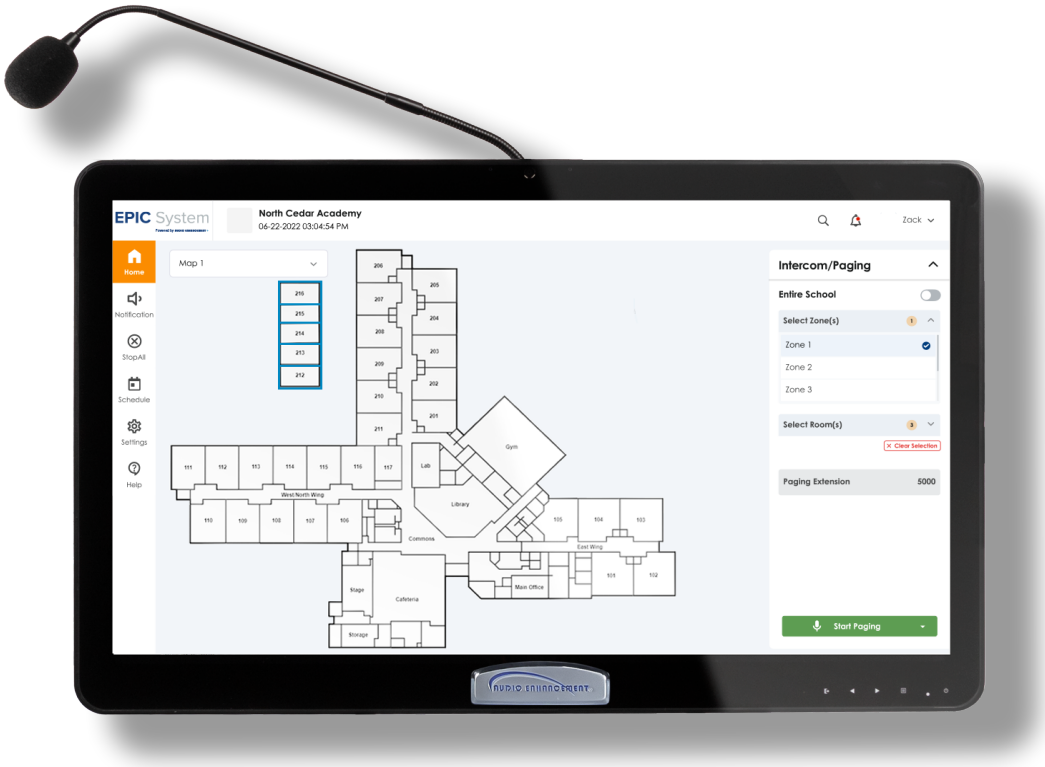
AUDIO ENHANCEMENT +
Est. 1978



EPIC 2.5 ADMIN
MANUAL

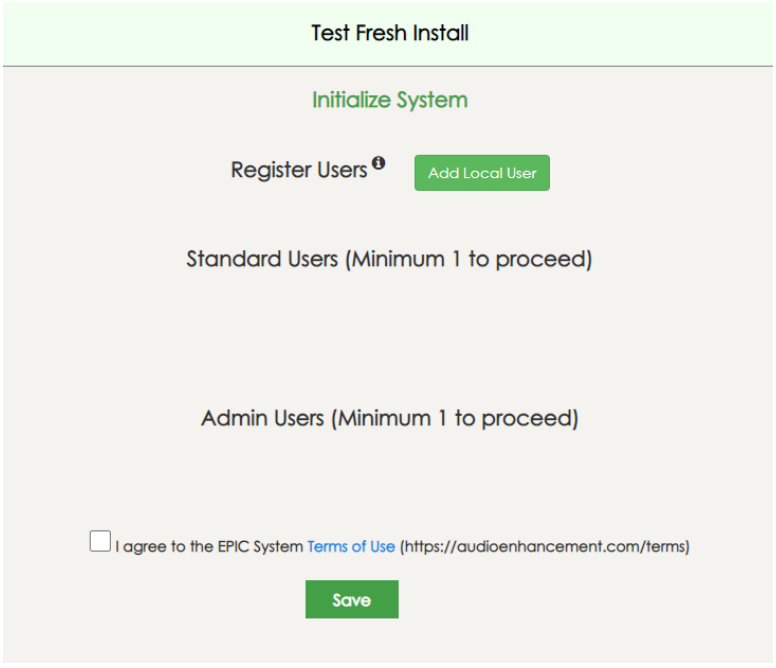
TABLE OF CONTENTS

OVERVIEW

This manual provides details on the software administration and troubleshooting of the EPIC (Education Paging & Intercom Communications) System® for Intercom, Paging, Bells and SAFE (Signal Alert For Education) System® functions. The focus of this document is the web-based administration of the server and includes adding or editing bells, zones for paging or bells, and more. It is intended primarily for technology administrators. See available videos or quick start guides for specific end user documentation.

INITIALIZE SYSTEM

The EPIC System ships with a system initialization mode. When first accessed, the user will be required to create accounts and accept the EPIC System Terms of Use before EPIC System can be used in normal operating mode.



LOGIN

The server is web-based and can be logged into via Google Chrome.

NOTE

If there is a security warning, simply click *Advanced* > *Proceed to site*. If an SSL certificate is added, this will no longer show up. *Figure 1* shows the login prompt a user will see when accessing the system.

1. Contact your school IT representative to get the log in IP address or server web link for when a DNS (Domain Name System) entry is added.

2. Log in using your system credentials (*Figure 1*). If LDAP has been enabled, select *Domain Login* and use the normal domain login account used for email, computer, etc. If SSO is enabled, use the *Sign in with* button.

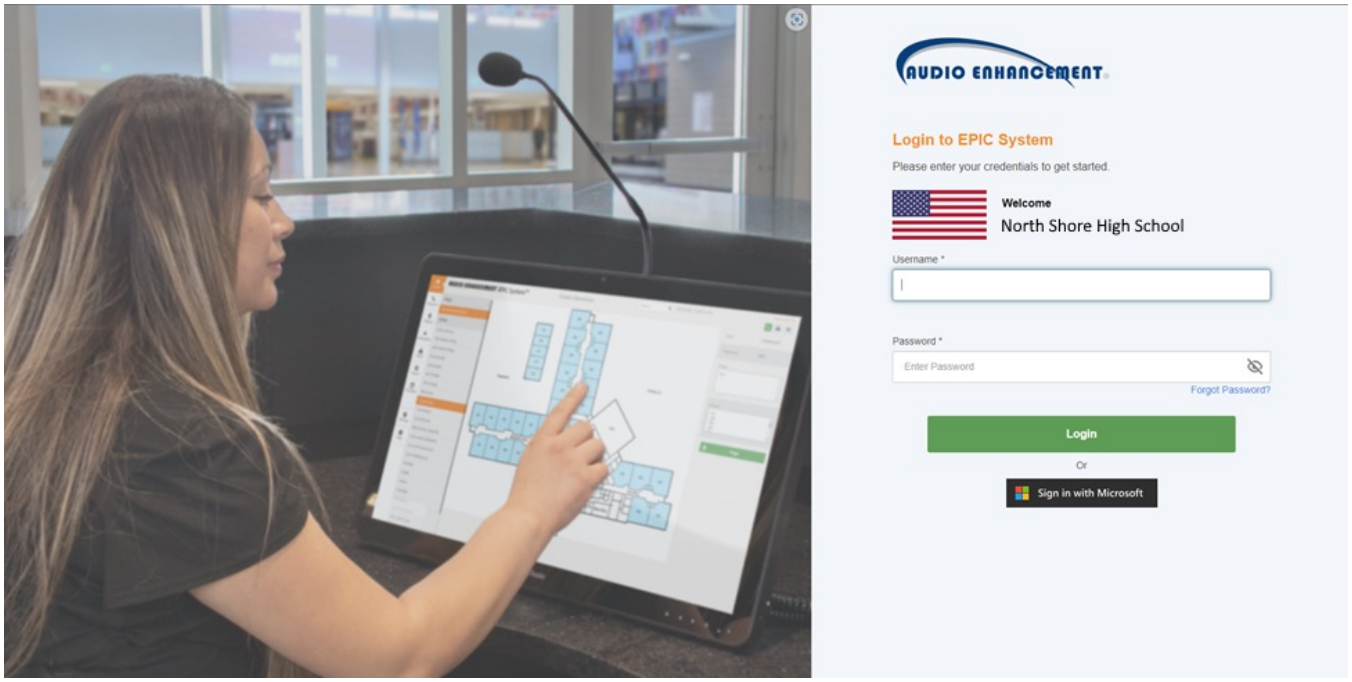


Figure 1

HOME SCREEN

The first page is the Home screen, which is a visual representation of the school (*Figure 2*). The menu along the left side allows users to click the icons to perform the associated tasks.

For administration, click the *Schedule* icon or the *Settings* icon. The bell schedule allows the editing of the bells for one or multiple days, while the *Settings* tab will be used to modify any other necessary back-end settings in the system. Please see available Quick Start Guide or Help icon for end-user specific details and operation of the system.

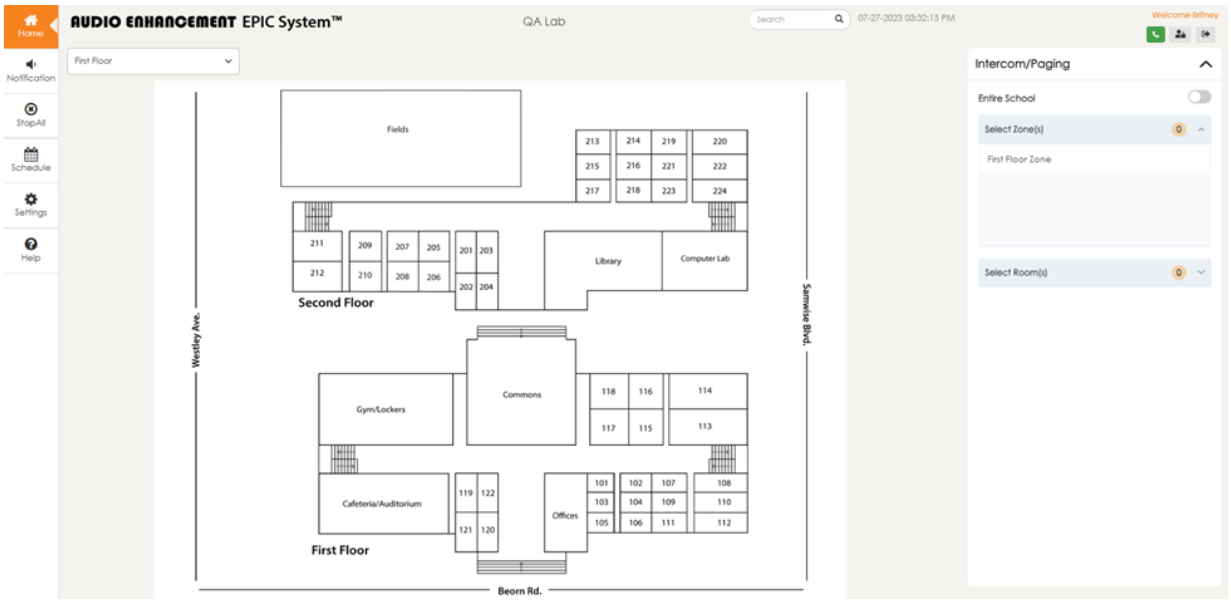


Figure 2

INTERCOM/PAGING

Intercom and paging allow for two-way and one-way communication between the office and any location within the school. With the use of an installed kiosk in the office, simply click any room to page or start an intercom. These options can be found within a new menu located on the right side of the screen.

NOTE

Each classroom or common area will need an MS-X device installed and synced to a room on the EPIC Map. For more information on how to add a device to a room, please see the Add Device section.

PAGING

1. To page a Zone, select a *Zone* by clicking on its displayed name (*Figure 3*).

2. Click the *Start Paging* button. A beep will be heard through the kiosk as well as the classroom, and a pop-up will appear showing the call is active.

3. Begin speaking through the microphone attached to the kiosk.

4. Click the *Stop Paging* button on the pop up to end the call (*Figure 4*).

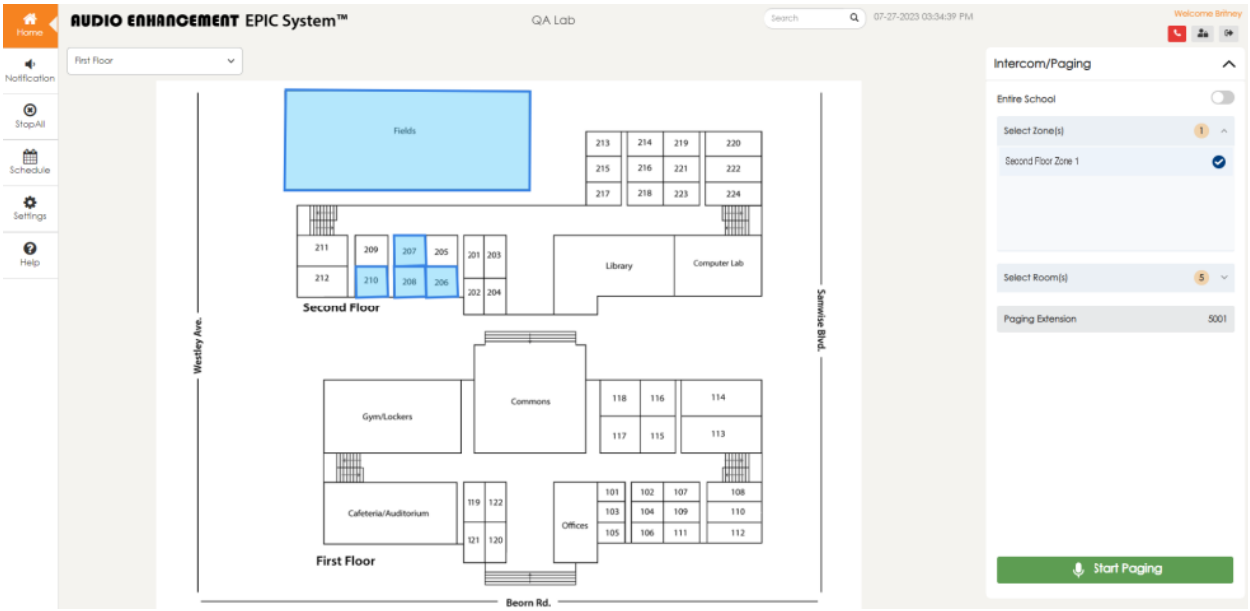


Figure 3

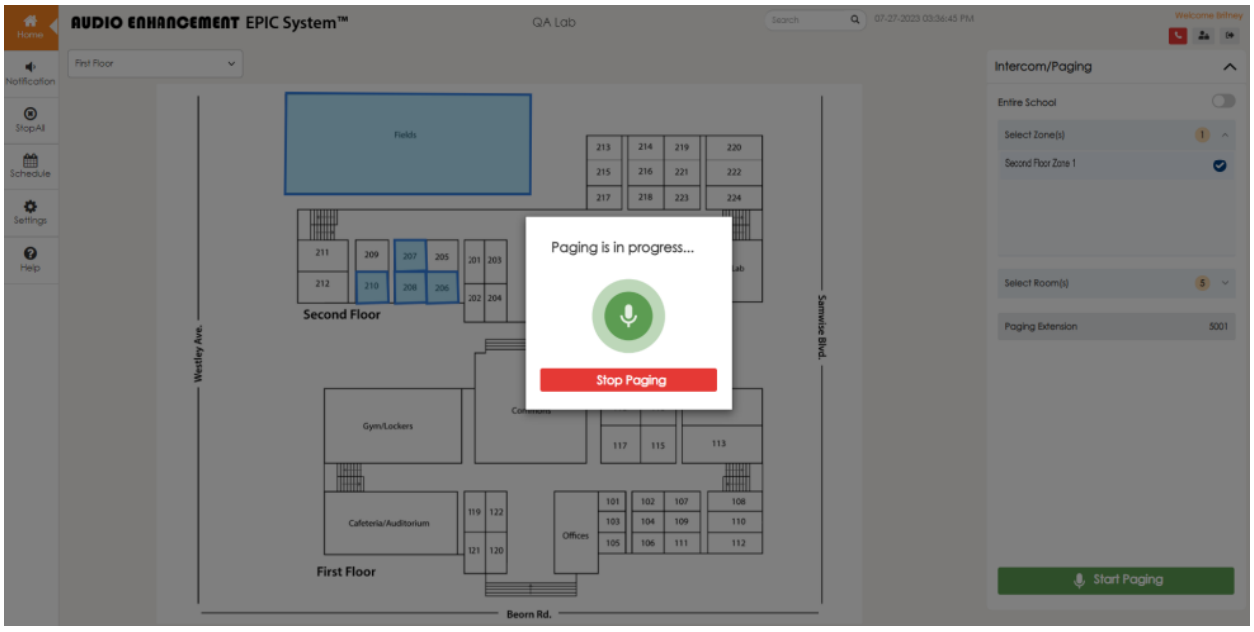


Figure 4

If desired, the tone that plays on the MS-X device can be muted when paging classrooms.

1. To do this, navigate to *Settings* > *Devices* > Select the desired MS-X device > Click *Advanced.*

2. Scroll down to the Intercom and Paging section. By default, the Beep on Call Answer will be set to From Device.

3. Click *From EPIC* to turn off the tone (*Figure 5*).

4. Click *Save*.

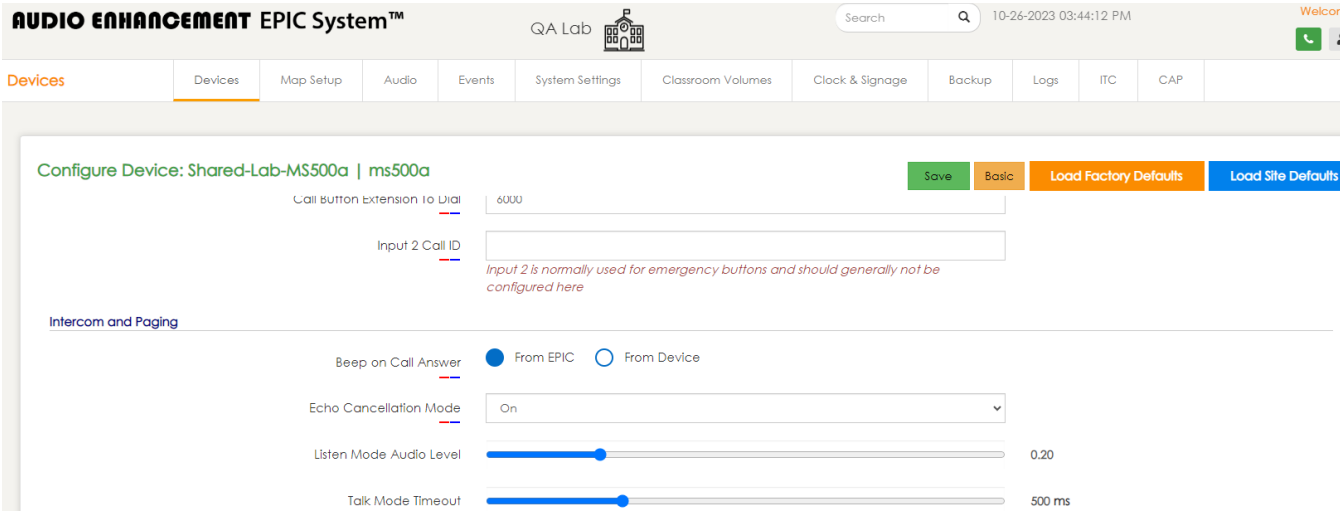


Figure 5

DYNAMIC PAGING

Dynamic Paging allows for a custom zone to be created right from the home screen to make a page to.

1. Simply click a room to be included in the zone, and the room will be highlighted. To remove a room, click on the room again and the room no longer will be highlighted.

2. Then click *Start Paging* to begin the page to the custom zone page (*Figure 6*).

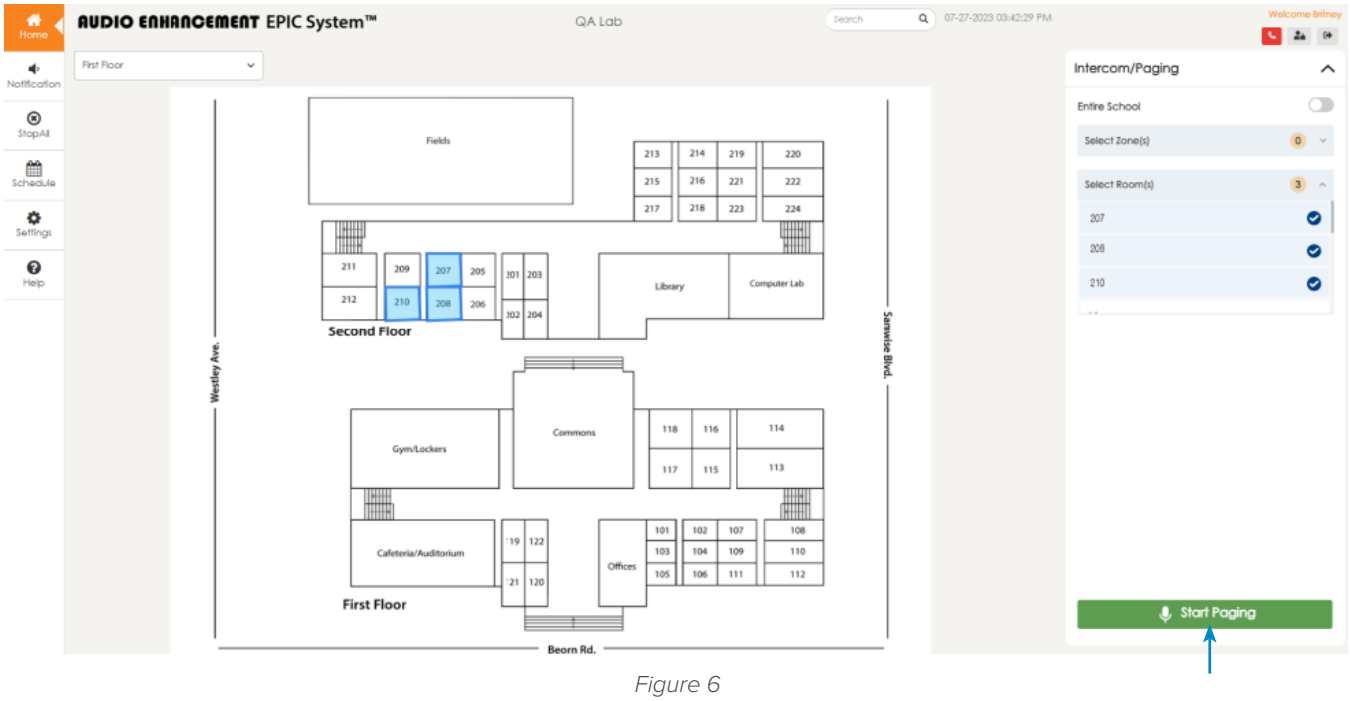


Figure 6

INTERCOM

1. To use the intercom, click on any room that has an MS-X device.

2. Then click the *Intercom* button (*Figure 7*).

3. A beep will be heard through the kiosk as well as the classroom, and a pop up will appear to show the call is active. Click the *Stop Intercom* button on the pop up to end the call (*Figure 8*).

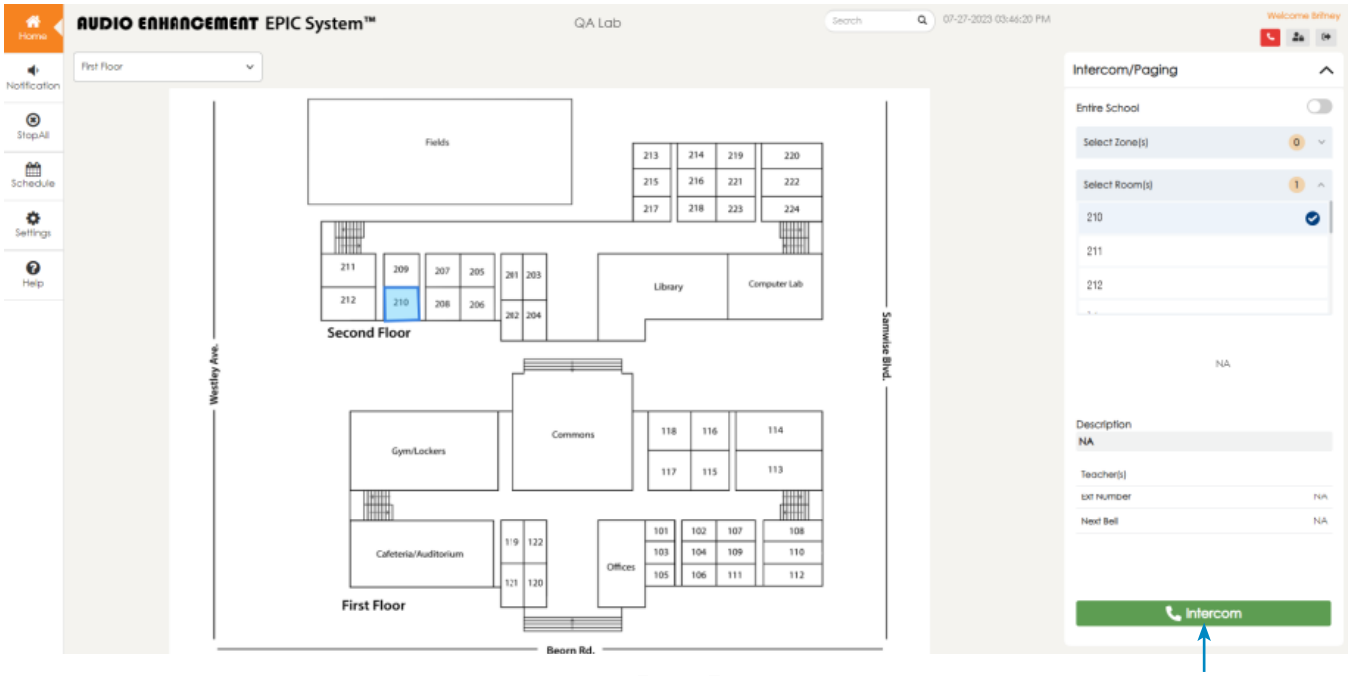


Figure 7

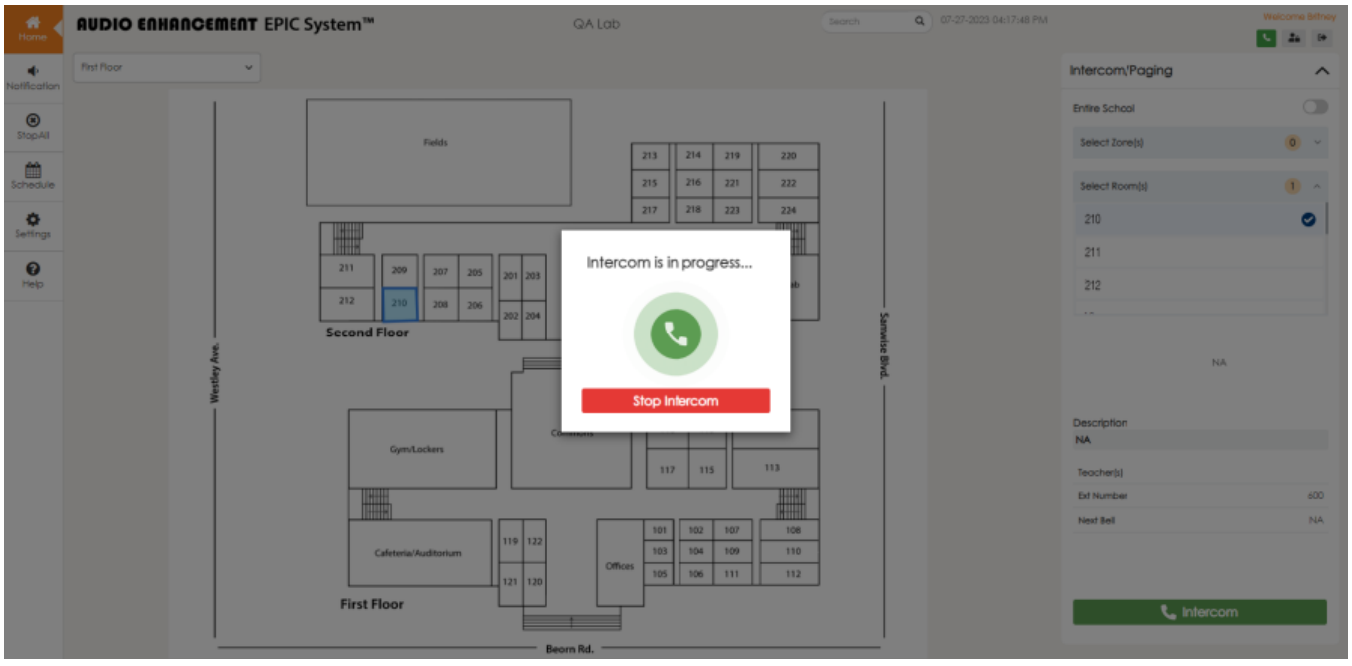


Figure 8

AUTO LISTEN IN

Users have the option to turn off the automatic tone generated from MS-X devices during intercom or paging.

1. Navigate to *Settings* > *Devices* > click the *Pencil* icon next to an MS-X device.

2. Click *Advanced Settings* and scroll down to Intercom and Paging, select *From EPIC*, for *Beep on Call Answer* (*Figure 9*).

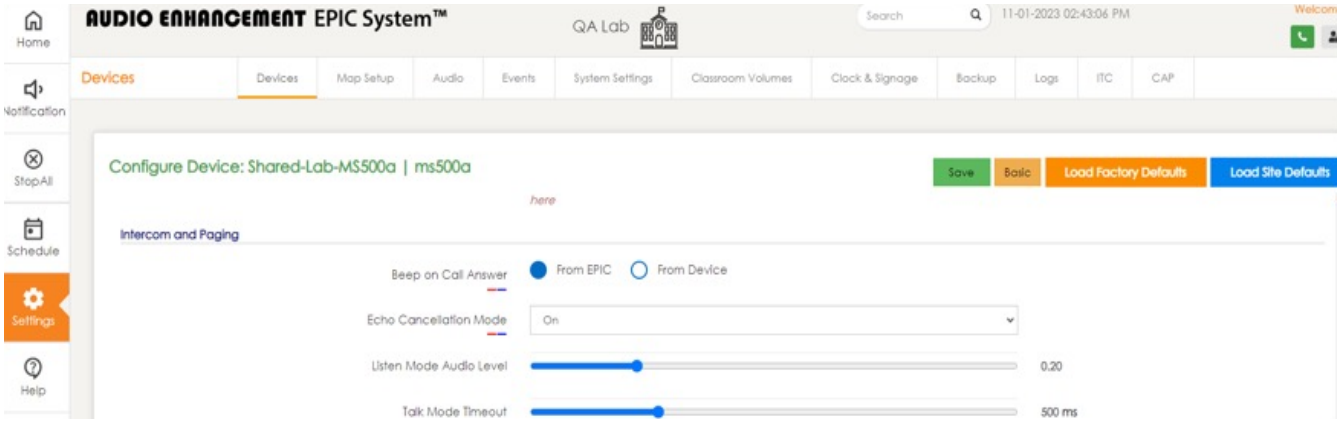
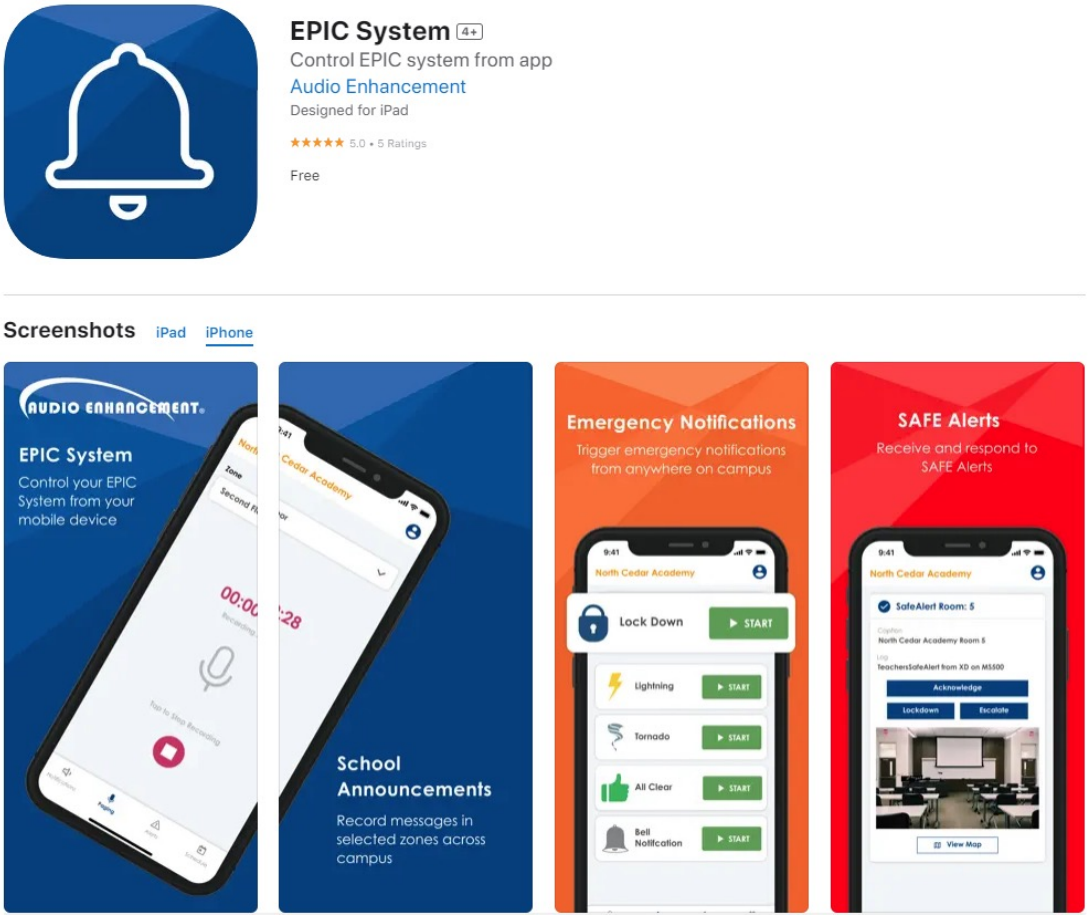


Figure 9

MOBILE APP

The EPIC System Mobile Application puts all the power of the EPIC System into the hands of school administrators. Administrators can record and send paging messages to the school, launch emergency notifications, change the day's bell schedule, and respond to SAFE Alerts from the mobile app. The app is available on Apple iOS and Android Google Play stores for phones and tablets. Please note that the mobile application will only work on a school network that can communicate with the local EPIC System (ports 443 and 4001). Users must have an account in EPIC, a valid hostname and SSL certificates must be installed on the server to use the mobile app. Administrators can contact Audio Enhancement for additional information regarding the mobile app setup and requirements.



MANAGE BELL SCHEDULE

HELPFUL DEFINITIONS USED IN THIS SECTION

Schedule

The Schedule refers to the entire calendar schedule, displaying the dates for the year and the corresponding Day Types that are assigned each day. This also serves as the home page for bells.

Day Type

A Day Type is a specific set of bells that make up a type of day. For example, the Tuesday/Thursday Day Type has bells set to match the Tuesday/Thursday days at the school. There may be bells set to different zones within each Day Type (period bells that go to all, and cleanup bells 10 minutes before the period bells). The Day Type is represented by the color that a specific day will have applied to it.

Bell Event

A Bell is setup within a specific Day Type to ring at a specified time to a specified zone or zones. Individual zones can have bell events, each with a specific tone or file played at each bell. One or multiple bells will make up a Day Type.

Zone

Group of rooms or areas to which a bell can be played, or a paging announcement can be directed. Each bell can play to one or multiple zones.

NAVIGATE TO BELL SCHEDULE

Click the *Bell Schedule* calendar icon on the left navigation bar. The bell schedule for the year will display on this screen (*Figure 10*).

By clicking the *?* in the bottom right corner, visual instructions for the bell schedule can be seen (*Figure 11*). Additionally, clicking the main *Help* menu in the bottom left panel will provide further textual instructions. *Figure 12* shows some instructions for how to change bell schedules or apply a specific schedule type to a certain day, as well as the currently applied schedule for every day. The following section will go over details on how to change a bell for a specific day. Click the *X* to close these instructions and view the Day Types again.

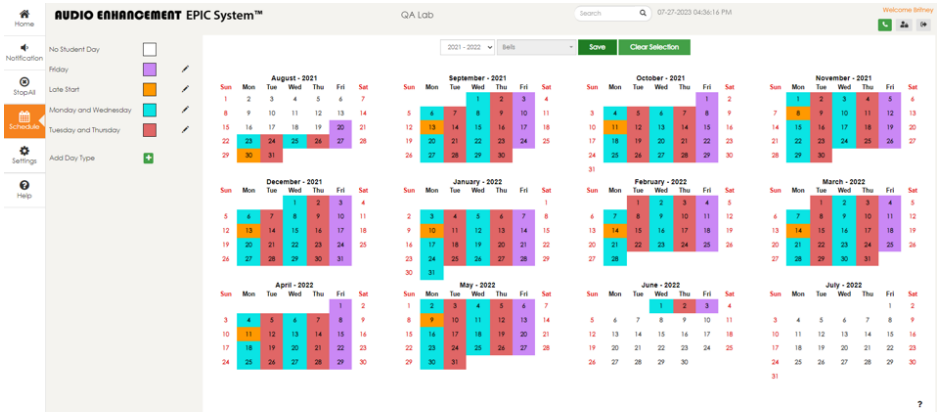


Figure 10

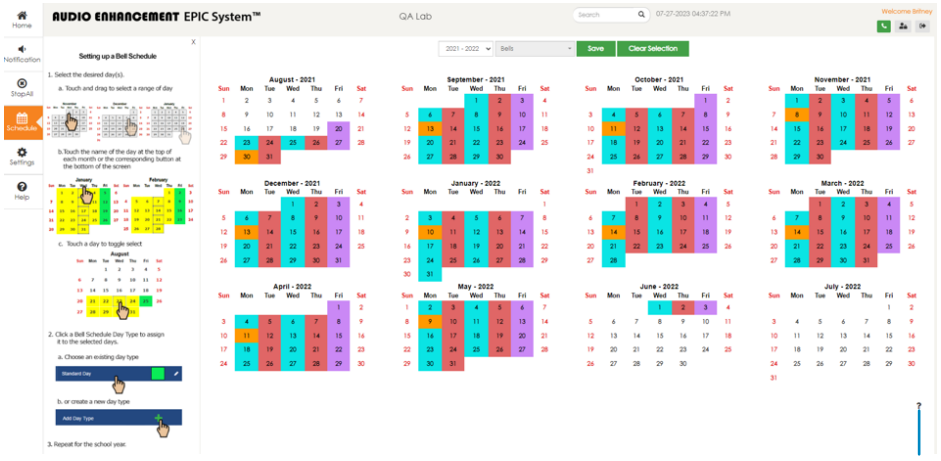


Figure 11

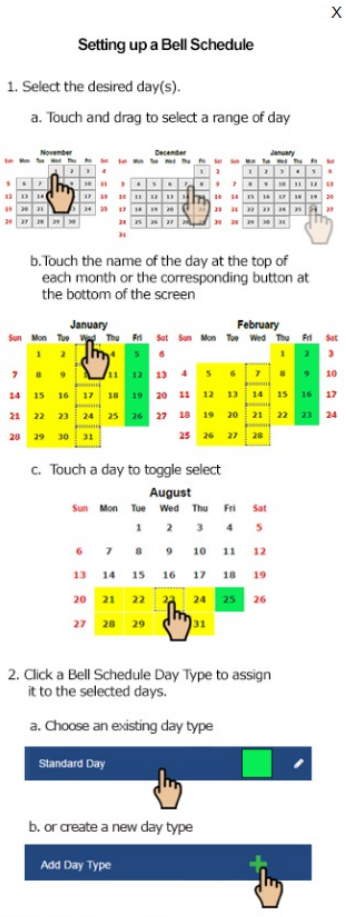


Figure 12

?

CHANGE BELL SCHEDULE FOR A SPECIFIC DAY

From the Bell Schedule calendar page, simply click on one or multiple days where the schedule type needs to be changed. This could be to used for a testing schedule, assembly schedule, holidays, etc. Any selected day will have a blue border around it. The Day Type bar will pop open when any day(s) are selected.

Select Single Day (Example: Snow Day)

Touch/click the desired day to change the schedule for the existing day schedule (*Figure 13*).

Select Multiple Days (Example: pre-determined assembly days).

Touch/click every day that needs to be changed, do not hold/drag (*Figure 14*).

NOTE

By default, all weekends have No-Student Day applied and any weekday would need to be manually set.

Select Range of Days (Example: Dec. 20th- Jan. 3rd Holiday Break)

Touch/click and drag from the first day in the range to the last day, even across multiple months (*Figure 15*).

Select All Tuesdays (Example: Tuesday schedule changes to be different than Thursday).

Click the *Weekday* label below any month and it will highlight all those days that already have a schedule applied (*Figure 16*).

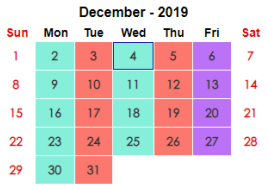


Figure 13

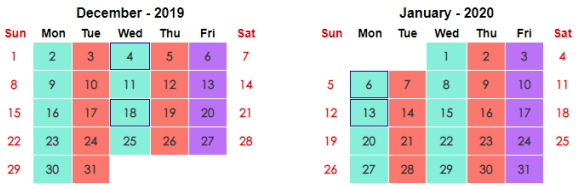


Figure 14

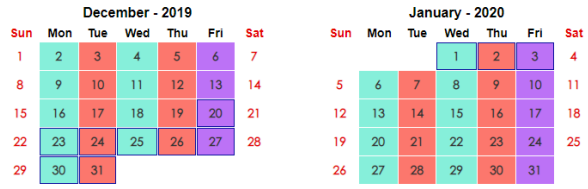


Figure 15

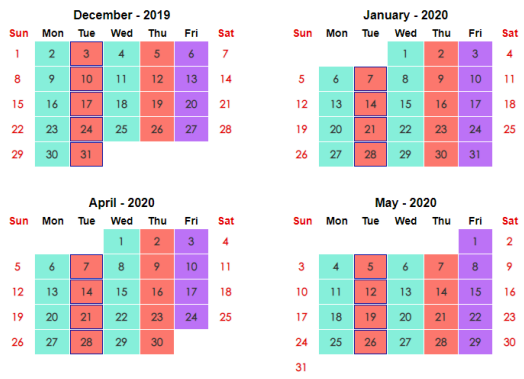


Figure 16

NOTE

If currently set as a no-student day, or white/no schedule assigned day, then it will not be highlighted using this method.

APPLY A DIFFERENT DAY TYPE TO SELECTION

1. Once the days that need to be changed are selected, a different Day Type can be applied. Once the selection has been made, the Day Type panel will appear on the left side of the screen (*Figure 17*).

2. Click on the desired Day Type to change the selected days to that type. The newly selected Day Type's color will be applied to the Calendar view. The bell schedule for those days has now been changed. Alternatively, click *No Student Day* to have no bell schedule applied to the selected day(s).

3. Click *Save* once done to finalize changes to the schedule.

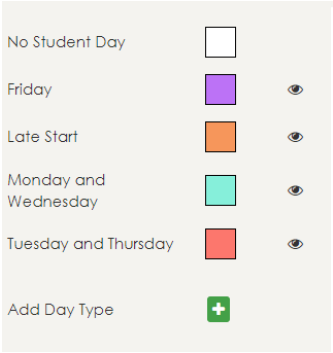


Figure 17

VIEW BELLS WITHIN A DAY TYPE

1. The Day Type panel sits to the left of the calendar. Click the *pencil* icon to view or edit that Day Type (*Figure 18*).

2. This will highlight and bring up all the bells for that day (*Figure 19*). Scroll through this window to see the bell time, name, selected audio for that bell, and the zone(s).

3. Specific zones can be searched for and filtered to see the bells for just the selected zone(s) (*Figure 20*). Below shows all the bells that will go to the STEM zone.

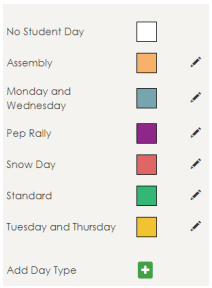


Figure 18

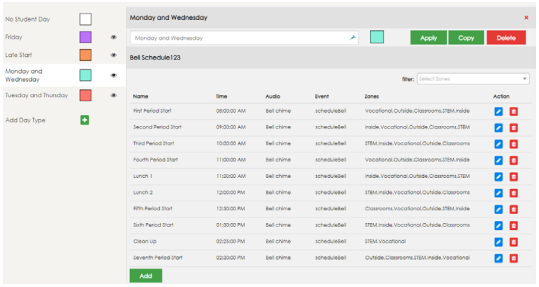


Figure 19

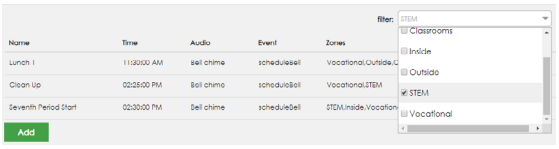


Figure 20

NOTE

It is not necessary to reapply Assigned Day Types. Assigned Day Types will automatically update with any changes made. If a new bell is added to the Tuesday/Thursday Day Type, there is no need to reapply all the Tuesdays and Thursdays on the schedule.

EDIT DAY TYPE NAME/COLOR

1. The name or the color can be edited by typing in the new name or clicking the color which will bring up a selection of available colors to pick from. Click *Apply* once to save the changes (*Figure 21*).

2. For more color options, select the *More* button.

3. Select the color from the spectrum, the color choice preview will show the new color (*Figure 22*).

4. Click *Choose* to select and close the color picker.

5. Finalize changes and click *Apply*.

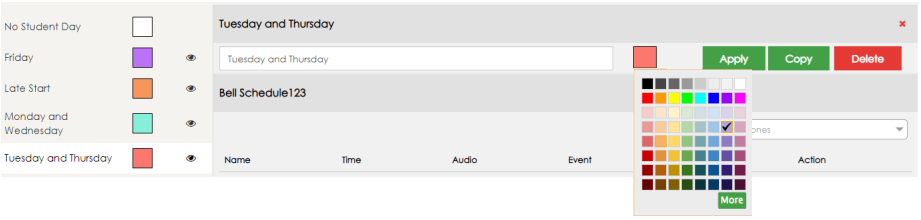


Figure 21

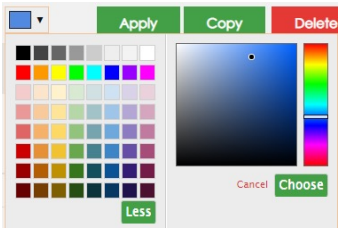


Figure 22

ADD BELL

1. To add a bell, click *Add Bell* at the bottom of the bell list.

2. When *Add Bell* is clicked, the *Edit Bell* window will pop up. Select the appropriate zone(s) for the bell to play to (*Figure 23*).

3. Name the bell if desired. This can be helpful to identify the schedule, e.g. “Tardy Bell” or “1st Period End.”

4. Enter the time and select the audio file for the bell (*Figure 24*). The bell file can be previewed by clicking the *play* icon next to the audio file name while selecting the file.

5. Click *Save*.

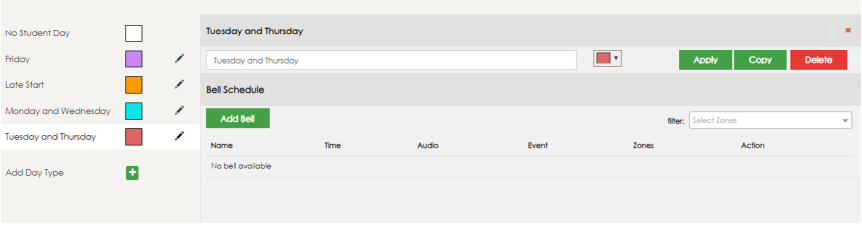


Figure 23

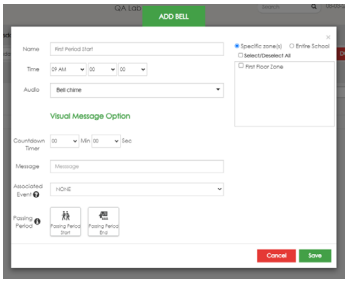


Figure 24

A bell can also be sent to the entire school. Each bell can be designated as the start or end of a passing period, where class changes occur, and people are moving between areas of the campus. This won't change how the bell rings, but this information is utilized with other EPIC features to separate instructional time and passing periods.

NOTE

When multiple bells are added, each consecutive bell will start with the information from the last bell that was saved, only the time of the bell should need to be edited.

If an attempt is made to add a bell at the exact same time as an already scheduled bell on the same Day Type, a warning will appear (*Figure 25*). In this event, either edit the time of the bell being added to make it different, or create a bell in a different zone than the existing bell.

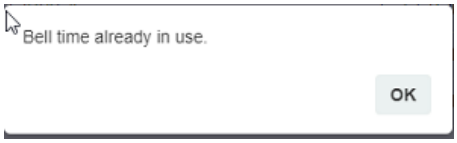


Figure 25

EDIT BELL

1. To edit an existing bell, click the *pencil* icon next to the bell.
2. The Edit Bell window will pop up (*Figure 26*).
3. Change the time, file, or zone that needs to be edited.
4. Click *Save* to finish the edits.

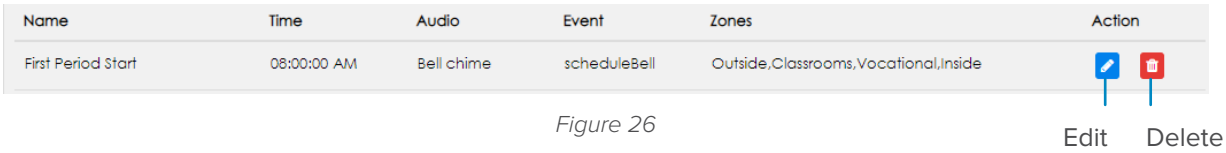


Figure 26

NOTE

If needed click the *garbage* can icon to delete the bell.

MANAGE DEVICES

The system uses IP devices to receive the intercom, paging, and bells communication. Each device receives a signal from the server during a bell event. During a page, all devices receive a SIP (Session Initiation Protocol) page from the server. All classrooms can have a two-way intercom call from the main console or a VoIP phone. An ambient microphone can be installed in each room to communicate back to the caller and a call button to initiate a call to the office. The devices must be online and registered to the server to function properly.

Common areas have one IP device, which feeds a constant voltage amplifier, which in turn feeds all the speakers in that zone. Example: Zones may be set up for Hallways, Offices, Outside, Cafeteria or a Gym. These are physical zones, not to be confused with virtual zones which can be made up of one or multiple physical devices.

AUTOMATED DEVICE MANAGEMENT

Device management and configuration is automated by EPIC System when using Audio Enhancement supported devices. EPIC System will discover and recognize the devices on the network automatically. When added to the system, the device settings are stored and managed from the EPIC System – no need to login to the endpoint device. Devices can be added, programmed and updated all from within EPIC System.

DEVICE DISCOVERY

From the Devices tab within settings, the Discover module will run automatically (*Figure 27*). This is the home and primary page for existing device status and editing. When the page loads, the EPIC System will check the network (LAN discovery only) and if it finds any Audio Enhancement devices on the network that it has not registered, it will list them in the Unknown Devices list. The devices can be seamlessly added into EPIC System. If there are no unknown devices, this section will be collapsed and only the known devices will be displayed. This section can be manually expanded or collapsed by pressing the minimize button.

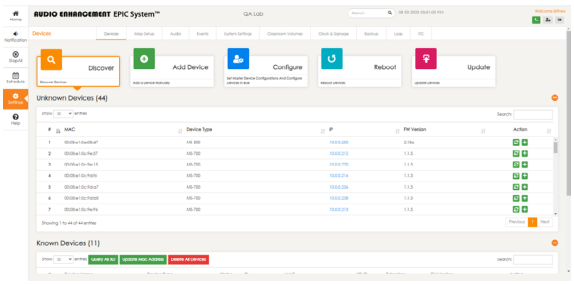


Figure 27

All known devices will be listed on this page as well (*Figure 28*). When EPIC System registers a device, it stores that specific MAC address to distinguish it from all other devices on the network and lists it in the Known Devices list.

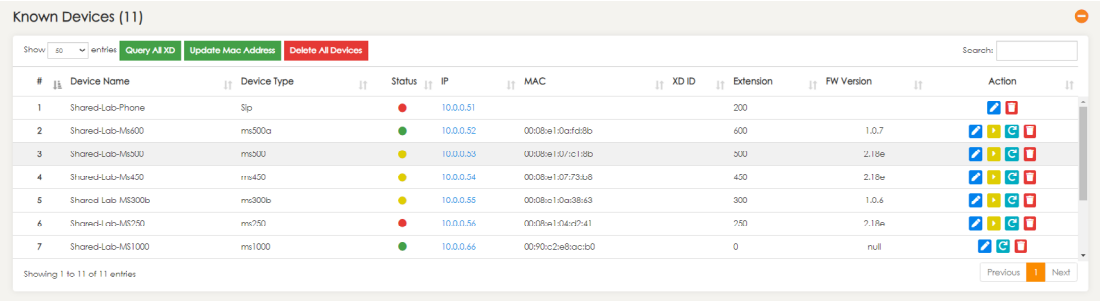


Figure 28

ADD DEVICE

1. Devices can be added to EPIC System by clicking the + icon within the Unknown Devices list (*Figure 29*).

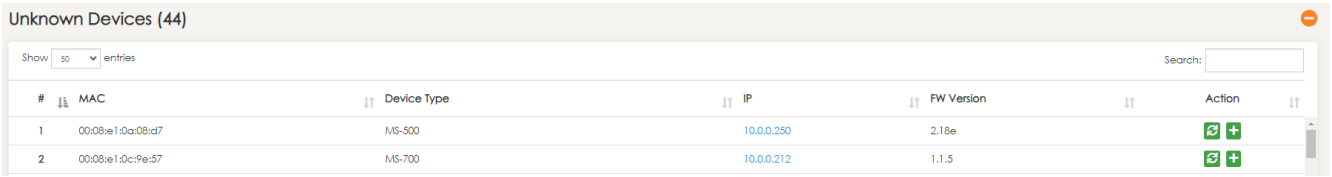


Figure 29

2. This will bring up a pop-up window *Identify Unknown Device*. This is the easiest and preferred method for adding a device.

3. The user will need to specify the device name. Audio Enhancement's recommended standard is SchoolAbbreviation-RoomNumber-DeviceType – e.g., JHS-141-MS450.

4. The EPIC System manages its own extensions, this can be any number. Audio Enhancement's standard is to match the room number and extension whenever possible – e.g., Room 141 would be extension 141.

5. Type of Audio Enhancement audio and alert receiver is in the room – XD, TLD, or none if there is no receiver. If XD, the receiver ID will be grayed out until the device is registered.

6. Click *Submit*. The EPIC System will register the device, push the device settings, and the site standard configuration to that device.

Example: Add MS-450 from Discovery (*Figure 30*).

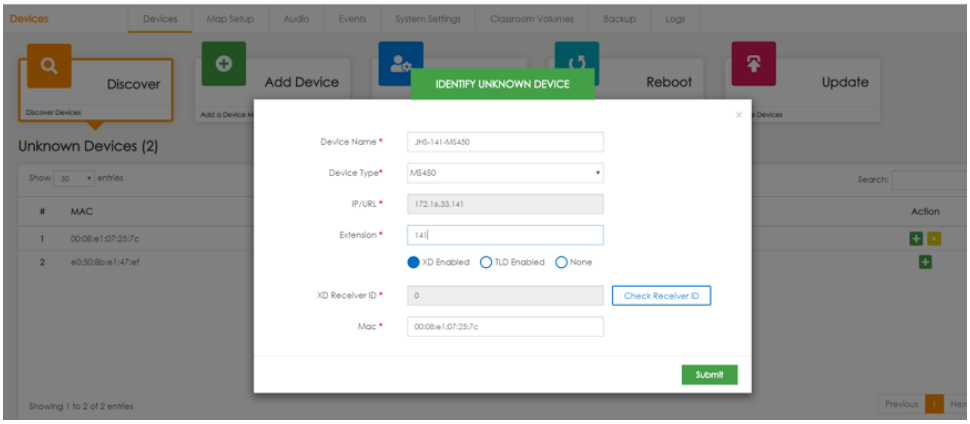


Figure 30

Example: Add EduCam360® from Discovery (*Figure 31*).

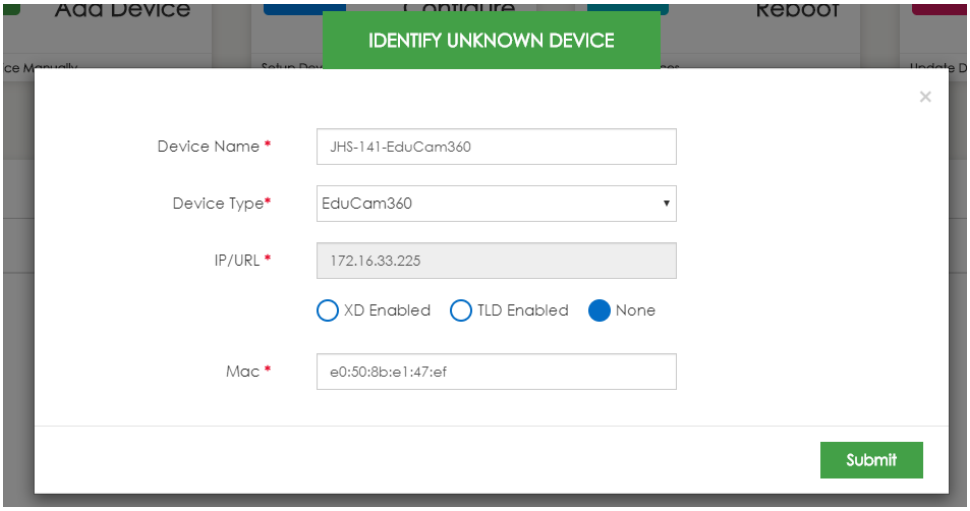


Figure 31

MANUALLY ADD DEVICE

If the device is not automatically on the network or for some other reason the device is not automatically discovered by EPIC System, the device can be manually added.

1. Click the *Add Device* module within the Devices tab. The same information from the previous section will be required.

2. The user must enter the device info and click *Submit* (*Figure 32*).

3. The user must also manually enter the MAC address of the device being added (add any format, it will update to colon notation). This is required so EPIC System recognizes it as a known device. EPIC System will configure the device so it is ready for use.

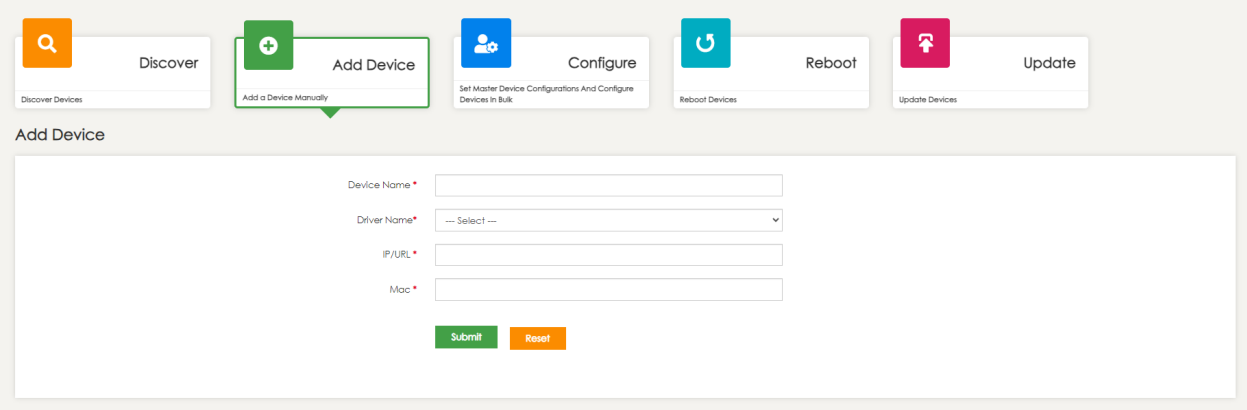


Figure 32

UNDERSTANDING XD AND TLD AND UPDATING XD RECEIVER ID

XD and TLD receivers refer to the audio and alert receiver that is often part of an Audio Enhancement classroom system installation. Assigning this setting in a device tells the EPIC System that there is an alert receiver in that room and enables specific behavior to listen for SAFE System teacher microphone alerts. If the classroom or device does not have any receiver physically connected to it, select *None*. EPIC System may see the device as offline if the device is incorrectly configured with a receiver that does not in fact exist.

If a classroom has both an EduCam360® and an MS-X device, it is critical to assign the XD receiver only to the device that has the physical connection to the receiver. The Audio Enhancement standard in these cases is to connect to the MS-X device.

XD receivers each have a unique ID. This is to handle alert location mapping if a teacher is roaming away from the normally paired classroom during an alert. When XD is enabled, the ID must be set for the SAFE System to function properly. There are several methods for associating the XD receiver ID with the device in the EPIC System.

Query All XD

The easiest and preferred method is to use the *Query All XD* button on the *Devices* table (*Figure 33*).

Pressing this button, after all devices are added to the system and communicating properly, will reach out to every device and try to ask the XD receiver for its ID. All devices that are configured, communicating and wired correctly will respond back with their IDs and EPIC System is ready to go.

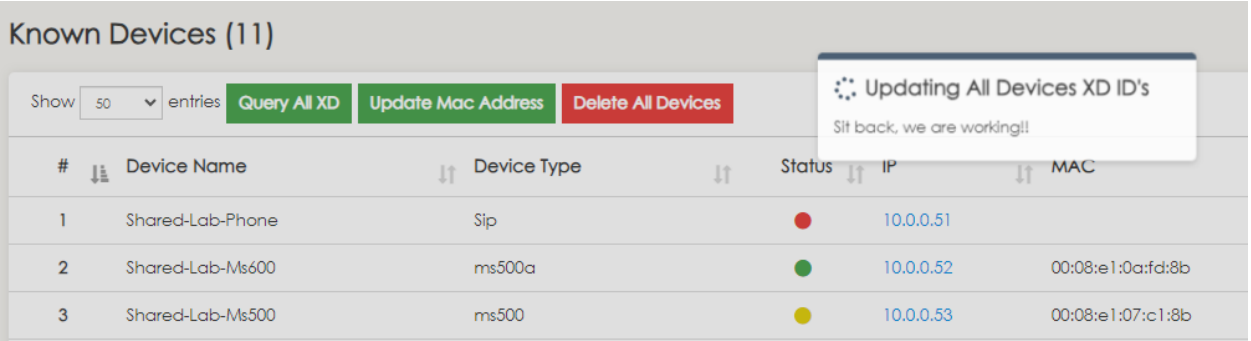


Figure 33

Check Individual Receiver ID

If an individual device was not working or a single device is being added or edited, there is a *Check Receiver ID* button (*Figure 34*).

Pressing this button will reach out to that individual device and ask the XD receiver for the ID just as described above. This is a great troubleshooting tool. If the check receiver ID button works, that means the device is online, configured properly, wired properly and all devices are communicating properly and ready to receive SAFE System alerts.

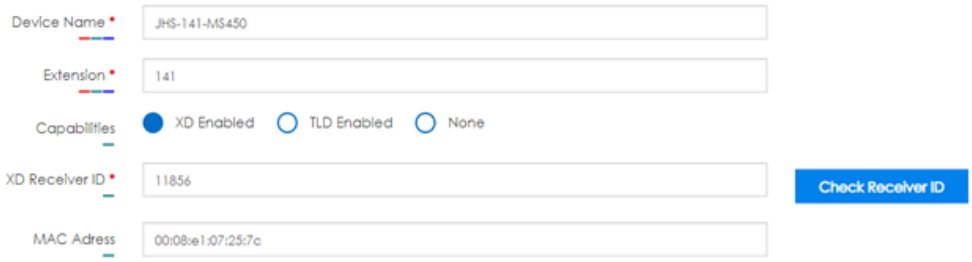


Figure 34

EDIT DEVICE

A device may need to be edited to change a setting in the device or to change the properties of the device in how EPIC System recognizes it. Editing anything about a device can be done by clicking the *pencil* icon in the devices table.

Edit Device Properties

The device properties are the core properties that EPIC System must know about a device to operate (*Figure 35*). This includes the device name, its MAC and IP addresses, the extension and any alert receiver that may be attached. Editing these settings will update the EPIC System database. The extension setting will also affect what is configured on the individual device for the SIP Extension.

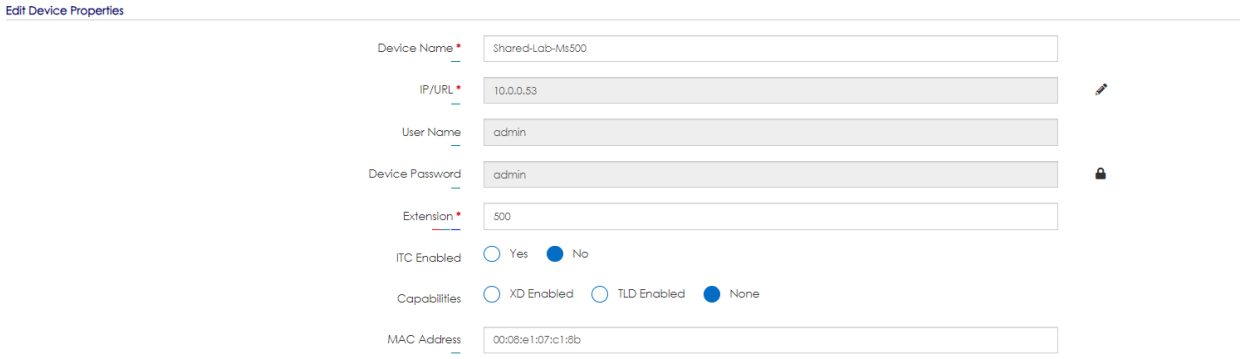


Figure 35

Edit Device Configuration

The device configuration refers to the settings within the device itself. Out of the box, the settings will reflect the site configuration template to reflect the baseline settings – see the next section for more details. However, each device may have requirements, so each option is configurable and will be remembered for each device. By updating these, EPIC System will remember each device's specific configuration options. EPIC System will also send the configuration to the device. No direct input is required on the device to update its configuration. By default, only a few of the more frequently modified user settings are shown here. However, a user can click the *advanced* button at the top of the page to reveal all settings in the device.

If devices are not updating when changing settings, verify communication to the device and check the global device password set in the configure module for that device type.

Edit Device IP

EPIC System can modify the IP address and network settings of a device.

1. This can only be performed from within the Edit Device page by clicking the *pencil* icon next to the IP address (*Figure 36*).

2. Enter the network settings and click *Save* (*Figure 37*). EPIC System will update the database IP address and send the new IP settings to the device.

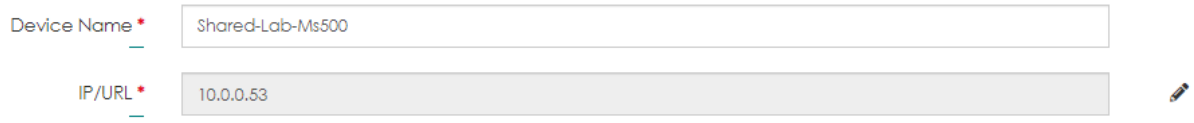


Figure 36

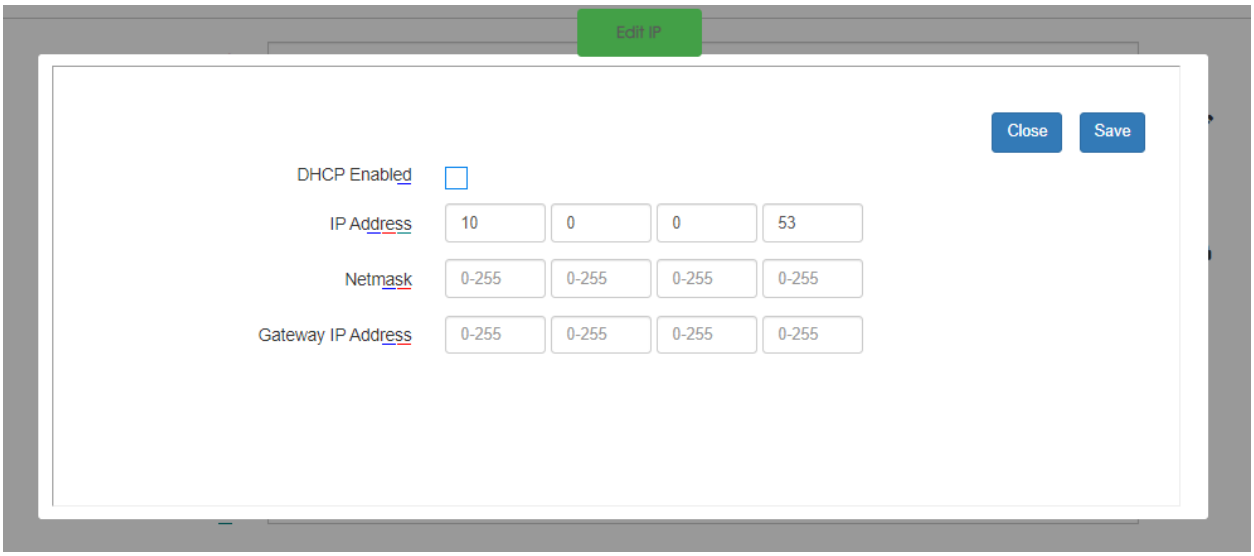


Figure 37

Edit Device Password

EPIC System can modify the credentials used to authenticate with the device. This will update the properties in EPIC System and update the credentials on the device itself. Click the *lock* icon next to the device password (*Figure 38 and 39*). Enter the username, the current password, and the new password. Click *Update*; the device will be updated, and EPIC System will use that new password.

Figure 38

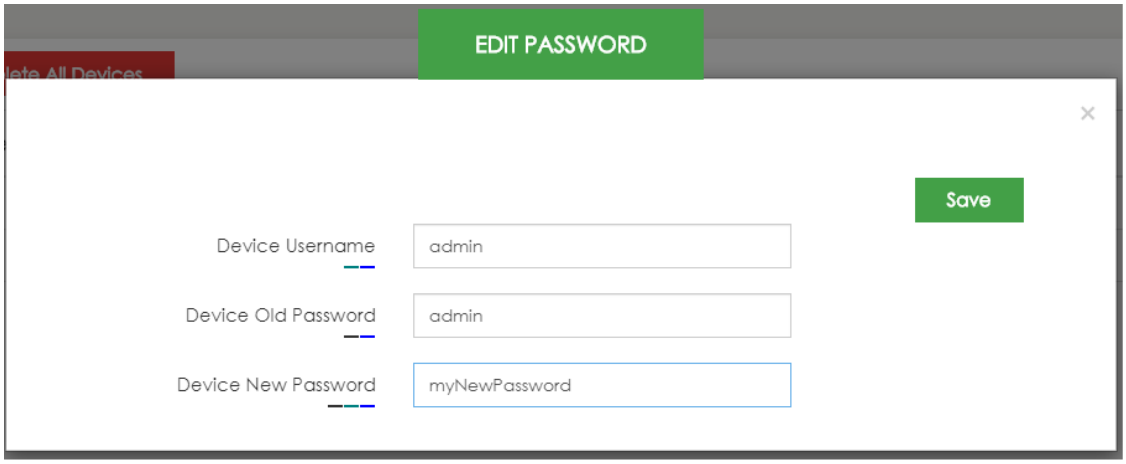


Figure 39

CONFIGURE

The *Configure Module* within EPIC System allows users to define configuration templates for the devices in the system and to make global configuration changes to all devices. Where editing an individual device allows users to set and push configuration settings for a single device, this allows global changes to all devices in the system.

SITE CONFIGURATION TEMPLATES

Editing the site configuration for a template affects the baseline settings for any new devices added to the system. Audio Enhancement has an out of the box factory default baseline template, but a specific site may have some settings, such as bell or paging priority levels, background music or device passwords. When a user clicks *Configure* there will be a tab for configuration templates for each device type (*Figure 40*).

Navigate between the *Device* tabs to change the templates for each Device Type as desired. The principle is the same for all devices, but this guide will show the MS-450 configuration template.

The options in the template will match what is seen when editing an individual device. Those settings are explained in detail in the Settings Definitions section. Prior to explaining the individual settings, there are four buttons at the top of the configuration page to understand.

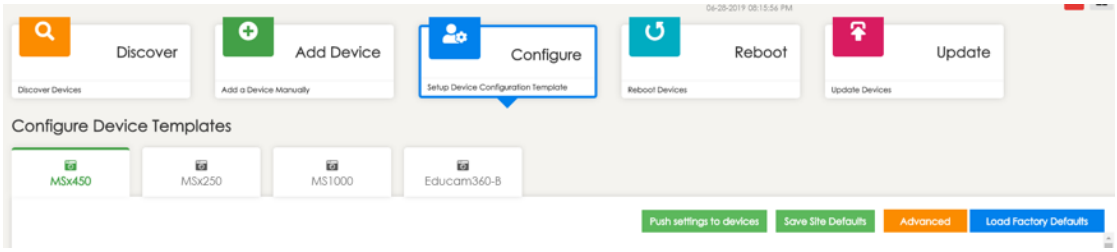


Figure 40

SAVE AND PUSH SETTINGS

The Configure button will update the site default template for the *Device Type* tab the user is currently working on. Therefore, if the user modifies the settings, they must press this to save those defaults as the new configuration baseline for the site.

After saving, a prompt will pop up (*Figure 41*). This means the new site template settings are updated and can be pushed to the devices. If devices do not need to be updated at this time, click *No*. If settings should be sent to devices, click *Yes*.

A new prompt will pop up. This will allow the user to mass configure all devices of that type (notice the MS-500 tab will allow configuration of MS-500s, EduCam360® tab configures only EduCam360®, etc.). Whether the user has updated the site configuration template or simply wants to re-send settings to all devices, they can press this and select using the check boxes which devices to send the settings to. Then click *Push Settings* and the devices will be configured (*Figure 42*). There is a status which will show the progress as it moves through the devices.

The *Custom Configure* column will show the user if there are any values stored on the device that differ from the site configuration template. The user may wish not to overwrite those settings and can uncheck that device. Or they can leave it checked but it will overwrite the device's custom settings.

When using the Push Settings here, the unique identifying settings for each device (IP, Extension, etc.) will remain intact, this only affects the configurable options seen on the configuration template page.

Figure 41

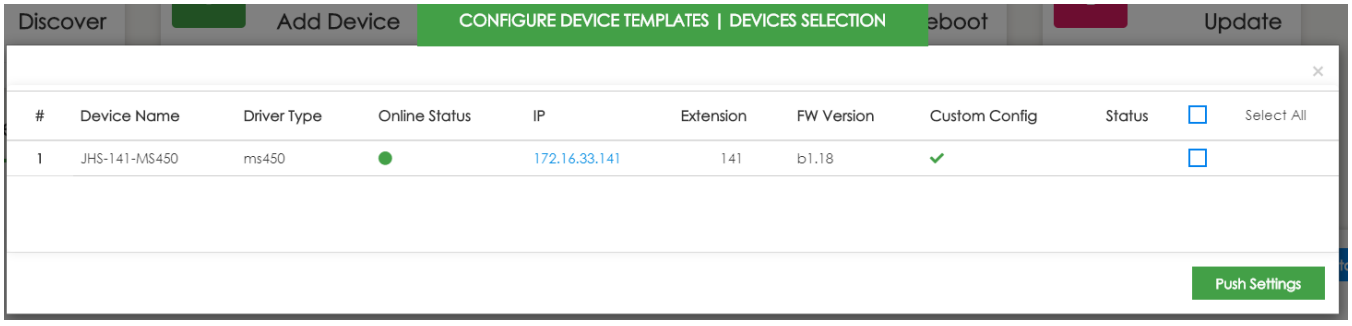


Figure 42

ADVANCED

By default, the pages only show the most common user changed settings for each Device Type. To show or change additional settings, click *Advanced.* The page will now show additional settings which the user can update and save as the new configuration template.

LOAD FACTORY DEFAULTS

If at any time the user made an error or wishes to return to the out of the box settings templates, they can simply click *Load Factory Defaults*. This will reload all settings to the out of the box Audio Enhancement baseline settings template.

Clarification on two items:

1. This does NOT perform a factory default on the devices. This only refers to the settings templates.

2. After loading the defaults, the user must still press *Save Site Defaults* to update the settings template.

MODIFY PASSWORD

The devices within EPIC System all require authentication for the operations of the system. Standard device operation such as viewing the camera or changing the settings rely upon EPIC System knowing the password for the devices. Each Device Type has a configurable global username and password that EPIC System uses to communicate with all devices, this is found on the configure module under *Advanced*. Audio Enhancement recommends users to modify these passwords, so they are unique for their site. Any user with access to the configuration page can see these passwords (*Figure 43*).

To modify the passwords, which will also automatically modify the passwords on the end devices themselves, the user can click *Modify Password*. The user can then enter the *Device New Password*. This new password will be stored in EPIC System to communicate with the devices and will be updated on the devices (*Figure 44*). If the modify password returns an *Authentication Error*, the user should click *Advanced* and ensure that the *Device Old Password* matches the existing password on the devices. If this does not match, EPIC System will not be able to authenticate to update the devices to the new password.

When the user clicks *Save* the push settings pop-up will appear and will automatically select all devices and update the password.

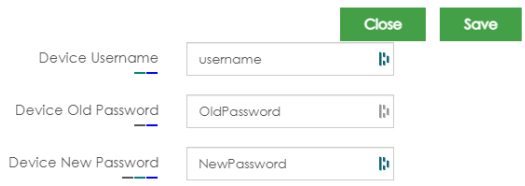


Figure 43

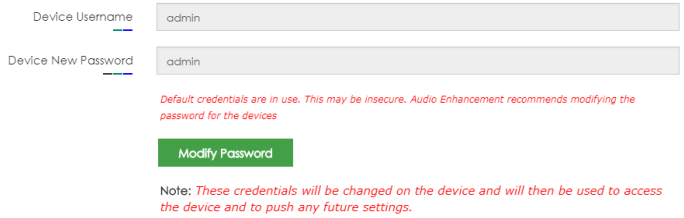


Figure 44

SETTINGS DEFINITIONS

All device settings pages have a basic page and an advanced page. The basic page includes the most common configurations and is generally all that is needed for most users. The advanced page presents all options available for the devices. View the *Troubleshooting* > *Devices* section for additional details on all available settings and their impacts.

ADD USER

1. Fill out username and password to add a new user for the camera.
    a. This is not required and rarely used but can be added if a secondary user with lower access is required for a recording system to access the camera or similar use case.
2. Memo is a note on the reason for the user.
3. The Group is the access level of the user. Admin or user are default groups.
4. Check *Reserved* and shareable.
5. Click *Add User* when done to add the user.

REBOOT

Reboot allows the user to reboot all or a selected group of devices. This could be useful in troubleshooting. Select the devices to be rebooted and click *Reboot Selected Devices* (*Figure 45*). This does not reboot the server. Server reboot is available under *System Settings* > *Network*.

A pop-up will show while the systems are rebooting. When complete, the EPIC System will show a check mark for all devices successfully rebooted. If any failed, a red X will be shown (*Figure 46*).

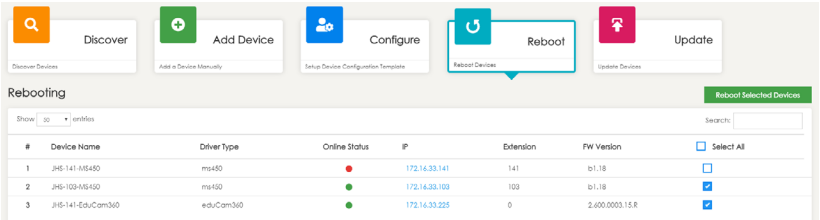


Figure 45

Figure 46

UPDATE

Update allows for automated firmware management of the devices. A base firmware is included with the EPIC System, but in case there is ever a required firmware for any of the network devices EPIC System manages, the Update module will allow the user to upload the new firmware to the EPIC System as the new base firmware for the devices. All devices or a selection of devices can be selected for firmware update.

To update, select the Device Type by tab, then select the devices to be updated and click *Update Selected Devices* (*Figure 47*). This process can take a few minutes, especially on a large number of devices.

To manage the base firmware version, click the *Manage Current Firmware* then browse to the files provided by Audio Enhancement and specify the version. Click *Save*.

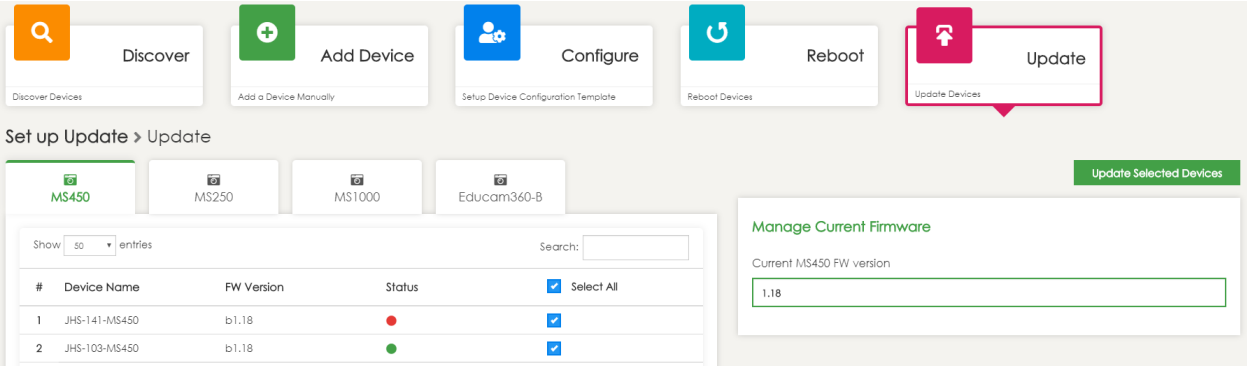


Figure 47

NOTE

For MS-450 and MS-500: There is an audio amplifier firmware that is separate from the network firmware. At this time, it is not possible to update via the network. It must be updated using the mini or micro-USB port located on the device itself.

VIEW DEVICE STATUS

If a room or area is not functioning as expected the first thing to check is whether that device is online.

1. Click the *Settings* icon to view all devices.

2. There will be a red, green or yellow dot:

   - If there is a red dot, attempt to navigate or ping the IP address (*Figure 48*). If it is not responding, there is an issue with the device or network, and it will need to be inspected and troubleshot. Offline device emails can be sent to an administrator to ensure devices are operational.

   - Green is online (*Figure 49*).

   - Yellow indicates that the device is online, but not all functions are behaving properly (*Figure 50*). Hover over the yellow dot to find out more and troubleshoot potential issues.

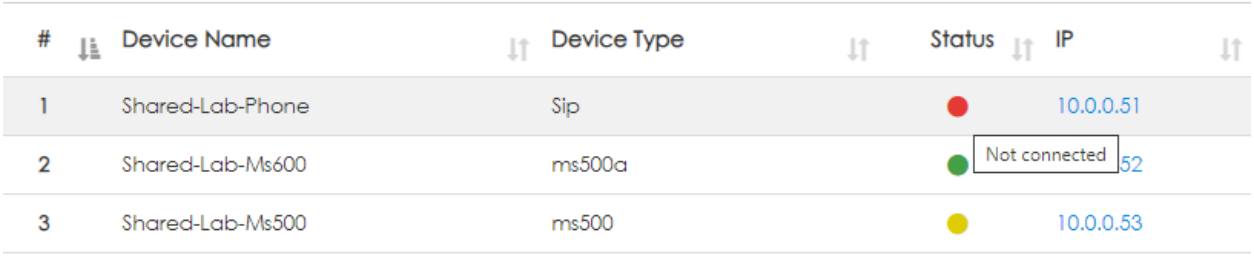


Figure 48

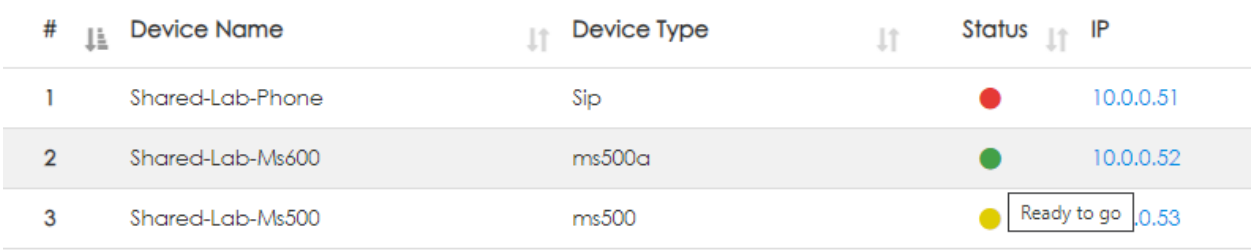


Figure 49

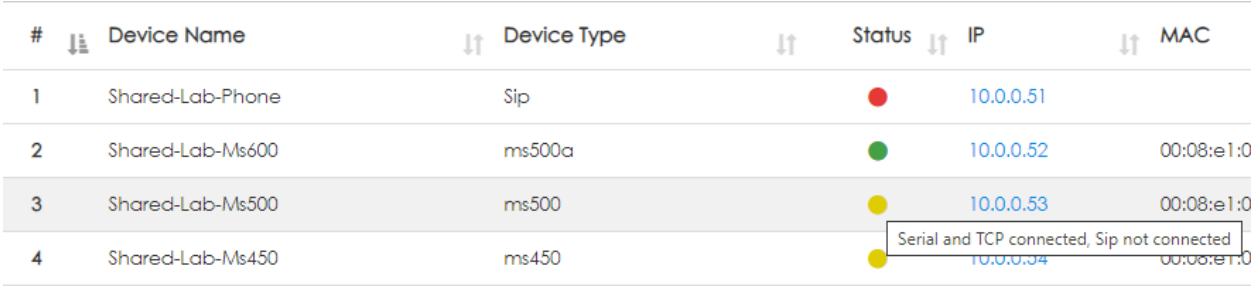


Figure 50

NOTE

If a MS-X device is yellow and will not clear but does not physically have an XD/TLD receiver, ensure *None* is checked in the device properties. If not checked it will give this error as it expects the receiver to respond, and sees this as a trouble scenario.

Offline devices will also show up on the standard map home page (*Figure 51*). The user will see that a classroom or area may not be working and can communicate that to an administrator to fix the problem and get it working. The rooms will turn yellow if a device in the room is not communicating.

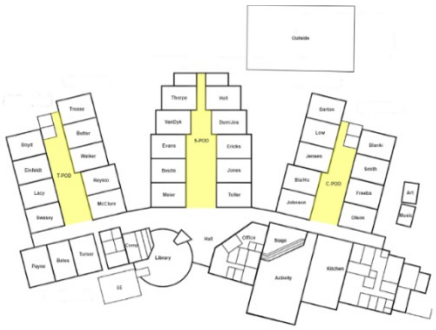


Figure 51

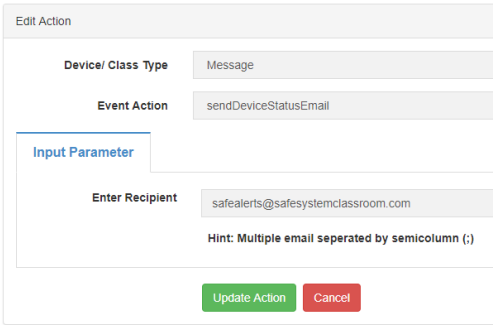


Figure 52

DEVICE ACTIONS

Many of the device actions detailed above can be performed on a single device by clicking on the action for that device in the Devices home page (*Figure 52*). The icons should match with the module header. For example, click the *reboot* icon in the Actions column to reboot that specific device (*Figure 53*).

Some actions are only available on specific devices or when appropriate. For example, the Play icon will send a test bell to a device and only works on MS-X devices. A firmware update icon will show up on a single device when its firmware is out of date.

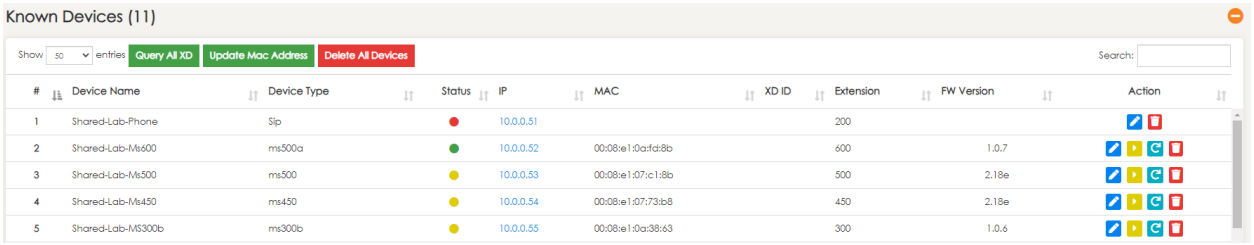


Figure 53

REPLACE DEVICE

The Replace Device icon will allow a user to swap a device. If a device has malfunctioned and is being replaced with a different physical box, the EPIC System can bring in that new device with the exact configuration of the old device automatically. The bad device should be taken offline before attempting this process. The new replacement device should be plugged in, and discoverable by the EPIC System.

Click the *Replace Device* icon to begin the process. The EPIC System will show the details of the old device being replaced and user will select the newly discovered device to be configured in its place. Confirm the selection and the details and click *Replace*. The process will run and display status when completed. The new device is ready for use.

The EPIC System also supports some third-party devices. For further details on any specific device, see Third-party Devices.

MAP MANAGEMENT

The map in EPIC System is critical to end user functions. Rooms and Zones are created for seamless, user-friendly interaction with the Intercom and Paging functions as well as the bell schedule. To modify the map, click *Map Setup* under the Settings menu (*Figure 54*).

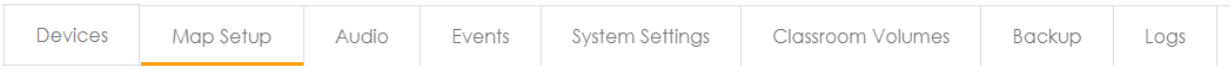


Figure 54

ADD/EDIT MAP

The map is a PNG image with room objects overlaid. The map image itself can be updated to a new PNG. Additional maps can be added for separate buildings or floors as appropriate.

1. Click *Add Map* to add a new map.

2. Provide a name for the map and click *Rename*.

3. Click *Upload* and browse to select the file for use. The scale default setting is set to 30 which is generally the standard size of a classroom – find the scale bar on the map and scale the size to be equal to one classroom.

Edit Map will take the same steps. If a new PNG is uploaded when editing an existing map, the room objects will all stay intact. If major differences exist in the map image, the room objects may need to be moved.

NOTE

The maps will be displayed by alphabetical order on the home screen.

If the user clicks the *Delete* button on a map, the map and all rooms will be removed.

MANAGE ROOMS

Rooms are what the users logically interact with on the map. Users do not call a device; they call a room.

NOTE

This requires a keyboard and a mouse during setup.

Rooms are defined as objects that contain the devices and are visually represented on the map. Rooms can receive individual calls or be a part of zones. Only zones can receive bells or pages, so a device must be added to a room and zone to receive bells.

Add Room

1. To add a room, first navigate to *Settings*.

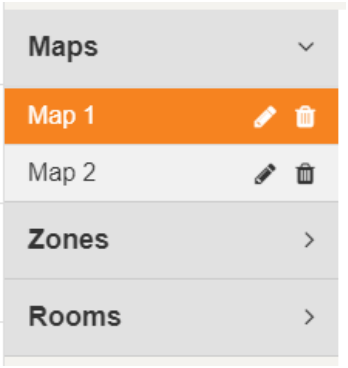


Figure 55

2. Then click *Map Setup*.

3. Click *Maps* and then click on the school map to display the map (*Figure 55*).

4. Click *Add Room* on the right side of the screen, to add a new room (*Figure 56*). The new room will come up along with the room information panel (see *Figure 57 on the next page*).

5. Resize/shape the room by clicking and dragging one of the four points on the corners and placing them in the appropriate shape.

6. If the line is clicked, it will add a new point in the shape to be moved and manipulated. If any points need to be removed, click, and hold the new point for three seconds and it will be deleted.

7. Enter the information for the room. The Display Name is what will show up on the map.

8. Enter the name and description and select the zones it should be a part of.

9. Scroll down and click *Apply*.

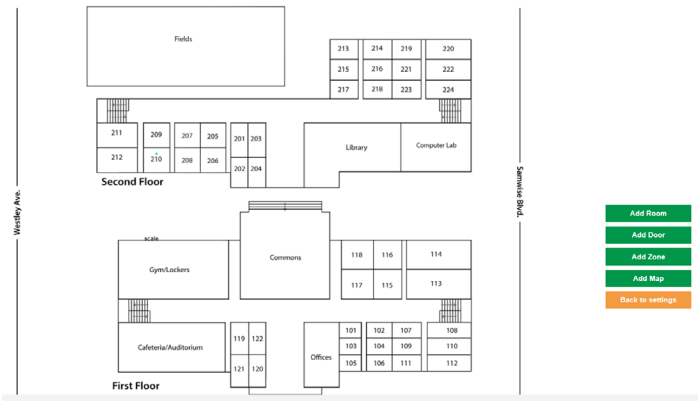


Figure 56

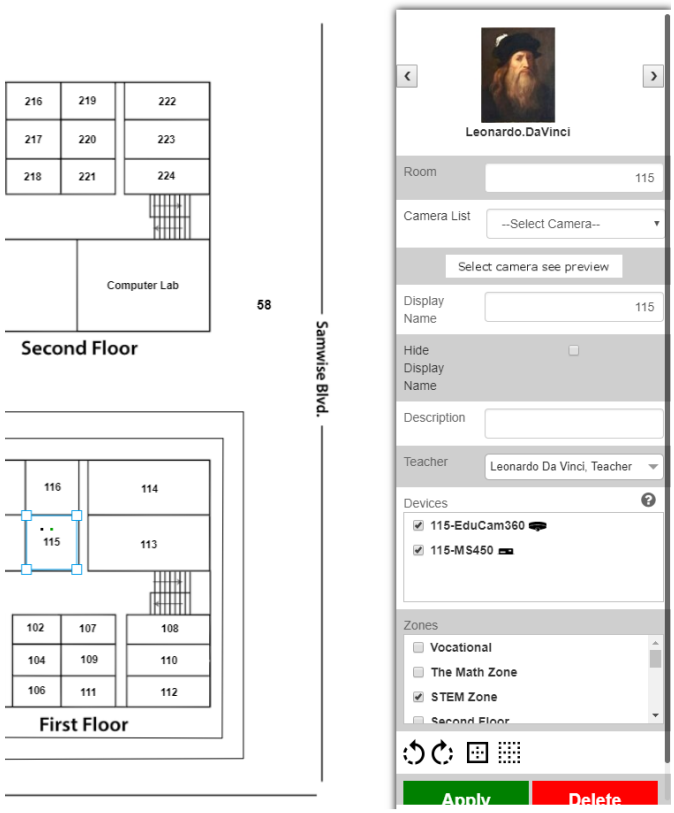


Figure 57

Edit Room

1. To edit a room, change the name of a room, change the zone(s) the room belongs to. To change the devices belonging to the room, go to *Map Setup* and click the room.

2. The information panel will come up and any information can be edited. Click *Apply* to save the changes to that room.

3. To edit the shape, click on the room to reveal corners.

4. Drag the corners to reshape the room.

MANAGE ZONES

Zones in the system refer to objects that contain one or more rooms. A zone is a group of rooms or areas to which a bell can be played. These are critical objects in the system. They can contain as few or as many devices as is necessary and a device can belong to one or multiple zones.

Examples of zones include:

- Entire School: Containing all rooms and common areas, outside included.
- Inside: Containing all devices inside the school (no outside speakers).
- Classrooms: Containing all the classrooms only.
- Vocational: Containing the Art and Shops classes.
- “Fifth Grade Testing”: Containing all fifth-grade testing classrooms.

Add Zone

1. To add a Zone, go to Map Setup and click the *map* then *Add Zone*. The Zone Information Panel will pop up on the right (*Figure 58*).

2. Name the *Zone*. When paging to a zone, a paging extension is automatically added. This is used to page that zone from a VoIP phone. If the zone extension already exists, it will display an error.

3. Simply *Check Mark* the rooms that should be a part of that zone or click them on the *map*. The rooms in that zone will be highlighted in blue to visually verify that the correct rooms are a part of the zone.

4. Click *Apply* to save. An existing zone can also be nested into the new zone.

Figure 58

Edit Zone

1. To edit a zone, go to *Map Setup* and expand *Zones*.

2. Select the zone that needs to be edited and the panel will pop up (*Figure 59*).

3. Clicking *rooms* allows you to select or deselect them, enabling you to add or remove them from the zone.

4. Click *Apply*.

If needed Zones can be removed by clicking *Delete* (*Figure 60*).

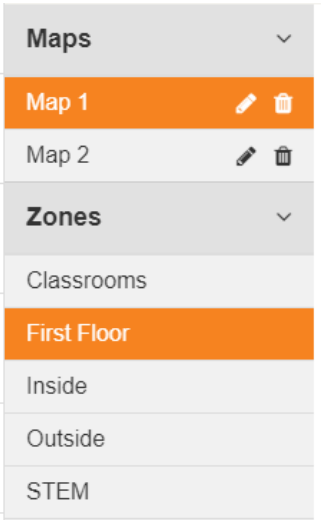


Figure 59

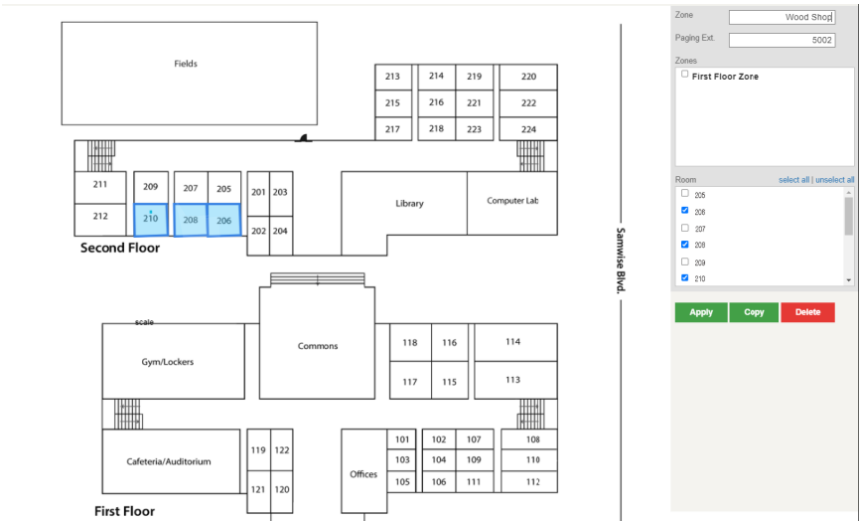


Figure 60

MANAGE DOORS

The EPIC System can monitor doors in a school to detect doors that have been improperly propped open and alert staff to address such a situation.

Doors can also be placed on the map, just like rooms. They can be assigned to a location on the EPIC Map, signifying for example, a door within the school. When a door is assigned to a room on the map, paired with an EPIC event, an alert will be triggered when the door is left open or opened during a class period. For more information about adding devices or setting up events, see the Add Device and Edit Notification Actions sections.

Add Door

1. To add a Door to the map, navigate to the *Map Setup*.

2. Click *Add Door*, an icon will display on the map and can be moved to any desired location (*Figure 61*).

3. Once the placement has been determined, in the left panel enter a door name and select the *Door Type*.

4. The Warning Time is how long the door is left open before the alarm sounds and can be set to any amount of time.

5. The Alert Time is the duration of the alarm (*Figure 62*). If desired, these alarms can be bypassed during passing periods. Select a *Door Sensor Device* and click *Apply*.

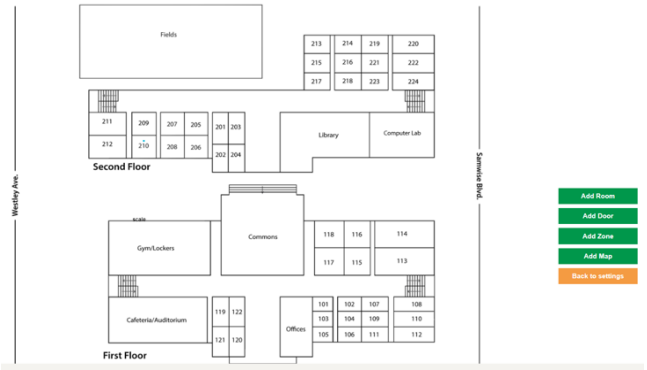


Figure 61

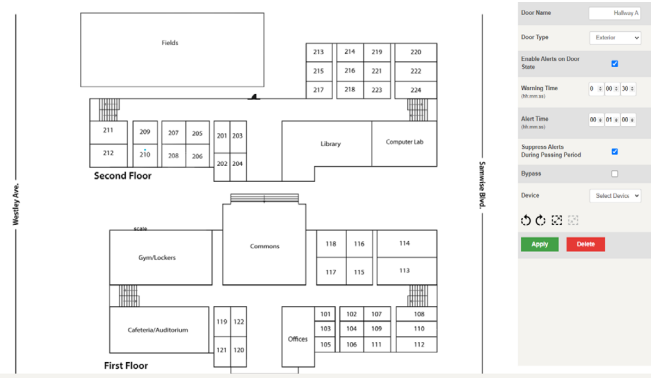


Figure 62

Edit Door

1. To edit a Door, go to *Map Setup*

2. Expand *Doors* (*Figure 63*).

3. Select the *door* that needs to be edited and the panel will open. Any information as well as the placement of the door can be updated or changed.

4. Once all changes have been made, click *Apply* (*Figure 64*).

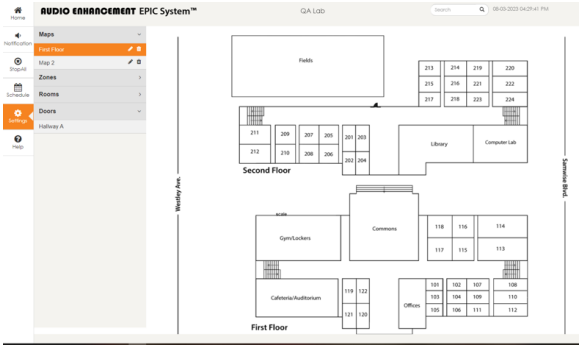


Figure 63

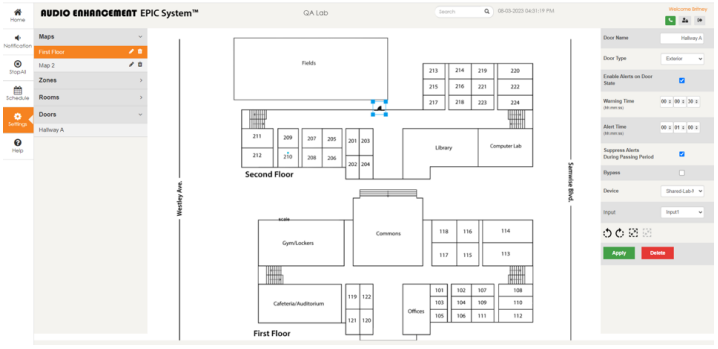


Figure 64

MULTIPLE USERS EDITING MAP

Only one user can edit the map at a time. If another user tries to enter map setup, a popup will stop the additional users and show who is currently editing the map (*Figure 65*). The first user must logout or leave the map setup page for the other user to edit the map. It may take a minute after the user leaves the page to update. The new user will need to try to access the map editing setup page again after logging out or leaving the map setup page and going back once the first user has left.

Figure 65

SYSTEM CONFIGURATION

Detailed system configuration is done by going to *Settings* then clicking *System Settings*. Consult Audio Enhancement if you are not sure of any setting here as it could impact the system negatively if done incorrectly. The initial setup on the School tab is generally pre-configured, but the school's name and logo can be set here. Please add the best school maintenance contact who will be notified in case of any required system updates and maintenance.

DISTRICT VIEW SETTINGS

District View requires EPIC 1.8 or above, a valid District View license, and separate server running the district application. If a school should be connected to District View, then click *Connect to District* or put the appropriate district server IP in the school tab (*Figure 66*). The field should show a green check mark when it is successfully communicating to the District View server. This is the only setting that must be set in the EPIC System.

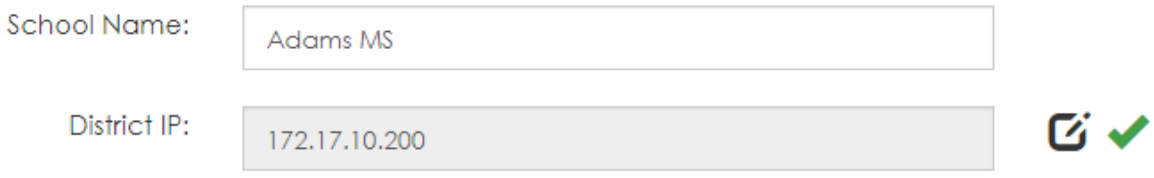


Figure 66

Depending on the desired behavior for the district, the administrator may also want to alter the EPIC System events related to District View. By default, each standard event, SAFE Alerts, Lock down, etc., has an event action notifyEventOnDistrict. This will automatically send a notification to the District View server when the corresponding event is activated on this EPIC System. Remove this event action or alter the messages if it is desired to modify this behavior (*Figure 67*).

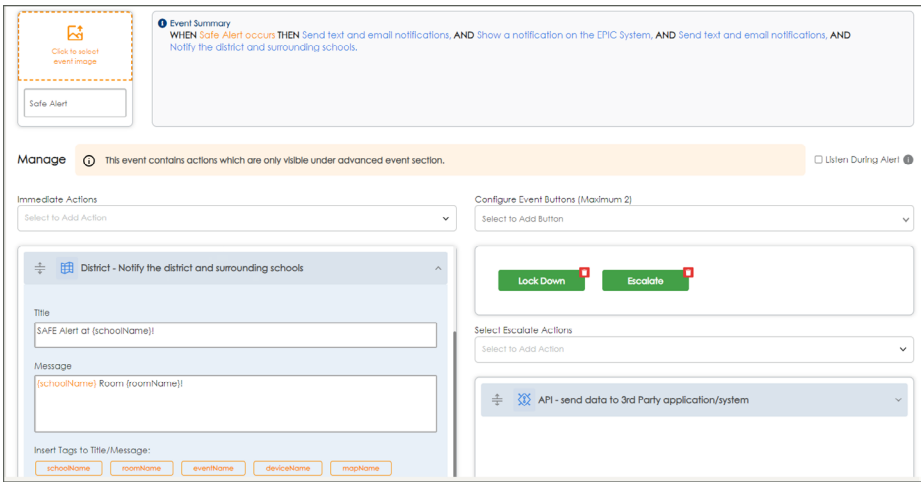


Figure 67

NOTE

Consult the District View manual for more details on District View.

VIEWPATH SETTINGS

If VIEWpath is licensed on the EPIC System, there will be a VIEWpath tab. Within this tab, the settings for a secondary disk as well as the cloud provider for storage will be configurable (*Figure 68*). If the recordings should be uploaded only after school hours, that can also be set here. The admin can disable VIEWpath Live or privacy controls for cameras from this tab. Visit the VIEWpath setup guide for additional information.

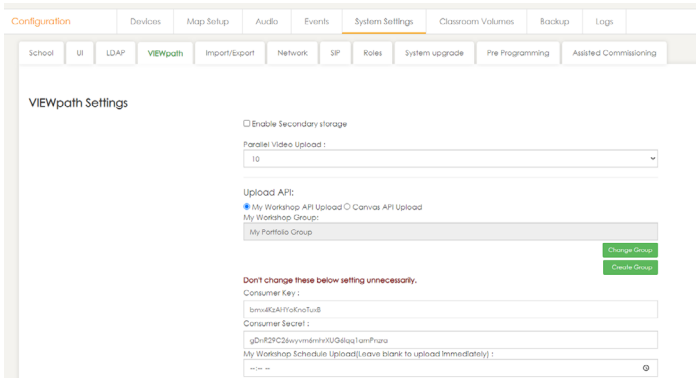


Figure 68

MANAGING USERS

SINGLE SIGN-ON (SSO)

Single Sign-On (SSO) simplifies user access to Audio Enhancement's applications by allowing users to login with a single account. Schools can leverage existing identity providers to grant users access to EPIC, eliminating the needs for creating new logins or managing multiple app accesses. To enable SSO, the district needs to active it for each school. EPIC supports a variety of identity providers; detailed information can be found on the website.

Setting up Single Sign-On

To set up SSO, follow these steps:

1. Access Single Sign-On settings located in *Settings* > *System Settings* > *Single Sign-On*.

2. Click the *pencil* icon to edit the SSO configuration for the provider.

3. Check the *Active* checkbox to enable SSO and enter in the school district *Domain*. Users added to the system matching that domain are required to use SSO to access EPIC.

4. Separate local accounts using unique passwords will not be permitted if they match that domain (*Figure 69*). Then click *Update*.

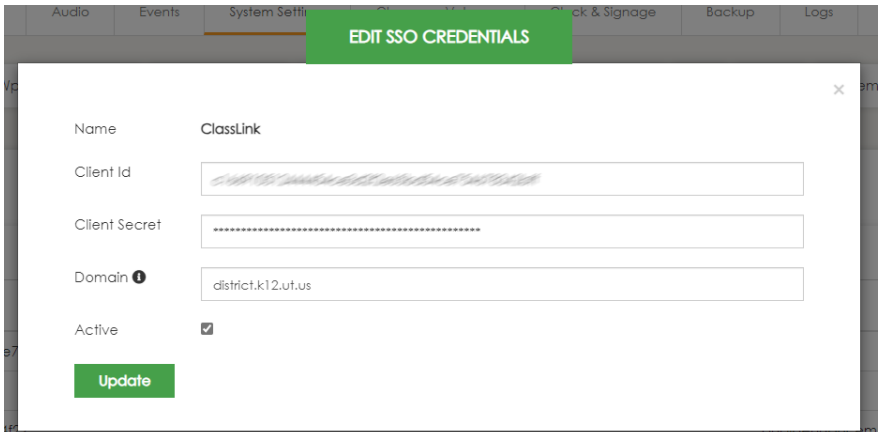


Figure 69

To login with SSO, from the login screen click the *SSO* link to be redirected to the identity provider (*Figure 70*). If already logged in to their identity provider, users will automatically be redirected to EPIC and signed in.

If a user is not logged into the identity provider, additional steps will need to be taken to login to the identity provider. Once signed in, the user will be redirected to the EPIC System and signed in. The user will be logged in and see the portions of the software to which rights have been granted.

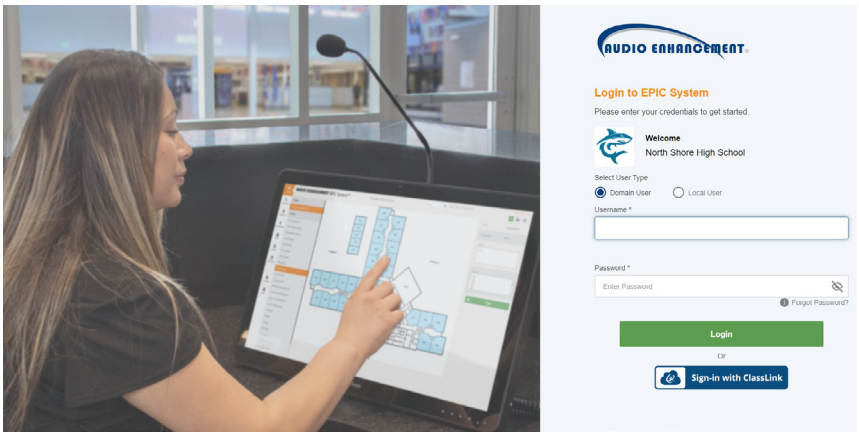


Figure 70

CSV IMPORT

A CSV (Comma Separated Value) file can be uploaded with current teacher and administrator user information into EPIC.

Navigate to *System Settings* > *Roles* > *CSV Import*. The CSV file should contain a header for the following columns:

- Username
- Full Name
- Email address
- Paging/intercom access, only yes/no are supported options
- Group/role: Each user needs to be mapped to a group. A user can either be a Teacher, Admin, Schooladmin, or a Standard User. For Teacher users, an optional room number can be included, and if matching an existing room number in EPIC it will assign the teacher to that room in the same step as creating the user

The CSV file should follow a similar format (*Figure 71*).

	A	B	C	D	E	F
1	Username	Email	Full Name	User can Intercom/Page	Group	Room Number
2	emma.stone	emma.stone@celebs.com	Emma Stone	yes	Standard	
3	leonardo.dicaprio	leonardo.dicaprio@celebs.com	Leonardo DiCaprio	no	Teacher	111
4	rihanna.fenty@celebs.com	rihanna.fenty@celebs.com	Rihanna Fenty	yes	Schooladmin	
5	will.smith	will.smith@celebs.com	Will Smith	yes	Admin	
6	adele.adkins	adele.adkins@celebs.com	Adele Adkins	yes	Standard	
7	tom.cruise@celebs.com	tom.cruise@celebs.com	Tom Cruise	yes	Standard	
8	jennifer.lawrence	jennifer.lawrence@celebs.com	Jennifer Lawrence	yes	Standard	
9	chris.hemsworth	chris.hemsworth@celebs.com	Chris Hemsworth	no	Teacher	Room 5

Figure 71

How to Import a CSV

1. Select a CSV file from the computer. Make sure each CSV field is mapped to a User Field within the EPIC System.

2. Select the corresponding field from the drop-down menus (*Figure 72*).

3. Once mapping is complete, click *Import*. If the file was mapped correctly a successful message will pop up (*Figure 73*). The import can only add users. For users that already exist in the system before the import, it will not delete or modify those users.

4. If the import file contains users that already exist in the system, it will not import a duplicate user and warn the user already exists. If any other data is missing, the system will fail to import those users and notify the user (*Figure 74 and 75*).

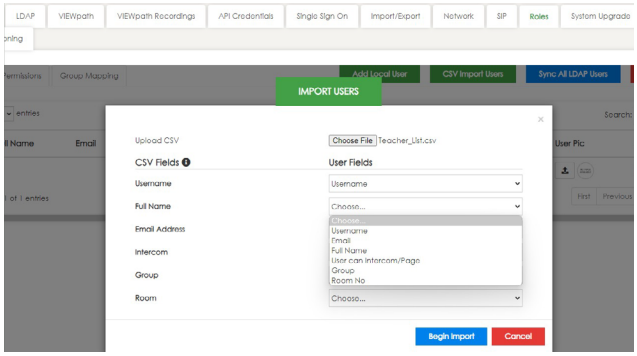


Figure 72

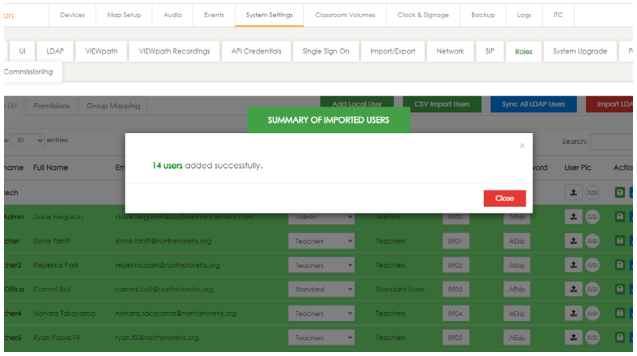


Figure 73

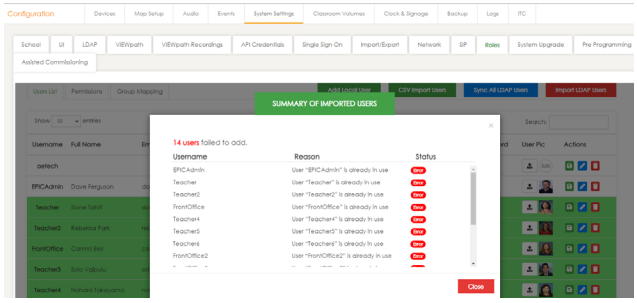


Figure 74

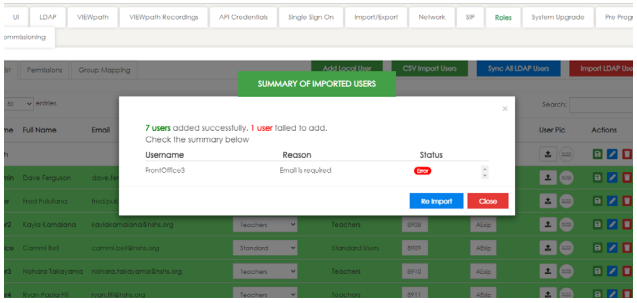


Figure 75

NOTE

When a valid email address is used to set up the account, an email is sent to finish setting up the account. Click the *link* in the email to enter a new password.

ADDING USERS MANUALLY

1. From within the Roles tab, click on the *Users List* to manage the users in the system.

2. Click *Add User* to add a new user. This can be a local user or an SSO user. All fields are required (*Figure 76*). An email will be sent to the user who is being created where the user will need to accept and set their password. If utilizing SSO and the email matches the domain setup in SSO, they won't need to set a password, but will still receive an email (*Figure 77*).

3. If a user does not have a valid email address, the email address can be skipped to set up the account.

4. After the account has been created, an admin can edit the user and manually set up a password. It is recommended to use a valid email address for the best security and usability.

5. If a user has forgotten the password, use the *Forgot Password* link to reset the password (*Figure 78*).

6. Select *Local User* and then click *Forgot Password* to reset the password. An email will be sent to the user to reset the password.

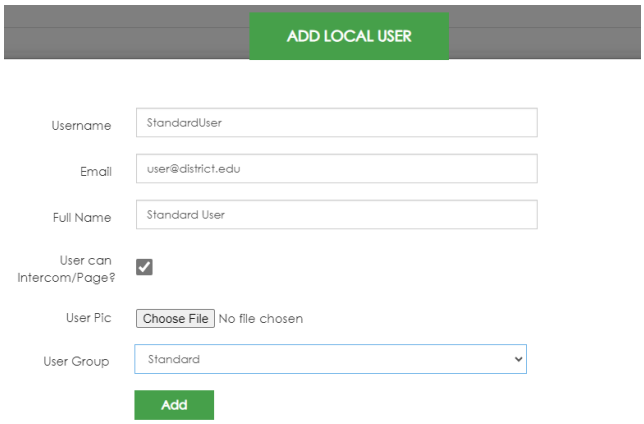


Figure 76

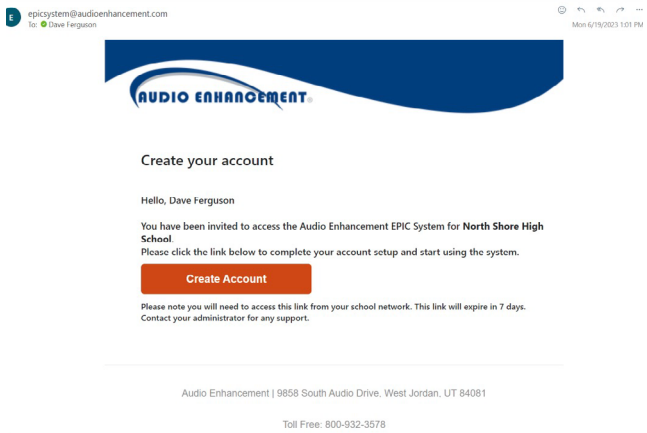


Figure 77

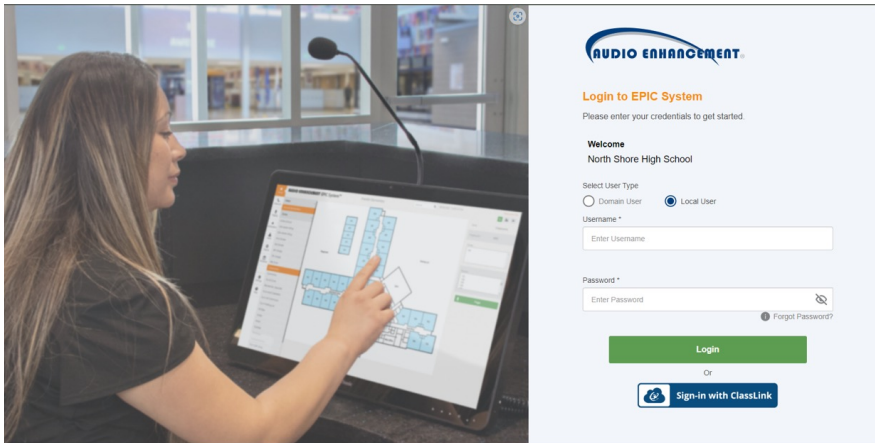


Figure 78

LDAP

The system may rely on LDAP connection to log in the users and assign privileges.

1. The LDAP settings are found under *Configuration*.

2. Enter the appropriate information for LDAP connection or update the username/password if credentials have changed and click *Save*.

3. A test can be done by clicking *Test LDAP Connection* (*Figure 79*).

4. Once connected using LDAP map the security groups to the role each group has been permitted. Multiple groups for each role can be selected. For example, choose *Intercom Admins* group for the Admin role and *Office Staff* for the Standard role. Teachers can be mapped to rooms if they are imported into the system and mapped to this group. This mapping only occurs if LDAP is enabled. If local users are used, only the permissions and users list will show.

5. Go to *Settings* > *System Settings* > *Roles* to assign privileges (*Figure 80*).

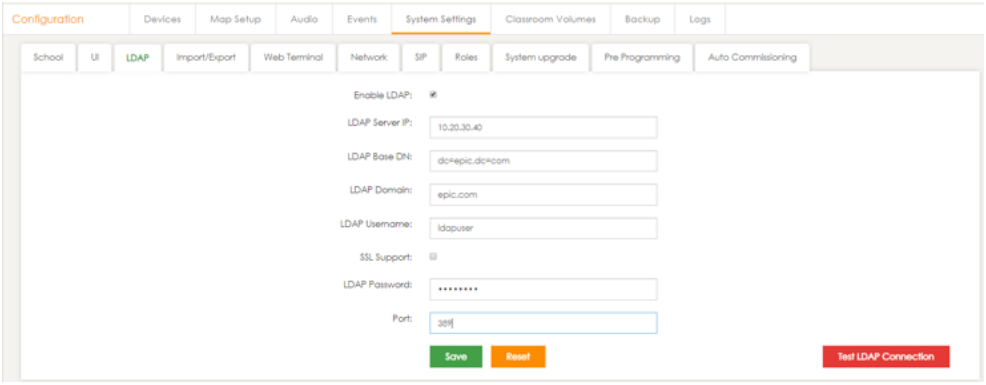


Figure 79

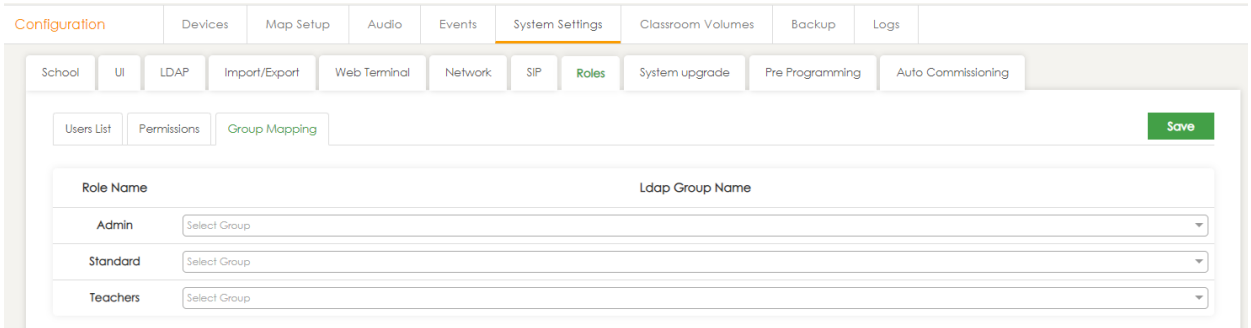


Figure 80

LDAP Import

Users can be imported to the current school LDAP credentials to EPIC and ViewPath, using a school email address or username, and the user's password.

1. For importing users, navigate to *System* > *System Settings* > *Roles* > *Import LDAP Users*. Whether using SSO, LDAP, or local users, all users will have role-based permissions. Users are added according to the permissions they should have, and districts should review their privileges and users regularly.

2. Click *Permissions* and the permissions matrix will come up for each role (*Figure 81*).

3. Confirm the access for each user role permissions. If a header like Home is checked, it will check all the settings within that heading.

4. Click *Save* once complete and permissions are updated.

> **NOTE**
>
> Guest is a just another user role, that role could be used for a non-LDAP user, like a substitute receptionist.

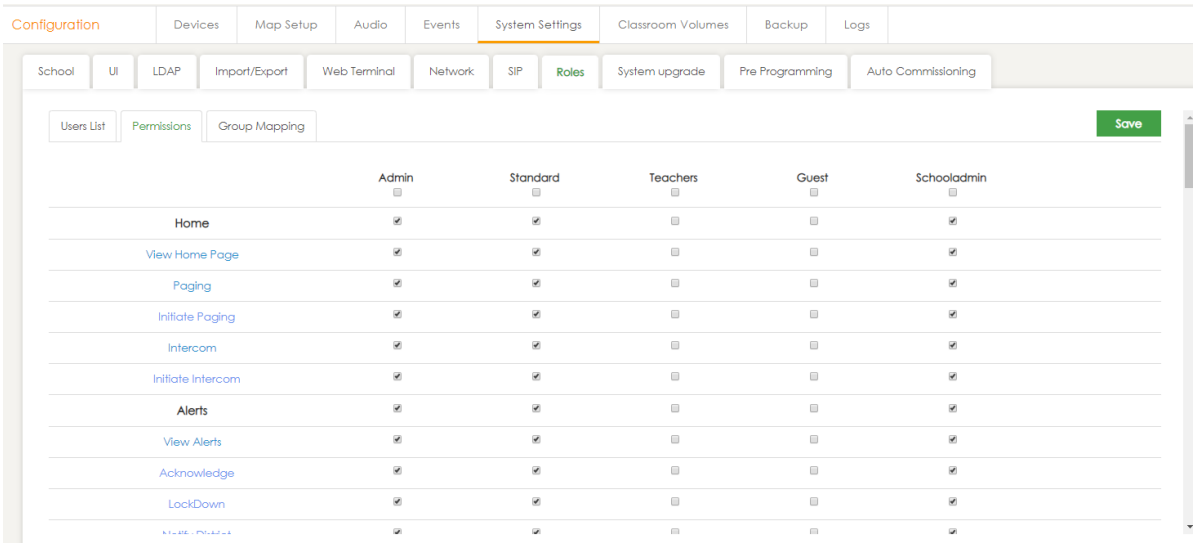


Figure 81

GENERAL UI SETTINGS, DATE/TIME

Go to *Settings* > *System Settings* > *UI*. Use this to set the time zone, 12/24 hour and Month-Day-Year or other date format preferences. Other settings, such as the default number of results on a page, as well as setting the default month and year for the calendar page are in this section (*Figure 82*).

The rooms are white and transparent by default, the UI tab also allows the administrator to define the room color and transparency should they find it appropriate.

NOTE

The selection highlight color will always be blue, and the SAFE Alert highlight color will always be red.

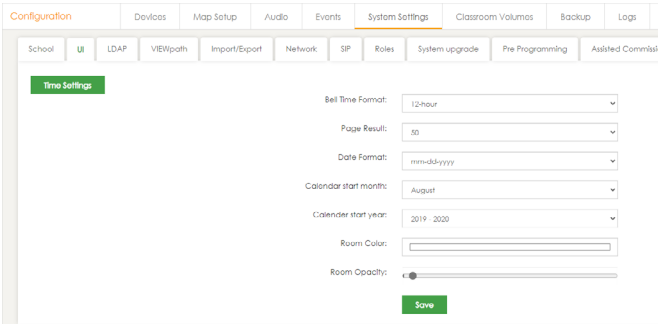


Figure 82

See time zone help document for additional instructions in time zone selection. Within the time settings button, users can configure the time zone (US Time Zones are found at the very top of the list) and the NTP server that EPIC System should use. By default, EPIC System will use a public time server. To change it, click *Specify Time Servers* and enter up to four NTP servers.

NETWORK SETTINGS

Network settings for the EPIC system can be edited via *System Settings* > *Network*. To edit, click *Edit Network Parameters.* If the IP address is edited, there are other important system values which should be automatically updated; the system hyperlink IP, asterisk basic sip server IP, and the value for the devices to register with EPIC. However, all devices should have the configuration pushed to them when the system IP is updated.

SSL Certificate Management

Administrators can replace EPIC's SSL certificate so that it can be accessed from a hostname and without any warnings. Under *System Settings* > *Network*, click *Import SSL Certificates* and enter the appropriate hostname and provide the SSL certificate and Key (*Figure 83 and Figure 84*).

A valid SSL certificate and hostname is required for District View. Please consult the EPIC SSL Certificate guide for further details.

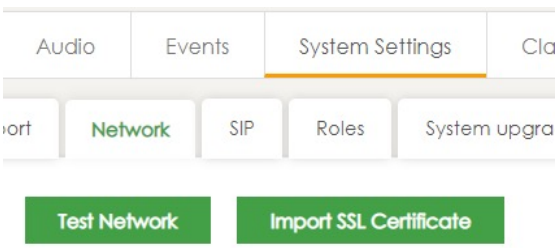


Figure 83

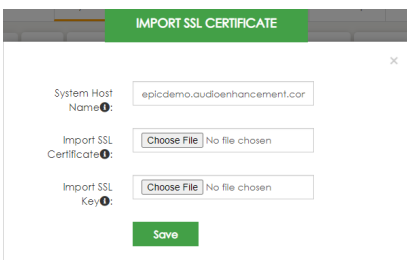


Figure 84

Test Network

EPIC has network testing capabilities to ensure communication with critical services or other hosts on the network. Go to *System Settings* > *Network* > *Test Network*. This will show the connection to critical services that may be required for the EPIC System or VIEWpath. Administrators can type in an IP/hostname in the IP Address field and click *GO* to perform a ping test from the EPIC System directly (*Figure 85*). The email and text message services can also be tested here by entering valid email/phone numbers and pressing *GO*.

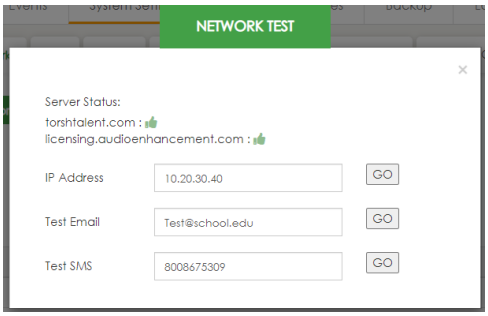


Figure 85

BACKUP

The EPIC System server is a fully redundant system to ensure uptime and reliability, but it is always good practice to maintain backups whether for disaster recovery, data protection and integrity, or as a rollback point for incorrect configuration or failed updates. The EPIC System has an integrated backup function to allow a backup to a network share (SMB/CIFS). Follow these steps to setup backup.

Setup

Navigate to *Settings*, then click on the *Backup* tab (*Figure 86*). Reference below guide to setup for use in school's environment. Ensure *Save* is clicked when done.

Backups can automatically run on a daily or weekly basis. If Weekly is chosen, a second choice will appear asking for which day of the week it shall run. Backups will always run at midnight.

Backup Location should be the school's remote network location (SMB/CIFS) which is the target for the backup. It should be formatted as //[hostnameorIP]/[shareName]

The Username and Password should be the school's Username and Password credentials used to authenticate the backup location.

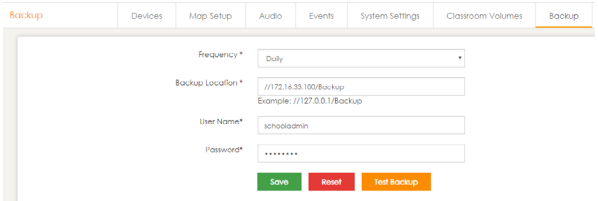


Figure 86

Test Backup

The backup configuration can be tested by clicking *Test Backup*. This will perform a manual, immediate backup to the location.

> **NOTE**
>
> EPIC System will say "Test Completed" but this does not actually validate the backup location. The backup location should be checked to verify the backup was successful.

Test Function can also be used as a manual backup if a system update or multiple configuration changes are being performed so there is a restore point to revert to.

The backup will be a zipped file labeled epicsystem_backup_[date]_[time]

Restore

To restore a backup in case of scenarios above, follow instructions below.

> **NOTE**
>
> A backup and restore should normally be performed within the SAME version of EPIC System. If an update caused a failure, contact Audio Enhancement Support (800-932-3578) should the restore not work as expected.

1. Navigate to *Settings* > *System Settings* > *Import/Export*.
2. Next to Import Zip there is a location to choose file. This will open the file explorer, find and select the backup to be restored (*Figure 87*).
3. Click the *Import Zip* button. A success message will appear, but the process may take some time. After a brief countdown, the restore will be complete. (*Figure 88*).

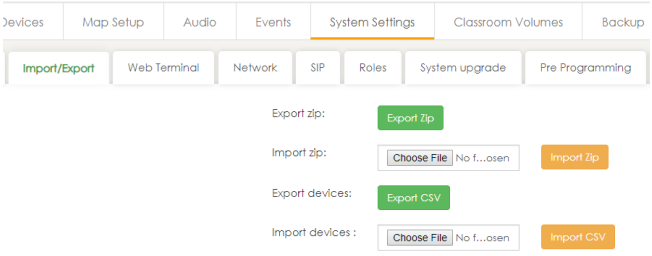


Figure 87

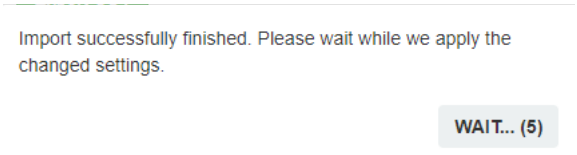


Figure 88

MANAGING AUDIO FILES

PREVIEW AUDIO

Go to *Settings*, then click *Audio* to view the list of all audio files uploaded to the system. Click the *play* button next to each file to preview that audio file (*Figure 89*). This will play the file through the speakers of the computer that is being used, not the devices.

Files can be edited to change the name by clicking the pencil next to the file as well

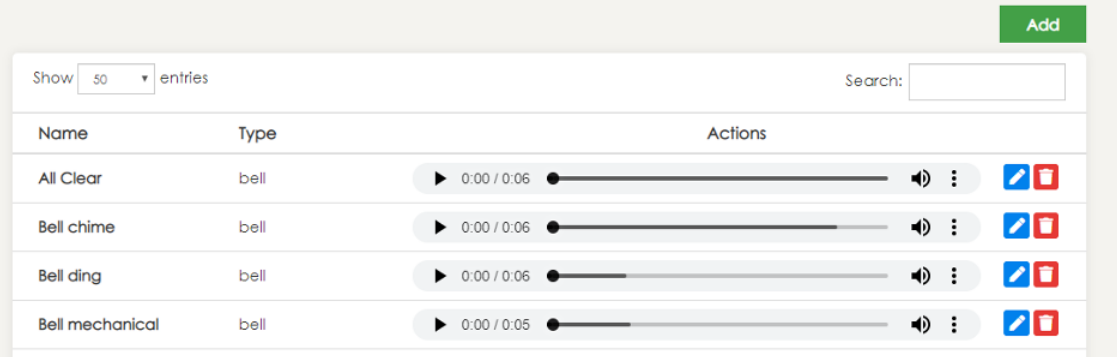


Figure 89

UPLOAD NEW FILES

1. To upload a new file, simply click the *Add* button at the top of the window (*Figure 90*).

2. The Add Audio window will pop up (see *Figure 91* on next page). Give the bell a name, select the desired file to play and choose *Bell* as the audio type.

3. Any wav or mp3 file can be selected here and the system will automatically put it in the correct format for playback to the devices.

4. Now the file will be selectable in any of the Add Bell screens as a selectable bell.

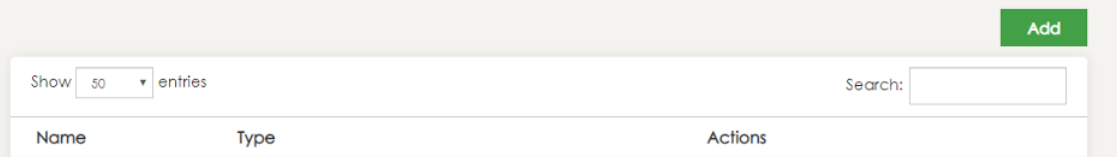


Figure 90

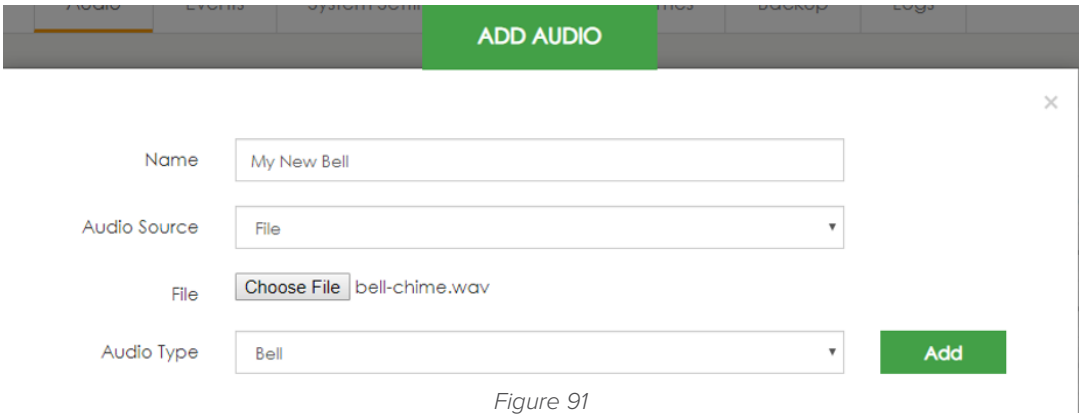


Figure 91

RECORD AUDIO FILES

One of the powerful features of the EPIC System is that users can use their own audio files for an emergency notification (explained next section) to give personalized instructions to the school in case of an emergency. In addition to file upload, the EPIC System can now record files directly from the Audio Page. Follow these instructions on how to record an Audio file.

RECORD AUDIO

START RECORDING

The Add Audio pop-up will appear. Give the recording a recognizable name e.g., My School's Fire Instructions. Change *Audio Source* to *Record*. When ready, ensure a good microphone is plugged in – recording from the EPIC Console is recommended. Click the *Start Recording* button (*Figure 92*).

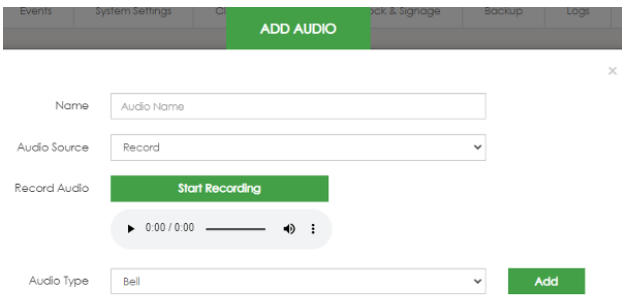


Figure 92

STOP RECORDING

When finished, press the *Stop Recording* button (*Figure 93*).

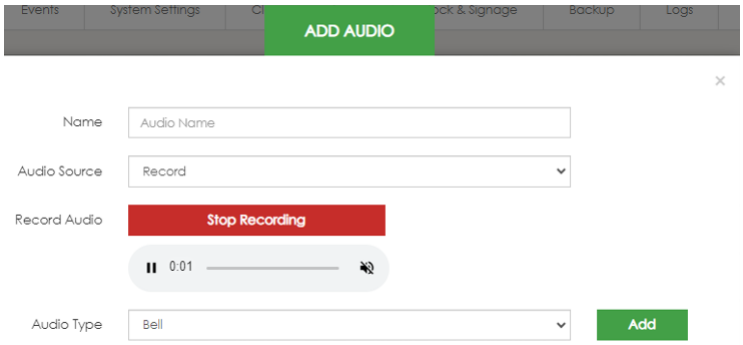


Figure 93

PREVIEW AND SAVE

The recording can be previewed by clicking the *play* icon and listen to the recording.

Press *Start Recording* again to re-do the recording. When satisfied, click *Add* and the file will now be available in the EPIC System (*Figure 94*).

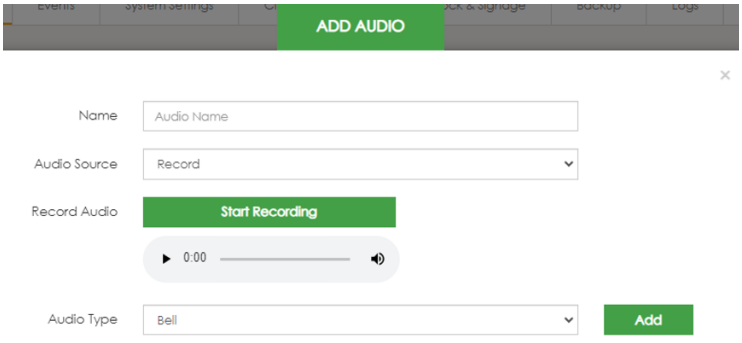


Figure 94

BROADCAST NOTIFICATIONS

There are notifications built into the system which can be triggered by various means, but most commonly by clicking the *Notifications* icon and then launching the appropriate notification. This would be used to send a pre-recorded audio message to the school over the Public Address (PA) system during a fire, earthquake, lockdown, or another situation. These messages can be customized.

LAUNCH NOTIFICATIONS

1. Click the *Notifications* icon (*Figure 95*).

2. The notifications will come up (*Figure 96*).

3. Press the *Start* button under the notification and click *Start* on the confirmation pop-up (*Figure 97*).

Whatever actions are defined for that event will happen. These can be edited; the text can change or be represented by picture icons as seen below. If a looping notification is setup, stop the Notification by clicking the *Stop* button that replaces the *Play* button.

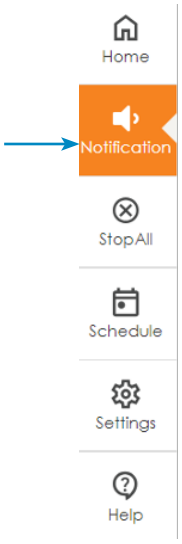


Figure 95

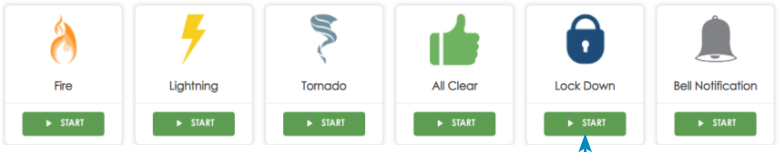


Figure 96

Figure 97

When the notification is activated, if setup to broadcast a message across all speakers, the icon will turn to a red, pulsating stop icon (*Figure 98*). Press the red *Stop* button to turn off the notification when the event has resolved.

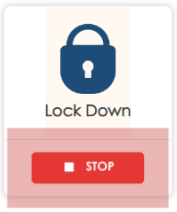


Figure 98

There is additionally a Stop All button available in the main left-hand menu at any time which will stop any bell or notification (*Figure 99*).

Figure 99

EDIT NOTIFICATION

1. To edit a notification, navigate to *Settings* > *Events* (*Figure 100*).

2. The events are split into two categories: User Events and System Events. Find the event and click inside the box to make an edit.

3. Any part of the event can be changed. The name of the event can be changed or updated, and a picture can be uploaded to represent the event. Click *Save* when done (*Figure 101*).

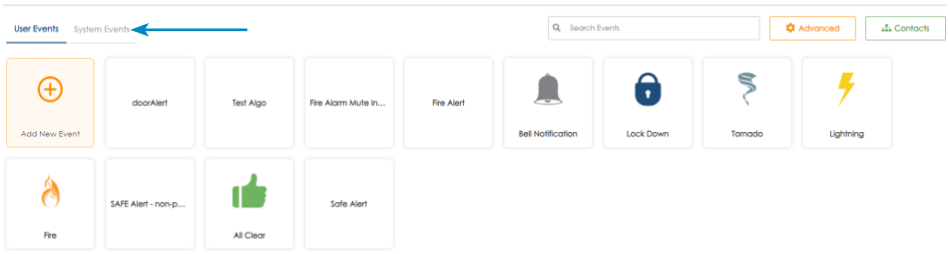


Figure 100

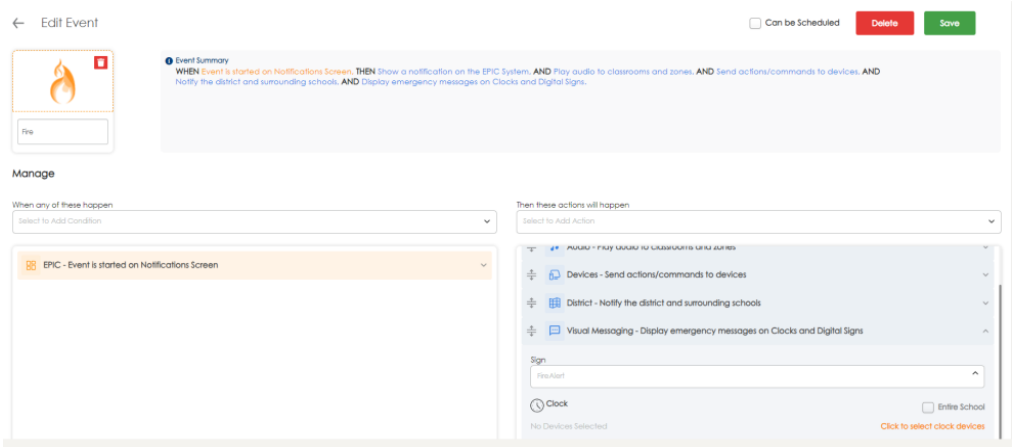


Figure 101

Edit Notification Actions

The actions within a notification can be edited as well to suit the site's needs.

1. Go to *Settings* > *Events* to edit the actions. Click the event to modify, in this example Lockdown. Now click *Audio-Play audio to classrooms and zones* (*Figure 102*).

2. To edit the Lockdown Message file to play to all devices on a lockdown event. Choose when to start the audio file and how often it will repeat from the drop-down menus.

   a. There are three types of Play messages to the devices. Play Once will play the audio file once and then end, Play until user stops will play until the user clicks the *Stop* button. Play X number of times will play a certain number of times and then end.

3. When all the settings below and the action has been edited click *Save*. Follow these steps for any other notifications (*Figure 103*).

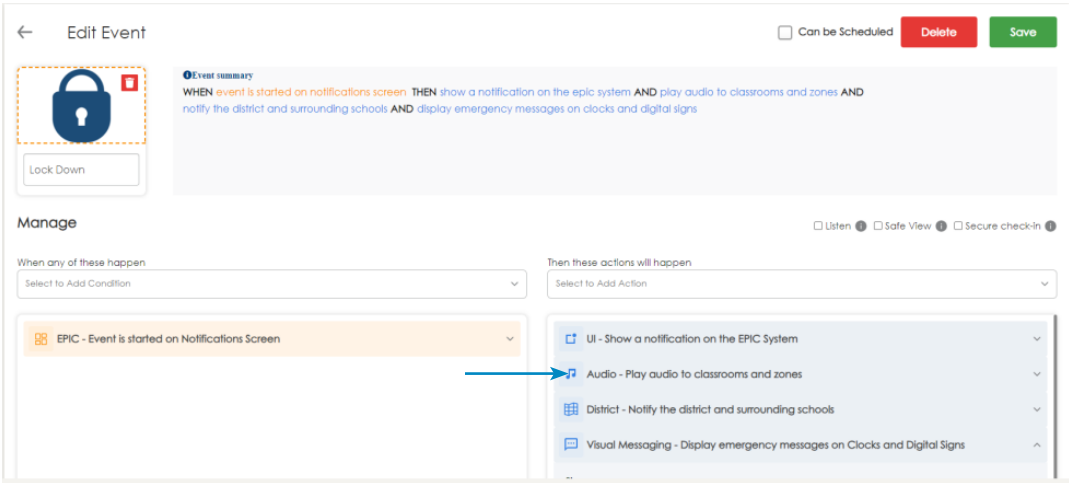


Figure 102

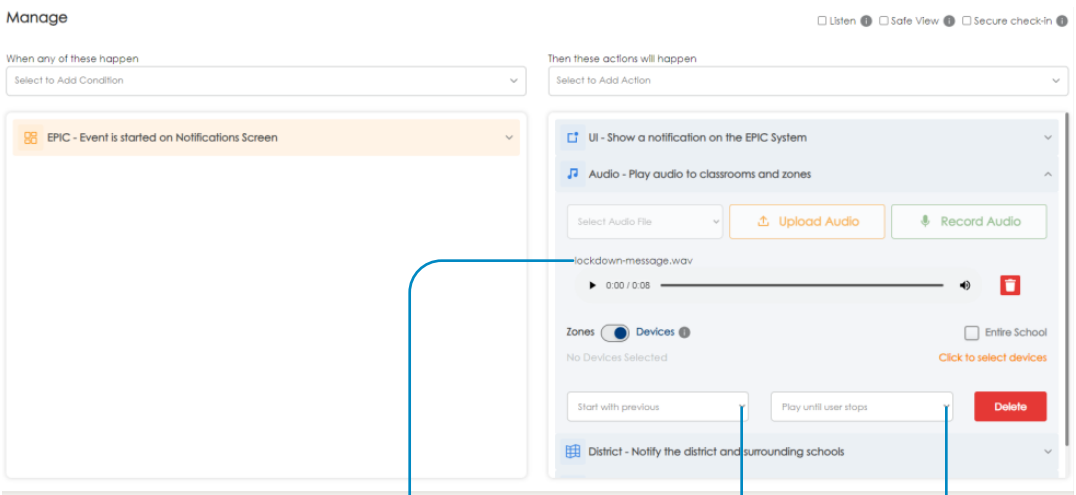


Figure 103

Lockdown Message Start options Repeat options

ADD NOTIFICATION

Adding a new notification is similar to editing.

1. Navigate to Events click *Add New Event* (*Figure 104*).

2. Add an Event Name and an image, from the drop-down menus then choose a *When* condition and a *Then* action for the notification (*Figure 105*).

   a. Any of the Event Type notifications will show up on the notifications screen, so only add it if it can be used appropriately.

3. Click *Save* to have it display on the Notifications screen.

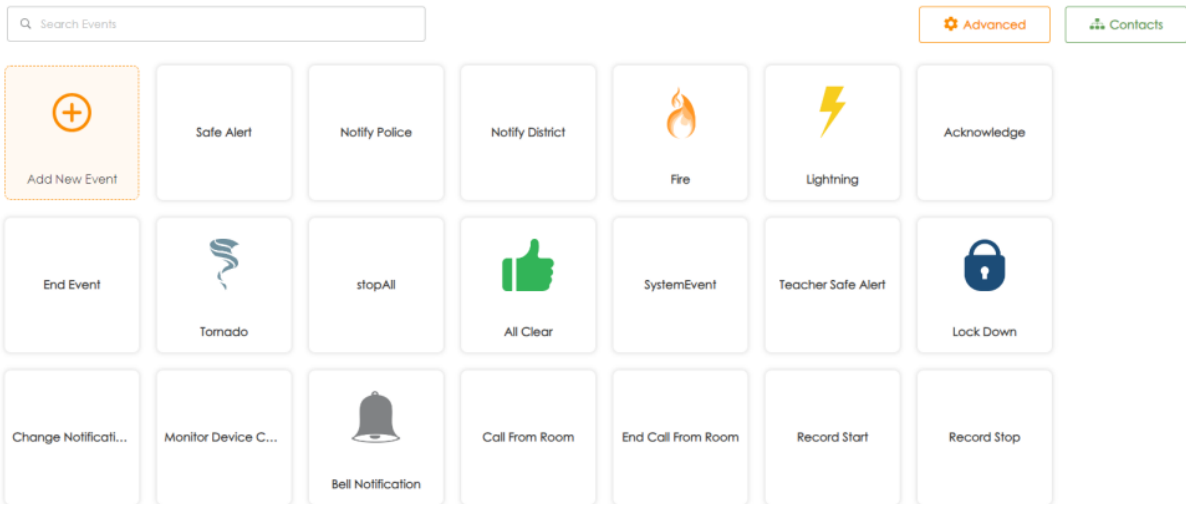


Figure 104

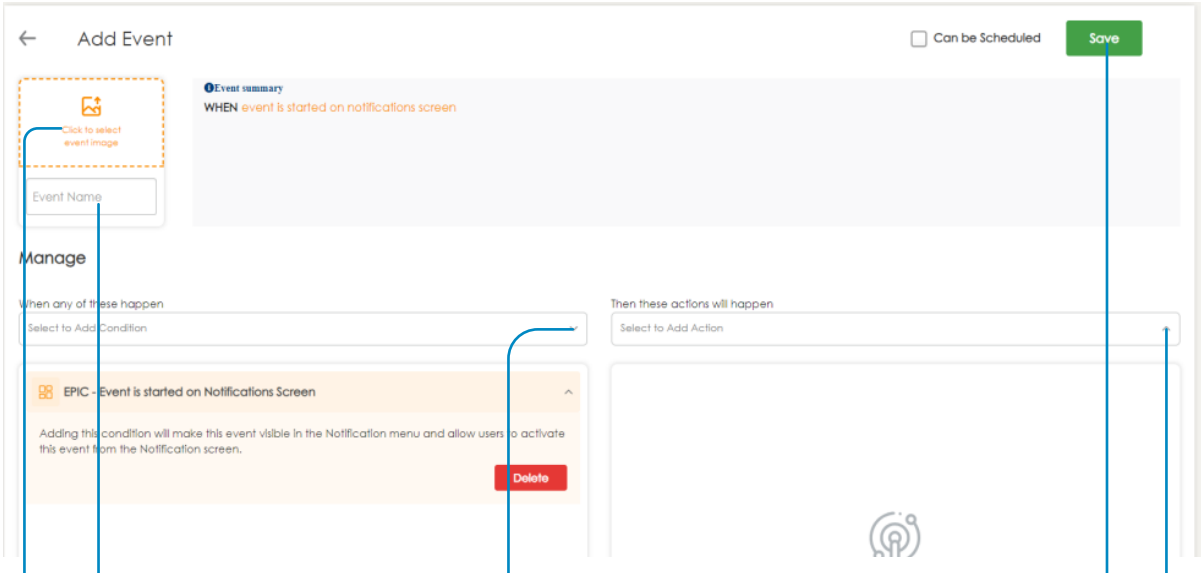


Figure 105

Event Image Event Name When Condition Save Then Action

SAFE ALERT CONFIGURATION

The SAFE System Alert has some out of the box configuration already completed but can be modified to fit the needs of each school. Any additional requirements for SAFE Alerts can be programmed in the event engine of the EPIC System.

SAFE ALERT EXPLANATION AND OPTIONS

The SAFE Alert happens when a user presses the *Alert* button on their microphone (IR) or squeezes the two *SAFE Alert* buttons located on each side of the XD Teacher Microphone. By default, the EPIC Kiosk will display a map and will alarm, giving an audible alert and a visual notification on the screen. If there is a camera in the room, the EPIC Kiosk will show live audio and video feed from the camera in the classroom, enhancing situational awareness during the alert and simplifying the staff's surroundings so they can effectively handle the alert.

Press the *Acknowledge* button and teacher will see that the office has received the alert and it will be silenced. This button will pulsate until pressed (*Figure 106*).

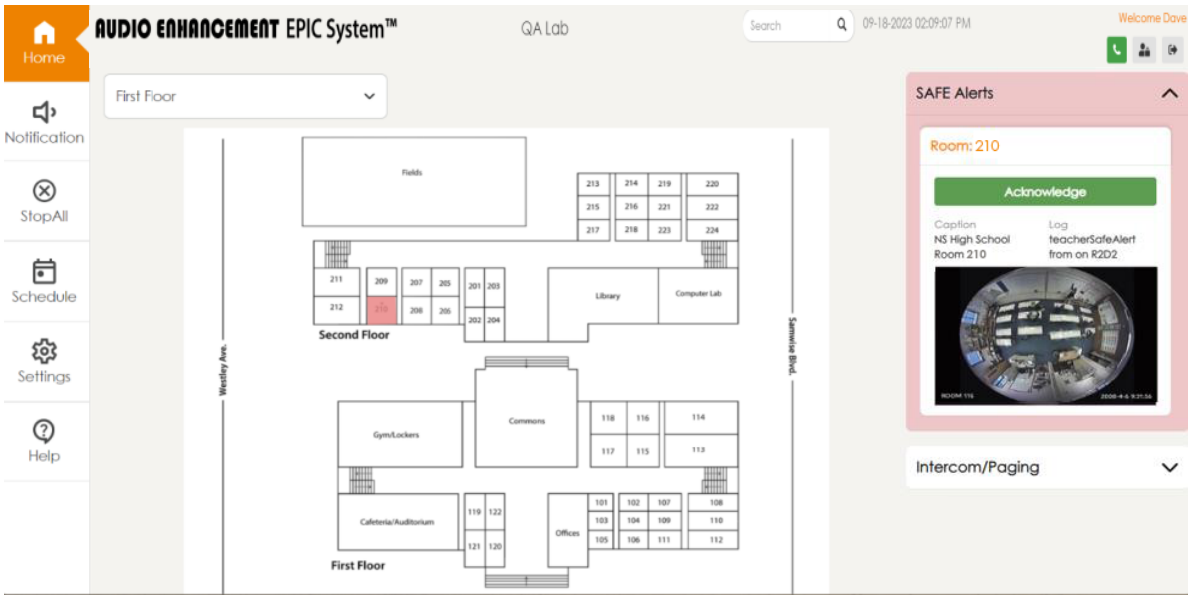


Figure 106

Furthermore, additional options can be provided to notify users. Text and email messaging can be setup to notify additional people or groups to the situation. See the Text or Email Message section for more information. Due to integration with the intercom system, pre-recorded calls can be placed to alert security office or local police. Lockdown can be initiated as well, including integration to other systems such as access control. There are many options to ensure the proper fit for the school's needs and policies. Separate user guides provide more instruction on the end user handling the alert scenario. Here, the setup of the SAFE System actions will be covered. As an added measure, EPIC System allows the administration to view and listen in when there is a SAFE Alert.

SAFE ALERT LISTEN IN

If a SAFE Alert or lockdown is initiated, the operator can use these options to listen in to the alerting classroom using the Audio Enhancement device in the classroom. If classroom cameras have been installed, a live video feed can be viewed as well. This can be configured with Listen During Alert activated for the events.

1. To enable, navigate to *Settings* > *Events* and edit the *SAFE Alert* or *Lockdown* events.

2. In the event editor, click the checkbox for *Listen During Alert*, and *Save* the changes (*Figure 107*).

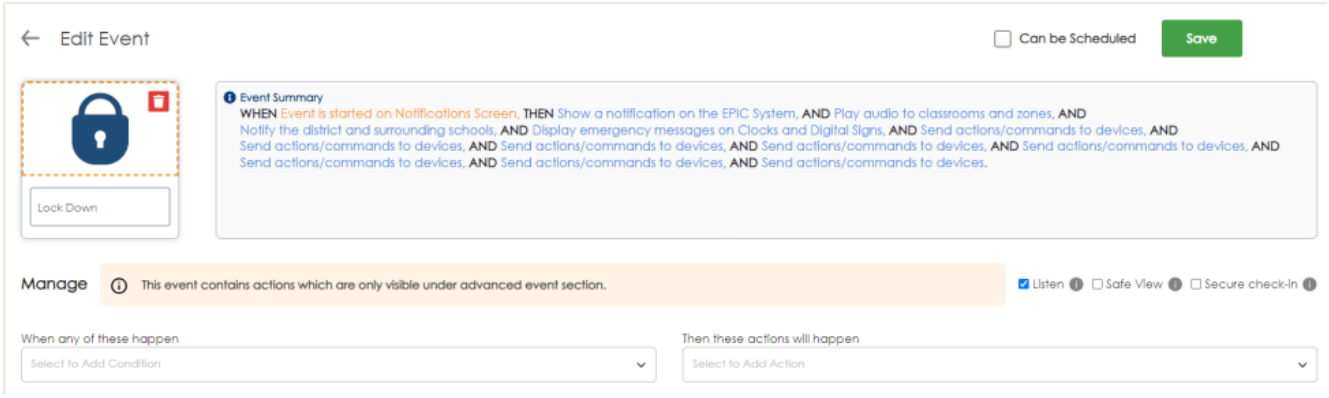


Figure 107

When a SAFE Alert or Lockdown is initiated, the EPIC System will return to the home screen with a SAFE Alert View on the right-hand side of the screen. Inside the view there will be a live feed display and can be expanded to a larger view. Listen in will be active and the user will be able to hear sound from the room (see *Figure 108* on next page).

The user also has the option to talk to the alerting room. If the user would like to speak to the room, click the *Unmute* button and those in the room will be able to hear the user (see *Figure 108* on next page).

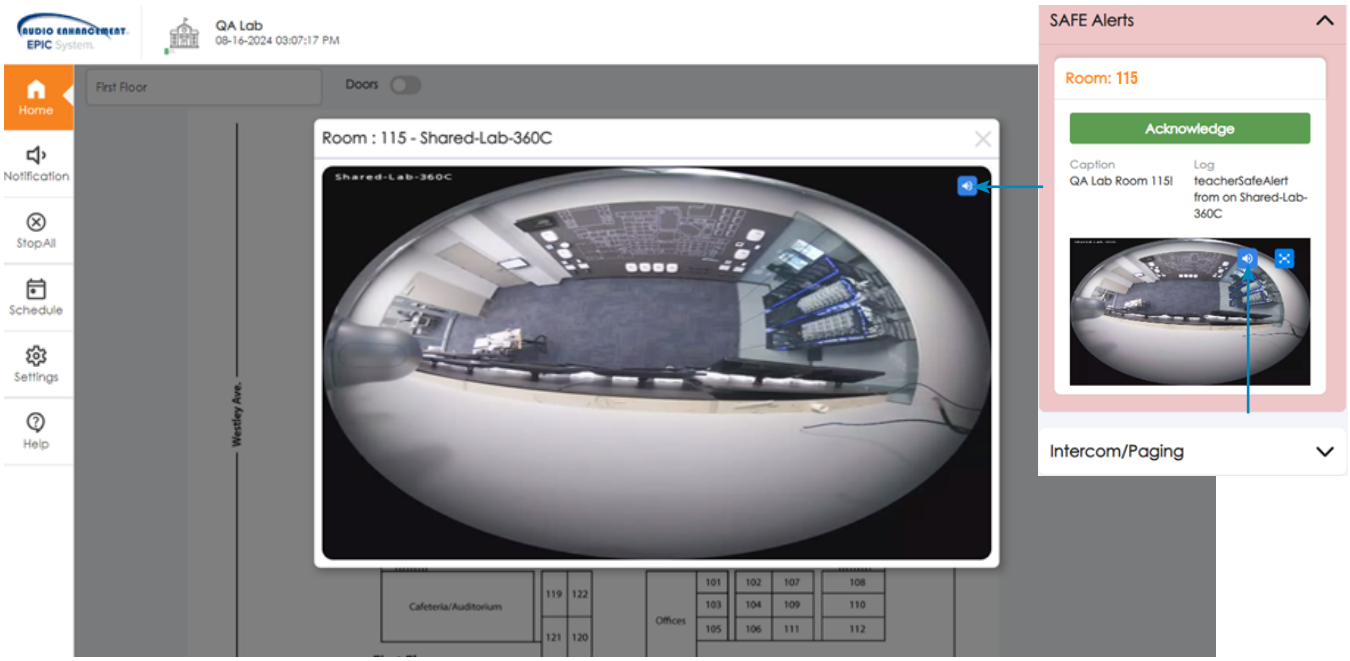


Figure 108

SAFE VIEW

With SAFE View, during an alert the operator can live view any security camera in the school. This is only available during an alert and no video will be recorded. The cameras must be added and compatible with EPIC (RTSP capable).

To use SAFE View, during an alert, the operator will see blue camera icons on the map. Clicking on any of those icons will bring up a live feed of that camera. The user can minimize or close the video window at any time or switch to another camera by clicking on that camera.

An administrator must enable SAFE View in the SAFE Alert and Lockdown event by checking the box in each of the events.

Add cameras to Safe View

An administrator must add the cameras to the EPIC System and add them to the EPIC map. The EPIC System must know the RTSP stream and authentication information for each camera.

1. Navigate to *Settings* > *Devices* and click *Add Device*.

    a. If the camera is ONVIF compliant, select *ThirdPartyCamera* from the device list and enter the required details.

2. Once the user enters a *valid IP, Username,* and *Password,* the Get RTSP URL button should automatically fetch this URL from the camera. Click *Submit* (see *Figure 109* on the next page).

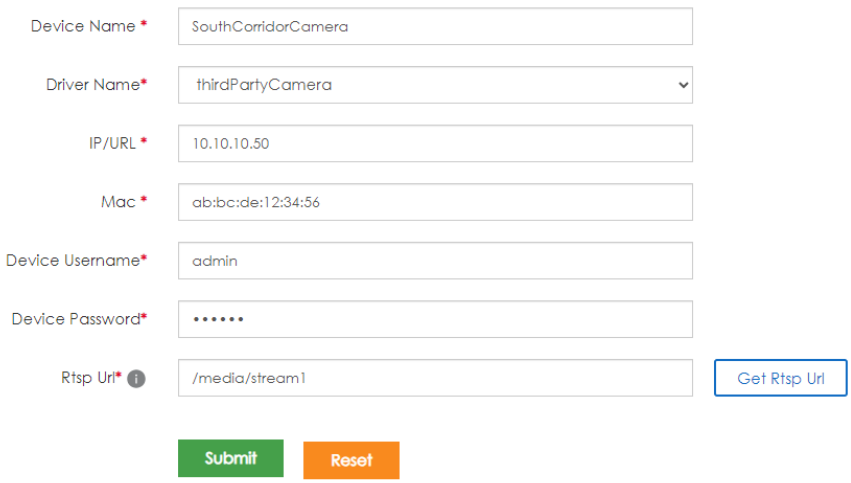


Figure 109

Once the device has been added, just like with the Audio Enhancement devices, the administrator will need to add it to the map. Third party cameras must be added to a room object. Multiple cameras can be added to a single room in the case of a large area. The camera icons should be moved to their appropriate location on the EPIC map within that room (*Figure 110*).

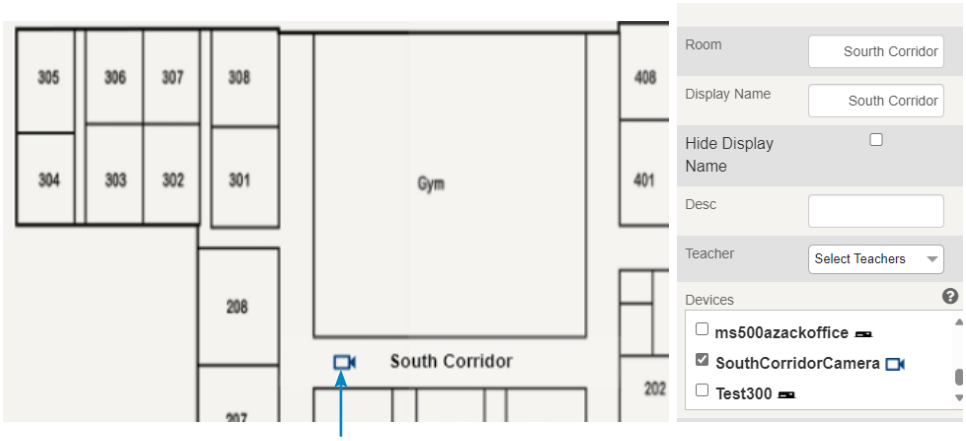


Figure 110

SAFE ALERT EVENT CONFIGURATION

Navigate to *Settings* > *Events* and click *SAFE Alert* (*Figure 111*). A SAFE Alert event can be seen. By default, there are four Immediate Actions, and a Lockdown and Escalate buttons.

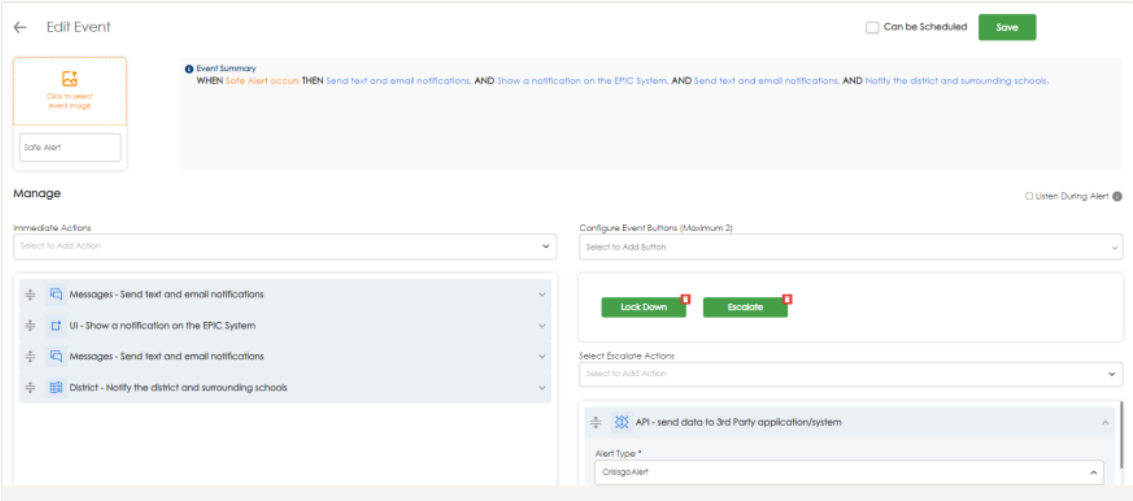


Figure 111

UI Alert

Click the *drop-down menu* to edit the UI Notification first. The drop-down menu will expand to open the edit action window. The audio file that plays, stock file or user uploaded file, can be changed. The message that appears during a SAFE Alert can also be edited in this window.

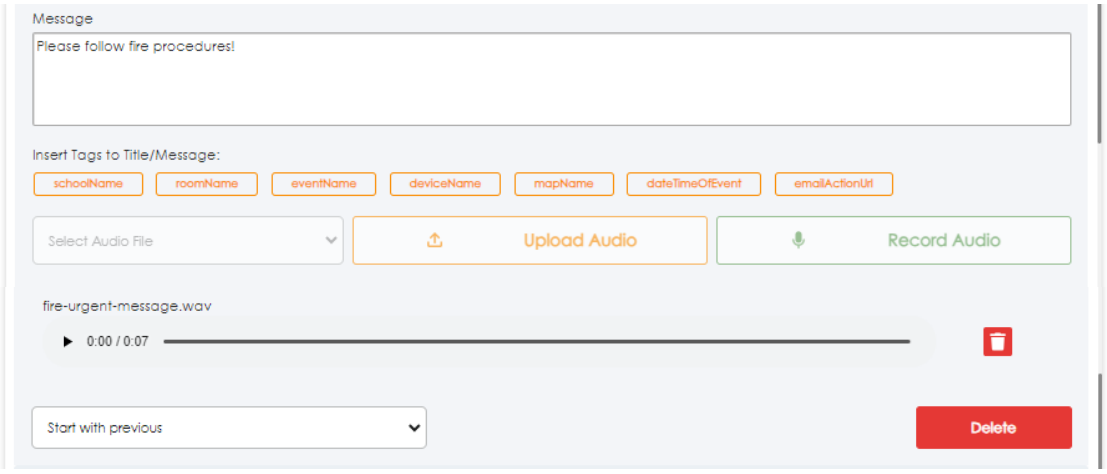


Figure 112

NOTE

The use of tags makes the alert dynamic so the correct room that sent the alert can be seen (*Figure 112*) – case sensitivity does matter.

Add Text or Email Messaging

Under the Messages – Send Text and Email Notifications dropdown, to whom the email is sent, can be selected by clicking on the desired *Contact Group(s)*. The content of the message for the SAFE Alert can also be changed. There is a pre-populated email template, which can be edited to fit the needs of the school (*Figure 113*).

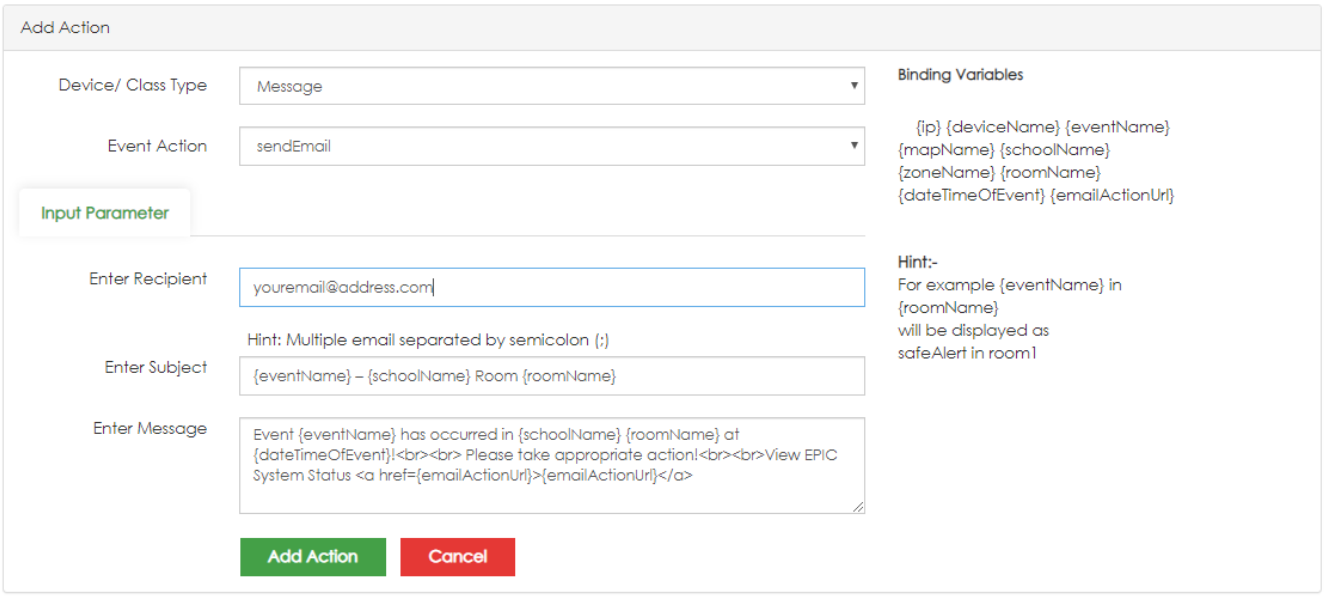


Figure 113

NON-PAIRED SAFE ALERT

If a school has XD microphones or Duress Transmitters, and teachers try to use their microphones to send an alert while not in their paired rooms, the microphone will switch into what is known as Non-Paired Alert Mode. The important thing is that the microphone will transmit its alert even when not in its paired home room. The area of greatest overlap of red circles indicates the location of the alerting microphone, and thus the approximate location of the teacher (*Figure 114*).

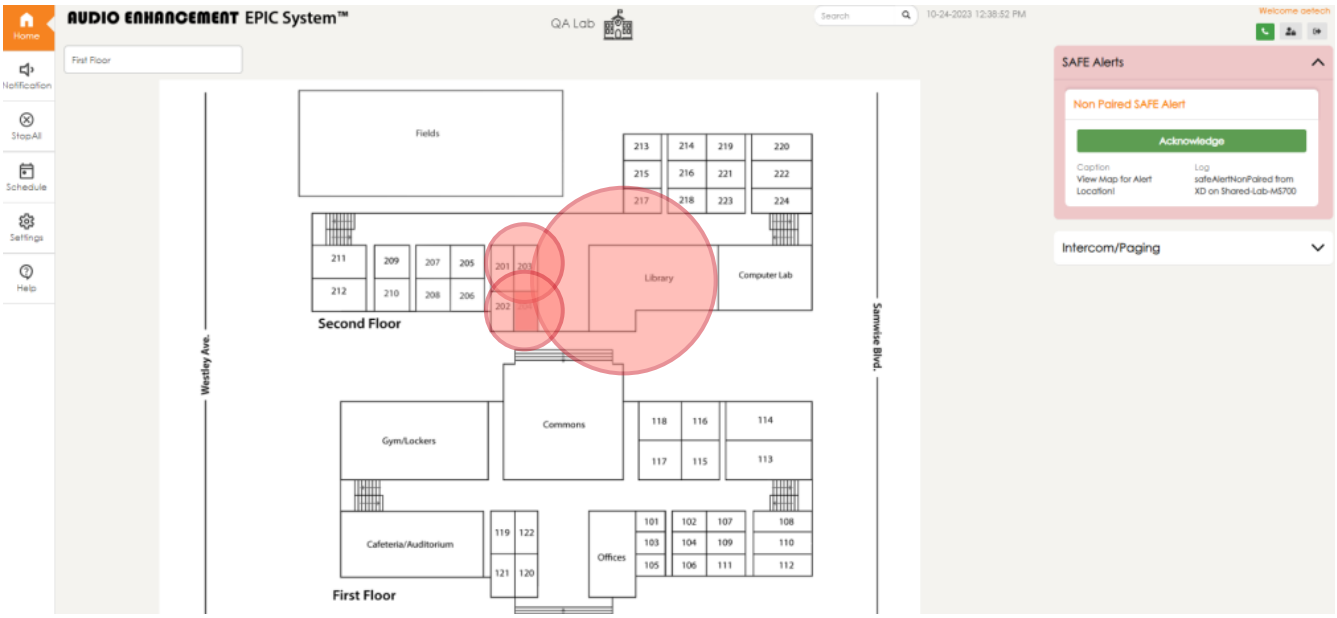


Figure 114

NOTE

The smaller the circle, the stronger the signal strength, also the room that is highlighted in red, had the strongest signal.

There are critical factors when enabling non-paired alerts. The microphone will look for the closest XD receivers it can find and send that data with its alert message. This means multiple circles may be visible on the map. The room that is highlighted is where the strongest signal came from and means that is most likely to be the closest place to where that alert is happening. When in Non-Paired Alert Mode, because the alert displays the probable location, the alert is not identified as being from a specific room.

There are different actions that may be setup in the event engine for a Non-Paired SAFE Alert. For example, no cameras will pop up and a room number will not be included in the alert message. These Non-Paired Events must be configured for Non-Paired Alerts to work appropriately for a school. Going through the event and setting the appropriate messages that should be sent during the alert will ensure these events. The map scale, which is configured during map setup, is very important regarding this Non-Paired Alert as the circles are drawn based on the scale. Ensure that Non-Paired Alerts are thoroughly tested to understand how to react appropriately, and how to read alerts on the map to effectively guide staff to the most appropriate location.

EPIC SYSTEM EVENTS

EPIC System gives schools the power to respond to emergency situations in a way that works for their unique needs. There is a friendly, easy to manage event system in EPIC which can be configured by school administrators to setup their alert protocols. EPIC has a few out of the box common events but Audio Enhancement recommends schools customize and build what suits them best.

ADD/CUSTOMIZE EVENTS

Creating new alerts is made simple in the EPIC System. Navigate to *Settings* > *Events* and click *Add New Event* (*Figure 115*).

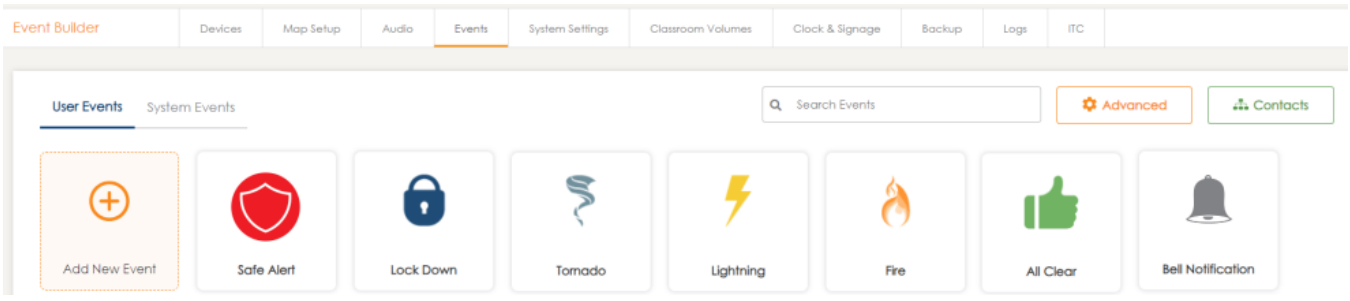


Figure 115

There are two different parameters that an alert requires to have, a Condition, and an Action. Multiple Conditions and Actions can be set up for an alert. The left column will display the current conditions, and the right column are the current actions for the alert.

1. Click the *Select to Add Condition* drop-down menu to select the first *Condition*. Remember, an alert can have multiple Conditions (*Figure 116*).

2. Once the desired Conditions have been selected, click the *Select to Add Action* drop-down menu.

3. Any of the out of the box alerts can be customized to suit the needs of the school and district. Click inside the box to make changes to an alert.

4. To edit these, click on the name, for example, for the Fire alert, click on *Audio* > *Play audio to classrooms and zones*. A new audio file can be uploaded, uncheck the *Entire School* checkbox if only desired zones or devices should receive the alert. The timing of when the Action will occur can also be changed. By default, Actions and Conditions are set to Start with previous Action or Condition.

5. Click *Save* when all changes have been made.

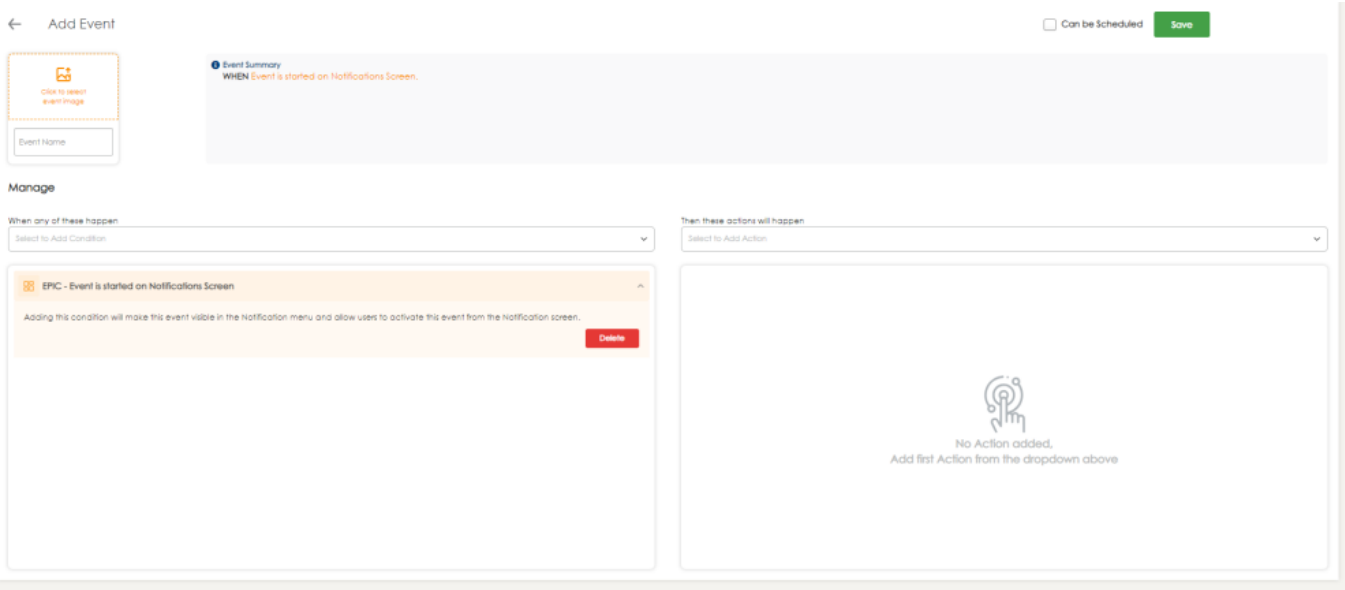


Figure 116

All customized and new alerts can also be scheduled to trigger a certain time of the week, month, or quarter to meet District requirements. Check the *Can Be Scheduled* box and then click *Save*.

Navigate to the *Schedule*. Select *System Schedule* from the drop-down menu at the top of the page and click the desired days. Remember to save changes to the schedule.

CONTACT MANAGEMENT FOR ALERTS

As mentioned earlier, text and email messaging can be configured for alerts to quickly notify support, other personnel at the school, and even the district. When setup for an alert, these messages will automatically be sent to the selected group for fast communication.

For both customized and out of the box alerts, a text and email messaging can be set up to send to a specific group. These contacts can be other personnel within the school, or at the district level, or even support. From the Events tab click *Contacts* in the upper right-hand corner (*Figure 117*), then click *Add Contact* (*Figure 118*). Enter in the full name, email address, mobile number, and job title of the new contact.

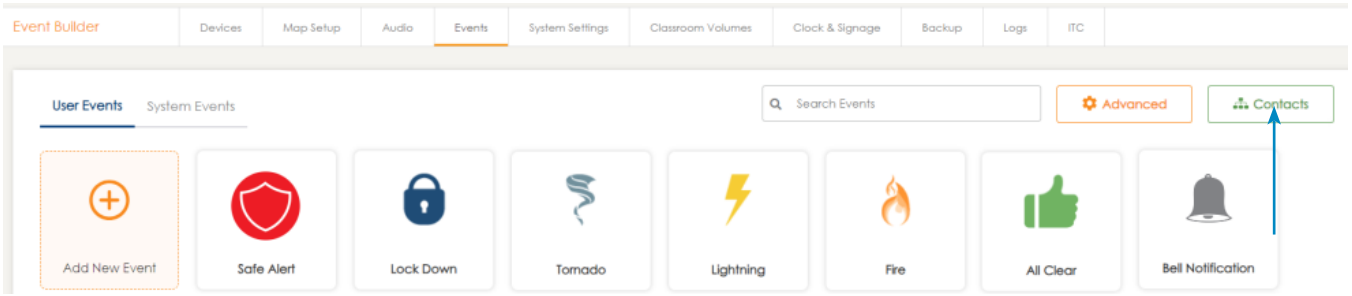


Figure 117

Figure 118

Each contact can be assigned to a specific group, School, District, or Support (*Figure 119*). Click the desired group then save the new contact. When an alert is initiated, a text or email will be sent to all contacts in the group. Click *Add Contact* to save the new contact.

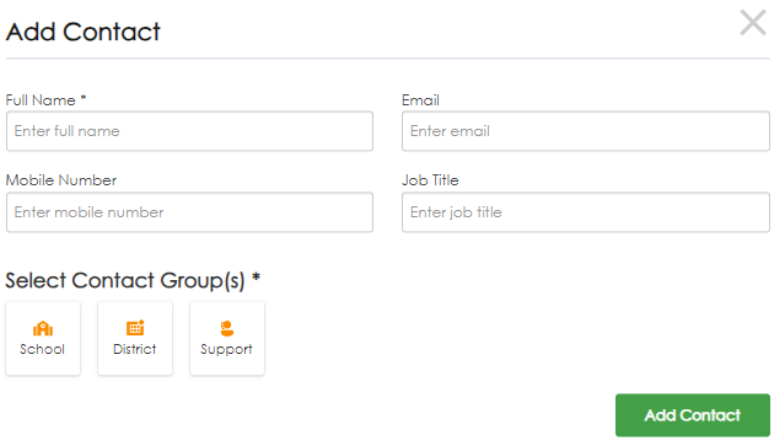


Figure 119

DOOR POSITION MONITORING

EPIC System can monitor and alert if doors have been left open using magnetic door sensors connected to the Audio Enhancement devices in the school. Custom integrations may also be possible with third party access control systems. The doors must be tied to a specific Audio Enhancement device as seen in the *Map Setup* > *Door Setup* section of this manual. An administrator can configure how long each door can be open in that section. Within the events section, an administrator can navigate to *Settings* > *Events* > *System Events* > *Door Alert* to configure what occurs during a door alert. By default, a visual and auditory alert will play to anyone connected to the EPIC UI, including the EPIC Kiosk. Any event action available in EPIC System including but not limited to text messages, audio broadcasts, and visual notifications can be configured within the actions section of this event.

COMMON ALERTING PROTOCOL (CAP)

Common Alerting Protocol (CAP) is a standards-based mechanism for sharing alert based information between systems in an XML format. These alerts can be sent from private systems, i.e., EPIC or a digital signage system, or from government sources like the National Weather Service.

EPIC allows for both the subscription as well as publishing of CAP as well as ATOM feeds. EPIC utilizes events to take actions on inbound feeds or to publish outbound feeds.

CONFIGURE INCOMING CAP FEED

To set up an Incoming CAP event, navigate to *Settings* > *CAP* > *Incoming CAP Feeds* > *New Feed*. Give the feed a Name, and add the URL. If needed, enter a Username and Password, then select how often the feed should be refreshed. The CAP can also be set up to reprocess older items as new. Save the new CAP (*Figure 120* and *Figure 121*). The feed can be edited by clicking on the *name* of the feed.

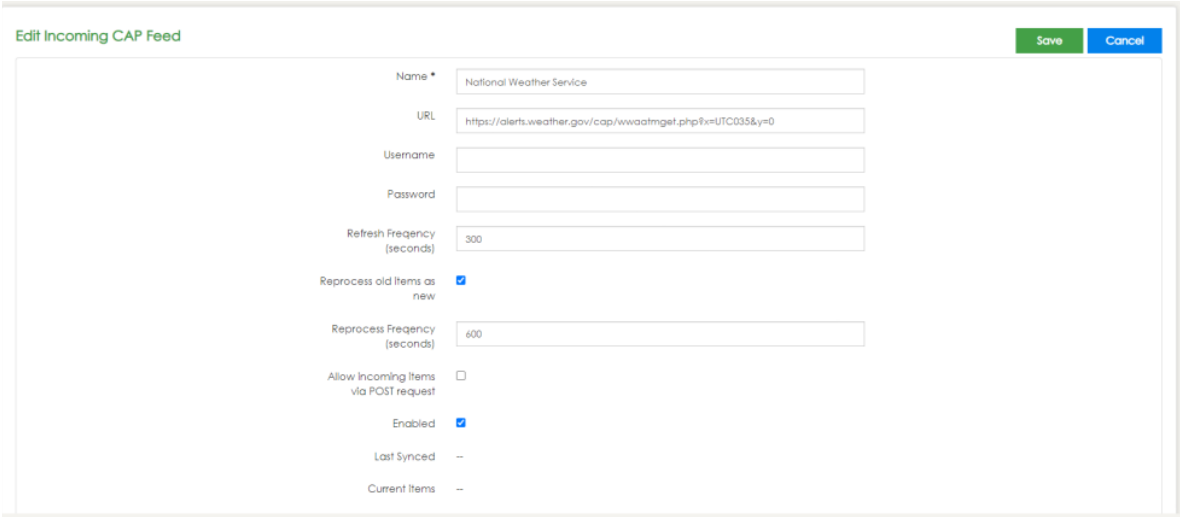


Figure 120

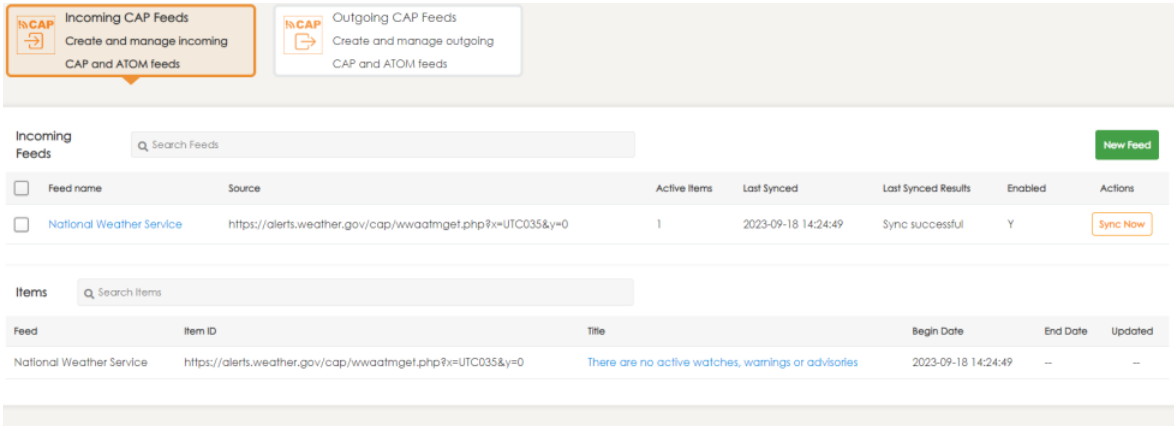


Figure 121

1. To add a new feed to an EPIC Event, navigate to *Settings* > *Events*. The CAP can either be added to an out-of-the-box event, for example, Lightning or a new event can be created.

2. Click on the *Lightning* event, select *CAP – A CAP alert comes in Condition* and add a filter (*Figure 122*).

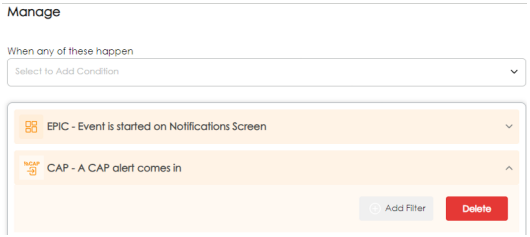


Figure 122

3. Within a feed, there are fields that can be used to narrow down the feed and will only trigger an alert or notification when a feed contains that field, click *Add Filter* to select a field.

4. Select the *Feed*, and from the drop-down menus select the *Field* and *Comparator*. In this example the Field is description, the Comparator is equal, and the Value the event will look for is Lightning (*Figure 123*).

5. Once the selections have been made, save the filter by clicking *Add Filter* (*Figure 124*).

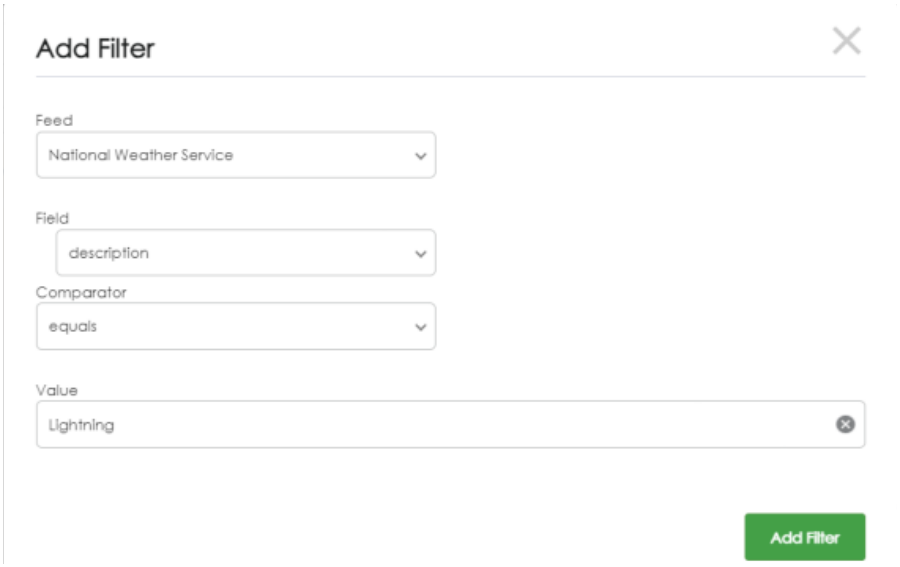


Figure 123

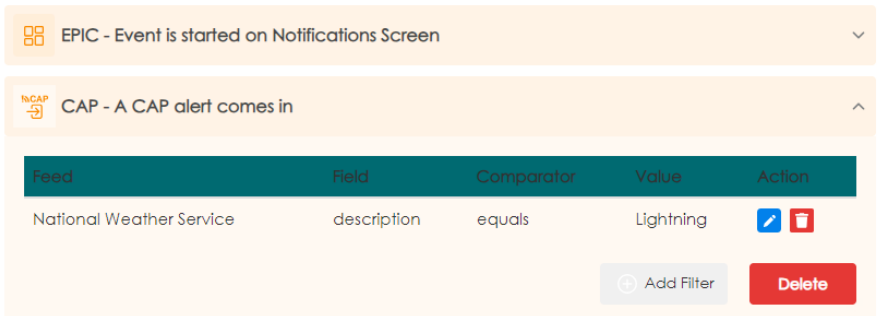


Figure 124

CONFIGURE OUTGOING CAP FEED

1. To set up an Outgoing CAP event, navigate to *Settings* > *CAP* > *Outgoing CAP Feeds* > *New Feed*.

2. Give the feed a name, include a Username and Password if required to see the feed.

3. Outgoing feeds can also automatically process old items as new if desired (*Figure 125*). Be sure to save the new Outgoing CAP feed (*Figure 126*). The feed can now be added to an EPIC Event.

4. Navigate to *Settings* > *Events*, the CAP can either be added to an out-of-the-box event, for example, Lockdown, or a new event can be created.

5. Within the Lockdown event, select *CAP – post a message to a CAP feed* Condition in the *Action* drop down menu.

6. Then select a Title and Summary for the feed, how long the feed will be valid, as well as any Attributes or Values (see *Figure 127* on the next page). Be sure to save the event.

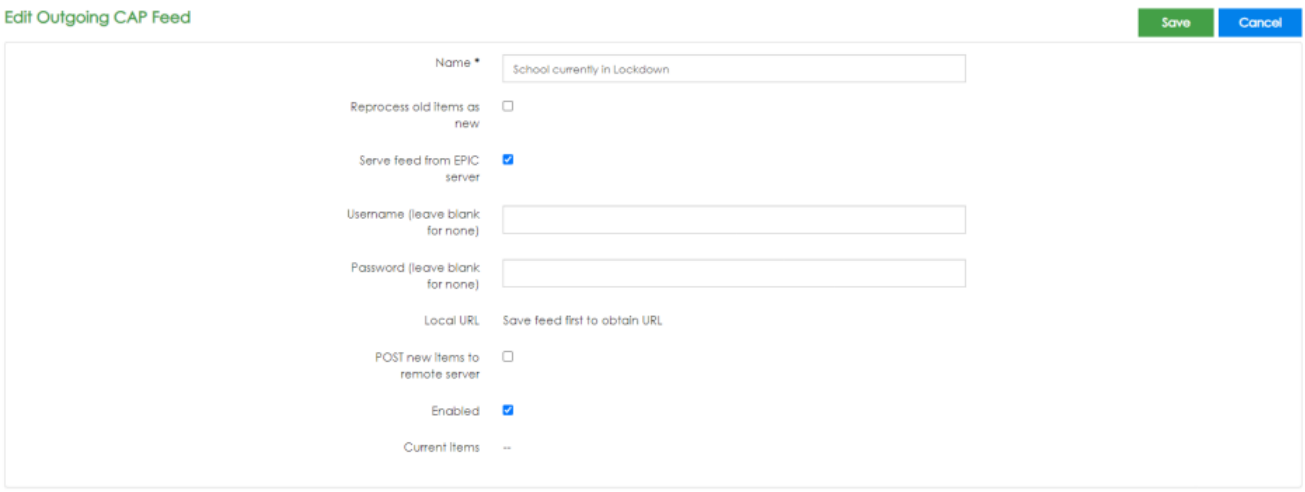


Figure 125

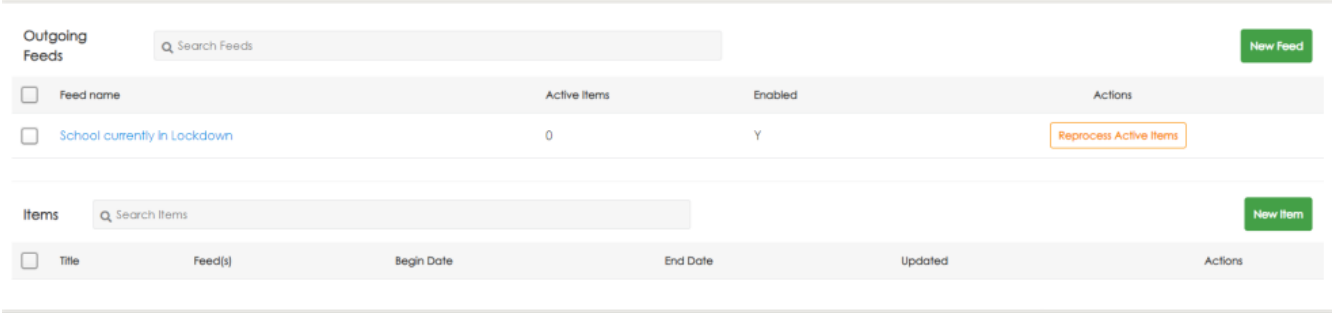


Figure 126

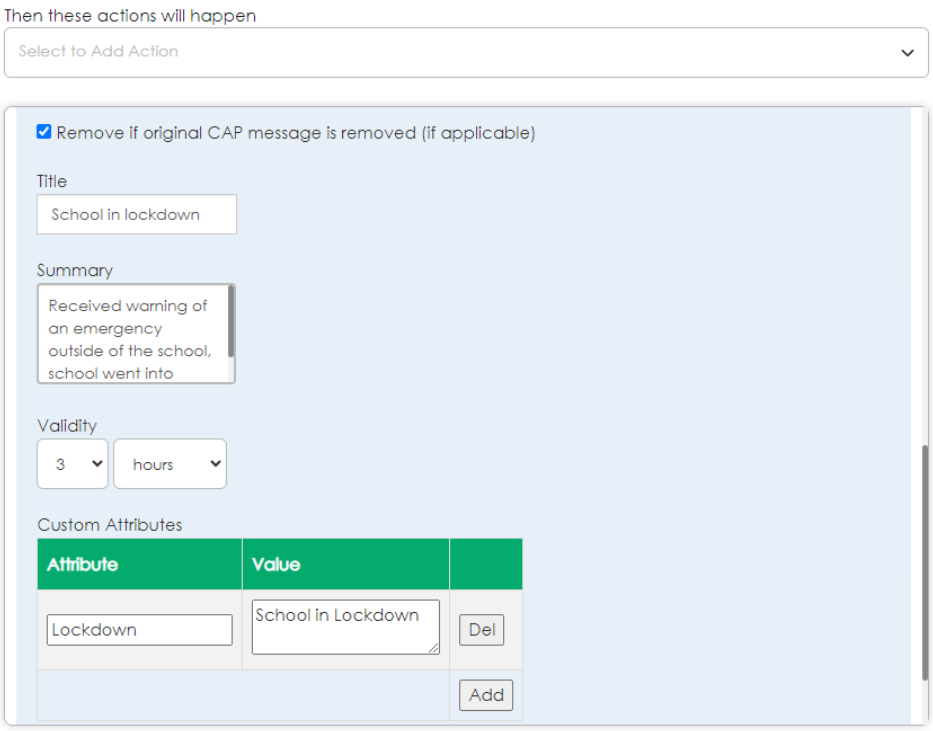


Figure 127

THIRD PARTY DEVICE ALERTS

The EPIC System allows third-party devices to integrate alert data into EPIC via an API. The API allows devices from third parties to activate an alert on the EPIC Map and execute the other actions from EPIC. This feature is commonly requested for third party sensors and systems using vape detection, weapons detection, and more.

NOTE

Each EPIC System controls an individual school and is typically behind a firewall and NAT.

DEVICE SETUP

1. Administrators must add the devices into EPIC System as a Third Party Device by navigating to *Settings* > *Add Device*. Select *Third Party Device* when adding the device, provide a name, IP and MAC address of the device.

    a. The IP will be used to monitor the device. EPIC will ping the device regularly as a basic status check. EPIC also uses the IP to validate that the device is allowed to send alerts, if the IP doesn't match, it will not send an alert.

2. Once device is added, navigate to *Settings* > *Map Setup* and add devices to the map by adding the devices to rooms on the map.

    b. When an alert is received the room on the map will highlight with an icon and the room name will be shown in the EPIC Alert panel to identity the location of the alert.

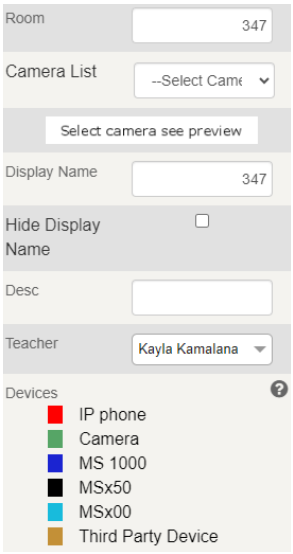


Figure 128

Alert third-party cameras of devices can easily be identified on the map, as a beige colored icon (*Figure 128*). Third-party cameras will show as a camera icon.

UNIQUE EVENT SETUP

Out of the box, the EPIC System has a standard event for all third-party devices which will show an alert on the map and users can add additional actions. However, third-party devices can also trigger unique EPIC System events so that the event actions can be customized depending on the type of alert. If there are unique actions that should be taken depending on the type of alert by the third-party devices, then setup a new event for that type of alert. For example: different actions might be desired for Vape or Gunshot alerts even though both could start from the same detection device.

1. To do this, create a new event in EPIC and ensure that the API condition is added to the event.

2. Add the unique actions for the device.

3. In the third-party device, ensure that the event name parameter matches the event name added to the EPIC event. Optionally, use the title parameter to overwrite the title on the EPIC map alert if different than the event name.

Here it shows an event for vape detection, a map alert will appear at that location. Click *Escalate* to send a text message (*Figure 129*).

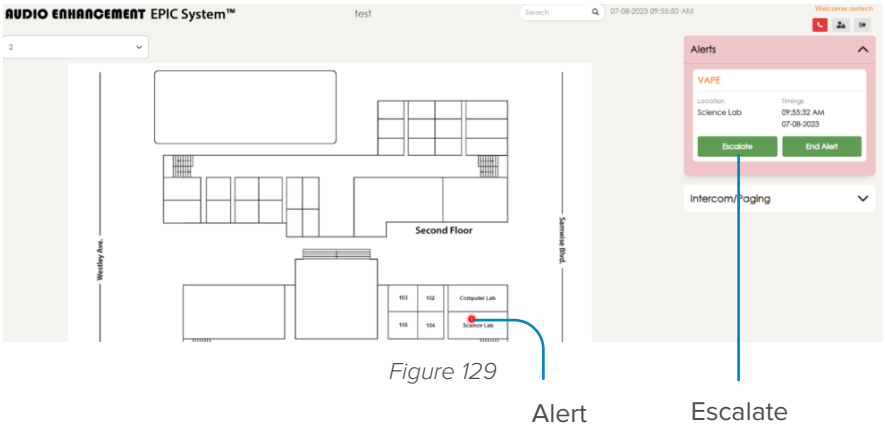


Figure 129

Audio Enhancement can provide API samples and a testing environment upon request.

A successful alert from a third-party device will look like this (*Figure 130*).

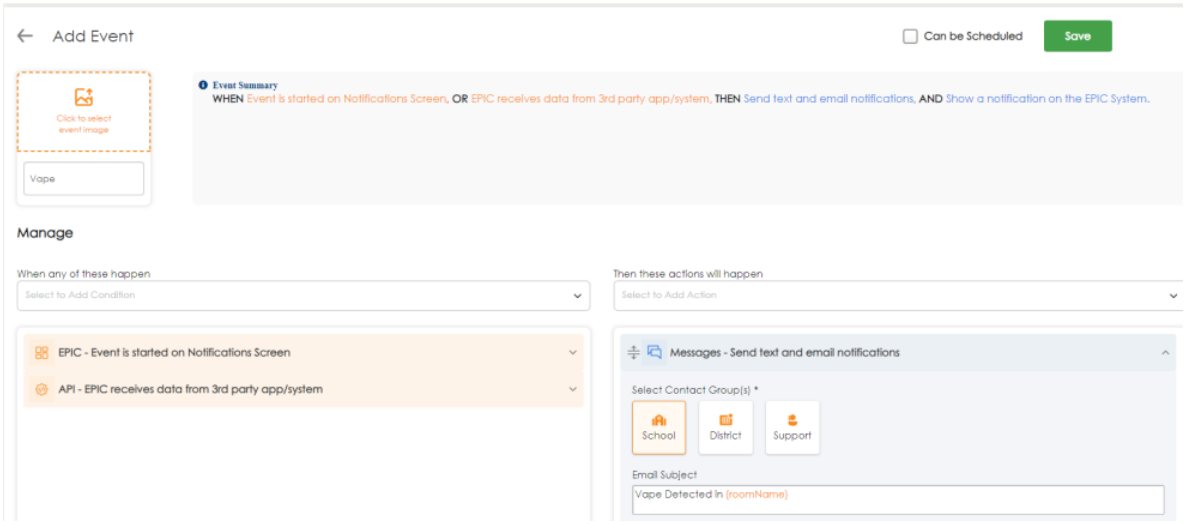


Figure 130

ANALOG INTEGRATION WITH THE EVENT ENGINE

There are endless possibilities with the use of Inputs and Outputs within the Event engine that allows for the use of other third-party devices. Examples of other third-party devices are automatic window shades to close when an alert has been triggered, integration with access control and fire alarm building systems, or additional real-time door sensor information.

Input

When using an Input, a user can initiate a notification or alert when the Input is closed, for example a physical button can be wired to an Audio Enhancement device and the Input port will close and trigger the Lockdown event, or a weather detection system can activate and Input will play an audible message to anyone outside to take shelter.

1. To assign this behavior to a Notification or Alert event, navigate to *Settings* > *Events* and select either a new *Event* or an *out of the box Notification* to edit.

2. Inside the Event editor, under Conditions select *Devices – A device detects a change*, click *Add Device*.

3. Select the *Device* and the *Input* connected to the third-party system, then *click Add Device*. When a change is then detected from the third-party device, the notification or alert will be initiated (*Figure 131*).

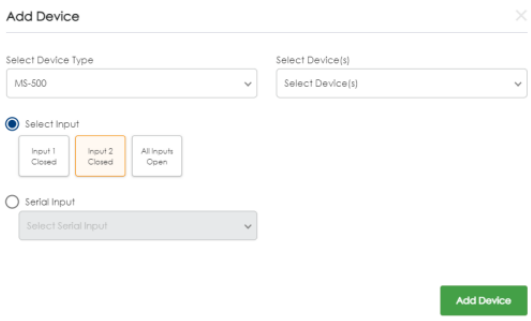


Figure 131

Output

When using Outputs, users can have certain devices activate after a notification or alert has been initiated. For a theoretical example, if there is an event in the school and the Lockdown has been initiated, the Output on an Audio Enhancement device tied to a third party system can activate and an integrated system with automatic blinds could close.

1. Inside the Event editor, under the Actions section choose *Devices – Send actions/commands* to devices.

2. Select the *Action*, *Device Type*, and if the Output needs to be switched *On* or *Off*.

3. Then save the event. When the notification or alert is triggered, the Output will then activate the third-party device (*Figure 132*).

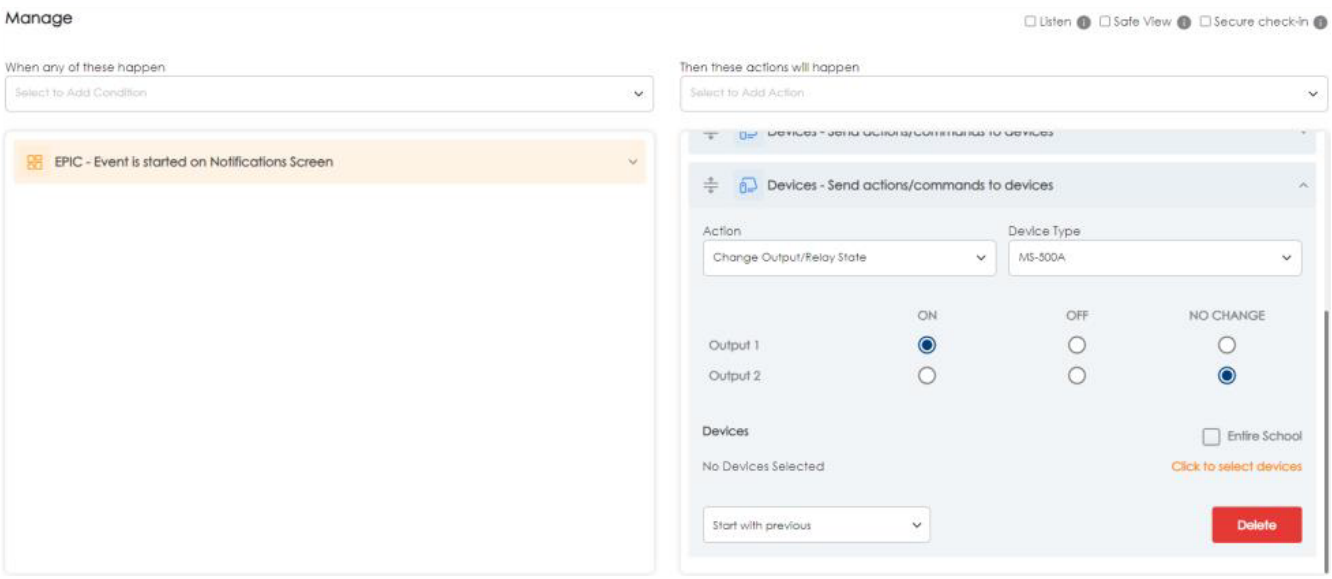


Figure 132

INFOVIEW – CLOCKS AND DIGITAL SIGNAGE

With EPIC System 2.0+ schools can utilize InfoView, a clock and digital signage module seamlessly integrated into the EPIC System. InfoView is an add-on module and does require a license if being added onto an existing system. InfoView runs on Audio Enhancement's InfoView Display hardware, an LCD display which can be mounted in any classroom, hallway, or common area. Schools can also utilize the InfoView Digital Signage Player to support larger displays they already own for signage in common areas. InfoView's powerful integration into the EPIC System provides an intelligent clock in every space which can highlight and transmit important information to staff and students at any time. InfoView's intuitive interface allows school administrators the control to customize their clocks and digital signs. In addition to customizable clocks, InfoView provides the ability for schools to add announcements, images, scrolling messages and show the time of the next bell intelligently integrated into EPIC System's bell schedule. If an emergency occurs, every InfoView endpoint in the school will immediately transform, showing critical information regarding the situation adding visual notifications to any audible notification transmitting in the school. Schools can customize the normal clocks and signs, change digital signs on a schedule and manage their emergency visual notifications. In future releases, teachers will have the ability to customize their own clocks, if configured to allow it.

INFOVIEW CONFIGURATION

Adding Devices

Adding InfoView devices follows the same pattern as all other EPIC System devices and their settings are managed completely by EPIC System. When first adding a device to the network, it will immediately attempt to find EPIC System if the device is on the same network. The device can be added from the devices screen in this case. If the devices are not on the same LAN or for any other reason automatic discovery fails, the device has an out of the box setup mode. It will display a setup screen and users can use an input device to manually configure network settings if needed and then can manually point the device to EPIC System's address. Whether automatically discovered or manually added on this setup screen, once the screen shows the "Your device is connected!" message, the device is ready to be added. Go to *EPIC System Settings* > *Devices* and find and add the device using the Unknown Devices screen. Use the unique Device ID or MAC address displayed on the setup screen to find the right device (see *Figure 133* on the next page).

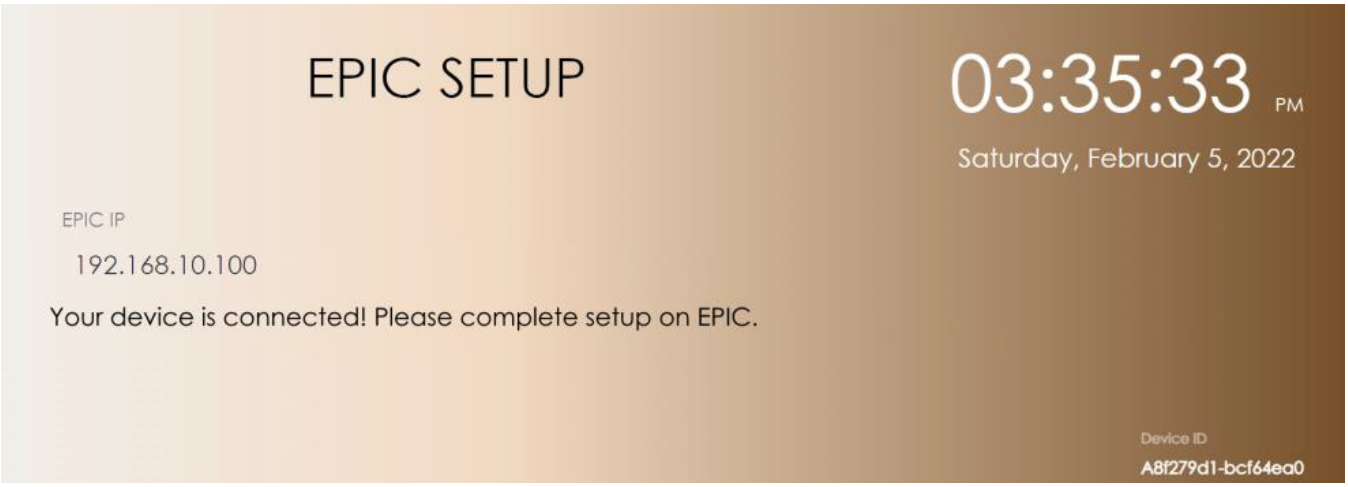


Figure 133

When adding the devices to EPIC System, there is an option for Clock or Digital Signage. In most cases, digital signage should only be used for larger, commons area digital signage displays. Selecting *Digital Signage* will allow for image carousels and scrolling text messages as well as a schedule to change the content on the digital signs. Digital Signage requires a separate license on a recurring annual basis. Most classrooms and hallways using the InfoView Display hardware should be added as *Clock*. Devices added as a Clock should be added into the correct room/area they are physically located in the EPIC Map Setup. This will ensure that it is intelligently aware of the correct bell schedule, teacher assignment and notification actions based on the room and zone that device is in.

Once connected, InfoView devices remember EPIC System's address and will always remain connected. This allows for support of DHCP network addresses as EPIC System will remain connected even as devices change network addresses.

To save power, InfoView devices can follow a sleep schedule where they will display a basic, low powered clock. Admins can edit this schedule as desired by clicking the *pencil* icon for that device, or using the Configure menu to change it for all devices (*Figure 134*).

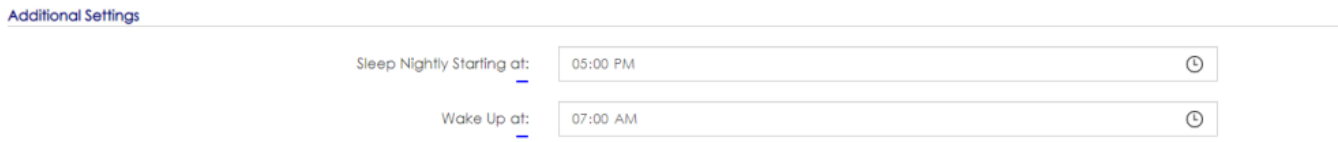


Figure 134

Manage Sign Library

Once devices are added, navigate to *Settings* > *Clock & Signage*. The landing page will be the Signs menu. This is a library where users can manage all the available signs that can be assigned to a physical device. There are tabs to manage Clocks and Signs which can be assigned to devices marked as clocks, Digital Signs which can be assigned to devices marked as digital signs, and Emergency Signs which can display on every endpoint when added to a Notification event. Users can edit the existing templates or add as many new signs as desired. The most recently updated signs will appear at the top of the list. If a user edits and saves a sign which is already actively displayed on devices, the devices will immediately be updated with the new sign. Hover on top of a tile to edit or delete an existing sign.

CREATE A NEW SIGN

1. Click *New Sign* to add a sign (*Figure 135*).

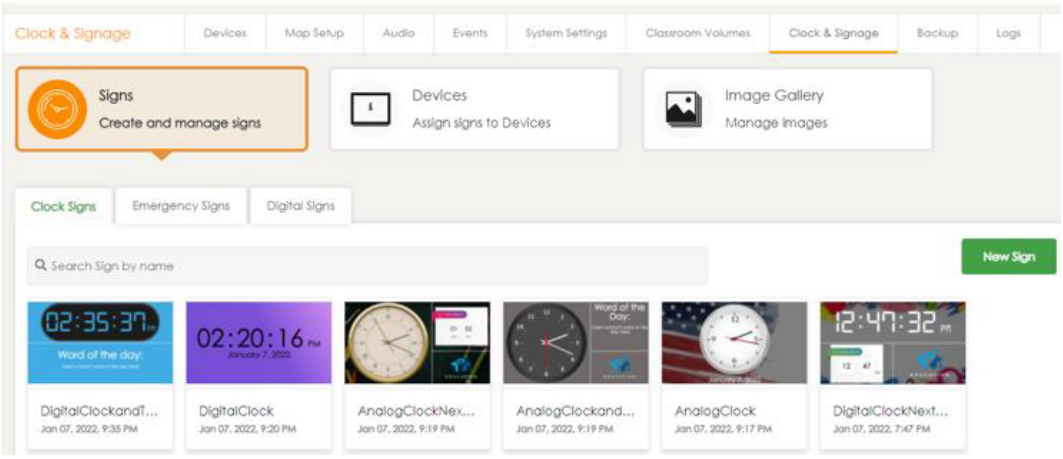


Figure 135

2. Pick a layout (*Figure 136*). The signs provide sections where users can add different widgets that include: Clock, Announcement, Image, Next Bell.

   a. The layout of a specific sign cannot be changed once selected. For Clocks, consider that some layouts are better suited for digital clocks (wide format), and some are better for analog clocks (square format).

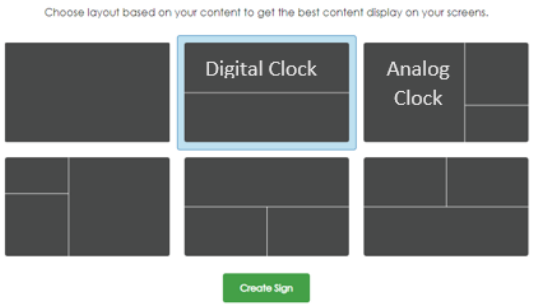


Figure 136

3. After selecting the layout, the sign editor will appear on the right side (*Figure 137* on the next page). All editing of any section will be done in this pane. Start by giving the sign a name, it recommended that users pick something easy to search and identify later.

4. After naming the sign users can pick the background. It can be a static single color background, or click *Use a theme* to use one of the built-in image backgrounds.

5. When finished with the Sign Settings, users can click *+ Insert* on any of the sections to add the content to the signs.

   a. Users can navigate to the Sign Settings to rename the sign or change the background at any time by clicking the *Setting Gear* near the sign name, which is located at the top left of the Sign Editor.

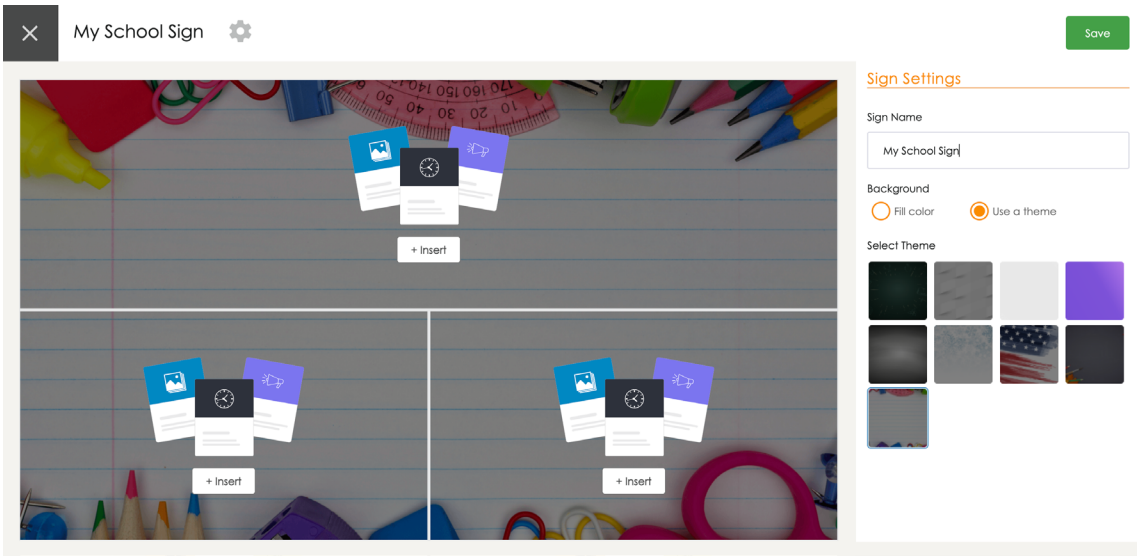


Figure 137

6. After clicking *+ Insert*, users can start adding content to the sign. A selection will appear asking users which widget will go in that section of the sign.

7. Select the appropriate widget, it can be deleted and changed at any time as a user is designing their sign (*Figure 138*).

a. Each widget has unique properties that users can edit to best fit their school's needs. Images can be uploaded, font faces and colors can be changed, and more options to easily create the best design for that purpose. The example on the next page shows adding a digital clock (see *Figure 139* on the next page).

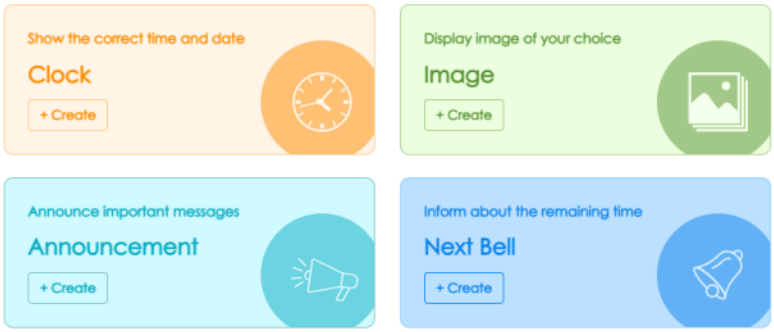


Figure 138

NOTE

Upon selecting a widget, all properties will be managed in the right panel of the sign editor. The properties for this widget allow for simple, straightforward customization. The user can select from the various options to choose the desired clock type, face, time format (with/without seconds), whether the date should be displayed and in what format and the color of the clock text on the sign.

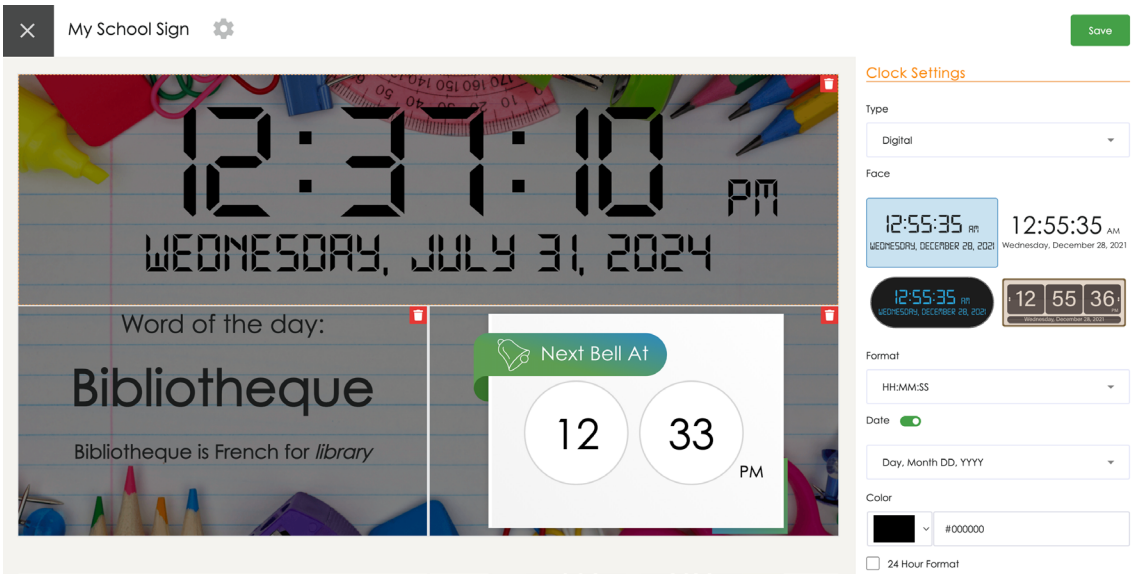


Figure 139

8. Repeat this step for each section until the sign is ready. The last section edited/added will be the current selection and those properties will stay in the edit panel on the right.

a. To modify a section's properties, simply select the section you wish to change and the edit panel will display the properties once more.

b. To completely change a section, including changing the widget type for that section, click the *delete* icon to clear that section content and then click *+ Insert* to start over.

9. Click *Save* to finalize the design and save the sign.

a. If any edits have been made and not yet saved, users will be prompted that there are unsaved changes if they try to navigate away from the sign or click the *X*.

b. They can click *Leave anyway* to discard the changes, click the *X* in the popup to continue editing or save the sign.

Assign to Devices

When a user wants to change what is displayed on the actual physical devices, EPIC System makes it easy.

1. Click the *Devices* menu within the Clock & Signage section. A list of all devices will display, separated by type onto two tabs: Clock and Digital Signage.

2. Users will see all of the devices in the system and what sign is currently assigned to each device. If unsure what is assigned based on the sign name, click *Preview* to see a snapshot of the sign assigned to that device. Users can search to filter specific devices to easily find and change any single sign.

3. Click *Assign* next to any single device to choose a new sign for that device.

4. To change the sign, select one, multiple, or all devices and click the *Assign* button (*Figure. 140)*.

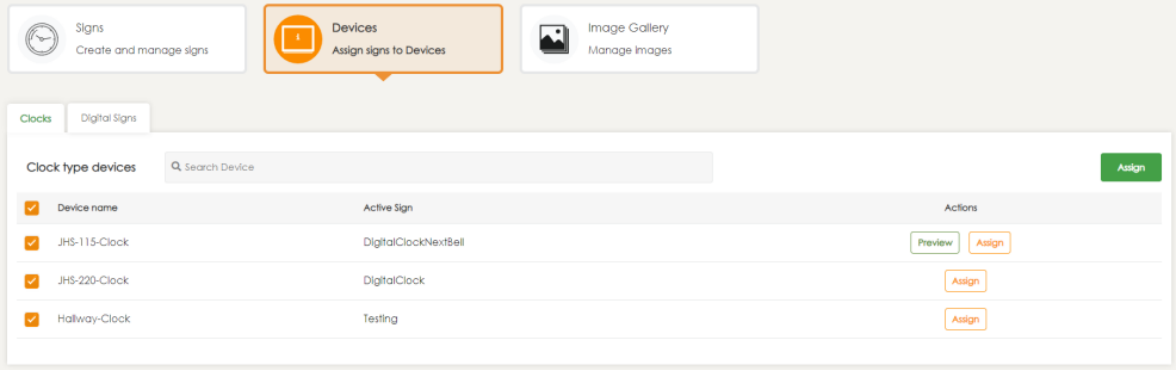


Figure 140

5. The available library of signs will appear, search for the desired sign, click the *thumbnail* to preview a full-size image of the sign (*Figure 141*). Click *Assign* on the sign and approve the prompt and the selected sign will be immediately pushed to all devices.

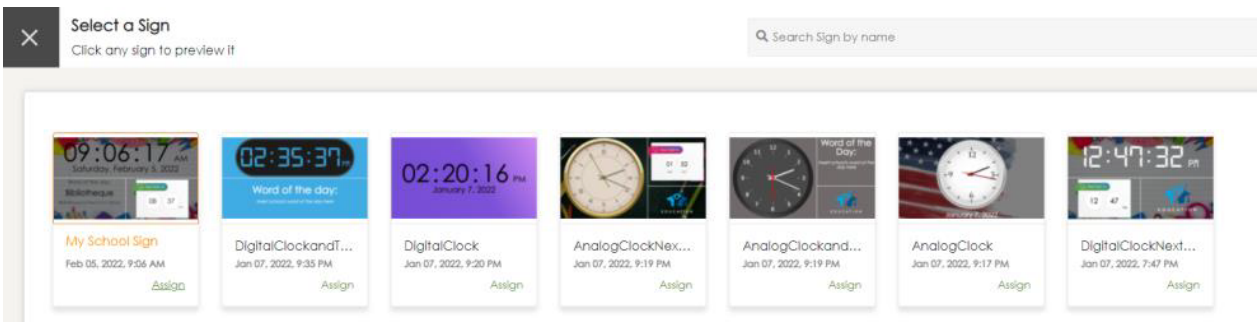


Figure 141

Image Gallery

Images can be directly uploaded while creating or editing signs. Users can also add new images or manage and delete images from the gallery.

1. Click *Upload* to add new images.

2. Select one or multiple images by clicking the *checkbox*.

3. Press *Delete* to delete them.

The gallery will show if any images are in use, as they cannot be deleted from the system if being used by any signs. Click on the *thumbnail* to view a full-size preview, it will also show which signs that image is assigned to (*Figure 142*).

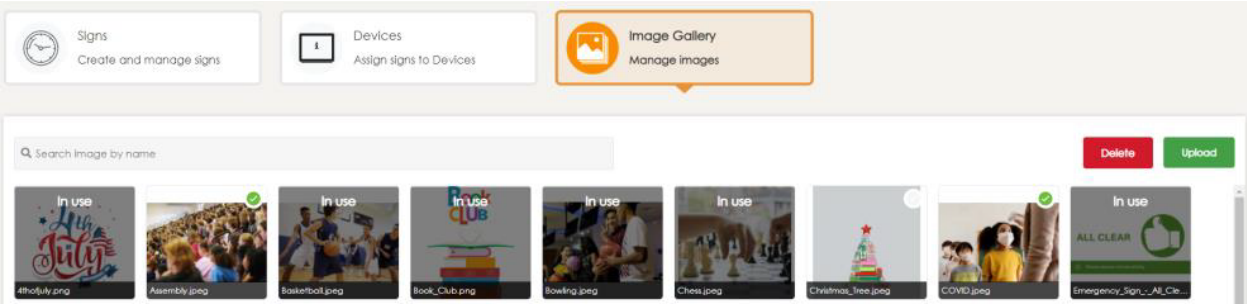


Figure 142

Digital Sign Schedule

Schools can use a schedule to easily change the digital signs around the school on a schedule. Navigate to *Schedule* and in the dropdown, select *Digital Signage*. Follow the same principles of the bell schedule to assign a schedule to the digital signs in the school. Create Day Types and add events throughout the day to change the sign to be displayed on selected devices at specific times of the day (*Figure 143*).

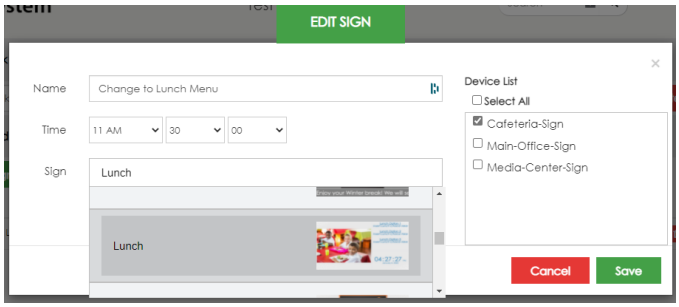


Figure 143

Assign those Day Types to the specific days on the calendar and that signage schedule will run on those days (*Figure 144*). Only devices of type Digital Signs can be used in this schedule.

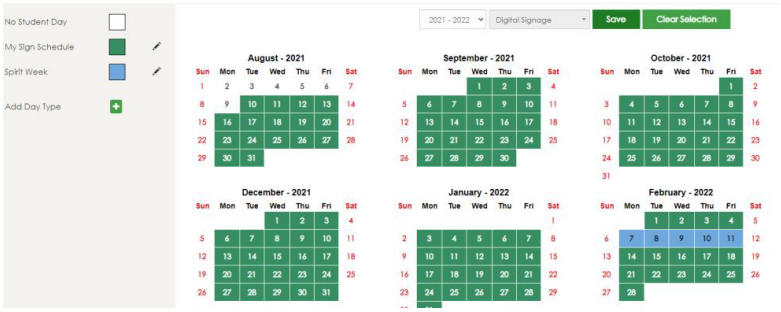


Figure 144

INFOVIEW FOR EMERGENCY NOTIFICATIONS

InfoView enables all devices in the school to instantly switch to display visual notifications during an emergency. Specific emergency notification signs can be created and customized to display vital information about the situation. Use the Clock & Signage section and select the *Emergency Signs* tab to view and add or customize the emergency signs which can be utilized during these notifications. Users can upload any customized image or create a customized announcement text. The emergency signs will be linked to a notification event.

1. To assign emergency signs to the event, navigate to *Settings* > *Events* and select the event to customize. The example below shows the Lockdown event (*Figure 145*).

2. Within the event, edit the existing Visual Messaging event or scroll down to add a new event of *Device Type AE-Clock* > *Event Action Visual Messaging* and then select the sign to be associated with that event.

3. Choose the devices that will receive that sign when this notification event is triggered. Users can add multiple Visual Messaging actions to the same event to different sets of devices, allowing specific signs to show different content most appropriate for specific areas of the school.

4. Save the *event*.

When this event is activated, all selected devices will show the selected emergency sign for the duration of the event. When the event is over users can press the *Stop* or *All Clear* to revert to the sign that was displayed prior to the notification event.

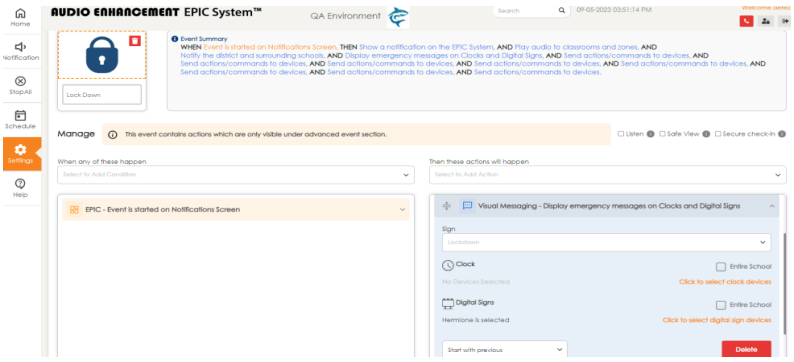


Figure 145

INFOVIEW - DISPLAY TAKEOVER

The InfoView Player can also be used as a display takeover device in a classroom. In this use case, the device is not connected to the network at all. Instead, it is plugged into the Optimum Amplifier which delivers both power and control signals to the InfoView Player. It is completely dependent on the Optimum Amplifier. The unit is installed and connected to the normal teaching display in the classroom. During an emergency, the classroom display can be taken over and show the emergency messaging for the appropriate alert. The device used CEC protocol via the HDMI cable and can tell compatible displays to turn on or switch to the InfoView Player during the emergency. In case CEC is not supported on any given display, the Optimum Amplifier can be used to transmit RS232 to control the display instead. This requires an RS232 line run from the optimum to the display.

1. To assign to an event, navigate to *Settings* > *Events*, and select either a new *Event* or an *out of the box Notification* to edit. The example below is the Fire event.

2. Inside the Event editor, under the Actions section choose *Devices – Send actions/commands to devices* and select the *Action*, *Device Type*, and *Command Type* (*Figure 146*).

3. Then enter the command for the event, as well as which devices will display the emergency messaging. Multiple commands can be set up for each event.

When this event is initiated, all selected devices, no matter the current contact displayed on the screen, will be updated to display the emergency messaging.

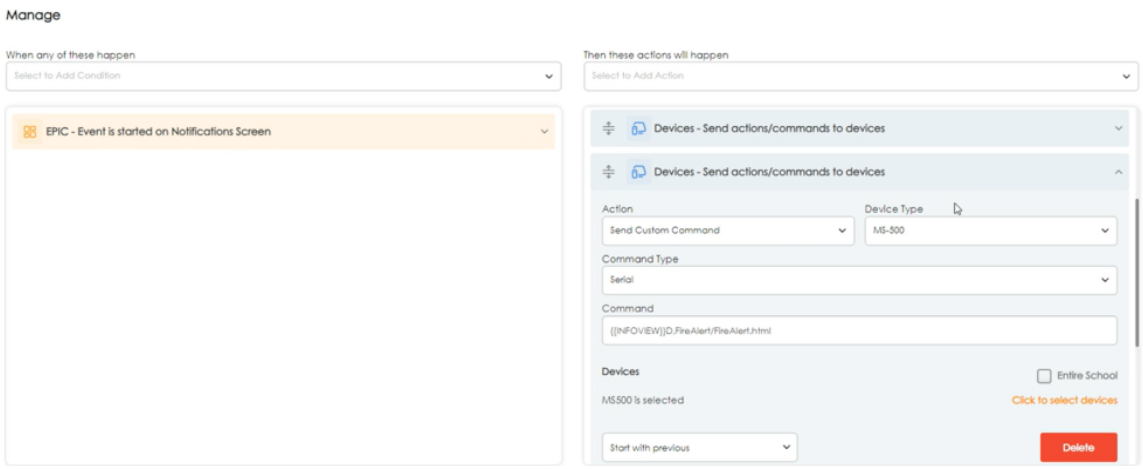


Figure 146

INFOVIEW – TEACHER CONTROL OF INFOVIEW DISPLAYS

Teachers can now be granted access to control their specific classroom InfoView Displays. They can customize their layout and content to fit their classroom needs, making the InfoView Display a tool the teacher can leverage every day. There is also a countdown timer application which teachers can use on demand all with a few clicks from the EPIC System.

In order to grant a teacher access, follow the same steps to give them access to VIEWpath cameras or to their room controls. Add the teacher users to EPIC (by local users or LDAP), then assign teachers to the rooms they should have access to control. By default, teachers have the permissions to edit their displays. They can only see and edit the displays for the rooms they have access to.

Administrators can turn this access off by not assigning teachers to rooms or by unchecking the *Teacher Clock* permission for the teacher role in EPIC System Roles and Permissions. Administrators may desire to grant access to this feature but want to ensure that a clock is always used in the teacher's custom display. Admins can use the Clock Mandatory permission to accomplish this.

In the event of an emergency the emergency notification will always override any display setup by the teacher.

INFOVIEW DESKTOP ANNOUNCER

InfoView Desktop Announcer is an application compatible with both Mac and Windows operating systems. It is designed to enhance safety communications, and allows computers to display a variety of emergency alerts, such as Lockdown and Fire, received from the EPIC System.

Just like InfoView Displays, when the school initiates an emergency event, computer screens will display the same messaging on teacher computers. This messaging will continue to appear until the school sends an All Clear event, then the computers will return to the previous screen. Additionally, the application supports sending one-time notification messages directly to users via OS-native notifications. This functionality ensures that all users receive important updates instantly, maintaining communication.

Configuration

Upon installation, the application configures itself to launch at login. Users can check the application's status via the taskbar icon (*Figure 147*).

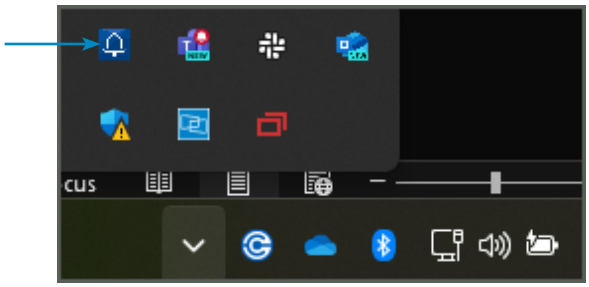


Figure 147

Right-clicking on the icon displays the connection status to the EPIC server (Connected/Disconnected). Additionally, users can access the application's settings by clicking on the *Settings* button. Ongoing alerts prompt the application to re-open. Settings include options for EPIC Address and Window Timeout. Users can test the connection to the EPIC server from the settings window and save preferred settings with the Save Connection button. Saving settings is contingent on successful connection to the EPIC server (*Figure 148*).

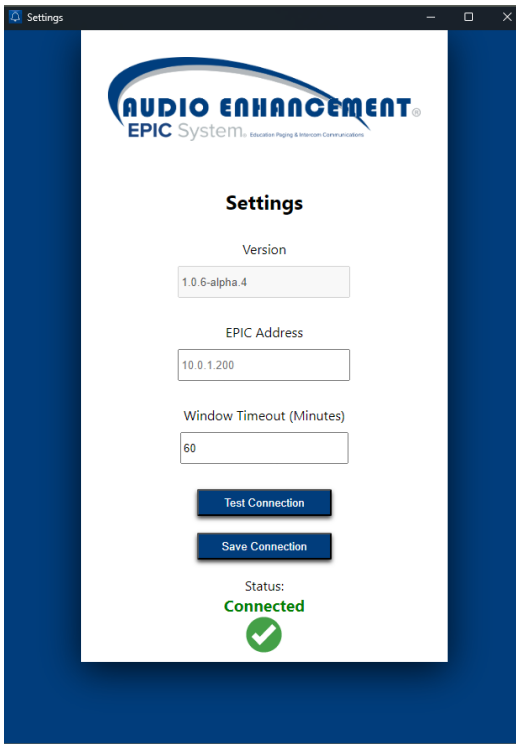


Figure 148

Configure EPIC

No additional setup is required for InfoView Desktop Announcer within the EPIC System. Users only need to include the appropriate action in pre-defined events within the EPIC System.

Logs

Specific events trigger log messages that are displayed in the EPIC logs tab. These events include server start, client connection, client registration, client disconnection, emergency sign sending, and notifications.

Troubleshooting

In case signs are not playing, users should confirm the correct setup of the application with the EPIC Server and test connectivity via the Settings menu. Additionally, confirm the EPIC Server's accessibility, ensure port 8010 is unrestricted, and check district/computer firewall settings. It's important to note that the connection is managed by the SocketIO library, which starts with HTTP and upgrades to Websockets.

ITC – INTERACTIVE TOUCH CONTROLLER

With the InfoView devices, schools can utilize the ITC, a fully customizable touch screen wall panel. The Interactive Touch Controller is a programmable 3.5” multipurpose wall panel with an interactive display for use with the EPIC System 2.0+. The ITC mounts into any standard 2-gang wall box, or re-work box and connects to any GL-100 or MS-X device via a CAT6 cable. The digital interface gives users the flexibility to customize the buttons in the classroom to be perfectly suited for any compatible devices in the room. Users can then use the one-touch buttons to power on or off any connected device.

As with a normal wall plate, the ITC had integrated ambient microphones that allow talkback for intercom and paging. For the original ITC’s, this is setup by default, with the newer ITC2, some changes to the settings will need to take place for the talk back to work. For WPA talkback set the level to -79, for the Remote Port talkback set the level to 0.

ITC PROGRAMMING

Adding Devices

To configure and program an ITC deployed in the school, EPIC needs be made aware that an ITC is connected to an MS-X Device. Under the device settings for each MS-X device there is a selection to enable or disable the ITC. This must be enabled for each room that the ITC is installed. Navigate to *Settings* > *Devices* > click the *pencil* icon next to the device and set *Yes* on ITC Enabled (*Figure 149*). Click *Save* to save device settings.

Figure 149

Designing Layouts

A layout must be created to program the ITC. Navigate to *Settings* , then click the *ITC* in the upper navigation bar. To create a new layout, click *New Layout*.

1. To edit an existing layout, simply click that layout. A layout can also be searched by name (*Figure 150*).

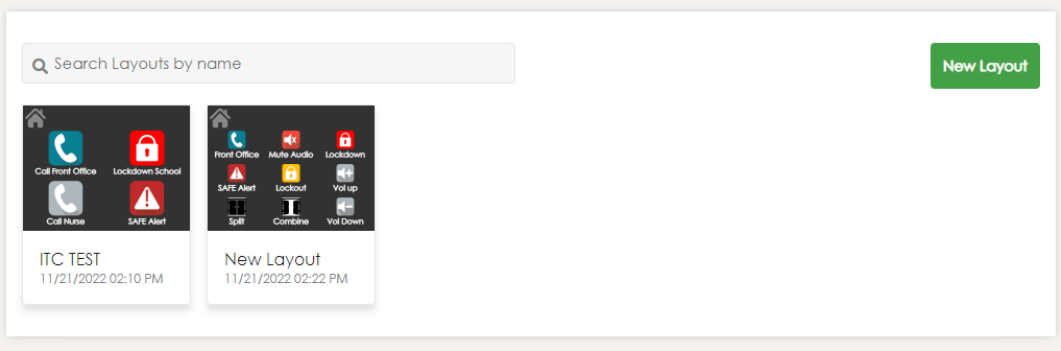


Figure 150

2. The steps taken for editing a layout or adding a page to a layout are similar to creating a new one, and the following steps can be utilized for editing an existing layout.

3. On clicking *New Layout*, the page will require selection of one of the 4 templates for the first screen. A different template can be selected for each new screen added to a layout. Select a template (*Figure 151*).

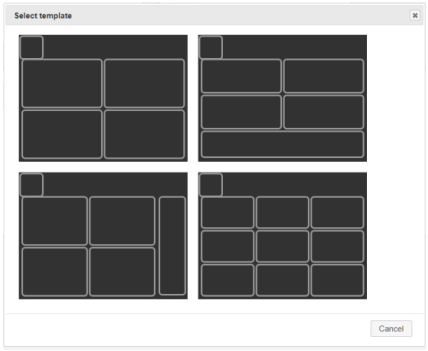


Figure 151

4. Next give the layout a unique name (*Figure 152*). The settings gear wheel next to the layout name allows for configuring for when the screen display sleeps, what it will display and if it requires a pin code on wakeup (*Figure 153*). The timeout is in seconds.

5. If required to add an additional page in the layout, click the + next to Pages, this will bring up the template selection once more (*Figure 154*).

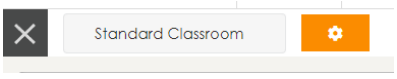


Figure 152

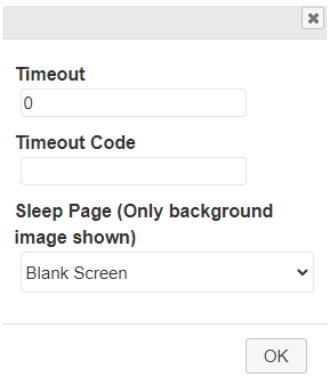


Figure 153

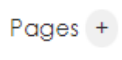


Figure 154

Each page on the layout can be named, this is helpful for organizing the different pages for example, Main Page, or AV Control Page. However it's not a viewable label on the ITC screen. The color of the background of the ITC per page in the layout. To change the color, click the *color swatch* next to Background, and use the selector to pick a new color. Another option is to add a background image to the displays as well. The default slider selects which page will be the primary page of the ITC when it boots, and where the Home Button will go to when pressed (*Figure 155*).

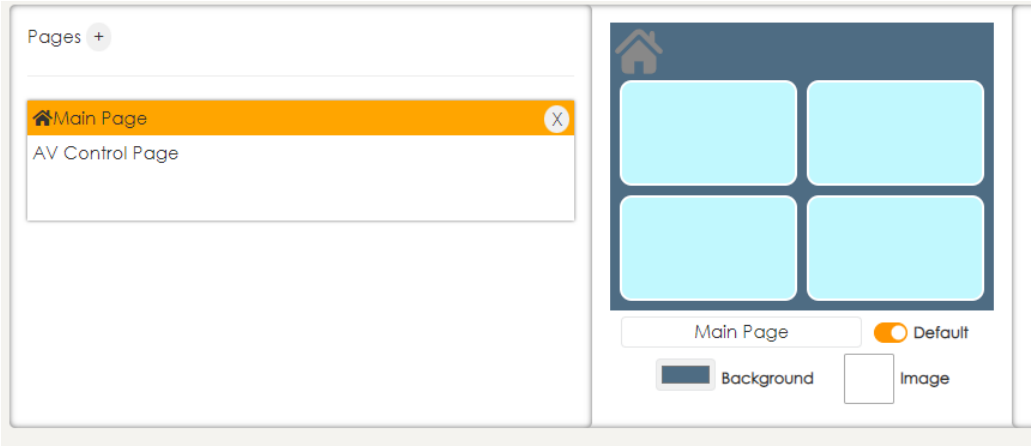


Figure 155

To program a button, simply click on the *button*, and the Button Settings pane will open on the right. Under the Button Settings, both the visual, control aspects and commands can be programmed. Each control tile can contain a color, an image, and a label. The tile can have a regular appearance and an optional pushed appearance (*Figure 156*).

The Show Icon slider will make the background transparent. A Label can be included or not, and the text color and location can be selected. Clicking the *image* will allow for the selection of an image from the library. Additional images can be uploaded and uploaded images will be proportionally scaled to fit. A button can be configured with or without an image. There are many options that exist for the output of the buttons. The first step is to define the button type:

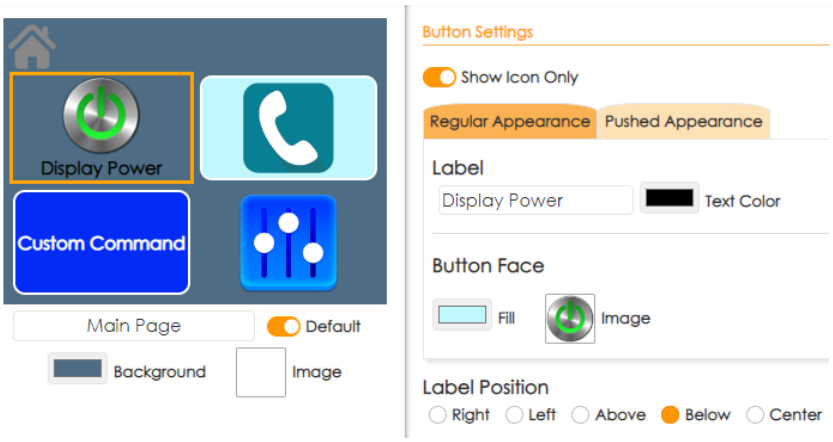


Figure 156

Standard/Standard Toggle: Is a command that is predefined in the MS-X event engine and can be called by the button (*Figure 157*).

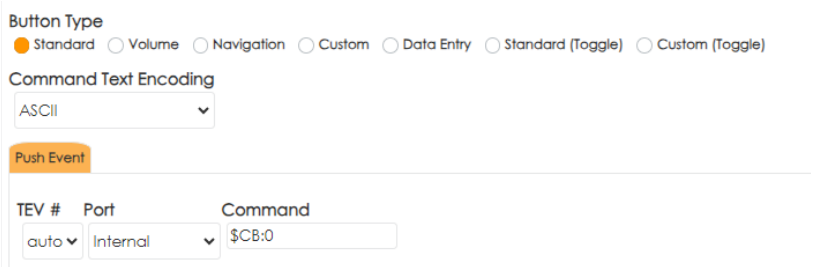


Figure 157

Volume: Allows a defined input on the MS-X device and increase or decrease the volume on press (*Figure 158*).

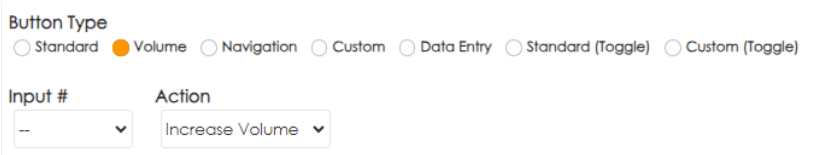


Figure 158

Navigation: Allows the programming of a button to go back to a previous page or specific page (*Figure 159*).

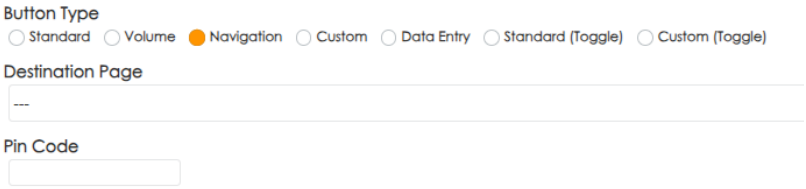


Figure 159

Data Entry/Custom/Custom Toggle: Allows for programming non-predefined direct output from the ITC button press. It also allows for dynamically assigning the button and programming the TEV command events in the MS-X device. In addition, it allows for selection on what output port the command should be sent out and the baud rate of the port (*Figure 160*).

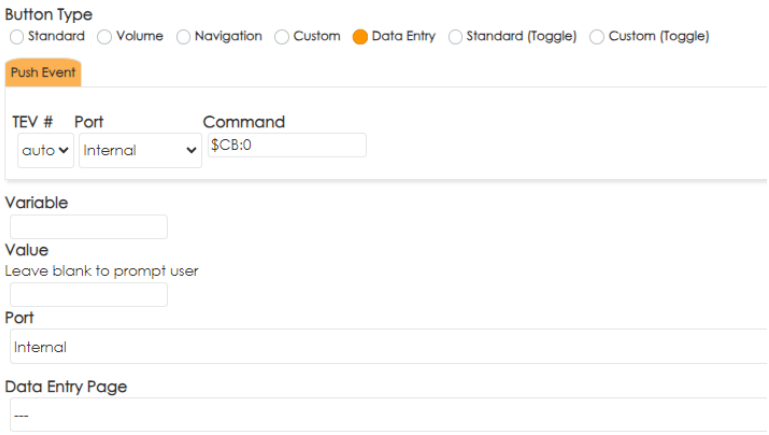


Figure 160

Once all the button action has been defined, click *Save Layout* to save the layout and return to the layouts screen. To copy an existing layout, click *Save Layout* as *New.* To delete the layout, click *Delete*.

Applying a Layout to rooms

Now that the layouts are designed, they must be assigned to the rooms.

1. Click on the *ITC Display* Button (*Figure 161*).

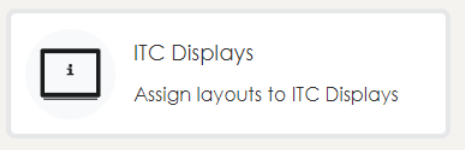


Figure 161

2. A list of ITC displays that are assigned, as well as the MS-X devices having the ITC Support Enabled, will be shown (*Figure 162*). From this list a new layout can be added to a device, the status of the ITC can be queried, and the configuration can be uploaded immediately, or on a schedule.

3. Click *Add* to assign an ITC display to a device.

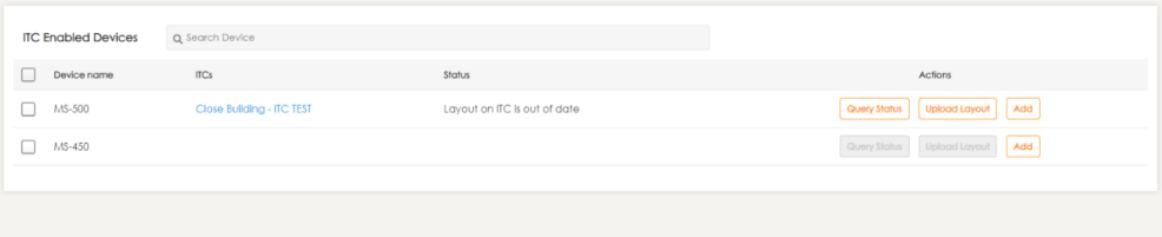


Figure 162

NOTE

You can connect two ITC displays to a single MS-X device, with each display having its own unique layout.

4. On the new page, enter a name for the ITC and select which port will be connected and which layout to be used (*Figure 163*). Be sure to click *Save*.

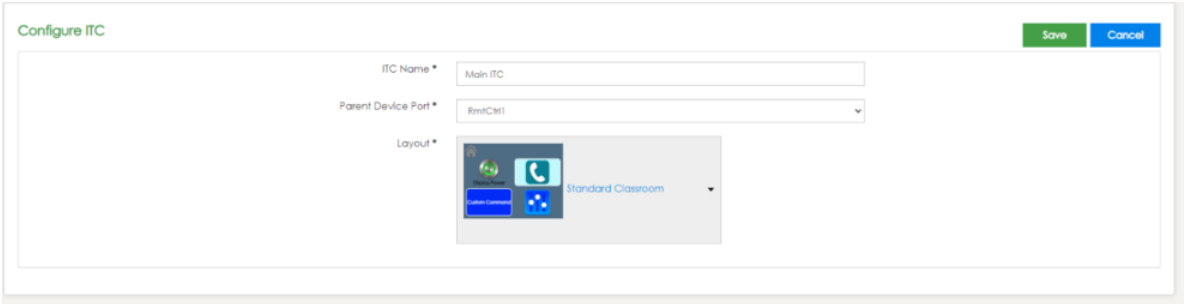


Figure 163

Uploading the layout can be done one device at a time manually, a certain number of devices, or all can be selected. When multiple devices are selected, the batch menu will open for querying the status or upload. When *Upload* is clicked on a single device, or batch,a prompt will appear select *Now* or *In the future* (*Figure 164*). When In the future is selected, the date and time can be selected, and the upload will be scheduled.

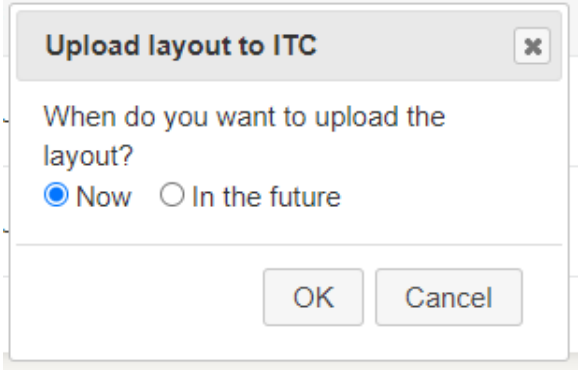


Figure 164

NOTE

While the ITC layout is being uploaded, the RS232 controls in the system, and any controls from EPIC, will be unavailable. This includes when activating any SAFE Alerts from the room.

CONFIRM ROOM (LOCKDOWN CHECK-IN)

During a Lockdown event, this feature allows teachers to mark if rooms have been confirmed and optionally notify the office the number of people in that classroom, to allow the staff to quickly identify which areas in the school are secure and know how many are safe. To enable it, navigate to the Lockdown event and check the box to enable Confirm Room Check-in.

The ITC is utilized for this process. Confirm room check-in screens are built-in but can be modified to fit a school's needs.

Navigate to Settings > ITC and click *New SAFE Layout* (*Figure 165*).

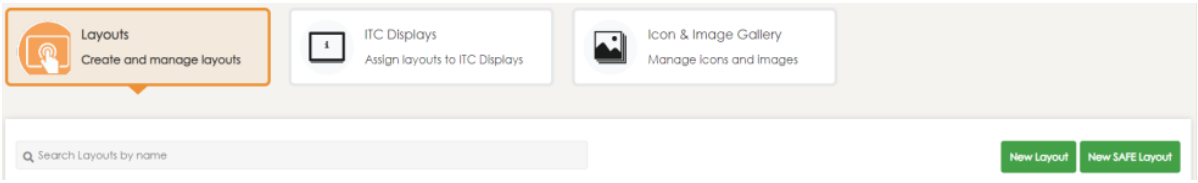


Figure 165

Just as other ITC layouts, each button can be customized (*Figure 166*).

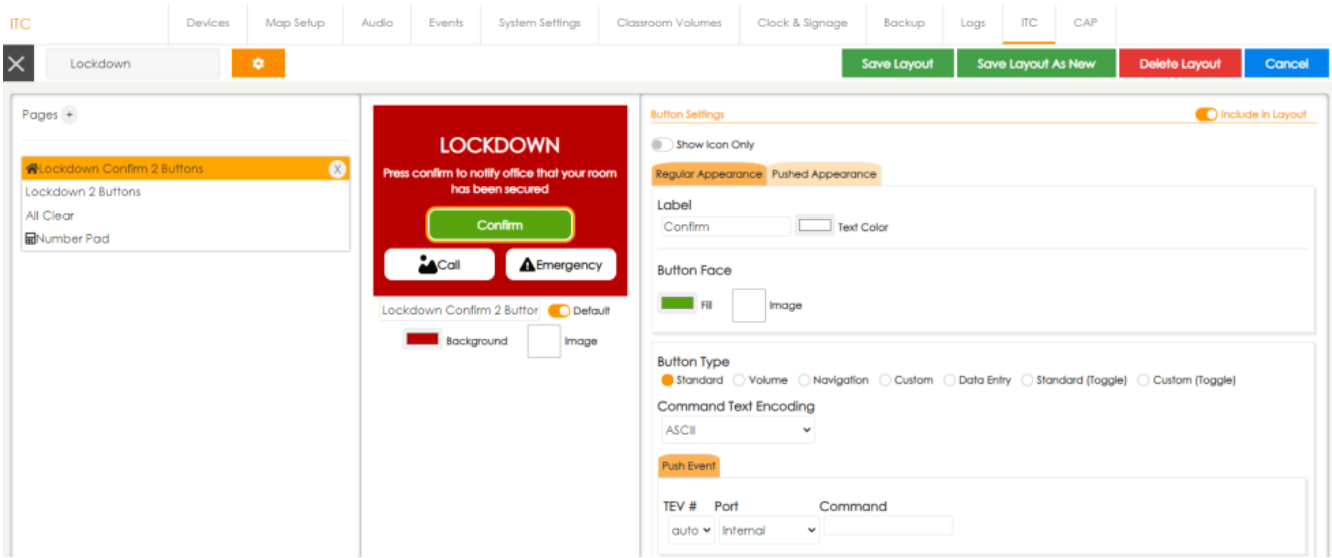


Figure 166

In the case of a Lockdown, the EPIC screen will change to show whether rooms are pending, in an alert, or have been reported secure. All ITCs within the school will display a Lockdown screen (*Figure 167*). The user will not be able to navigate away from this screen. To report the room is secure, the people in the room will click the *Confirm* button.

Figure 167

By default, the system will only ask the user to press *Confirm* and not ask for a count. The count can be enabled, instructions can be found later in this section. If the count is enabled, the user will still press *Confirm* here which will mark the room secure on the EPIC system. The user in the room will then see a number pad where the number of person(s) currently in the room can be entered (*Figure 168*).

After the user has confirmed, the ITC screen will display a Lockdown In Progress screen until the lockdown ends. There is also the option to click and report an *Emergency* or *Call* the front office (*Figure 169*).

Figure 168

Figure 169

From the kiosk, all rooms on the map will be highlighted in orange when the lockdown is initiated (*Figure 170*). The room that initiated a SAFE Alert will remain marked as red and be in the alert status. If a non-paired alert initiated the alert, the map would show the non-paired alert with circles. Any other rooms that report alerts will turn red.

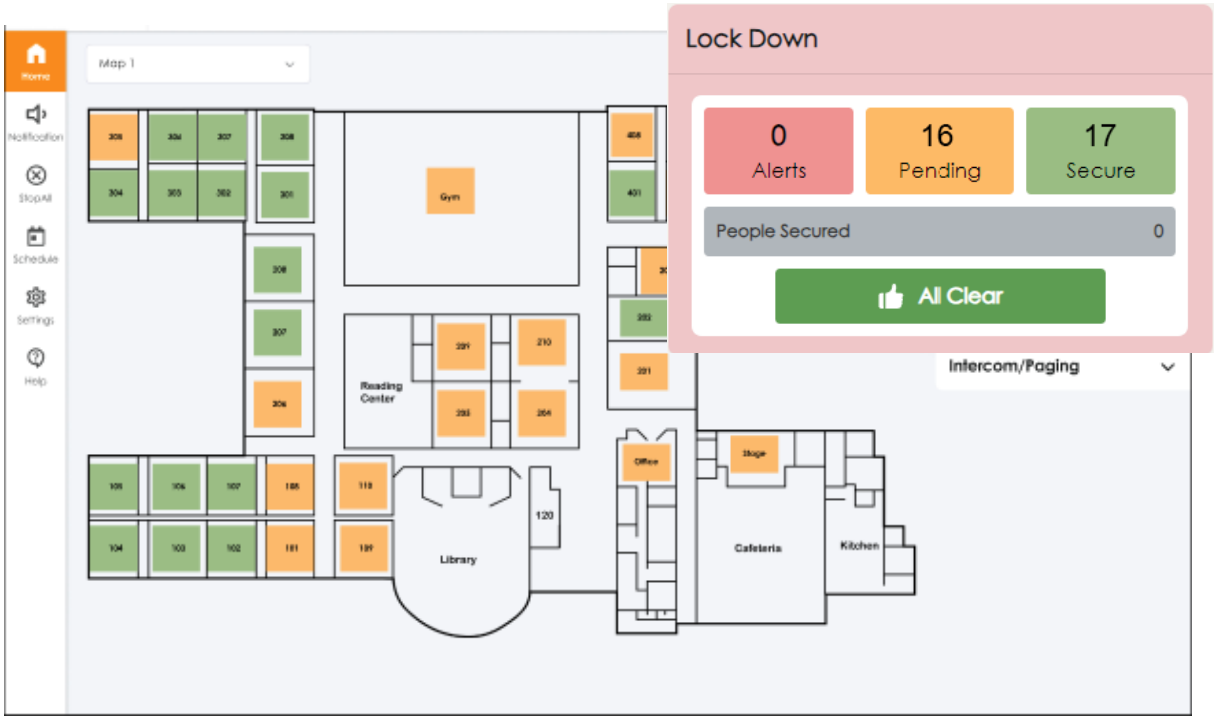


Figure 170

As each classroom secures the room, the room on the map will turn to Green. When the Lockdown event has ended and the All Clear notification has been triggered, all rooms will return to no color, and the ITC's screens will display an All Clear screen. Users can press *Home* to return the ITC to normal operation (*Figure 171*).

Figure 171

To enable the people count entry with the secure room process, the ITC SAFE layout must be modified.

1. Navigate to *ITC* > *Layouts* and edit the SAFE layout for Lockdown.

2. In the top left next to Pages, click *+* then select the number pad template.

3. Modify the number pad as desired by changing the colors and text to your specification (*Figure 172*).

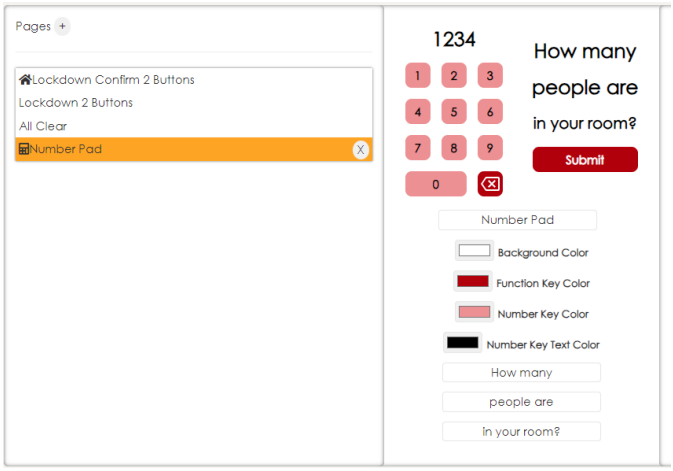


Figure 172

4. Navigate back to the *Lockdown Confirm* page builder. Then click the *Confirm* button in the layout and select *Data Entry* for the Button Type.

   a. Under Command enter *lockdownSecureWithCount:true*.

   b. Under Variable enter *lockdownCount*. Select *Number Pad* for the Data Entry Page.

5. Remember to save changes by clicking *Save Layout* and then push the layouts to all classroom units.

Now, when a lockdown event is activated, users will be prompted to enter in a person count on ITC screen after pressing *Confirm* (*Figure 173*).

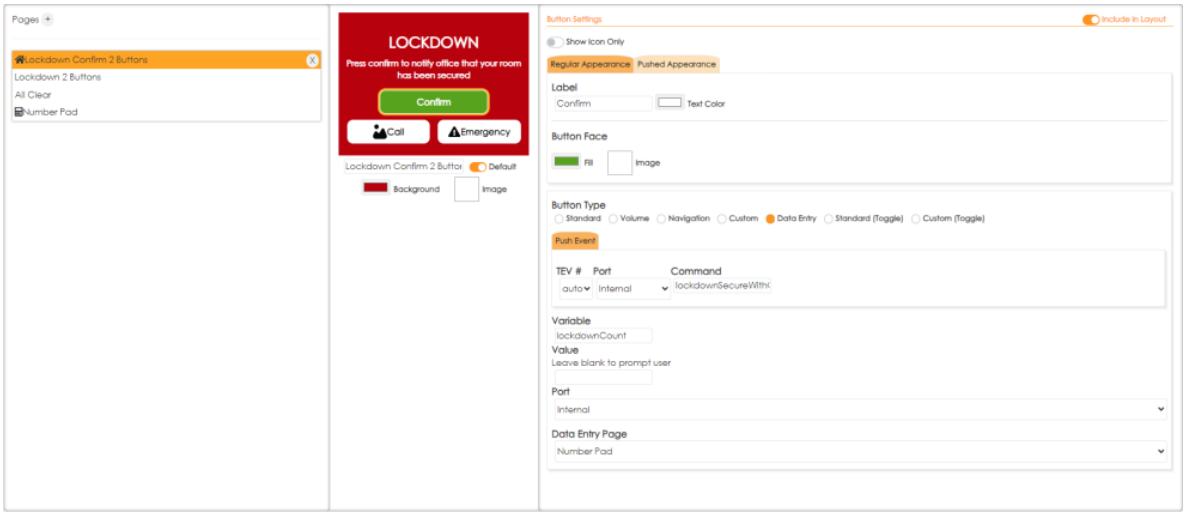


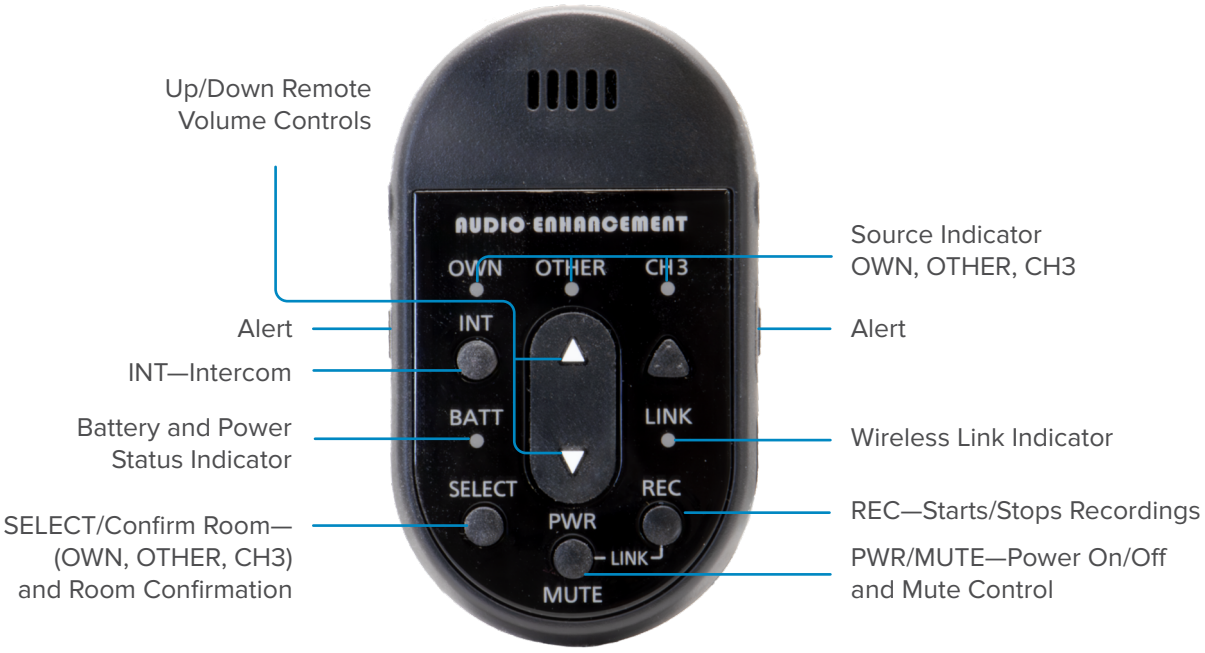
Figure 173

CONFIRM ROOM AND INTERCOM WITH TEACHER MICROPHONE

Confirm Room Button

With Audio Enhancement's new XD Teacher microphones, teachers will have the ability to not only make an intercom call directly from the microphone, but also be able to confirm the room with a click of a button on the microphone. See the above section for more information how to enable the *Confirm Room* feature. The microphones now have a new Confirm Room button designed to mark the room as secure (*Figure 174*).

With a quick click of the button or pressed and held down, EPIC System will update the room as green and confirmed (see *Figure 175* on the next page). The room will remain green until the Lockdown event has ended.



Front

Figure 174

Figure 175

Intercom button

With the introduction of the new XD Teacher microphones, teachers can now initiate an intercom call directly from the microphone by clicking the *INT* button on the microphone. Once the button has been pressed, an audible tone will sound from the MS-X device and notify the admins a call is coming in. EPIC will display the incoming call just like when calling from a wall plate (*Figure 176*).

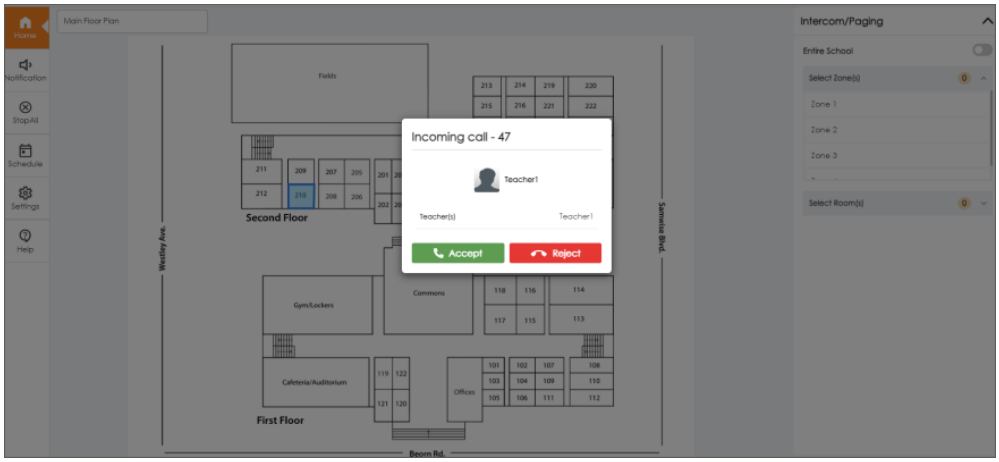


Figure 176

ADJUST CLASSROOM VOLUMES

Classrooms with the Optimum System have the intercom module and the classroom audio module all built into one device. These amplifiers do not have any traditional physical volume controls.

1. The volumes can be controlled in the system by going to *Settings* and clicking *Classroom Volumes*. A window will pop up (*Figure 177*).

2. Select the room to edit (it will only show MS-450/500s that are online) and then the volumes through the browser for each room necessary can be edited.

    a. The maximum for each input is 0 dB and -72 dB is the minimum.

3. Click the *speaker* icon to mute/unmute each input.

    a. Input 6 is the intercom/paging input.

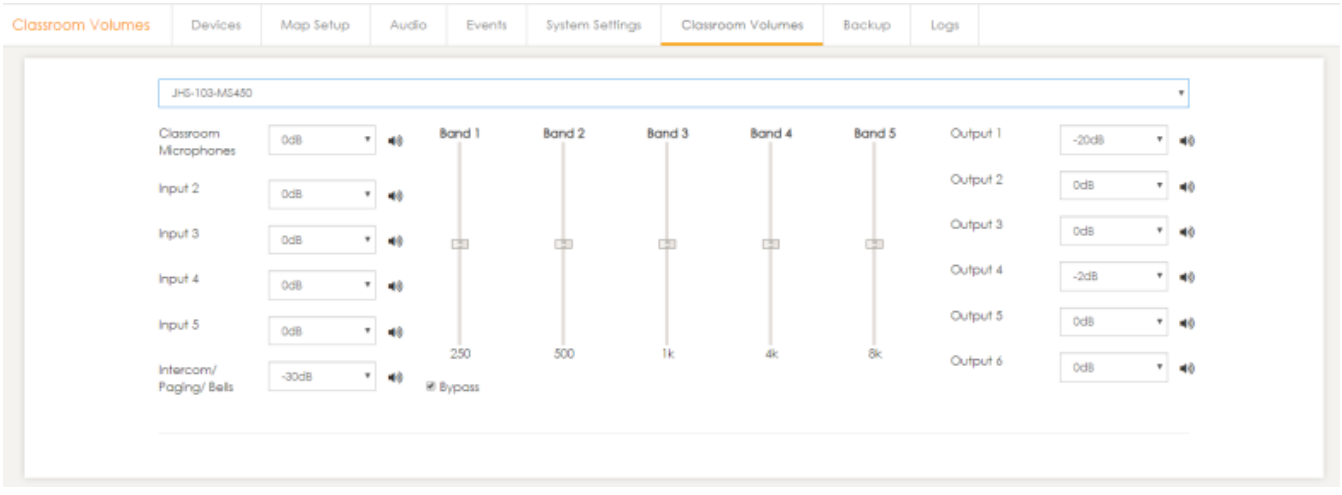


Figure 177

TROUBLESHOOTING

The EPIC System has some helpful troubleshooting information built right in. Below are a few tools to use in case of trouble – some of these may have already been covered in the manual.

DEVICE STATUS

Device status is one of the most helpful indicators of success for the system. There are two helpful methods to quickly see device status. First, if a device is offline, the room it is assigned to will show up as yellow on the main EPIC System map. This will indicate immediately to the end user that something is wrong with that room so something can be done to fix it.

Additionally, within the devices menu there is a status icon that shows RED/YELLOW/GREEN depending on status. Red is completely disconnected, yellow means that some data expected is not coming, and green means that all systems are working properly. If an MS-X device is yellow and will not clear but does not physically have an XD/TLD receiver, ensure *None* is checked in the device or else it will give this error as it expects the receiver to respond and sees this as a trouble scenario.

XD ID CHECK

This can be done using the Query All XD on the main devices page or after clicking *edit* on a single device. It will send a command all the way to the endpoint XD receiver, get a response back and show a response. If this returns successful, it will be known that all programming and wiring is set, and the devices can pass good data. This is very helpful to ensure all devices are operational.

QC

As seen in the QC section, tests can be performed to see what components are or are not working within a room. This can be helpful information to diagnosing any problems in the room.

DEVICES

When all else fails, go to the endpoint devices themselves. The IP listed in the devices table is a hyperlink and the user can login directly to the devices to see what is going on. Try to ping the devices if the web browser does not pull them up and verify the device is online. If able to access the web interface and login, the devices show some helpful information on the home page. Even though the devices are managed via EPIC System, there are rare cases such as incorrect authentication, configuration mistakes, or incorrect mapping of a device where checking the device itself can point the user in the right direction.

Registration Status

This displays the registration status for a device to the EPIC System. Essentially, whether or not the device is ready to receive bells, paging, or intercom messages.

Not Registered means there could be a wrong SIP server, extension # or password (*Figure 178*).

Registered means successful registration. Calls should now be able to be made (*Figure 179*).

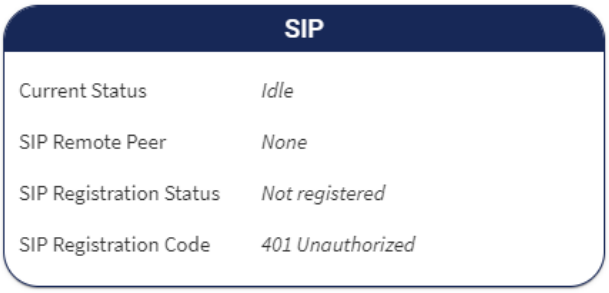


Figure 178

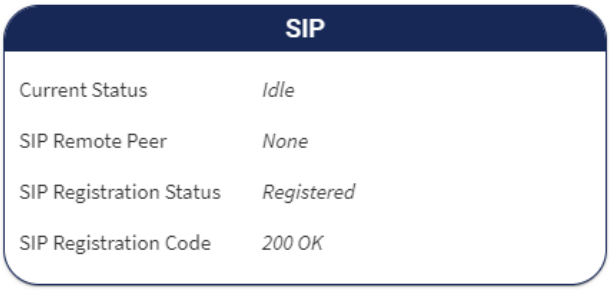


Figure 179

Call State

This is the status of the network signal when in a call or receiving bell/notification. This can be helpful when troubleshooting issues like “not getting bells”. If status is seen here but no audio in room, it is likely to be an analog issue such as speakers not being successfully wired, a volume setting problem or a muted input (see *Figure 180*, *Figure 181* and *Figure 182* for reference).

- Idle = No active call
- Connected = Device is in a call
- SIP Remote Peer - shows the SIP of who is connected.
- SIP Registration Status = Device is receiving a bell or pre-recorded notification.

Figure 180

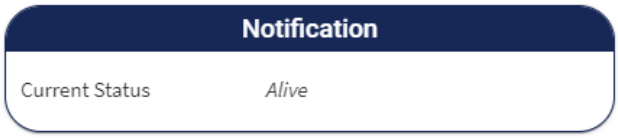


Figure 181

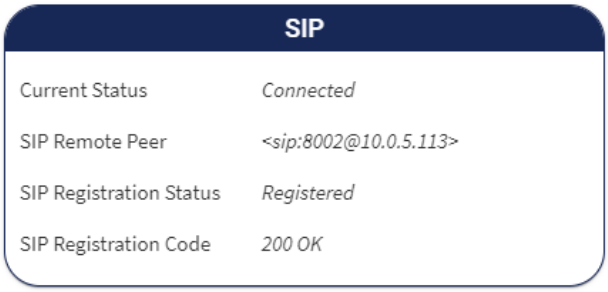


Figure 182

IO Status

The home page on device web interface will show if a contact closure is active; green is active, gray is inactive (*Figure 183*). If a call is not made when button is pressed or emergency button on wall plate does not work, this is a great place to check to ensure that the wiring is correct, and the device knows it is receiving the contact closure properly.

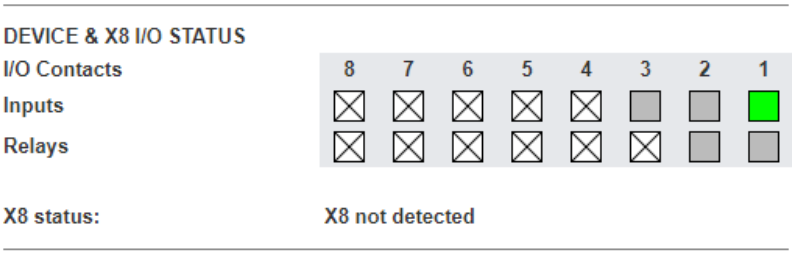


Figure 183

LOGS

There are helpful logs under *Settings* > *Logs*. Additional logging for the SIP calls can be found under *Settings* > *System Settings* > *SIP* > *Asterisk Logs.* The logs take some nuance and understanding to read as there is a lot of data. The logs can be searched looking for a specific word or IP as needed. Logs can also be exported to Excel.

Logs Download

Logs can now be downloaded in entirety for a single day by going to *Settings* > *Logs* > *Download*. Find the log to download and click *Download*. The Asterisk Messages files are the past asterisk logs, allowing user to view previous days calls for troubleshooting purposes. The logs labeled EPIC in the Log From column are the same as the standard EPIC logs, but it downloads them in one single file for an entire day. The logs are ordered chronologically from the beginning to the end of the day. VIEWpath logs can be found here as well, similar to the EPIC logs (*Figure 184* and *Figure 185*).

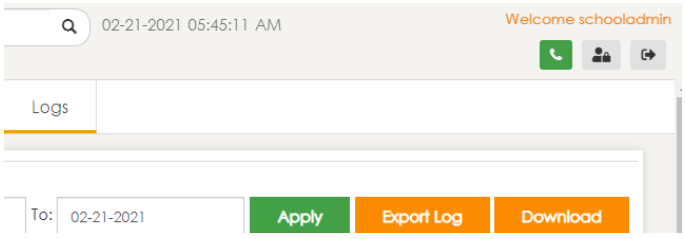


Figure 184

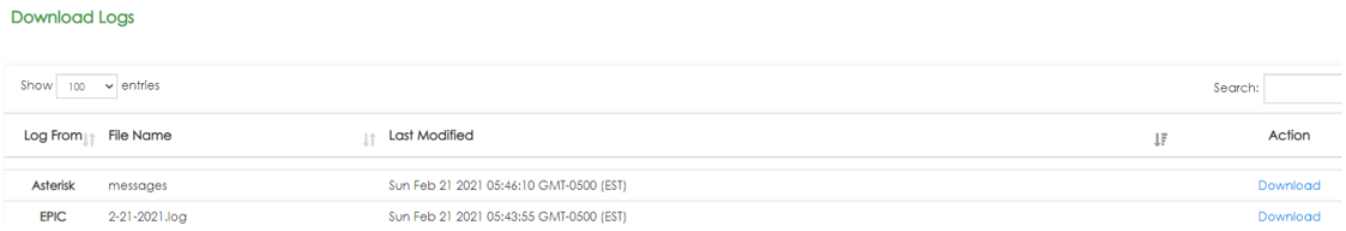


Figure 185

DUPLICATE DEVICE MAC

If a red MAC Address comes up in the Unknown Devices during discovery, it means EPIC has found a device with the same MAC Address but different IP address in discovery as one of the devices in the database. This can happen if the IP is manually changed on the device (*Figure 186*).

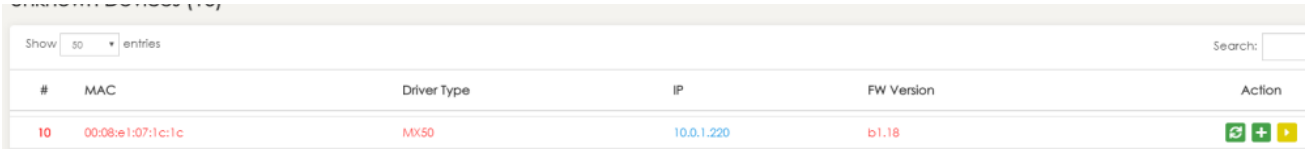


Figure 186

Use the *Replace Device* feature and pick the device with the same MAC from the device list. This duplicate entry will be replaced and resolved (*Figure 187*).

Figure 187

HELP MENU

Press the *Help* icon at the bottom left of the screen at any time to get help for that page. The content is also searchable for ease of finding any instructions (*Figure 188*). Within the help menu there are several helpful user and administrative videos pre-loaded, click *Help Videos* to get user-friendly, visual help right on the screen

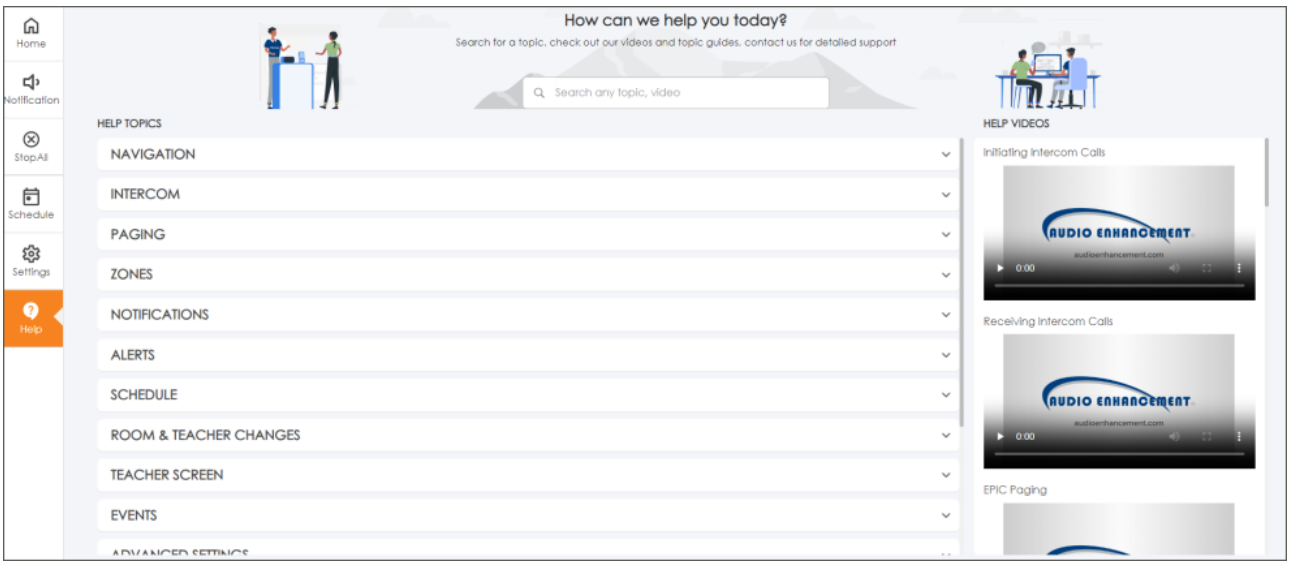


Figure 188

APPENDIX

DEVICE CONFIGURATION APP

Another tool that goes hand in hand with the EPIC System mobile application, is the Device Configuration mobile application. This app gives control for the MS-700 device settings without the need to be next to a kiosk with the EPIC System. Similar to the EPIC System mobile application, this app is available on Apple iOS and Android Google Play Stores for phones and tablets. Administrators can contact Audio Enhancement for additional information regarding the Device Configuration app setup and requirements.

Searching Nearby Devices

1. After logging into the app, the app will search for nearby devices that are within a 10-foot radius and list them with their default name (*Figure 189*).

2. Click on a device to pair with EPIC. Once paired a tone will sound from the device, identifying which devices was connected.

3. Devices can also be manually added. Use the QR code scanner to scan the QR code on the device.

4. Devices that have been saved, can be managed, or updated by clicking on *Manage Schools*.

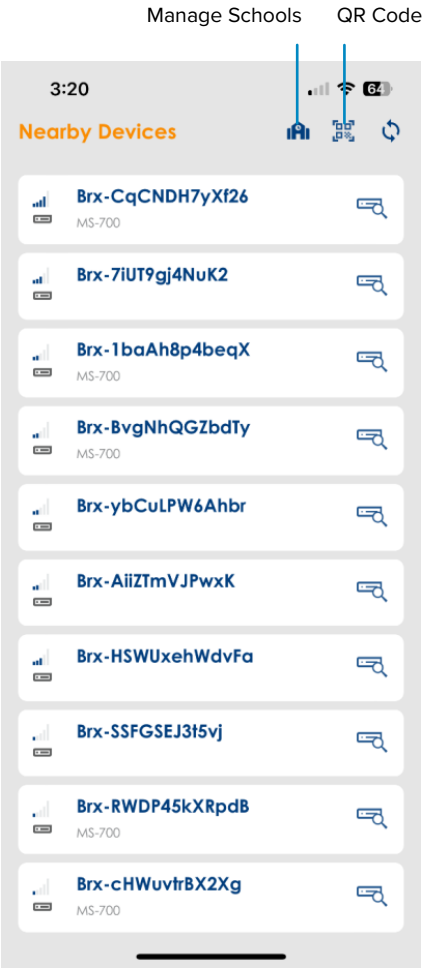


Figure 189

Settings

Once the device has connected to the configuration app, the settings will be available to update and change for the connected device (*Figure 190*).

Volumes, Network settings, and Serial can be updated and managed. In the Settings tab, School name, Room, and Serial Number of the device will need to be entered to save the device.

Once the settings have been entered click *Save Device* to save the device (*Figure 191*).

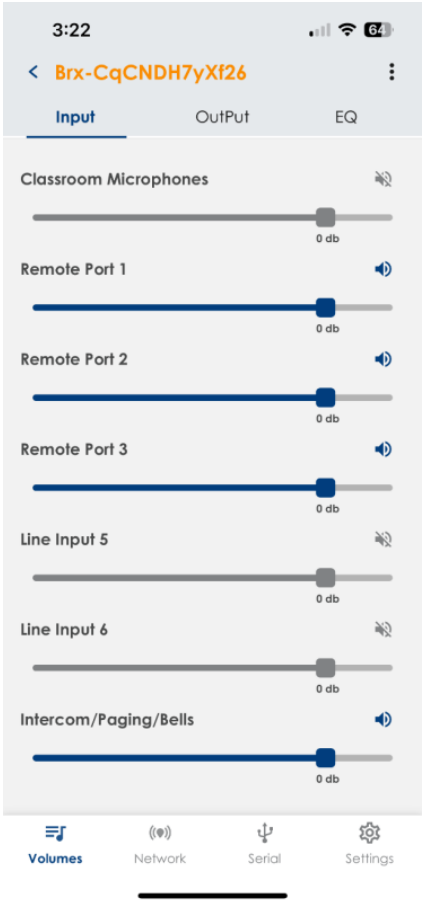


Figure 190

Figure 191

DEVICE SETTINGS IN EPIC

Below are the Settings details for the individual devices and what each setting does in the EPIC System.

MS-X DEVICES (250/300/450/500/600/700)

Network Settings

Use Sonic IP – this setting enables a readout of the IP address whenever the device is rebooted. It is off by default.

DHCP Enabled – if checked, it will set the devices to use DHCP instead of Static IP addresses. This is not recommended and if implemented must use DHCP reservations.

Primary and Secondary DNS – these are the DNS servers' settings for the devices.

Outbound Call Settings

Call Button Extension to Dial – this is the number that will be dialed when the user in the room presses the call button. It should come from the Front Office Extension setting in SIP Basic section. The default setting is 6000, which is a ring group where multiple extensions can be dialed simultaneously.

Input 2 Call ID – this would be the extension to dial if IO2 is triggered. By default, this setting is left blank as it is reserved for the SAFE Alert. If a number should be dialed, enter that extension here.

Intercom and Paging

Intercom/Paging Buffer – this is the buffer in milliseconds that the device will use when receiving intercom or paging (SIP) communications. It will store a certain amount of data in the buffer to have the smoothest playback possible (similar to YouTube). The default setting is 75 milliseconds, but some networks may require increased buffer to remove issues of sound cutting in and out due to jitter or network performance. Since this is live communication audio, it is generally better to have a low setting here to make for the most natural communication.

Beep on Call Answer – when any intercom or paging communication is received, this setting controls whether or not the device will send a pre-announce beep tone. The default setting is on.

Echo Cancellation Mode – while in an intercom call, the room's ambient microphone will be muted while the office is speaking. This is an auto audio detection mute. When the office stops talking, the mic is automatically unmuted, and the classroom can speak. This eliminates the office hearing themselves back on calls. Disabling this will make the classroom mic always on. The default setting is on.

Audio Settings

Input Source – this controls the input source for the MS-X devices. By default, the selection is Mic for the MS-250 and MS-450 and Line for the MS-300 and MS-500.

Encoding – this is the encoding method for SIP calls. The devices use uLaw G.711 and this setting should be set by default.

Intercom and Paging Volume – there are separate volume controls in the devices. This setting controls both intercom and paging (anything over SIP) volume. Range is 0-100%, the default setting is 60.

Microphone Gain – this controls the sensitivity of the microphone in the classroom. The higher the value, the more sensitive the classroom ambient mic. This may improve the ability of the office to hear the classroom. By default, the setting is 39 dB.

A/D Amplifier Gain – this controls the Line Input amplification, making the classroom ambient microphone louder in the front office. For the MS-300 and MS-500, the default is 10.5 dB. For the MS-250/MS-450 the default setting is 0.

Acoustic Echo Cancellation – The default setting is enabled.

Control Interfaces

UDP Control Port – the devices can be monitored and controlled using this port. The default port is 12301.

TCP Control Port – EPIC System connects with this port to monitor the status and IOs of device. The default port is 12302.

Use Serial Port For – device has multiple options for serial port. For the EPIC System use either, Serial GW, TCP, or Passive.

Serial GW TCP Port – EPIC System connects this port to send and receive data to the device or control the devices in the room. The alert receiver in the room sends data for the SAFE Alert. The default port is 12303.

Bells and Notifications

Priority – this controls the priority of the system. The EPIC System will give priority to either Bells and Notifications, or to Paging and Intercom. This means that whichever is set as priority will override the other type of message in the event of a conflict. By default, the priority is Bells and Notifications.

Notification Audio IP Address – this restricts the IP the device will use to receive notification and bell messages in conjunction with port. A specific IP or multicast address can be used to restrict source. The default IP is 0.0.0.0 and allows from any source.

Notification Port – this port is used to receive bells and notification messages. The default port is 4444.

Bells and Notifications Volume – this controls the volume of all Bells and Notifications received by the device. It is a separate volume control from the paging and intercom. The range is 0-100% with the default setting of 60%.

Bells and Notifications Buffer – this controls the buffer for bells and notifications received by the device. As these are recorded messages, a larger buffer is preferred. The default setting is 300.

Background Music

Background Music Enabled – the devices have a lowest priority (lower than Intercom, Paging, Bells and Notifications) network stream option that can be used to receive background music streams from an Audio Enhancement streaming device. By default, the MS-450 has this setting off and the MS-250 has this setting on so that common areas would receive background music but not classrooms. This can be configured for each Device Type or individual device as required. Enabling this setting turns on the background music listening function for the device and displays the other settings for background music.

Background Music Volume – this is an independent volume control specifically for the background music that is received. Range is 0-100% with the default set to 80%. This is generally set higher than the other volumes so that the source streaming device (phone) has more control of the streaming volume.

Background Music Buffer – similar to the buffers mentioned earlier, this stores the data from the network stream for a defined amount of time prior to playing on the device. Because this is not live audio, the buffer is larger, set to a default of 600 milliseconds.

Background Music IP – This is the IP address that the devices will listen to for the background network stream. 0.0.0.0 means it will accept any stream to its port. This can also be a multicast address or individual IP address to restrict to only specific sources. The default IP is 0.0.0.0

Background Music Port – This is the port the devices will use to receive the background music stream. It is used in conjunction with the IP to allow streaming from only certain sources. The default port is 5555.

NOTE

The stream should be in the MPEG audio format. The EPIC System's primary purpose is to serve as communication for the school. Any implementation of the background music should take care to not detract from that goal.

MS-1000 (LEGACY)

DHCP Enable – Enables DHCP on the device. This setting is disabled by default. If turned on, DHCP reservations must be used.

DNS Servers – these are DNS servers used by the device.

NTP Servers – NTP servers in order, used by device to synchronize the device time. If none configured, device has list of public servers it will attempt first.

Time Zone – Time Zone used by the device. The default Time Zone is set to EST.

Daylight Savings – controls whether Daylight Savings Time is observed. The default setting is enabled.

Server Address for Firmware Upgrade – there are internal server entries for standard firmware upgrades. However, this address can be used by pressing the alert silence button during boot to update firmware if no external access is available.

EDUCAM360-C

Only the EduCam360-B can be used with auto-configuration. Panasonic EduCam360-C is supported in EPIC System, but auto-configuration is not supported.

Network Settings

DHCP Enable – enables DHCP on the device. Disabled by default. If set on, DHCP reservations must be used.

DNS Servers – DNS servers used by the device for address resolution. Default public DNS servers are set.

Video – Mainstream

All settings in this section affect the primary stream in the camera, generally used for VIEWpath recordings.

View – controls the view of the camera for the stream. Teacher can control separately if VIEWpath is active on the server.

Install Mode – Ceiling is the default setting and should be set appropriately. Only Ceiling mode is supported in VIEWpath.

Video – Sub Stream

All settings in this section affect the secondary stream in the camera, which is always a fisheye view, that is generally used for continuous NVR recordings and the EPIC SAFE Alert live stream.

Quality Profile – controls preset values for the quality of the camera view. Low, Standard, and High are available. Standard is default.

FPS – frames per second used in camera view and recording. 20 FPS is the maximum.

Bitrate – this is the bitrate used for quality and data size of live view and recordings. 6144 is the default setting. Higher bitrate will make larger file sizes.

Bitrate Control – this controls whether a constant bitrate or variable bitrate is used. The default setting is constant (CBR).

Video GOP – the default setting is 60.

Enable – this enables the secondary stream. It may limit the quality of the primary stream. It must be enabled for EPIC System live view and security recordings. The default setting is enabled. When viewing the camera interface, the stream appears as "disabled" when the lens is closed.

Video Compression – this is the compression mode used. Default is H.264H.

Audio Attributes

Audio Source – controls the audio source used by the camera live view or recordings. The options are Teacher Microphone "Line In" which comes from the Audio Enhancement system, passing multimedia and teacher microphone. It can also come from the Camera Ambient Microphone “Mic” which uses an ambient mic that picks up all noise in the room. The teacher can control this setting manually in VIEWpath.

Audio Input Level – this controls the volume level of the audio input. 75 is the default setting.

Audio Noise Filter – enables an environmental noise filter. The default setting is on.

Audio – Mainstream

The following apply to live and recorded audio on the primary stream.

Enable Audio – this enables the audio on the live view and recordings. This is enabled by default.

Encode Mode – changes the mode. AAC is the default and supported method.

Frequency – changes the audio frequency. 32kHz is the default and supported frequency.

Audio – Sub Stream

The following apply to the live and recorded audio on the secondary stream.

Enable Audio – this enables the audio on the live view and recordings. This is enabled by default.

Encode Mode – changes the mode. AAC is set by default and is the supported method.

Frequency – changes the audio frequency. 32kHz is the default and supported frequency.

Settings

General system settings on camera, including time. For VIEWpath in particular, time settings must match the time on the server. Recordings will not work if time is not in sync.

Display Time on Camera – this will put a display of the camera time on the live and recorded image. The default setting is false.

Display Title on Camera – this will put a display of the camera title on the live and recorded image. The default setting is true.

Daylight Savings Time – enables Daylight Savings Time observation on the camera. This setting is set to on by default.

NTP Time Zone – controls the time zone on the cameras. EST is the default Time Zone.

NTP Enable – enables synchronization with a time server. This is enabled by default.

Time Server – specifies the NTP server to sync with. The default is public time server pool.ntp.org.

NTP Port – the default setting is standard NTP port 123.

NTP Update Period – controls how often NTP resyncs. The default setting is 30.

SUPPORT

If you have any questions or need more information, please feel free to reach out to Audio Enhancement. Get support on a technical issue:

- 800.932.3578
- www.AudioEnhancement.com/Support/