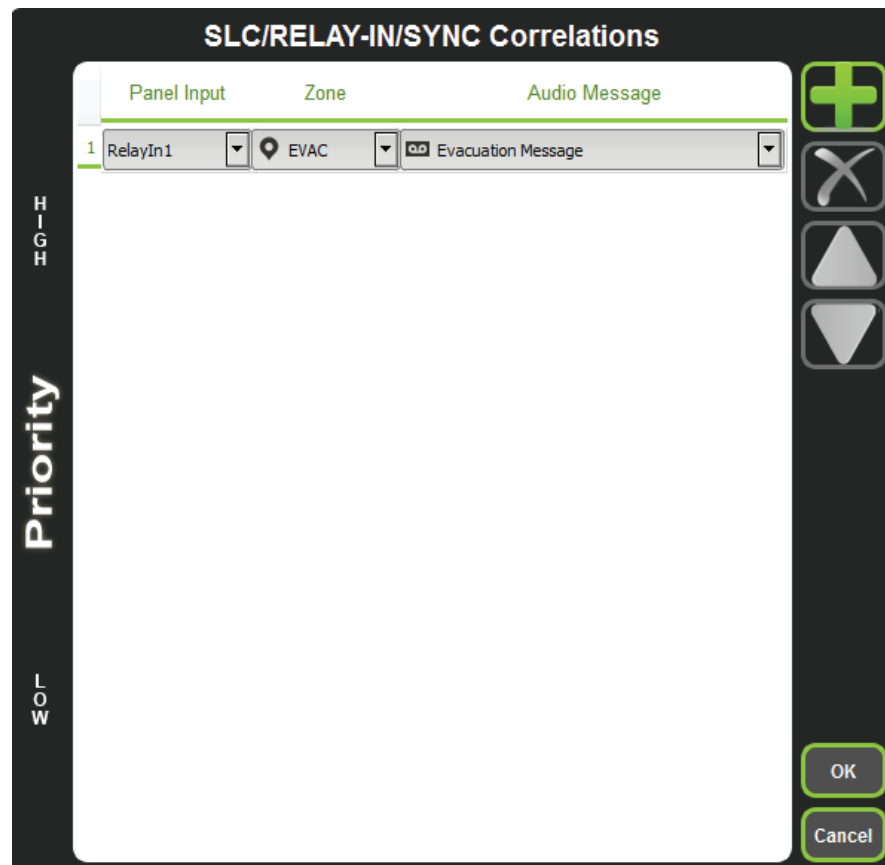
**Figure 59 Edit Audio button**

11. Click “Add” and create a message. Ensure that stage for Evac is selected from the drop down.



**Figure 60 Audio Clips**

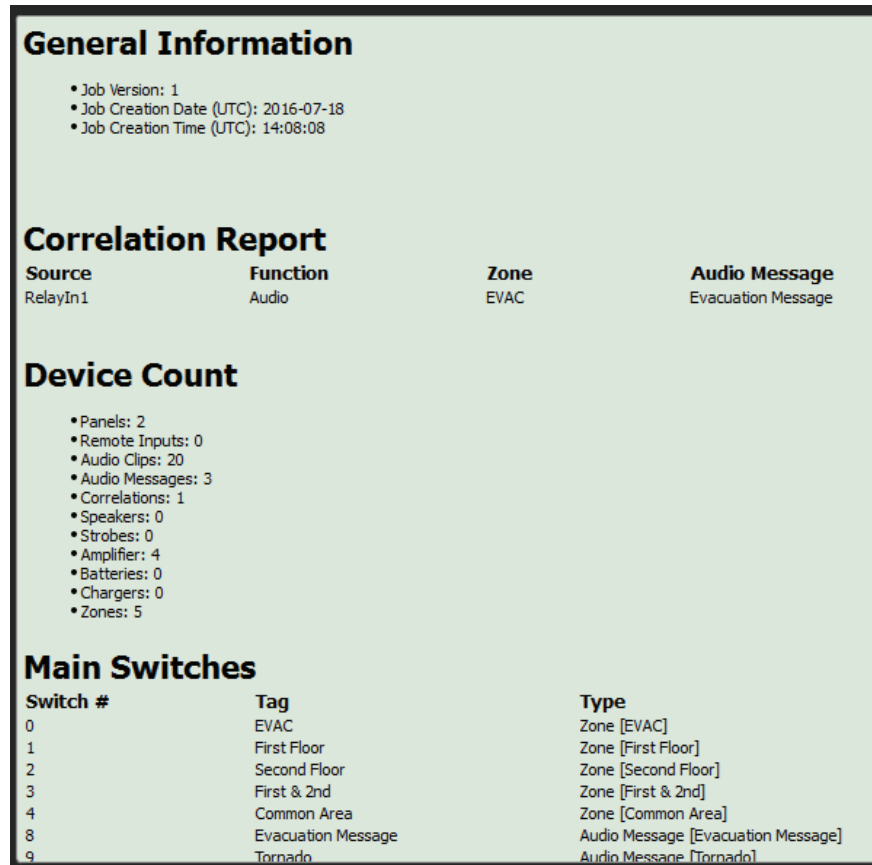
12. Click on panel inputs, click on the ‘+’ sign. Select the relay input that has been wired to activate EVAC zone.



**Figure 61 SLC/RELAY-IN/SYNC Correlations**



13. All the correlations in job file can be viewed in “Report” as shown below.



**Figure 62 Report**

14. Save the job, connect to QX-mini and send the job.
15. After job has been successfully sent to the panel, disconnect the USB connector.

## 7.0 SLC Integration - QX-mini and FX-3500 - Two Stage

### 7.1 Introduction

The QX-mini is designed to interface with Mircom FACP's over an SLC link where it is seen as a number of "virtual devices." This single link allows for zone-by-zone automatic control as well as specific trouble reporting back to the FACP.

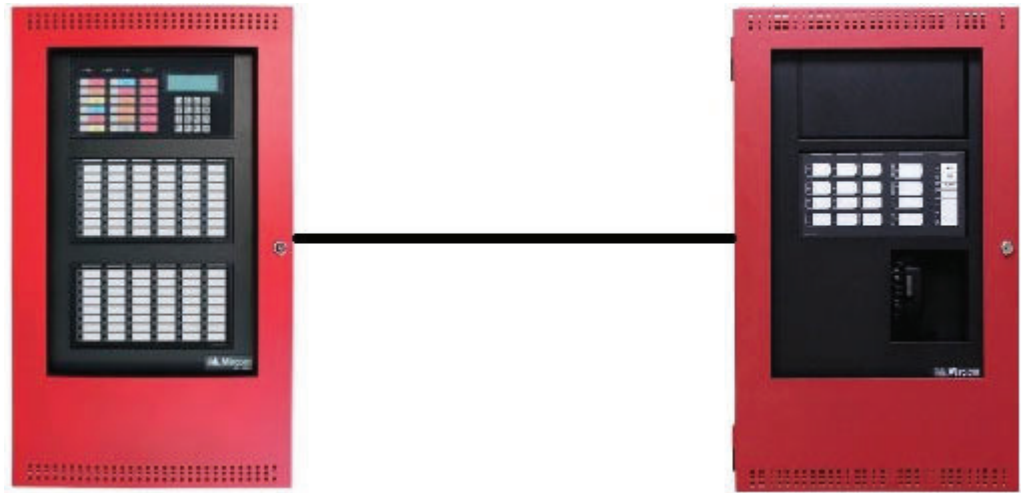
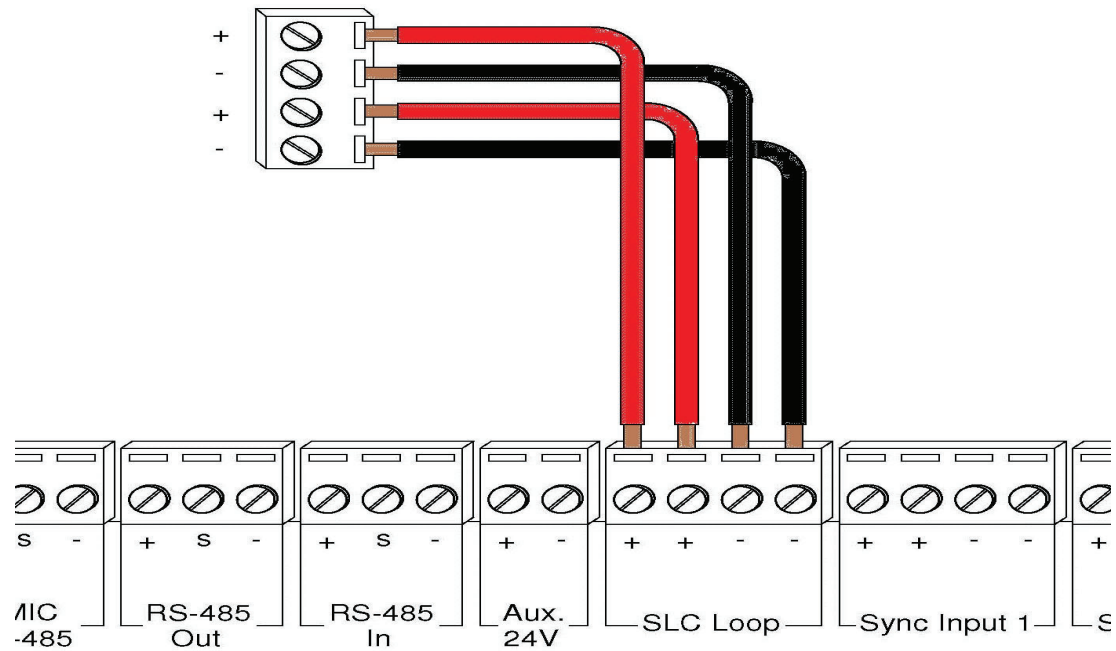


Figure 63 QX-mini and FX-3500

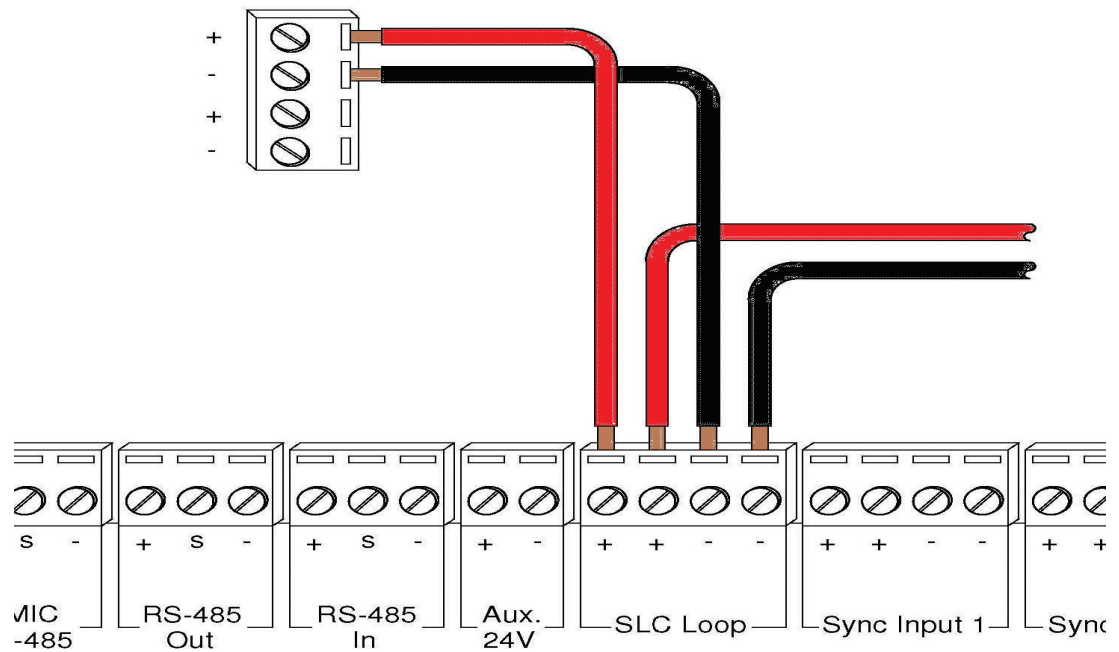
For SLC integration: Connect wire from preferred loop of FX-3500 to SLC terminal on QX-mini Master.

### 7.2.1 Class A



**Figure 64 Class A wiring to connect FACP with QX-mini Master via SLC link**

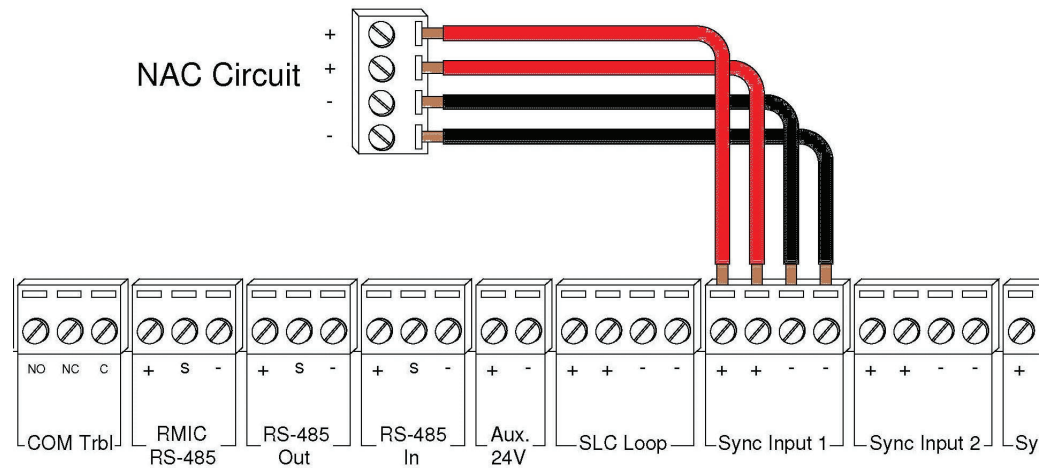
## 7.2.2 Class B



**Figure 65** Class B wiring to connect FACP with QX-mini Master via SLC link.

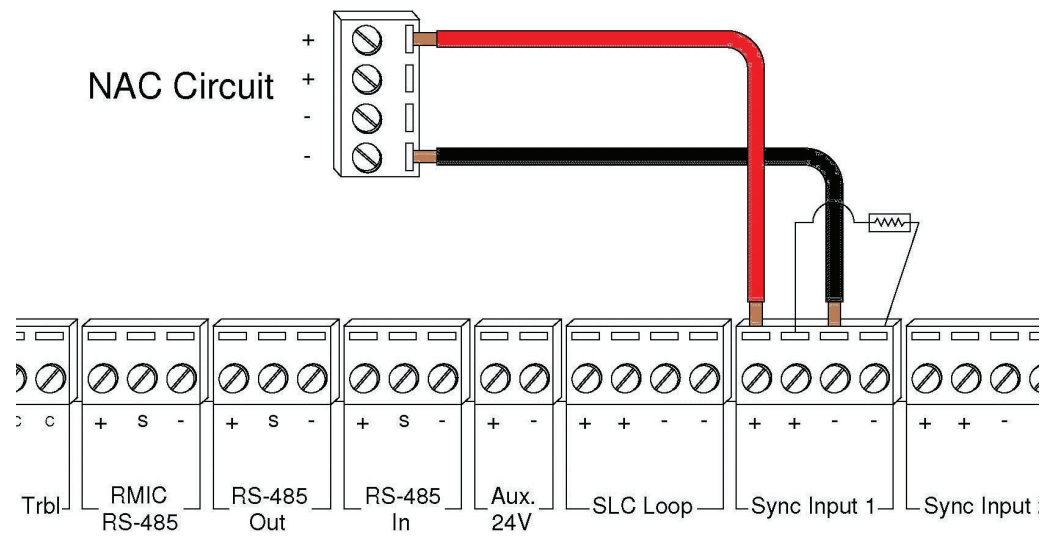
**Note:** If QX-mini system is required to follow sync from FACP, refer to below diagrams for wiring.

## 7.3 SYNC-CLASS A



**Figure 66** Sync Class A

## 7.4 SYNC-CLASS B

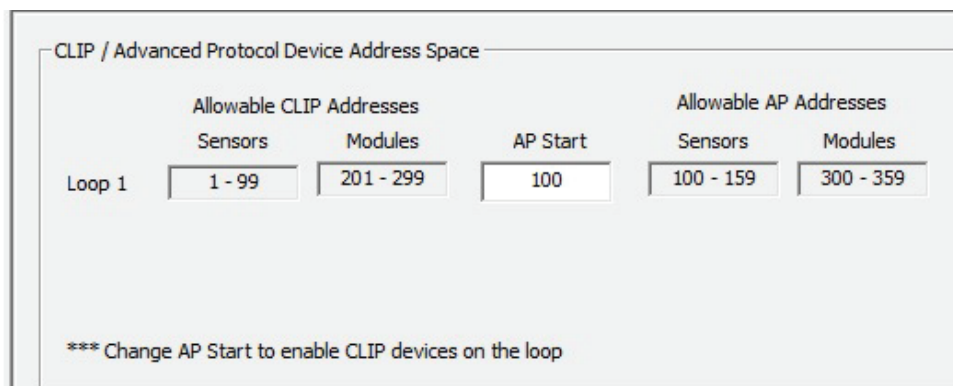


**Figure 67 Sync Class B**

## 7.5 Configuration Steps

### 7.5.1 FX-3500 Configuration

1. Open FX-3500 configurator.
2. Create a new job or open an existing job. Ensure to change “AP Start” to enable CLIP devices on the loop as QX-mini reporting points will be configured as CLIP devices. “AP Start” number may vary based on different applications.



CLIP / Advanced Protocol Device Address Space

Loop 1	Allowable CLIP Addresses		AP Start	Allowable AP Addresses	
	Sensors	Modules		Sensors	Modules
	1 - 99	201 - 299	100	100 - 159	300 - 359

\*\*\* Change AP Start to enable CLIP devices on the loop

**Figure 68** CLIP / Advanced Protocol Device Address Space

**Note:** QX-mini reporting points are configurable in CLIP mode only. It is important to change AP Start to enable CLIP devices on the loop.

3. Click on the loop that has been wired to SLC terminal on QX-mini Master. Ensure there is enough space to configure virtual devices on that loop.
4. Configure the loop as shown in the window below. See section 7.7 on page 51 for details

**Note:** These devices are integrated in QX-mini as “virtual devices” and do not need to be physically installed on the loop. The number of “virtual SLC devices” depends on your configuration – you can use as many as your job requires.

Addr	Device	Type	F4	Sens	Tag (Line1)	Tag (Line2)
201	Input Module (CLIP)	Alarm Input			Pull Station	
203	Input Module (CLIP)	Trouble Input			QX Common Trbl	
204	Relay Output Module (CLIP)	Relay			QX Signal Silence	
205	Input Module (CLIP)	Building/Property Safety			QX Audio Active	
206	Input Module (CLIP)	Trouble Input			QX AC Trbl	
207	Input Module (CLIP)	Trouble Input			QX Battery Trbl	
208	Input Module (CLIP)	Trouble Input			QX Ground Fault	
211	Supervised Output Module (CLIP)	Signal			QX Zone A	First Stage-Alert
212	Supervised Output Module (CLIP)	Signal			QX Zone B	First Stage-Alert
213	Relay Output Module (CLIP)	Relay			QX Zone A	Second Stage-Evac
214	Relay Output Module (CLIP)	Relay			QX Zone B	Second Stage-Evac

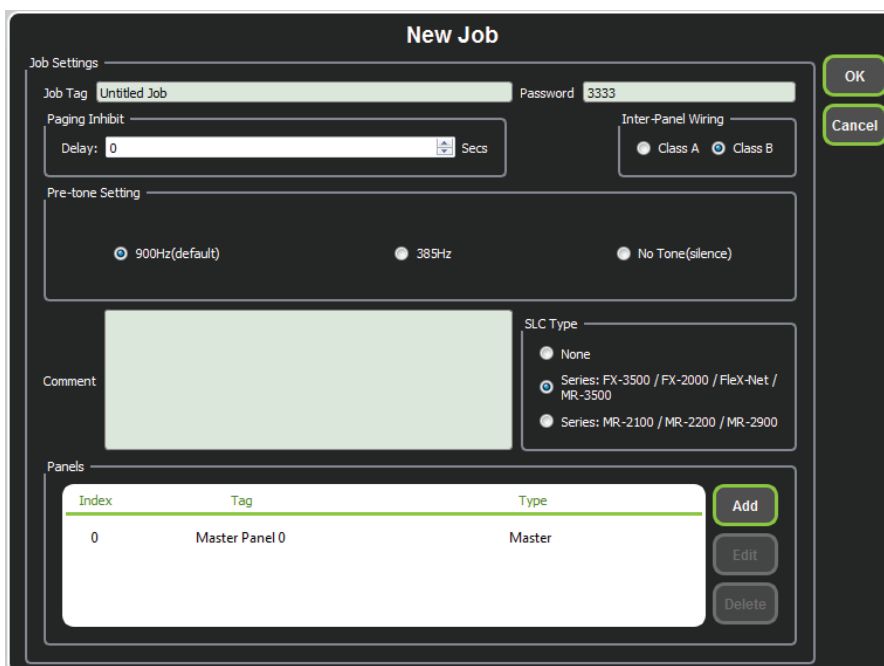
**Figure 69** The addresses may vary depending on each application. Ensure supervised output modules and relay output modules to activate QX-mini zones are configured as shown above.

5. Ensure all the addresses are correct and job is validated. Connect to the FX-3500 panel and send the job.

## 7.6 QX-mini Steps

**Note:** Until the QX-mini Master is connected and configured, missing device troubles can be ignored.

1. Open MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job specifically.
4. Define timing for page inhibit delay as per requirements.
5. Select either Class A or Class B depending on the inter-panel wiring.
6. Click on “New Job” or “Edit Job” for an existing file and choose the SLC Type (Series: FX-3500/FX-2000/FleX-Net™/MR-3500).



**New Job**

Job Settings

Job Tag:  Password:

Paging Inhibit

Delay:  Secs

Inter-Panel Wiring

☐ Class A ☒ Class B

Pre-tone Setting

☒ 900Hz(default) ☐ 385Hz ☐ No Tone(silence)

Comment

SLC Type

☐ None

☒ Series: FX-3500 / FX-2000 / FleX-Net / MR-3500

☐ Series: MR-2100 / MR-2200 / MR-2900

Panels

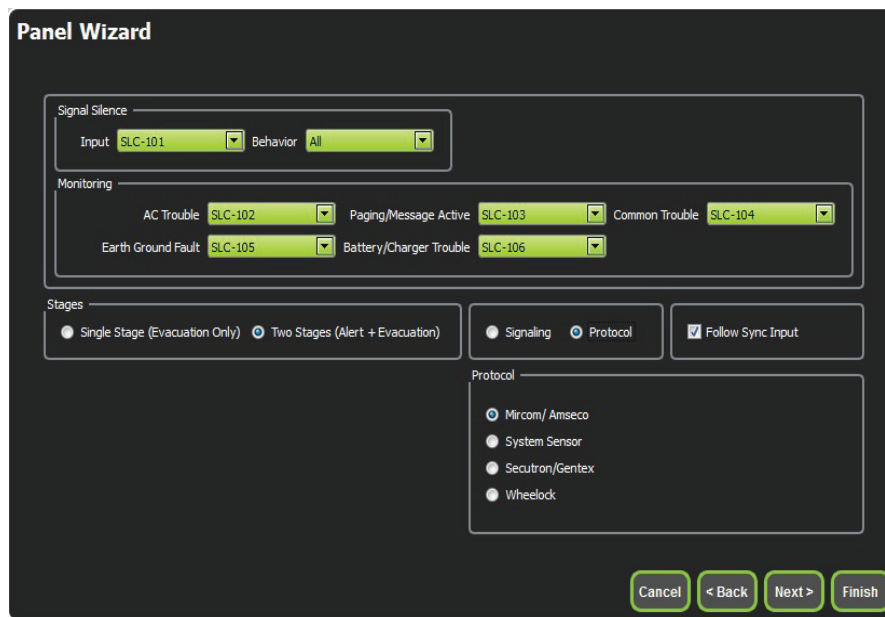
Index	Tag	Type
0	Master Panel 0	Master

Buttons: OK, Cancel, Add, Edit, Delete

**Figure 70 New Job window**

7. Click on “Master Panel 0” and then click “Edit”.
8. Click next until the following window appears. Choose corresponding addresses as FACP for each reporting function.

**Note:** Address 103 for common trouble corresponds to address 203 in Figure 69. When AP Start Address was set, the module address range became 201-299 in the configurator as shown in Figure 69.



**Panel Wizard**

Signal Silence  
Input: SLC-101 Behavior: All

Monitoring  
AC Trouble: SLC-102 Paging/Message Active: SLC-103 Common Trouble: SLC-104  
Earth Ground Fault: SLC-105 Battery/Charger Trouble: SLC-106

Stages  
☐ Single Stage (Evacuation Only) ☒ Two Stages (Alert + Evacuation)

☐ Signaling ☒ Protocol ☒ Follow Sync Input

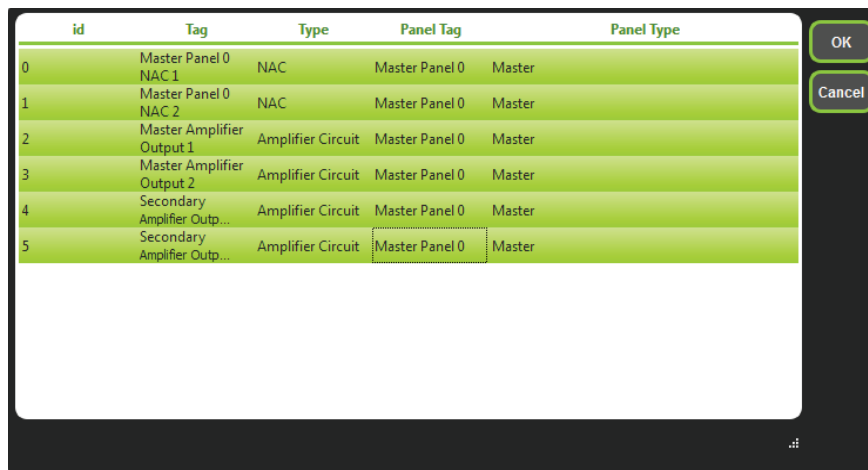
Protocol  
☒ Mircom/ Amseco  
☐ System Sensor  
☐ Secutron/Gentex  
☐ Wheelock

Buttons: Cancel < Back Next > Finish

**Figure 71** Configure all the reporting addresses corresponding to addresses on FACP.

**Note:** Under signal silence, three different behaviors are available for selection: **All**, **Speakers**, **Horn & Strobes**. “**All**” turns off all the outputs, “**Speakers**” turns off speaker outputs only, and “**Horn & Strobes**” turns off NAC’s when signal silence on FACP is pressed.

9. If NAC’s on FACP need to be in sync with NAC’s on QX-mini, select appropriate stage, strobe protocol, and select “Follow Sync Input”.
10. Create zones as per requirement and correlate them to NAC’s and speaker outputs.



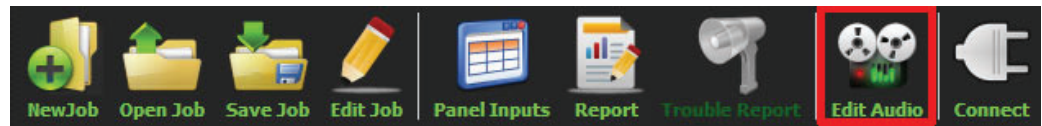
id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

Buttons: OK Cancel

**Figure 72** Create zones



11. Click on “Edit Audio”.



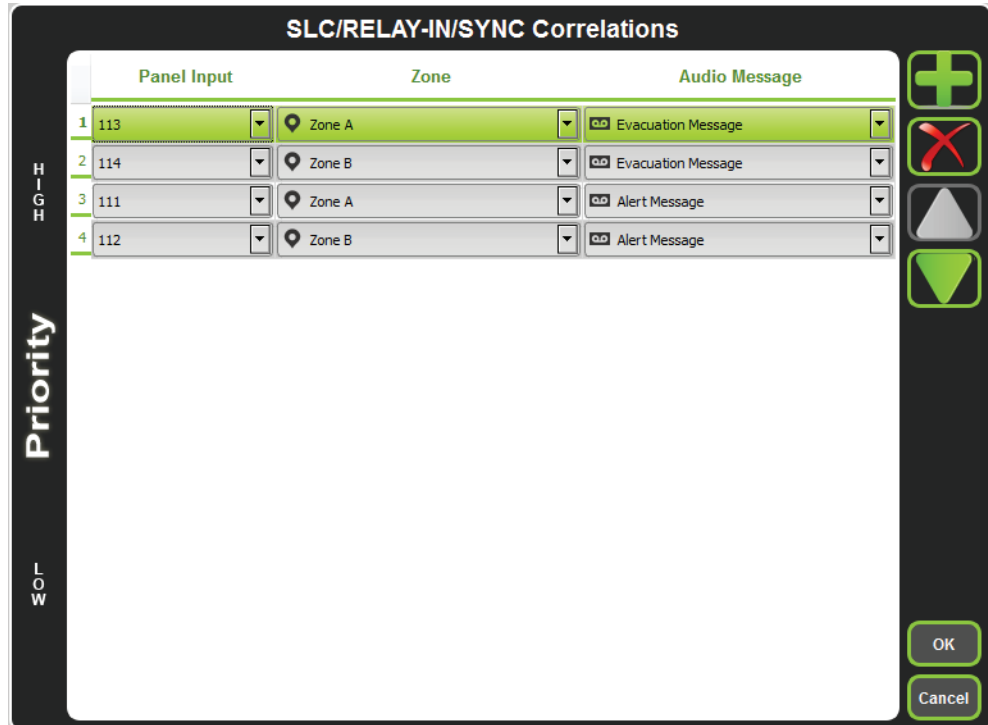
**Figure 73 Edit Audio button**

12. Click “Add” and create an alert and evac message based on the requirements. Ensure that stage for Alert and Evac is selected from the drop down box as shown below:



**Figure 74 Audio Clips**

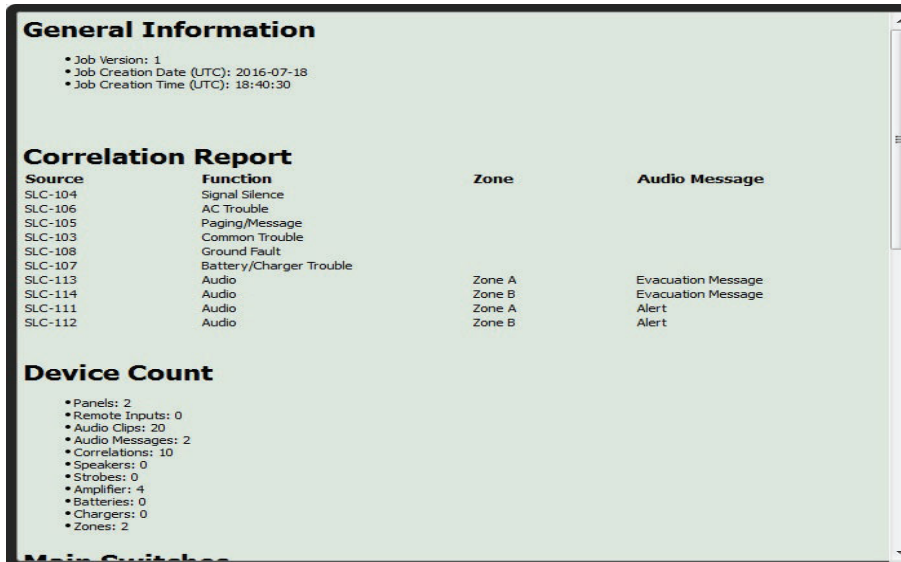
13. Click on panel inputs, click on the '+' sign. Select Panel input address to activate EVAC and Alert zones. Ensure this address corresponds to modules in Figure 69. Ensure to include two audio messages in the job file: Evac and Alert.



	Panel Input	Zone	Audio Message
1	113	Zone A	Evacuation Message
2	114	Zone B	Evacuation Message
3	111	Zone A	Alert Message
4	112	Zone B	Alert Message

**Figure 75 SLC/RELAY-IN/SYNC Correlations**

14. In order to see "Page Inhibit" countdown, the feature can be assigned to one of the zone switches. Right click on the switch and select "Assign paging inhibit". Flashing of the LED will indicate countdown of the inhibit.
15. All the correlations in job file can be viewed in "Report" as shown below.



**General Information**

- Job Version: 1
- Job Creation Date (UTC): 2016-07-18
- Job Creation Time (UTC): 18:40:30

**Correlation Report**

Source	Function	Zone	Audio Message
SLC-104	Signal Silence		
SLC-106	AC Trouble		
SLC-105	Paging/Message		
SLC-103	Common Trouble		
SLC-108	Ground Fault		
SLC-107	Battery/Charger Trouble		
SLC-113	Audio	Zone A	Evacuation Message
SLC-114	Audio	Zone B	Evacuation Message
SLC-111	Audio	Zone A	Alert
SLC-112	Audio	Zone B	Alert

**Device Count**

- Panels: 2
- Remote Inputs: 0
- Audio Clips: 20
- Audio Messages: 2
- Correlations: 10
- Speakers: 0
- Strobes: 0
- Amplifier: 4
- Batteries: 0
- Chargers: 0
- Zones: 2

**Figure 76 Report**

16. Save the job, connect to QX-mini and send the job.
17. After job has been successfully sent to the panel, disconnect the USB connector.

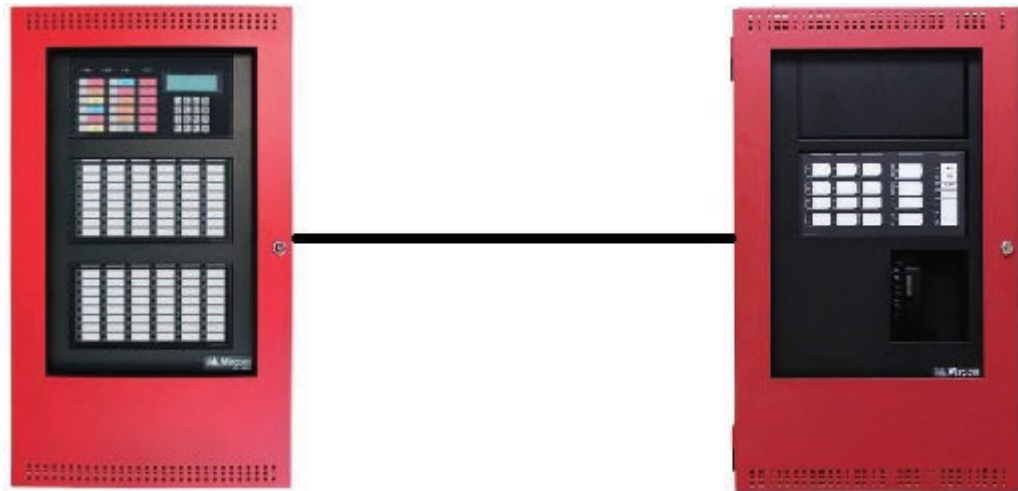
## 7.7 SLC Address Configuration

- **Alarm Input:** In Figure 69, Input Module address 201 is an example of any alarm input in the job. It would need to be correlated to Supervised Output module addresses to activate alert stage.
- **Common Trouble:** This feature allows the QX-mini to report any trouble(s) back to the FACP. Referring to Figure 69, address 203 is an example of trouble input. Configure the type as “trouble input” in the FACP configurator.
- **Signal Silence:** This feature allows FACP to silence audible and visible devices on the QX-mini.
  - Audible and Visual signal silence: Configure this as a relay output module, address 204 (shown in Figure 69), and correlate it to “signal silence” common status in the FACP configurator.
- **Paging/Message Active:** This feature reports to FACP when QX-mini has been manually activated. For example, when microphone is active or a message has been activated, trouble will report back to FACP. Configure this as an input module (Address 205 in Figure 69) in the FACP configurator, and select type as “building/property safety”.
- **AC Trouble:** This feature reports QX-mini AC failure to FACP. If QX-mini is configured for “AC Loss Delay” then a trouble will only be reported after the delay. Configure this as an input module (Address 206 in Figure 69), and select type as “trouble input” in the FACP configurator.
- **Battery/Charger Trouble:** This feature reports to FACP when QX-mini has a battery or battery charger trouble. Configure this as an input module (Address 207 in Figure 69), and select type as “trouble input” in the FACP configurator as shown in Figure 69.
- **Earth Ground Fault:** This feature reports to FACP when there is a ground fault detected on QX-mini system. Configure this as an input module (Address 208 in Figure 69) and select type as “trouble input” in the FACP configurator.

## 8.0 SLC Integration - QX-mini and FX-3500 - Single Stage

### 8.1 Introduction

The QX-mini is designed to interface with Mircom FACP's over an SLC link where it is seen as a number of "virtual devices." This single link allows for zone-by-zone automatic control as well as specific trouble reporting back to the FACP.



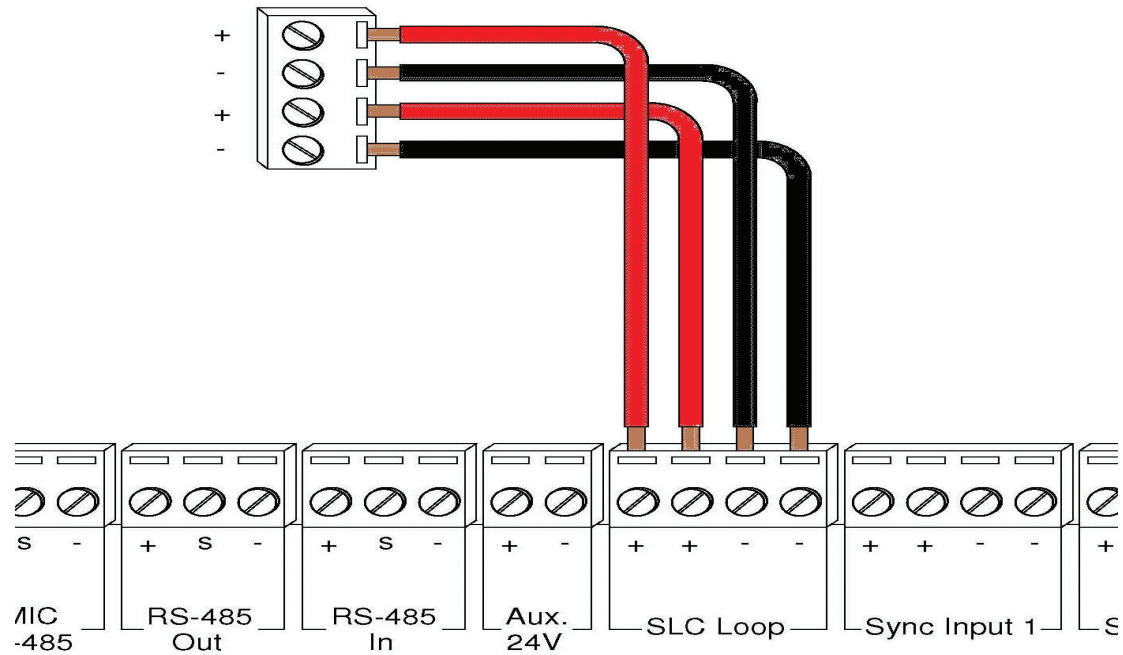
**Figure 77 QX-mini and FX-3500**

## 8.2 Wiring

For SLC integration: Connect wire from preferred loop of FX-3500 to SLC terminal on QX-mini Master.

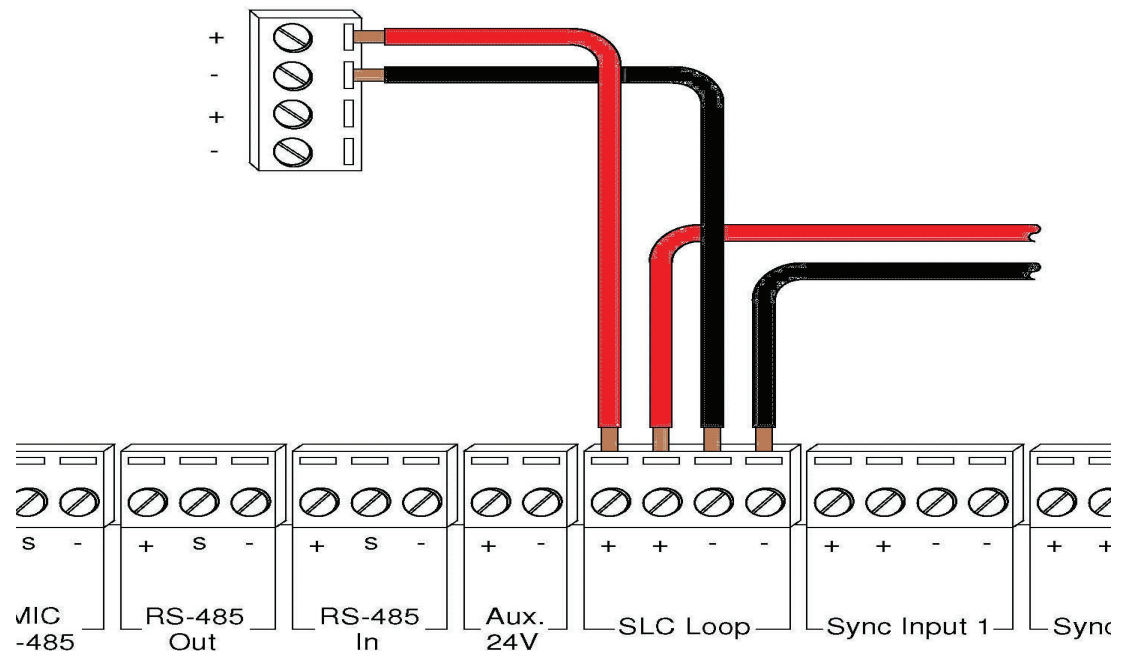
**Note:** If the system is comprised of a QX-mini Master and booster panels, only the QX-mini Master must be wired with FACP.

### 8.2.1 Class A



**Figure 78** Class A wiring to connect FACP with QX-mini Master via SLC link.

## 8.2.2 Class B

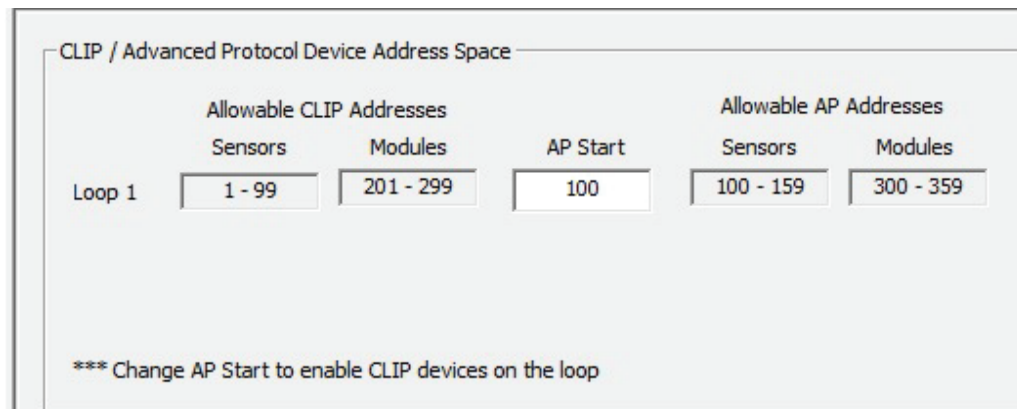


**Figure 79 Class B wiring to connect FACP with QX-mini Master via SLC link.**

## 8.3 Configuration Steps

### 8.3.1 FX-3500 Configuration

1. Open FX-3500 configurator.
2. Create a new job or open an existing job. Ensure to change “AP Start” to enable CLIP devices on the loop as QX-mini reporting points will be configured as CLIP devices. “AP Start” number may vary based on different applications.



**Figure 80** CLIP / Advanced Protocol Device Address Space

**Note:** QX-mini reporting points are configurable in CLIP mode only. It is important to change AP Start to enable CLIP devices on the loop.

3. Click on the loop that has been wired to SLC terminal on QX-mini Master. Ensure there is enough space for at least seven devices on that loop.
4. Configure the loop as shown in the window below. See section 8.5 on page 59 for details.

**Note:** These devices are integrated in QX-mini as “virtual devices” and do not need to be physically installed on the loop. The number of “virtual SLC devices” depends on your configuration – you can use as many as your job requires

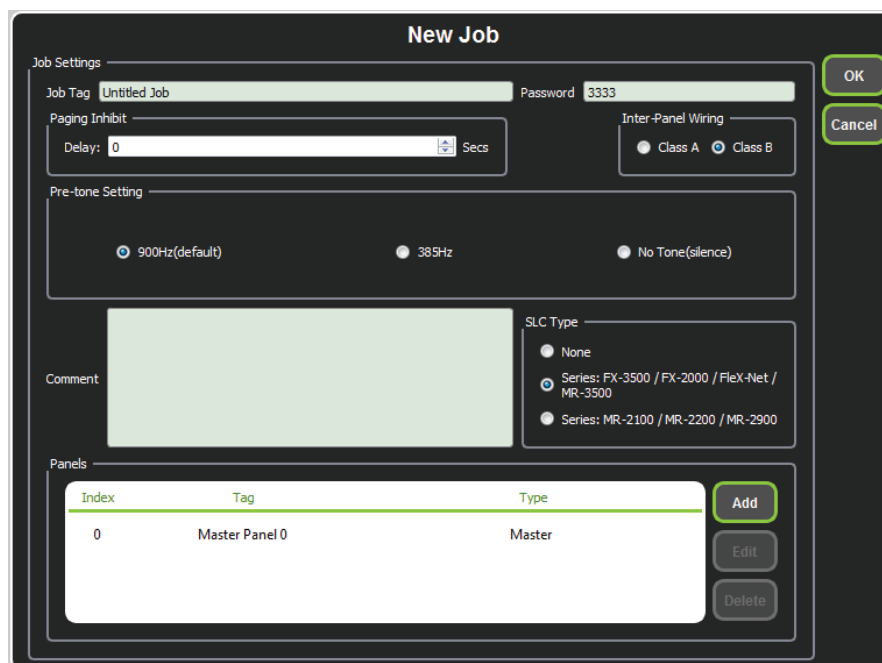
Addr	Device	Type	F1	F3	F4	Sens	Tag (Line1)
201	Input Module (CLIP)	Alarm Input					Pull Station
203	Input Module (CLIP)	Trouble Input					QX Common Trbl
204	Relay Output Module (CLIP)	Relay					QX Signal Silence
205	Input Module (CLIP)	Building/Property Safety					QX Audio Active
206	Input Module (CLIP)	Trouble Input					QX AC Trbl
207	Input Module (CLIP)	Trouble Input					QX Battery Trbl
208	Input Module (CLIP)	Trouble Input					QX Ground Fault
209	Supervised Output Module (CLIP)	Signal					QX Mini Evac

**Figure 81** The addresses may vary depending on each application. Ensure supervised output modules to activate QX-mini zones are configured after reporting devices.

### 8.3.2 QX-mini Steps

**Note:** Until the QX-mini Master is connected and configured, missing device troubles can be ignored.

1. Open MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job specifically.
4. Define timing for page inhibit delay as per local requirements.
5. Select either Class A or Class B depending on the inter-panel wiring.
6. Click on “New Job” or “Edit Job” for an existing file and choose the SLC Type (Series: FX-3500/FX-2000/FleX-Net™/MR-3500).



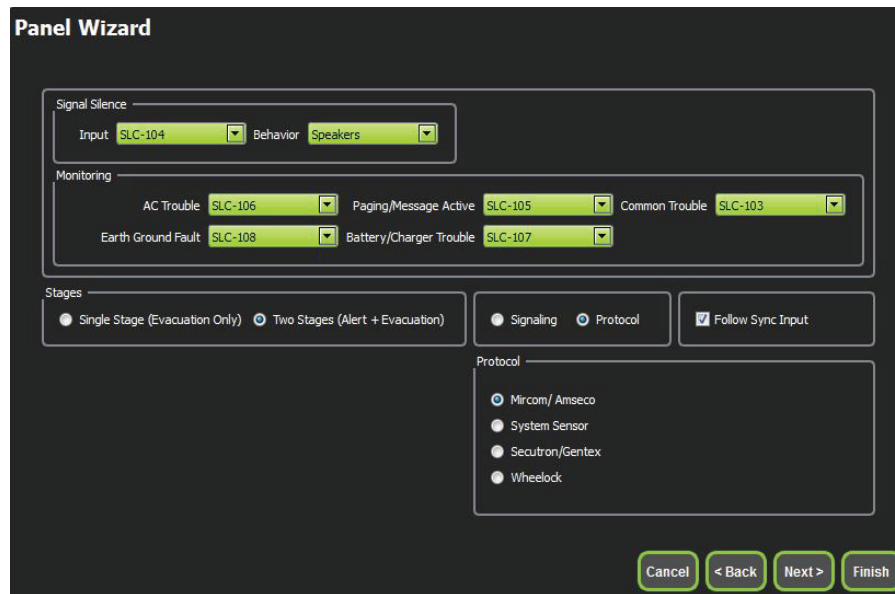
**Figure 82 New Job window**

7. Click on “Master Panel 0” and then click “Edit”
8. Click next until the following window appears. Choose corresponding addresses as FACP for each reporting function. See section 8.5 on page 59 for details.

**Note:** Address 103 for common trouble corresponds to address 203 in Figure 81. When AP start address was set, the module address range



became 201-299 in the configurator as shown in Figure 81.



**Panel Wizard**

Signal Silence  
Input: SLC-104 Behavior: Speakers

Monitoring  
AC Trouble: SLC-106 Paging/Message Active: SLC-105 Common Trouble: SLC-103  
Earth Ground Fault: SLC-108 Battery/Charger Trouble: SLC-107

Stages  
☐ Single Stage (Evacuation Only) ☒ Two Stages (Alert + Evacuation)

☐ Signaling ☒ Protocol ☒ Follow Sync Input

Protocol  
☒ Mircom/ Amseco  
☐ System Sensor  
☐ Secutron/Gentex  
☐ Wheelock

Buttons: Cancel < Back Next > Finish

**Figure 83** Configure all the reporting addresses corresponding to addresses on FACP.

**Note:** Under signal silence, three different behavior options can be selected: **All**, **Speakers**, **Horn & Strobes**. “**All**” turns off all the outputs, “**Speakers**” turns off speaker outputs only, and “**Horn & Strobes**” turns off NACs when signal silence on FACP is pressed.

9. If NACs on FACP need to be in sync with NACs on QX-mini, select appropriate stage, strobe protocol, and select “Follow Sync Input”.
10. Create a zone for EVAC. Correlate the NACs and amplifier outputs to that zone and assign an audio message.

id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

Buttons: OK Cancel

**Figure 84** Create zones

11. Click on panel inputs, click on the '+' sign. Select Panel input address to activate EVAC zone. Ensure this address corresponds to "supervised output module" in Figure 81.

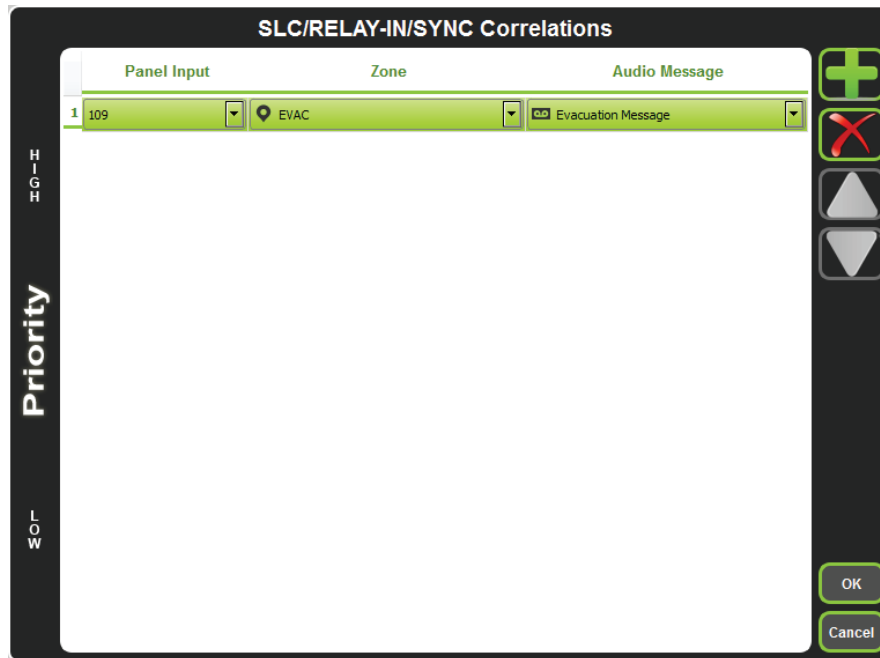


Figure 85 SLC/RELAY-IN/SYNC Correlations

12. All the correlations in job file can be viewed in "Report" as shown below.

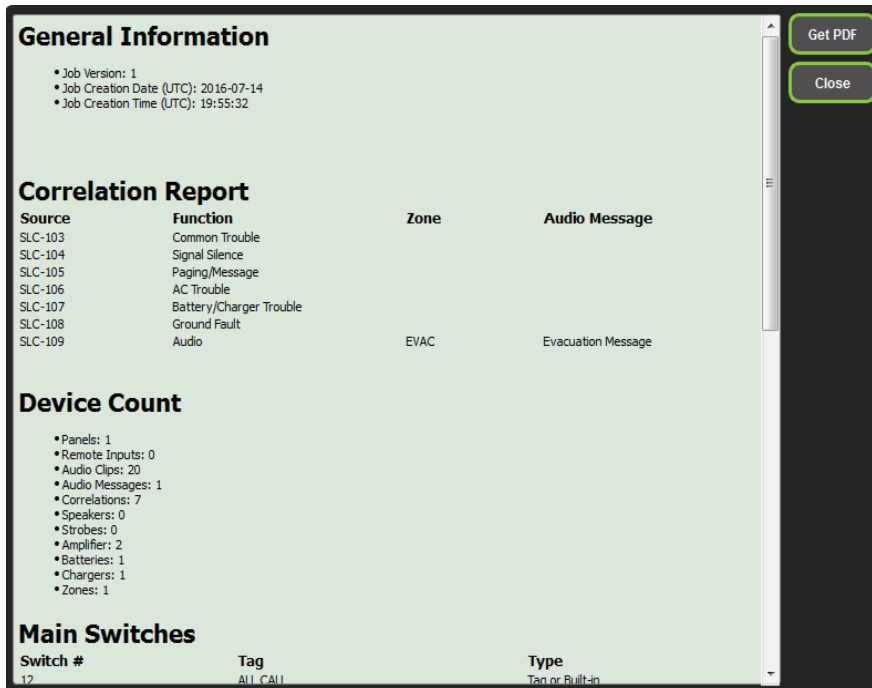


Figure 86 Report

13. Save the job, connect to QX-mini Master and send the job.
14. After job has been successfully sent to the panel, disconnect the USB connector.

## 8.4 Zone Correlations

Zone activation on QX-mini can be correlated to FACP.

## 8.5 SLC Address Configuration

- **Alarm Input:** In Figure 81 on page 55, Input Module address 201 is an example of any alarm input in the job. It would need to be correlated to the Supervised Output module address 209 to activate the EVAC zone on QX-mini.
  - **Common Trouble:** This feature allows the QX-mini to report any trouble(s) back to the FACP. Referring to Figure 81, address 203 is an example of trouble input. Configure the type as “trouble input” in the FACP configurator.
  - **Signal Silence:** This feature allows FACP to silence audible and visible devices on the QX-mini.
    - Audible and Visual signal silence: Configure this as a relay output module, address 204 (shown in Figure 81), and correlate it to “signal silence” common status in the FACP configurator.
  - **Paging/Message Active:** This feature reports to FACP when QX-mini has been manually activated. For example, when microphone is active or a message has been activated, trouble will report back to FACP. Configure this as an input module (Address 205 in Figure 81) in the FACP configurator, and select type as “building/property safety”.
  - **AC Trouble:** This feature reports QX-mini AC failure to FACP. If QX-mini is configured for “AC Loss Delay” then a trouble will only be reported after the delay. Configure this as an input module (Address 206 in Figure 81), and select type as “trouble input” in the FACP configurator.
  - **Battery/Charger Trouble:** This feature reports to FACP when QX-mini has a battery or battery charger trouble. Configure this as an input module (Address 207 in Figure 81), and select type as “trouble input” in the FACP configurator as shown in Figure 81.
  - **Earth Ground Fault:** This feature reports to FACP when there is a ground fault detected on QX-mini system. Configure this as an input module (Address 208 in Figure 81) and select type as “trouble input” in the FACP configurator.
15. Ensure all the addresses are correct and job is validated. Connect to the FX-3500 panel and send the job.

## 9.0 Relay Input - QX-mini and FX-3500

### 9.1 Introduction

The QX-mini is designed to interface with FACP's via relay inputs which provide zone activation functionality.

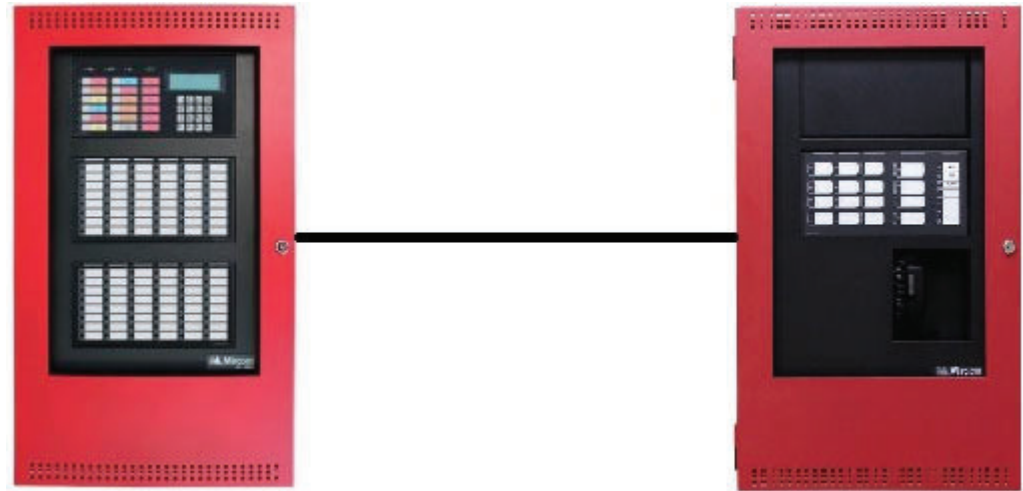


Figure 87 QX-mini and FX-3500

## 9.2 Wiring

For relay input integration: Connect the wire from a normally open relay contact to “relay 1” or “relay 2” terminal on the QX-mini Master.

**Note:** If system is comprised of a QX-mini Master and booster panels, only the QX-mini Master must be wired. Relay inputs on booster panels are not configurable.

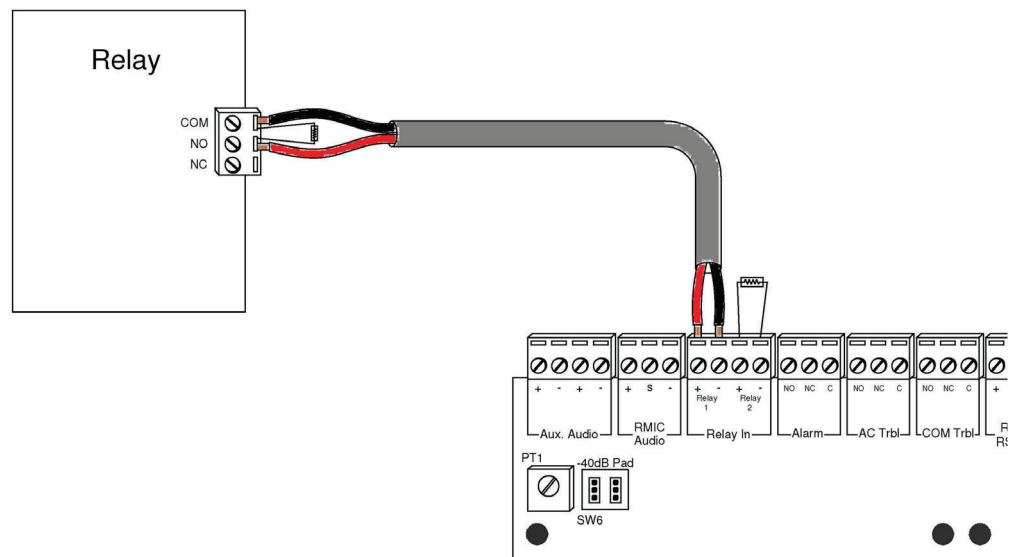


Figure 88 Relay wiring

## 9.3 Configuration Steps

### 9.3.1 FX-3500 Configuration

1. Open FX-3500 configurator.
2. Create a new job or open an existing job. Ensure to change “AP Start” to enable CLIP devices on the loop as QX-mini reporting points will be configured as CLIP devices. “AP Start” number may vary based on different applications.
3. Click on the loop that has been wired to SLC terminal on the QX-mini Master.
4. Configure the loop as shown in the window below.

**Note:** In this particular example, relay output module (MIX-M500R) was used to activate the EVAC zone. This module must be correlated to all the alarm inputs in the job.

Addr	Device	Type	F1	F3	F4	Sens	Tag (Line1)	Tag (Line2)	Delay
201	Input Module (CLIP)	Alarm Input					First Floor		
202	Input Module (CLIP)	Alarm Input					2nd Floor		
209	Relay Output Module (CLIP)	Strobe					QX-EVAC		0

Alarm	Supv.	Trbl.	Mon.	Status	Display	Hazard Zone
-------	-------	-------	------	--------	---------	-------------

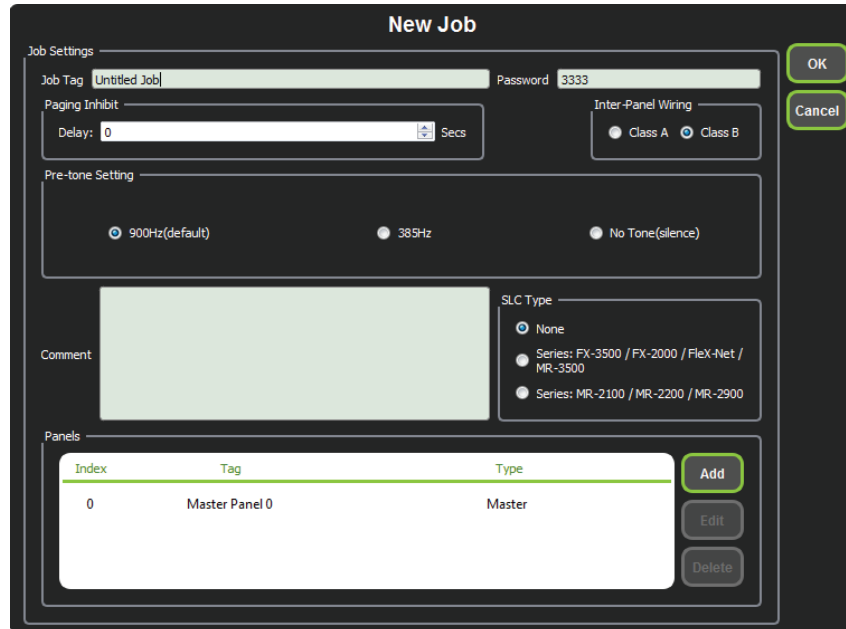
Type	Lp	Addr	Device	F1	F2	F3	F4	Tag
Alarm Input	1	201	Input Modu...					First Floor
Alarm Input	1	202	Input Modu...					2nd Floor

**Figure 89** The addresses may vary depending on each application.

5. Ensure all the addresses are correct and job is validated. Connect to the FX-3500 panel and send the job.

### 9.3.2 QX-mini Steps

1. Open MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job specifically.
4. Define timing for page inhibit delay as per local requirement.
5. Select either Class A or Class B depending on the inter-panel wiring.
6. Click on “New Job” or “Edit Job” for an existing file and choose “None” under SLC type.

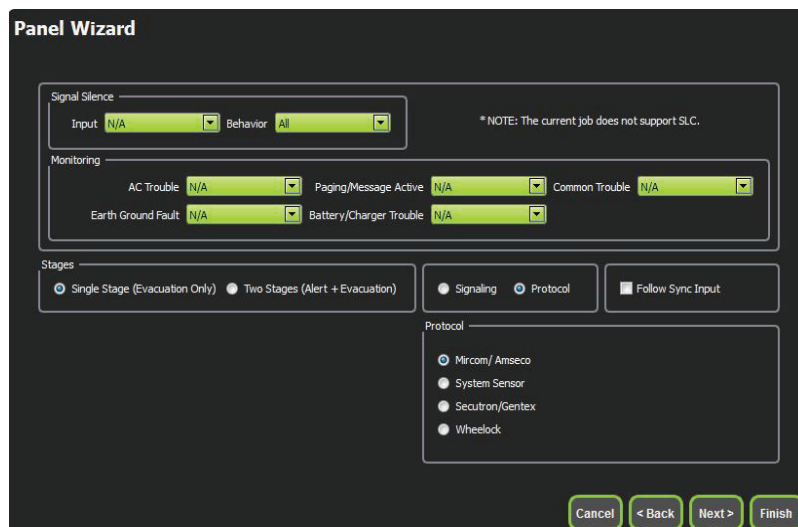


The "New Job" window is a configuration interface for a new job. It includes the following sections:

- Job Settings:** Job Tag (Untitled Job), Password (3333), OK, Cancel buttons.
- Paging Inhibit:** Delay (0 Secs), Inter-Panel Wiring (Class A, Class B).
- Pre-tone Setting:** 900Hz(default), 385Hz, No Tone(silence).
- Comment:** Text area.
- SLC Type:** None, Series: FX-3500 / FX-2000 / Flex-Net / MR-3500, Series: MR-2100 / MR-2200 / MR-2900.
- Panels:** Table with columns Index, Tag, Type. One row: 0, Master Panel 0, Master. Add, Edit, Delete buttons.

**Figure 90 New Job window**

7. Click on “Master Panel 0” and then click “Edit”
8. Click next until the following window appears. Select appropriate stage, strobe protocol, and select “Follow Sync Input” if NACs on QX-mini need to be in sync with NACs on FACP.



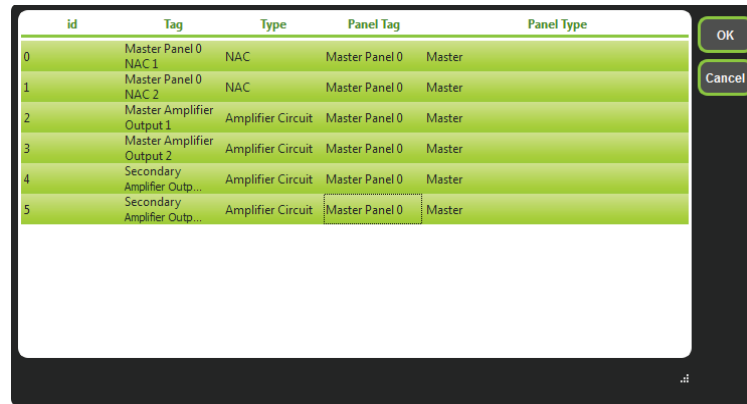
The "Panel Wizard" window is a configuration interface for a panel. It includes the following sections:

- Signal Silence:** Input (N/A), Behavior (All), \* NOTE: The current job does not support SLC.
- Monitoring:** AC Trouble (N/A), Paging/Message Active (N/A), Common Trouble (N/A), Earth Ground Fault (N/A), Battery/Charger Trouble (N/A).
- Stages:** Single Stage (Evacuation Only), Two Stages (Alert + Evacuation), Signaling, Protocol, Follow Sync Input.
- Protocol:** Mircom/ Amseco, System Sensor, Secutron/Gentex, Wheelock.
- Buttons:** Cancel, < Back, Next >, Finish.

**Figure 91 Follow sync input**

**Note:** Signal silence cannot be performed via the relay input connection; this feature is only available through an SLC connection with a Mircom panel using addressable modules.

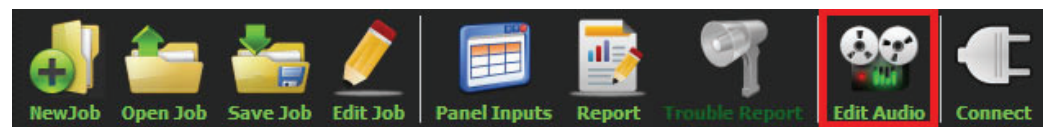
9. Create zones as per requirement and correlate them to NACs and speaker outputs.



id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

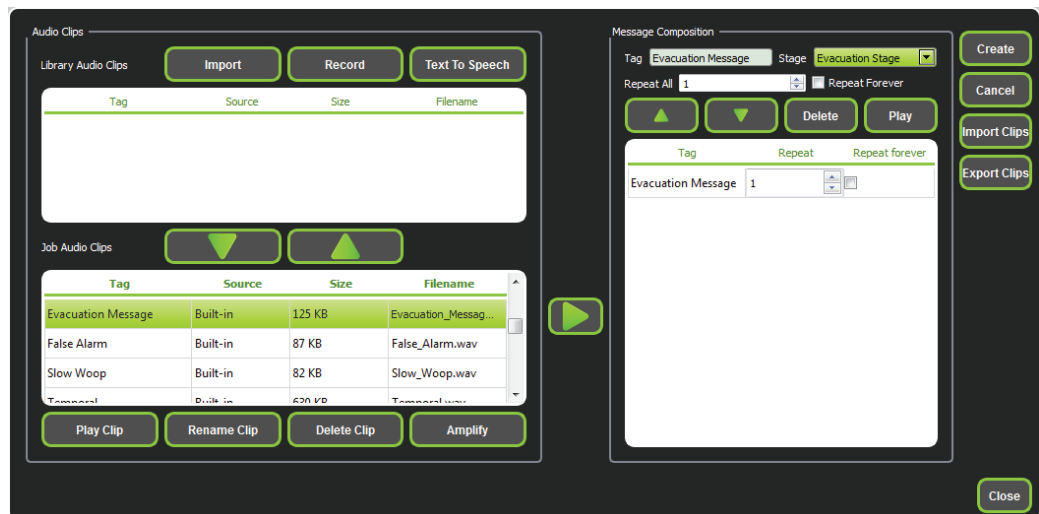
**Figure 92 Create zones**

10. Click on “Edit Audio”.



**Figure 93 Edit Audio button**

11. Click “Add” and create a message. Ensure that stage for Evac is selected from the drop down.



**Figure 94 Audio Clips**



12. Click on panel inputs, click on the '+' sign. Select the relay input that has been wired to activate EVAC zone.

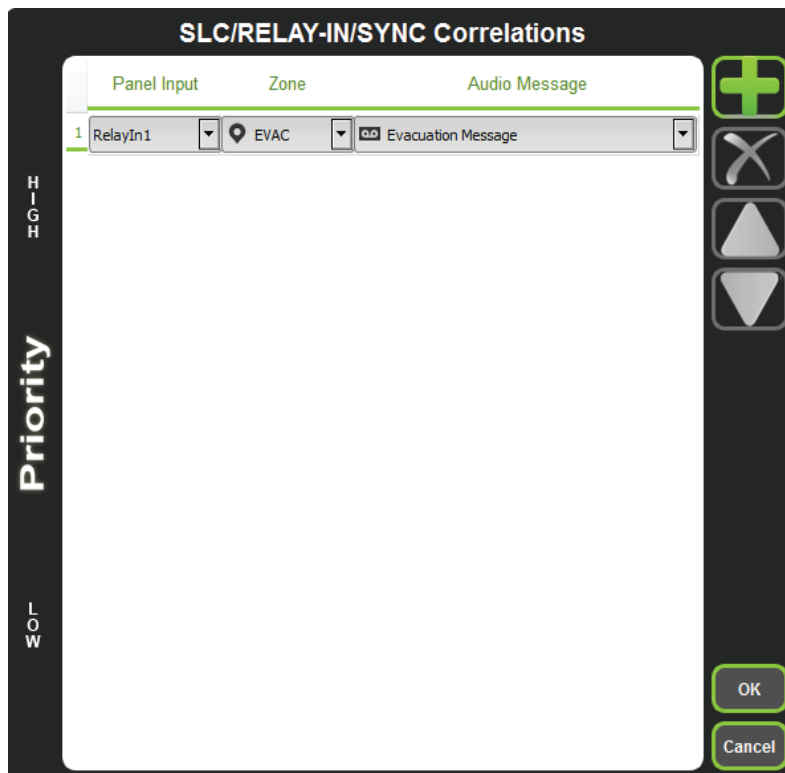


Figure 95 SLC/RELAY-IN/SYNC Correlations

13. All the correlations in job file can be viewed in "Report" as shown below.

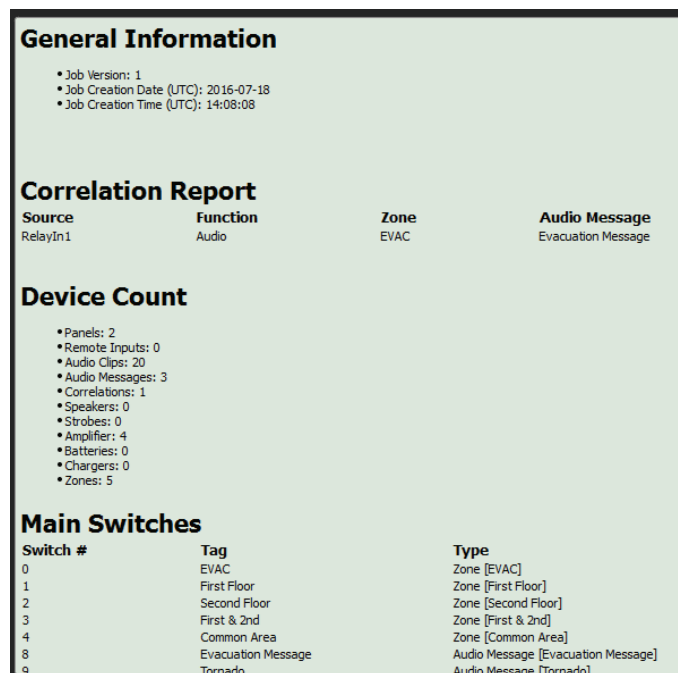


Figure 96 Report

14. Save the job, connect to QX-mini and send the job.
15. After job has been successfully sent to the panel, disconnect the USB connector.

## 10.0 SLC Integration - QX-mini and FX-2000 - Two Stage

### 10.1 Introduction

The QX-mini is designed to interface with Mircom FACP's over an SLC link where it is seen as a number of "virtual devices." This single link allows for zone-by-zone automatic control as well as specific trouble reporting back to the FACP.

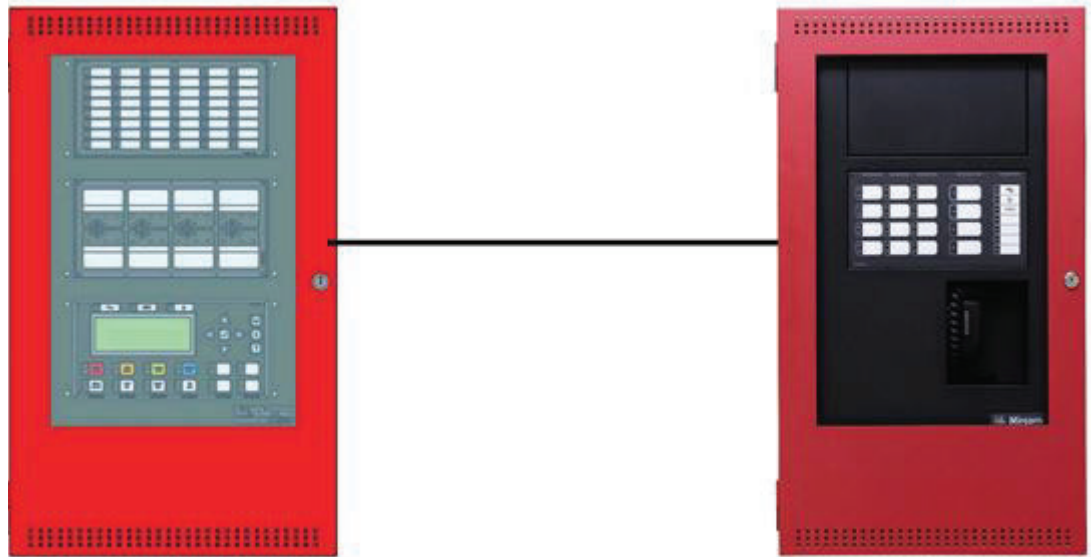


Figure 97 QX-mini and FX-2000

## 10.2 Wiring

For SLC integration: Connect wire from preferred loop of FX-2000 to SLC terminal on QX-mini Master.

**Note:** If system is comprised of a QX-mini Master and booster panels, only the QX-mini Master must be wired with FACP.

### 10.2.1 SLC-Class A

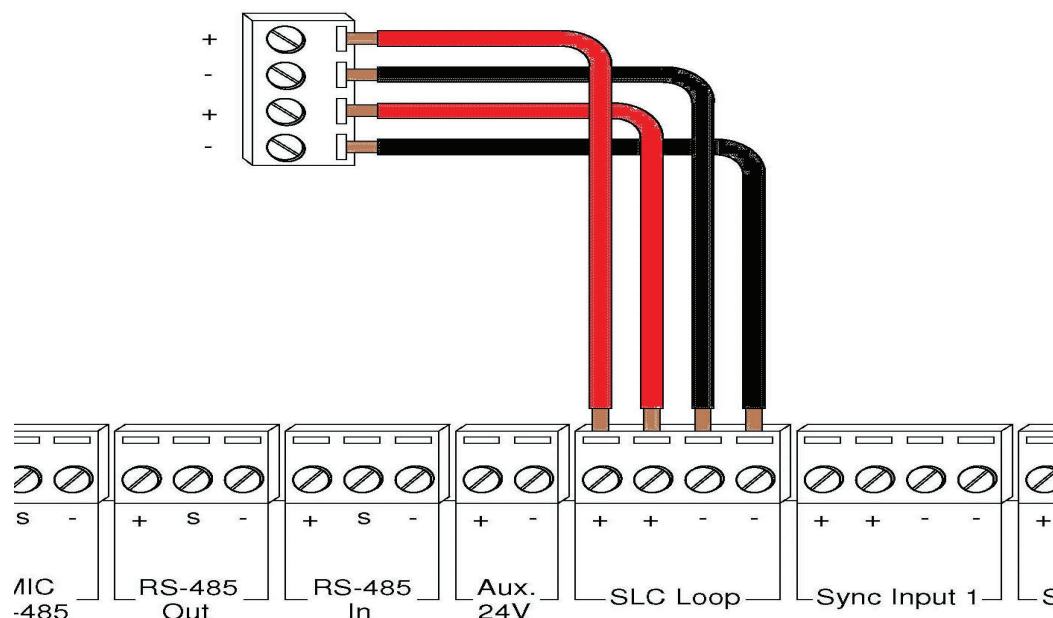


Figure 98 Class A wiring to connect FACP with QX-mini Master via SLC link

### 10.2.2 SLC-Class B

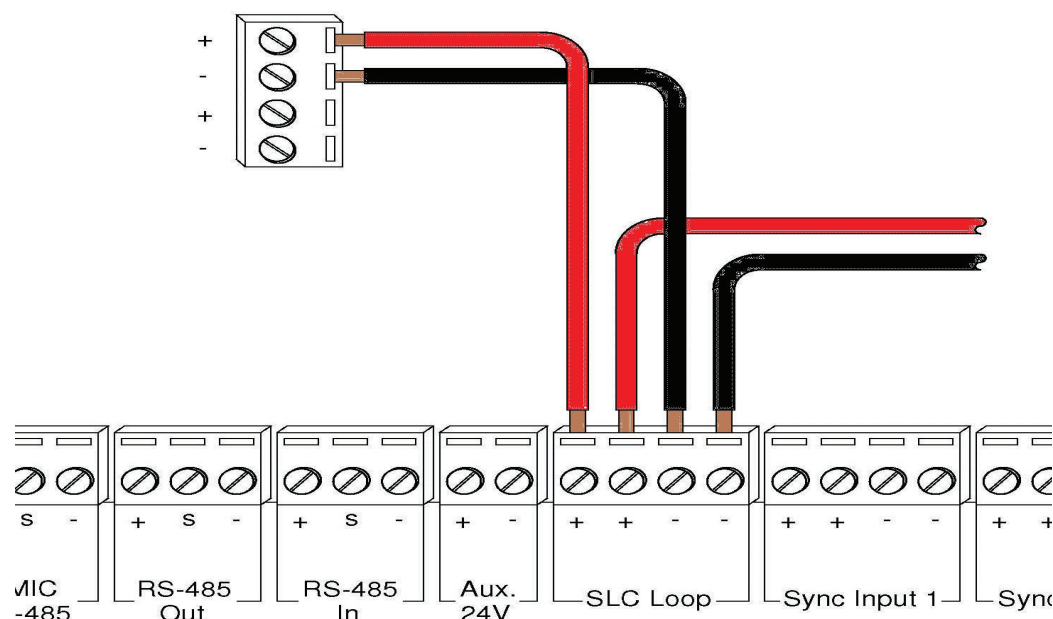
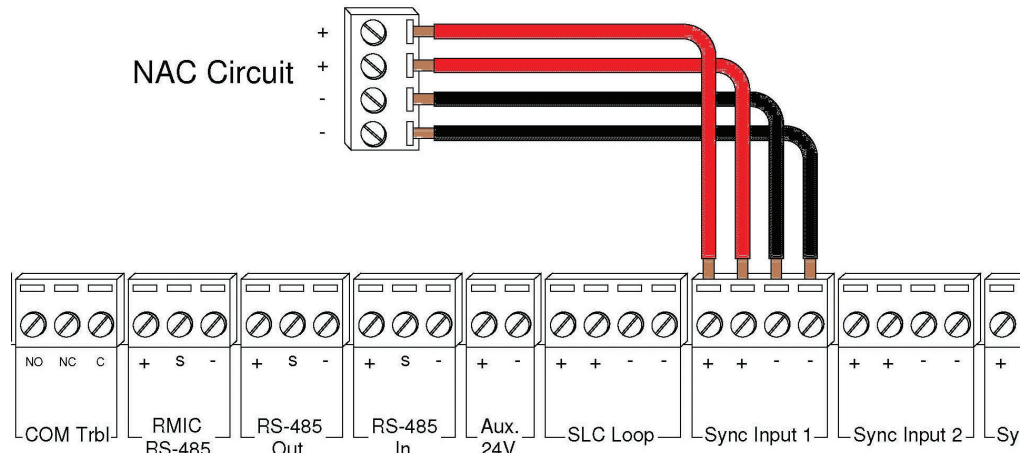


Figure 99 Class B wiring to connect FACP with QX-mini Master via SLC link

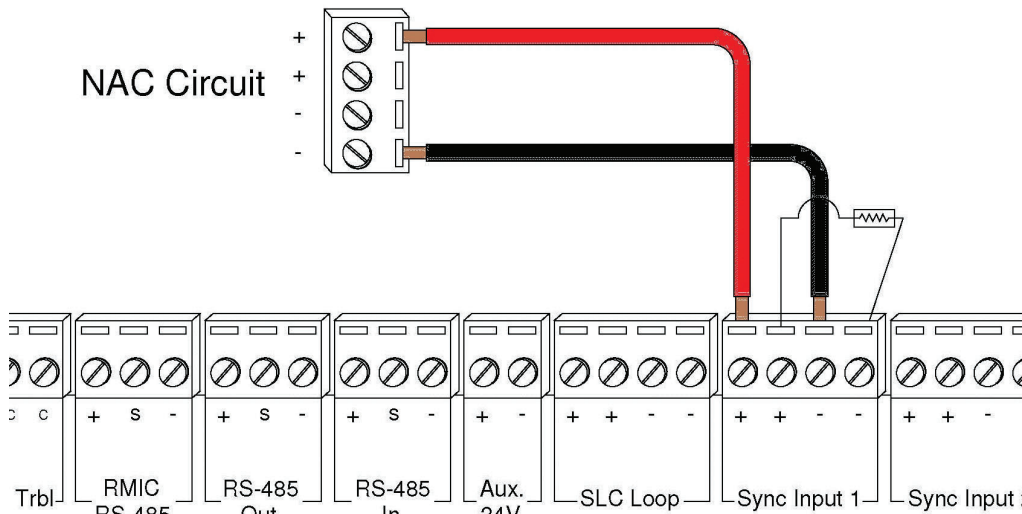
**Note:** If QX-mini system is required to follow sync from FACP, refer to below diagrams for wiring.

### 10.2.3 SYNC-Class A



**Figure 100 Sync Class A**

### 10.2.4 SYNC-Class B



**Figure 101 Sync Class B**

## 10.3 Configuration Steps

### 10.3.1 FX-2000 Configuration

1. Open FX-2000 configurator.
2. Create a new job or open an existing job.
3. Click on the loop that has been wired to SLC terminal on QX-mini Master. Ensure there is enough space for at least seven devices on that loop.
4. Configure the loop as shown in the window below. See section 10.4 on page 74 for details.

**Note:** These devices are integrated in QX-mini as “virtual devices” and do not need to be physically installed on the loop. The number of “virtual SLC devices” depends on your configuration – you can use as many as your job requires

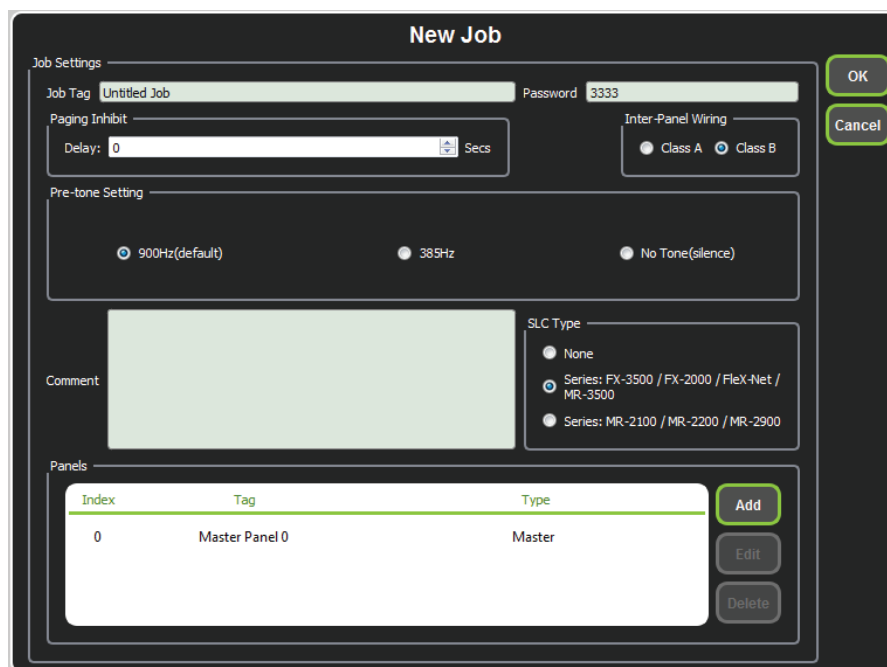
Addr	Device	Type			Sens	Tag (Line1)	Tag (Line2)
101	Ipt Module	Alarm Input				1st Floor Pull	
102	Ipt Module	Alarm Input				2nd Floor Pull	
103	Ipt Module	Trouble Input				QX Common Trbl	
104	Relay Opt Mod	Relay				QX Signal Silence	
105	Ipt Module	Trouble Input				QX Audio Active	
106	Ipt Module	Trouble Input				QX AC Trbl	
107	Ipt Module	Trouble Input				QX Battery Trbl	
108	Ipt Module	Trouble Input				QX Ground Fault	
109	Relay Opt Mod	Relay				Elevator	
111	Supv Opt Mod	Strobe				1st Floor	First Stage-Alert
112	Supv Opt Mod	Strobe				2nd Floor	First Stage-Alert
113	Relay Opt Mod	Relay				1st Floor	2nd Stage-EVAC
114	Relay Opt Mod	Relay				2nd Floor	2nd Stage-EVAC

**Figure 102** Configure supervised output module for alert stage and relay output module for evac stage

### 10.3.2 QX-mini Steps

**Note:** Until the QX-mini Master is connected and configured, missing device troubles can be ignored.

1. Open MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job specifically.
4. Define timing for page inhibit delay as per requirements.
5. Select either Class A or Class B depending on the inter-panel wiring.
6. Click on “New Job” or “Edit Job” for an existing file and choose the SLC Type (Series: FX-3500/FX-2000/FleX-Net™/MR-3500).



**New Job**

Job Settings

Job Tag:  Password:

Paging Inhibit

Delay:  Secs

Inter-Panel Wiring

☐ Class A ☒ Class B

Pre-tone Setting

☒ 900Hz(default) ☐ 385Hz ☐ No Tone(silence)

Comment:

SLC Type

☐ None ☒ Series: FX-3500 / FX-2000 / FleX-Net / MR-3500 ☐ Series: MR-2100 / MR-2200 / MR-2900

Panels

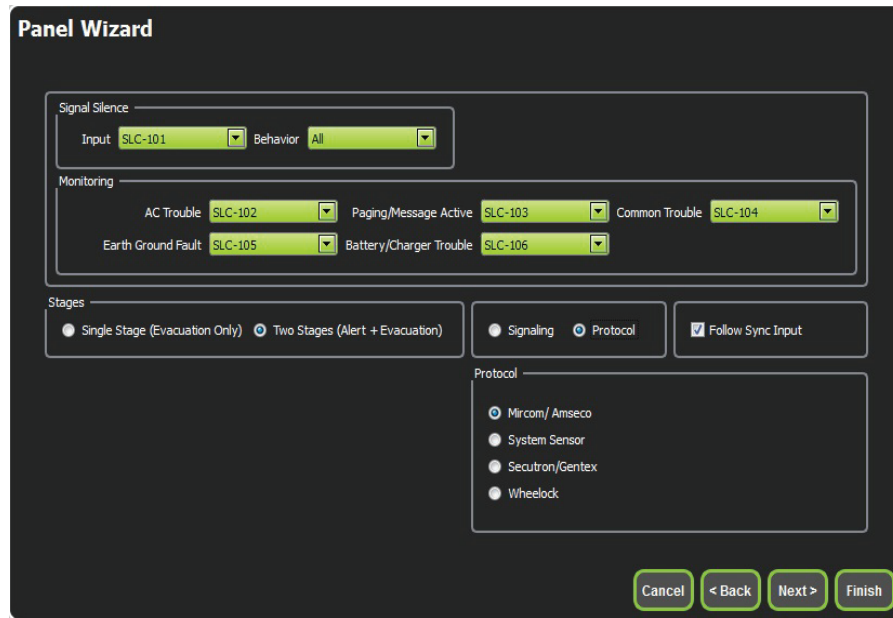
Index	Tag	Type
0	Master Panel 0	Master

Buttons: Add, Edit, Delete, OK, Cancel

**Figure 103 New Job window**

7. Click on “Master Panel 0” and then click “Edit”

8. Click next until the following window appears. Choose corresponding addresses as FACP for each reporting function. See section 10.4 on page 74 for details.



**Panel Wizard**

Signal Silence  
Input: SLC-101 Behavior: All

Monitoring  
AC Trouble: SLC-102 Paging/Message Active: SLC-103 Common Trouble: SLC-104  
Earth Ground Fault: SLC-105 Battery/Charger Trouble: SLC-106

Stages  
☐ Single Stage (Evacuation Only) ☒ Two Stages (Alert + Evacuation)

☐ Signaling ☒ Protocol ☒ Follow Sync Input

Protocol  
☒ Mircom/ Amseco  
☐ System Sensor  
☐ Secutron/Gentex  
☐ Wheelock

Buttons: Cancel < Back Next > Finish

**Figure 104** Configure all the reporting addresses corresponding to addresses on FACP.

**Note:** Under signal silence, three different behaviors are available for selection: All, Speakers, Horn & Strobes. “All” turns off all the outputs, “Speakers” turns off speaker outputs only, and “Horn & Strobes” turns off NACs when signal silence on FACP is pressed.

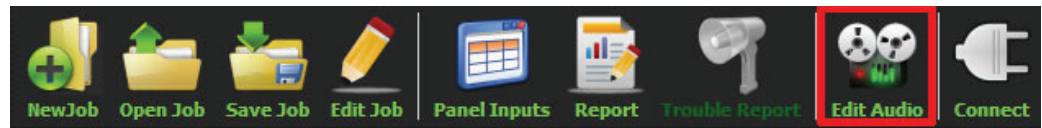
9. If NACs on FACP need to be in sync with NACs on QX-mini, select appropriate stage, strobe protocol, and select “Follow Sync Input”.
10. Create zones as per requirement and correlate them to NACs and speaker outputs.

id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

Buttons: OK Cancel

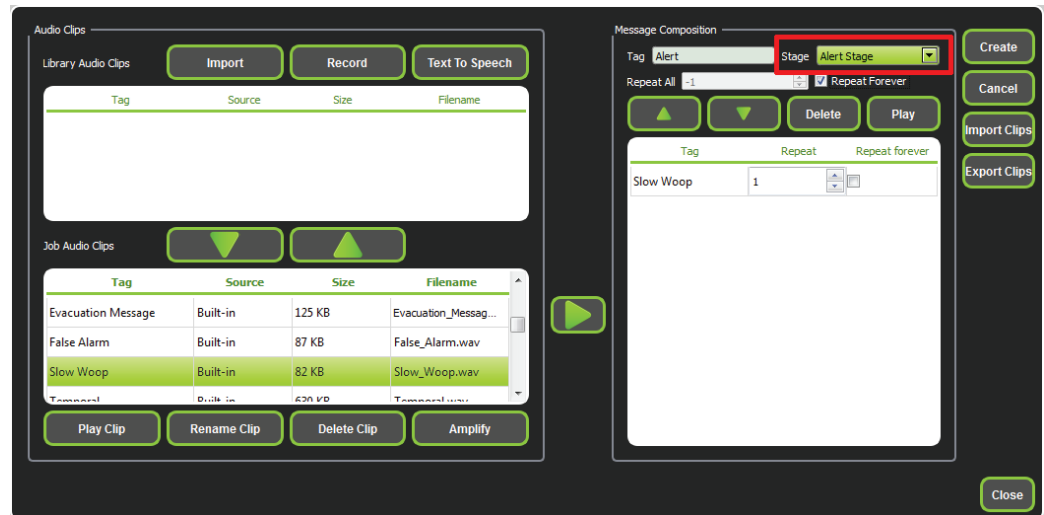
**Figure 105** Create zones

11. Click on “Edit Audio”.



**Figure 106 Edit Audio button**

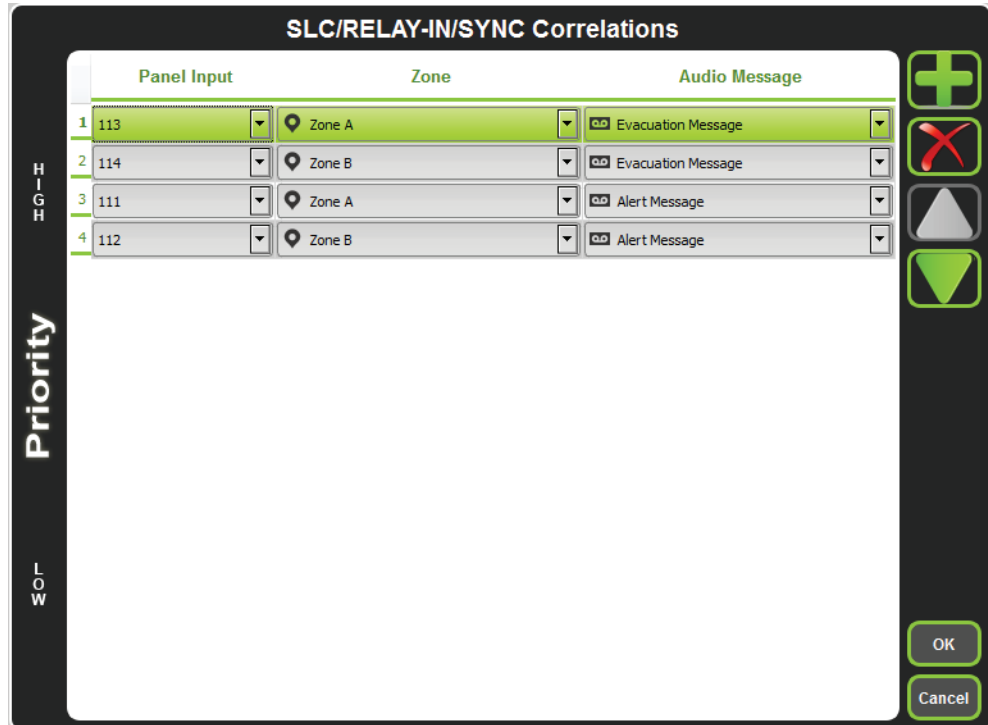
12. Click “Add” and create an alert and evac message based on the requirements. Ensure that stage for Alert and Evac is selected from the drop down box as shown below:



**Figure 107 Audio Clips**



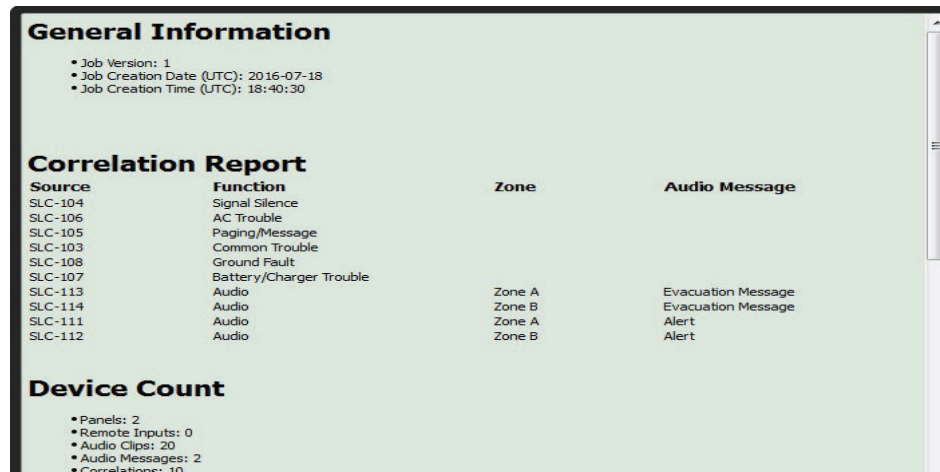
13. Click on panel inputs, click on the '+' sign. Select Panel input address to activate EVAC and Alert zones. Ensure this address corresponds to modules in Figure 102. Ensure to include two audio messages in the job file: Evac and Alert.



	Panel Input	Zone	Audio Message
1	113	Zone A	Evacuation Message
2	114	Zone B	Evacuation Message
3	111	Zone A	Alert Message
4	112	Zone B	Alert Message

Figure 108 SLC/RELAY-IN/SYNC Correlations

14. In order to see "Page Inhibit" countdown, the feature can be assigned to one of the zone switches. Right click on the switch and select "Assign paging inhibit". Flashing of the LED will indicate countdown of the inhibit.
15. All the correlations in job file can be viewed in "Report" as shown below.



Source	Function	Zone	Audio Message
SLC-104	Signal Silence		
SLC-106	AC Trouble		
SLC-105	Paging/Message		
SLC-103	Common Trouble		
SLC-108	Ground Fault		
SLC-107	Battery/Charger Trouble		
SLC-113	Audio	Zone A	Evacuation Message
SLC-114	Audio	Zone B	Evacuation Message
SLC-111	Audio	Zone A	Alert
SLC-112	Audio	Zone B	Alert

Device Count	
• Panels:	2
• Remote Inputs:	0
• Audio Clips:	20
• Audio Messages:	2
• Correlations:	10

Figure 109 Report

16. Save the job, connect to QX-mini and send the job.
17. After job has been successfully sent to the panel, disconnect the USB connector.

## 10.4 SLC Address Configuration

- **Alarm Input:** In Figure 102 on page 69, Input Module address 101 is an example of any alarm input in the job. It would need to be correlated to Supervised Output module addresses to activate alert stage.
  - **Common Trouble:** This feature allows the QX-mini to report any trouble(s) back to the FACP. Referring to Figure 102, address 103 is an example of trouble input. Configure the type as “trouble input” in the FACP configurator.
  - **Signal Silence:** This feature allows FACP to silence audible and visible devices on the QX-mini.
    - Audible and Visual signal silence: Configure this as a relay output module, address 101 (shown in Figure 102), and correlate it to “signal silence” common status in the FACP configurator.
  - **Paging/Message Active:** This feature reports to FACP when QX-mini has been manually activated. For example, when microphone is active or a message has been activated, trouble will report back to FACP. Configure this as an input module (Address 101 in Figure 102) in the FACP configurator, and select type as “building/property safety”.
  - **AC Trouble:** This feature reports QX-mini AC failure to FACP. If QX-mini is configured for “AC Loss Delay” then a trouble will only be reported after the delay. Configure this as an input module (Address 106 in Figure 102), and select type as “trouble input” in the FACP configurator.
  - **Battery/Charger Trouble:** This feature reports to FACP when QX-mini has a battery or battery charger trouble. Configure this as an input module (Address 107 in Figure 102), and select type as “trouble input” in the FACP configurator as shown in Figure 102.
  - **Earth Ground Fault:** This feature reports to FACP when there is a ground fault detected on QX-mini system. Configure this as an input module (Address 107 in Figure 102) and select type as “trouble input” in the FACP configurator.
18. Ensure all the addresses are correct and job is validated. Connect to the FX-2000 panel and send the job.

## 11.0 SLC Integration - QX-mini and FX-2000 - Single Stage

### 11.1 Introduction

The QX-mini is designed to interface with Mircom FACP's over an SLC link where it is seen as a number of "virtual devices." This single link allows for zone-by-zone automatic control as well as specific trouble reporting back to the FACP.

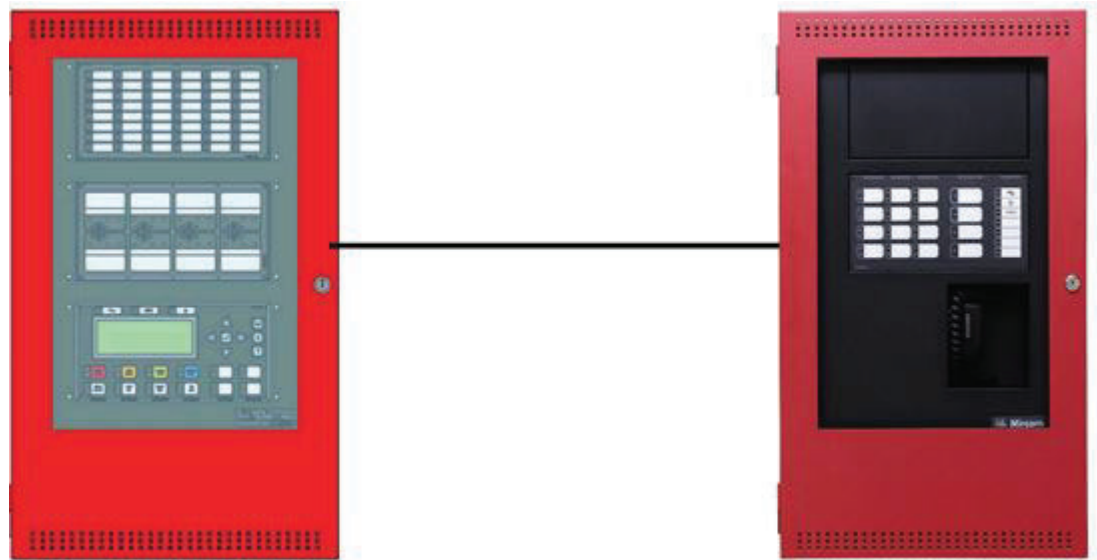


Figure 110 QX-mini and FX-2000

## 11.2 Wiring

For SLC integration, connect wire from preferred loop of FX-2000 to SLC terminal on QX-mini Master.

**Note:** If the system is comprised of a QX-mini Master and booster panels, only the QX-mini Master must be wired with FACP.

### 11.2.1 Class A

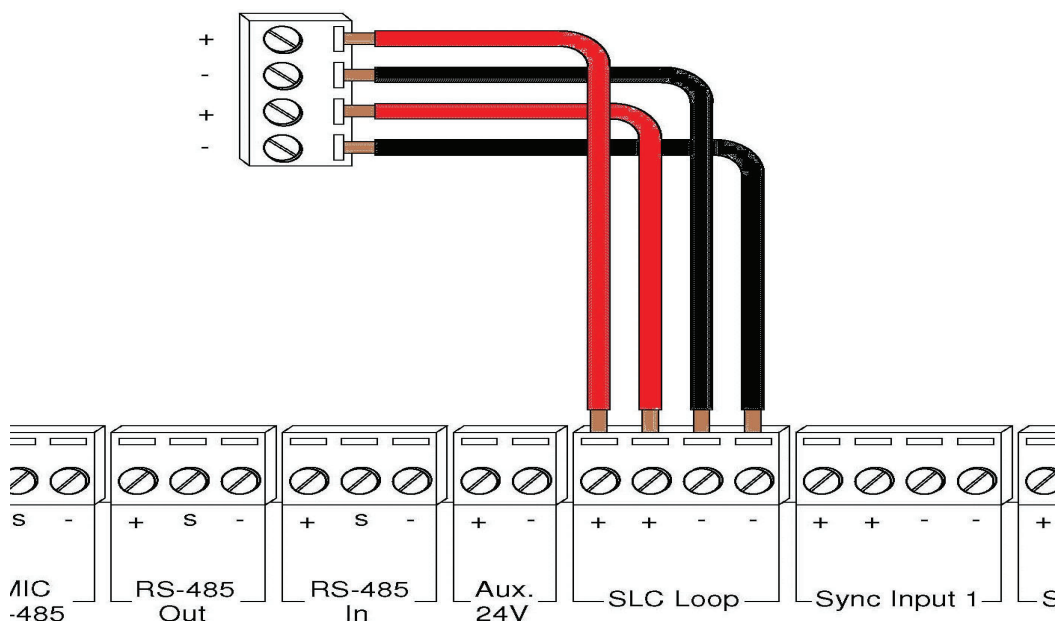


Figure 111 Class A wiring to connect FACP with QX-mini master via SLC link.

### 11.2.2 Class B

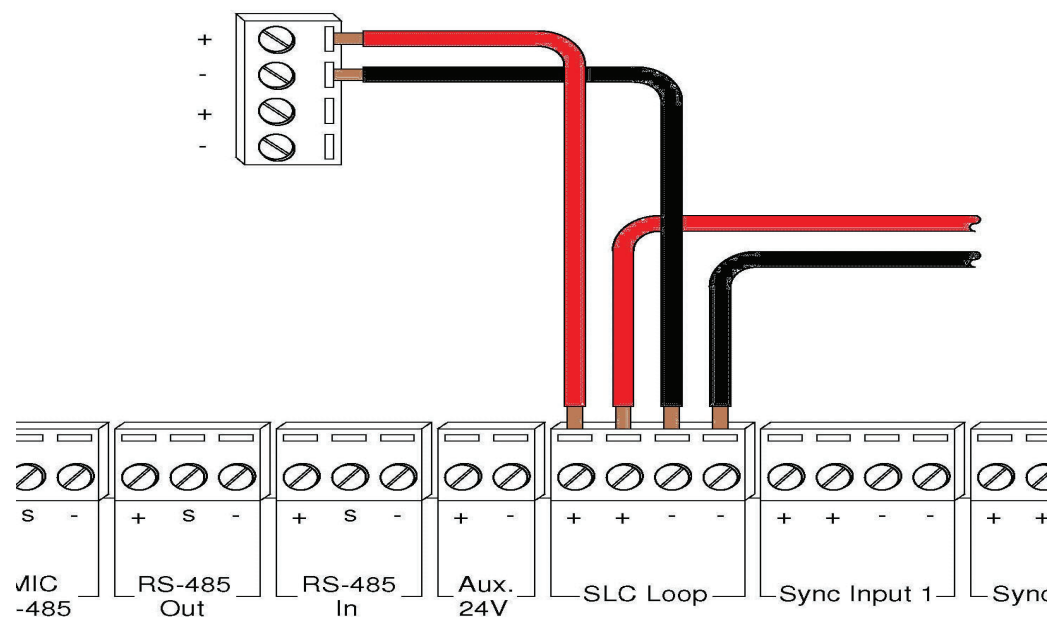


Figure 112 Class B wiring to connect FACP with QX-mini master via SLC link.

## 11.3 Configuration Steps

### 11.3.1 FX-2000 Configuration

1. Open FX-2000 configurator.
2. Create a new job or open an existing job.
3. Click on the loop that has been wired to SLC terminal on QX-mini Master. Ensure there is enough space for at least seven devices on that loop.
4. Configure the loop as shown in the window below. See section 11.4 on page 81 for details.

**Note:** These devices are integrated in QX-mini as “virtual devices” and do not need to be physically installed on the loop. The number of “virtual SLC devices” depends on your configuration – you can use as many as your job requires.

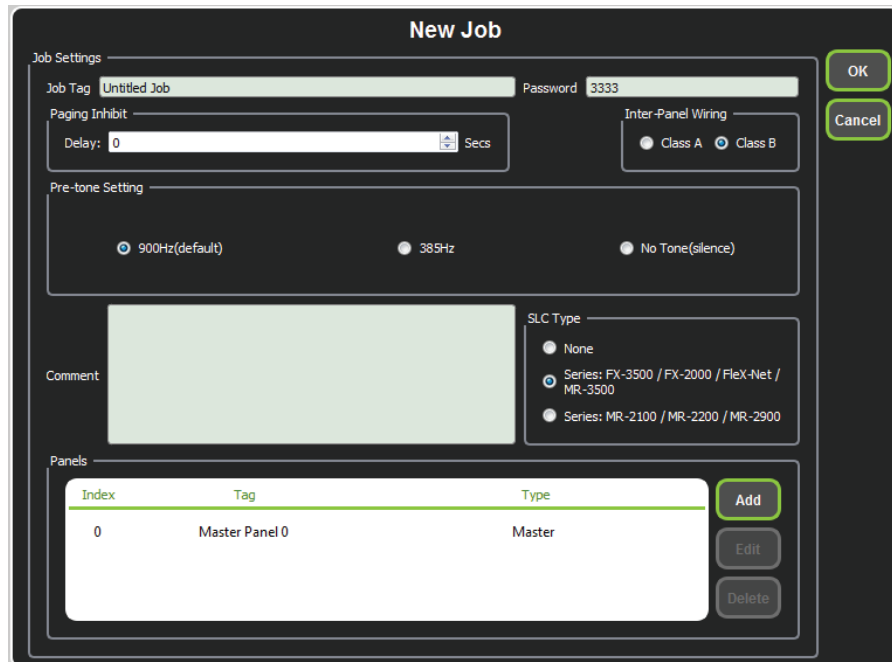
Addr	Device	Type	F1	F3	F4	Any of	Sens	Timer	Tag (Line1)
101	Ipt Module	Alarm Input							1st Floor Pull
102	Ipt Module	Alarm Input							2nd Floor Pull
103	Ipt Module	Trouble Input							QX Common Trbl
104	Relay Opt Mod	Relay							QX Signal Silence
105	Ipt Module	Trouble Input							QX Audio Active
106	Ipt Module	Trouble Input							QX AC Trbl
107	Ipt Module	Trouble Input							QX Battery Trbl
108	Ipt Module	Trouble Input							QX Ground Fault
109	Relay Opt Mod	Relay							Elevator Relay
110	Supv Opt Mod	Strobe							QX EVAC Zone

**Figure 113** The addresses may vary depending on each application. Ensure supervised output modules to activate QX-mini zones are configured after reporting features

### 11.3.2 QX-mini Steps

**Note:** Until the QX-mini Master is connected and configured, missing device troubles can be ignored.

1. Open MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job specifically
4. Define timing for page inhibit delay as per requirements
5. Select either Class A or Class B depending on the inter-panel wiring
6. Click on “New Job” or “Edit Job” for an existing file and choose the SLC Type (Series: FX-3500/FX-2000/FleX-Net™/MR-3500)



**New Job**

Job Settings

Job Tag:  Password:

Paging Inhibit

Delay:  Secs

Inter-Panel Wiring

☐ Class A ☒ Class B

Pre-tone Setting

☒ 900Hz(default) ☐ 385Hz ☐ No Tone(silence)

Comment

SLC Type

☐ None ☒ Series: FX-3500 / FX-2000 / FleX-Net / MR-3500 ☐ Series: MR-2100 / MR-2200 / MR-2900

Panels

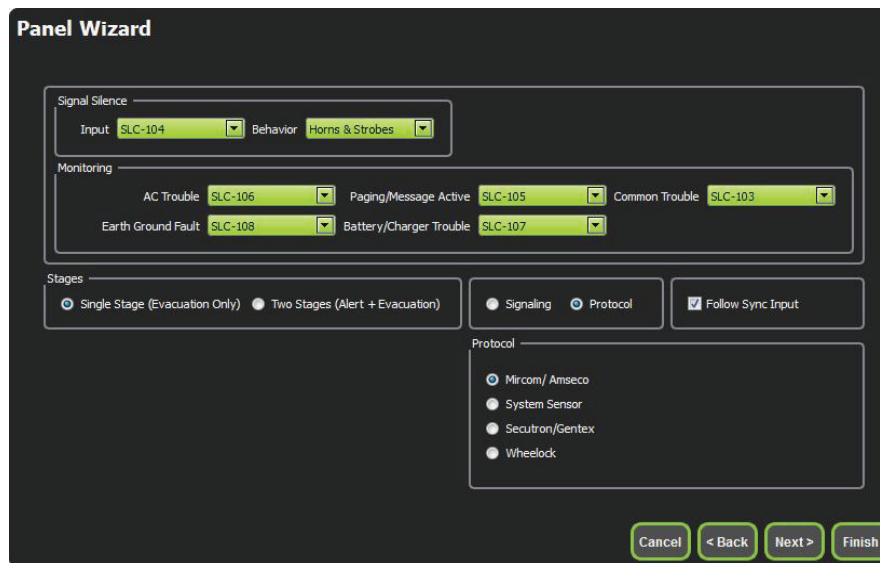
Index	Tag	Type
0	Master Panel 0	Master

Add Edit Delete

**Figure 114 New Job window**

7. Click on “Master Panel 0” and then click “Edit”.

8. Click next until the following window appears. Choose corresponding addresses as FACP for each reporting function. See section 11.4 on page 81 for details.



**Panel Wizard**

Signal Silence  
Input: SLC-104 Behavior: Horns & Strobes

Monitoring  
AC Trouble: SLC-106 Paging/Message Active: SLC-105 Common Trouble: SLC-103  
Earth Ground Fault: SLC-108 Battery/Charger Trouble: SLC-107

Stages  
☒ Single Stage (Evacuation Only) ☐ Two Stages (Alert + Evacuation)

☐ Signaling ☒ Protocol ☒ Follow Sync Input

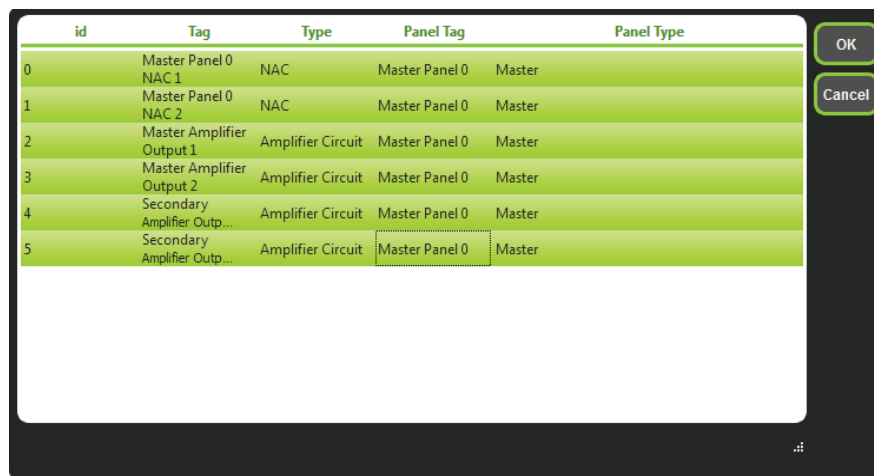
Protocol  
☒ Mircom/ Amseco  
☐ System Sensor  
☐ Secutron/Gentex  
☐ Wheelock

Buttons: Cancel, < Back, Next >, Finish

**Figure 115** Configure all the reporting addresses corresponding to addresses on FACP.

**Note:** Under signal silence, three different behaviors are available for selection: All, Speakers, Horn & Strobes. “All” turns off all the outputs, “Speakers” turns off speaker outputs only, and “Horn & Strobes” turns off NACs when signal silence on FACP is pressed.

9. If NACs on FACP need to be in sync with NACs on QX-mini, select appropriate stage, strobe protocol, and select “Follow Sync Input”
10. Create a zone for EVAC. Correlate the NACs and amplifier outputs to that zone and assign an audio message.



id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

Buttons: OK, Cancel

**Figure 116** Create zones

11. Click on panel inputs, click on the '+' sign. Select Panel input address to activate EVAC zone. Ensure this address corresponds to "supervised output module" in Figure 113.

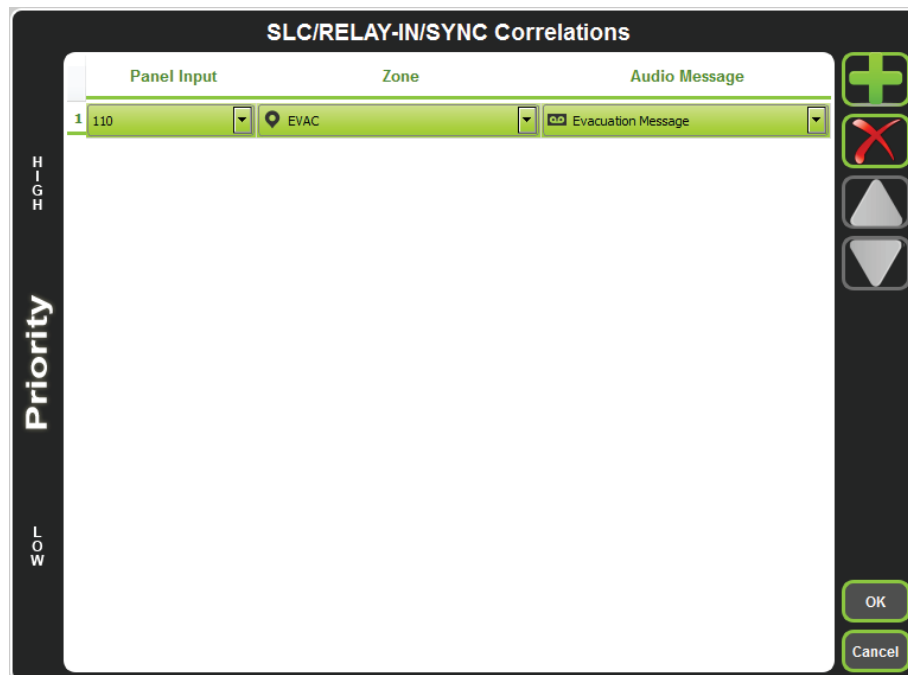
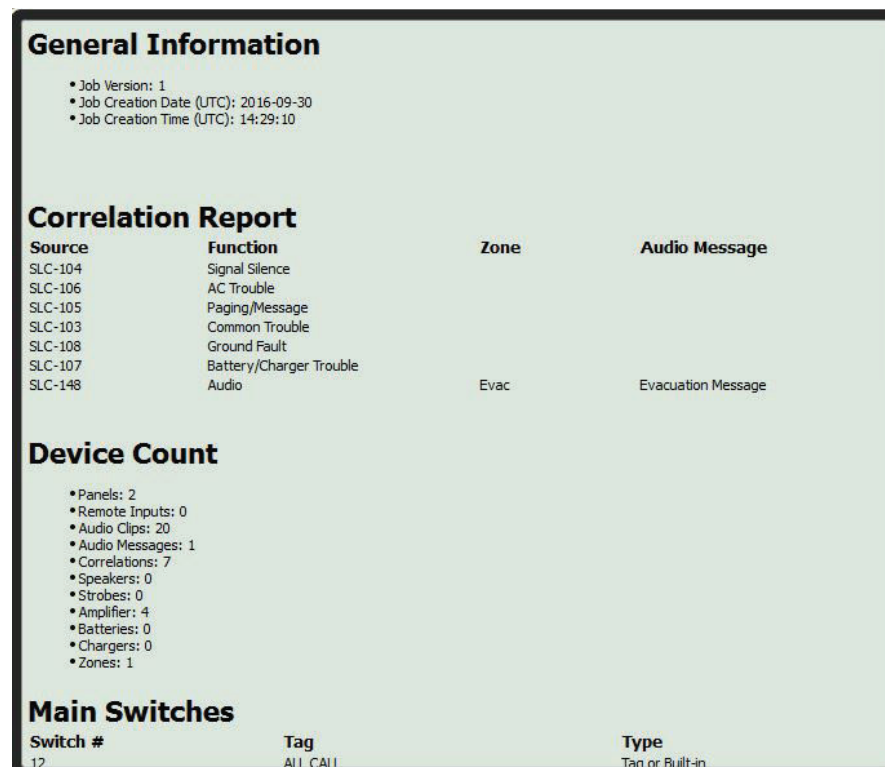


Figure 117 SLC/RELAY-IN/SYNC Correlations

12. All the correlations in job file can be viewed in "Report" as shown below.



Source	Function	Zone	Audio Message
SLC-104	Signal Silence		
SLC-106	AC Trouble		
SLC-105	Paging/Message		
SLC-103	Common Trouble		
SLC-108	Ground Fault		
SLC-107	Battery/Charger Trouble		
SLC-148	Audio	Evac	Evacuation Message

Switch #	Tag	Type
12	All CAU	Tan or Built-in

Figure 118 Report

13. Save the job, connect to QX-mini and send the job.
14. After job has been successfully sent to the panel, disconnect the USB connector.



## 11.4 SLC Address Configuration

- **Alarm Input:** In Figure 113, Input Module address 101 is an example of any alarm input in the job. It would need to be correlated to the Supervised Output module address 110 to activate the EVAC zone on QX-mini.
  - **Common Trouble:** This feature allows the QX-mini to report any trouble(s) back to the FACP. Referring to Figure 113, address 103 is an example of trouble input. Configure the type as “trouble input” in the FACP configurator.
  - **Signal Silence:** This feature allows FACP to silence audible and visible devices on the QX-mini.
    - Audible and Visual signal silence: Configure this as a relay output module, address 104 (shown in Figure 113), and correlate it to “signal silence” common status in the FACP configurator.
  - **Paging/Message Active:** This feature reports to FACP when QX-mini has been manually activated. For example, when microphone is active or a message has been activated, trouble will report back to FACP. Configure this as an input module (Address 105 in Figure 113) in the FACP configurator, and select type as “trouble input”.
  - **AC Trouble:** This feature reports QX-mini AC failure to FACP. If QX-mini is configured for “AC Loss Delay” then a trouble will only be reported after the delay. Configure this as an input module (Address 106 in Figure 113), and select type as “trouble input” in the FACP configurator.
  - **Battery/Charger Trouble:** This feature reports to FACP when QX-mini has a battery or battery charger trouble. Configure this as an input module (Address 107 in Figure 113), and select type as “trouble input” in the FACP configurator as shown in Figure 113.
  - **Earth Ground Fault:** This feature reports to FACP when there is a ground fault detected on QX-mini system. Configure this as an input module (Address 108 in Figure 113) and select type as “trouble input” in the FACP configurator.
15. Ensure all the addresses are correct and job is validated. Connect to the FX-2000 panel and send the job.

## 12.0 Relay Input - QX-mini and FX-2000

### 12.1 Introduction

The QX-mini is designed to interface with FACP's via relay inputs which provide zone activation functionality.

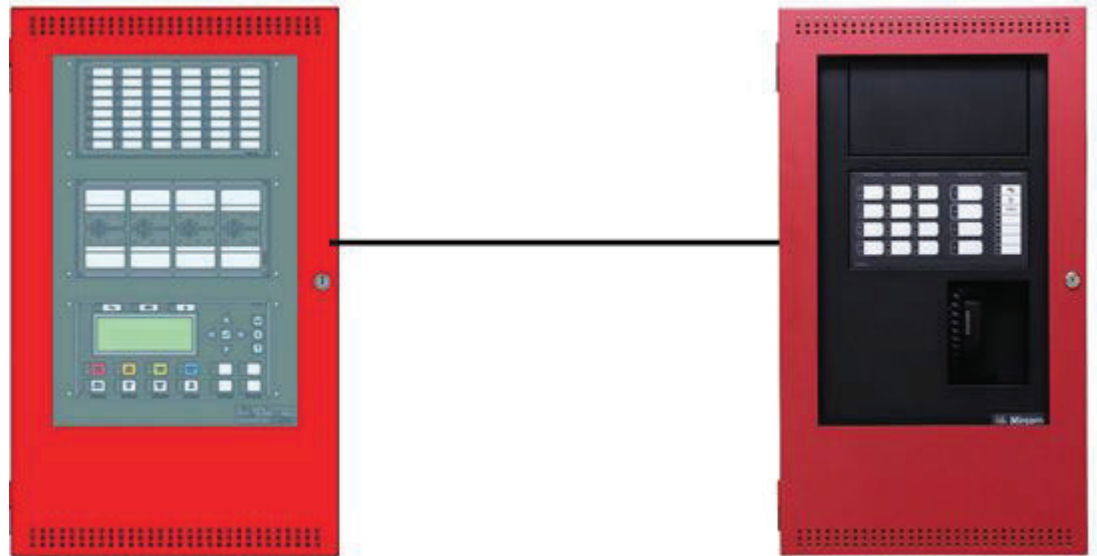


Figure 119 QX-mini and FX-2000

## 12.2 Wiring

For relay input integration: Connect the wire from a normally open relay contact to “relay 1” or “relay 2” terminal on the QX-mini Master.

**Note:** If system is comprised of a QX-mini Master and booster panels, only the QX-mini Master must be wired. Relay inputs on booster panels are not configurable.

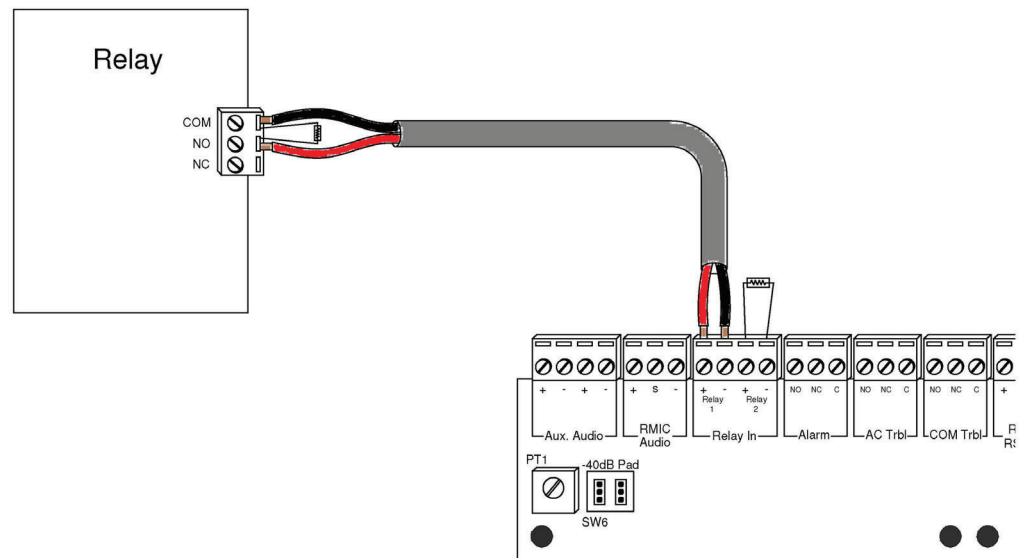


Figure 120 Relay wiring

## 12.3 Configuration Steps

### 12.3.1 FX-2000 Configuration

1. Open FX-2000 configurator.
2. Create a new job or open an existing job.
3. Click on the loop that has been wired to SLC terminal on QX-mini Master.
4. Configure the loop as shown in the window below.

**Note:** In this example, relay output module (MIX-M500R) was used to activate the EVAC zone. This module must be correlated to all the alarm inputs in the job.

Addr	Device	Type	F1	F3	F4	Any of	Sens	Timer	Tag (Line1)
101	Ipt Module	Alarm Input							First Floor
102	Ipt Module	Alarm Input							2nd Floor
109	Relay Opt Mod	Strobe							QX Evac

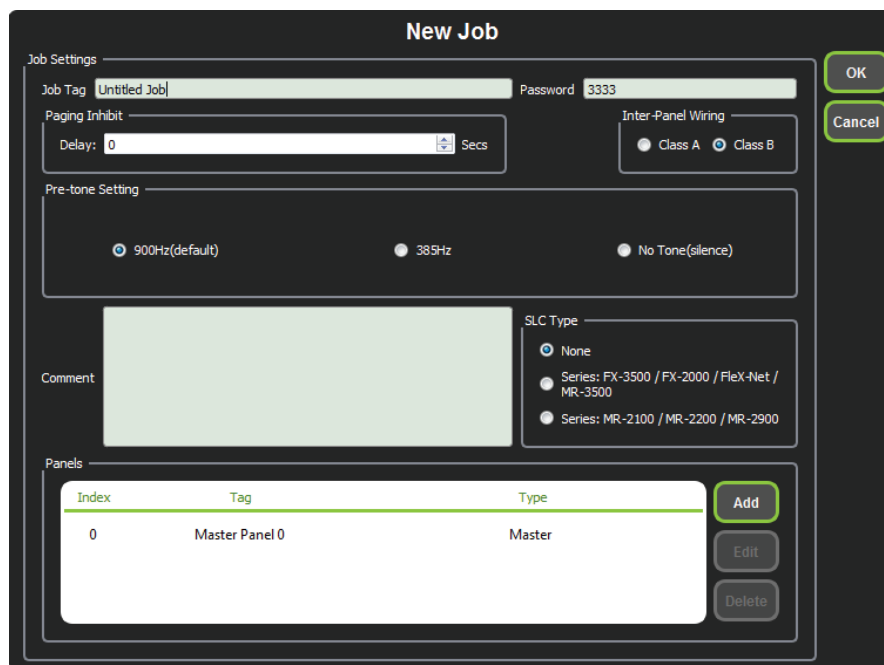
Alarm									
Supv.   Trbl.   Mon.   Status   Msgs.   Display   Switches									
Type	Lp	Addr	Device	F1	F2	F3	Any of	Timer	Tag
Alarm Input	2	101	Ipt Module						First Floor
Alarm Input	2	102	Ipt Module						2nd Floor

**Figure 121** The addresses may vary depending on each application

5. Ensure all the addresses are correct and job is validated. Connect to the FX-2000 panel and send the job.

### 12.3.2 QX-mini Steps

1. Open MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job specifically.
4. Define timing for page inhibit delay as per local requirement.
5. Select either Class A or Class B depending on the inter-panel wiring.
6. Click on “New Job” or “Edit Job” for an existing file and choose “None” under SLC type.



**New Job**

Job Settings

Job Tag:  Password:

Paging Inhibit

Delay:  Secs

Inter-Panel Wiring

☐ Class A ☒ Class B

Pre-tone Setting

☒ 900Hz(default) ☐ 385Hz ☐ No Tone(silence)

Comment

SLC Type

☒ None

☐ Series: FX-3500 / FX-2000 / Flex-Net / MR-3500

☐ Series: MR-2100 / MR-2200 / MR-2900

Panels

Index	Tag	Type
0	Master Panel 0	Master

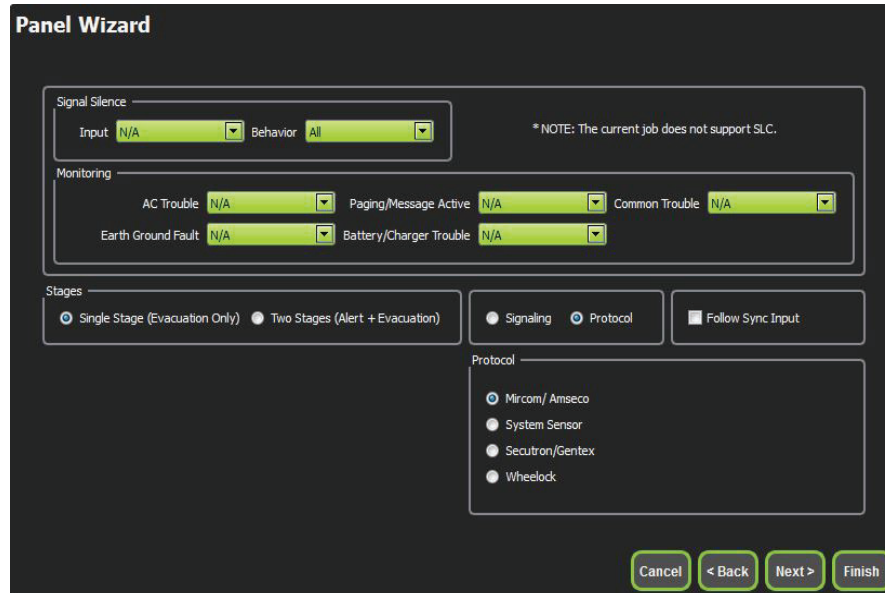
Add Edit Delete

OK Cancel

**Figure 122 New Job window**

7. Click on “Master Panel 0” and then click “Edit”.

8. Click next until the following window appears. Select appropriate stage, strobe protocol, and select “Follow Sync Input” if NACs on QX-mini need to be in sync with NACs on FACP.



**Panel Wizard**

Signal Silence  
Input: N/A Behavior: All \* NOTE: The current job does not support SLC.

Monitoring  
AC Trouble: N/A Paging/Message Active: N/A Common Trouble: N/A  
Earth Ground Fault: N/A Battery/Charger Trouble: N/A

Stages  
☒ Single Stage (Evacuation Only) ☐ Two Stages (Alert + Evacuation)

☐ Signaling ☒ Protocol ☐ Follow Sync Input

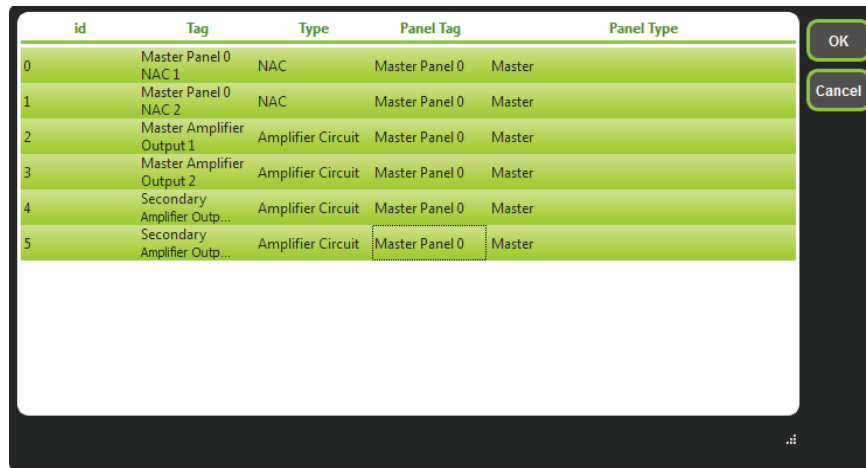
Protocol  
☒ Mircom / Amseco  
☐ System Sensor  
☐ Secutron/Gertex  
☐ Wheelock

Buttons: Cancel < Back Next > Finish

Figure 123 Follow Sync Input

**Note:** Signal silence cannot be performed via the relay input connection; this feature is only available through an SLC connection with a Mircom panel using addressable modules.

9. Create zones as per requirement and correlate them to NACs and speaker outputs.



id	Tag	Type	Panel Tag	Panel Type
0	Master Panel 0 NAC 1	NAC	Master Panel 0	Master
1	Master Panel 0 NAC 2	NAC	Master Panel 0	Master
2	Master Amplifier Output 1	Amplifier Circuit	Master Panel 0	Master
3	Master Amplifier Output 2	Amplifier Circuit	Master Panel 0	Master
4	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master
5	Secondary Amplifier Outp...	Amplifier Circuit	Master Panel 0	Master

Buttons: OK Cancel

Figure 124 Create zones

10. Click on “Edit Audio”.

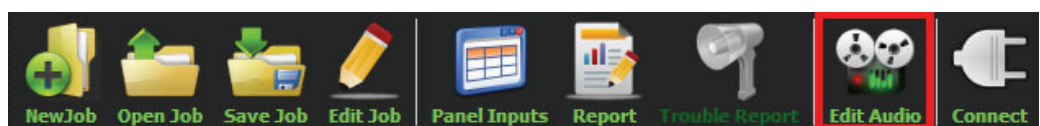


Figure 125 Edit Audio button

11. Click “Add” and create a message. Ensure that stage for Evac is selected from the drop down.



Figure 126 Audio Clips

12. Click on panel inputs by clicking on the ‘+’ sign. Select the relay input that has been wired to activate EVAC zone.

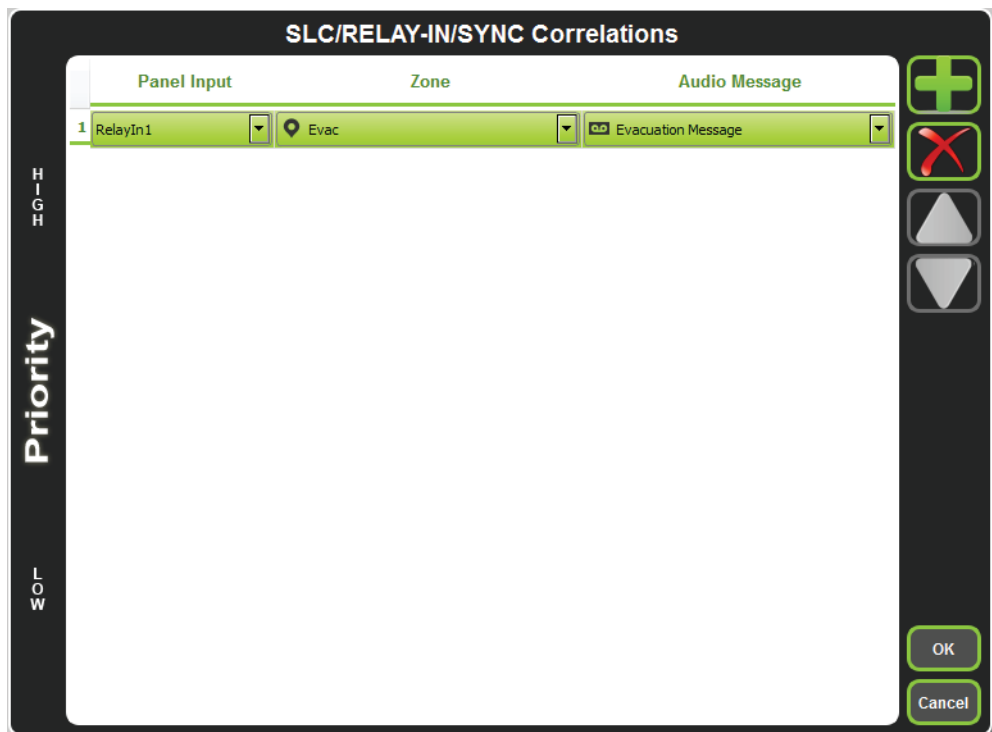
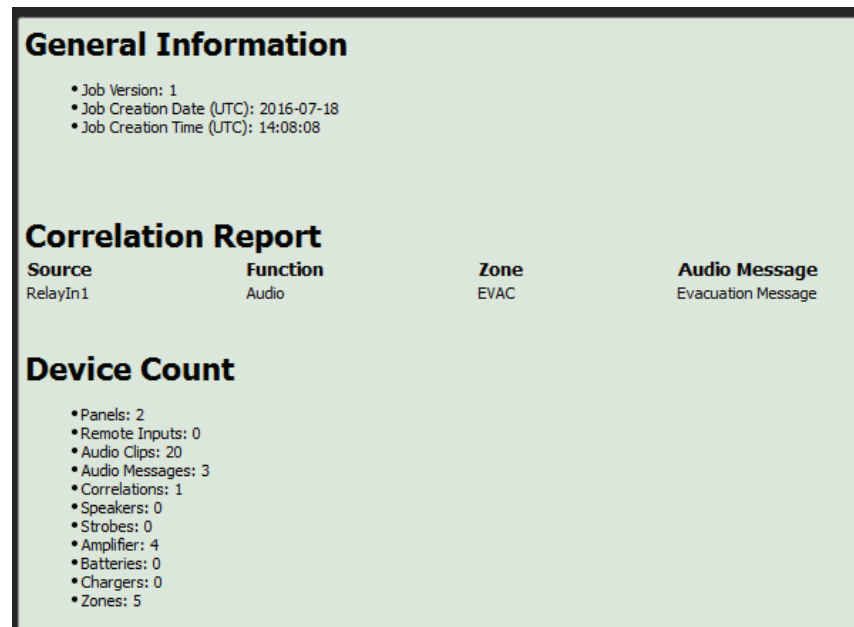


Figure 127 SLC/RELAY-IN/SYNC Correlations

13. All the correlations in job file can be viewed in “Report” as shown below.



**Figure 128 Report**

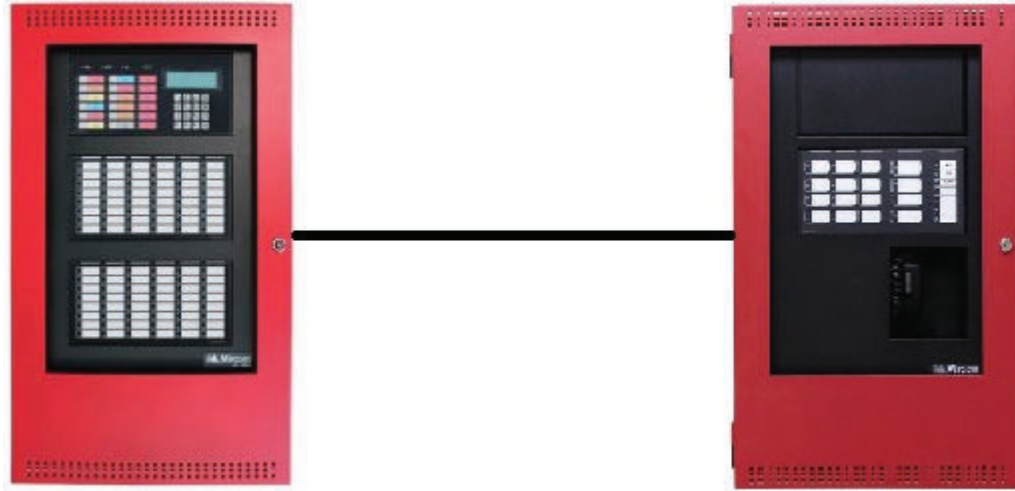
14. Save the job, connect to QX-mini and send the job.
15. After job has been successfully sent to the panel, disconnect the USB connector.



## 13.0 QAS-2X8 Splitter Configuration - QX-mini and FX-3500 - Two Stage

### 13.1 Introduction

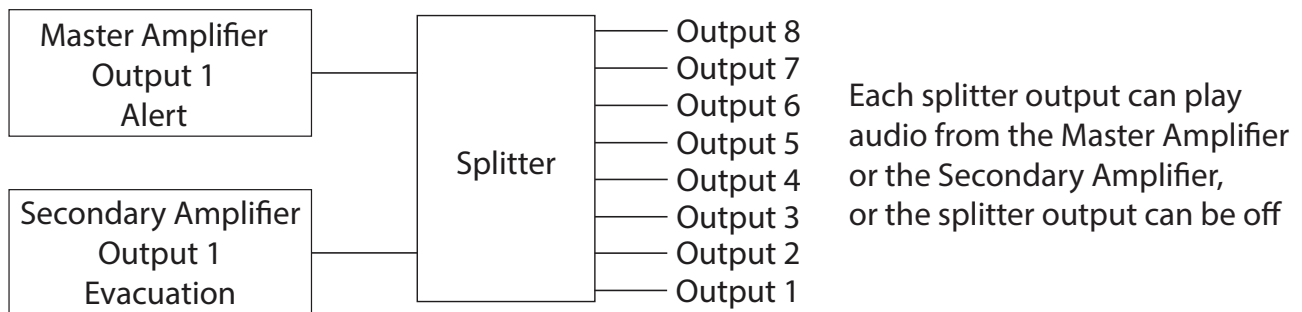
The QX-mini is designed to interface with Mircom FACP's over an SLC link where it is seen as a number of "virtual devices." This single link allows for zone-by-zone automatic control as well as specific trouble reporting back to the FACP.



**Figure 129 QX-mini and FX-3500**

This chapter explains how to program the QAS-2X8 splitter for a modified 2 stage application with the FX-3500.

Consider an example application with an 8-floor building. If there is an alarm on floor 3, then floors 2, 3 and 4 are in alarm, and the other floors are in alert. One amplifier provides the alarm signal, and the other amplifier provides the alert signal. The splitter splits the outputs from the amplifiers into 8 outputs: 1 output for each floor. In this way, the system provides an alarm signal to 3 floors (the floor of alarm, and the floor above and below), and an alert signal to the other floors. Figure 130 shows a conceptual diagram of how the splitter works in this application. Figure 131 shows how the splitter is wired for this application.



**Figure 130 Splitter conceptual diagram**

**Note:** The QAS-2X8 works with QX-mini configuration software version 2.2.7 and above.

## 13.2 Wiring

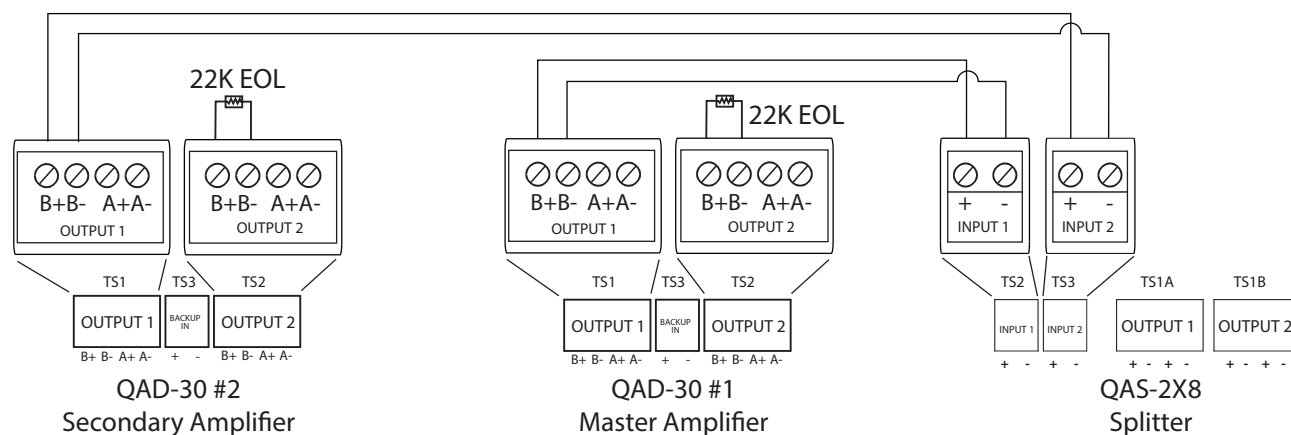


Figure 131 Wiring 2 amplifiers to the splitter

## 13.3 Configuration Steps

To configure the splitter, you must perform the following steps:

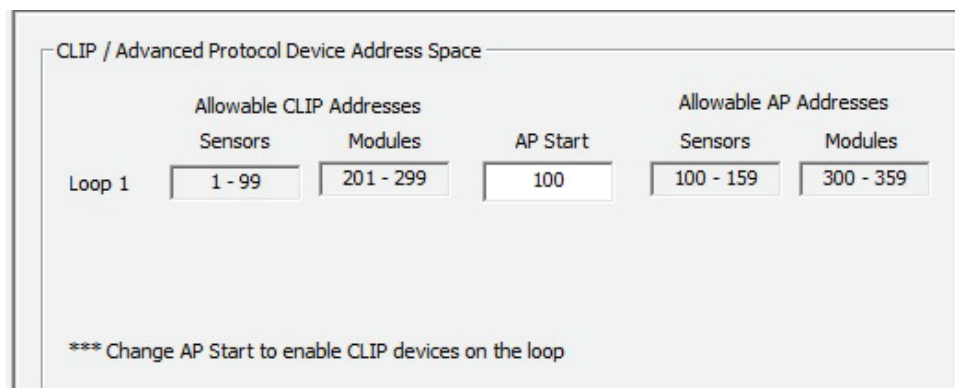
- FX-3500 Configuration
  - Assign the AP Start Range
  - Configure the Output and Input Modules
- QX-mini Configuration
  - Create Job
  - Create Zones and Correlate them to Master Splitter Outputs
  - Add Inputs for Splitter Outputs
  - Create Messages
  - Assign Zones and Messages to Inputs

Details on how to perform these steps are in the following pages.

### 13.3.1 FX-3500 Configuration

#### Assign the AP Start Range

1. Open the MGC-3000 Series Configuration Utility.
2. Create a new job or open an existing job.
3. Click "Base I/O" in the Job Tree.
4. Enter "100" in the "AP Start" box to enable CLIP devices on the loop. QX-mini reporting points are configured as CLIP devices. The "AP Start" number may vary.



CLIP / Advanced Protocol Device Address Space					
	Allowable CLIP Addresses		AP Start	Allowable AP Addresses	
	Sensors	Modules		Sensors	Modules
Loop 1	1 - 99	201 - 299	100	100 - 159	300 - 359

\*\*\* Change AP Start to enable CLIP devices on the loop

Figure 132 CLIP / Advanced Protocol Device Address Space

**Note:** QX-mini reporting points are configurable in CLIP mode only. It is important to change AP Start to enable CLIP devices on the loop.

#### Configure the Output and Input Modules

1. Click the loop that is wired to the SLC terminal on the QX-mini Master.
2. Configure the output modules that will activate functions on the QX-mini, and input modules that will listen for reporting from the QX-mini. See section 13.4 for details on the reporting functions.

Table 1 shows an example configuration based on an 8 floor building where during an alarm, the system provides an alarm signal to 3 floors (the floor of alarm, and the floor above and below), and an alert signal to the other floors.

**Note:** These devices are integrated in the QX-mini as virtual devices and do not need to be physically installed on the loop. The number of virtual SLC devices depends on your configuration – you can use as many as your job requires.

The addresses may vary depending on each application. Ensure supervised output modules and relay output modules to activate QX-mini zones are configured as shown below.

**Note:** In this example, CLIP modules range from 201 to 299 on the FX-3500. On the QX-mini they range from 101 to 199.

**Table 1 FX-3500 Output Modules Example**

Address in FX-3500	Address in QX-mini	Device	Type	Tag	Alarm Correlations	Status Correlations
201	101	Relay Output Module (CLIP)	Relay	QX-mini Signal Silence		Signal Silence
202	102	Input Module (CLIP)	Trouble Input	QX-mini AC Power Fail		
203	103	Input Module (CLIP)	Building/Property Safety	QX-mini Paging Active		
204	104	Input Module (CLIP)	Trouble Input	QX-mini Common Trouble		
205	105	Input Module (CLIP)	Trouble Input	QX-mini Battery Trouble		
206	106	Input Module (CLIP)	Trouble Input	QX-mini Ground Fault Trouble		
281	181	Supervised Output Module (CLIP)	Signal	Floor 1 Alert	Detectors on floors 1 to 8	Fire Drill, Total Evacuation
282	182	Supervised Output Module (CLIP)	Signal	Floor 2 Alert	Detectors on floors 1 to 8	Fire Drill, Total Evacuation
283	183	Supervised Output Module (CLIP)	Signal	Floor 3 Alert	Detectors on floors 1 to 8	Fire Drill, Total Evacuation
284	184	Supervised Output Module (CLIP)	Signal	Floor 4 Alert	Detectors on floors 1 to 8	Fire Drill, Total Evacuation
285	185	Supervised Output Module (CLIP)	Signal	Floor 5 Alert	Detectors on floors 1 to 8	Fire Drill, Total Evacuation
286	186	Supervised Output Module (CLIP)	Signal	Floor 6 Alert	Detectors on floors 1 to 8	Fire Drill, Total Evacuation
287	187	Supervised Output Module (CLIP)	Signal	Floor 7 Alert	Detectors on floors 1 to 8	Fire Drill, Total Evacuation
288	188	Supervised Output Module (CLIP)	Signal	Floor 8 Alert	Detectors on floors 1 to 8	Fire Drill, Total Evacuation
291	191	Relay Output Module (CLIP)	Relay	Floor 1 Evac	Detectors on floors 1 and 2	Total Evacuation
292	192	Relay Output Module (CLIP)	Relay	Floor 2 Evac	Detectors on floors 1, 2 and 3	Total Evacuation

**Table 1 FX-3500 Output Modules Example (Continued)**

Address in FX-3500	Address in QX-mini	Device	Type	Tag	Alarm Correlations	Status Correlations
293	193	Relay Output Module (CLIP)	Relay	Floor 3 Evac	Detectors on floors 2, 3 and 4	Total Evacuation
294	194	Relay Output Module (CLIP)	Relay	Floor 4 Evac	Detectors on floors 3, 4 and 5	Total Evacuation
295	195	Relay Output Module (CLIP)	Relay	Floor 5 Evac	Detectors on floors 4, 5 and 6	Total Evacuation
296	196	Relay Output Module (CLIP)	Relay	Floor 6 Evac	Detectors on floors 5, 6 and 7	Total Evacuation
297	197	Relay Output Module (CLIP)	Relay	Floor 7 Evac	Detectors on floors 6, 7 and 8	Total Evacuation
298	198	Relay Output Module (CLIP)	Relay	Floor 8 Evac	Detectors on floors 7 and 8	Total Evacuation

Addr	Device	Type	F1	F3	F4	Sens	Tag (Line1)	Tag (Line2)	Delay
101	Photo Detector (AP)	Alarm Input				3.71%	Floor 1		
102	Photo Detector (AP)	Alarm Input				3.71%	Floor 2		
103	Photo Detector (AP)	Alarm Input				3.71%	Floor 3		
104	Photo Detector (AP)	Alarm Input				3.71%	Floor 4		
105	Photo Detector (AP)	Alarm Input				3.71%	Floor 5		
106	Photo Detector (AP)	Alarm Input				3.71%	Floor 6		
107	Photo Detector (AP)	Alarm Input				3.71%	Floor 7		
108	Photo Detector (AP)	Alarm Input				3.71%	Floor 8		
201	Relay Output Module (CLIP)	Relay			NF				0
202	Input Module (CLIP)	Trouble Input					QX AC		
203	Input Module (CLIP)	Building/Property Safety					QX Paging		
204	Input Module (CLIP)	Trouble Input					QX Trouble		
205	Input Module (CLIP)	Trouble Input					QX Battery		
206	Input Module (CLIP)	Trouble Input					QX Ground		
281	Supervised Output Module (CLIP)	Signal			NF		Floor 1 Alert		0
282	Supervised Output Module (CLIP)	Signal			NF		Floor 2 Alert		0
283	Supervised Output Module (CLIP)	Signal			NF		Floor 3 Alert		0
284	Supervised Output Module (CLIP)	Signal			NF		Floor 4 Alert		0
285	Supervised Output Module (CLIP)	Signal			NF		Floor 5 Alert		0
286	Supervised Output Module (CLIP)	Signal			NF		Floor 6 Alert		0
287	Supervised Output Module (CLIP)	Signal			NF		Floor 7 Alert		0
288	Supervised Output Module (CLIP)	Signal			NF		Floor 8 Alert		0
291	Relay Output Module (CLIP)	Relay			NF		Floor 1 Evac		0
292	Relay Output Module (CLIP)	Relay			NF		Floor 2 Evac		0
293	Relay Output Module (CLIP)	Relay			NF		Floor 3 Evac		0
294	Relay Output Module (CLIP)	Relay			NF		Floor 4 Evac		0
295	Relay Output Module (CLIP)	Relay			NF		Floor 5 Evac		0
296	Relay Output Module (CLIP)	Relay			NF		Floor 6 Evac		0
297	Relay Output Module (CLIP)	Relay			NF		Floor 7 Evac		0
298	Relay Output Module (CLIP)	Relay			NF		Floor 8 Evac		0

**Figure 133 FX-3500 loop configuration**

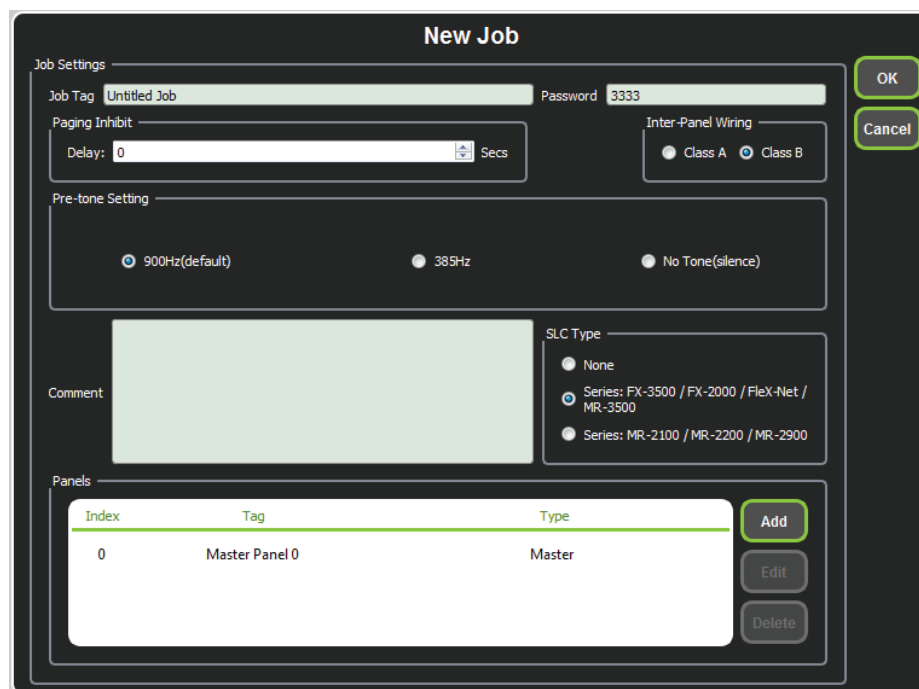
- Ensure all the addresses are correct and job is validated. Connect to the FX-3500 panel and send the job.

### 13.3.2 QX-mini Configuration

**Note:** Until the QX-mini Master is connected and configured, missing device troubles can be ignored.

#### Create Job

1. Open the MGC ECS configurator.
2. Open an existing job or create a new job.
3. Select a unique password that will be assigned to the job.
4. In the “Edit Job” or “New Job” window, under “Paging Inhibit”, select the time of the paging inhibit delay as per the requirements.
5. Under “Inter-Panel Wiring”, select either Class A or Class B.
6. Under “SLC Type” select “Series: FX-3500/FX-2000/FleX-Net™/MR-3500”.



**New Job**

Job Settings

Job Tag:  Password:

Paging Inhibit

Delay:  Secs

Inter-Panel Wiring

☐ Class A ☒ Class B

Pre-tone Setting

☒ 900Hz(default) ☐ 385Hz ☐ No Tone(silence)

Comment

SLC Type

☐ None ☒ Series: FX-3500 / FX-2000 / FleX-Net / MR-3500 ☐ Series: MR-2100 / MR-2200 / MR-2900

Panels

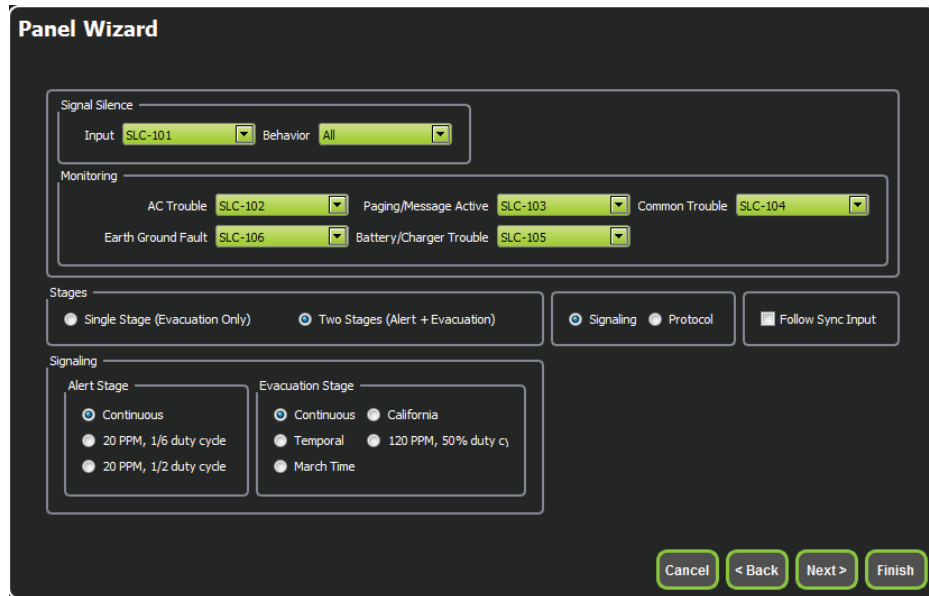
Index	Tag	Type
0	Master Panel 0	Master

Add Edit Delete

OK Cancel

**Figure 134 New Job window**

7. Click “Master Panel 0” and then click “Edit”.  
The Panel Wizard opens.
8. In the Panel Wizard, click “Next” until the window shown in Figure 135 appears.
9. For each reporting function, select the address that corresponds to the FACP address. Table 1 lists example addresses. See section 13.4 for details on the reporting functions.  
For example, address 104 for common trouble on the QX-mini corresponds to 204 on the FX-3500 in Table 1. When the AP Start address was set in the FX-3500 Configurator (as shown in Figure 132), the module address range became 201 to 299.
10. Select “Two Stages” under “Stages”.



**Panel Wizard**

**Signal Silence**

Input: SLC-101 Behavior: All

**Monitoring**

AC Trouble: SLC-102 Paging/Message Active: SLC-103 Common Trouble: SLC-104

Earth Ground Fault: SLC-106 Battery/Charger Trouble: SLC-105

**Stages**

☐ Single Stage (Evacuation Only)
 ☒ Two Stages (Alert + Evacuation)
 ☒ Signaling
 ☐ Protocol
 ☐ Follow Sync Input

**Signaling**

**Alert Stage**

☒ Continuous
 ☐ 20 PPM, 1/6 duty cycle
 ☐ 20 PPM, 1/2 duty cycle

**Evacuation Stage**

☒ Continuous
 ☐ California
 ☐ Temporal
 ☐ 120 PPM, 50% duty cycle
 ☐ March Time

**Figure 135** Configure all the reporting addresses corresponding to addresses on FACP

**Note:** Under signal silence, three different behaviors are available for selection: All, Speakers, Horn & Strobes. “All” turns off all the outputs, “Speakers” turns off speaker outputs only, and “Horn & Strobes” turns off NACs when signal silence on the FACP is pressed.

11. If the NACs on the FACP need to be in sync with the NACs on the QX-mini, select the appropriate stage and strobe protocol, and select “Follow Sync Input”.

### Create Zones and Correlate them to Master Splitter Outputs

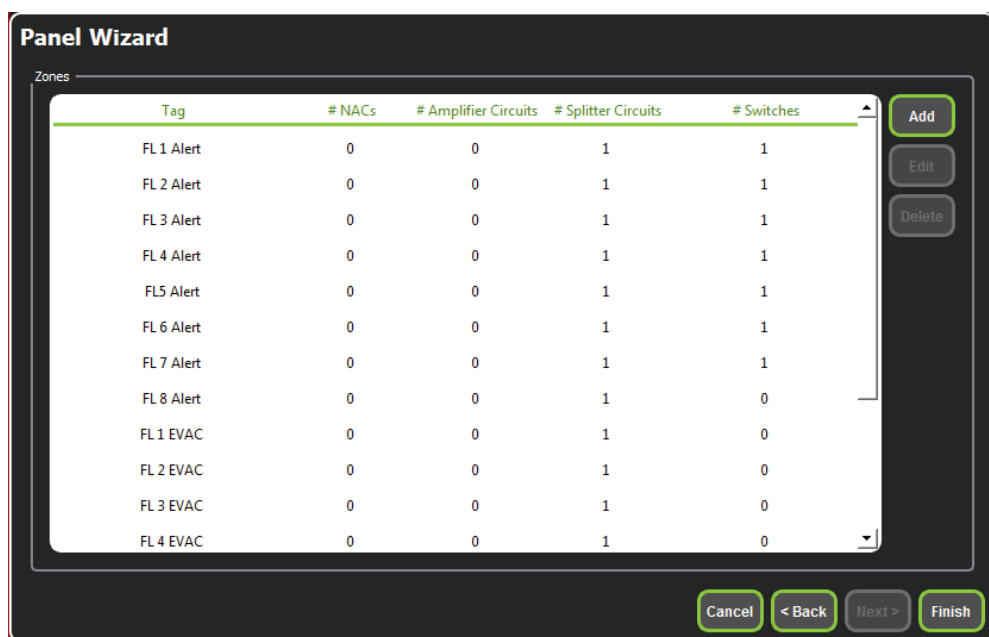
1. In the Panel Wizard, click “Next” until the window shown in Figure 136 appears.
2. Create zones as per the requirement and correlate them to NACs and speaker outputs.

In this example, there are 8 evacuation zones and 8 alert zones, for a total of 16 zones. See Table 2.

The alert zones are labeled “Floor 1 Alert” to “Floor 8 Alert” and each one is correlated with a different Master Splitter Output.

The evacuation zones are labeled “Floor 1 Evac” to “Floor 8 Evac” and each one is correlated with a different Master Splitter Output.

**Note:** The amplifier outputs shown in Table 2 are correlated in the next step.



Tag	# NACs	# Amplifier Circuits	# Splitter Circuits	# Switches
FL 1 Alert	0	0	1	1
FL 2 Alert	0	0	1	1
FL 3 Alert	0	0	1	1
FL 4 Alert	0	0	1	1
FL 5 Alert	0	0	1	1
FL 6 Alert	0	0	1	1
FL 7 Alert	0	0	1	1
FL 8 Alert	0	0	1	0
FL 1 EVAC	0	0	1	0
FL 2 EVAC	0	0	1	0
FL 3 EVAC	0	0	1	0
FL 4 EVAC	0	0	1	0

Figure 136 Create zones

Table 2 Alert and Evac Zones Example

Zone	Master Splitter Output	Amplifier Output
<b>Floor 1 Alert</b>	Master Splitter Output 1	Master Amplifier Output 1
<b>Floor 2 Alert</b>	Master Splitter Output 2	Master Amplifier Output 1
<b>Floor 3 Alert</b>	Master Splitter Output 3	Master Amplifier Output 1
<b>Floor 4 Alert</b>	Master Splitter Output 4	Master Amplifier Output 1
<b>Floor 5 Alert</b>	Master Splitter Output 5	Master Amplifier Output 1
<b>Floor 6 Alert</b>	Master Splitter Output 6	Master Amplifier Output 1
<b>Floor 7 Alert</b>	Master Splitter Output 7	Master Amplifier Output 1
<b>Floor 8 Alert</b>	Master Splitter Output 8	Master Amplifier Output 1
<b>Floor 1 Evac</b>	Master Splitter Output 1	Secondary Amplifier Output 1
<b>Floor 2 Evac</b>	Master Splitter Output 2	Secondary Amplifier Output 1
<b>Floor 3 Evac</b>	Master Splitter Output 3	Secondary Amplifier Output 1
<b>Floor 4 Evac</b>	Master Splitter Output 4	Secondary Amplifier Output 1
<b>Floor 5 Evac</b>	Master Splitter Output 5	Secondary Amplifier Output 1
<b>Floor 6 Evac</b>	Master Splitter Output 6	Secondary Amplifier Output 1
<b>Floor 7 Evac</b>	Master Splitter Output 7	Secondary Amplifier Output 1
<b>Floor 8 Evac</b>	Master Splitter Output 8	Secondary Amplifier Output 1

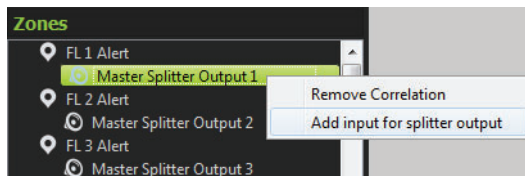
- In the Panel Wizard, click "Finish".



4. Click “OK” to close the “Edit Job” or “New Job” window.

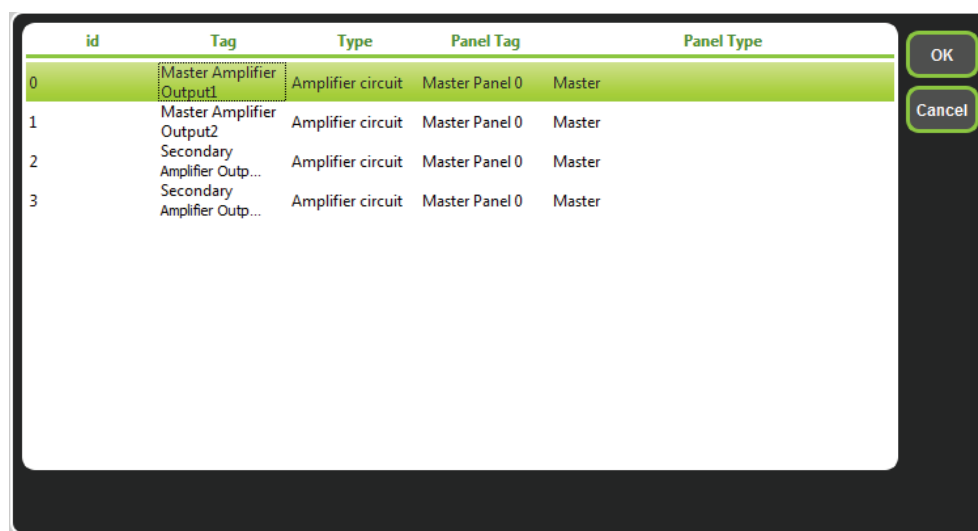
### Add Inputs for Splitter Outputs

1. In the “Zones” section on the left, right-click “Master Splitter Output 1” under “Floor 1 Alert” and select “Add input for splitter output”.



**Figure 137 Add input for splitter output**

2. In the window that appears, select the output that acts as an input to this zone, then click “OK”.

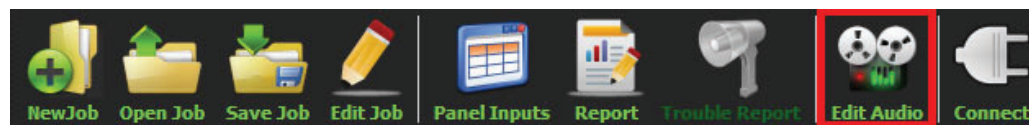


**Figure 138 Select Master Amplifier Output 1**

3. Do the same for the other zones.  
In the example shown in Table 2, Master Amplifier Output 1 serves as input to the alert zones, and Secondary Amplifier Output 1 serves as input to the evacuation zones.
4. Click “OK” to close this window.

### Create Messages

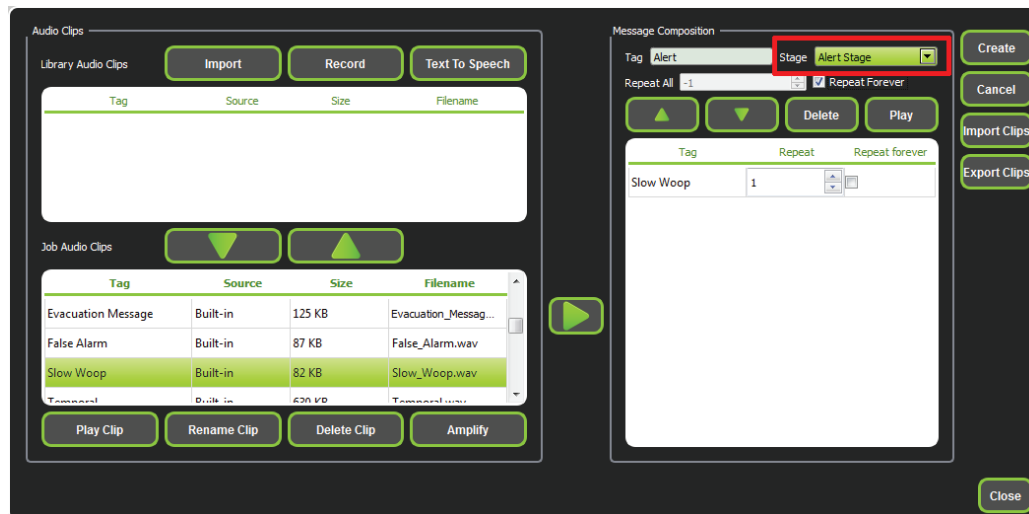
1. Click “Edit Audio”.



**Figure 139 Edit Audio button**

2. Click “Add” and create an alert and evacuation message based on the requirements. Ensure that the correct stage is selected from the “Stage” menu as shown in Figure 140.

In this example, there is an evacuation message set to “Evacuation Stage” and an alert message set to “Alert Stage”.

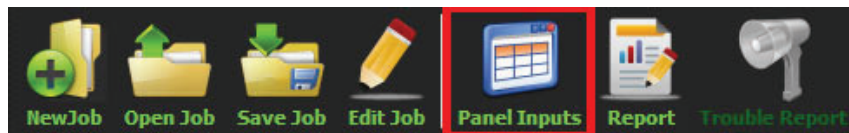


**Figure 140 Audio Clips**

- Click “Close” to close the Audio window.

### Assign Zones and Messages to Inputs

- Click “Panel Inputs”.



**Figure 141 Panel Inputs button**

The SLC/RELAY-IN/SYNC Correlations window appears (Figure 142).

- Click the “+” button. Select the panel input addresses to activate the evacuation and alert zones. Ensure that the addresses correspond to the modules in the FACP configuration.

An example configuration is shown in Table 3. The addresses in Table 3 correspond to the addresses on the FX-3500 shown in Table 1.

- Use the arrows to move the evacuation zones above the alert zones so that the evacuation zones have higher priority.

**Note:** In this example, CLIP modules range from 201 to 299 on the FX-3500. On the QX-mini they range from 101 to 199.

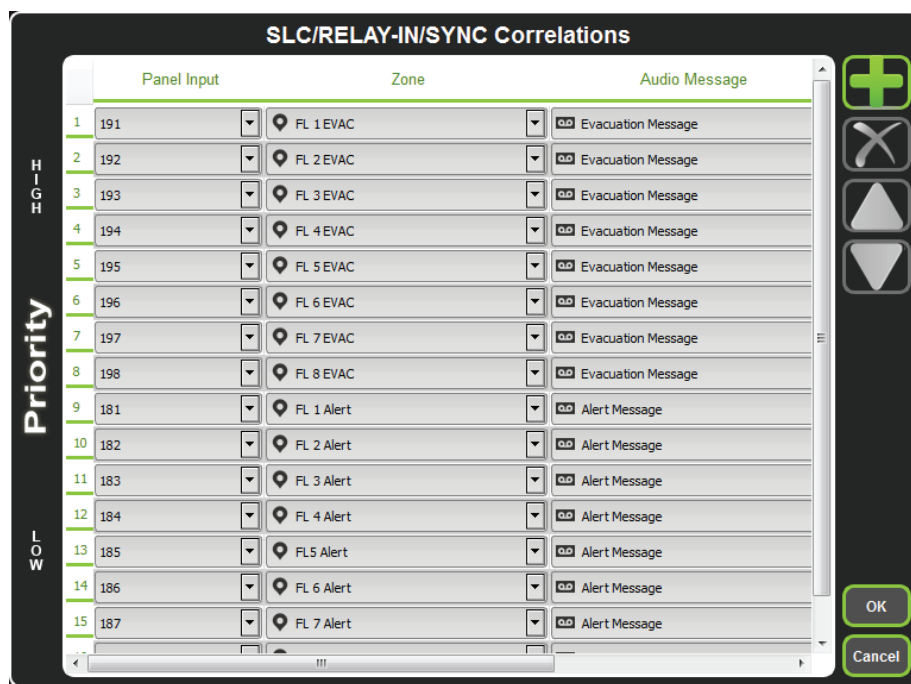


Figure 142 SLC/RELAY-IN/SYNC Correlations

Table 3 Panel Inputs Example

Panel Input	Zone	Audio Message
191	Floor 1 Evac	Evacuation Message
192	Floor 2 Evac	Evacuation Message
193	Floor 3 Evac	Evacuation Message
194	Floor 4 Evac	Evacuation Message
195	Floor 5 Evac	Evacuation Message
196	Floor 6 Evac	Evacuation Message
197	Floor 7 Evac	Evacuation Message
198	Floor 8 Evac	Evacuation Message
181	Floor 1 Alert	Alert Message
182	Floor 2 Alert	Alert Message
183	Floor 3 Alert	Alert Message
184	Floor 4 Alert	Alert Message
185	Floor 5 Alert	Alert Message
186	Floor 6 Alert	Alert Message
187	Floor 7 Alert	Alert Message
188	Floor 8 Alert	Alert Message

### 13.3.3 Playing no Audio on a Zone

If you want a zone to play no audio, then in the SLC/RELAY-IN/SYNC Correlations window (Figure 142), select “No Message” for the zone.

## 13.4 SLC Address Configuration

- **Alarm Input:** In Figure 133, Input Module addresses 101 to 108 are examples of alarm inputs in the job. They would need to be correlated to Supervised Output module addresses to activate alert stage.
- **Common Trouble:** This feature allows the QX-mini to report any troubles back to the FACP. In Table 1, address 204 is an example of trouble input. Configure the type as “trouble input” in the FACP configurator.
- **Signal Silence:** This feature allows FACP to silence audible and visible devices on the QX-mini.
  - Audible and Visual signal silence: Configure this as a relay output module, address 201 (shown in Table 1), and correlate it to “signal silence” common status in the FACP configurator.
- **Paging/Message Active:** This feature reports to the FACP when the QX-mini has been manually activated. For example, when the microphone is active or a message has been activated, a trouble is reported to the FACP. Configure this as an input module (Address 203 in Table 1) in the FACP configurator, and select the type as “building/property safety”.
- **AC Trouble:** This feature reports QX-mini AC failure to the FACP. If the QX-mini is configured for “AC Loss Delay” then a trouble will only be reported after the delay. Configure this as an input module (Address 202 in Table 1), and select the type as “trouble input” in the FACP configurator.
- **Battery/Charger Trouble:** This feature reports to the FACP when the QX-mini has a battery or battery charger trouble. Configure this as an input module (Address 205 in Table 1), and select the type as “trouble input” in the FACP configurator as shown in Table 1.
- **Earth Ground Fault:** This feature reports to the FACP when there is a ground fault detected on the QX-mini system. Configure this as an input module (Address 206 in Table 1) and select the type as “trouble input” in the FACP configurator.



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