



FlexGate User Guide

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1 Initial Setup

1.1 Package Contents

- One FlexGate Enterprise System (47800A-FLXG)
- One Power Cable and Power Adapter
- Two Flanges and Mounting Screws

1.2 Connecting the FlexGate Enterprise System

To configure the FlexGate system for first use, access the FlexGate using a PC and the supplied Ethernet cable. This direct-connection procedure only needs to be done once. After this procedure, accessing the FlexGate will be done through the network and over any network port.

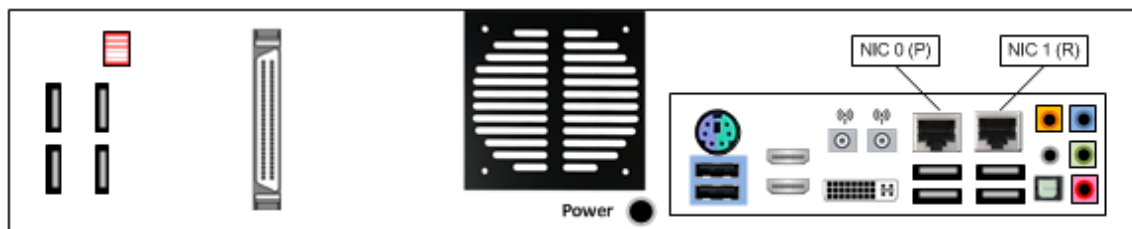


Figure 1-1: FlexGate Back Plane Diagram

1. Refer to Figure 1-1 to connect the power jack to the rear DC 12V power port and plug-in the FlexGate.
2. Connect a CAT 5 Ethernet cable to the NIC 0 port (marked **P** on the FlexGate). Connect the other end to a Windows PC. When plugged into NIC 0, there should be a solid green LED and a blinking yellow LED.
3. Press the power button on the front of the FlexGate to start the unit. Wait at least three minutes to ensure the machine has completed booting.
4. On the PC used to configure to the FlexGate system, navigate to **Control Panel > Network and Internet > Network Connections**. Choose the Ethernet adapter that you plugged into the machine and go to **Properties > Internet Protocol Version 4 (TCP/IPv4) > Properties**.
5. Configure your network adapter with the following parameters. **Please take note of your current settings so that you can revert them after FlexGate provisioning is finished.**

IPv4 Address: 192.168.100.10

Subnet mask: 255.255.255.0

Default Gateway: [Leave Blank]

Preferred DNS server: [Leave Blank]

Secondary DNS server: [Leave Blank]

6. Open a web browser and type <http://192.168.100.1> in the Address bar to access the FlexGate Web Configuration.

Note: If you are unable to access the web page, verify that the Ethernet cable is plugged into the NIC 0 port on the FlexGate and/or attempt to access the FlexGate at address <http://192.168.100.2>

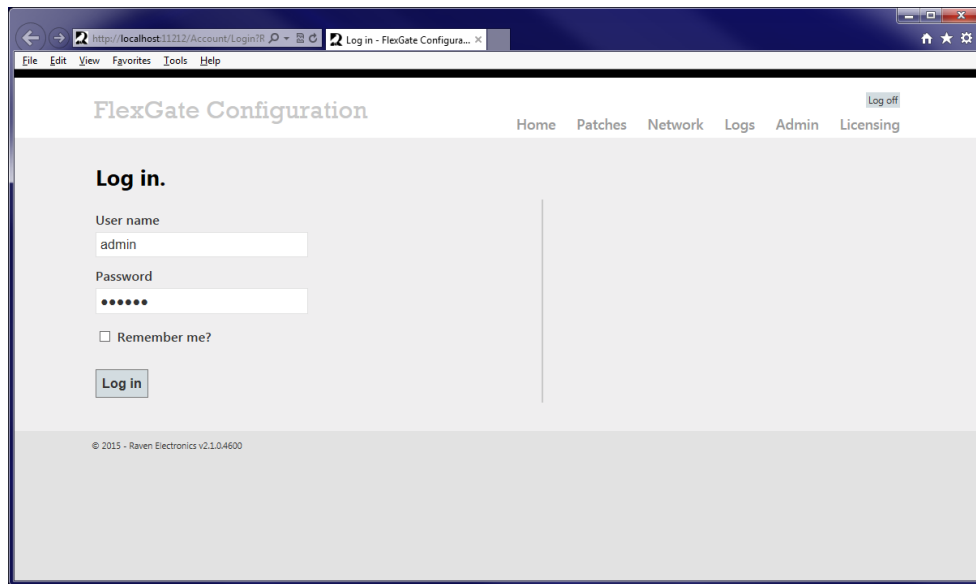


Figure 1-2: Log in Screen

7. Figure 1-2 shows the log in screen for the FlexGate Configuration webpage. Use the default username **Admin** and password **123456** to login.
8. Click the **Network** link at the top right of the page.

Note: It is possible to reconfigure the default login credentials. You can do so by clicking on the username shown in the top right of the web interface after login.

9. **Enter the IP addressing for FlexGate in the form provided (Figure 1-3).**

a. **IP Address**

Enter an IP address for NIC 0 and NIC 1.

This address is used to access the FlexGate administrative interface. Once **Commit Changes** is clicked, the old address no longer accessible. Store this address for reference in the future. Contact Raven Electronics if the IP Address has been lost (775-858-2400).

b. **Subnet Mask**

Enter a Subnet address for NIC 0 and NIC 1. By default, this address is 255.255.255.0.

c. **Default Gateway**

Enter a Default Gateway address for NIC 0 and NIC 1

d. **Primary DNS**

Enter a primary DNS address for NIC 0 and NIC 1.

e. **Secondary DNS**

(Optional) Enter a Secondary DNS address for NIC 0 and NIC 1.

10. Click the **Submit** button. Disconnect the FlexGate from your PC, and connect the FlexGate unit to a local switch or router using the NIC 1 port. You should now be able to access the FlexGate unit from any computer on the same network by using a browser to navigate to the IP address you supplied for NIC 1.

11. Use another Ethernet cable to connect NIC 0 to the Internet.

12. If you need to access the FlexGate from outside of a firewall, ensure that the necessary ports are opened and/or forwarded to allow the FlexGate through. Refer to Figure 1-4 for the list of ports to forward.

FlexGate Configuration

Network Settings

Configure NIC 0 (Public)

Host Name
FlexPublic

IP Address
10.1.1.240

Subnet Mask
255.255.255.0

Default Gateway
10.1.1.1

DNS Server Primary
10.1.1.34

DNS Server Secondary
10.1.1.35

Configure NIC 1 (Private)

Host Name
FlexPrivate

IP Address
192.168.0.2

Subnet Mask
255.255.255.0

Default Gateway

DNS Server Primary

DNS Server Secondary

Submit Cancel

Figure 1-3: Network Settings Webpage

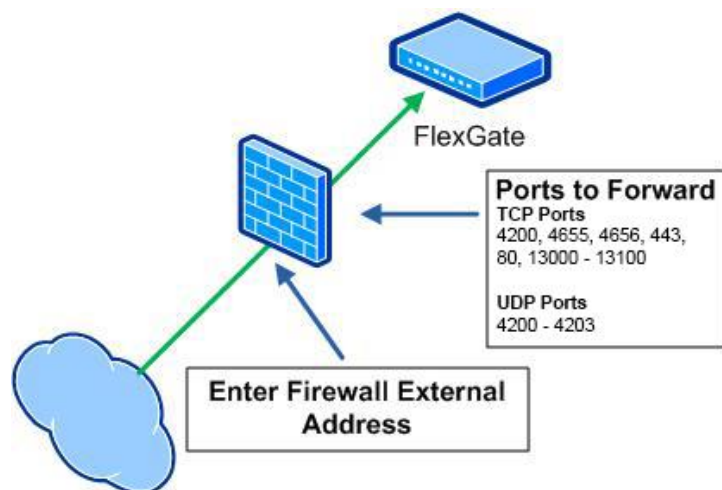


Figure 1-4: The ports that must be forwarded to the FlexGate box for proper functionality.

2 Creating Interfaces

2.1 How to add a new interface

You will be able to configure a variety of interfaces depending on the license you have purchased. You can see the interfaces allotted to your system by examining the left-hand panel, as illustrated in **Error! Reference source not found.** You can create a new interface by clicking on the name of it in the left-hand panel. Each interface represents a single endpoint to which audio can be streamed to and from. Depending on the type of interface, this endpoint could, in turn, relay this audio to and from numerous device (e.g. a SpectraLinkPtt interface relays to and from a multicast address).

FlexGate Configuration

[admin](#) [Log off](#)

[Home](#) [Patches](#) [Network](#) [Logs](#) [Admin](#) [Licensing](#)

Home Page

Create New Interface

Interface Type	Remaining
Blade Link	99 / 100
Field Phone (TA-312/TA-512)	100 / 100
FXO (PSTN)	98 / 100
FXS (Phone/Station)	100 / 100
HQi Client	39 / 100
Hytera DMR Tier II	99 / 100
IP Camera	100 / 100
M4x Blade Audio Channel	96 / 100
NEXEDGE	98 / 100
Relay Module	99 / 100
RTP Endpoint	95 / 100
SIP Conference Channel	100 / 100
SIP Endpoint	98 / 100
SpectralinkPtt	99 / 100
Voter Interface	100 / 100
Zello Bridge	98 / 100

Interfaces

Name	Type	Enabled
Tecteltest	Blade Link	Edit Delete <input type="checkbox"/>
Raven BL test	Blade Link	Edit Delete <input checked="" type="checkbox"/>
HyteraRemoteGW	Blade Link	Edit Delete <input type="checkbox"/>
Global Tech Systems	Blade Link	Edit Delete <input type="checkbox"/>
FXO2	FXO (PSTN)	Edit Delete <input checked="" type="checkbox"/>
FXO1	FXO (PSTN)	Edit Delete <input checked="" type="checkbox"/>
phone	FXS (Phone/Station)	Edit Delete <input type="checkbox"/>
Great Lakes	HQi Client	Edit Delete <input checked="" type="checkbox"/>
Harmer Communications	HQi Client	Edit Delete <input checked="" type="checkbox"/>
Sherry	HQi Client	Edit Delete <input checked="" type="checkbox"/>
Global Tech Systems HQi	HQi Client	Edit Delete <input checked="" type="checkbox"/>
Event Communications	HQi Client	Edit Delete <input checked="" type="checkbox"/>
ESPN	HQi Client	Edit Delete <input checked="" type="checkbox"/>
Epic Marketing	HQi Client	Edit Delete <input checked="" type="checkbox"/>
Creative	HQi Client	Edit Delete <input checked="" type="checkbox"/>
ELCOM	HQi Client	Edit Delete <input checked="" type="checkbox"/>
Dalton	HQi Client	Edit Delete <input checked="" type="checkbox"/>

Figure 2-1: Home screen for the FlexGate web configuration tool. The left side displays the different interfaces that are available. The right side of the screen displays the interfaces that have already been created.

Note: If you don't have any interfaces listed or they mistakenly show an incorrect number of interfaces allotted, please refer to the troubleshooting section.

When traversing through interface configuration screens you will be provided with some descriptions of each individual setup field as you click on them. Once an interface is configured, you will be able to enable or disable it at will from the home page. Disabling an interfaces frees up a license for another interface of the same type, but also makes the interface unable to transmit or receive audio.

The following sections illustrate the process for configuring specific interface types.

2.2 Properties Common to all Interfaces

Each interface has a set of fields that the user fills in to configure them. There are certain fields that are common to many interfaces, which will be discussed in this section.

- Name
 - The label assigned to this interface.
- Transmit Gain
 - The amount of gain (volume) in dB to add to the audio that is going to the interface.
 - Appropriate values are -20dB to +10dB.
 - The default value is 0.0dB.
- Receive Gain
 - The amount of gain (volume) in dB to add to the audio that is coming from the interface.
 - Appropriate values are -20dB to +10dB.
 - The default value is 0.0dB.
- TX Audio Delay
 - The amount of time in milliseconds to buffer before sending the audio to the transmitter. This allows the radio time to key up before transmitting.
 - The appropriate values are 0ms to 1000ms.
- Talk Group ID
 - A numeric value associated to talk group number. If this interface is linked to a NEXEDGE TRS, the value needs to be the same as the NEXEDGE TRS Interface, otherwise it can be any numeric value to identify a talk group.

2.3 The Action Plan Interface

Uses

The Action Plan interface allows FlexGate to perform various actions when the interface is triggered by other interfaces, such as the CAP Alert Handler interface.

Currently supported actions include:

- Generating and transmitting a synthesized voice message to any other interface within FlexGate
- Setting a pin on an IO module to high (5v or 12v), to activate external devices

For more information on the Action Plan interface, see Chapter 6: Creating and Using Action Plans.

Edit Action Plan

Name: Action Plan 1 **Description:**

Action Plan

Create New: Text to Speech Add

Name: Earthquake TTS Alert Analog Port 3

Action Type: TTS

Target Interface: Analog Port 3

Text to speak: Earthquake of %INTENSITY% expected in %TWARN% seconds.

Variables:
%INTENSITY% - The expected intensity to be felt at the current location. e.g. 4.5
%TWARN% - Time (in seconds) until shaking expected.

Use Embedded Audio instead ☒

Save Action Delete Action

Submit Back

Existing actions:
Earthquake TTS Alert Analog Port 3
Activate Siren Port 5

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Figure 2-1: The configuration screen for the Action Plan interface.

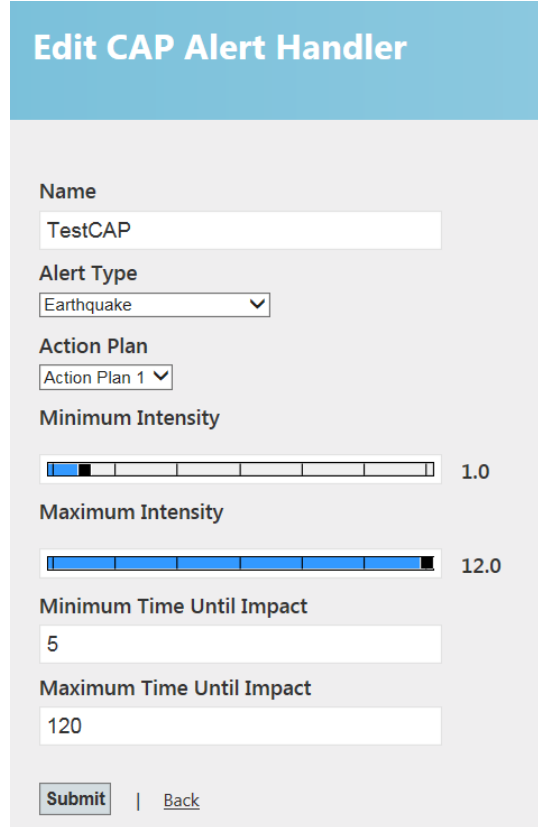
2.4 The CAP Alert Handler Interface

Uses

The CAP Alert Handler interface listens for traffic from GSS and processes the Common Alert Protocol (CAP) messages that it receives. Each box must be manually configured to receive these messages from GSS—Creating a CAP Alert Handler interface won't ensure that the FlexGate receives alerts. Each handler can be customized to trigger only when certain conditions are met. The currently implemented handler only handles Earthquake messages. If a CAP alert is received that matches the conditions set, the specified Action Plan will be triggered. (See Chapter 6: Creating and Using Action Plans for more information.)

Depending on the Alert Type selected, different fields will be provided for the user to specify the conditions for activation.

For Earthquake Alerts, the box's latitude and longitude must be entered in the Admin page of the webconfig. These values are used to determine the expected intensity and time until impact (see Figure 2-3).



Edit CAP Alert Handler

Name
TestCAP

Alert Type
Earthquake

Action Plan
Action Plan 1

Minimum Intensity
1.0

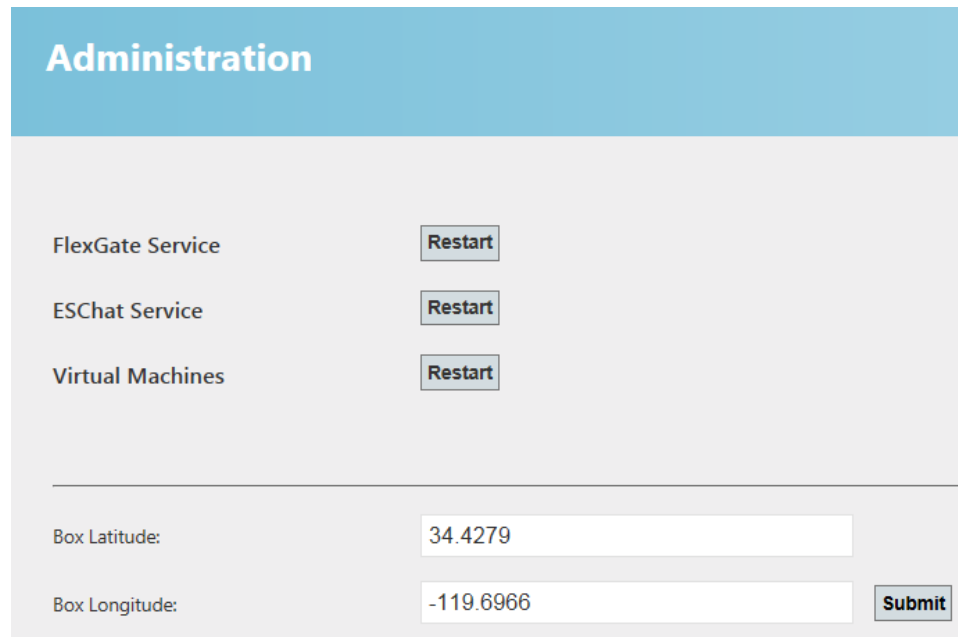
Maximum Intensity
12.0

Minimum Time Until Impact
5

Maximum Time Until Impact
120

Submit | [Back](#)

Figure 2-2: The configuration screen for a CAP Alert Handler interface.



Administration

FlexGate Service	Restart
ESChat Service	Restart
Virtual Machines	Restart

Box Latitude: 34.4279

Box Longitude: -119.6966

Submit

Figure 2-3: The latitude and longitude of the box setting in the Admin page.

2.5 The CyberTel PTT Interface

Uses

The CyberTel PTT interface represents an account belonging to a CyberTel SIP server. The SIP account acts as a bridge, connecting the CyberTel and FlexGate servers. SIP calls made to the associated SIP account will be transmitted to interfaces patched with the CyberTel PTT interface, and vice versa.

Explanation of Fields

- Sip Display Name
 - The name that is displayed to others when this interface makes a SIP call.
- Sip User Name
 - The user name of the SIP account that this interface will register to.
- Sip Registration User Name
 - The registration name that is configured in the SIP registration server.
- Sip Password
 - The password that is assigned to the associated user name within the SIP server.
- Sip Domain or IP Address
 - The domain or IP address of the SIP server that this interface will register to.
- Sip Port
 - The SIP signaling TCP port.
- Notify Endpoint on Key or Dekey
 - If checked, Flexgate will respond with a voice message on confirmation of keying or dekeying of the associated radio while in a SIP call.
- Auto Answer
 - If checked, this device will automatically answer any SIP calls made to it. If unchecked, this device will inform any HQi clients that are online that it is getting a call. The HQi client will then need to accept or deny the call.
- Registration Expiration Time (sec)
 - The desired expiration time of the SIP account on the PBX.

Create New CyberTel Ptt

Name

Transmit Gain 0.0

Receive Gain 0.0

TX Audio Delay 500.0

Talk Group ID

Sip Display Name

Sip User Name

Sip Registration User Name

SIP Password

Sip Domain or IP Address

Sip Port 5060

Notify Endpoint on Key or Dekey ☒

Auto Answer ☒

Registration Expiration Time (sec) 3600

Create Cancel

Figure 2-4: The configuration screen for a CyberTel PTT interface.

2.6 The FXO (PSTN) Interface

Uses

The FXO interface represents a traditional hardline phone. Provided you have the correct module installed within your FlexGate Blade, you can connect the phone into the blade and use it to communicate with your other interfaces.

Explanation of Fields

- Blade Number
 - The number of the blade that this interface is associated with. Blades are numbered from 1 to 11, starting with the top blade in a FlexGate system.
 - Note: If the blade is connected via USB to a PC, use a blade number of 32.
- Channel
 - Which physical port on the blade the phone line is connected to.
 - Possible values are 1-8.

For information regarding the SIP settings, please refer to Chapter 2.5: The CyberTel PTT Interface.

Paging from a POTS Line

DTMF paging from a telephone system to a radio can be accomplished by using the FXO module. First the paging tones must be created in the admin page of the FlexGate web configuration pages. A DTMF pattern must also be assigned to each individual tone created. Now you will need to patch together the FXO interface with the interface intended to receive the page. This can be done using either HQi or in the tab labeled patches on the FlexGate web configuration pages. Once this is done dial the extension of the phoneline connected to FlexGate. Then dial the DTMF pattern and the star key to initiate the tone sequence.

Create New FXO (PSTN)

Name

Blade Number

1

Channel

Channel 1 ▼

Transmit Gain

-10.0

Receive Gain

-10.0

TX Audio Delay

0.0

Talk Group ID

Sip Display Name

Sip User Name

Sip Registration User Name

SIP Password

Sip Domain or IP Address

Sip Port

5060

Auto Answer

☐

Registration Expiration Time (sec)

3600

Is CyberTel Server

☐

Submit | Back

Figure 2-5: The configuration screen for a FXO interface.

2.7 The FXS (Phone/Station) Interface

Uses

The FXS interface represents a traditional phone line. Provided you have the correct module installed within your FlexGate Blade, you can connect the blade to the phone line. You will need to use an HQi client to control the phone line.

Explanation of Fields

- Blade Number
 - The number of the blade that this interface is associated with. Blades are numbered from 1 to 11, starting with the top blade in a FlexGate system.
 - Note: If the blade is connected via USB to a PC, use a blade number of 32.
- Channel
 - Which physical port on the blade the phone line is connected to.
 - Possible values are 1-8.
- Switch Access DTMF Code
 - The dial code for accessing the switch.

Starting a SIP Call:

1. Press **##** to begin the SIP dialing process.
2. Dial the SIP number that you wish to call.
3. Press ***** to begin the calling process.

During a SIP Call:

Press **#1** to mute your line.

Press **#3** to unmute your line.

Press ****** to end the call.

Create New FXS (Phone/Station).

Name

Blade Number

Channel

Switch Access DTMF Code

Transmit Gain
 -10.0

Receive Gain
 -10.0

TX Audio Delay
 0.0

Talk Group ID

Sip Display Name

Sip User Name

Sip Registration User Name

SIP Password

Sip Domain or IP Address

Sip Port

Registration Expiration Time (sec)

Is Cybertel Server
☐

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Figure 2-6: The configuration screen for a FXS interface.

2.8 The HQi Client Interface

Uses

The HQi Client provides dynamic control over the configuration and operation of the FlexGate system. While the configuration website provides offline configuration of the FlexGate system, HQi allows operators to log into FlexGate and modify patches, monitor traffic, or communicate directly with resources. Operators log into the FlexGate system through a standalone HQi application, provided by Raven Electronics. For more information, see Chapter 5: Using HQi.

Edit HQi Client

Name: CENTRAL

Username: admin

Password: ●●●

Confirm Password: ●●●

Available Interfaces:

Available Patches:

Description
Patches that this HQi client can control.

Controllable Interfaces:

- TAC 1
- SWAT
- OPS
- EMS-DIV115
- FIRE-SDY
- Line 1
- Line 2
- CITY-LAISON
- FEMA-3
- M-AID-12

Controllable Patches:

- Patch 1
- Patch 2
- Patch 3
- Patch 4

Submit | Back

Figure 2-7: The Edit page of an HQi Client.

Explanation of Fields

- Username
 - The username that HQi operators will provide in order to log into the system to associate with this interface.
- Password
 - The password that this HQi operator will provide to log into this specific interface.
- Available Interfaces
 - In the top box you will see all interfaces that this HQi Client does not already have the ability to control. You can select multiple interfaces from the top box and then add them to the Controllable Interfaces list. Interfaces that are not controllable will not be sent to the client.
- Available Patches
 - The top box holds a list of all patches that this HQi Client does not already have the ability to control. If you want this HQi Client to be able to modify a patch, add it to the Controllable Patches box.

Note: If a controllable interface is in a non-controllable patch, the HQi client will still have the ability to remove the interface from the patch. Please configure your HQi Clients appropriately.

2.9 The IP Camera Interface

Uses

The IP Camera interface is used to provide HQi operators with the ability to monitor local or remote IP cameras or other RTSP video streams.

You can configure multiple IP Camera interfaces and then give HQi clients the ability to view the streams. Clients will be able to view multiple cameras at a time, as seen in Figure 2-10.

Explanation of Fields

- Name
 - Something to identify the Camera stream by.
- Camera Stream Address
 - The link to the camera's RTSP or HTTP stream.
- Username and Password
 - If the stream requires credentials, you can enter them here or, if you know the proper format for providing them in the URL, you can provide it in the stream address.

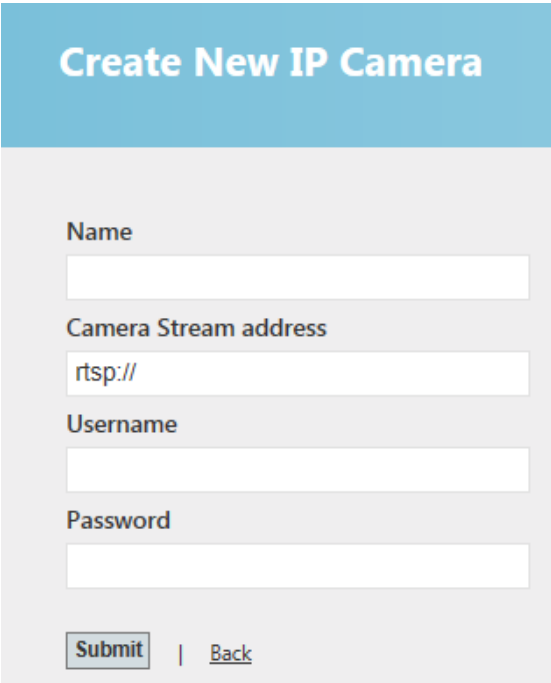


Figure 2-8: Figure 2-9: The configuration screen for an IP Camera interface.



Figure 2-10: Two IP Cameras as displayed in the HQi client interface.

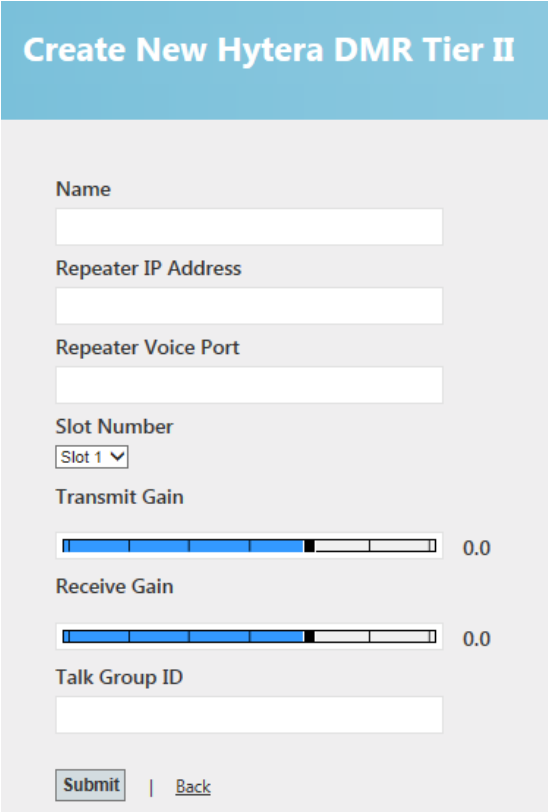
2.10 The Hytera DMR Tier II Interface

Uses

The Hytera DMR Tier II interface allows you to interface with a conventional Hytera DMR radio system.

Explanation of Fields

- Repeater IP Address
 - The IP address of the Hytera repeater.
- Repeater Voice Port
 - The port that the repeater is listening for audio on.
- Slot Number
 - DMR Tier II supports 2-slot TDMA which splits one 12.5 KHz channel into two 6.25 KHz channels. This field allows the user to pick which 6.25 KHz channel is associated with this interface.



Create New Hytera DMR Tier II

Name

Repeater IP Address

Repeater Voice Port

Slot Number
 ▼

Transmit Gain
 0.0

Receive Gain
 0.0

Talk Group ID

| [Back](#)

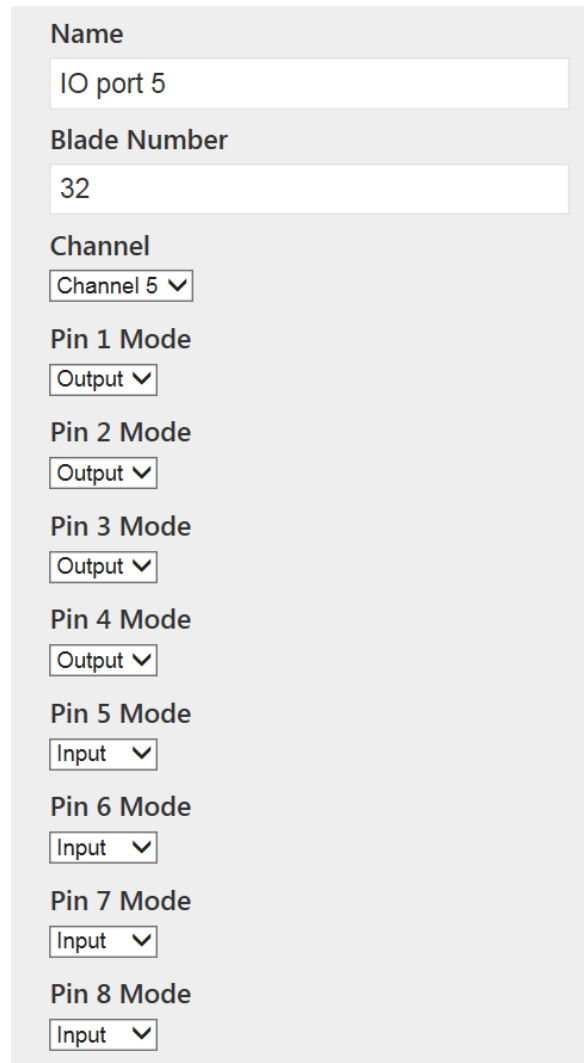
Figure 2-11: The configuration screen for the Hytera DMR Tier II interface.

2.11 The IO Module Interface

Uses

The IO Module interface is a simple interface that allows you to control an I/O module through Action Plans. These interfaces can't be controlled directly, but they are necessary when you wish to have an IO action within an Action Plan. (See Chapter 6: Creating and Using Action Plans for more information.)

Each pin can be configured for input or output mode. Output pins can be set to output either 5v or 12v in order to trigger external devices. Input pins can be configured to trigger Action Plans when their threshold voltage is received.



The screenshot shows a configuration interface for an IO module. It includes the following fields and options:

- Name:** A text input field containing "IO port 5".
- Blade Number:** A text input field containing "32".
- Channel:** A dropdown menu showing "Channel 5" with a downward arrow.
- Pin 1 Mode:** A dropdown menu showing "Output" with a downward arrow.
- Pin 2 Mode:** A dropdown menu showing "Output" with a downward arrow.
- Pin 3 Mode:** A dropdown menu showing "Output" with a downward arrow.
- Pin 4 Mode:** A dropdown menu showing "Output" with a downward arrow.
- Pin 5 Mode:** A dropdown menu showing "Input" with a downward arrow.
- Pin 6 Mode:** A dropdown menu showing "Input" with a downward arrow.
- Pin 7 Mode:** A dropdown menu showing "Input" with a downward arrow.
- Pin 8 Mode:** A dropdown menu showing "Input" with a downward arrow.

Figure 2-12: The configuration screen for an IO Module interface.

2.12 The M4x Blade Audio Channel Interface

Uses

An M4x Blade Audio Channel interface corresponds to a FlexGate Blade port that accepts 4-wire or 2-wire analog audio devices. The attached device can range from a radio, an intercom, a handset, or a custom device that matches the pinouts.

Explanation of Fields

- Blade Number
 - Blades are numbered in order from 1 to a maximum of 11, starting with the top blade in a FlexGate system. Enter the blade number of the audio resource you want to utilize in this interface.
 - Note: If using a blade that is connected to a PC via USB, you should enter 32 for the blade number.
- Channel
 - Channels are physical ports on the blade. Enter the channel (1-8) of the port you want to use in this interface.
- Trigger on COR
 - If the device attached to this channel provides a COR input, select this checkbox.
- Transmission Mechanism
 - Select whether the connected device uses a 2-wire or 4-wire transmission mechanism.
- Notify Endpoint on Key or Dekey
 - Flexgate will respond with a voice message on confirmation of keying or dekeying of the radio while in a SIP call.

The remaining fields are for linking an interface with a SIP server. For more details on these fields, see Section 2.5: The CyberTel PTT Interface.

Create New M4x Blade Audio Channel

Name

Blade Number

1

Channel

Channel 1

Trigger On COR

☒

Transmit Gain

0.0

Receive Gain

0.0

Transmission Mechanism

4-Wire

TX Audio Delay

500.0

Talk Group ID

Sip Display Name

Sip User Name

Sip Registration User Name

SIP Password

Sip Domain or IP Address

Sip Port

5060

Notify Endpoint on Key or Dekey

☒

Auto Answer

☐

Registration Expiration Time (sec)

3600

Is Cybertel Server

☐

Submit | Back

Figure 2-13: The configuration screen for the M4x Blade Audio Channel interface.

2.13 The NEXEDGE TRS Interface

Uses

This interface allows you to interface with a NEXEDGE Trunked Radio System, using the given parameters.

Explanation of Fields

- Talk Group ID
 - The talk group ID as configured in the NEXEDGE Trunked System.
- Console ID
 - The console ID as configured in the NEXEDGE Trunked System.
- System Code
 - The system code as configured in the NEXEDGE Trunked System. This is a unique ID assigned to each system (1 to 131070).
- Site Code
 - The site code, or “Home Site Number” as configured in the NEXEDGE Trunked System.
- Network Category
 - The network category as configured in the NEXEDGE Trunked System.
- Is Ultra Narrow
 - When checked, the NEXEDGE system is configured for ultra-narrow channel spacing. Otherwise it is narrow band only.
- Radio System Address
 - The IP address of the home site and is usually associated with the smallest channel number at a home site.
- Bind To Address
 - The IP address of the network adapter that is associated with the NEXEDGE Trunked System.
- Jitter Buffer Depth
 - For advanced use only. Default value is 60.
- Reregister Time (min)
 - The reregister time prevents the NEXEDGE Trunked System from deregistering for being idle.
- Emergency alert Relay
 - This will be the relay module that will associate with the radio when the emergency alert is triggered.
- Emergency Alert Relay #
 - This will be the relay number associated with the relay when the emergency alert is triggered.
- Emergency Alert Time to Hold
 - This is an adjustable amount of time from 1 second to 5 minutes to have the relay active during an emergency alert.
- Message Trunk Hold Time
 - This is an adjustable time from 1 to 30 seconds for a message trunk hold time.
- Station Type
 - This is used to distinguish between registering to a talk group or an individual.
- Station Name
 - Specific name given to the station.
- Station ID
 - Specific Station ID number.

Name	NXDN TG1
Talk Group ID	1
Console ID	50000
System Code	323
Site Code	1
Network Category	Local
Is Ultra Narrow	<input checked="" type="checkbox"/>
Radio System Address	10.1.1.70
Bind To Address	10.1.1.82
Jitter Buffer Depth	60
Reregister Time (min)	9
Emergency Alert Relay	--
Emergency Alert Relay #	--
Emergency Alert Time to Hold	5 seconds
Message Trunk Hold Time	--
Station Type	TALKGROUP
Station Name	NXDN-TRS-TG_1
Station ID	1
RAN Encode	0

2.14 The Relay Module Interface

The Relay Module Interface can be controlled directly either from HQi, or can be manipulated through the Action Plan interface in order to trigger external devices. Each Relay Module Interface corresponds to one port on the two-port Relay module. Each port typically has 4 available relays. When relay 1 is open, pins 1 and 2 are bridged.

See Chapter 6: Creating and Using Action Plans for more information on interfacing with the Relay Module interface.

Name

Description
Name of the relay.

Blade Number

Channel

Module 1

Relay Id	Relay Name	Enable	State
Relay 1:	<input type="text" value="Front Entrance"/>	<input checked="" type="checkbox"/>	<div>Open</div>
Relay 2:	<input type="text" value="Side Entrance"/>	<input checked="" type="checkbox"/>	<div>Open</div>
Relay 3:	<input type="text" value="Rear Entrance"/>	<input checked="" type="checkbox"/>	<div>Open</div>
Relay 4:	<input type="text" value="Garbage Chute"/>	<input checked="" type="checkbox"/>	<div>Open</div>
Relay 5:	<input type="text" value="Ghetto Blaster"/>	<input checked="" type="checkbox"/>	<div>Open</div>
Relay 6:	<input type="text" value="Air Bag BD Chair"/>	<input checked="" type="checkbox"/>	<div>Open</div>
Relay 7:	<input type="text" value="Electric Fence"/>	<input checked="" type="checkbox"/>	<div>Open</div>
Relay 8:	<input type="text" value="Basement Pump"/>	<input checked="" type="checkbox"/>	<div>Open</div>

Submit

 | [Back](#)

Figure 2-15: Relay module configuration.

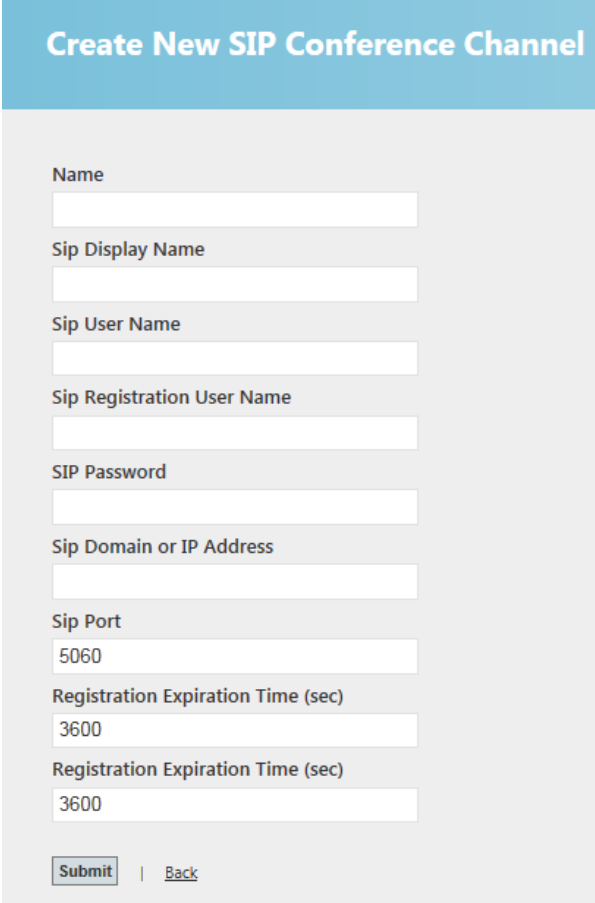
2.15 The SIP Conference Channel Interface

Uses

This interface acts as a bridge between SIP endpoints and other interfaces to transmit and receive audio. All audio sent to the SIP Conference Channel is rebroadcasted to all interfaces that are patched with the channel, as well as all SIP devices that are in a call with the channel's associated SIP account.

Explanation of Fields

The fields for this interface are typical SIP settings. For more information, see Section 2.5: The CyberTel PTT Interface.



Create New SIP Conference Channel

Name

Sip Display Name

Sip User Name

Sip Registration User Name

SIP Password

Sip Domain or IP Address

Sip Port

Registration Expiration Time (sec)

Registration Expiration Time (sec)

| [Back](#)

Figure 2-14: The configuration screen for the SIP Conference Channel interface.

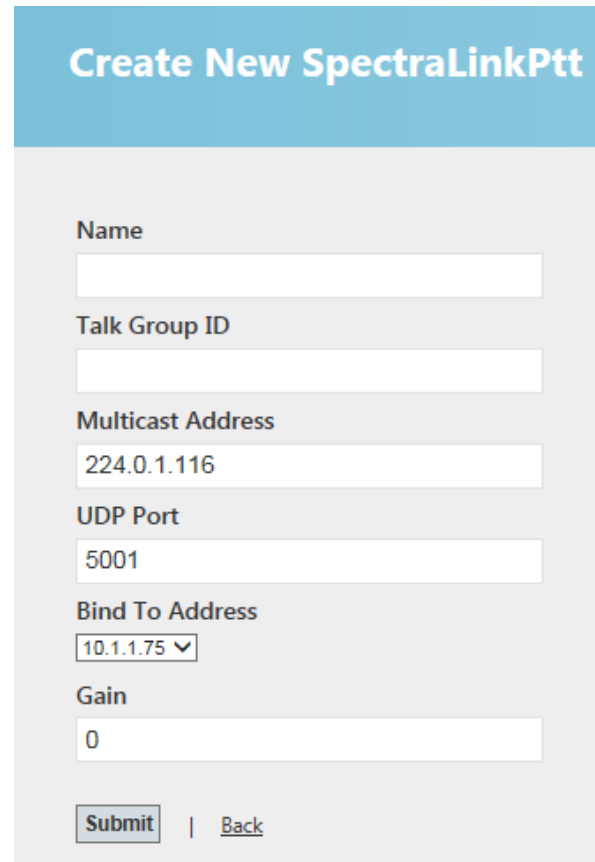
2.16 The SpectraLink PTT Interface

Uses

This interface represents a SpectraLink PTT multicast channel. It acts as a bridge between SpectraLink phones and other FlexGate interfaces.

Explanation of Fields

- Multicast Address
 - The IP address of the SpectraLink PTT session.
- UDP Port
 - Remote port as configured in the SpectraLink PTT configuration.
- Bind To Address
 - This is the IP Address of the network adapter that is associated with the SpectraLink PTT System.
- Gain
 - You can add gain (or volume) in dB to the ESChat smartphone user here. However, it is recommended to do all gain adjustments in the ESChat configuration portal.



Create New SpectraLinkPtt

Name

Talk Group ID

Multicast Address

UDP Port

Bind To Address

Gain

| [Back](#)

Figure 2-15: The configuration screen for the SpectraLink PTT interface.

2.17 The RTP Unicast Interface

Uses

An RTP Unicast Interface is a point-to-point link between the FlexGate and a distant VoIP/RoIP gateway over IP. It is most often used to link Raven VoIP/RoIP devices that are connected to remote radios or audio endpoints.

RTP stands for "Realtime Transfer Protocol" and is used to transfer digital speech packets over a computer network or the Internet.

Explanation of Fields

- Remote IP Address
 - The IP address of the remote RTP Endpoint.
- Remote Port
 - The remote port for the FlexGate to receive RTP packets on.
- Local IP Address
 - The address of the local network interface card that will send/receive traffic on. This will be either the public or private NIC port setting on the FlexGate.
- Local Port
 - Local port for the FlexGate application to receive RTP packets on.

Create New RTP Unicast

Name

Talk Group ID

Remote IP Address

Remote Port

Local IP Address

Local Port

Transmit Gain
 0.0

Receive Gain
 0.0

| [Back](#)

Figure 2-16: The configuration screen for an RTP Unicast interface.

2.18 The Voter Interface

Uses

This interface represents a voter. Ports 1 through 7 of the blade is configured as repeater and port 8 is set as console.

Explanation of Fields

- Blade Number
 - The blade that is configured as voter.
- Vote dB Difference
 - Number of dB's needed to override this port if it's actually voted (0 - 40).
- Vote Hold Off
 - This allows time for all vote receivers to unquench before an initial vote occurs (0 - 255 ms).
- Free Vote
 - After the vote hold off expires, a free vote period can be designated in which any vote receiver can be voted (the vote period is ignored). This allows an initially-voted noisy receiver to be unvoted more quickly (0 - 255ms).
- Vote Lock Time
 - This locks the vote on the currently-voted receiver (0 - 65534 ms).
- Data Mute
 - True: Don't mute data during vote lock
 - False: Mute data during vote lock
- Sub Comparator
 - Check this box if there will be more than one blade used for voting. In this case port 8 of blade 1 will need to be cascaded to port 1 of the next blade.
- Auto Transmitter Steering.
 - This check box is used to give the voter the ability to auto steer to last transmitter.

Name	<input type="text" value="Voter"/>
Blade Number	<input type="text" value="Blade 1"/>
Vote dB Difference	<input type="text" value="3"/>
Vote Hold Off	<input type="text" value="0"/>
Free Vote	<input type="text" value="0"/>
Vote Lock Time	<input type="text" value="0"/>
Data Mute	<input type="checkbox"/>
Sub Comparator	<input type="checkbox"/>
Auto Transmitter Steering	<input type="checkbox"/>
<input type="button" value="Submit"/> Back	

Figure 2-20 Voter interface configuration page

2.19 The Zello Interface



Uses

Zello is PTT app that allows users on various devices to communicate instantly no matter where they are. The Zello Interface creates an audio bridge between the FlexGate server and a Zello Work server, allowing you to patch together audio from any of your other FlexGate interfaces to your smartphone.

For more information about Zello, visit <https://zellowork.com/>

Explanation of Fields

- Network Name
 - The name of the ZelloWork account that this interface will connect to. If your login server address for your ZelloWork account is '**CompanyName.zellowork.com**' then the Network Name is just '**CompanyName**'.
- Login Server
 - This field is used to connect to the server associated with you Zello account. If using the Zello cloud server this network will auto populate.
- TLS
 - This is the Transport Layer Security. If using a Zello cloud account this will auto populate.
- Username
 - The name of the user account that this interface will log in to. This account will serve as a bridge between the FlexGate and Zello, so **this account must not be logged in to by another Zello user.**
 - When audio flows from the FlexGate to Zello, it will appear on the Zello app that this account is speaking.
 - To have audio flow to the FlexGate, Zello users can simply initiate a call to this account. Audio will flow to
- Password
 - The password for the above username.
- Default Contact
 - The Zello contact that this interface will attempt an outbound call to when it receives audio from the FlexGate side. This can be a user or a channel name that the account has access to.

Name	<input type="text" value="Zello Gateway 1"/>
Network Name	<input type="text" value="ravencomm"/>
Login Server	<input type="text" value="loudtalks.net"/>
TLS	<input type="text" value="tls.zellowork.com"/>
Username	<input type="text" value="flex1"/>
Password	<input type="password" value="•••••"/>
Confirm Password	<input type="password" value="•••••"/>
Default Contact	<input type="text" value="IWCE 1"/>
<input type="button" value="Submit"/> Back	

3 Creating Communication Patches

A patch in FlexGate represents a group of interfaces that are linked together in full-duplex communication. In other words, when one interface receives audio, it will be transmitted to all other interfaces that it shares a patch with. You can create patches on the configuration website, under the Patches tab. By default, you will have four empty patches, labeled Patch 1 through Patch 4. You can have an unlimited number of patches, and you can name them however you want. These names are for your reference, and they are only visible on the website or to HQi clients that have access to them (see Chapter 5: Using HQi).

To avoid confusion, interfaces can only be associated with one patch. Interfaces that are not within any patches will be listed in the “Available” section on the left. The “In Patch” section on the right will list which interfaces are located in the patch selected from the dropdown box. There is no limit to the number of interfaces that can be in a patch.

To add interfaces to a patch, first select the patch you wish to add them to from the dropdown box. Then, select the interfaces you wish to add from the “Available” box. Finally, click on the “Add to Patch” button. Similarly, you can remove interfaces from patches by selecting them and clicking on the “Remove from Patch” button.

Note: You can select multiple interfaces at a time by dragging your mouse while holding the left mouse button, or holding the CTRL button and clicking each interface separately.

Figure 3-1: The Patches page from the configuration website. Here you can create, delete, and reconfigure your FlexGate communication patches.

4 Configuring ESChat

ESChat is a third-party LTE Push-to-Talk application that is often used with FlexGate to communicate with radio systems. The following outlines the step-by step procedure to create a link to an ESChat endpoint.

1. Contact Raven Electronics to get an account created for you in the ESChat portal.
2. Create an RTP Session in the FlexGate web configuration portal.
3. Enter the name of the ESChat channel.
4. Entering a Talk Group ID is for organizational purposes only and considered an option.
5. Enter the remote IP address that Raven gave you.
6. Using the ports assigned from the ESChat portal enter them in the proper areas.
7. Then select the submit button.
8. Now using the patch tab or HQI patch the ESChat interface with the appropriate radio channel.



Name	<input type="text" value="ESChat"/>
Talk Group ID	<input type="text" value="6"/>
Data Transfer mechanism	<input type="text" value="Unicast"/>
Remote IP Address	<input type="text" value="54.219.138.108"/>
Remote Port	<input type="text" value="52264"/>
Local IP Address	<input type="text" value="12.183.176.56"/>
Local Port	<input type="text" value="52264"/>
Transmit Gain	<div><div></div>0.0</div>
Receive Gain	<div><div></div>0.0</div>
<input type="button" value="Submit"/> Back	

5 Using HQi

5.1 HQi Introduction

HQi is an IP Dispatch application that connects to a FlexGate server. The HQi operator has the ability to create or absolve communication patches, remotely disable select interfaces, or communicate directly with interfaces or patches. It does this by authenticating with a FlexGate server via username and password credentials that have been pre-configured through the FlexGate web interface. Once logged in, the operator has the ability to control a variety of functions through the UI.

For assistance in configuring an HQi client, please refer to section 2.8 The HQi Client Interface (page 13).

5.2 The User Interface

When the HQi Client is launched, you will be prompted to enter the IP address of the FlexGate server, as well as the username and password that was configured on the configuration website. Once logged in, you will see a screen similar to the one in **Error! Reference source not found..** Each individual HQi client's screen will vary based on the c onfiguration provided on the website.



Figure 5-1: A screenshot of an HQi user interface.

5.2.1 Interfaces

The center of the screen holds all of the radio interfaces available to the HQi Operator. Each interface is represented by the UI element shown in **Error! Reference source not found.**. If you click on an interface, it will become selected and you will begin receiving audio from that interface. You can use the volume slider to locally adjust the volume of this audio. If you have a microphone attached to your system, you can click the microphone button to transmit audio to this interface.



Figure 5-2: Screenshot of a user interface button.

If you click on the power button in the top right, this interface will be disabled. While disabled, it will not transmit or receive any audio, despite its patch configuration.

The phone icon on the left represents the SIP status of the interface. If it is missing, this interface has not been configured for SIP. If it is red, SIP configuration details were provided but an error was encountered while registering with the SIP server. If the icon is green, this interface is successfully registered with a SIP server. Its registered name will appear next to the phone icon in this case. Clicking a green phone icon allows the HQi Operator to control SIP calls for the interface.

5.2.2 Patches and Multiselects

On the left side of the interface are the Patches and Multiselect tabs. Each HQi Operator will only be able to view patches that they have been configured to control in the configuration website. Clicking on a patch will select it, enabling the operator to receive audio from that patch. The operator can also click on the microphone to transmit audio to the patch.

Each interface in a patch is linked full-duplex to all other interfaces in the patch, i.e. whenever one interface transmits audio, all other interfaces will receive that audio.

A Multiselect is similar to a patch but it does not provide a full-duplex connection between each interface in the patch. Instead, a Multiselect is used to transmit audio to or receive audio from a predefined group of interfaces. Patches are global to the FlexGate system and are saved on the server side, while Multiselects are specific to the HQi machine.



Figure 5-1: The Patches and Multiselect tabs.

Note: If the patches tab is empty, the HQi client was not configured in the website to control any interfaces. Patches can be created on the website's Patches tab and then each HQi must be given access to the patches through their Edit page. For more information, see Chapter 3: Creating Communication Patches.

5.2.3 SIP Controls

On the right side of the user interface is the SIP dial pad. This is used to make and control SIP calls for both interfaces and the HQi client itself, assuming it has a SIP account. You can configure the HQi client's SIP account settings in the options menu.

To make an outgoing SIP call, dial the SIP extension and click the green call button. In order to control a SIP enabled interface, click on the green phone icon in the interface's control. The green outline should move from the dial pad to the interface to signal the shift in control.

While the selected device is in a call, additional controls are enabled on the dial pad. In addition to the green call button, a red end call button is present. There is also a PTT button, hold button, a mute button, and a transfer button.

The PTT button is displayed during CyberTel SIP calls and is represented by the microphone icon. CyberTel calls require the user to key their phone when they wish to speak, so you must press this button when you wish to speak. This button can be toggled between a push-to-hold and a toggle button by checking the 'PTT Toggle' option in the Options Menu.

The hold button is represented by the two vertical bars. This places the other line on hold through the SIP server. If the server is configured for it, hold music will be played to the other line.

The mute button is represented by a microphone with a line through it. This button prevents audio from being transmitted to the other party while it is toggled.

The transfer button is represented by a curved arrow. This will have the SIP server transfer the other party to the number in the text box, ending our connection with them.



Figure 5-2: The SIP phone control. This dial pad is used to manage SIP and traditional phone line calls.

5.2.4 The Lower Display Panel

At the bottom of the user interface you can find more controls with SIP functionality. The five tabs here each contain useful displays for monitoring and controlling functionalities within HQi.

The first tab is the Instant recall recorder tab, which provides you with information about all prior calls incoming and outgoing. The amount of time these calls are saved for is adjustable within the admin tab of the FlexGate web configuration page. It can be set for as little 1 hour to as long as 2 weeks. The recordings may also be saved to the local computer. To save recordings just highlight either the call or calls to be saved and select the save button. To playback a call, highlight the call and select the play button. Sometimes there might be a situation when many calls are coming in and the operator will need to select a call to playback. The list of call is set to automatically update. If the operator needs to stop the auto update just uncheck the box in the lower left labeled auto update.

Time	Duration (sec)	Source	Destination
12/28/2017 9:57:36 AM	4.00	Bryan	Acumen,Advanced PLM,Aircomm,AllComm,Alyeska,
12/28/2017 9:57:47 AM	2.62	NXDN Conventional_01 (TG: : 1, UII	Arrowmid,Brett,Bryan,Jose,Zello Gateway 2
12/28/2017 9:57:57 AM	4.02	Kenwood Analog VHF	Sip5083CX,FXO1,Acumen,Advanced PLM,Aircomm,/
12/28/2017 9:58:07 AM	2.40	Bryan	Acumen,Advanced PLM,Aircomm,AllComm,Alyeska,
12/28/2017 9:58:16 AM	6.22	Bryan	Acumen,Advanced PLM,Aircomm,AllComm,Alyeska,
12/28/2017 9:58:27 AM	3.38	Kenwood Analog VHF	Sip5083CX,FXO1,Acumen,Advanced PLM,Aircomm,/

Play Save Auto Update ☒

Figure 5-5: Instant Recall Recordings.

The second tab is the Kenwood NXDN Messaging Tab. This tab allows the user to send text messages to other devices on a Kenwood NXDN system. To use this tab, type the talk ID number of the device in the 'To' box and then the type of message. Now type your message and hit send. Any messages sent to you will also be shown in this tab.

Time	Status	Destination	Message
11/1/2017 12:31:15 PM	✓	NXDN TG1	123456
10/18/2017 1:08:36 PM	✓	NXDN TG1	123456
10/18/2017 1:08:22 PM	✓	NXDN TG1	123456
10/16/2017 12:38:31 PM	✓	NXDN TG1	Lunch time

To: Message Type:

Message: 0/100 [Bytes]

Figure 5-6: Kenwood NXDN Text Messaging.

Note: It is not currently possible to know whether your message recipient has received your message.

The third tab provides access to the webcam functionality of our SIP engine. If you have a webcam and you use the dial pad to call another SIP device that has video functionality, you will both be able to see each other's webcam. There are various options on the left-hand side of the tab to control the quality of your stream.

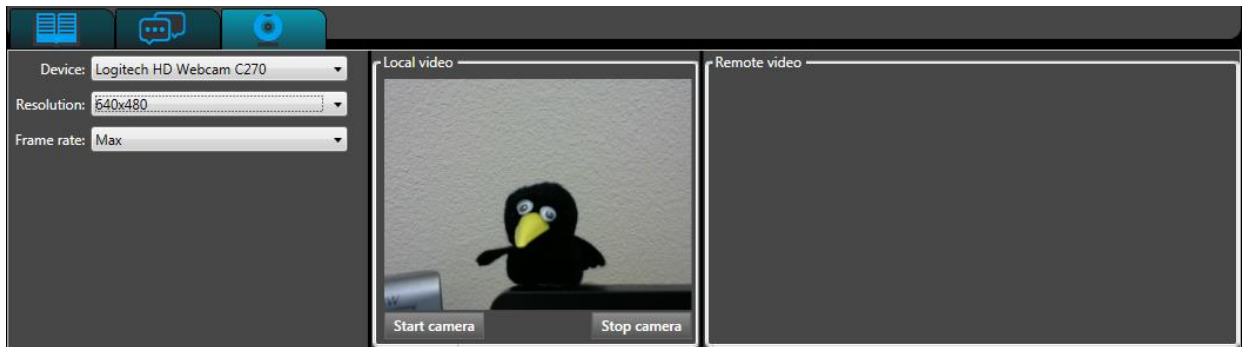


Figure 5-3: The SIP Webcam Tab. This tab can be used to add video to your SIP calls.

This tab is used to either activate or deactivate any relays that are associated with FlexGate.



Figure 5-8: Screenshot of the relay tab.

This tab is used exclusively for the emergency button feature on a Kenwood NXDN radio. Once a user has activated the emergency feature on the radio the interface tab will flash red and it will also give an audible alert until the dispatcher has resolved the issue by responding to the emergency.

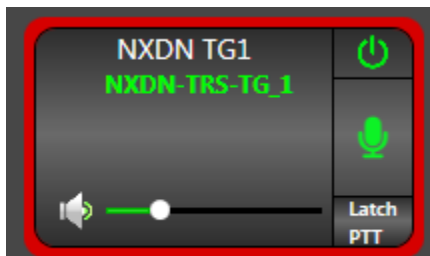


Figure 5-9: Emergency alert on interface.

Receive Time	Source	Status	Attended By
12/28/2017 1:59:12 PM	Radio ID : 1	EMERGENCY TERMINATION	Bryan
12/20/2017 3:33:57 PM	Radio ID : 1	EMERGENCY TERMINATION	Brett
12/13/2017 10:20:09 AM	Radio ID : 1	EMERGENCY TERMINATION	Tony
12/7/2017 11:05:34 AM	Radio ID : 1	EMERGENCY TERMINATION	Bryan
11/30/2017 9:32:08 AM	Radio ID : 1	EMERGENCY TERMINATION	Bryan
11/28/2017 9:04:44 AM	Radio ID : 1	EMERGENCY TERMINATION	Bryan
11/28/2017 9:04:21 AM	Radio ID : 1	EMERGENCY TERMINATION	Tony
10/10/2017 2:44:12 PM	Radio ID : 1	EMERGENCY TERMINATION	Brvan

Figure 5-10: Emergency alert tab.

5.2.5 The Options Menu

The options menu can be accessed by clicking on the gear and wrench icon located in the top right of the application. Here, you can make all changes to the individual HQi account.

In the event that the system your HQi client is installed on has multiple NICs, you can select which one you wish to bind to in the Network Settings.



Figure 5-11: The options menu icon.

5.2.6 HQi System Settings Tab

- **Server Address**
 - The server address will auto populate with the FlexGate IP address you are connected to.
- **Local Binding Address**
 - This will be the address of the local computer that is use.
- **Screen Mode**
 - Fullscreen is more likely used when the monitor is dedicated to HQI.
 - Windowed is used when the screen is being used for multiple purposes so one can move the UI around.
- **Military Time**
 - Military time is used to change from a 12 hour clock.
- **PTT Toggle**
 - This is primarily used for monitors that are being used as touchscreens. When you key a resource one click will key and the next dekey. Instead of using a click and hold.
- **PTT Keybind**
 - This is used to define another type of button or foot pedal for keying.
- **Monitor Dispatch Traffic**
 - This feature is used for monitoring other dispatcher traffic when checked.
- **Microphone**
 - This is used to select which microphone device to use that is detected by the computer.
- **Selected Audio**
 - Selected audio is the audio that will be heard from a device that is highlighted Blue
- **Unselected Audio**
 - This is audio that is not highlighted

Network Settings

Server IP Address: 10.1.1.82

Local Binding Address:

UI Settings

Screen Mode: ☐ Fullscreen ☒ Windowed

Military Time: ☐

PTT Toggle: ☐

PTT Persist Duration (ms): 700

PTT Keybind: CTRL + ALT + Space

Audio Settings

Monitor Dispatch Traffic: ☐

Microphone

Device Name: Microphone (2- USB PnP Sou

Volume: 100%

Selected Audio

Device Name: Speakers (High Definition Au

Left/Right Pan: 0

Volume: 100%

Unselected Audio

Device Name: Speakers (High Definition Au

Left/Right Pan: 0

Volume: 50%

Sound Effects

Volume: 100%

Client Version: 2017 - v3.5.8.5816

Server Version: 2017 - v3.5.8.5827

Figure 5-12: HQi settings menu.

5.3 SIP Functionality

Each HQi client once logged in will register to the FlexGate as a SIP account and automatically be assigned a SIP extension number.

5.3.1 Making Operator to Operator SIP Calls

Once logged into an HQi account a SIP account will automatically be assigned to the HQi client. A SIP extension number will also be assigned to the HQi client. To make a SIP call to another HQi operator just select an online user from the contact list as seen in figure 5-11. Once a contact has been selected the extension number for that contact will automatically populate in the dialing box. Now select the green phone icon and the call will be placed.

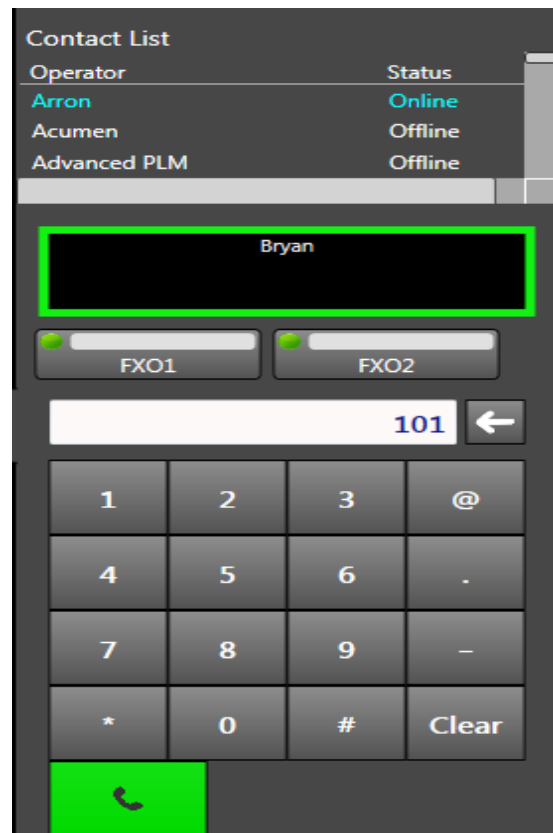


Figure 5-13: SIP control panel.

Making SIP Calls

Once your client is SIP registered, you should see a green bar around the caller ID box on the main menu, as shown in Figure 5-2. To dial a SIP extension, follow the protocol dictated by your SIP server. For example, if connected to a Cybertel SIP server, you can directly dial group numbers but you need to prepend private calls to extensions with an asterisk (*).

You can have multiple SIP calls active at any time, but you can only interact with one at a time. When you have multiple SIP calls active, you will see them listed below the dial pad. To change which SIP call you are controlling, simply click on the one you would like to control. While you are controlling one SIP call, all of your other SIP calls will not receive any audio. If your SIP server supports placing calls on hold, you can optionally place a call on hold before you switch to a new one by clicking on the hold button, indicated by the two vertical bars on the dial pad.

5.3.2 SIP Paging

Once a SIP account on FlexGate has been registered with a SIP server. The ability to page using a SIP phone can be achieved. First you will need to create your customized pages in the admin page on the FlexGate web configuration as shown in 5-12. Once the customized tone has been created select generate tone and it will be added to a selectable table of tones. To activate the page the SIP account in FlexGate will need to be patched together with the interface that is intended to receive the page. To send the page dial the SIP extension on the phone and once the call is connected dial the DTMF pattern and then the star key to activate the page.

Tone Name : DTMF Pattern : Tone Type: Generic Tone

Frequency (Hz)	Time Period (Seconds)	Amplitude (dB)
<input type="text"/>	<input type="text"/>	<input type="text"/> Delete

Add Frequency Generate Tone Remove Tone

Figure 5-14: Creating customized SIP paging tones.

5.3.3 Controlling Interfaces with SIP Accounts

Certain interfaces can be linked to their own SIP extension. You can configure these settings in the configuration website under each interface's Edit page. If one of the interfaces an HQi client can control is SIP registered, a green phone pad and the SIP extension will be displayed on the interface. If the interface had SIP registration parameters provided, but was unable to register, the phone pad icon and provided SIP extension will show up as red on the interface. Finally, if no SIP registration information was provided, there will be no phone icon or extension on the interface. These three states can be seen in 5-13.



Figure 5-15: An interface that is successfully registered to a SIP account (left), one that has had incorrect registration credentials provided (middle), and one that is not associated with a SIP account (right).

6 Creating and Using Action Plans

6.1 What are Action Plans?

Action Plans contain a list of actions that the FlexGate can perform when called upon from another interface. Actions currently consist of generating synthesized voice alerts that can be sent to other audio interfaces, or setting a pin to specific voltage on an IO module interface.

Currently, Action Plans can be triggered from CAP Handler interface. CAP Handler interfaces can be configured to trigger an Action Plan interface if a CAP alert is received that falls within user-defined thresholds.

Once triggered, Action Plans can either send a Text To Speech message to any other audio interface that is configured in FlexGate or it can set a specific pin on an IO module, allowing it to active various external devices.

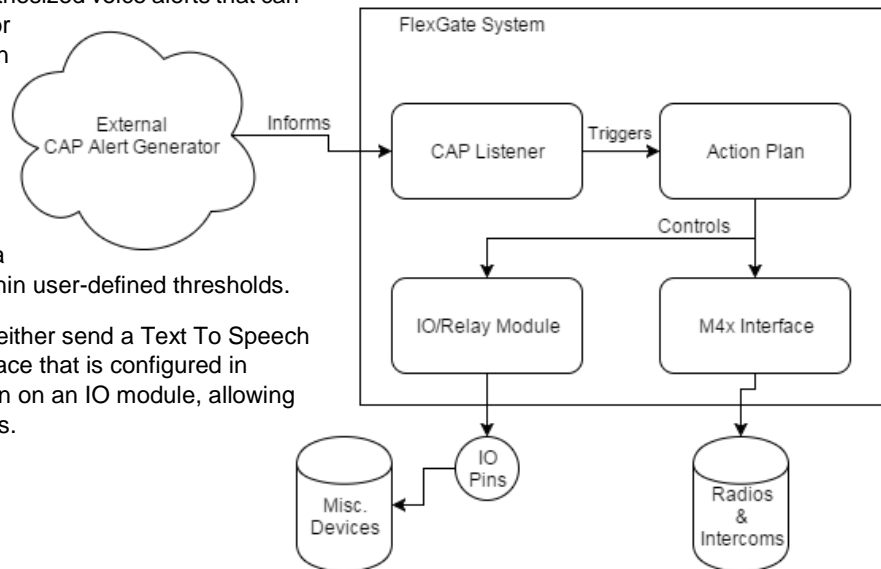


Figure 6-1: The architecture of the Action Plan workflow.

6.2 Creating an Action Plan

Before you can create an Action Plan, you'll want to make sure that you have any other pertinent interfaces configured already. For example, if your Action Plan will include a Text To Speech action, then you should have the destination interface created beforehand. Alternatively, if you want an action that sets an IO pin, an IO module interface should already be configured.

6.2.1 Adding Action Items

The first thing you'll want to do when configuring an Action Plan is to add some actions. You can do so by using the Create New Action dropdown, as shown in Figure 6-2. Currently, only two action types are supported, but more action types will be supported in the future. When you add an action item, they will appear in the Existing Actions list, shown in Figure 6-3.

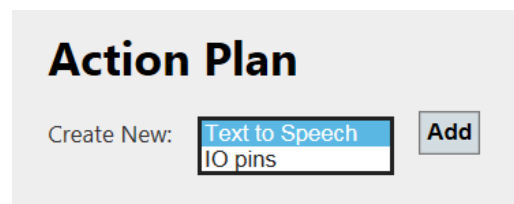


Figure 6-2: Adding actions to an Action Plan.

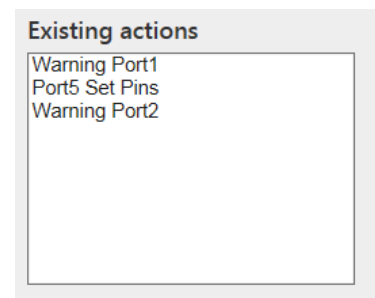


Figure 6-3: The list of actions that are currently part of the selected Action Plan.

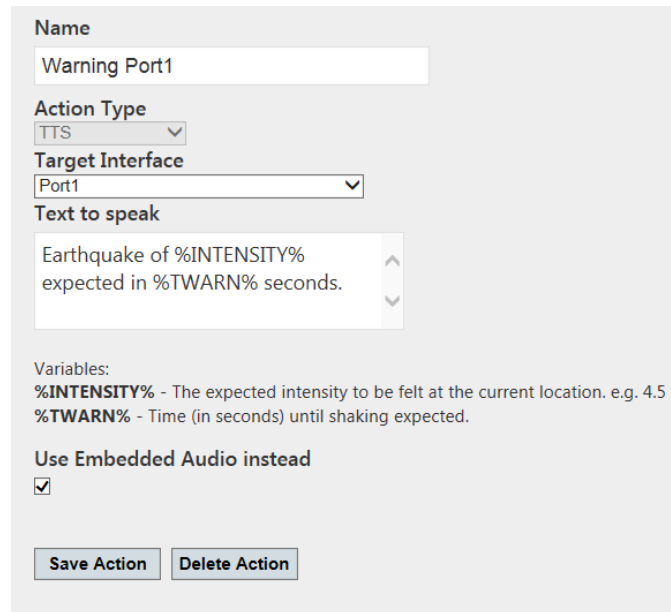
6.2.2 The Text-To-Speech action item

The text to speech action item configuration currently consists of the 'Target Interface' and the 'Text to speak' fields.

The 'Target Interface' field specifies which other FlexGate Interface should receive the audio generated by this action item. You are able to send audio to any other FlexGate Interface that supports receiving audio.

The 'Text to speak field' specifies what the generated audio will say. Currently, only English text is supported but future languages can be supported in the future. There is also support for variables within the generated message, but only within the context of Earthquake CAP Alerts. The only two supported variables are shown in Figure 6-4. They are:

- %INTENSITY%
 - The expected intensity to be felt at the current location. The box's current location is specified in the Admin page on the FlexGate's Web Config.
- %TWARN%
 - The amount of time (in seconds) until shaking is expected to occur.



The screenshot shows the configuration form for a Text-To-Speech action item. It includes a 'Name' field with the value 'Warning Port1', an 'Action Type' dropdown set to 'TTS', a 'Target Interface' dropdown set to 'Port1', and a 'Text to speak' text area containing the message 'Earthquake of %INTENSITY% expected in %TWARN% seconds.' Below the text area, there are 'Variables' defined: '%INTENSITY%' as 'The expected intensity to be felt at the current location. e.g. 4.5' and '%TWARN%' as 'Time (in seconds) until shaking expected.' There is a checkbox 'Use Embedded Audio instead' which is checked. At the bottom are 'Save Action' and 'Delete Action' buttons.

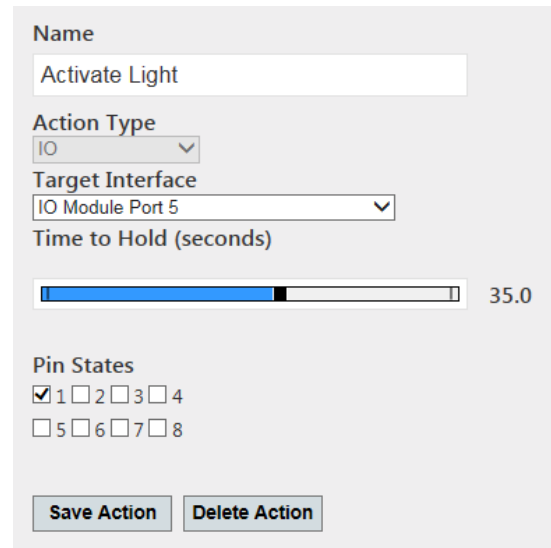
Figure 6-4: The Text-To-Speech action item configuration.

6.2.3 The IO action item

The IO action item configuration consists of the 'Target Interface' and 'Pin States' fields.

The 'Target Interface' field specifies which IO Relay interface should be used for this action item.

The 'Pin States' field allows the user to specify which pins should be 'set' when the action plan is executed. Currently, the checked pins will be set to 12V for 5 seconds, before being set back to ground. In the future, the user will be able to choose between 5V and 12V, and will be able to specify how long to hold the state before returning to ground.



The screenshot shows the configuration form for an IO action item. It includes a 'Name' field with the value 'Activate Light', an 'Action Type' dropdown set to 'IO', a 'Target Interface' dropdown set to 'IO Module Port 5', and a 'Time to Hold (seconds)' slider set to 35.0. Below these is a 'Pin States' section with checkboxes for pins 1 through 8; pin 1 is checked. At the bottom are 'Save Action' and 'Delete Action' buttons.

Figure 6-5: The IO action item configuration.

7 Troubleshooting

7.1 On the website, all of my interfaces are showing 0/0.

If your interfaces are showing 0/0, this means you either don't have a license file installed, or the license file has become corrupt. If you believe that there is an issue with your license file, please email Raven Electronics at FlexGateSupport@ravencomm.com. Please be sure to include your **License Key** that is located on the web page under the **Licensing** tab.

7.2 My HQi Client interface isn't displaying any interfaces or patches.

By default, HQi Clients don't have access to any interfaces or patches. You must grant access to both of these on the configuration website, under the Edit page for each particular HQi interface. It is recommended that you only give HQi clients access to interfaces that you want them to be able to modify. For more information, see Chapter 2.8: The HQi Client Interface.

7.3 I created a new interface but it isn't displaying on my HQi Operator's screen.

HQi accounts are granted the ability to control interfaces through a whitelist system. If you make a new interface that you want an HQi operator to be able to control, you must explicitly grant this access by editing the HQi interface on the website. For more information, see Chapter 2.8: The HQi Client Interface.