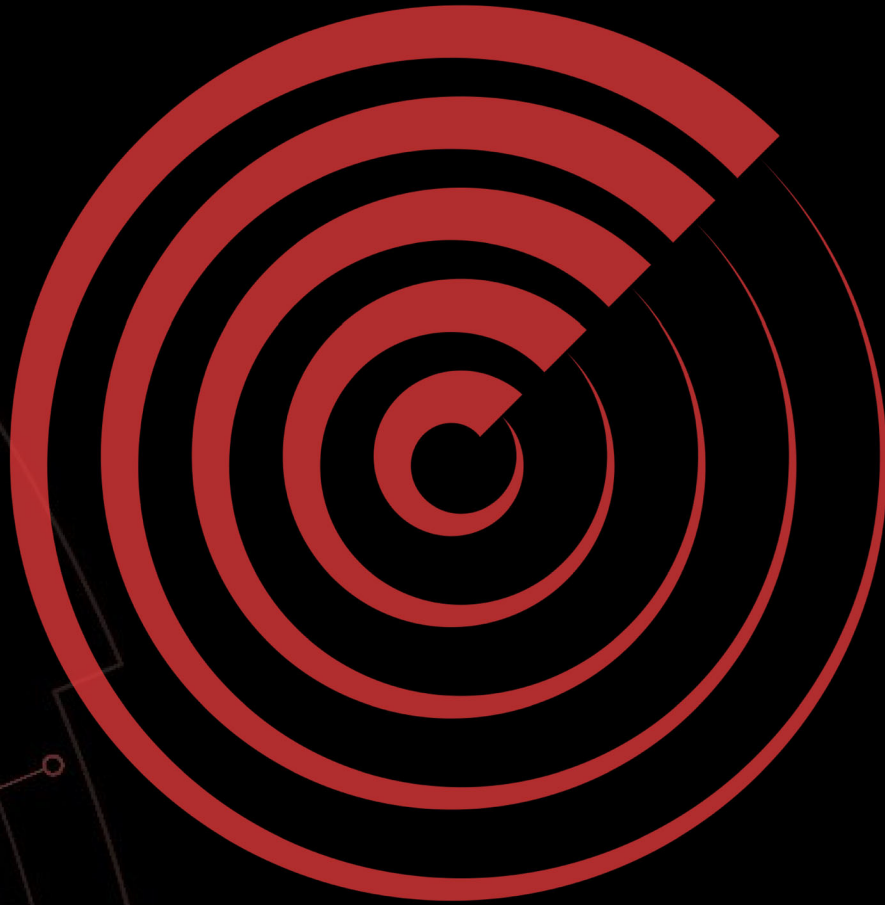# Thermal Radar™ Settings Guide

Firmware Version 2.2

THERMAL™
RADAR

Visionary Thermal Detection

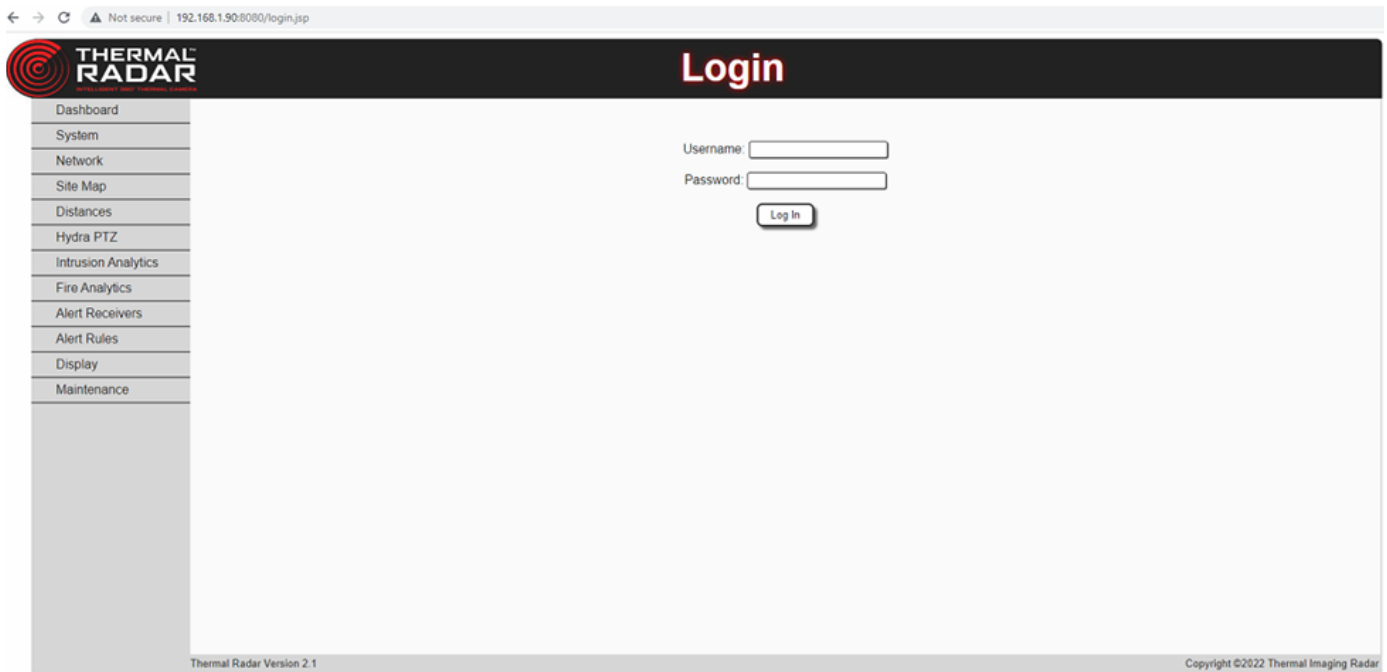# Thermal Radar™ Web Configuration Page

The Thermal Radar™ is configured through its web interface. In order to access the Thermal Radar's web interface, open a web browser and type the below URL into the URL text box.

The default IP address of the Thermal Radar™ is 192.168.1.110.
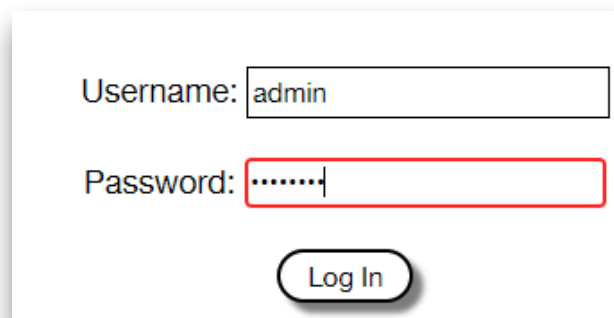
http://192.168.1.110:8080

(http://*<ipaddress>*:8080)

⚠️ **Note**: *Internet Explorer is not supported*

Login Screen

The Login screen will be the first page you see when opening the Thermal Radar™ web interface. The default username is **admin**, and the default password is **Admin1234**. (See User Management)

Dashboard

The **Dashboard** page is used as a quick reference for status/error messages, serial number, model number, system temperature, and information regarding the paired PTZ camera. The commands from the Thermal Radar™ to the PTZ camera can also be paused from the Dashboard.
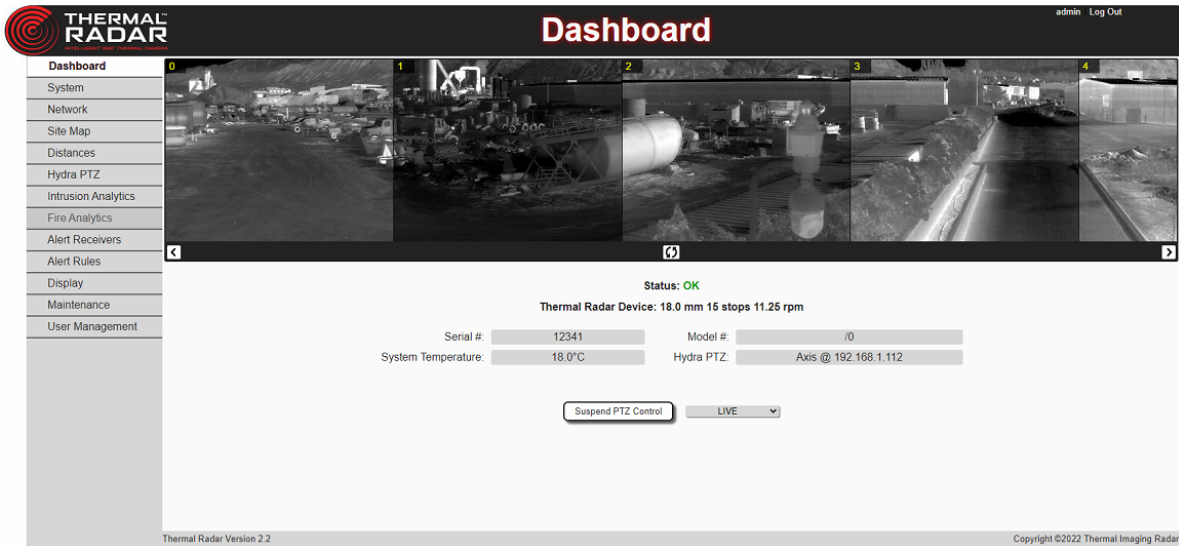
The **Status** message indicates the current state of the Thermal Radar™. If the Thermal Radar™ encounters an error, it will be displayed here.

Thermal Radar™ Device: indicates the sensor size installed inside of the Thermal Radar™, the number of stops the sensor makes in its 360 degree revolution, and the RPM.

The **Serial #** indicates the serial number of the Thermal Radar™.

The **Model Number** indicates the model number of the thermal sensor.

The **System Temperature** indicates the temperature of the CPU inside the Thermal Radar™.

Hydra™ PTZ indicates the brand and IP address of the PTZ camera connected to the Thermal

Suspend PTZ Control

The [Suspend PTZ Control] button suspends the commands the Thermal Radar™ sends to the pan-tilt-zoom (PTZ) camera. This option is used when configuring the Hydra™ PTZ or when the system operator needs to take manual control of the PTZ and wants avoid interference from the thermal radar's positioning commands.

Use the drop-down (LIVE) next to the [Suspend PTZ Control] button to select the duration of time to pause the commands being sent to the PTZ. Once selected, press the [Suspend PTZ Control] , and the commands being sent to the PTZ will be paused for the selected duration.

The button will update the thermal panoramic view on the Dashboard. If not pressed, the panoramic images will automatically refresh every ~15 seconds.
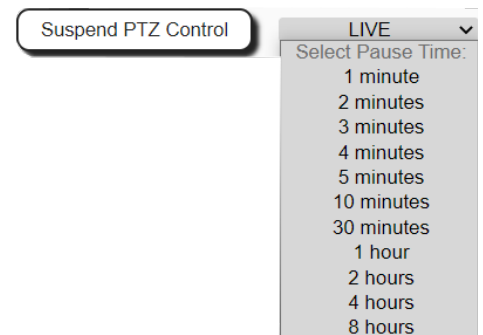
System

The **System** page is used to assign a name to the unit, set the unit's height, select the number of rotation stops, and display the resulting coverage based on the number of stations and the field-of-view (FOV) of the thermal sensor.

Use the **Device Name** text box to assign a unique name to the Thermal Radar™. Assigning a name will make it easier to identify each Thermal Radar™ when multiple radars are installed on the same network. The device name is also shown within the Thermal Radar's video feed below the site map.

Use **Mounting Height** to assign the measured height from the top of the Thermal Radar™ to ground level of the mounting location (measured in *meters*). The Thermal Radar™ utilizes the Mounting Height to calculate the detection range. The range information is used to determine size and type of object, as well as distance, which is used to filter out false detections.

The **Number of Stations** determines where and how many times the sensor stops during a revolution. Use the Advanced... button to select which stations out if the number entered, you'd like the sensor to stop at during its 360 degree revolution (see next page). The number of stops selected will reflect within the panorama displayed in the video feed and the web interface.

The **Rotation Speed** is the amount of time it takes the thermal sensor to make a full 360 degree revolution based on the number of stops selected.

The **Tilt Angle** is the amount of degrees the particular thermal sensor is physically tilted within the Thermal Radar's housing.

The **Field of View** indicates the horizontal and vertical field of view (HFOV & VFOV) of the particular sensor installed inside the Thermal Radar's housing.

Coverage displays the gap or overlap between stations in degrees as calculated by the HFOV of the sensor and the number of stops. The necessary number of stops to ensure overlap differs between sensor models. Reducing the number of stops will increase possible rotation speed and frame rate in the final panorama but may result in gaps between stations in which case there will not be complete coverage. If it shows an overlap then neighboring stations may show redundant visual information and detections on the edges of the stations.

Advanced Stations Setup

Advanced... allows the user to fine tune the Thermal Radar's rotation by selectively disabling stations without affecting the angles of the remaining stations. Disabling a station skips it completely, which reduces the time it takes to perform a complete rotation and removes the station from both the video feed, and the previews on the web interface.

Select All to select all stations, or remove all stations if they are already selected. Changing the Number of Stations value will reset all stations to be enabled.

⚠️ **Note:** *Enabling or Disabling any stations will reset Distance Markers and AOIs, even if the number of enabled stops does not change.*

Advanced Stations Setup

Disable stops to have the ThermalRadar skip them.

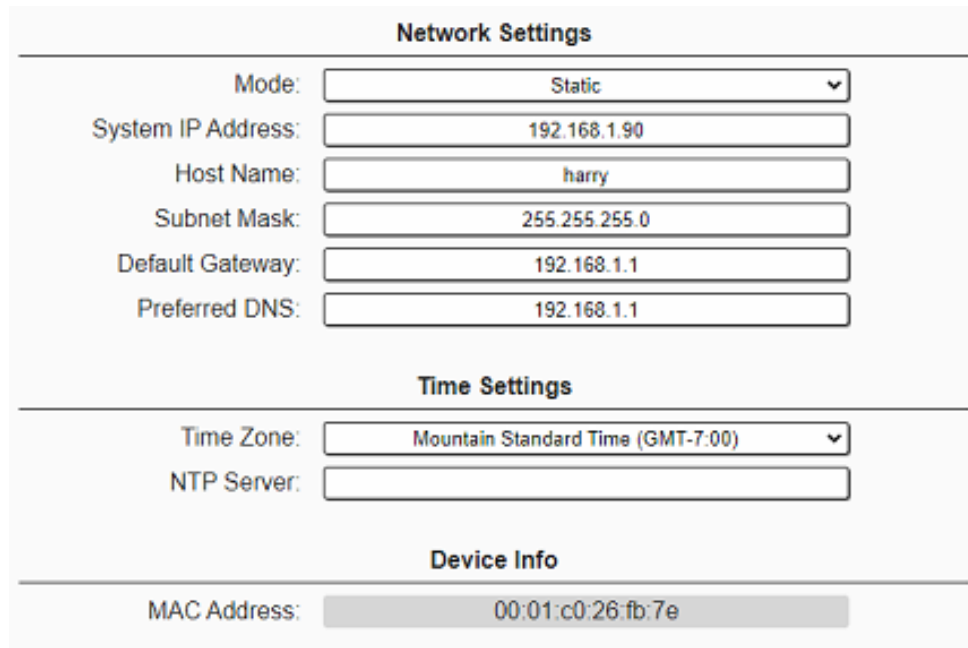| 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| 08 | 09 | 10 | 11 | 12 | 13 | 14 | ALL |

OK   Cancel

Network Configuration

The **Network** configuration page allows the user to configure network and time settings for the Thermal Radar™.

Network Settings

To change the **Network Settings**, select Static or Dynamic to set the network mode. Enter the IP Address, Host Name, Subnet Mask, Default Gateway, and Preferred DNS.

⚠️ *Note: Changing the Thermal Radar's IP address will force the Thermal Radar™ to restart.*

Network Settings	
Mode:	Static
System IP Address:	192.168.1.90
Host Name:	harry
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.1.1
Preferred DNS:	192.168.1.1
Time Settings	
Time Zone:	Mountain Standard Time (GMT-7:00)
NTP Server:	
Device Info	
MAC Address:	00:01:c0:26:fb:7e

Time Settings

Time Settings allows a *Time Zone* and an *NTP Server* to be assigned to the Thermal Radar™.

To set the Thermal Radar's time, select the **Time Zone** from the drop down menu that matches the location the Thermal Radar™ is installed.

If desired, enter the IP address of a valid **NTP Server**.

Click (Apply Changes) to apply the time settings and restart the Thermal Radar™.

Device Info

Device Info displays the MAC-address of the Thermal Radar™.

Site Map

The Thermal Radar™ displays the **Site Map** as part of the video stream. Dots are displayed on the site map to indicate the location of alerts. To ensure the site map displays and shows the locations of the alerts correctly, a satellite image of the area needs to be uploaded and the Thermal Radar's North position needs to be configured.

Update/Upload Site Map

To upload a site map to the Thermal Radar™, the user can type in GPS coordinates or upload a site map manually. If the computer connected to the Thermal Radar's web interface has an internet connection, the site map will be pulled automatically from Google maps when the coordinates are entered. To load a previously saved image, select [Load Custom Map...] and browse to the image file to be uploaded. To remove an existing map, select [Remove Custom Map].

Once the map has been uploaded, navigate the uploaded site map with a mouse and locate the position of the Thermal Radar™ with the red dot in the center of the map. Once the site map has been uploaded and adjusted, select [Apply Changes] to save changes.

North Offset

North Offset indicates the number of degrees, clockwise, North is from the center of station 0 on the Thermal Radar™.

To set North on the Thermal Radar™, identify an object that is North in the Thermal Radar's view and adjust North Offset until the N-line lines up with said object. The station view has arrow buttons (◁ ▷) to move from station to station, and an indicator arrow (◀N N▶) to indicate as to which direction the N-line can be found.

Increasing the **North Offset** value will rotate the dots on the map counter-clockwise, and *decreasing* the **North Offset** value will rotate the dots clockwise on the map.

North Offset: 184
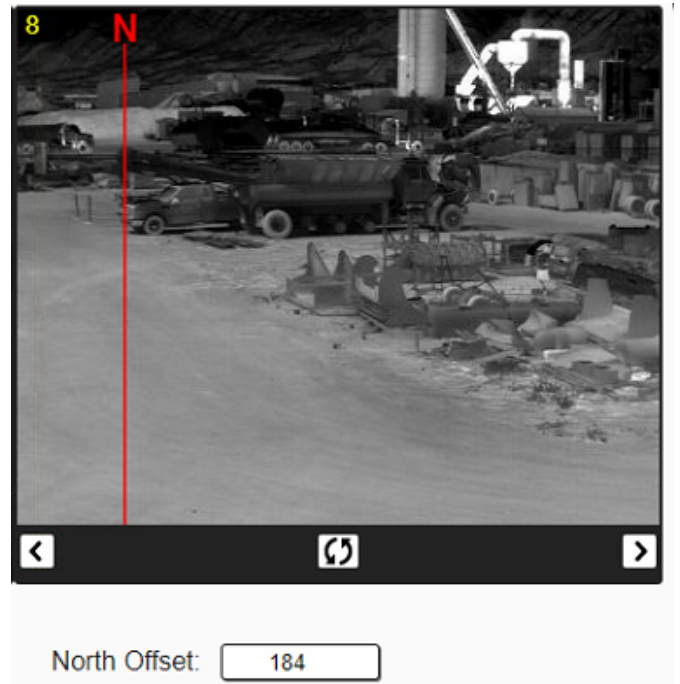
Distances

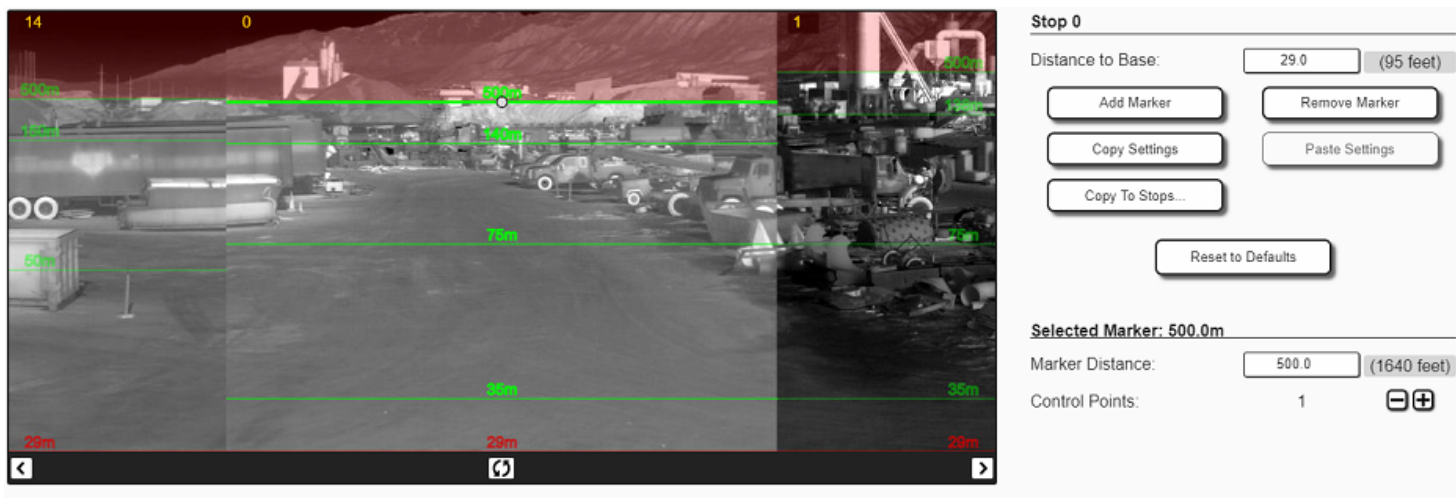The **Distances** page allows the user to configure visually how far away objects are, as well as set the horizon, to allow the Thermal Radar™ to account for variances in terrain.

The way the Thermal Radar™ calculates the distance of an object from the device, and thus the geographic location and size of the object being detected, is based on a series of trigonometric functions. This set of calculations is based on the assumption that the plane on which the Thermal Radar™ sits is perfectly parallel to the also perfectly flat ground. This has been found to almost never be the case in real world scenarios and thus we've added the **Distances** interface to compensate.

The **Distances** page allows the user to navigate through each of the images in the Thermal Radar's panorama to configure the respective distance lines per stop in the panorama.

The green lines displayed in each image/stop are preconfigured distance lines. The distance of each of the lines are calculated based on the mounting height of the Thermal Radar™ and the down tilt of the sensor inside of the Thermal Radar™. Often these lines do not align with the actual distances in the environment due to elevation variances. If these lines are not accurate with the environment the Thermal Radar™ is installed, it's recommended that the distance lines are configured according to the environment.

Use the (⟨ ⟩) arrow buttons to navigate left or right through each stop in the panorama.

Use the ⟳ button to update the displaying image.

⚠️ **Note:** It is recommended to add at least 3 distance lines for proper operation. Set the top line to the furthest point you wish to detect, set the second line somewhere near the center of the detection area, and set the third line somewhere between the base and the middle distance line.

Distance to Base indicates the distance from where the Thermal Radar™ is mounted to the beginning or bottom of the image.

Use the [Add Marker] button to add an additional configurable marker line to the station.

Use the [Remove Marker] button to remove the selected marker line from the station.

Use the [Copy Settings] button to copy all of the distance settings from the displayed station.

Use the [Paste Settings] button to paste the settings from the previously copied station to the displayed station.

Use the [Copy To Stops...] button to copy all of the distance settings from the displayed station directly to any other chosen stations.

Use the [Reset to Defaults] button to reset all of the distance settings on the displayed station to default or factory values.

Selected Marker displays the current configured distance in meters of the selected distance line.

Use the **Marker Distance** text box to enter the desired distance value in meters.

Use **Control Points** to add or remove control points on the selected distance marker line. Adding additional control points can allow you to contour the distance line to a hill or other elevation changes within the imagery.

Click anywhere on the thermal image to display the yellow perspective tool to get an idea of how tall an average human would be at the selected distance according to the configured distance lines. If the perspective tool does not appear to be the correct size, adjust the distance lines accordingly. Left-clicking, holding, and dragging the cursor within the image will move the perspective tool wherever the user moves their cursor.

⚠️ **Note:** The size of the perspective tool is based off of the average height of a human globally (5.6 ft tall).

Hydra™ PTZ

The **Hydra™ PTZ** configuration page allows the user to pair and align a PTZ with the Thermal Radar™, as well as configure the behavior of the PTZ in response to detections.

⚠️ **Note:** *The PTZ should be mounted on the same vertical axis as the Thermal Radar™.*

PTZ Camera Settings

The **PTZ Camera Settings** panel is used to pair/connect the Hydra™ PTZ to the Thermal Radar™.

Use the **PTZ Brand** drop-down to select the brand of the PTZ to be controlled.

Enter the **IP Address** of the Hydra™ PTZ.

Enter the **User Name** and **Password** of the PTZ.

Pan, Tilt, and Zoom Adjustment

Pan Adjustment adjusts the PTZ's pan (clockwise and counterclockwise) when it is pointed at a target. Positive numbers will adjust the PTZ clockwise and negative numbers will adjust the PTZ counterclockwise.

Tilt Adjustment adjusts the PTZ's tilt (up and down) when it is pointed at a target. Positive numbers will adjust the PTZ upward and negative numbers will adjust the PTZ downward. Usable values are between -10 and 10.

Maximum Zoom Level adjusts the PTZ's maximum zoom level.

Reach Max Zoom at adjusts the distance in meters at which the PTZ will reach its maximum zoom level.

Example: with the Reach Max Zoom setting set to 200 meters, and the Maximum Zoom Level bar is set to 50%, the PTZ's max zoom will be 50% of 200 meters. In this circumstance, if there is a detection at or beyond 200 meters, the PTZ will only zoom to 50%. If there is a detection at 100 meters, the PTZ will only zoom to 25%.

Pan Adjustment:	60	degrees right
Tilt Adjustment:	7	degrees down
Maximum Zoom Level:	31	percent
Reach Max Zoom at	300	meters (984 feet)

PTZ Movement Rules

The **PTZ Movement Rules** dialog is used to determine how sensitive the PTZ is to moving to detections. Decreasing the movement rule values will make the PTZ more sensitive to detections. Increasing the values will make the PTZ less sensitive to detections.

Move After [2] Consecutive Detections in an AOI
☑ After Move, Disarm PTZ for [2] Seconds

Move After _____ Consecutive Detections: determines how many detections need to occur within a single Area of Interest (AOI) before the PTZ moves on target. The default value is 2.

☑ **After Move, Disarm PTZ for ____ Seconds**: shunts the commands sent to the PTZ to move on to a new target for the programmed number of seconds. This option is turned on by default and the value is set to 2.

Hydra™ PTZ Alignment

The [Test PTZ Alignment] button and the panorama view are used to align the PTZ with the Thermal Radar™.

⚠️ **Note:** *If the PTZ is not aligned with the Thermal Radar™, the PTZ will not be pointed onto detections accurately.*

In order to **Align** the PTZ with the Thermal Radar™, the PTZ 0 degree position needs to align with the Thermal Radar™ home or 0 degree position (left edge of station 0). If the PTZ is installed to line these positions at startup, then this step may not be necessary. In many cases, it's difficult to determine the 0 degree position on the PTZ. The Hydra™ PTZ Alignment makes it easy to adjust for any difference.

To make the PTZ alignment easier, open the PTZ's web interface to view the PTZ's video stream along side the Thermal Radar's Hydra™ PTZ configuration page.

Click on any point on the panorama with the mouse to highlight a target for the PTZ to focus on.

Click [Test PTZ Alignment] to focus the PTZ on the highlighted point.

Adjust the **Pan Adjustment** value to adjust the PTZ Pan position. Increase the numbers of degrees to adjust clockwise and decrease number of degrees to adjust counter clockwise.

Click [Test PTZ Alignment] to see the updated location. Adjust the Pan Offset Alignment until the PTZ view is centered on the point on the panorama that you highlighted.

Analytics

The **Intrusion** and **Fire Analytics** configuration pages are used to tell the Thermal Radar™ where and where not to detect, and what to detect. Areas of Interest (AOI) are used to indicate areas where alerts are to be detected and indicate which types of alerts to detect. Users can add any number of AOI's. It is recommended that AOI's be large enough to detect an intruder multiple times before the intruder crosses the entire AOI. This will provide for the most control on setting alarm rules.

Each AOI is given an *ID* which can be used in the Alert Rules to determine which alerts to send to designated Alert Receivers.

Use the ⟨ and ⟩ buttons to scroll between stations.

⚠️ **Note:** *The thermal image is a snapshot. Video is not constantly streaming to the setup application. If an updated image is needed, press* 🔄 *to update the images or use the refresh button on your browser.*

Adding/Deleting AOI's

To add an individual **AOI**, navigate to the station(s) where you wish to place an AOI and click the 📍 button to ready the Thermal Radar™ to receive a new AOI. Click on the area where the AOI will start, and then click on the location of each corner of the desired shape. To complete the AOI, either double click on the location of the final corner, or click on the location where the AOI started.   Each new AOI has round handles ⬤ on the corners that can be used to adjust the AOI once created.

⚠️ **Note:** *To quickly create a simple rectangular AOI, hold Shift, then click on the area where the AOI will start and drag to the stop point.*

To **Delete** a *Mask* or *AOI,* select the object and click ✖️

To **Delete** every *Mask* and *AOI* on the Analytics page, click 🗑️

Keyboard Shortcuts

Keyboard shortcuts can be used on the Analytics pages:

Use the **Delete** key to delete the selected AOI or Mask.

Press **Esc** while drawing an AOI or Mask to delete incomplete object.

Use **Ctrl + Z** to undo the last operation.

Hold **Shift + Left-Click** and drag the mouse to a stop point to create or adjust a rectangular AOI or Mask.
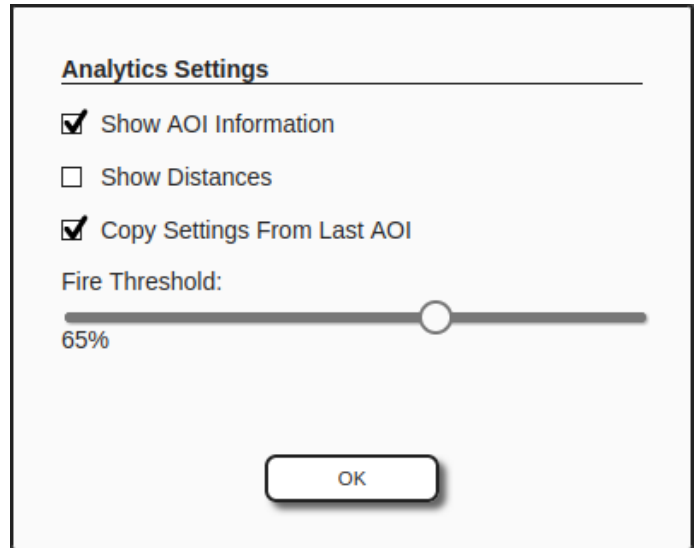
Analytics Settings

Select the ⚙ button to enter the Analytics Settings dialog, which contains a handful of useful tools for setting up AOIs.

☑ **Show AOI Information** causes Areas of Interest to show their ID on the the center of the AOI. It will also show the *Confidence*, *Sensitivity, Blur, Priority,* and which *filters* (if any) are applied to the AOI. You can adjust these settings in the **Settings Panel**.
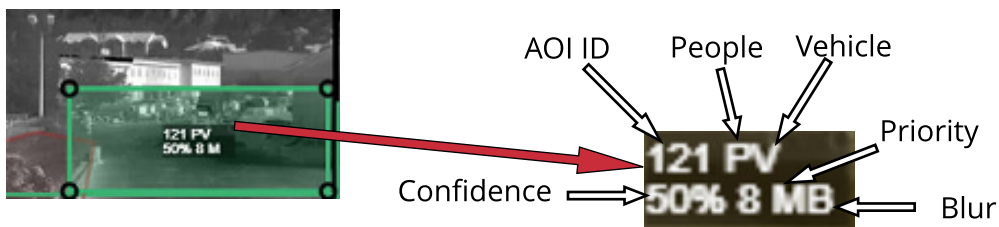
☑ **Show Distances** displays the configured Distance markers for each station as blue lines behind the drawn AOIs.

☑ **Copy Settings From Last AOI** causes newly created AOIs to have the same settings and Group as the last AOI that was selected. If it is disabled, new AOIs will use the default settings and Group instead.

The **Fire Threshold Slider** allows the user to adjust the levels at which the Thermal Radar™ detects fires. Lowering the value will make it more sensitive, and raising the value will make it less sensitive.

> ⚠ **Note:** *The Fire Threshold slider will only be present on the Fire Analytics page.*

Analytics Settings

- ☑ Show AOI Information
- ☐ Show Distances
- ☑ Copy Settings From Last AOI

Fire Threshold:

——————————————⬤——————

65%

[OK]

AOI ID   People   Vehicle

Priority

121 PV
50% 8 MB

Confidence ⟹

Blur

Groups

Each Area of Interest on an Analytics page is created as part of a **Group**. Groups are collections of AOIs that can be used to prioritize one group over another, for the purpose of prioritizing control of the attached PTZ camera. Groups can also be leveraged for alarming purposes (see Alert Rules).

To **create** a new Group, select *Create New Group* from the Assigned Group drop-down menu, and provide it with a unique name. The currently selected AOI will automatically be assigned to the new group.

To **remove** a Group from the list, reassign all of its AOIs to other groups, and refresh the page.

To assign a selected AOI to an existing group, select the desired group from the Assigned Group drop-down.

Group Priority helps determine how the PTZ moves when more than one detection is registered at once, with higher priority groups taking precedence over lower priority groups.

☑ **Group Enabled** can be used to enable or disable every AOI that is part of that group. By unchecking this box, each of those AOIs will be left with their settings saved, but will be inactive until the box is checked again.

> ⚠ **Note:** *Whenever an AOI is assigned to a new Group, that Group's Priority and Enabled status are automatically applied to the AOI.*

ID: 104 (Group: G100)
Assigned Group: Group 1
Group Priority: Medium
☑ Group Enabled

Adjusting AOI's

Select **Filters** for *Person*, *Vehicle* or select both. Selecting neither will disable the object classification filter and allow all detected movement to trigger alarms.

⚠️ **Note:** *The Fire Analytics page does not have the ability to turn the Fire filter on or off.*

Sensitivity indicates how sensitive the area should be to changes in pixel value. Objects closer to the Thermal Radar™ can be detected in AOIs of lower sensitivity, typically between 1 and 2. Objects farther away can be detected with AOIs with higher sensitivity, 8-12 without generating a lot of false detections.

Confidence is used if one or more filters are selected. It determines how closely an object needs to match the classification characteristics to be a valid detection. This can be used to filter out small animals and some random movement. On the video output feed, this will be displayed for each object triggering an alert.

The **Blur** parameter applies a Gaussian blur to the AOI which softens edges and blends the pixel values together to create a uniform texture. Blur is useful for filtering out small movement which can be generated by wind on grass, bushes, or fabrics. By default, there is no blur, this gives the best performance for detecting movement.
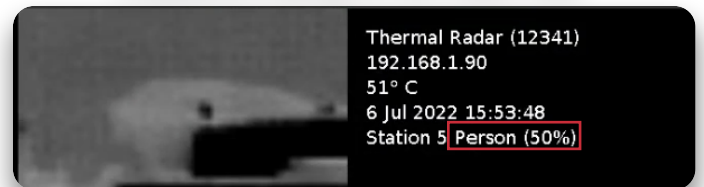
Confidence Rating on the Video Feed

Mask/Exclusions

Masks in 2.2 are created in the same fashion as AOIs. Select the ⊗ button to prepare a new mask, and then click on each corner of the desired shape on the station view. Click on the ⬤ handles to reshape the mask after the area has been designated. The default Mask setting is set to **No Detections** which excludes any portion of an AOI from detecting where the mask is overlapping the AOI.

Masks also have **Blackout, No Blur,** and several **Blur** values.

A **Blackout** Mask will remove the portion of the image the mask is covering from displaying within the video feed output from the Thermal Radar™. The Blackout mask can be used to mask out an area that doesn't need to be recorded by the Video Management System.

A **Blur** Mask can be used to blur a select portion of an AOI. The *Sensitivity* setting of the blur mask will override the sensitivity of the AOI the blur mask is overlapping.
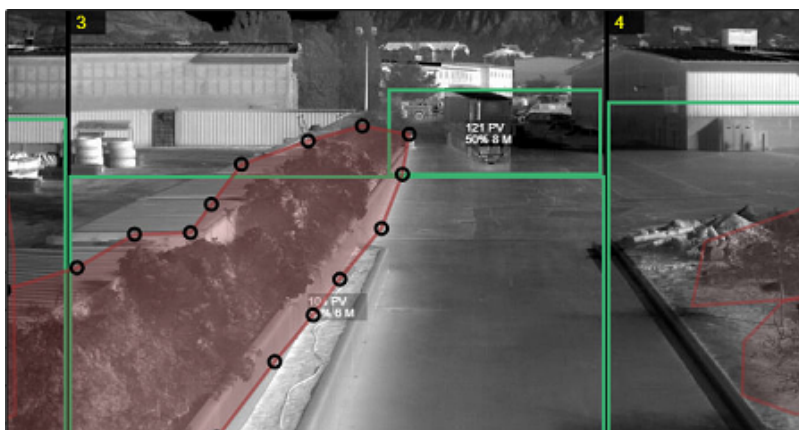
Quick Setup

Quick Setup will allow the user to send out a *Single layer* or *Multi-layer* pattern of AOIs with the selected values to the selected stations. The selected quick setup will cover the selected stations with AOIs from the bottom of the station, to the configured horizon.

Single Layer populates a single AOI per station

Multi Layer populates multiple layers of AOIs per station

Click **All** to select or deselect all stations.

⚠️ **Note:** *If you send a quick setup with no stations selected, it will erase/delete all of the AOIs from the configuration.*
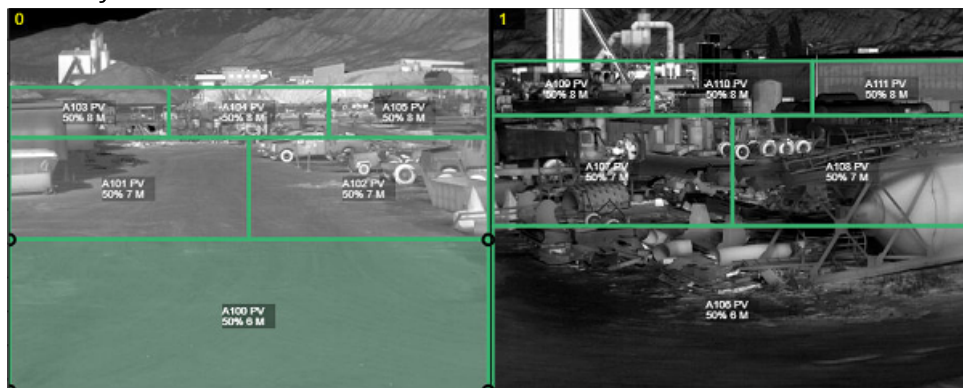

Single Layer
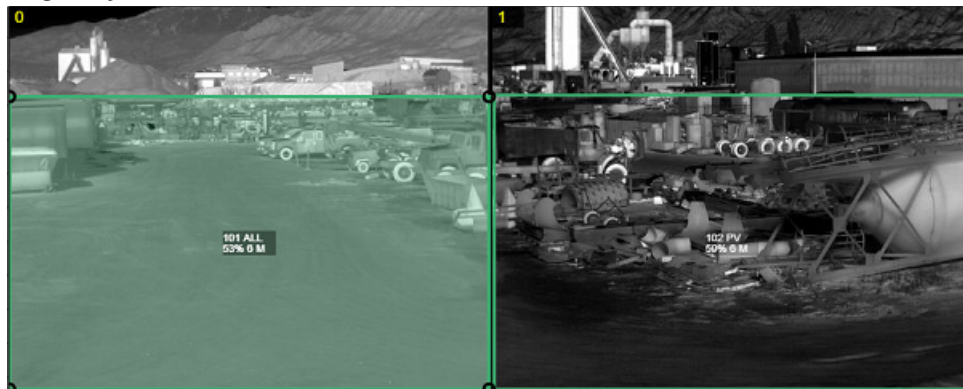
Multi Layer

Alert Receivers

The Thermal Radar™ has the ability to send formatted alerts to several different Video Management Systems (VMS) and devices. The **Alert Receivers** page is used to configure the communication of the alerts to a Video Management Systems or devices.

Adding Alert Receivers

To **Add** a new receiver, click the ⬭Add⬭ button.

To **Remove** a receiver, select the receiver and click the ⬭Remove⬭ button.

Click ⬭Activate⬭ to **Activate** or select ⬭Inactivate⬭ to **Inactivate** a selected receiver.

The settings for the selected receiver will be displayed in the **Settings** panel. *IP Address*, *Port*, *User Name* and *Password* are the most common settings. Other settings may be required by the receiver such as *URI*, *Signal Delay* (for on/off signals), etc.

Click ⬭Apply Changes⬭ to save receivers. Each receiver can be configured for receiving alarms on the Alert Rules page.

⚠️ **Note:** It's possible to create the same receiver type multiple times. Doing this will allow alerts to be sent to the same alert receiver simultaneously (see Alert Rules). Give each Alert Receiver a unique name to distinguish them later.

Detection to Alert Rules

Each **Alert Receiver** that is added to the Thermal Radar™ will be sent alerts based on the Alert Rules at the bottom of the Alert Receivers page.

Alert After ___ Consecutive Detections . . . is how many consecutive detections in a single AOI need to occur before sending the alert.

☑ **After Alert, Disarm AOI for ___ Rotations** . . . if checked, it disarms/shunts the AOI for a selected number of rotations without detections before arming the AOI again. While the AOI is disarmed/shunted, it will not send alerts. If not checked, the AOI's are armed and active and will follow the *Alert After ___ Consecutive Detections* rule.

⚠️ **Note:** These rules are applied to each individual AOI on the Analytics page.

Alert After [2] Consecutive Detections in an AOI
☑ After Alert, Disarm AOI for [3] Rotations Without Detections
(1 rotation = 5.3 seconds)

Alert Rules

The **Alert Rules** page is used to configure how alerts will be filtered and sent to each target Alert Receiver.

Adding Alert Rules

Use **Alert Format** to select the alert receiver the *Alert* will be sent to.

Click (Add) to add a new rule.

Click up 🔼 and down 🔽 arrows to change rule order/priority.

Rules will execute in order, starting from the top of the list, and execution will stop when the first rule conditions are met.

The settings for the selected rule will show up in the **Rule Settings** panel. Each rule has *filter* options that are preselected, and an *Any* option to trigger regardless of detection information.

Detection Type allows the user to filter rules by *Person*, *Vehicle, Fire* or All.

Station Number allows rules to be filtered by Station.

Confidence allows rules to be filtered by confidence level.

AOI ID allows rules to be sorted by a single AOI or an entire group of AOIs; i.e. AOI ID: *A100* or Group ID: *G100*.

The parameter/text fields allocated for the specific type of receiver will display below the *AOI ID* text box. The parameters passed to the receiver is determined by the receiver type. The unique parameter will need to match up to a rule or trigger configured in the receiver. For example, the Advantech ADAM IO module has 0-16 digital switches. The *Switch ID* indicates which switch to trip.

Click (Test) to trigger the selected rule, to verify if the receiver's configuration is working.

To **remove** an existing rule, select a rule from the list and click (Remove).

System Event Triggers

A **System Event** can also be configured to trigger events in the receiver.

Check ☑ **Active** next to System Event to send an error message to the receiver when an error occurs on the Thermal Radar™.

Enter a unique identifier into the System Event text box. The type of parameter required will depend on the alert receiver.

Click ⬭Apply Changes to save settings.

System Event	Active	Alert ID
System Error	☐	0

Display

The **Display Configuration** page allows format changes to be made to the Thermal Radar's video stream that is sent to the desired Video Management System (VMS).

Display Settings

Stream Layout:	Standard Layout
Draw Alerts:	Bounding Box
Fade Time:	8 frames
Alert Cooldown:	10 secs
Detection Cooldown:	3 secs
First Station:	4
Text Size:	Normal
Blip Duration:	5 secs
Show Areas of Interest:	None
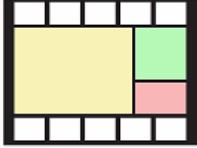
This layout shows thumbnails of all stops, a large Zoom Window, a Radar View, and an Alert Window.

☑ Show Detections   ☑ Show Time
☑ Show Thermal Radar Logo   ☑ Show Station Numbers
☐ Inverse Image (Black Hot)

Video Display

When the Thermal Radar™ identifies a detection, the detection will be highlighted yellow and the station that contains the detection within the Thermal Radar's video display will illuminate with a yellow border. If any of the Areas of Interest (AOI) within the station are setup to send alerts, the detection will be highlighted red and the border around the station will illuminate red.
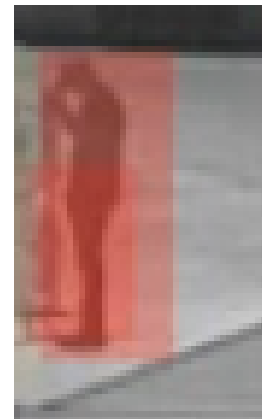
Detection

Detection

Alert

Alert

Display Settings

Stream Layout can be used to change the output of the video stream to one of four configurations, each showing a differing amount of information.

Draw Alerts affects the way that detections and alerts are highlighted on the video stream.

Fade Time affects the amount of time a detection highlight takes to fade after the Detection Duration time runs out.

Alert Cooldown affects how long a station will be highlighted, in RED, when a station sends an alert. Additionally this feature will specify the amount of time the Zoom Window will be fixated on an alert and not be superseded by a lesser priority alert.

Detection Cooldown affects how long a station will be highlighted, in YELLOW, when a station detects motion. Additionally this feature will specify the amount of time the Zoom Window will be fixated on a detection and not be superseded by a lesser priority detection.

First Stop can be used to change layout of top and bottom station images to start with the requested station in the upper left corner.

Text Size affects the font size used in text displayed in the video stream.

Blip Duration affects how many seconds detections (dots ●) show up on the site map before they completely fade.

Show Areas of Interest allows areas of interest and masks of a specified analytics type to be broadcast as part of the video stream.

Show Detections Toggles the yellow detection highlights on or off in the video stream.

Show Time Stamp shows the Thermal Radar's time in the upper left hand corner of the zoom window.

Show Thermal Imaging Radar™ Logo shows the TIR™ logo as part of the video stream.

Show Stations Numbers labels each station in the video stream with an ID, starting with 0 as the home station.
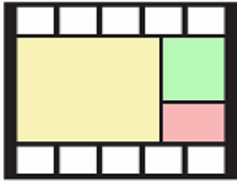
Inverse Image inverts black and white pixel values from default. When enabled, Black pixels are hot and white pixels are cold.

Click (Apply Changes) to save and apply changes to the Thermal Radar's video stream.

Maintenance

The **Maintenance** page is used to update the Thermal Radar™ firmware, restore the unit to it's factory default settings, or restart the Thermal Radar™. The current firmware version of the Thermal Radar™ is displayed just below *System Update*.

System Update

Firmware Version: 2.2_fd44b93a9_202211211112

[Select Update File...]

[Apply System Update]

[Restore Factory Defaults]

[Export Settings...]

[Import Settings...]

[View Logs]

[Restart Thermal Radar™]
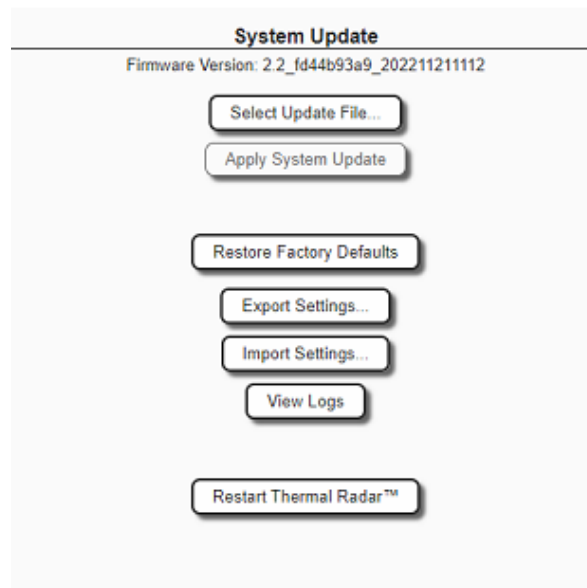
Updating Firmware

Click the [Select Update File...] button and browse to the update file location.

Click the [Apply System Update] button to apply the update and restart Thermal Radar™.

Restoring Factory Defaults

Click the (Restore Factory Defaults) button to restore the factory default settings. Restoring the factory settings will change everything except the IP address of the unit and the users within User Management.

Export and Import Settings
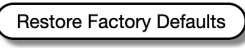
To **Export Settings,** click on the [Export Settings...] button and select the path for the download of your settings file. A *.trs* file will download containing all of the settings of the Thermal Radar™ configuration.

⚠️ **Note:** *Thermal Radar™ settings exclude network settings and user database.*

To **Import settings,** click on the [Import Settings...] button, and select the *.trs* file that contains the settings to be applied.

Logs

The **View logs** button will allow the user to view the logs for the last 30 days of the Thermal Radar's operation. The logs are primarily used for support purposes.

Restarting the Thermal Radar™

To **Restart** the Thermal Radar™, click the (Restart Thermal Radar™) button.

User Management

User Management can be used to add additional users to gain access to the Thermal Radar's web interface. There are three different authority/access levels that can be assigned to a user: **User**, **Monitor**, and **Administrator**.

The **User** authority level has access to everything in the web interface other than the User Management tab and the Maintenance tab.

The **Monitor** authority level can only use the Dashboard page (pause PTZ commands) and view the current configuration on the other tabs.

The **Administrator** authority level has full access to everything within the web interface.

How to add a user :

1. Select **User Management** from the Side bar.
2. Type in User Name and select User Access level from the drop down.
3. Type in and verify Password selected for the User in the appropriate fields conforming to the standards in the dialogue box below the "Add New User" field.
4. Select [Add User] to add the user's profile to the system.

Log Out

In the upper right hand corner of the web interface, use the **Log Out** button to log out of the web interface when finished making changes.