



EAGLE EYE
NETWORKS, INC.

Eagle Eye Security Camera VMS User Manual

Table of Contents

Eagle Eye Security Camera VMS User Manual	1
Table of Contents	2
Overview.....	5
Terminology	5
General	9
Installation and Setup	10
Overview	10
Optional Bridge and Camera Settings	16
Bridges and CMVRs	17
Overview	17
Available Models	17
Bridge and CMVR Failure	18
Bridge and CMVR Security and Maintenance	18
Cameras	18
Analog Cameras	18
Digital IP Cameras	19
Web Based User Interface	19
Adding Bridges and Cameras.....	19
Adding a Bridge	19
Adding a Camera	21
Layouts.....	23
<i>Creating a Layout</i>	23
<i>Adding Cameras to a Layout</i>	24
<i>Editing Layout Settings</i>	26
Deleting a Layout	27
Camera Settings	27
Camera Settings – Camera	27
Camera Settings – Retention.....	29
Camera Settings – Resolution.....	30
Preview Video	30
Full Video Recording	31
Camera Settings – Motion Detection	32
Camera Settings – Audio.....	34
Camera Settings - Location.....	35
Camera Settings - Metrics	36
Bridge Settings	38
Bridge Settings – Bridge	38
Bridge Settings – Location	39

Bridge Settings – Metrics.....	40
Bridge Settings – Metrics – Bandwidth	40
Bridge Settings – Metrics – Bandwidth Measured	41
Bridge Settings – Metrics – Storage	42
Bridge Settings – Metrics – Disk Space.....	43
Bridge Settings – Local Display.....	44
Bridge Settings – Analog.....	45
Local Display	47
User Management.....	47
Adding Users.....	48
Deleting Users	49
User Settings – Access.....	50
User Settings – Cameras	51
User Settings – Layouts	52
History Browser.....	53
History Browser – Find Historic (Recorded) Videos.....	55
History Browser – Selecting portions of video	56
History Browser – Gallery View	57
History Browser – Downloading Video Clips	58
Motion Alerts and Regions of Interest	60
Creating an Exclusion Zone	60
Creating Notifications	63
Bandwidth Considerations	67
Bandwidth Usage and Recommendations:.....	73
Example 1:	74
Example 2:	74
Technical Explanation:	74
Maps	77
System Alerts and Notifications.....	81
History Browser in Detail.....	82
Zoom Level:	82
Scrolling:.....	83
Popup Calendar:	85
Popup Time Selector:	86
Previous and Next Frames:.....	87
Previous and Next Video:	88
Previous and Next Key Image:	89
Mark an Area:	90
Playback or Download:	91
Zooming:.....	92
Gallery Viewer:.....	93



Table Of Figures 97

Overview

The Eagle Eye Security Camera Video Management System (VMS) is a cloud-based service that replaces traditional DVRs and NVRs. The system is completely based on a modern redundant cloud architecture that provides a Web Browser based interface and comprehensive mobile applications for iOS and Android.

The Eagle Eye Security Camera VMS is utilized for traditional security applications such as securing buildings, properties, apartment complexes, factories, critical infrastructure, police stations, retail stores, and restaurant chains. However, it is used for many applications related to "business optimization" as well. Business Optimization is the use of the video to make a business or service run better, more reliably, more efficiently, or with better customer service. The retail applications relate to the perfection of retail displays, the sales process, training of employees, compliance with safety rules, and many more applications.

The Eagle Eye Security Camera VMS is built on the Eagle Eye Video Platform. The Eagle Eye Video Platform provides simple modern API access to live and recorded video from the cameras as well as all of the attached data of motion, tags, objects, and activity. These APIs are used to develop custom user interfaces, custom analysis applications for safety, motion, and other summary reports. The APIs are also used for creating integrations with external systems for monitoring, and analysis. The APIs are also used for development of custom user interfaces both in the mobile and web browser arenas.

Terminology

Eagle Eye Security Camera VMS: The cloud service that Eagle Eye Networks provides for recording, managing, and accessing video from surveillance cameras. This service includes the Eagle Eye Bridge (or an Eagle Eye CMVR), the mobile applications, the web interface, the recording system, and the Big Data Framework for analysis. VMS stands for "Video Management System" and not "Video Management Software". The Eagle Eye Security Camera VMS can record on premise or in the cloud or any combination of the two. It is compatible with a broad selection of third party ONVIF IP cameras as well as analog cameras. It is easy to install and configure, and can be re-branded by resellers.

The Eagle Eye Security Camera VMS is a cloud managed VMS. All video, events, cameras, and the Eagle Eye Big Data Framework are managed and accessed via the cloud regardless of whether the video is stored in the cloud or on premises. This provides a consistent robust user experience regardless of the user's location.

The Eagle Eye Security Camera VMS is built on the Eagle Eye Video Platform using the Eagle Eye Video Platform API

Eagle Eye Security Camera System: This is the full system for using security cameras: it includes the Eagle Eye Security Camera VMS (with the Bridge or CMVR), plus the cameras, plus the switches, etc. It is all the pieces to deliver a security camera solution to a customer or reseller.

Eagle Eye Video Platform: The cloud service that Eagle Eye Networks provides for recording, managing, and accessing video from cameras and video sources of all kinds. This service includes the Eagle Eye Bridge (or an Eagle Eye CMVR), the cloud recording system, the redundancy, and the Big Data Framework. It includes analytics and alerts. The entire Platform is accessible via the Eagle Eye Video Platform API.

Eagle Eye Video Platform API: The on demand Platform API, available to application developers, customers, and resellers, for integration with other systems and development of new applications. The platform uses time-based data structures and a Big Data architecture for indexing, search, retrieval and analysis of the live, recorded, and archived video. The Platform API provides a cloud based RESTful API. The API also provides access controls, audit trails, and camera management.

Eagle Eye Big Data Video Framework: The time based data structures used for indexing, search, retrieval and analysis of video. These big data structures allow high performance efficient search and retrieval in large video data sets. Event data and analytics results can be attached to the video.

Eagle Eye Complete Privacy Encryption: Technology implemented in the Eagle Eye Security Camera VMS and Eagle Eye Video API Platform that encrypts video and the other data to keep it private and secure. Data can be encrypted at rest and is always encrypted during transmission.

Eagle Eye Intelligent Bandwidth Management: Technology that adjusts data transmission and bandwidth utilization dynamically, prioritizes transmissions and makes sure that everything works with the existing Internet connection. This technology is crucial to making the Eagle Eye Camera System function properly.

Eagle Eye Cloud-Premise Flex Storage - Gives the customer the flexibility to adjust the portion of video stored in the cloud and the portion stored on premise. Video can be stored entirely on premise or entirely in the cloud or any combination based on the available bandwidth, customer security requirements, number of cameras, and the customer's application. Customers can easily and dynamically adjust where the video is stored.

Eagle Eye Bridge: The cloud managed on premise appliance that connects the cameras to the cloud data center in the Eagle Eye Security Camera VMS. The bridge "bridges" between the Eagle Eye data center and the on site cameras. The bridge buffers the video in case the Internet connection fails. The bridge also does the encryption, data de-duplication, bandwidth management, motion analysis, and compression of the video.

Eagle Eye Cloud Managed Video Recorder (CMVR): The Eagle Eye Cloud Managed Video Recorder's include all the functions of the Eagle Eye Bridge (see above) and also provide on premise storage. The CMVRs implement the Eagle Eye Cloud-Premise Flex Storage, which allows the customer to select how much video is sent to the cloud, and how much is stored on premise.

Eagle Eye Combo Bridge (Eagle Eye Analog Bridge): Provides connections for analog cameras to connect to the Eagle Eye Security Camera VMS. These are the bridges model 310, 410, and 510. Also support Digital cameras.

Eagle Eye Cloud Data Center: The Eagle Eye Cloud Data Center refers to the many data centers that Eagle Eye Networks has established around the world to record and store the video. The Eagle Eye Bridges and CMVRs connect to these data centers that are located in the "cloud". The mobile applications and web based user interface also connect to these data centers to obtain the video and provide the services.

Eagle Eye Reseller Dashboard: The dashboard that a reseller uses to control, configure, monitor, and get alerts for his customers in the Eagle Eye Security Camera VMS. Allows the reseller to provide value add services and manage their customer accounts more easily. The reseller will be alerted to any camera or system issues immediately.

Eagle Eye Private Cloud: for those customers that require all their video data to stay in their own network Eagle Eye can implement a private cloud on the customers premise. Eagle Eye manages it and the customer provides rack space, power, and network connection. Eagle Eye provides equipment and management. There are additional fees for this service.

Eagle Eye Video API Platform: Eagle Eye Networks makes the Eagle Eye Video API Platform available to application developers, customers, or resellers to integrate or build their own applications and solutions. The Eagle Eye Security Camera VMS is built on the Eagle Eye Video API Platform. The platform can be used with or without Eagle Eye Bridges or Eagle Eye Cameras.

Eagle Eye Bridge Box: At times the Eagle Eye Bridge is referred to as a "Box" to make clear that it is a piece of hardware that goes on the customers premises -- near the cameras.

Eagle Eye Bridge 304: Eagle Eye Bridges and CMVRs come in many models and configurations, they are all denoted by a model number. The most common and most popular Bridge model is the model 304.

Eagle Eye Account: Each user of the Eagle Eye Security Camera VMS and the Eagle Eye Video Platform is associated with an Account. The Account is tied to the entity (company or person) that pays for the service.

Reseller Account: A Reseller can have a "master account" that has customer accounts underneath it. Generally the reseller will be billed for all the customer accounts underneath its master Reseller Account. The Reseller Account will also allow the reseller to access all the sub-accounts to make changes, adjustments, and corrections.

Eagle Eye User: A User of the Eagle Eye Security Camera VMS or the Eagle Eye Video Platform is the person with an email address who signs into the system and looks at video, adjusts cameras, or in general uses the system. A user is always associated to, or is a member of, an Eagle Eye Account.

Eagle Eye Reseller: Eagle Eye Resellers install, maintain, support and provide the Eagle Eye Service to End Customers who use the system.

Eagle Eye Partner: Resellers, distributors, and other partners of Eagle Eye Networks. This includes all the companies and people involved in selling, supporting and installing Eagle Eye Systems.

Eagle Eye Subscription: Once an account is established a User can select Subscriptions. A Subscription is necessary to start recording and activate a camera. The Subscriptions vary in cost and features

depending on the needs of the End Customer and the Reseller. In general there is one Subscription for each camera. The Subscription determines how long the video is saved (the retention period) and also specifies the resolution of the recording on the camera.

On-premise: On Premise means on the customer's location. The Eagle Eye Bridge is placed on premise. The Eagle Eye CMVR will record video on-premise.

AttachID: Every Eagle Eye Bridge has an associated AttachID. The AttachID is used to attach a Bridge to an Eagle Eye Account. You need to enter the AttachID to associate the Bridge to the account so that you can see the video and manage the cameras.

Attach a Bridge: The process of attaching a Bridge or CMVR to an Eagle Eye Account. There is no billing caused by this process. Billing only starts when a Camera or other device is added to the account. The AttachID is used to perform the connection between the Bridge and the Account.

Customer Dashboard: The customer or end user has a Dashboard that displays the operational status of the cameras and Bridges.

Reseller Dashboard: This is the login for a Reseller that shows the current status of all the Reseller's accounts. It also shows any cameras that are online or offline, bridges, and Notifications.

Add Camera: A User or a Partner must Add a Camera to an account to enable video recording and the display of live video. Adding a camera starts the billing process for the subscription.

Alerts: Alerts are generated by events on the camera (most commonly motion events, but can also be alarms or other inputs). The Alerts are stored in the system along with the video data. Alerts can optionally generate Notifications based on the settings of the camera and the user.

Notifications: Notifications can be considered the second stage of an Alert. Notifications are the emails, on screen notifications, the in-app notifications, or the SMS messages sent resulting from Alerts. Not all Alerts generate a Notification, but all Notifications stem from Alerts.

Eagle Eye API Key: An API Key is needed to directly use the Eagle Eye Video Platform API. The API Key provides security and identifies the application that is making access to the API.

Preview Video: The Lower resolution, lower frame rate video that is typically configured to be transmitted immediately to the Eagle Eye Cloud Data Center. This can provide a quick overview of large number of cameras with low bandwidth.

Full Video: Full video is the higher resolution, higher frame rate video typically coming from a digital camera. The Eagle Eye Security Camera VMS will normally only record this video when motion is detected, however, it can be configured to record always as well.

POE (Power Over Ethernet): Many Digital IP Cameras are POE. This means they receive their Power via the Ethernet cable (when used with a POE Switch or POE Injector). It reduces the number of wires, simplifies installation, and makes for a more reliable system.

POE Port: This is the port on the POE switch or Eagle Eye Bridge that provides POE power over the Ethernet cable. There are standard Ethernet ports and POE Ethernet ports. A POE port is needed to supply power to a camera.

SD Camera: A Standard Definition resolution camera, normally in the range of 640 x 480 resolution.

HD Camera: A High Definition resolution camera normally in the range of 1 Megapixels to 1.5 Megapixels. Cameras up to 720p resolution fall into this category.

HD2 Camera: A High Definition resolution camera that is 2 Megapixels. Cameras up to 1080p fall into this category.

ONVIF: ONVIF is established as a non-profit organization. It is an open industry forum promoting and developing global standards for interfaces of IP-based physical security products. More info at www.onvif.org

Local Display: Display of live video on a monitor connected directly to an Eagle Eye Bridge or CMVR.

Motion Area: An area of the image, within the field of view of a camera, that outlines a portion of the screen where a motion setting is going to be made. This is used for generating alerts or notifications. It can also be used for filtering out motion of trees or other items.

Region of Interest: Similar to Motion Area.

General

The Eagle Eye Security Camera VMS is Cloud based solution. It is designed to operate for customers that have some Internet connectivity. It is NOT suitable for use by a customer that does not have any Internet connection. The larger the connection bandwidth the better the system will work. In general the customer should purchase the largest economical amount of bandwidth that is possible.

The key component of the bandwidth used by Eagle Eye is the upload speed, not the download speed. The minimum upload bandwidth that is recommended is 768kbits of bandwidth. With this small amount of bandwidth the system can operate properly for a SD style cameras or using a CMVR can operate with higher resolution cameras.

The operation of the Eagle Eye system is very simple. The Cameras communicate with the Eagle Eye Bridge or CMVR, which is located at the customer's site. The Bridge communicates with the cameras either over an Ethernet network, wireless network, or analog coax connection. The Bridge or CMVR will perform the configuration of any digital cameras and then receive the video/audio from the digital or analog cameras.

The Bridge will record the video and audio to the local storage (located in the bridge). This is necessary to buffer the video and becomes even more important if the Internet connection should go down. Once the video/audio is recorded to the local storage the Bridge/CMVR will perform additional operations.

The Bridge/CMVR will process the video and analyze it for any motion. If motion is detected the video will be tagged with objects and motion information. The video is then encrypted. If there is available

bandwidth the video may be transferred to the Eagle Eye Cloud Data Center for longer-term storage. In the case of the CMVR the video may be kept locally rather than sent to the cloud.

The Eagle Eye Security Camera VMS when using a CMVR (Cloud Managed Video Recorder) provides complete flexibility with regard to the storage of video/audio. The Video may be stored locally or stored in the cloud or in both. There are separate retention periods for each location. This may be adjusted on a camera-by-camera basis. Furthermore it is possible to transmit low-res video to the cloud and keep hi-res video on premise, or vice versa.

All access to the live and recorded video is obtained via a connection to the Eagle Eye Cloud Data Center. The User will connect to the cloud data center via their web browser or mobile application. The video and audio will then be viewable. All settings and configuration are performed via this same cloud connection. If the desired footage has not been transmitted to the cloud or the user requests a live video feed the Eagle Eye Cloud Data Center will quickly request the necessary data or feed from the Bridge or CMVR. This is considered "on demand" viewing.

Security is crucial in an environment like this. The Eagle Eye Security Camera VMS encrypts all the video, audio, and other data that is transmitted both to and from the cloud. All data is encrypted at rest both on the bridge and in the cloud. The Eagle Eye Bridges and CMVR's only talk outbound directly to the Eagle Eye Cloud Data Centers. They therefore do not have any open ports or require any port forwarding on firewalls. They are inherently safer and more secure because of this.

The Eagle Eye Cloud Data Center, although referred to as a single data center, is actually a series of data centers distributed throughout the world. These data centers cooperate and maintain connections to Eagle Eye Bridges and CMVR's to provide the functionality. These data centers implement a redundant architecture where the customers' video is actually stored 3 different times -- making loss of any video highly unlikely.

Installation and Setup

OVERVIEW

This is a quick overview of the physical and networks installation for an Eagle Eye Security Camera VMS installation. We use a Bridge in this example, however, a CMVR is nearly identical.

Internet Connection: Install the Internet Connection to the facility. Obtain as much bandwidth as you can at a reasonable cost. Higher bandwidth provides faster response for the user. If using a 1MP HD camera, we recommend about 500 Kbps upload speed per camera. Consumer grade bandwidth is acceptable. You do not need "business grade".

DHCP Enabled: Its best to make sure the modem or router supplied by your Internet provider has DHCP enabled. The Bridge and the Cameras will use DHCP IP addresses by default. If you need to implement static IP addresses on either the Eagle Eye Bridge or the Cameras please see the OPTIONAL section below.

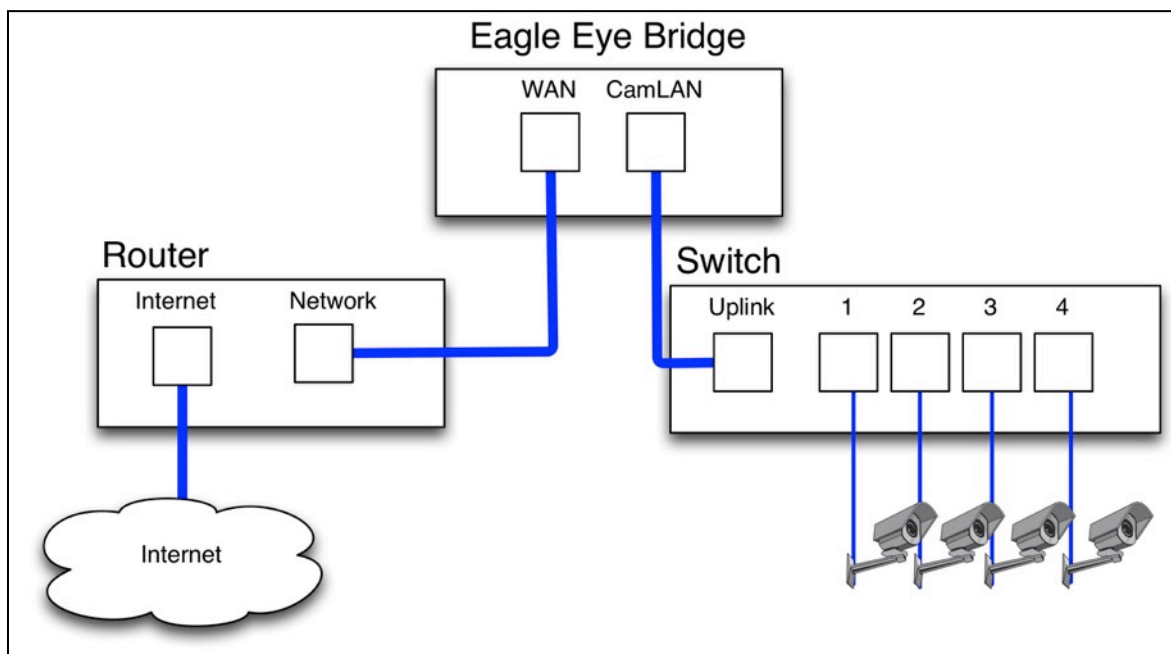


FIGURE 1 - WIRING DIAGRAM FOR EAGLE EYE BRIDGE OR CMVR

Eagle Eye Bridge Connection: Connect the Eagle Eye Bridge to the Internet. Use the WAN Ethernet port on the Bridge and connect to your router or modem. This can be done either through a switch or directly. **DO NOT CONNECT THE CAMLAN PORT TO YOUR REGULAR NETWORK -- IT IS FOR CAMERAS ONLY!**

POE Switch (for Digital Cameras): Connect an Ethernet switch to the CAMLAN port of the Eagle Eye Bridge. This switch should be a POE switch if you will be using POE Cameras. If you are using analog cameras the switch is not needed. The CAMLAN port provides DHCP address for the cameras and is non-routable to the WAN. Alternative, cameras may be connected to the same switch as the WAN port of the bridge. If you are using managed switches be sure to enable multicast.

Log Into your Eagle Eye Reseller Account and Create a Customer Account: Login into your Eagle Eye Reseller Account at <http://login.eagleeyenetworks.com>. If your company does not have an account please contact Eagle Eye Networks support (support@eagleeyenetworks.com). After logging in you will see your Reseller Dashboard, you can create a sub-account by clicking the “Add Sub-Account” button. After the account has been created select the “eye” icon next to the customer name to jump into the sub-account

Attach the Bridge to Customer Account: Attach the Eagle Eye Bridge to the customer account by pressing the “Add Bridge” button on the dashboard page. Enter the **AttachId** of the bridge you are installing. A bridge can only be attached to one account at a time. If you have already added the Bridge to another account (for testing or evaluation) you have to delete it from the previous account before you can add it to another account. Bridges cannot be re-used between customers. They need to be returned to Eagle Eye Networks so that the data can be erased and the hardware re-certified. A new bridge is required for each new customer location.

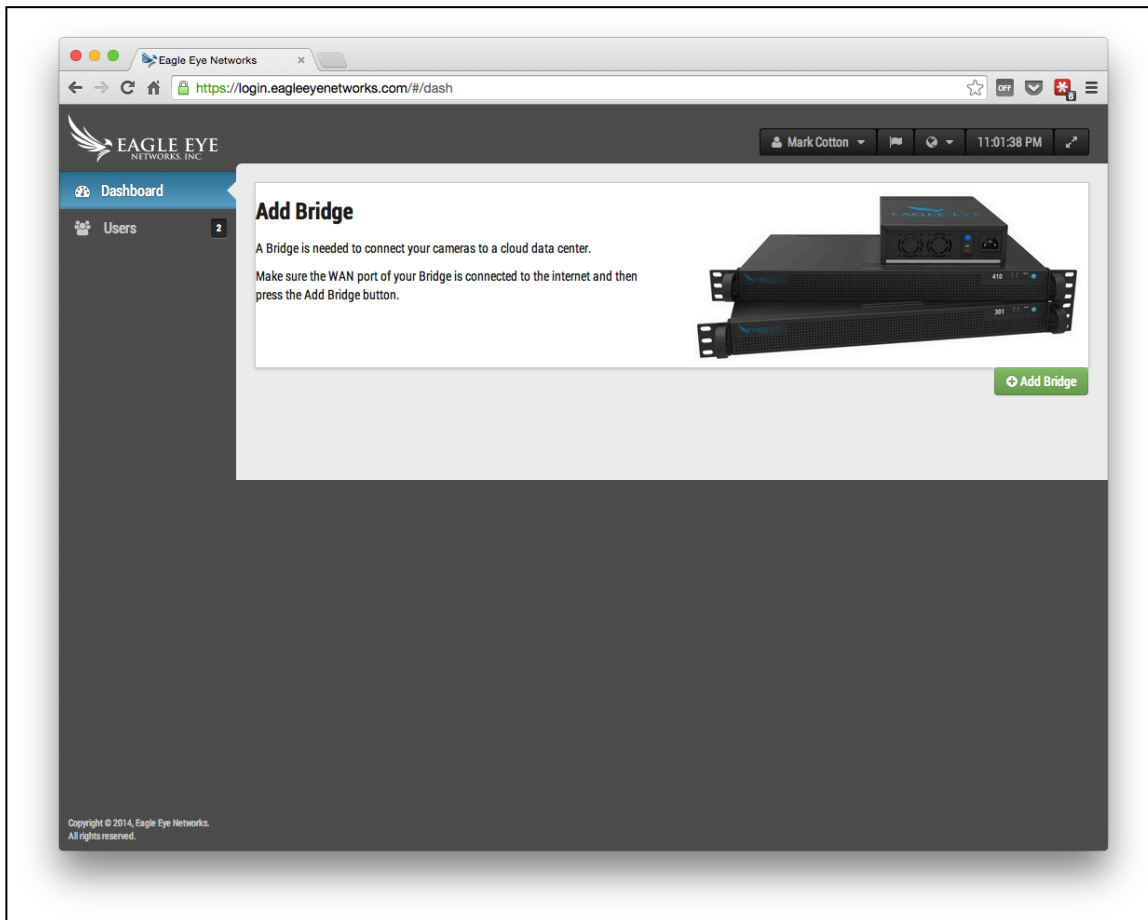


FIGURE 2 – ADD A BRIDGE

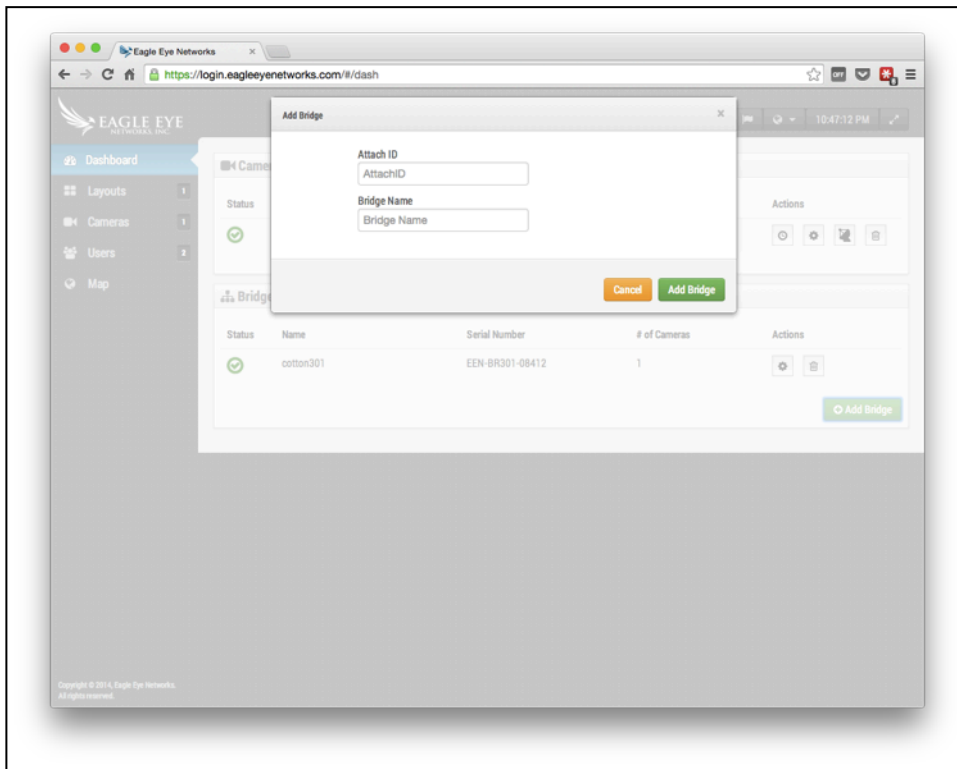


FIGURE 3 – ATTACH A BRIDGE

Physically Install Cameras: Physically install the cameras; connect them to the POE switch or the Analog BNC connectors and power them up. The Eagle Eye Quickstart guide has detailed instructions for different camera manufacturers, but for most camera manufactures no configuration via the camera web interface is needed. If re-using cameras make sure they are set to factory defaults and that DHCP is enabled. It is best to upgrade the firmware on the cameras to receive the latest fixes and security from the manufacturer.

Add Cameras: The Eagle Eye Bridge will continually scan for cameras on the network. After about 5 minutes a properly connected camera will appear on the Customer Dashboard as an Available Camera. Press the “Plus” sign to attach the cameras and start recording.

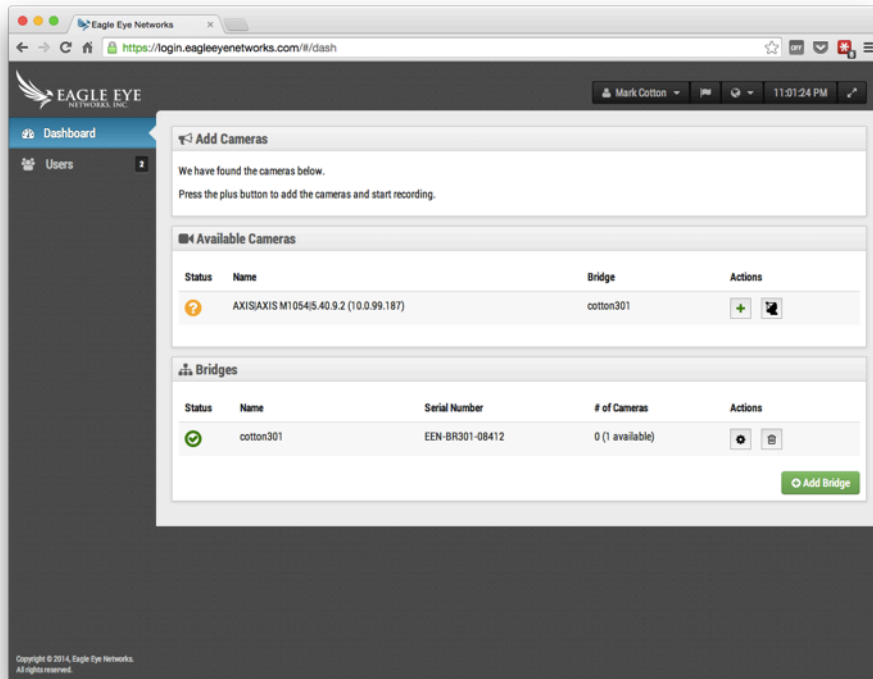


FIGURE 4 – ADD CAMERAS

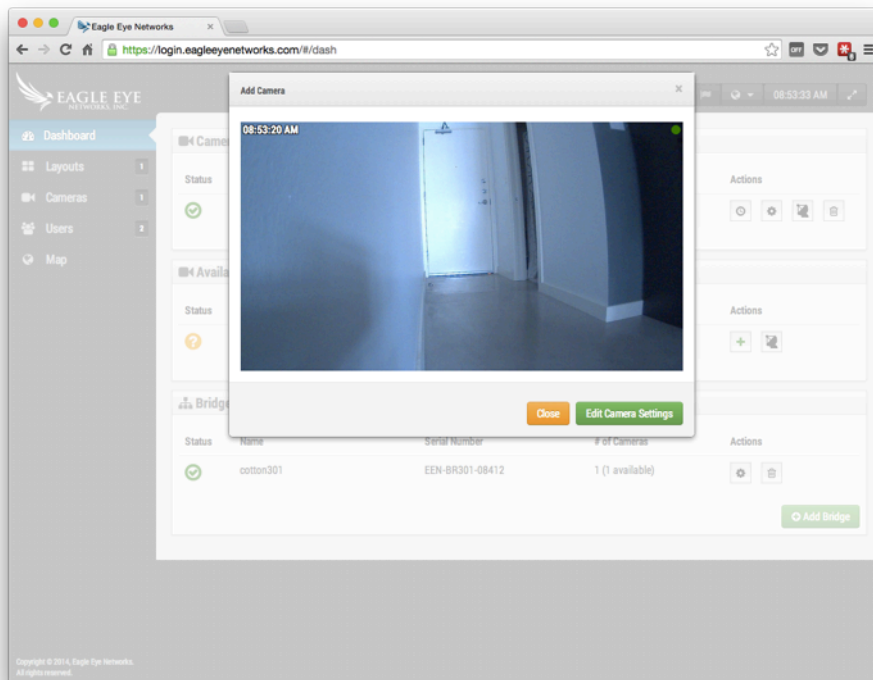


FIGURE 5 – NEW CAMERA FIELD OF VIEW

If no cameras appear after five minutes, cycle the power on the cameras. Some camera manufacturers only reply to ONVIF commands when the camera is first started. If the bridge is started after the camera, it may never be “discovered” without restarting the camera. To further troubleshoot, connect a laptop to the network with the cameras and scan to see if the cameras appear on the network. Note: some camera manufacturers will default to a static IP address and not DHCP. Verify this based on your camera manufacturers manuals and by testing on the network with the cameras.

Configure Camera Settings: Select the “Gear” icon next to the Cameras on the Customer Dashboard to adjust the camera settings. If using a layout or camera view to see preview images, click the down arrow in the top right of the camera’s preview to open the actions menu. See Figure 7 Camera Action Menu. In particular select the appropriate recording and resolution settings. You may have to enter the ONVIF username and password for the Cameras if you set them up with one (see optional settings below in Figure 6 – Camera Settings).

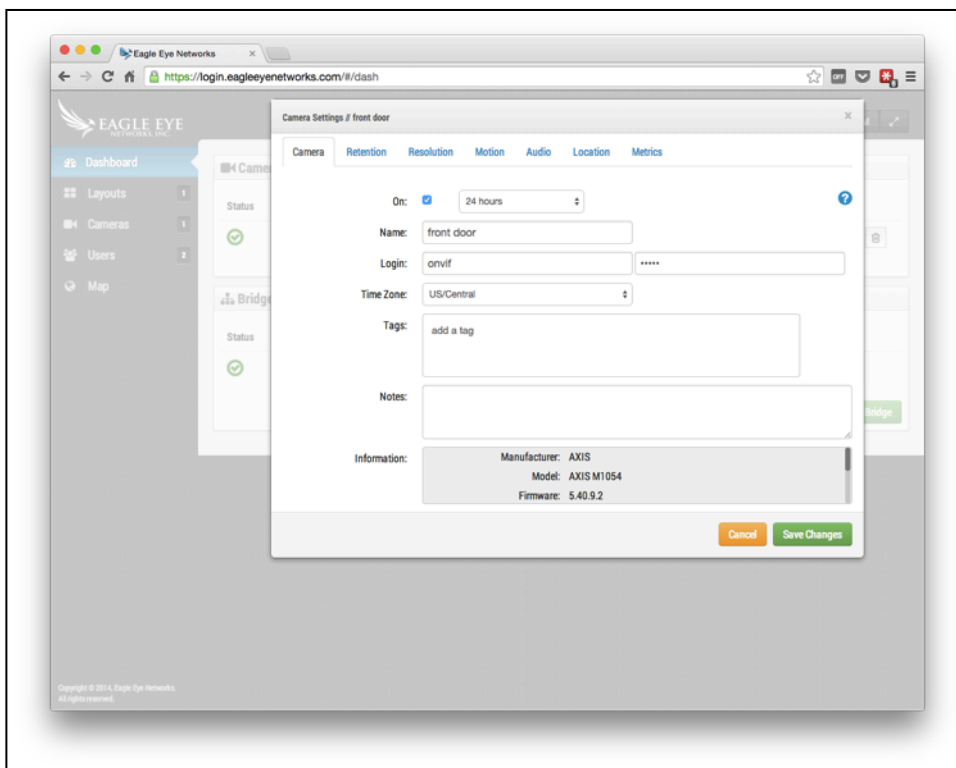


FIGURE 6 – CAMERA SETTINGS

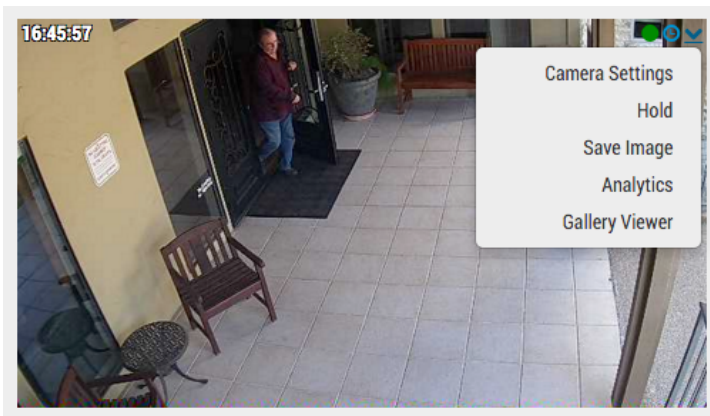


FIGURE 7 CAMERA ACTION MENU

OPTIONAL BRIDGE AND CAMERA SETTINGS

The settings mentioned above work for most situations. However, there are times when additional settings need to be made.

Camera Web Passwords: It is strongly recommended that you change the default passwords on your cameras using their web interface. Most cameras use the same password for ONVIF and their web interface so you will need to update the ONVIF username and password in the Eagle Eye camera settings with the correct password when you change the web password.

Camera ONVIF Passwords (AXIS): AXIS cameras have separate accounts for ONVIF and the web interface. A new ONVIF user must be created in the Axis web interface. The ONVIF username and password will need to be updated in camera settings. For more information, visit: <http://www.eagleeyenetworks.com/enabling-onvif-support-axis-cameras/>

Bridge Static IP Address: To configure the Eagle Eye Bridge with a static IP address, you will need to connect a monitor and keyboard to the bridge. You can login to the Admin Interface with user “admin” and the password is the last 5 digits of the Bridge’s serial number. In the Admin Interface, choose “Configure Network”, then “WAN” and fill in all of the fields to set the static IP address.

Camera Static IP Addresses: You can configure the cameras with static IP addresses. There are no changes needed in the Eagle Eye VMS. Simply make sure the IP addresses you use do not conflict with each other or other devices on the network. Note that you must set the static address for the cameras using the camera web interface. If using the CamLAN, addresses 10.143.0.2 - .99 are available to use as static addresses. The CamLAN begins serving DHCP addresses at 10.143.0.100.

Cameras on Bridge WAN Port: The Eagle Eye Bridge will scan the WAN and CAMLAN ports for cameras. Cameras found on either network port will appear as “Available Cameras”. The Eagle Eye Bridge uses multicast to discover ONVIF cameras and multicast should be enabled on any connected switches.

Bridges and CMVRs

OVERVIEW

Eagle Eye Bridges and CMVR's are critical components to making the Eagle Eye Security Camera VMS operate. They are the connection between the cameras and other input devices and the Eagle Eye Cloud Data Center. Without them, no data can get to the cloud, and no data or video can be seen by the User. The functions performed by the Bridges and CMVR's are many. We will not go into the details here, however, it is important to understand that the Bridge/CMVR receives all the video (and audio) from the cameras. It also configures and controls IP cameras via the camera's ONVIF interface.

AVAILABLE MODELS

The Eagle Eye Bridge and CMVR are available in over 20 different models. The appropriate model needs to be chosen for the location and application. The most popular model for new installations is the model 304. This is a physically small model supporting up to 15 IP Cameras and is appropriate for remote locations. For retrofit applications using analog cameras, the most popular models are the Bridge 310 and 410, which support 8 and 16 BNC, connected analog cameras respectively. The model 310 and 410 are known as Combo Bridges because they support both analog and digital cameras. It is a 1 to 2 relationship in number of cameras supported: for every 1 analog input not used, 2 IP cameras can be used. So the 310 supports up to 16 IP and the 410 supports up to 32 IP cameras. Any combination of analog and IP can be used following the 1:2 rule of 1 analog or 2 IP cameras.

There is a large variety of CMVR's as well. They are available in Combo and Digital only versions. CMVR's are used when either 1) it is necessary for policy, compliance, or customer preference to keep some or all of the video on premise. 2) There is not enough bandwidth available to transmit all the recorded video to the Eagle Eye Cloud Data Center.

Bridges and CMVR's are available that support up to 180 Cameras. For more cameras at a single location multiple units can be used.

The Bridges and CMVR's also have variations in physical mounting. We generally recommend the rack mount units, but in some installations smaller units that need to go into data closets or underneath desks are required.

The Bridges and CMVR's include storage. In the case of the Bridge the storage is intended as a buffer for when the Internet goes down or when bandwidth is not available for other reasons. In the case of the CMVR the storage is longer term. The on-premise storage provided by the CMVR is managed and controlled from the Eagle Eye Security Camera VMS via the cloud. All video on the CMVR is accessed via the Eagle Eye Security Camera VMS as well. This provides for a consistent user interface and better user experience. The user operates the system the same regardless whether a CMVR or Bridge is used and regardless of where the video has been stored. The user experience is the same, so long as minimum upload bandwidth is available. For a CMVR or bridge, we recommend a minimum of 2 mbps upload above the preview transmit.

Some models of the Bridge and CMVR have a video output connector and support Local Display. The current live video can be displayed on a monitor attached to the Bridge or CMVR via this video

connector. This is useful in many situations where a manager wants an all the time live view, or an overhead display is desired to show that surveillance is in use. Local Display, like all items in the Eagle Eye Security Camera VMS, is managed and configured from the cloud. For details on the current Bridge and CMVR models, please check www.EagleEyeNetworks.com/product/bridge-models/

BRIDGE AND CMVR FAILURE

The Bridge and the CMVR is hardware that is located on the customer's premise. It is a basic computer similar to a PC or the insides of an NVR or DVR. It is therefore susceptible to hardware failure. The Eagle Eye Cloud Data Center is a fully redundant and distributed system so it is insulated from single hardware failures. The Bridge and the CMVR, unless deployed in a redundant mode, however can fail. These failures can be due to power supply failure, someone pulling the power plug, hard disk failure, or general electronics failure. When the Bridge or CMVR fails video recording will typically stop. In the case of the Bridge video that has not been transmitted to the Eagle Eye Cloud Data Center yet may be lost. The Bridge will need to be replaced. The CMVR may need to be replaced or repaired (depending on its size). Because all the configuration information for the Bridge/CMVR is stored in the cloud the replacement of the bridge or CMVR is quick and painless. The Eagle Eye Cloud Data Center will push all the configuration information for the Bridge/CMVR and all the cameras to the new device. The only work needed by the technician or the customer is to physically replace the Bridge/CMVR.

BRIDGE AND CMVR SECURITY AND MAINTENANCE

The Bridges and CMVR's only communicate with the Eagle Eye Cloud Data Center. They do not require any inbound open ports or firewall inbound openings.

The Eagle Eye Bridges and CMVR's are remotely managed and maintained by Eagle Eye Networks. No software updates, no firmware patches, no security updates are needed by reseller or customer. All of this type of maintenance is done automatically by the Eagle Eye Security Camera VMS. This makes for a more secure and more reliable environment.

Cameras

ANALOG CAMERAS

Analog cameras can be used with the Eagle Eye Security Camera VMS. Analog cameras typically require power from an external source. This is different than Digital IP Cameras that often use POE and get their power over the Ethernet connection.

Analog Cameras used with Eagle Eye Combo Bridges normally connect to the bridge using a coaxial cable connection. Other connections are possible but the most common and the connectors provided by Eagle Eye are coax.

The Eagle Eye Combo Bridges support both NTSC and PAL. Additionally, they have been tested with over 1,000 different Analog Cameras. We have not found any standard definition cameras that have not worked with it.

DIGITAL IP CAMERAS

The Eagle Eye Networks Security Camera VMS uses the ONVIF Standard to communicate with Digital IP Cameras. Unfortunately this does not mean that the system works with all cameras that claim to be ONVIF compliant. It turns out that ONVIF is only a small part of the complexity of communicating with Digital IP Cameras. The list of supported cameras is located on the Eagle Eye website in the support section.

If purchasing new cameras we recommend purchasing a camera that is on the list on our website. If you have existing Digital IP Cameras that claim to be ONVIF compliant we can often make them work. Please contact us for some guidance and timelines.

The Eagle Eye Security Camera VMS can also support cameras that are manually configured and output RTSP streams. This is an advanced feature so please contact our support team for details on how to configure this for your specific situation.

Some Eagle Eye customers have attempted to utilize the multi-stream capabilities of cameras to feed two different VMS systems. We strongly advise against this. There is too much complexity and crossover in the communications with the cameras to do this reliably. A camera should only communicate with the Eagle Eye Security Cameras VMS.

Camera quality and Camera Failures: Today's Digital IP Cameras are very complex. They contain a tremendous amount of software and hardware. The software almost always has security issues and serious bugs. It is common for these cameras to crash and hang. The Eagle Eye Security Camera VMS will automatically do everything it can to reset and restart cameras that crash or fail like this, however, the cheaper cameras tend to crash and fail more often because the testing processes applied to them by the manufacturer are less stringent. If you want a reliable system we recommend choosing quality cameras.

Web Based User Interface

The Web Based user interface for Eagle Eye Security Camera VMS is available at the following url:
<https://login.eagleeyenetworks.com>

If you do not have an account that has been setup by a Reseller you should create a new account. Follow the instructions and verify your email address to create the new account. Once you have your account you can add Bridges and cameras to it.

ADDING BRIDGES AND CAMERAS

Bridges and Cameras must be added to your account before you can record video using the Eagle Eye Security Camera VMS. Follow these instructions:

ADDING A BRIDGE

When a Bridge or CMVR is first used it must be connected to your Eagle Eye Account before you can record video, add cameras, or perform any functions. From the Dashboard, click the "Add Bridge"

button in the lower right to add the Bridge to your Account. You will need the AttachID, which is on the Quickstart Guide packaged with the Bridge.

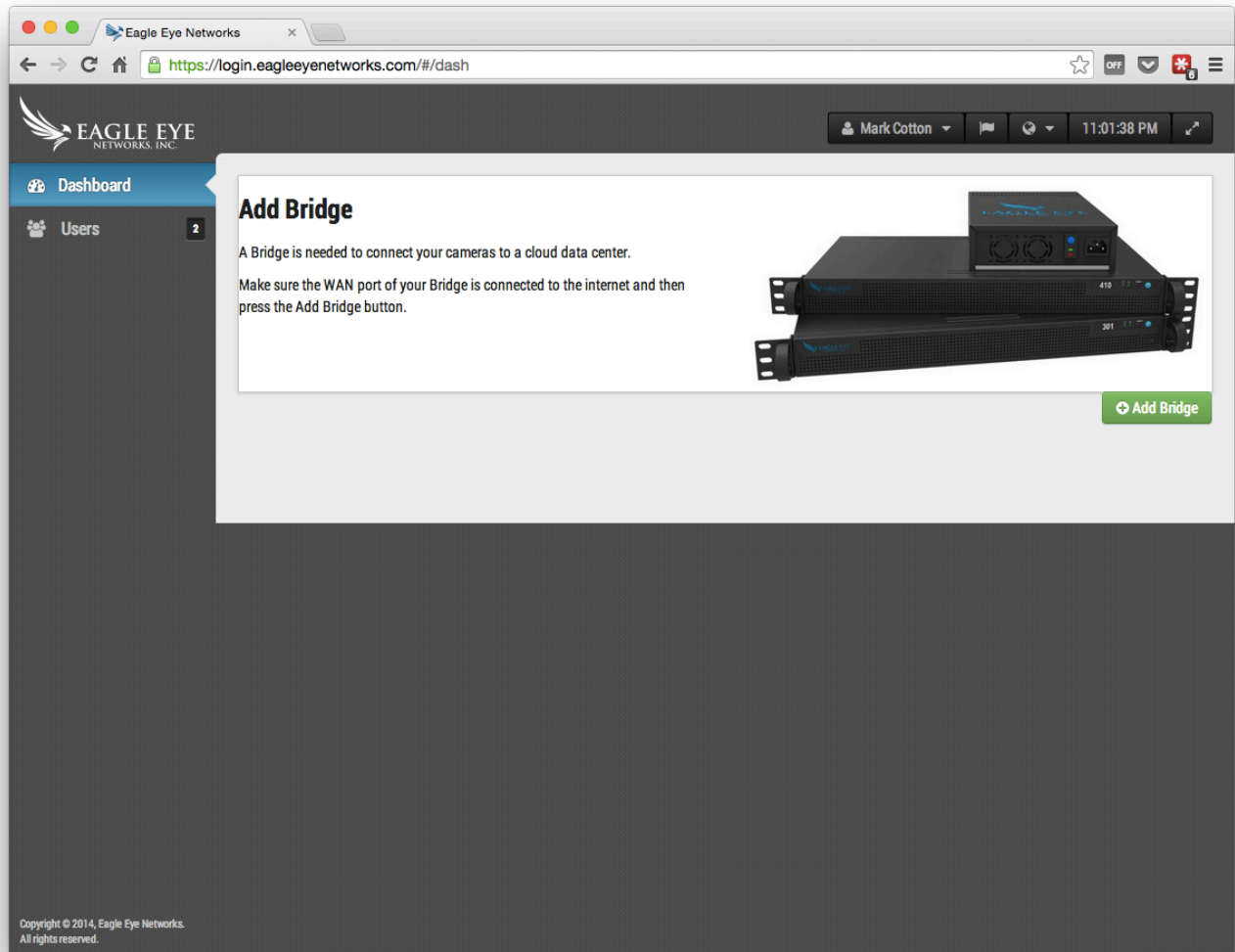


FIGURE 8 – ADD A BRIDGE

You will be asked for the AttachID and a name for the bridge. The AttachID can be typed with or without the dashes. The Bridge name is for your convenience. Utilize this same process for a CMVR. We recommend using a Bridge name that denotes its location. Once the Bridge is Added or attached to your account you will be able to add cameras and start the recording process.

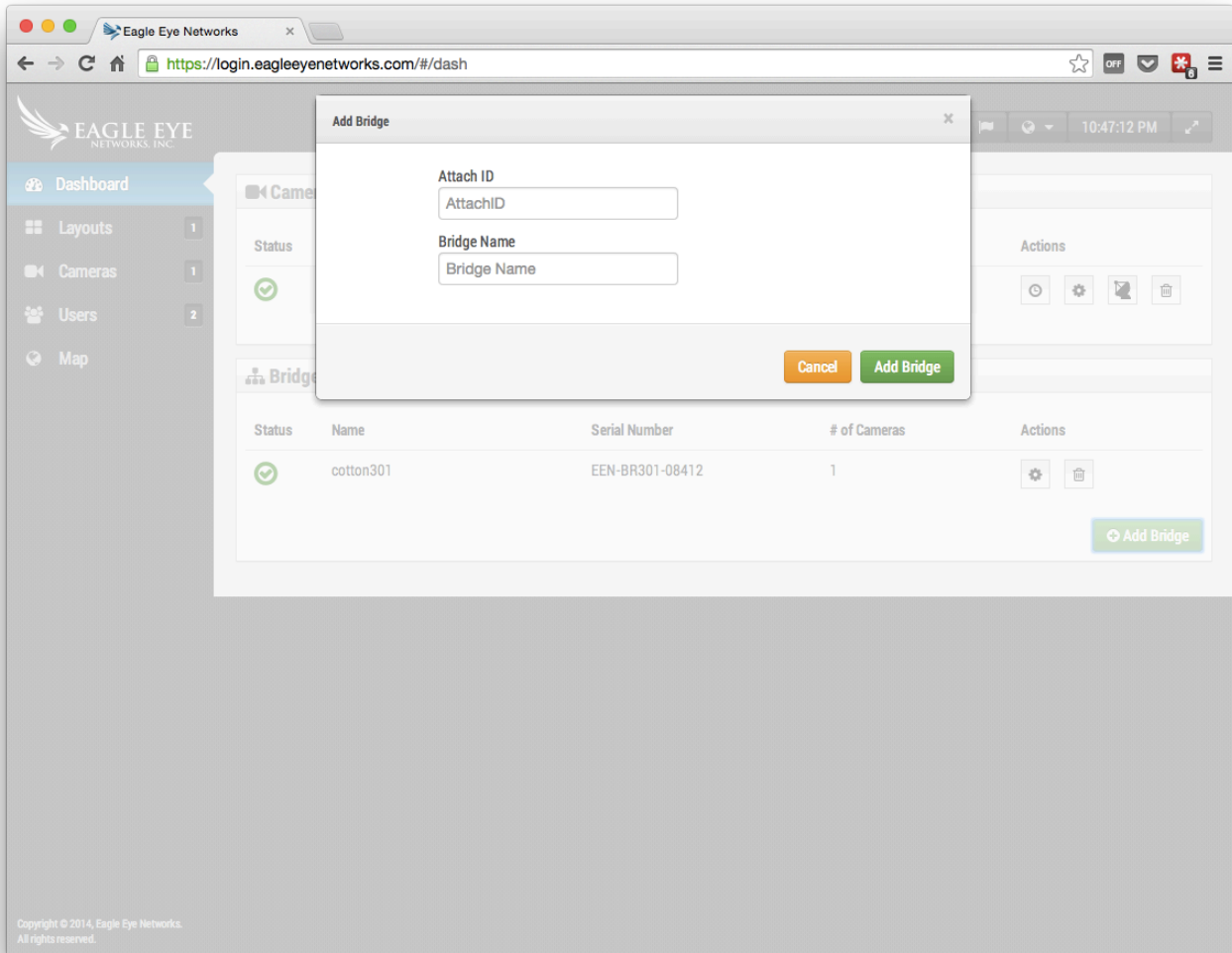


FIGURE 9 - ATTACH A BRIDGE

ADDING A CAMERA

Once a Bridge has been added to an Account it will begin scan the network for compatible cameras. It will scan on both the WAN and CAMLAN sides of the network. We recommend only connecting cameras to the CAMLAN side, however, in more complex network environments it may be necessary to have cameras on the WAN network. When cameras are found, they will appear in the Available Cameras section. See Figure 10 – Add a Camera below.

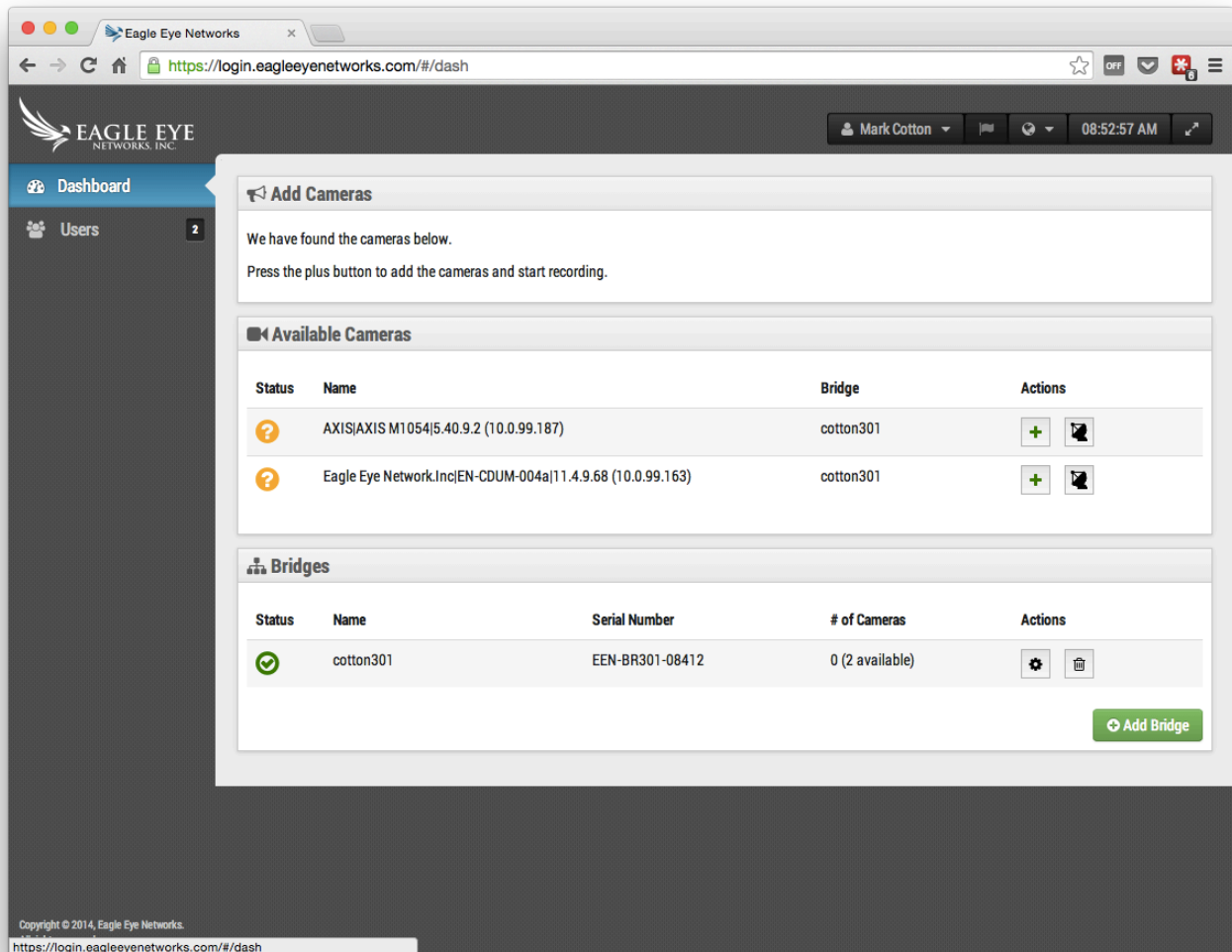


FIGURE 10 – ADD A CAMERA

Allow up to five minutes for new camera discovery. Some cameras, such as Samsung, will only make an ONVIF announcement upon their startup. If the bridge is started after a camera that is programmed by manufacturer this way, the camera will need to be power cycled to be discovered. If your cameras do not appear after five minutes, we recommend a power cycle on them.

You can add an Available Camera by clicking on the plus button the right of the camera's name. When adding a new camera, the camera will be configured and a preview of the camera will appear. Sometimes the camera may take up to 1 minute or longer for the preview to appear because some cameras are very slow to configure and setup. You can now edit the camera settings or close this dialog box.

The Preview image appears so that you can aim the camera. We recommend that you edit the settings of the camera and enter the name you would like.

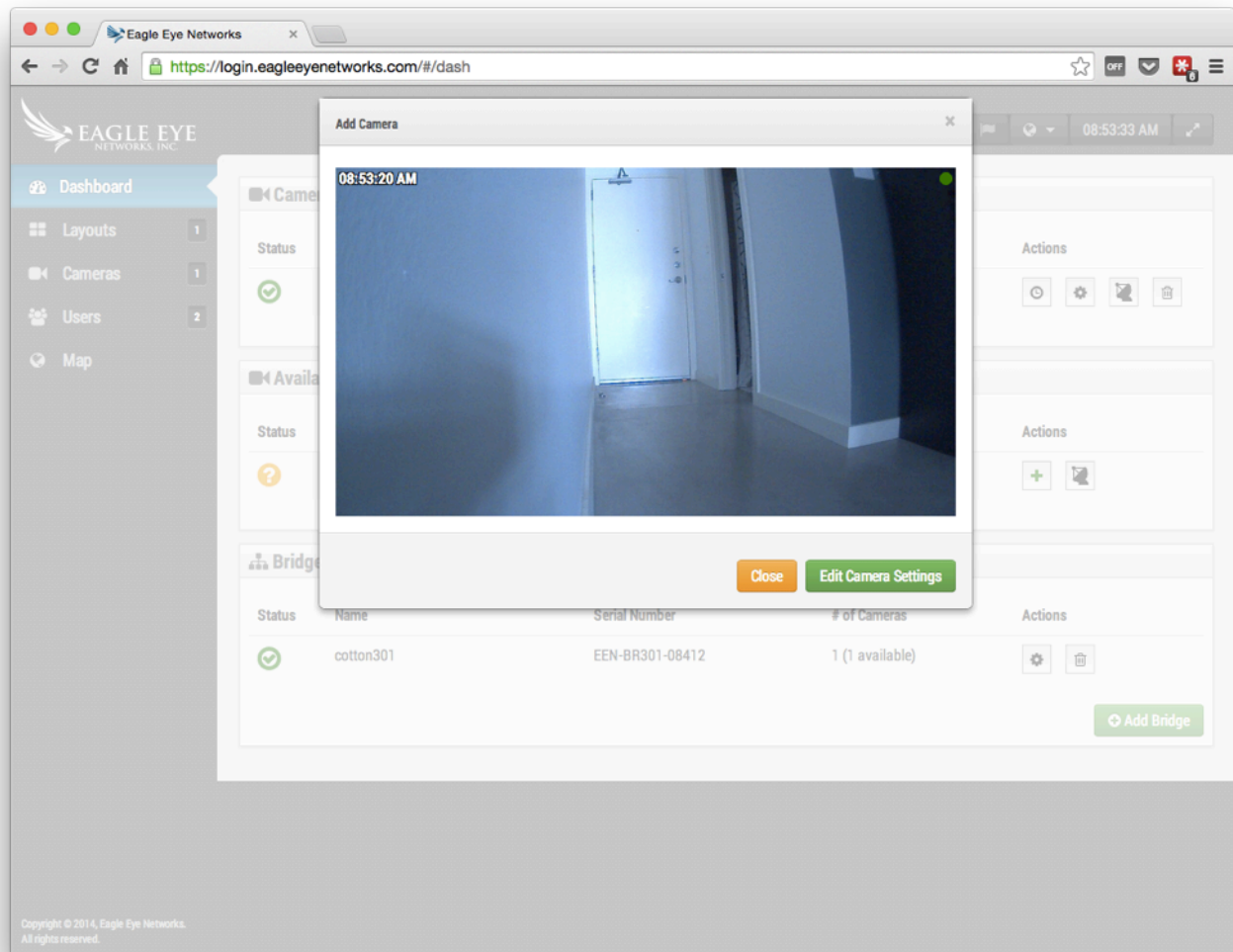


FIGURE 11 – NEW CAMERA FIELD OF VIEW

LAYOUTS

A layout is a configurable screen that allows you to customize display size and position of cameras preview video. Layouts remain the same across the web interface and the mobile devices. You can control which layouts which users get access too.

CREATING A LAYOUT

Choose “Layouts” from the navigation menu on the left. You can create your first layout by clicking the “Create a Layout” button on the lower right.

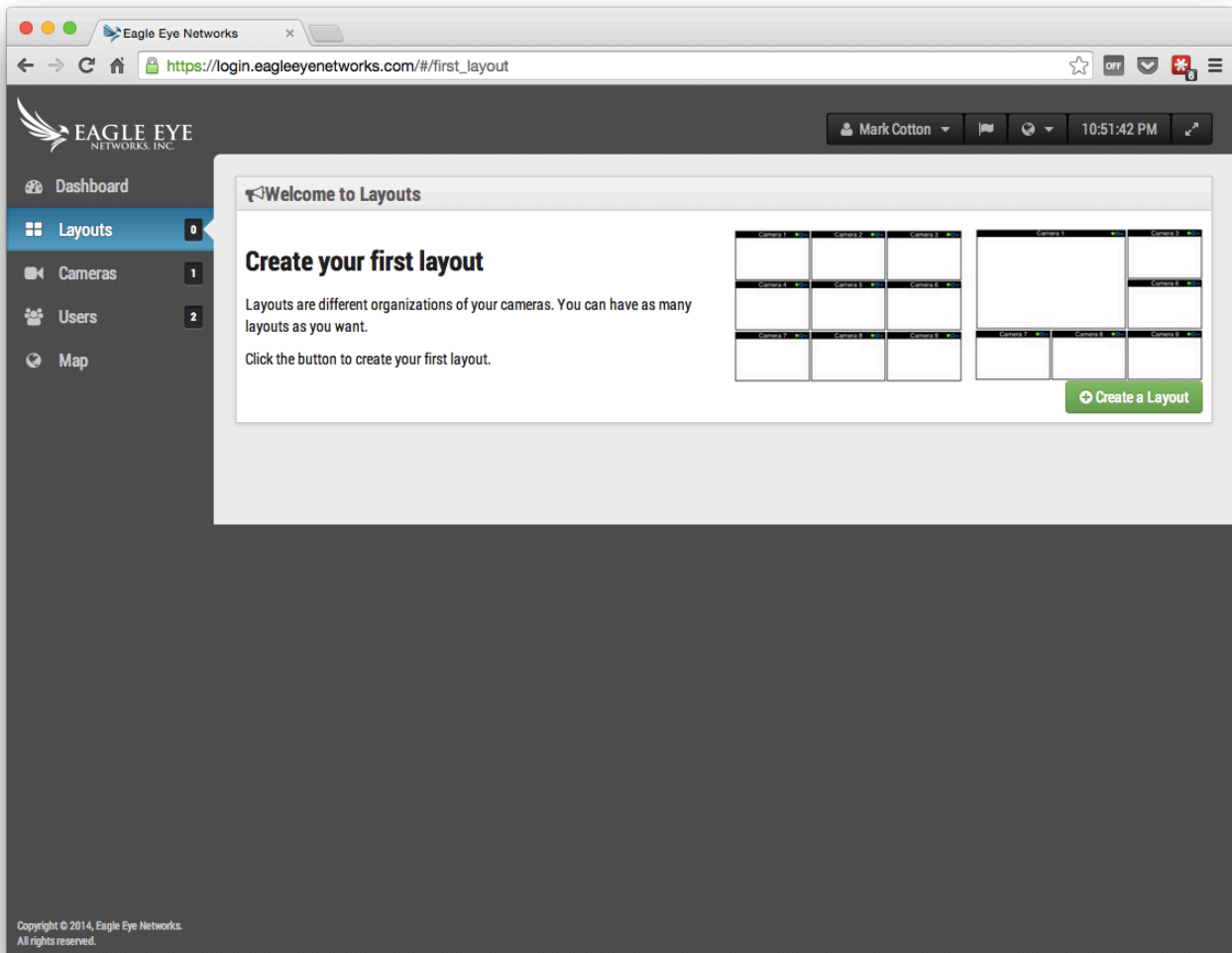


FIGURE 12 – CREATE A LAYOUT

ADDING CAMERAS TO A LAYOUT

When creating a layout (after the first one has been created), select Layouts on the main menu tree at the upper left. Click the name of the current layout as shown in Figure 13 – Layout Menu in order to see the dropdown menu for layouts.

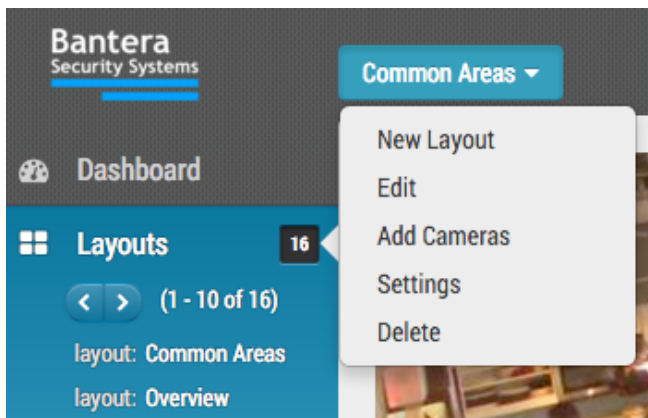


FIGURE 13 – LAYOUT MENU

Select “New Layout” from the menu and a new layout will appear with the name “New Layout” under “Layouts.” You will automatically be prompted to “Add Cameras” as shown in Figure 14 – Add Cameras to a Layout. You may add cameras to an existing layout by clicking on the Layout to open it, and then under the Layout Menu selecting the button “Add Cameras” A new dialog will appear and you may select from the available cameras. You may type in the “Filter” box and results will be displayed based on the name of the camera and also any tags.

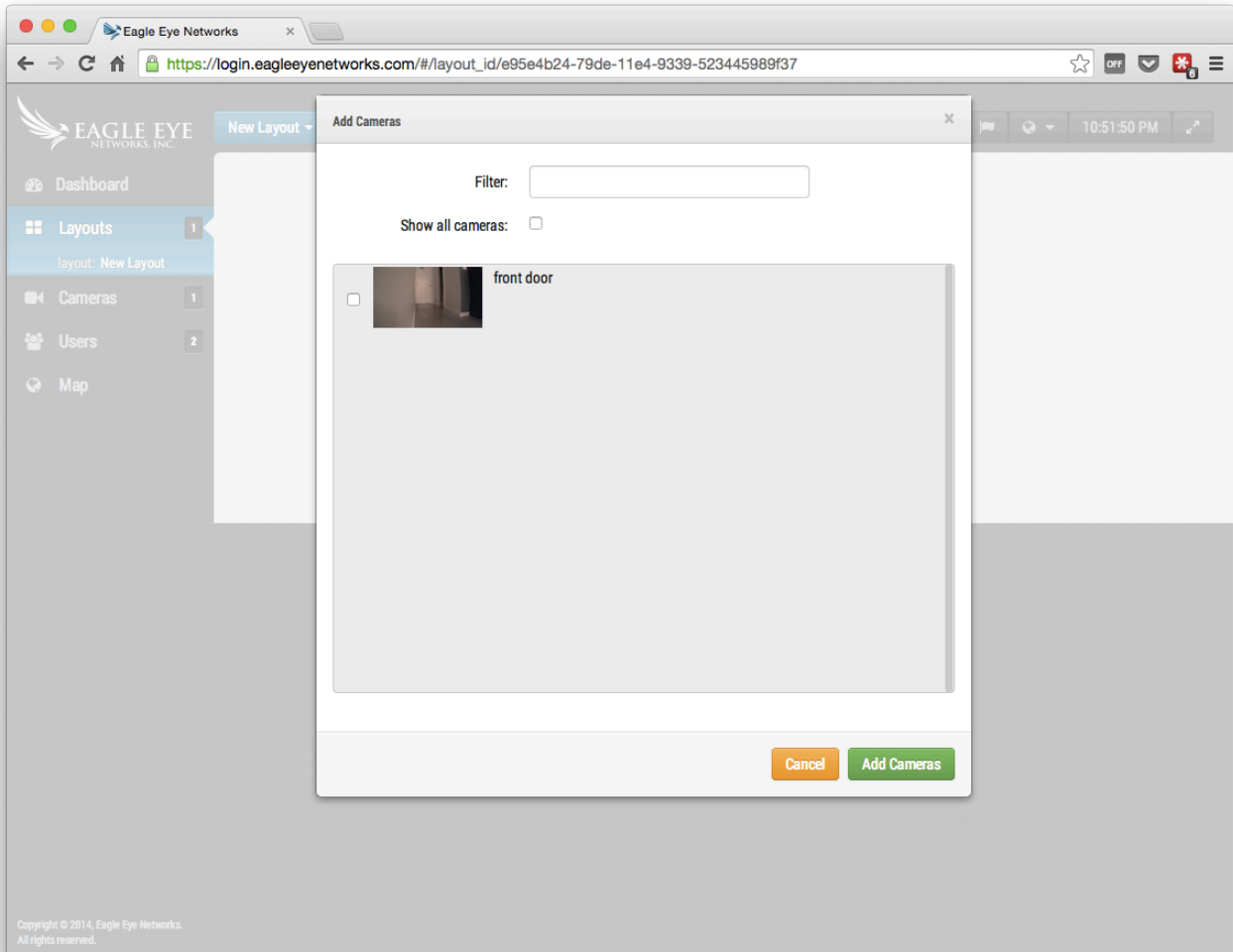


FIGURE 14 – ADD CAMERAS TO A LAYOUT

EDITING LAYOUT SETTINGS

Using the Layout Menu, select “Settings.” A new dialog will appear letting you rename the layout, choose aspect ratios for the cameras, along with the max number of cameras per row and the option to show the camera name above each preview window.

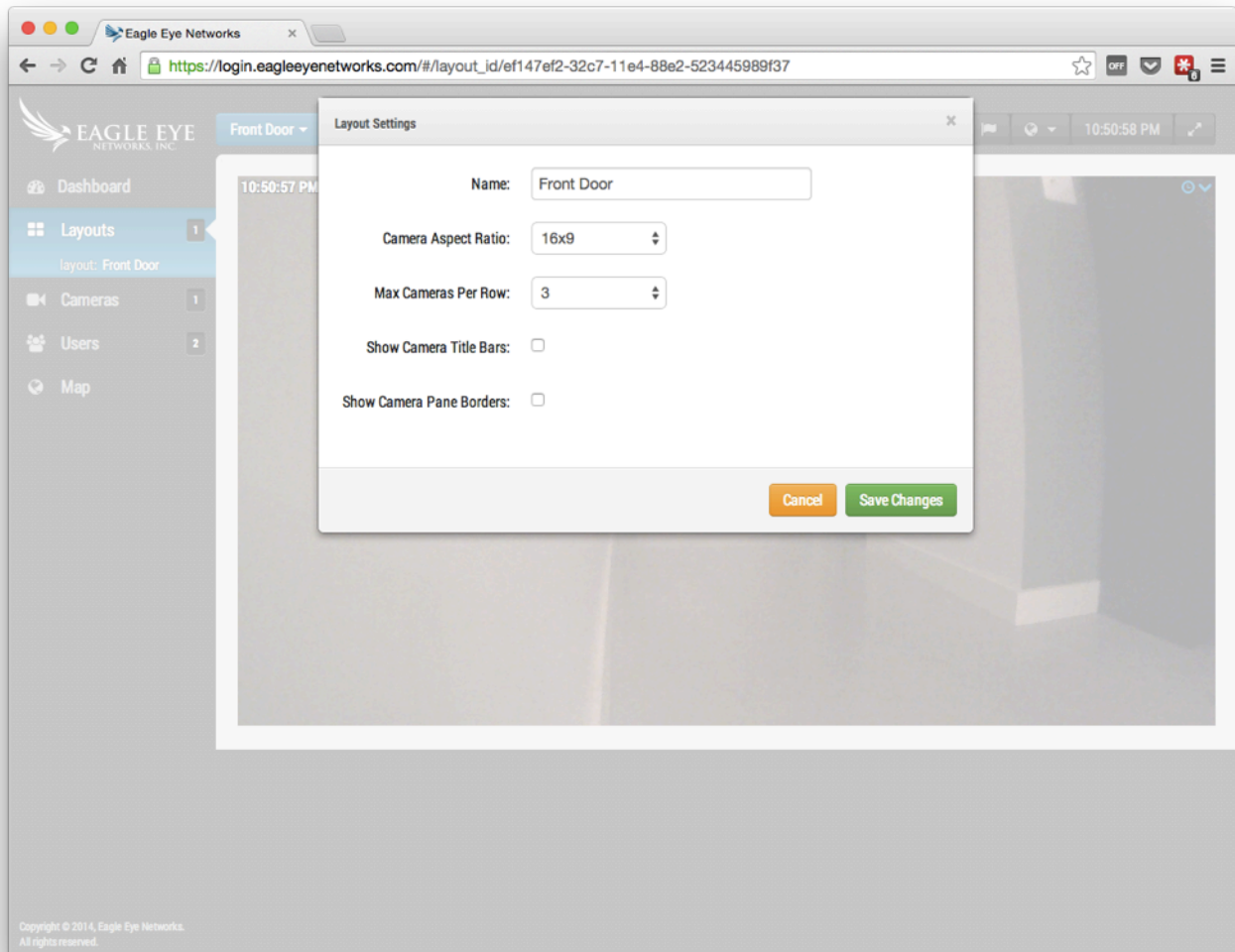


FIGURE 15 – LAYOUT SETTINGS

DELETING A LAYOUT

You may delete a layout by selecting the “Delete Layout” option from the Layout menu. You will be prompted to confirm this before the layout is deleted

Camera Settings

You have the ability to configure common settings across all added cameras. Such settings include retention, resolution, bandwidth, bit rate, motion settings and alerts. Specific options will change based on the camera.

CAMERA SETTINGS – CAMERA

ON: If the checkbox is checked the camera will be on and record during the specified hours. If the checkbox is not checked the camera will be off all the time and will not record anything ever.

24 Hours/Work Hours/Non-Work Hours/Custom Hours: If the ON checkbox is checked the camera will only operate and record during the selected hours. If 24 Hours is selected the camera will operate and record all the time. If Work Hours is specified the camera will only operate during work hours. The Work Hours can be changed in the Account Settings.

Name: The name of the camera. You can give it any name you would like. It will be shown in the Dashboard, Alerts, and in the Layout displays. We recommend descriptive long names.

Login: The username and password used to access the camera. For AXIS cameras this is the username and password for ONVIF access. For most cameras this is the same Username/Password as used to access the web interface. Not needed or shown for analog cameras. The password is not needed for cameras where the password is the default or a password is not needed for ONVIF access. If you have put your passwords into the Account->Camera settings (this list of passwords), you will not need to enter the passwords again here. This is used if you have a lot of cameras and you set the same password on them.

Time Zone: Set this to the time zone where the camera is located.

Tags: Tags are used to create groupings of cameras. You can have as many Tags as you want. Cameras with the same Tag will appear under the Cameras display. Tags are used to create easy groupings of your cameras.

Notes: Notes is an area for the installer or owner to record items about this camera. Sometimes used when the configuration of the camera is complex or other items. You can enter anything you want here to be reminded.

Information: Displays the make, model, firmware, and other information about the camera. Key item displayed is the LOCAL IP address that can be useful during the installation process.

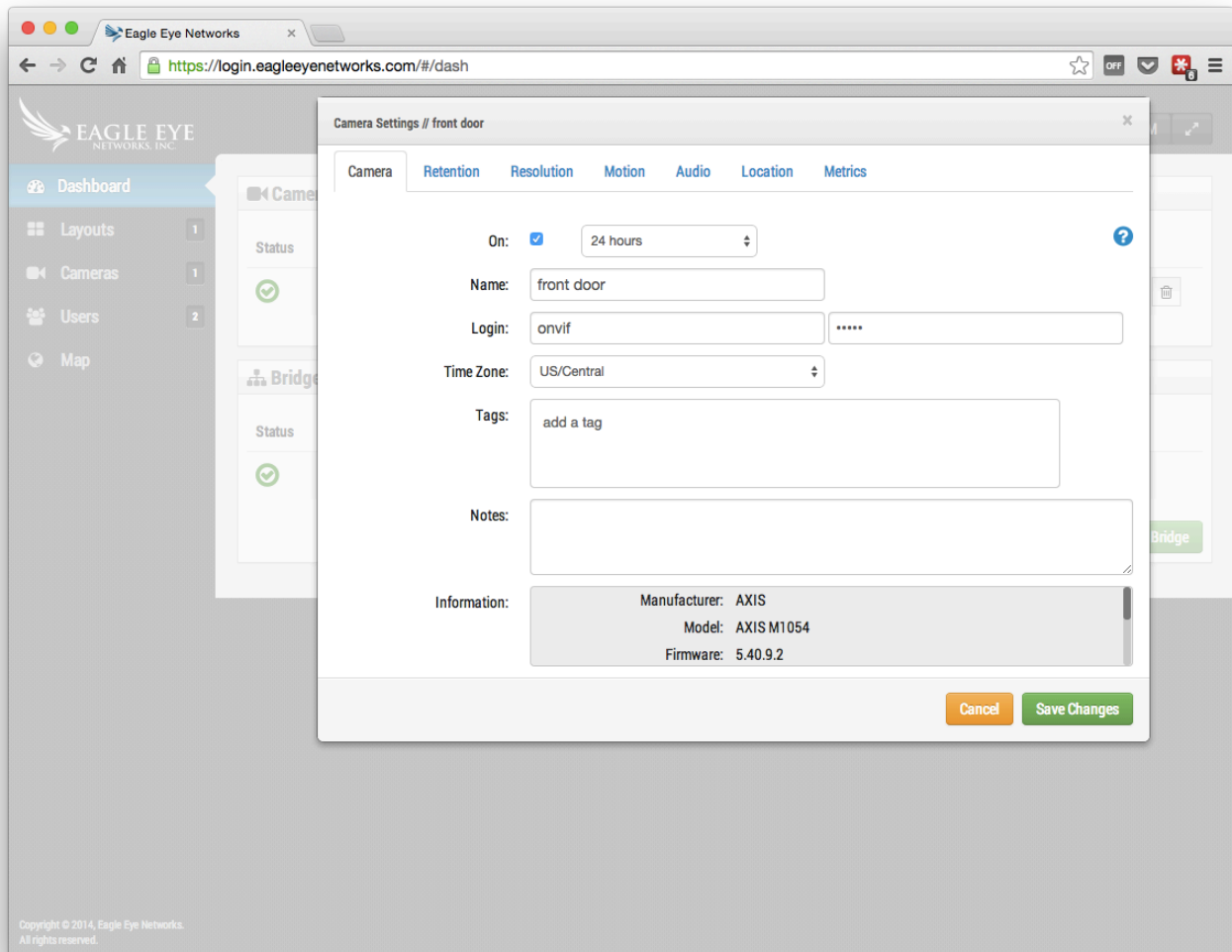


FIGURE 16 - CAMERA SETTINGS

CAMERA SETTINGS – RETENTION

Cloud Retention: Sets the number of days that recorded video will be kept in the cloud. Note that changing this value may affect billing.

Local Retention: On CMVR's video can be kept locally. This will set how long the CMVR will attempt to keep video locally. If the CMVR runs out of disk space it will delete old video to make room for the new — even if it must delete video within the retention period.

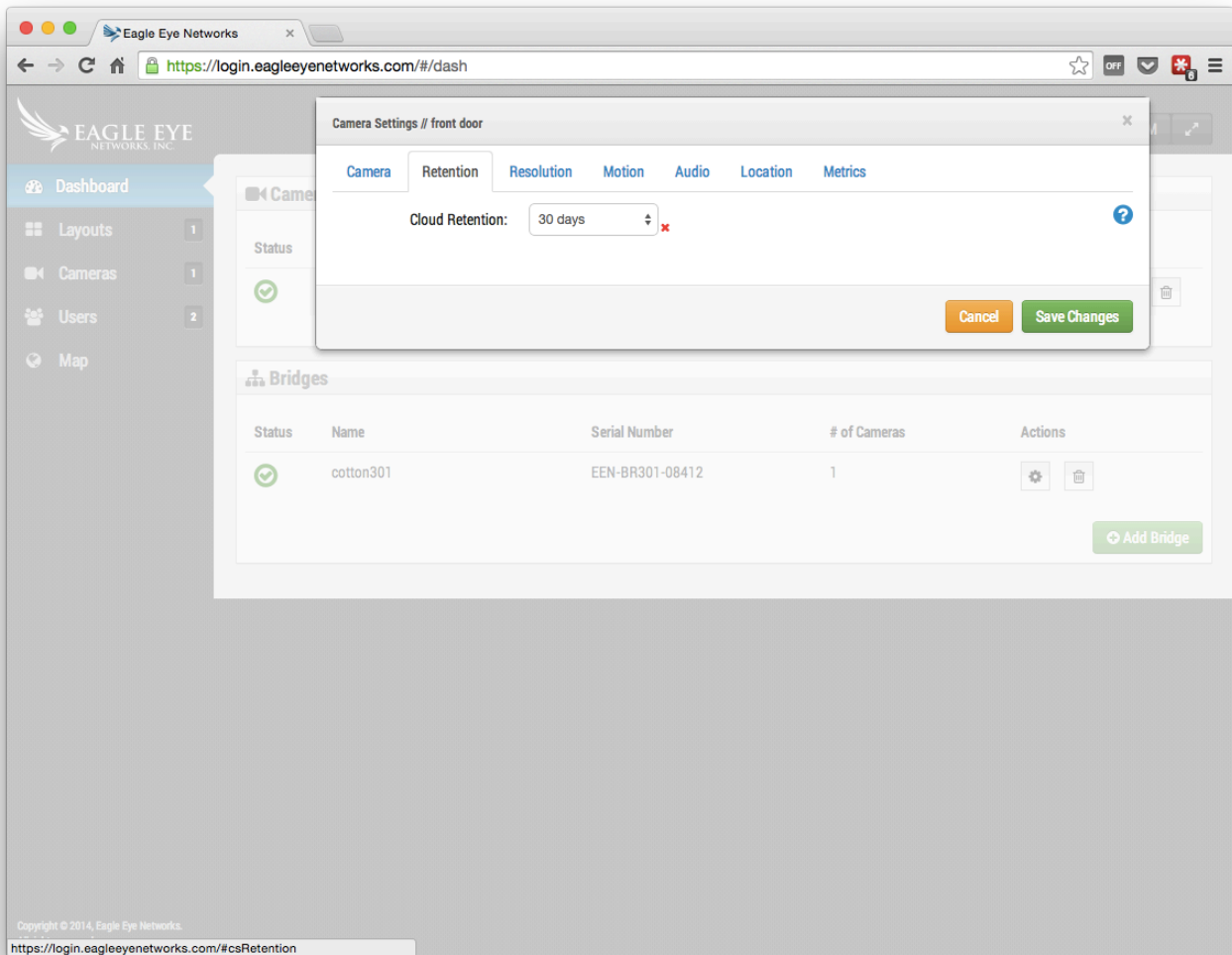


FIGURE 17 - CAMERA RETENTION SETTINGS

CAMERA SETTINGS – RESOLUTION

The Eagle Eye Security Camera VMS utilizes 2 streams of video. The first is Preview Video and the second is the Full Video. Normally the Preview video is recorded continuously and the Full Video is recorded only on motion (events).

PREVIEW VIDEO

Resolution: Sets the resolution of the preview video that will be recorded. We recommend CIF resolution.

Quality: Controls the amount of compression on the preview video. Low Quality will reduce the bandwidth the most.

Update: Sets the frames per second for the preview video. We recommend 1 frame per second.

Transmit Mode: Controls when the preview video is sent to the cloud data center. Always means that the Preview Video is immediately sent to the cloud. Event means the Preview Video is sent to the cloud

when motion or another events occur. Background means that the Preview Video is only sent when Bandwidth is available on the schedule for the Bridge. On Demand means that the Preview Video is only sent to the cloud when someone is watching it. The recommended value is ALWAYS.

Max Bandwidth: Set the maximum bandwidth for the Bridge to use when sending the Preview Video to the cloud. The Bridge will not exceed this bandwidth for transmission. A low value will cause the previews to appear slow when viewing them in a layout. You should not set the sum of your Preview Video max bandwidths greater than 50% of your total available bandwidth.

FULL VIDEO RECORDING

Resolution: Resolution that will be used for full frame rate H.264 recording.

Quality: Controls the compression rate on the H.264 recording. We recommend Low or Medium.

Bit Rate: Also controls the compression rate of the video recording. The setting depends greatly on the camera. We recommend leaving this at its default value.

Transmit Mode: Controls when the Full Video is sent to the cloud data center. **Always** means that the Video is immediately sent to the cloud. This mode requires the largest upload bandwidth. We do not recommend it. **Event** means the Video is sent to the cloud when motion or another events occur. Once again, bandwidth must be available to use this mode. **Background** means that the Video is only sent when Bandwidth is available on the schedule for the Bridge. **On Demand** means that the Video is only sent to the cloud when someone is watching it or requesting it. The recommended value is **Background**.

Record When: Sets when the Full Video is recorded. Normally recording is only done when there is motion, but you can also select to do full recording all the time. If you set to **Always**, you will need at minimum double the amount of upload bandwidth. We recommend **EVENT**. Keep in mind the preview video is always recorded. The most efficient use of bandwidth is to use **EVENT**. This also helps to find video of interest more quickly.

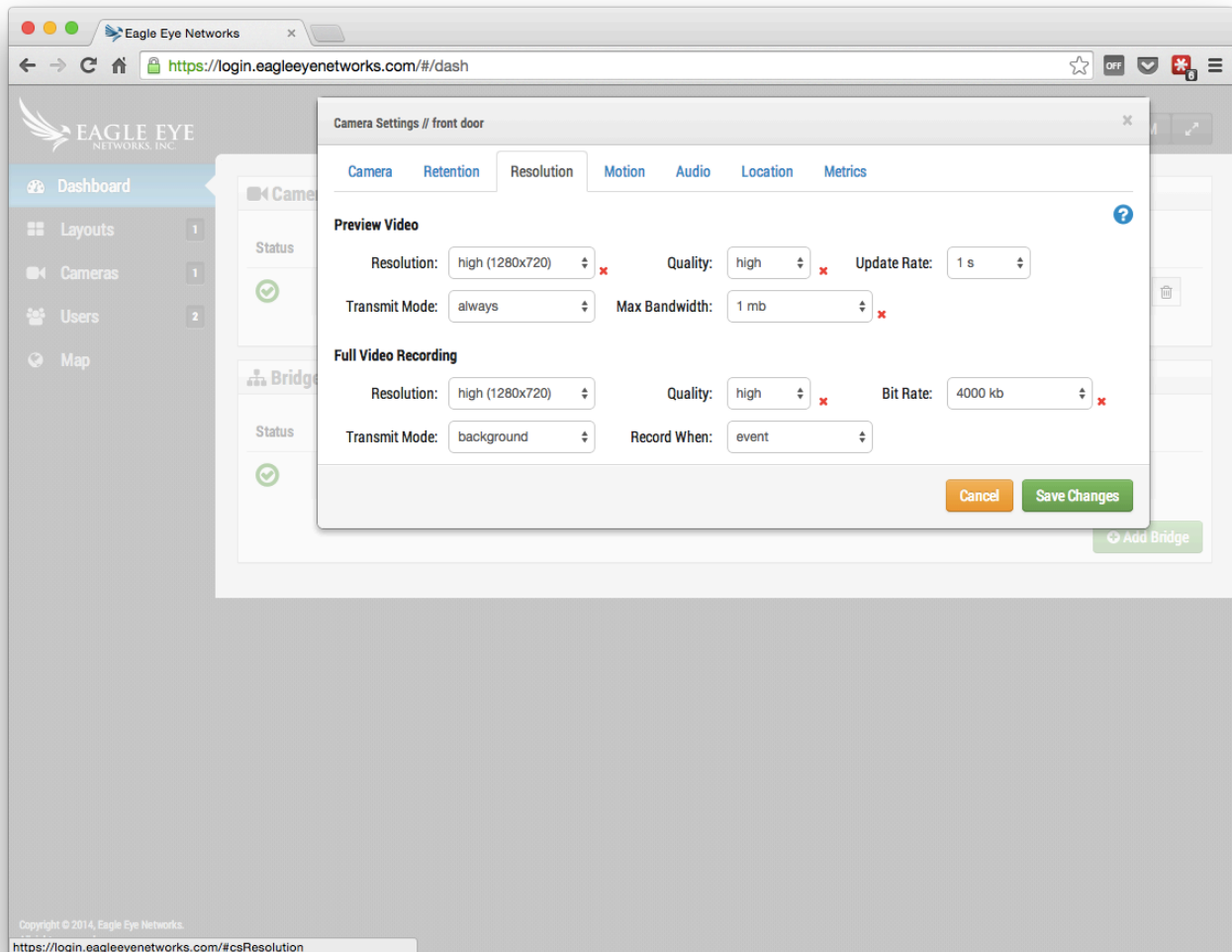


FIGURE 18 - CAMERA RESOLUTION SETTINGS

CAMERA SETTINGS – MOTION DETECTION

The Eagle Eye Security Camera VMS includes integrated motion detection system. This system can be adjusted in a large number of ways and can have as many different regions as your need.

Master Motion Sensitivity: This is the default level of motion sensitivity that is applied to the entire image. If you have created a region on the image the regions motions sensitivity can override the Master Motion Sensitivity for that region.

Master Motion Object Size: The motion detection system looks for objects moving through the image. The size selection can be small, medium or large. Large objects will be approximately 10% of the full image size. Small objects will take up about 1% of the full image.

Note: You can see the results of changes to these settings by clicking “apply.” Note that the red motion boxes that appear do not reflect object size. In order to see if the object size is triggering recording, look for the green circle that indicates “recording” in the upper right corner of the video.

Regions/Alerts: You can create an unlimited number of regions and alerts. Press the New Region button to create a new region.

Region Name: The name of the region you are going to edit or create.

Disable Motion: Checking this box will disable all motion detection in the region. This is used to block out trees or extraneous areas from causing unnecessary recording.

Motion Override: The Master Sensitivity and the Master Object Size can be overridden for the region. The values specified for the region will be used instead of the Master values for any objects that are in the region.

Alert: Check the box to turn on alerts for any motion in the region. Alerts can have a specified period of time when they are active. For example you could have motion alerts only when the office is closed or at night.

Alert When: This sets the time to trigger the alert for this region. The default is “24 hours” but choices are “Work hours,” “Non-Work hours,” and “custom.”

Re-arm: This is where the alert can be set to re-arm and ready to be triggered again.

Immediate: The alert is re-armed immediately. This creates the highest number of alerts.

After x minutes: The alert will not be re-armed for the number of minutes entered. For example, checking “After” and entering “15” will cause the alert to wait 15 minutes before another alert is triggered no matter whether motion is detected in the region or not.

After quiet for x minutes: The alert will not be re-armed until there is no motion detected in the region for the number of minutes entered. For example, checking “After quiet for” and entering “5” will cause the alert to re-arm only after five consecutive minutes without motion in the region. This helps to limit the number of alerts.

Max Per Hour: This will limit the number of alerts to the number entered in a 60 minute period regardless of how many times motion is found in the region. This helps to limit the number of alerts.

Alert Who: This indicates the users of the system that should receive the alert for this region.

Alert Mode: The VMS has an alert mode. The mode is specified in the Account Settings. The Alerts will only be created when the corresponding Alert Mode is active. This is generally used for applications where you would like one set of alerts normally, but another set of alerts at a different time. For example you might want certain alerts active during normal business days and have a different mode of alerts for holidays.

Alert Level: the level of the alert can be specified here. An alert has a level. The users can specify that they only want to receive alerts that are HIGH, LOW or both. This allows some users of the system to limit the alerts that they receive.

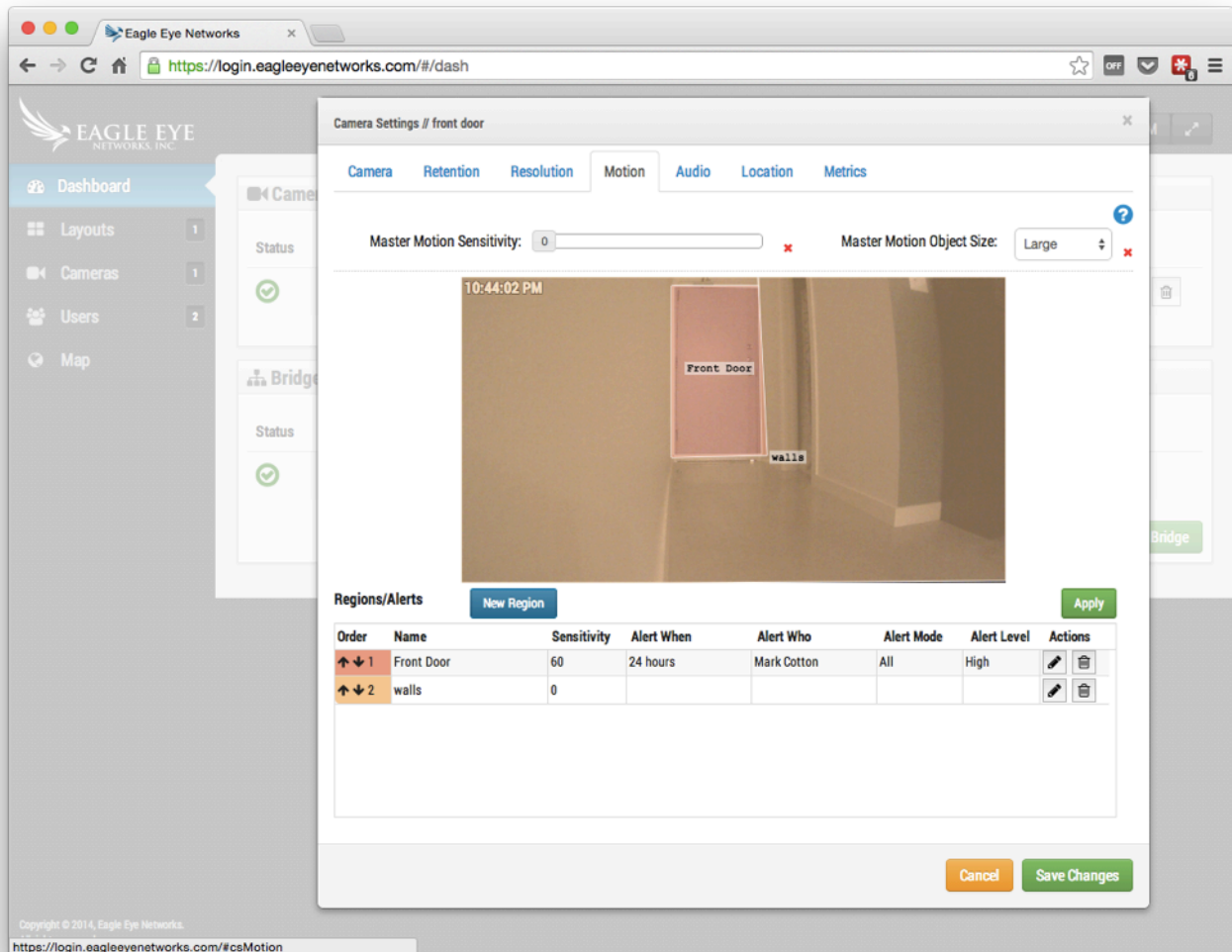
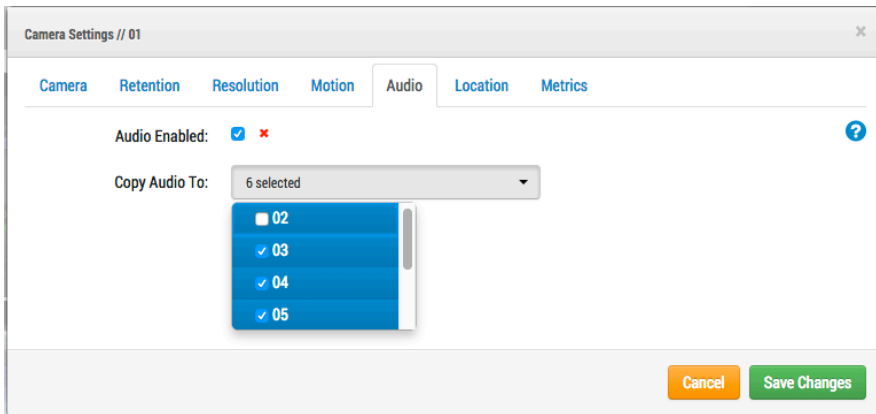


FIGURE 19 - MOTION DETECTION SETTINGS

CAMERA SETTINGS – AUDIO

Audio Enabled: Enables audio recording if the camera is capable.

Copy Audio To: Enables audio to be copied from one camera to other cameras attached to the same bridge. Select the cameras from the drop down list and Save Changes. The audio from this camera will be copied to the cameras selected during full video recording.

**FIGURE 20 - AUDIO RECORDING SETTINGS**

CAMERA SETTINGS - LOCATION

The address and latitude longitude information is used when placing the camera on the map. You only need to enter this information if you are going to utilize the map. The data here can be edited graphically using the Map interface. It can also be entered using our Mobile application if you are located at the camera.

Street Address: Address where the camera is located

Latitude/Longitude: The location of the camera

Azimuth: The direction the camera is pointing

Range: The approximate distance the camera can “see”.

Floor: If in a building the floor the camera is located on. You may change floors for the camera on a map by changing the number here.

To delete a camera from the map, delete all entered text on this tab and save the changes.

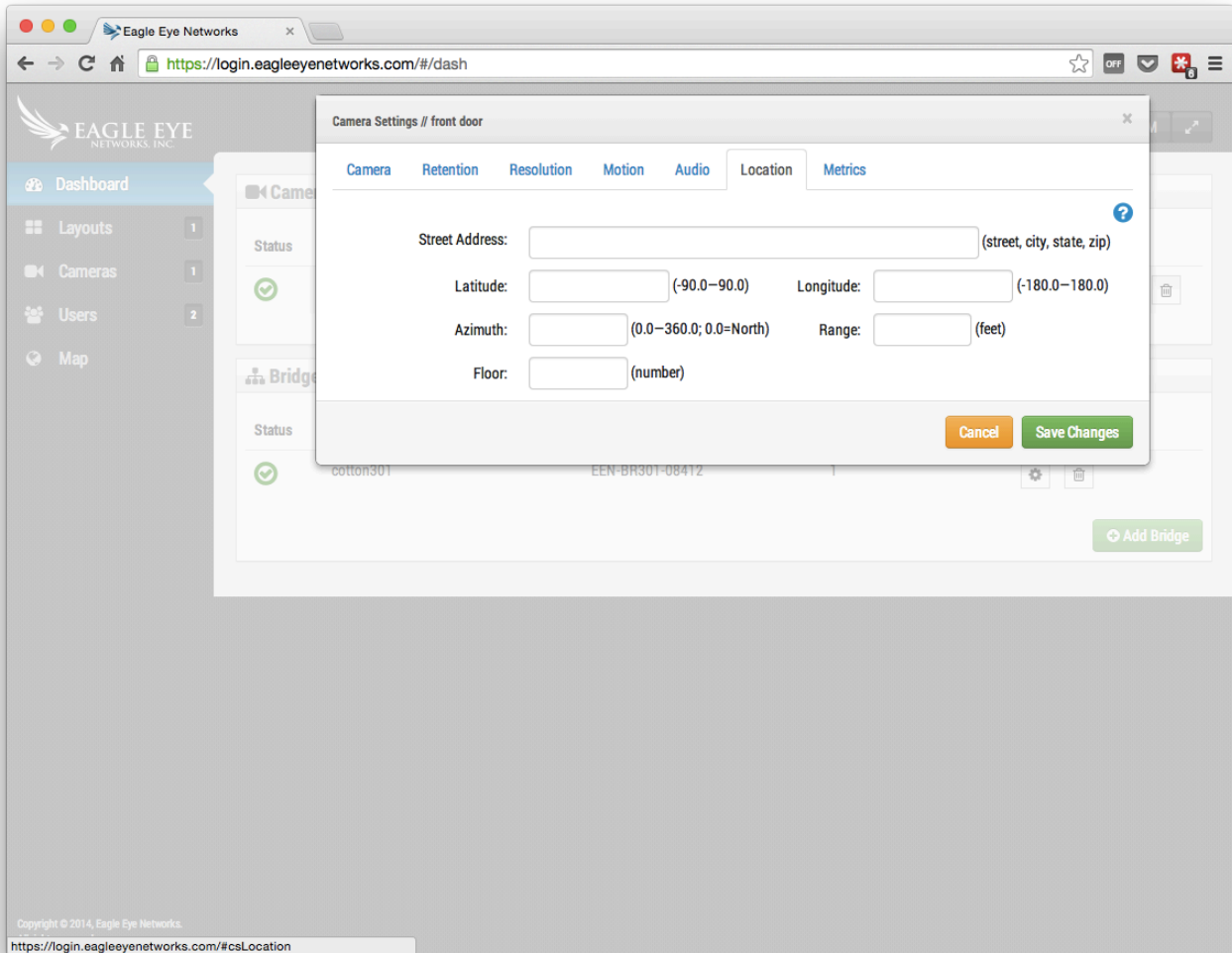


FIGURE 21 - CAMERA LOCATION INFORMATION

CAMERA SETTINGS - METRICS

Bandwidth: A graph of how much data has been transmitted to the cloud data center for this camera.

Packet Loss: A graph of packet loss between the camera and the Bridge. If this graph shows red it means that your network may have problems. You may need to replace cabling or determine the packet loss problem between the camera and the bridge for reliable operation.

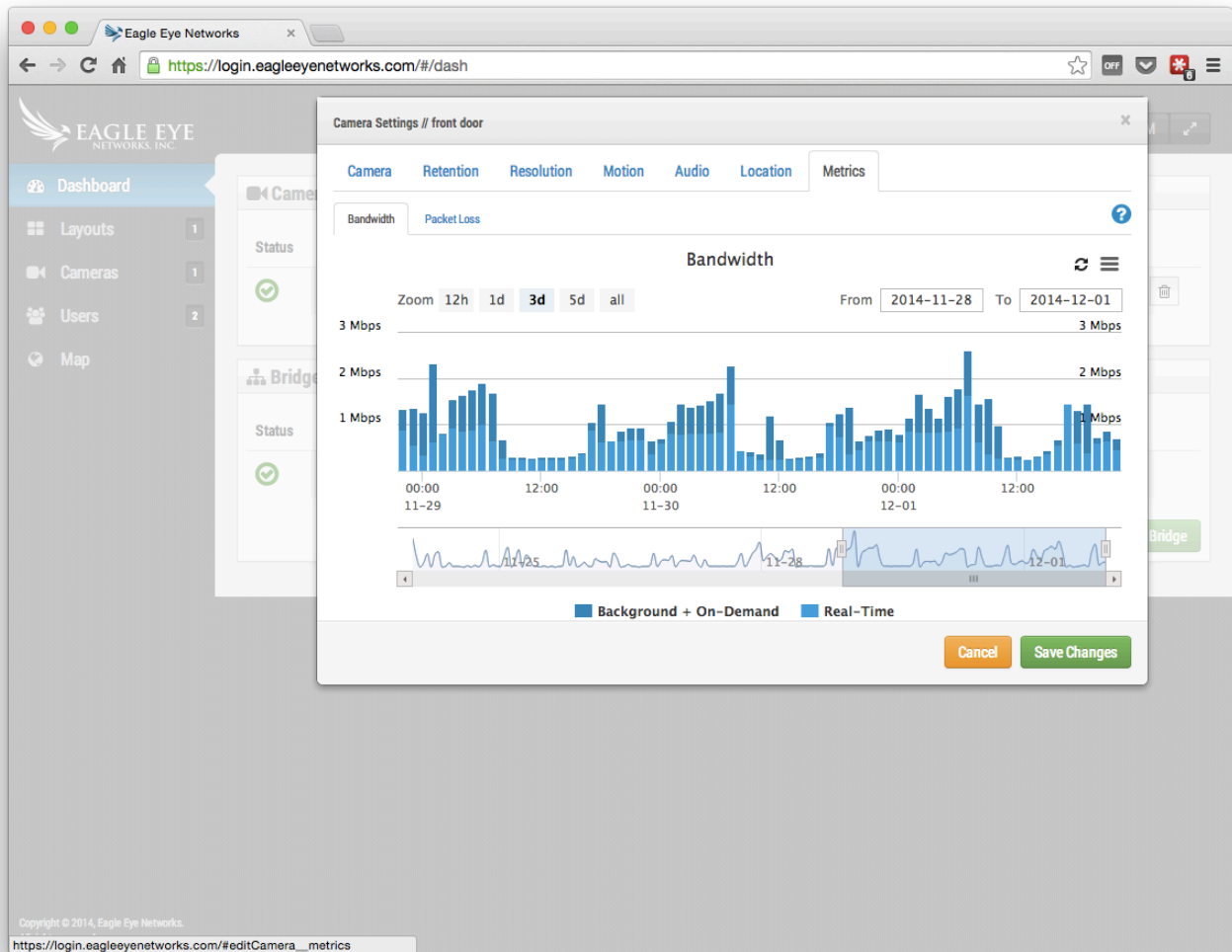


FIGURE 22 - CAMERA BANDWIDTH UTILIZATION

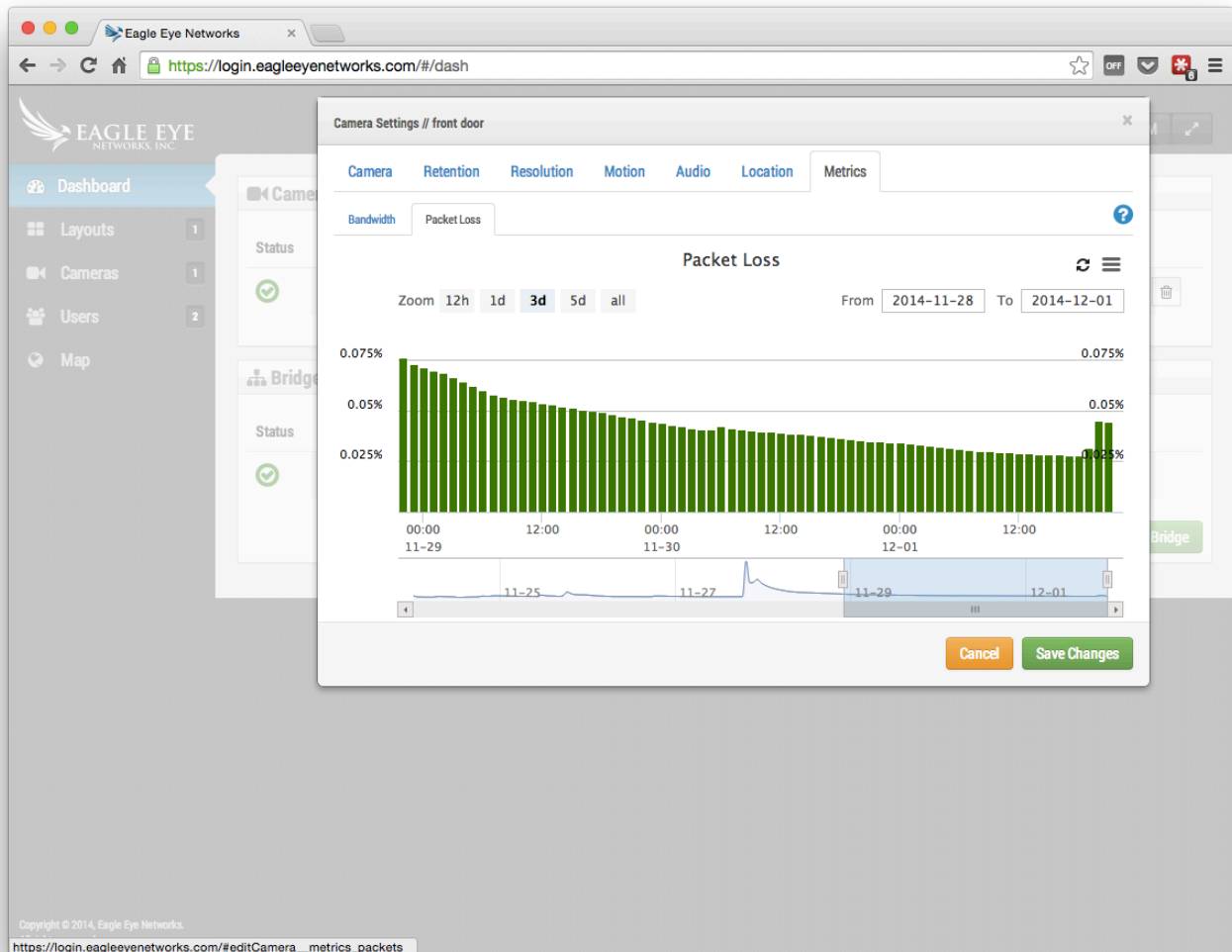


FIGURE 23 - CAMERA PACKET LOSS

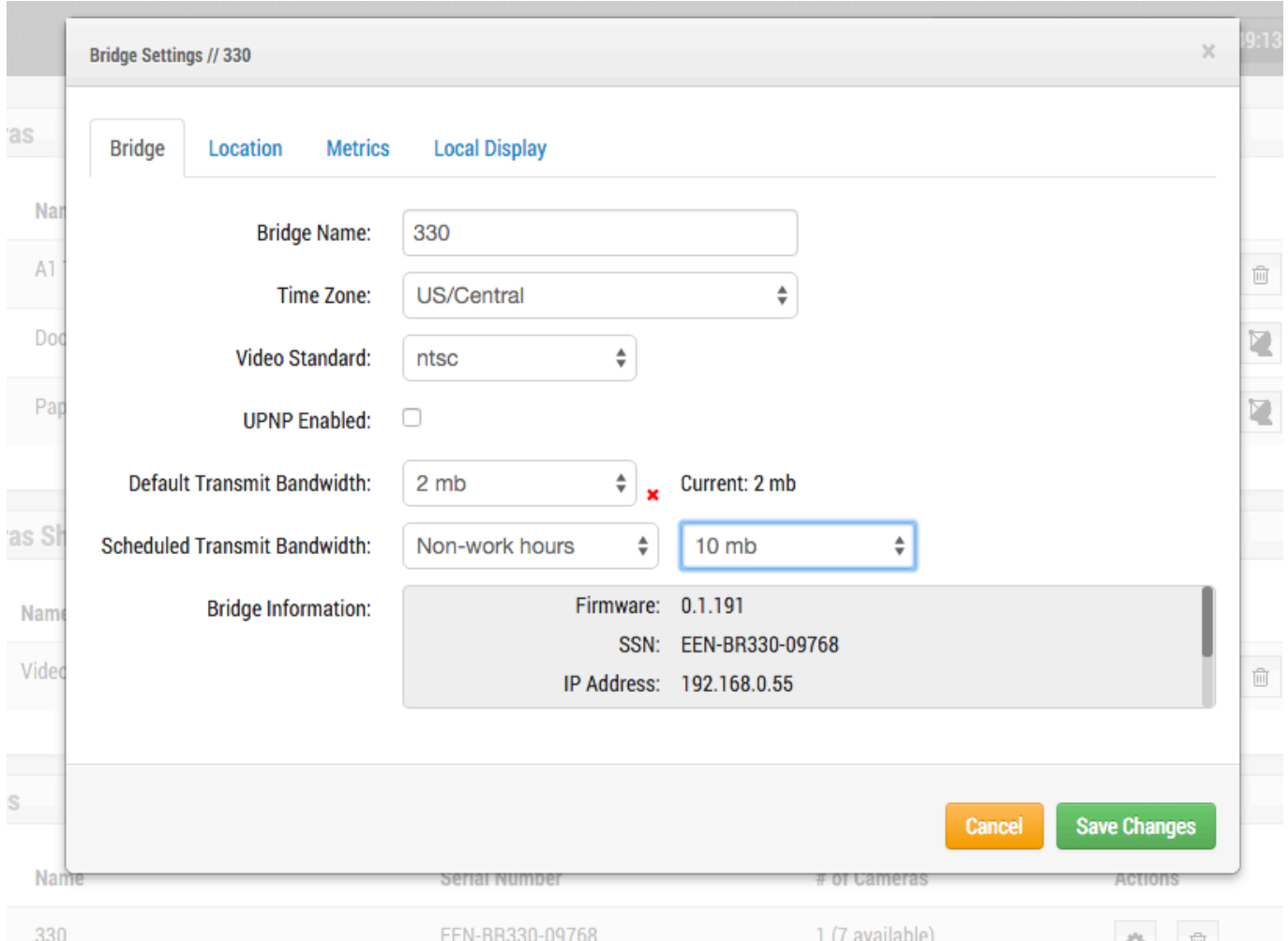
Bridge Settings

Similar to Camera Settings, you can access the Bridge Settings by clicking gear icon under actions for a bridge.

BRIDGE SETTINGS – BRIDGE

You may configure the name of the bridge, time zone and default bandwidth. The bridge name is a convenience feature to help identify the bridge. The time zone of a bridge will be the time zone used for the bridge and all cameras connected to the bridge. The Default Transmit Bandwidth enables the user to decide how much bandwidth should be used to upload recorded video. The default setting is Auto. Auto will use 30% of available measured upload bandwidth. The camera transmit default setting of

“background” will use the settings here for Default Transmit and Scheduled Transmit Bandwidth. The Scheduled Transmit Bandwidth allows for alternative settings based on a schedule.



Bridge Settings // 330

Bridge Location Metrics Local Display

Bridge Name: 330

Time Zone: US/Central

Video Standard: ntsc

UPNP Enabled:

Default Transmit Bandwidth: 2 mb * Current: 2 mb

Scheduled Transmit Bandwidth: Non-work hours 10 mb

Bridge Information:

Firmware: 0.1.191
 SSN: EEN-BR330-09768
 IP Address: 192.168.0.55

Cancel Save Changes



Name	Serial Number	# of Cameras	Actions
330	FFN-BR330-09768	1 (7 available)	 

FIGURE 24 - BRIDGE SETTINGS

BRIDGE SETTINGS – LOCATION

If you provide location information, the bridge can set a location on the Map page to help you locate your cameras. The Bridge will lookup the Latitude and Longitude if you only provide the street address, city, state, and zip.

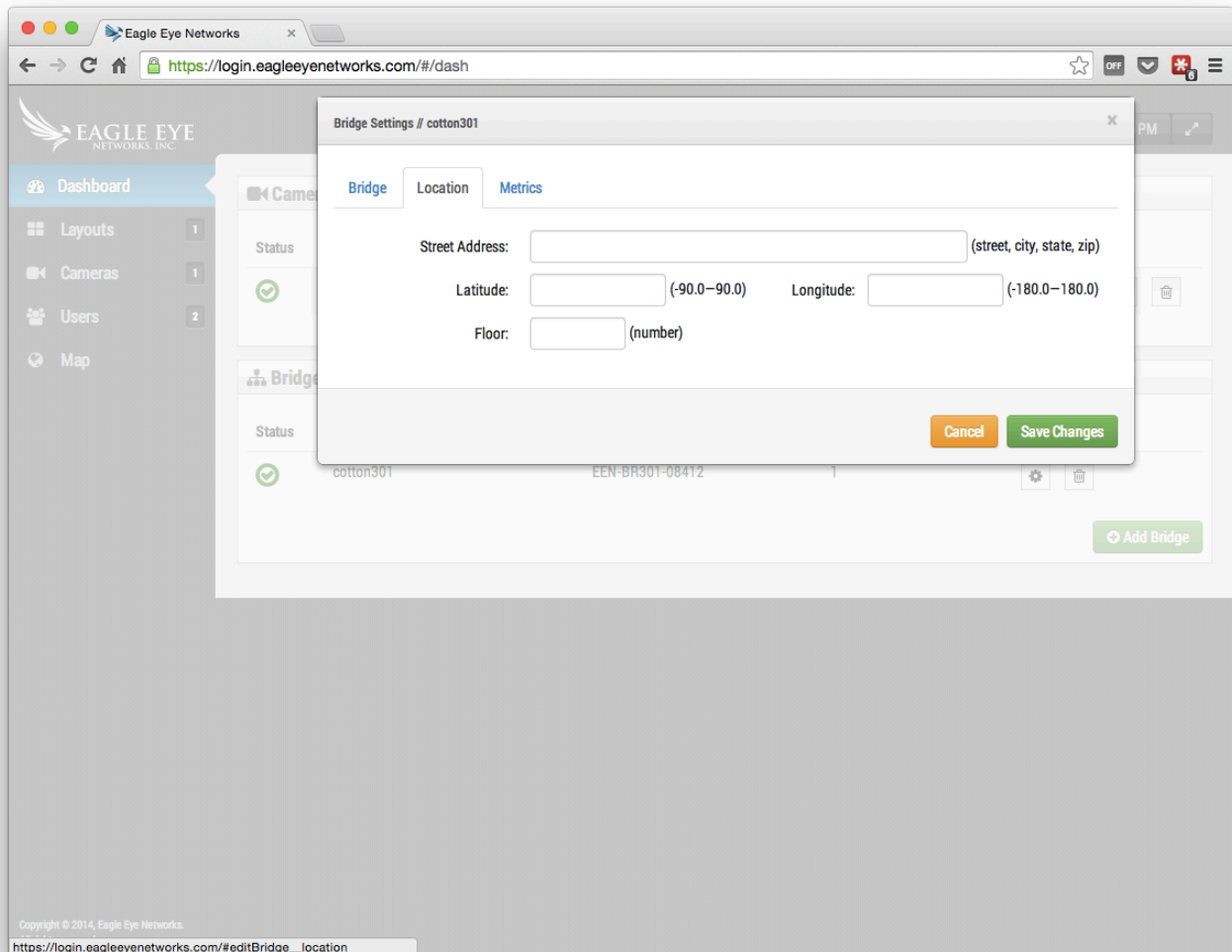


FIGURE 25 - BRIDGE LOCATION INFORMATION

BRIDGE SETTINGS – METRICS

Our bridge tracks and analyzes information locally. These graphs help the installer understand what is going on with the system and how it can be optimized.

BRIDGE SETTINGS – METRICS – BANDWIDTH

This graph shows the average bandwidth used during the previous hours and days. This is a stacked graph that shows the total bandwidth along with what percentage is used for real-time vs. background. Real-time bandwidth is used by the preview images, live streaming videos and system meta-data. Background bandwidth is used by uploading historic videos that have been saved locally to the bridge.

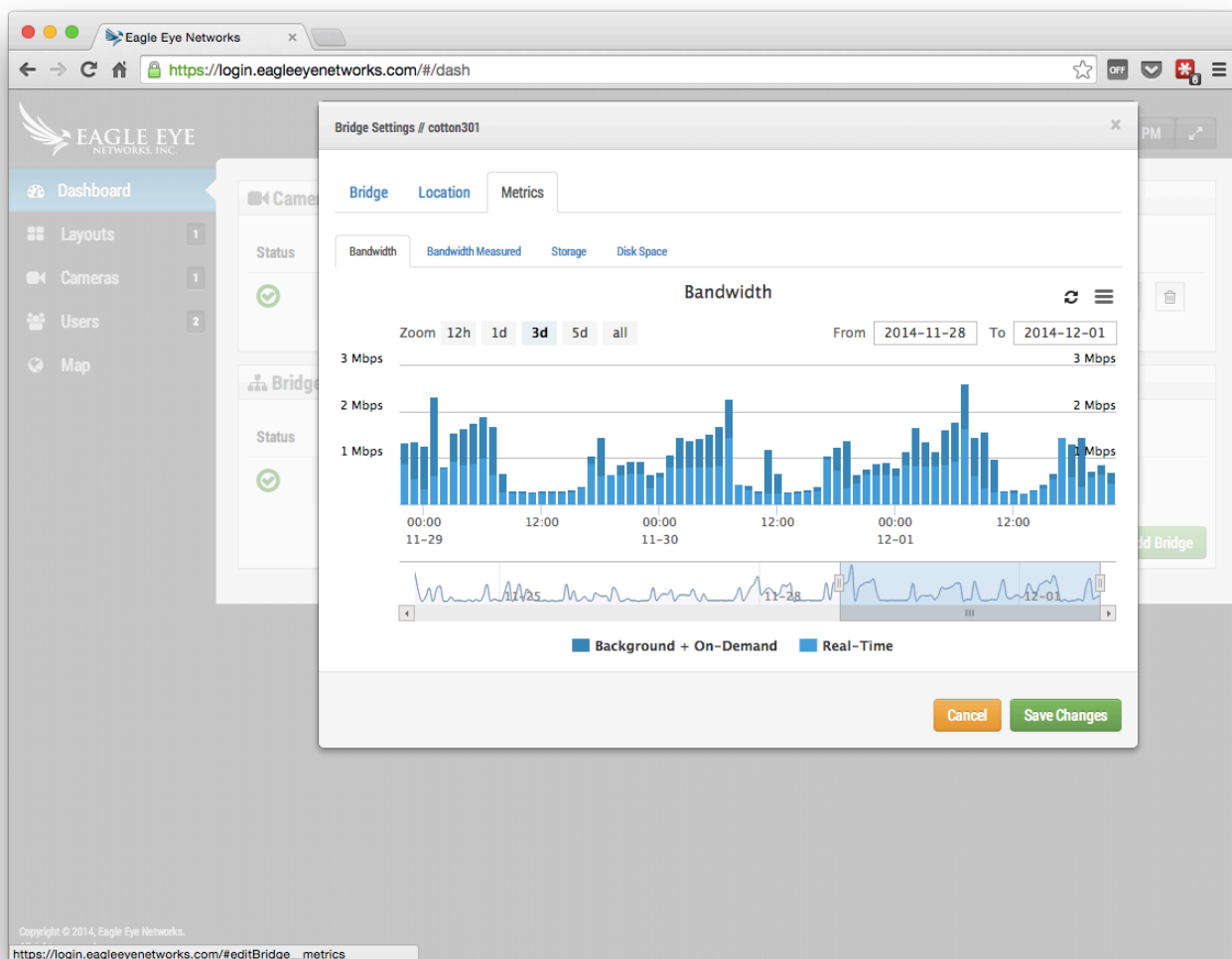


FIGURE 26 - BRIDGE BANDWIDTH UTILIZATION

BRIDGE SETTINGS – METRICS – BANDWIDTH MEASURED

This graph shows the average upload bandwidth speed between the bridge and our cloud. The data is collected as actual video is being sent to the cloud and it is a very good representation of the available bandwidth. Fluctuations in bandwidth are also shown and this information is help for diagnosing problems. The Bandwidth Measured is used to adjust the “Auto” setting of Background Transmit on the bridge.

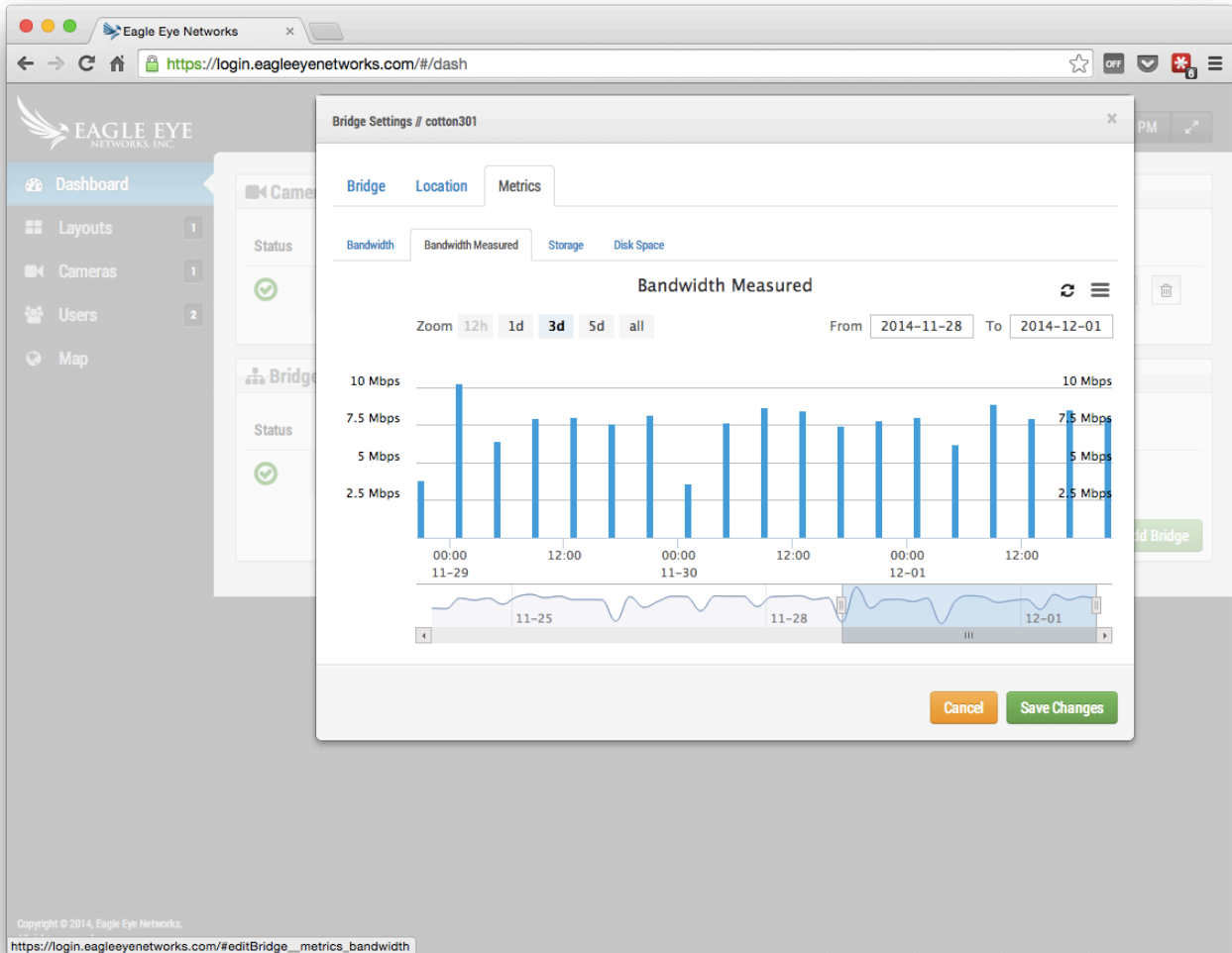


FIGURE 27 - BRIDGE BANDWIDTH MEASUREMENT

BRIDGE SETTINGS – METRICS – STORAGE

This graph shows the total amount of data changed for a given hour. Values that are negative indicate that more video was uploaded than stored. After several days, a pattern should start to be established which shows a sustainable amount of data uploaded vs. recorded.

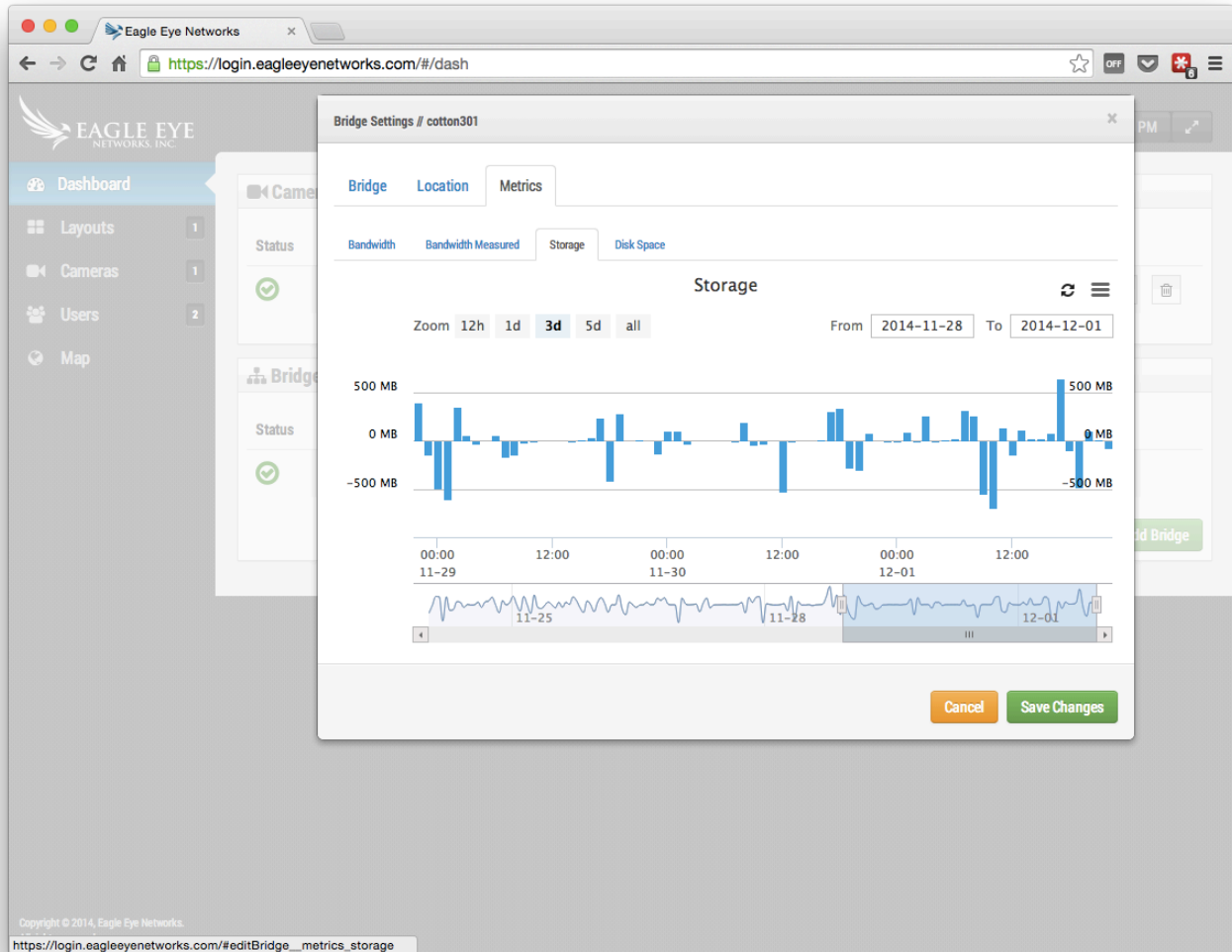


FIGURE 28 - BRIDGE DISK INPUT/OUTPUT

BRIDGE SETTINGS – METRICS – DISK SPACE

This shows the total available space on the attached storage. The useable data is limited to 80% of the total capacity in order to prevent fragmentation and allow additional headroom in the event of setting changes.

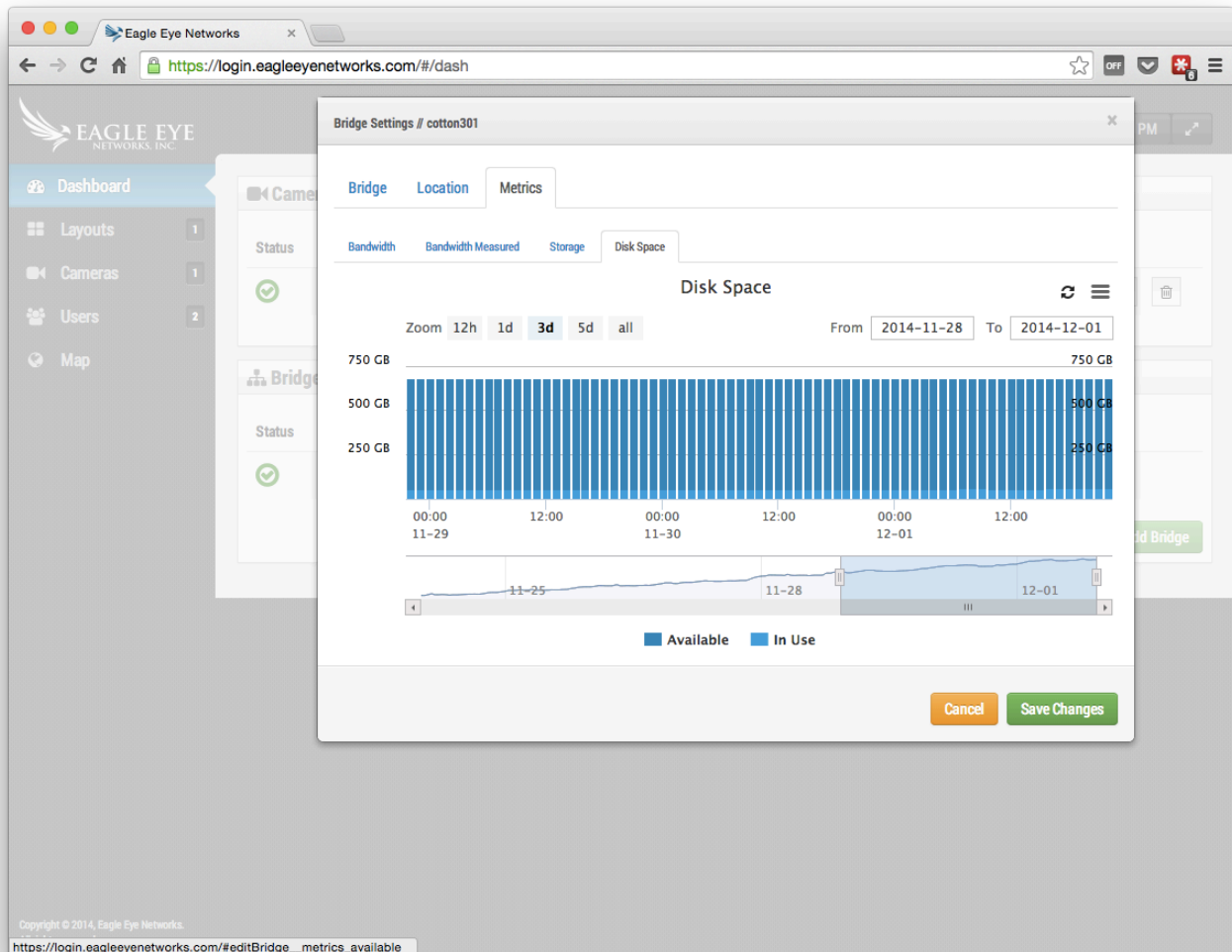


FIGURE 29 - BRIDGE DISK UTILIZATION

BRIDGE SETTINGS – LOCAL DISPLAY

If the bridge or CMVR supports local display, a “Local Display” tab will be available. Click the check box to “Enable” the display. Select the Layouts to be viewed and “Save Changes.” The HDMI or DVI/VGA output will be changed to display the live preview of cameras. A USB keyboard can be connected to the bridge and the up and down arrows will toggle the available layouts. Note: the live video depends on what the preview resolution and quality is set to per camera. The video is displayed at 4 frames per second.

If you need to do maintenance on a bridge set to external display, go to the bridge settings and un-check “Enable” for Local Display and Save Changes. If the bridge is not connected to the cloud, connect a keyboard and press “q” to temporarily disable local display. When the bridge is back online, toggle the “Enable” setting or cycle power on the bridge to restore Local Display.

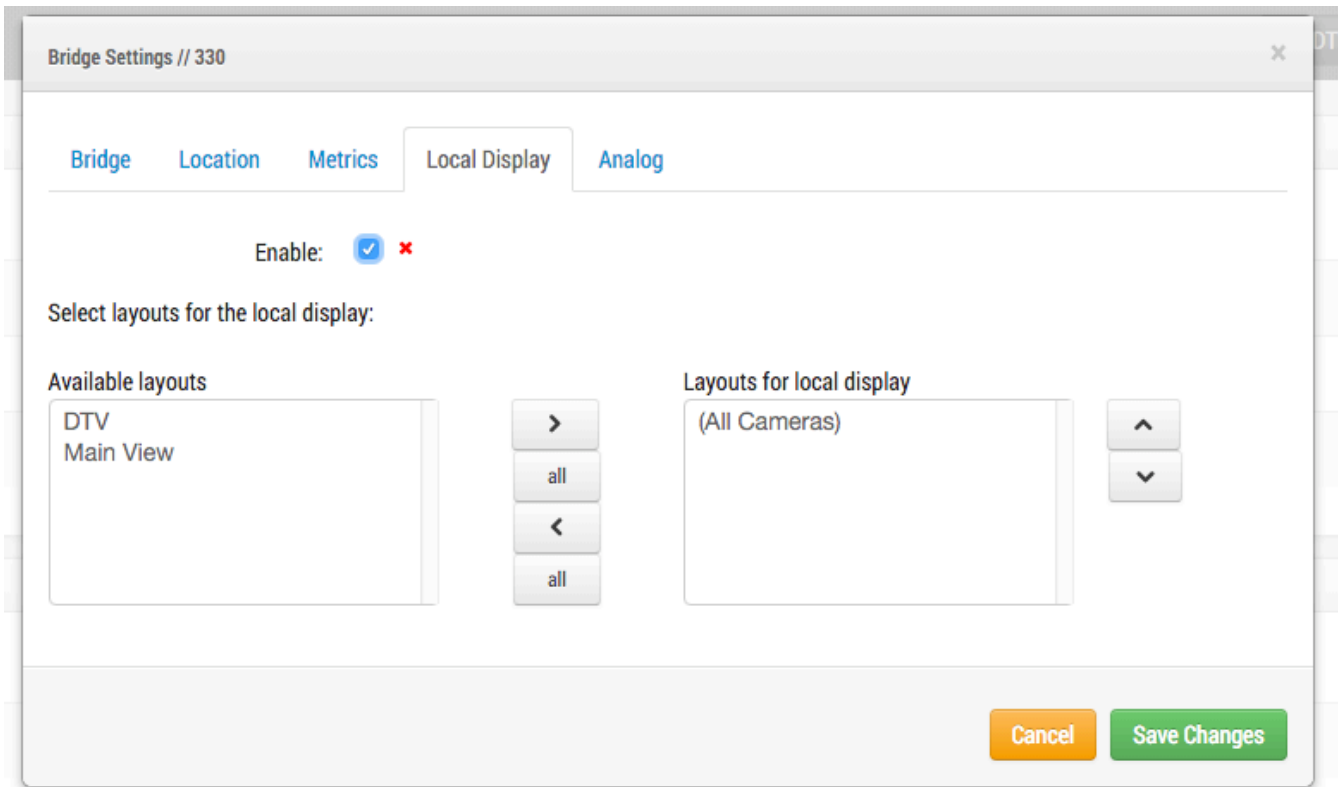


FIGURE 30 - BRIDGE SETTINGS LOCAL DISPLAY

BRIDGE SETTINGS – ANALOG

If the bridge or CMVR has analog inputs, the “Analog” tab will be displayed. Use the “Available Inputs:” drop down to choose which of the inputs will appear under “Available Cameras” on the dashboard. This allows hiding the unused analog inputs so that they do not show, saving dashboard screen real estate.

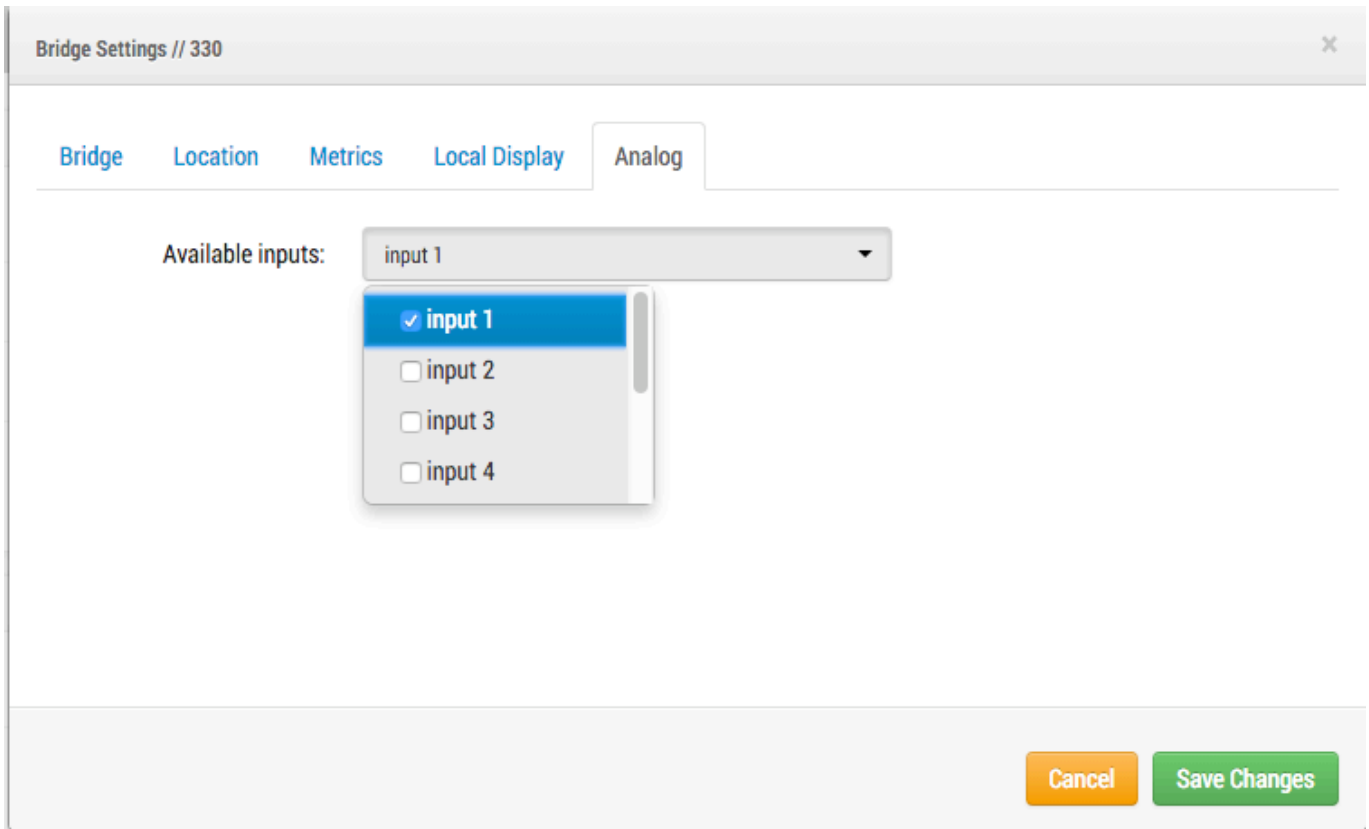




FIGURE 31 - BRIDGE SETTINGS ANALOG

Figure 32 Dashboard examples of Bridge analog settings, shows an example of checking “Available Inputs:” “input 1” and “input 2.” Only analog input 1 of this bridge has been added as a camera. Analog Camera Input 2 shows as available. Note that under “# of Cameras” the bridge shows “(7 available)” which are the 7 additional analog inputs. The number of inputs or cameras seen by the bridge that are not “added” will always show here even if the inputs have been hidden.

Available Cameras				
Status	Name	Bridge	Actions	
	Analog Camera Input 2	330		




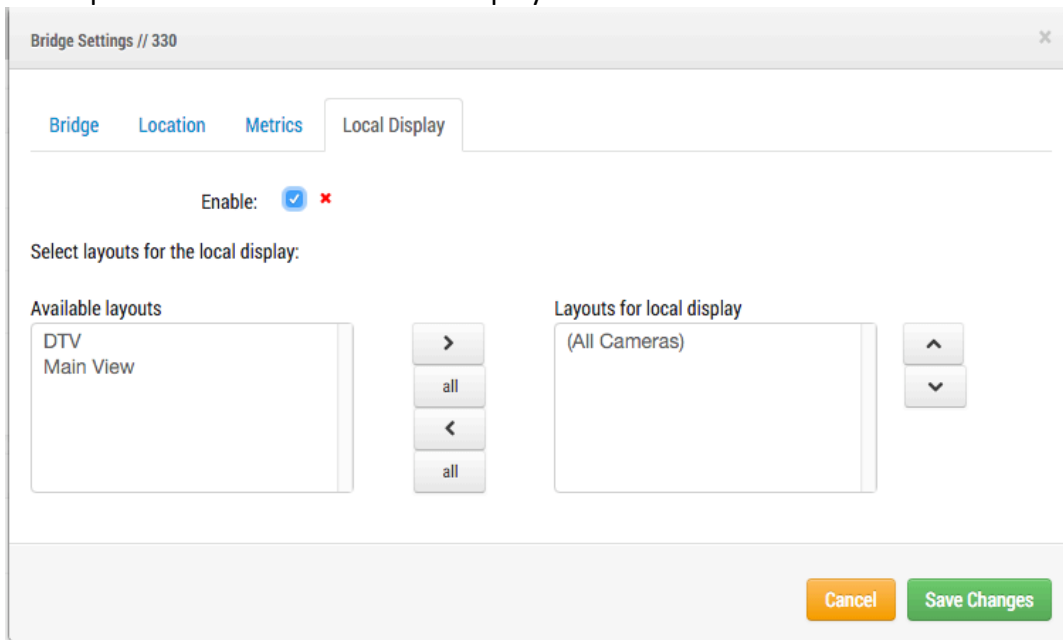
Bridges				
Status	Name	Serial Number	# of Cameras	Actions
	330	EEN-BR330-09768	1 (7 available)	 

FIGURE 32 DASHBOARD EXAMPLES OF BRIDGE ANALOG SETTINGS

Local Display

If the Bridge/CMVR supports Local Display, this tab will appear in the bridge settings. Enabling Local Display will show the selected layout on the video output of the bridge's HDMI or DVI/VGA connector. Select the layouts you wish to be shown and check "Enable" then press "Save Changes". This will turn on Local Display. Each camera's preview size and quality in the camera settings determines the size and quality of the preview shown on the local display.

**FIGURE 33** BRIDGE SETTINGS LOCAL DISPLAY

User Management

User management appears for those with Admin or User Admin permissions.

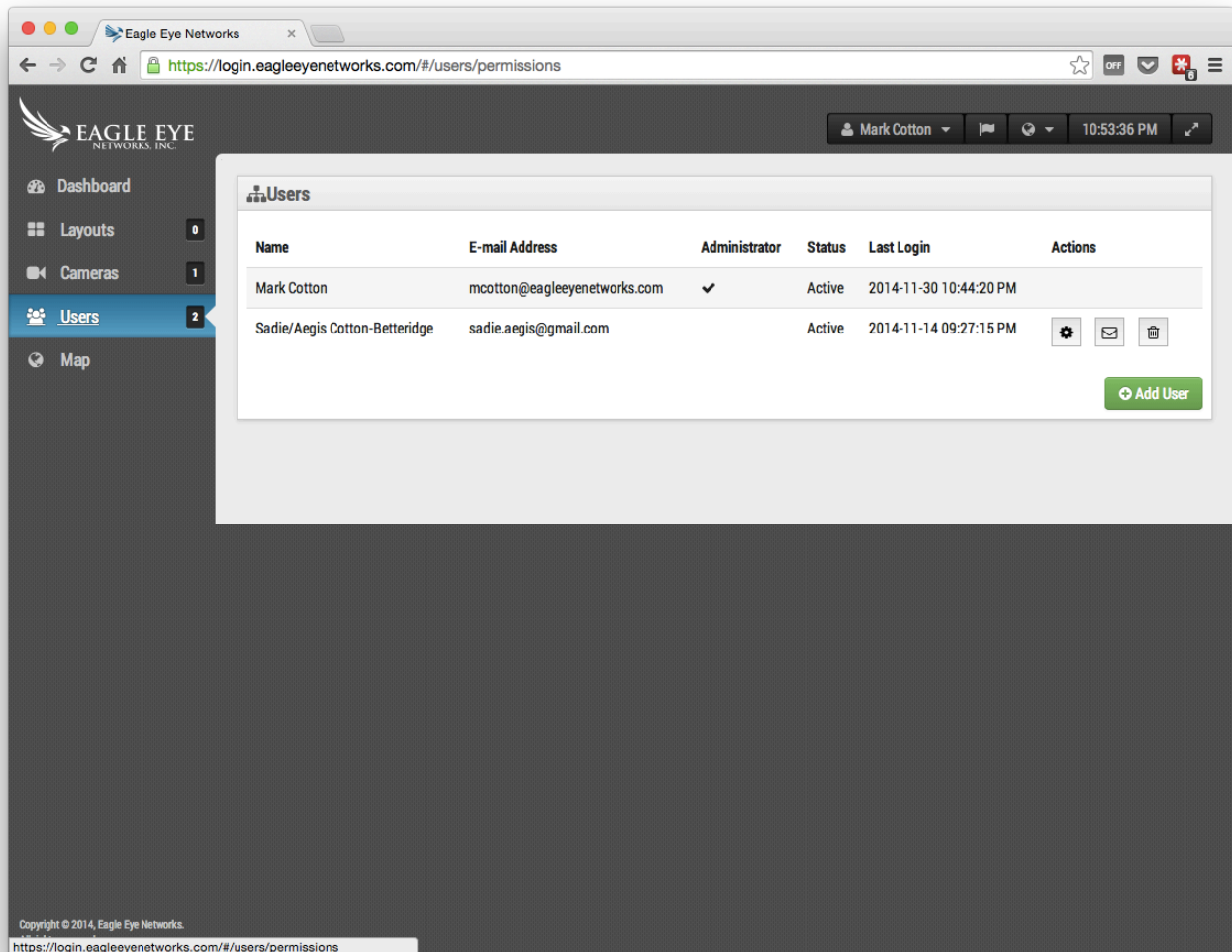


FIGURE 34 - USER MANAGEMENT

ADDING USERS

Adding users requires a unique email address along with their first and last name. Once the user has been added, they will receive an email with a link. They need to click this link to validate their email address and choose a password. The email link is only valid for 72 hours and can be resent if needed.

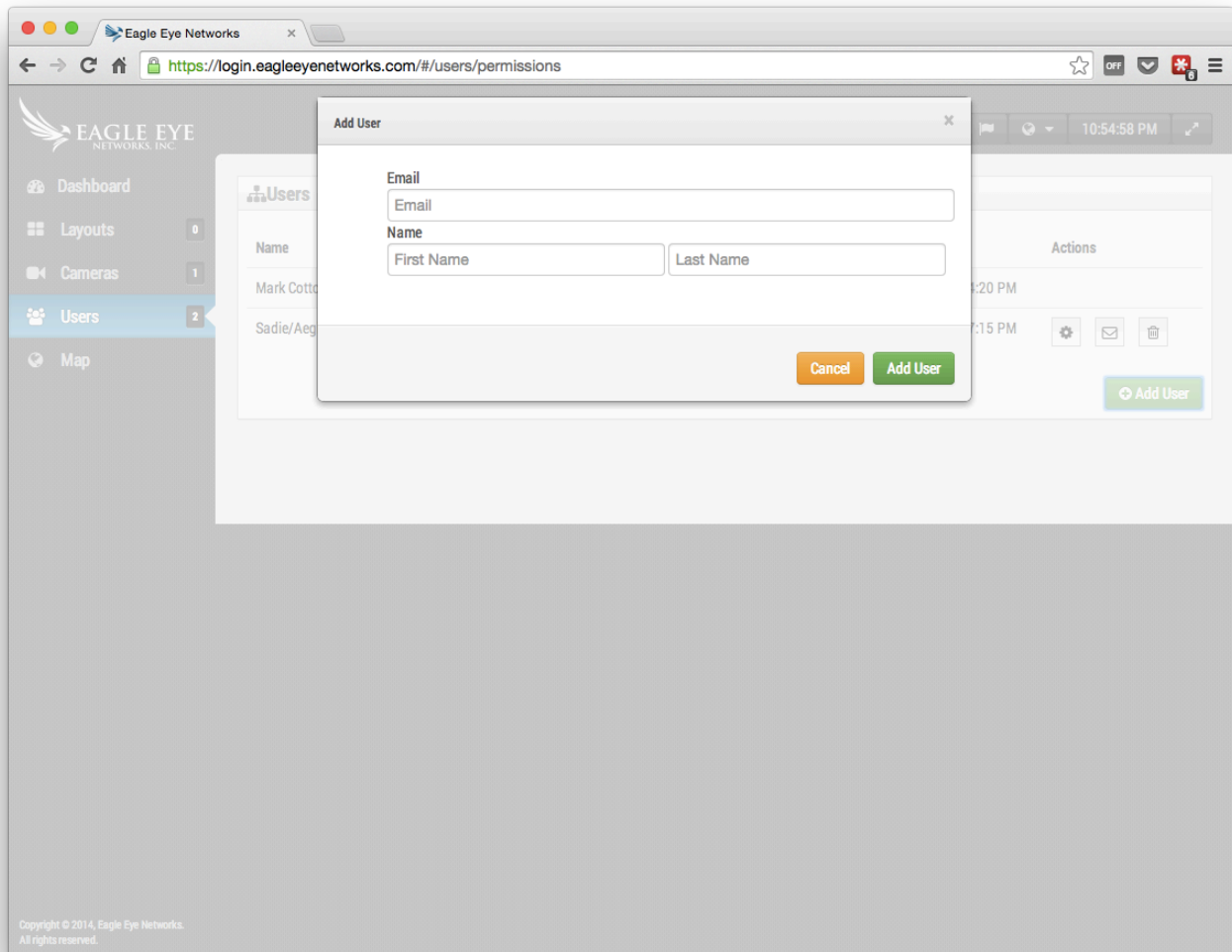


FIGURE 35 - ADDING A USER

DELETING USERS

You may remove users by clicking on the trashcan icon. You will be shown a dialog asking you to confirm this action. Once users are deleted their account cannot be recovered. They will need to be re-created as a new user if they needed further access.

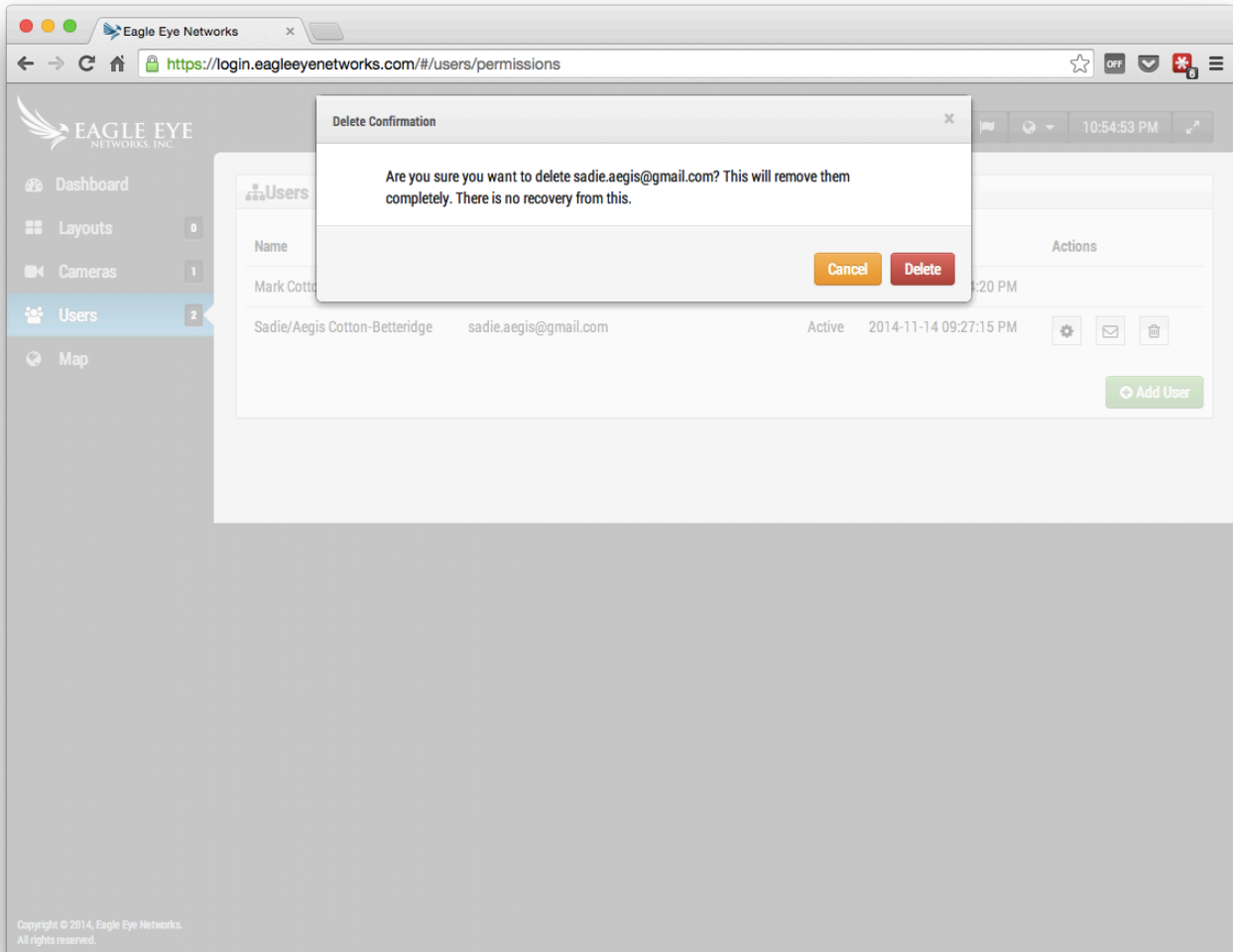


FIGURE 36 - DELETING A USER

USER SETTINGS – ACCESS

User access can be controlled using this screen. A user can be disabled. This means he will no longer be able to log into the Eagle Eye Security Camera VMS. He will be blocked from logging in. You can also control the time period of the day that he can log in and the actions that the user can take when they are logged in.

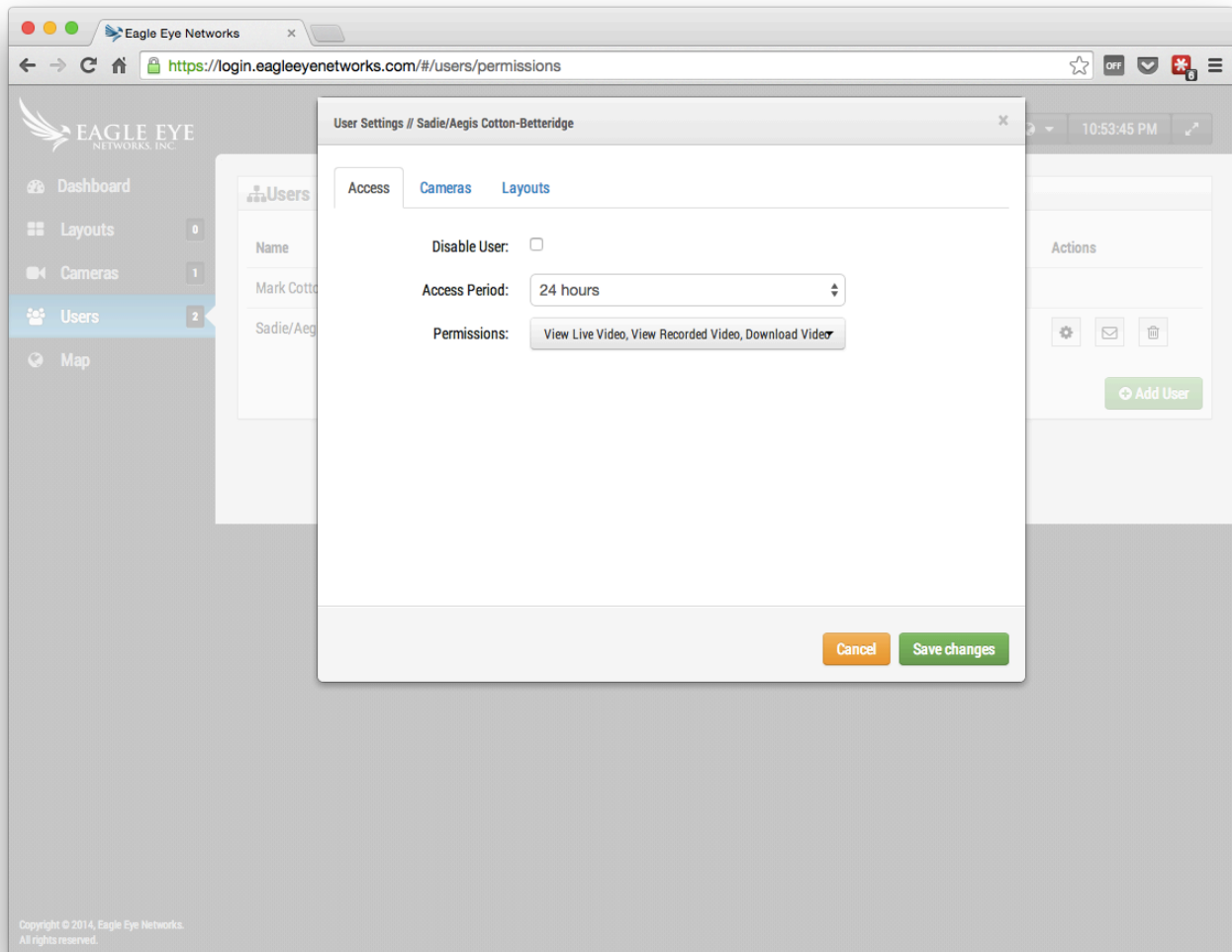


FIGURE 37 – USER ACCESS

USER SETTINGS – CAMERAS

It is possible to restrict access to cameras on a user-by-user basis. You may have some cameras that some users should not have access to. This is accomplished using the User Settings Camera Screen shown below. You can move cameras from the Access to the No Access side to change which cameras this user will have access to. Any cameras that are restricted from this user will simply not appear when he logs into the system.

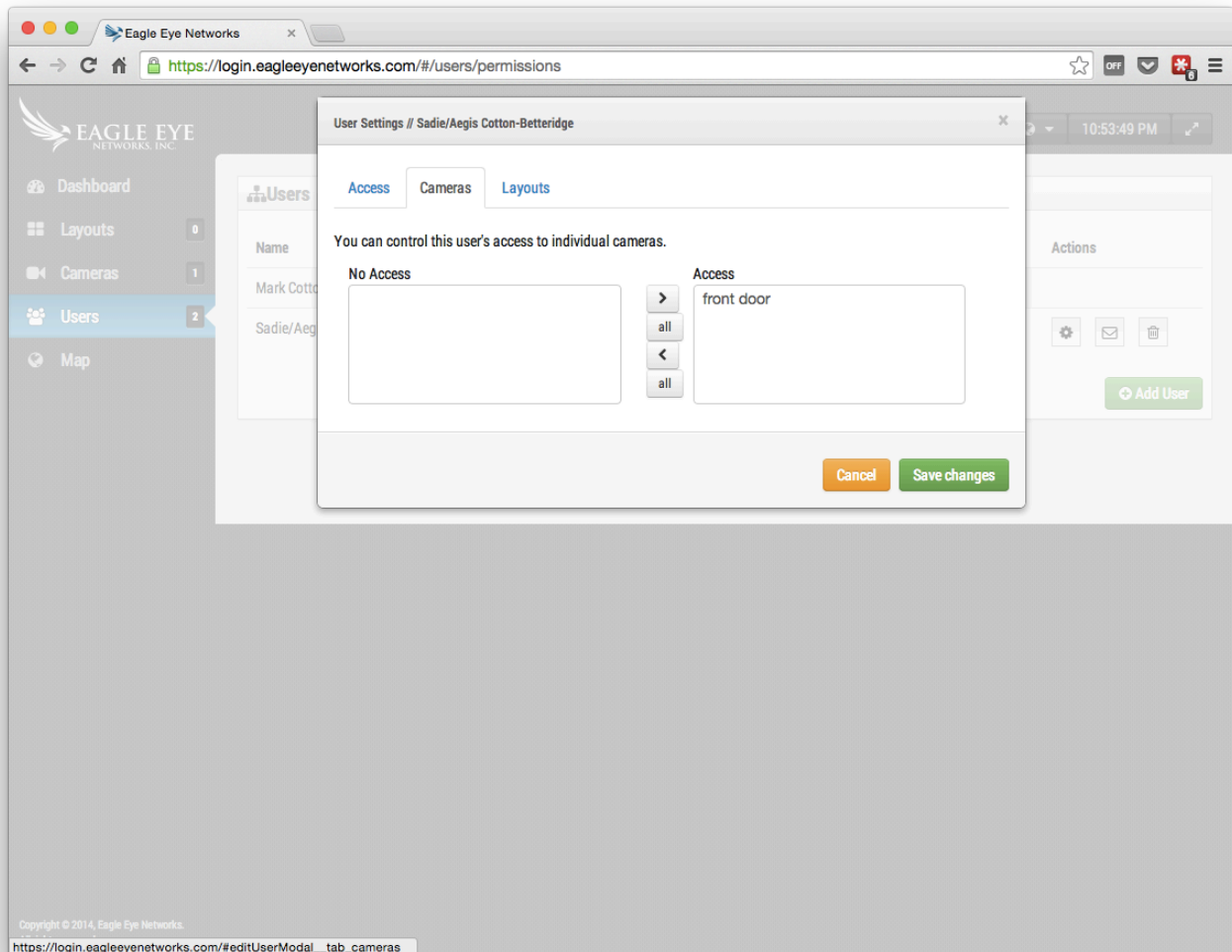
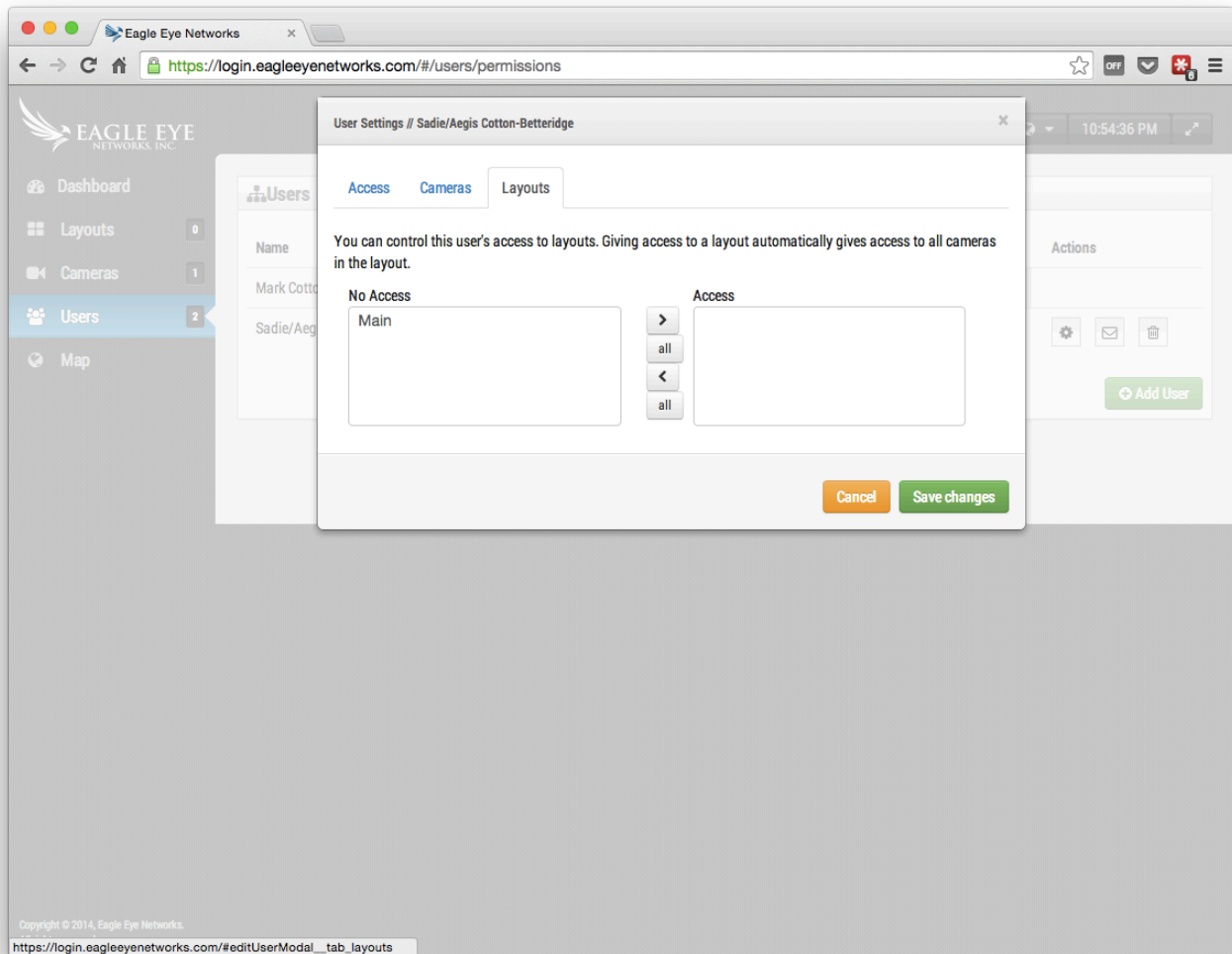


FIGURE 38 - RESTRICTED CAMERAS

USER SETTINGS – LAYOUTS

In addition to restricting access on a camera-by-camera basis you can also restrict or grant access to cameras based on layouts. This screen allows you to indicate which layouts a user gets access too.

**FIGURE 39 - RESTRICTED LAYOUTS**

History Browser

The History Browser provides methods for you to review video recordings from your cameras. The top of the screen shows the current video image. This is normally a Preview video image. The lower part of the screen is a Timeline control with navigation buttons.

Timeline Control: The Timeline can be clicked and dragged left or right. The image displayed will change to correspond to the pink cursor on the Timeline. The time shown will also change to show you the exact time the cursor is located. The blue areas shown on the timeline indicate that the system has recorded Full Video during those periods. Blank areas indicate that only Preview video is available. You can drag and scroll on the time area to move over hours or minutes. You can also drag and scroll the date area to scroll to a specific day.

Zooming the TimeLine: You can change the zoom level on the Timeline by selecting the 8Hr, 2Hr, 10Min or 1Min buttons. This will change the amount of time shown in the Timeline.

Navigation Buttons: There are 6 navigation buttons. The >| and |< buttons will move the image one preview image forwards or backwards. The arrows on a keyboard will also move one image forwards or backwards. Hold the button down to keep moving. This will normally move the image 1 second forwards or backwards. The >> and << buttons will move the image from one Key Image to the next Key Image forwards or backwards. When the system is recording full video (normally due to motion detection) it will select Key Images in the video. These Key Images are normally in the middle of the video and allow you to see an important part of a motion event. For example if you are trying to watch a door, the Key Images will typically give you an image of each person that walks through the door. The >>| and |<< buttons will move the image from one video segment to the next. A video segment can have more than one Key Image so this will typically move you faster through the timeline.

Selecting a Region of Time: If you want to either download or play a specific section of time you can make the selection of the time period using a shift click in the Timeline. It will be shown in yellow. If you then press the Download or Play button the selected region will be download or played.

Downloading a Video: Pressing the download button will download an MP4 version of the video. Note that this sometimes takes a long time to create, process and download the video. If there is no selected area it will download the current video segment under the cursor. If it will take more than 15 seconds to retrieve the video, a new dialogue will appear. You can enter a description of the video. This description appears in the name and notification.

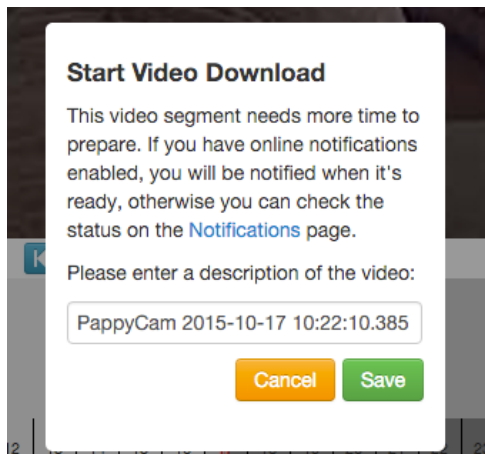


FIGURE 40 START VIDEO DOWNLOAD

The Notifications page will show an entry for the video and will also indicate when the video is ready to download. The online notification indicator will also show in the upper right when the video is ready for download.

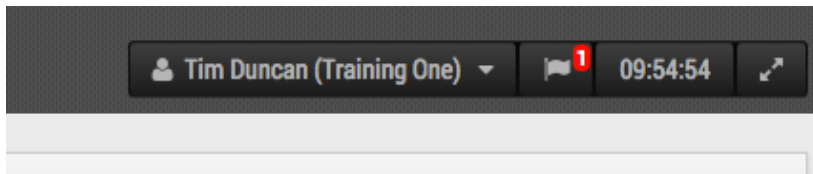


FIGURE 41 ONLINE NOTIFICATION INDICATOR

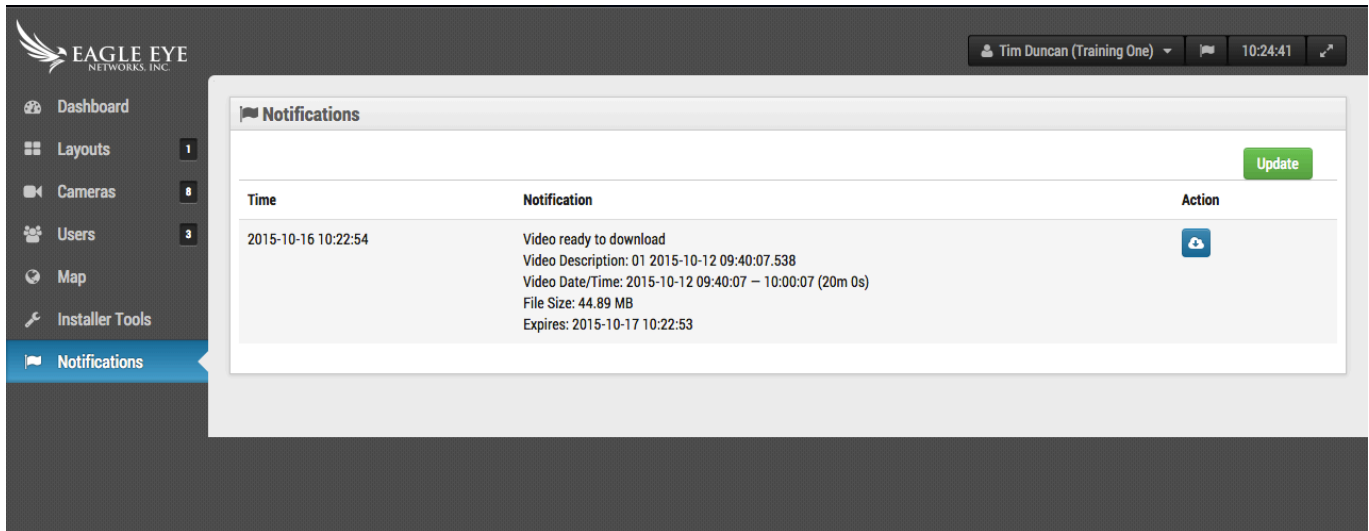


FIGURE 42 NOTIFICATIONS PAGE

Press the cloud icon to download the prepared video.

Play a Video: Pressing the play button will play the Full Video segment under the cursor or selected.

Zooming the Image: You can zoom the video image when looking at Preview video or full video, press the magnifying glass to do so.

Now Mode: The Now button will move the cursor to the current time. It will continually update the timeline with data and attempt to keep the cursor at the latest image.

HISTORY BROWSER – FIND HISTORIC (RECORDED) VIDEOS

The History browser allows you to drag the timeline and play Full Video segments. Full video is indicated by dark blue and motion by light blue.

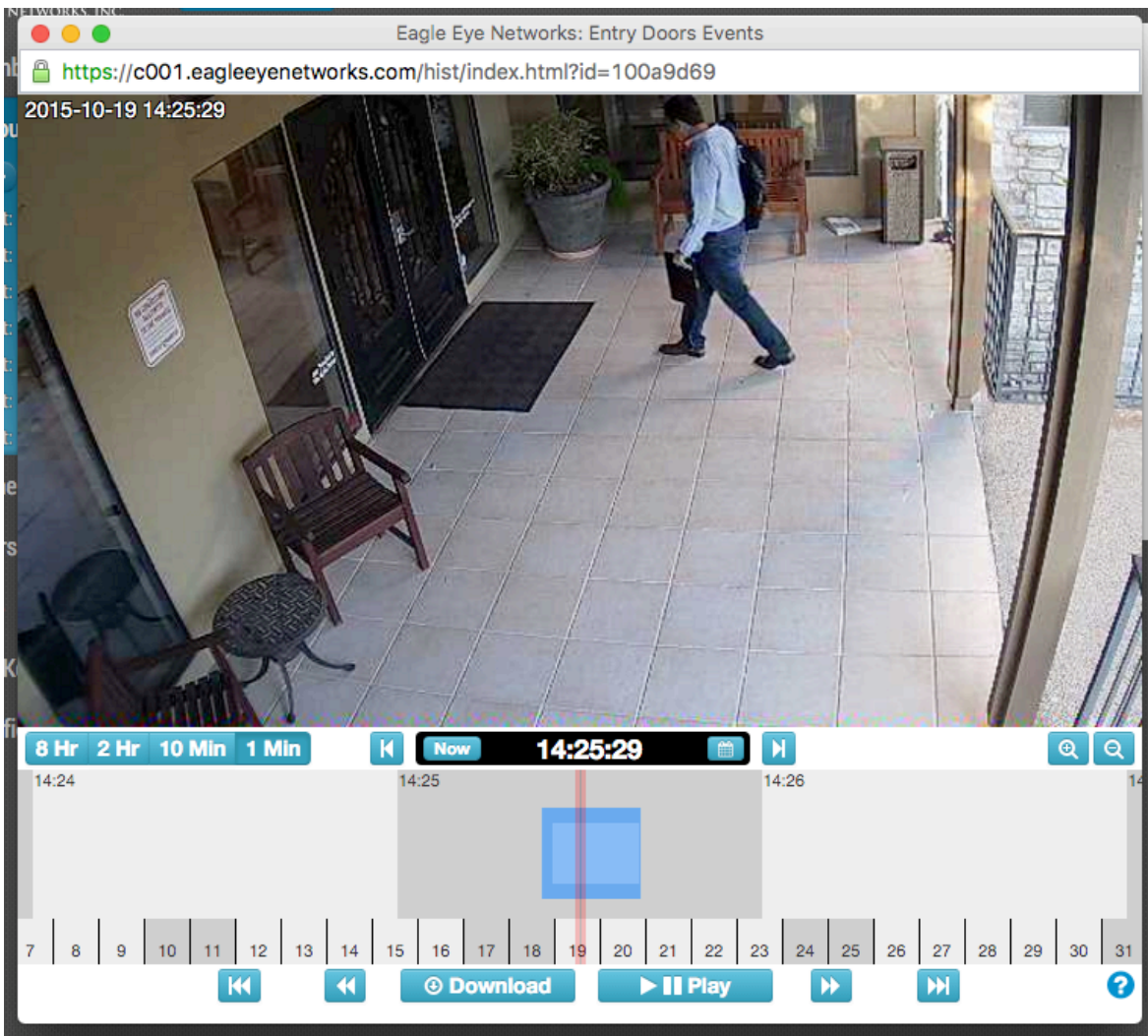


FIGURE 43 - THE HISTORY BROWSER

HISTORY BROWSER – SELECTING PORTIONS OF VIDEO

The History Browser allows you to select a time section of video using the shift key while clicking. Shift + click the beginning of your selection and shift + click for the end of your selection. The selected area will appear in yellow. Once selected you can download or play the selected portion of video.

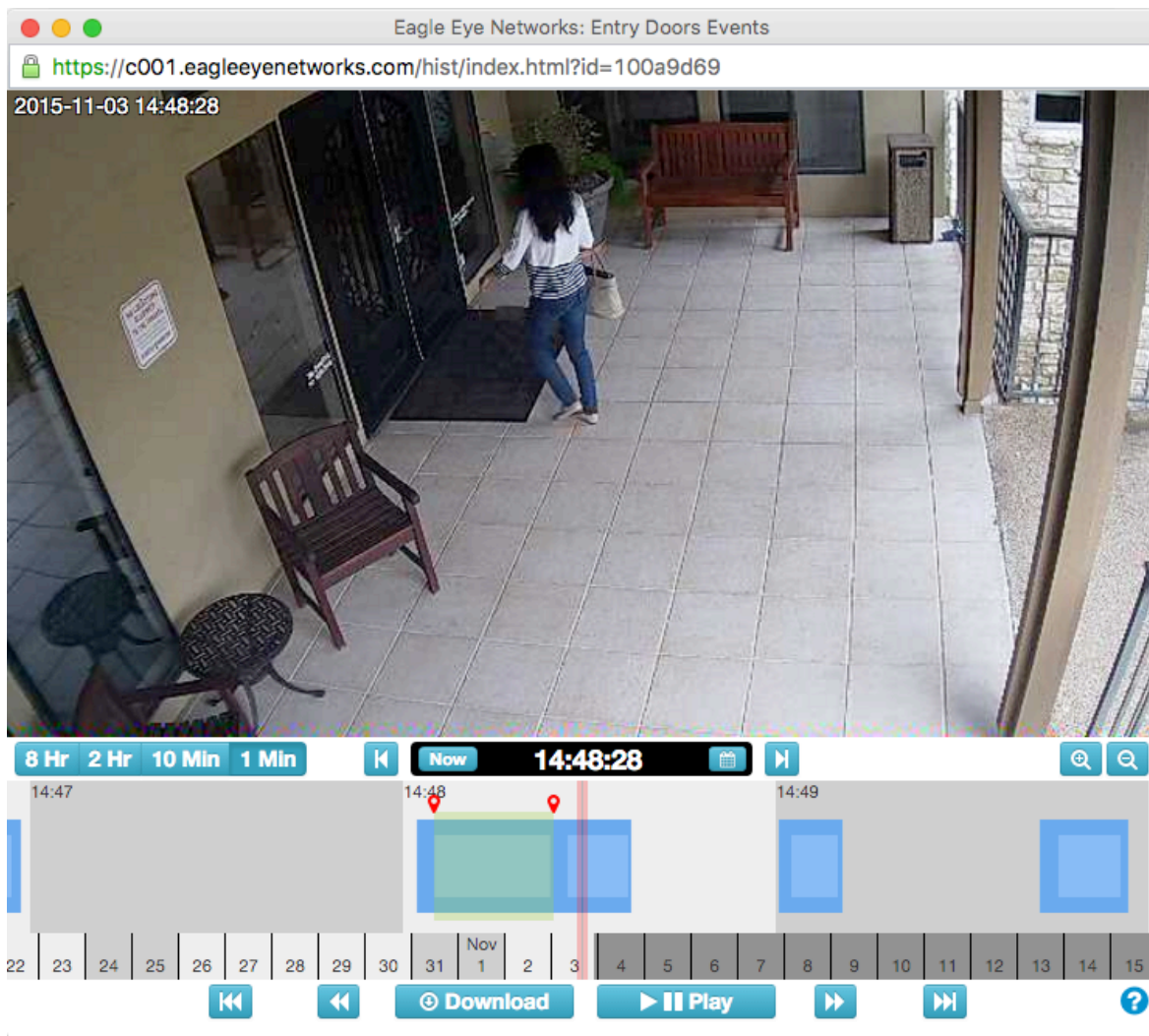


FIGURE 44 - SELECTING A PORTION OF VIDEO TO DOWNLOAD

HISTORY BROWSER – GALLERY VIEW

The history browser includes a function to provide a gallery view. The gallery view is access by pressing the ZOOM OUT button on the display. When the zoom out is pressed the history browser will show 9 images each from a different time. There are 3 modes of operation for the Gallery viewer. The mode is selected from the drop down shown next to the zoom buttons. The first is a time-based mode that shows an image at a fixed time variation. Note the black hash marks added to the history browser time display. These marks indicate when the images above are selected from. The middle image is at the red cursor. The second mode is a motion event mode that will select the key frame from each motion event. The third mode is recorded video mode that selects the first key frame from each recorded video segment.

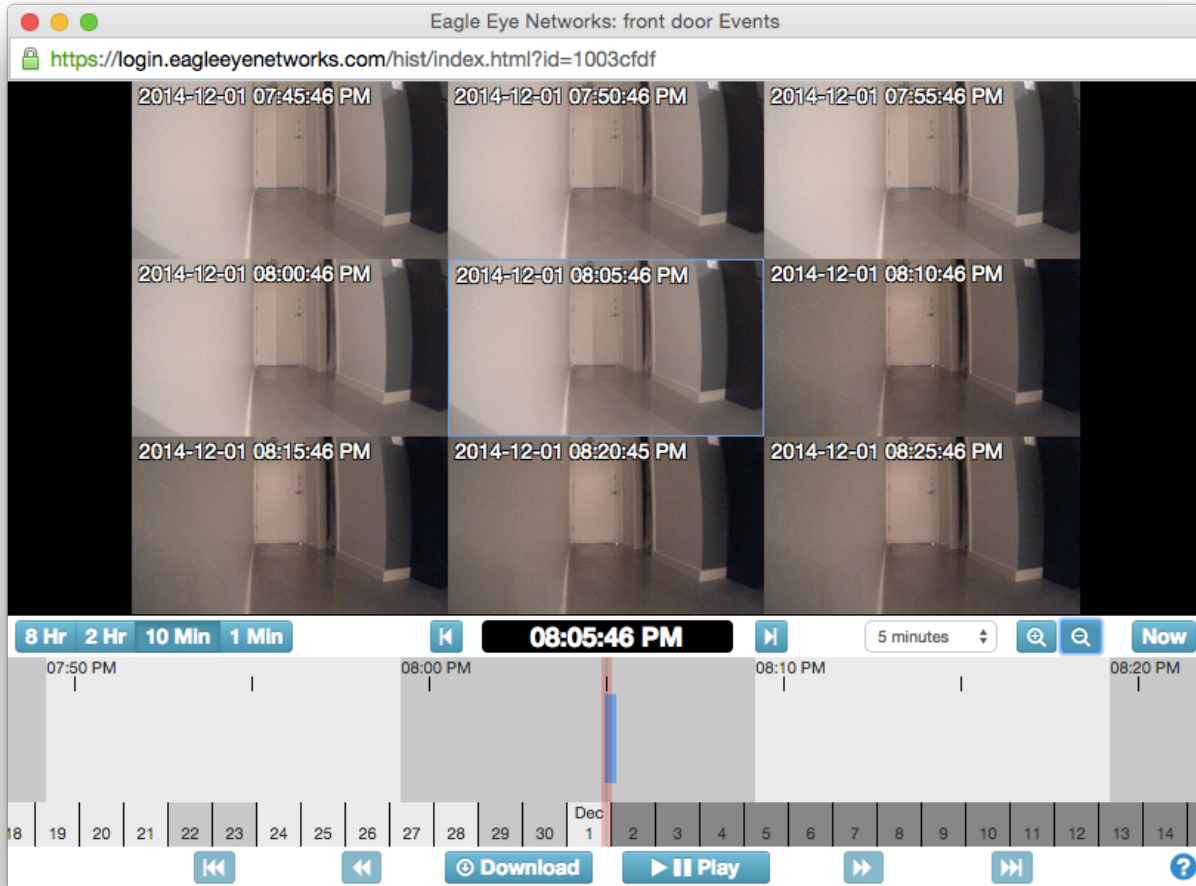


FIGURE 45 - GALLERY VIEWER

HISTORY BROWSER – DOWNLOADING VIDEO CLIPS

Eagle Eye makes downloading your videos very easy. You can download the high-resolution version as it comes directly from the camera. We coalesce smaller clips that overlap together into a single clip for your convenience. In cases of high motion, it may be desirable to download only a part of the available video. For example, we have a busy room but we only want to download a section. We are only interested in the section where the person in shorts and a black hoodie is in the room.



FIGURE 46 - HISTORY BROWSER WITH NO VIDEO SELECTED

After playing the video we see that he comes into the room at 03:33:47.682 PM and leaves the room at 03:37:18.424 PM. By holding the SHIFT key, we can click and drop a start pin. We can drop the ending pin the same way. The area between them is highlighted (you can remove the highlighted area by clicking anywhere inside the highlighted area).



FIGURE 47 - SELECTING VIDEO FOR DOWNLOAD

The Play and Download button now are limited to the area highlighted. You can download the clip by clicking on the Download button. Your download will start automatically. We convert the video to MP4 for the best compatibility across platforms.

Motion Alerts and Regions of Interest

Often there is repetitive motion in a scene that you want to ignore. A great example of this is a TV or a swaying tree. Having constant motion makes it difficult to quickly find the item you are looking for. It is like adding more hay to the stack when you're busy searching for a needle.

In this scene, there is a TV in view of the cameras that will appear as constant motion. As you can see from the blue streak across the timeline, it is difficult to find when people walked through the area. We want to mask out the TV from triggering motion.



FIGURE 48 - FIELD OF VIEW WITHOUT MOTION TUNING

CREATING AN EXCLUSION ZONE

We can mask out a motion area by going to the Motion tab inside of Camera Settings.

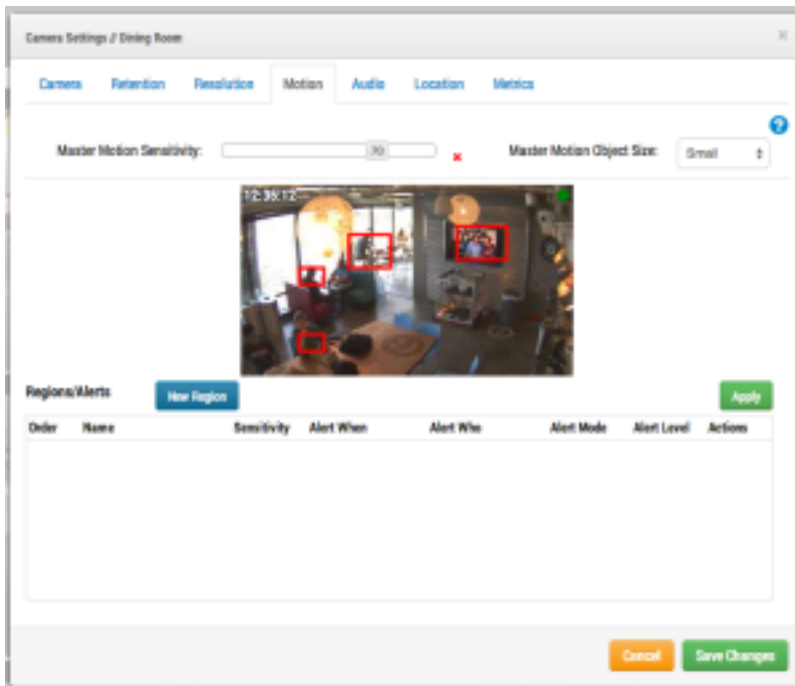


FIGURE 49 - MOTION DETECTION SETTINGS

The red boxes show where motion is currently detected. As you can see, the TV is triggering motion. We can remove that by creating a new region and dragging the box around the TV. We will name the region and enable the checkbox to Disable Motion. When finished, hit Apply. The motion tab should now have a named region over the TV in the preview image.

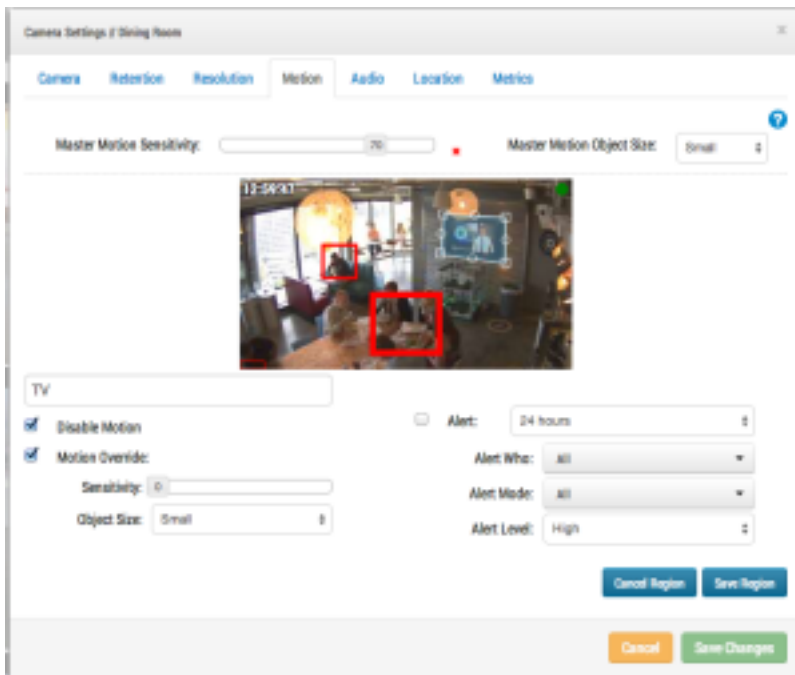


FIGURE 50 - MOTION DETECTION EXCLUSION ZONE SETTINGS

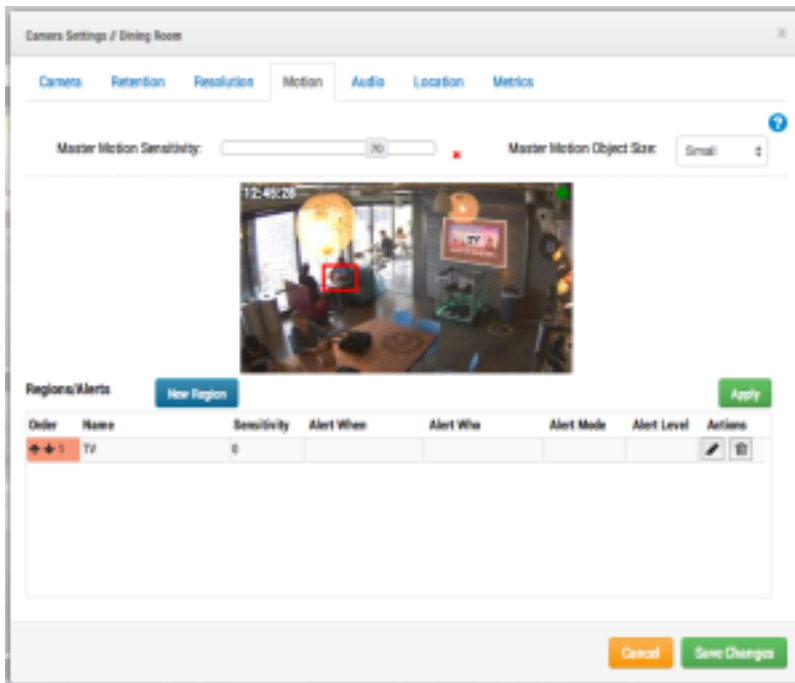


FIGURE 51 - EXCLUSION ZONE IN PLACE

This is an example of the timeline with the TV masked out. It is significantly easier to find motion events.



FIGURE 52 - HISTORY BROWSER TUNED FOR MOTION DETECTION

CREATING NOTIFICATIONS

This example illustrates setting up email notifications on a door. In it, we are interested on getting an email notification whenever someone enters or leaves. The initial image is below.

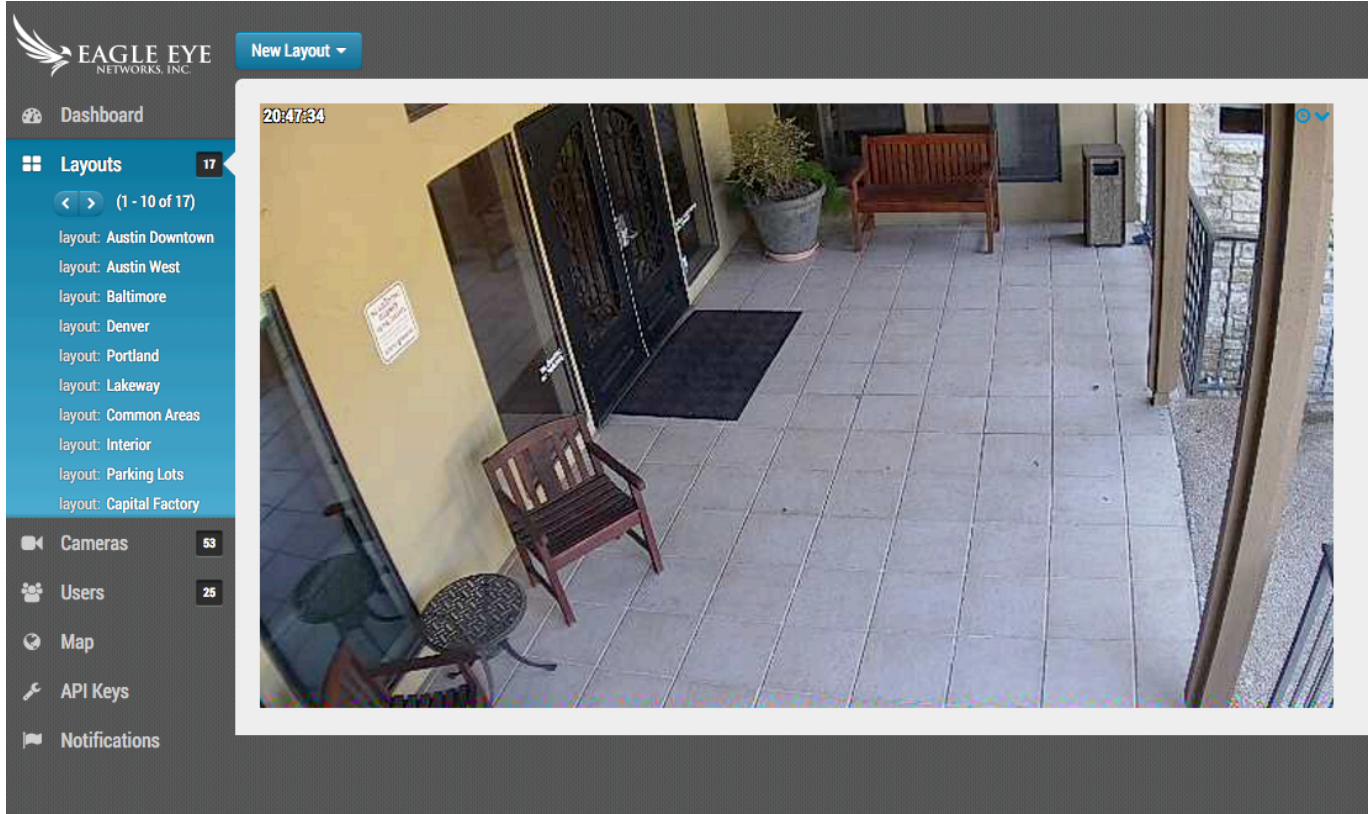
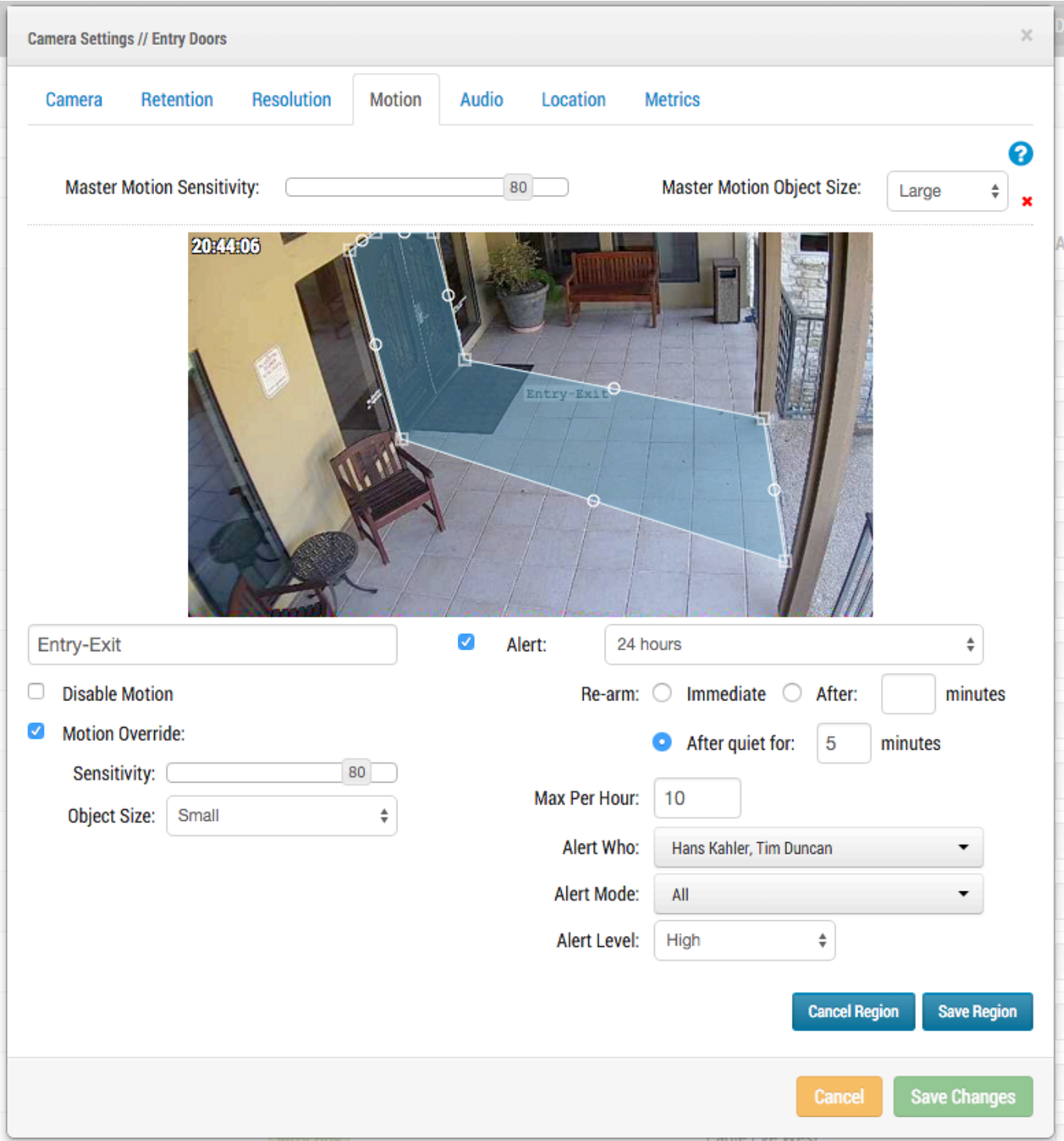


FIGURE 53 CAMERA VIEW

Here I have opened camera settings and gone to the 'Motion' tab. I have also created a new region and placed it over the door and walkway to the door and named it "Entry-Exit."



Camera Settings // Entry Doors

Camera Retention Resolution **Motion** Audio Location Metrics

Master Motion Sensitivity: Master Motion Object Size:

20:44:06

Entry-Exit

Entry-Exit Alert:

Disable Motion Re-arm: Immediate After: minutes

Motion Override: After quiet for: minutes

Sensitivity: Max Per Hour:

Object Size: Alert Who:

Alert Mode:

Alert Level:

FIGURE 54 MOTION SETTINGS

I have checked the alert checkbox. Here I am selecting the time range in which I would like this alert to be active.

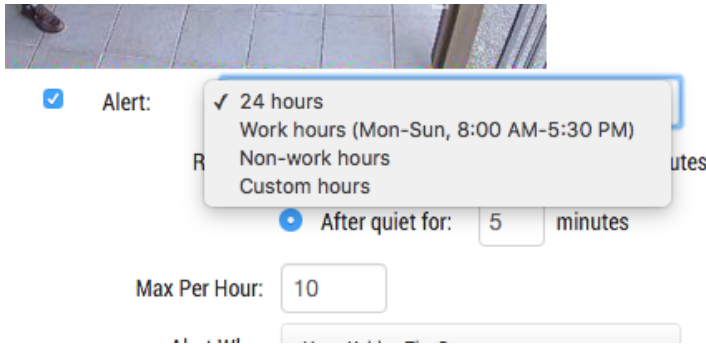


FIGURE 55 ALERT WHEN

Here I am selecting which users I would like to be alerted.

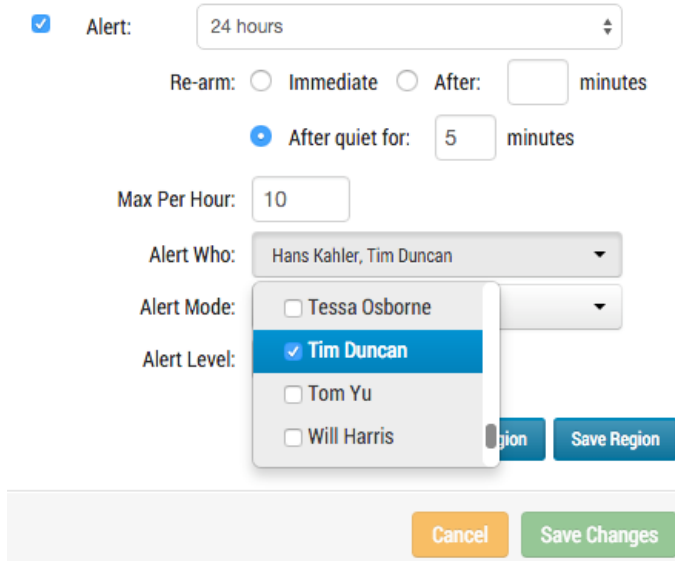


FIGURE 56 ALERT WHO

Lastly, I am selecting if this should be considered a 'High' or 'Low' alert. Each user can choose in their profile if they would like to be notified on 'Low' and/or 'High' alerts.

Alert: 24 hours

Re-arm: Immediate After: minutes

After quiet for: minutes

Max Per Hour:

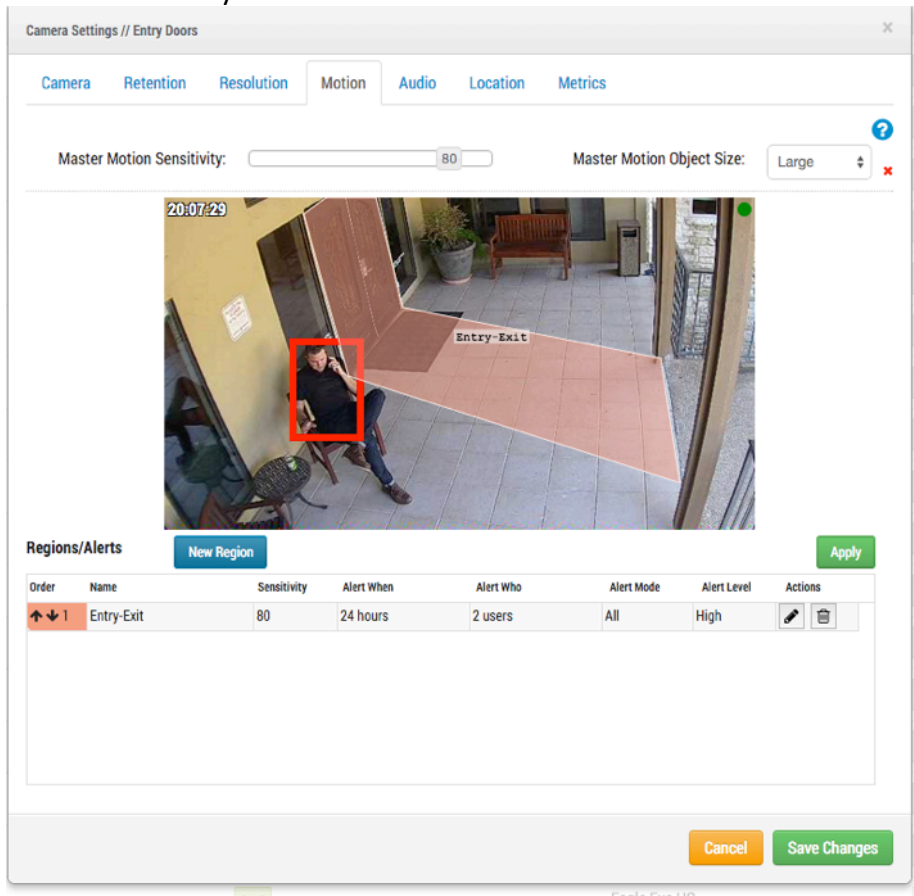
Alert Who: Hans Kahler, Tim Duncan

Alert Mode: All

Alert Level: High
 Low

FIGURE 57 ALERT LEVEL

After saving the region and pressing 'Apply,' the motion zone is highlighted on top of the preview image and the summary is listed.



Camera Settings // Entry Doors

Camera Retention Resolution **Motion** Audio Location Metrics

Master Motion Sensitivity: 80 Master Motion Object Size: Large

20:07:29

Entry-Exit

Regions/Alerts

Order	Name	Sensitivity	Alert When	Alert Who	Alert Mode	Alert Level	Actions
1	Entry-Exit	80	24 hours	2 users	All	High	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

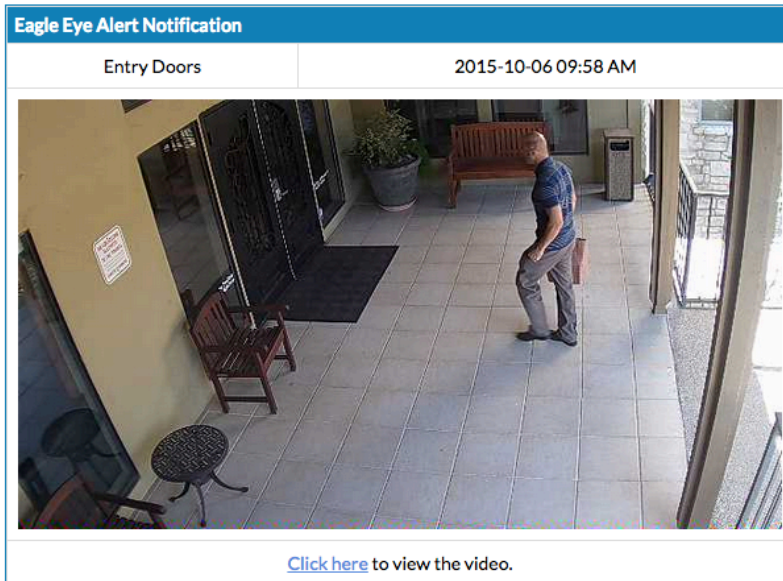
FIGURE 58 ALERT SUMMARY

Finally, this is an example of the email that is sent to me.

Motion on camera "Entry Doors" in region "Entry-Exit" at 09:58 AM

notifications@eagleeyenetworks.com
9:59 AM
<tduncan@eagleeyenetworks.com>

Eagle Eye detected motion on camera "Entry Doors" in region "Entry-Exit" at 09:58 AM.



This Eagle Eye Alert Notification was sent to Tim Duncan, Hans Kahler.

This Eagle Eye Alert Notification was automatically generated based on your Eagle Eye settings. To make changes or disable please [click here](#).

Thank You,

The Eagle Eye Networks Team

FIGURE 59 EMAIL ALERT EXAMPLE

Notice that you can click the link in the email to be taken to that moment and begin playback in the history browser. If you are not logged in, you will be prompted to login. There is also a link that takes you to the notification settings for your user.

Bandwidth Considerations

Balancing the amount of bandwidth available with the number of cameras and desired retention time with acceptable video quality is key to a successful application of the Eagle Eye Security Camera VMS. The goal is for a bridge to be able to upload all video from cameras to the Eagle Eye Cloud Data Center within a day. Learning to use the metrics available under the bridge settings will help to setup and adjust

the system in such a way to have a good user experience and happy customer. Here is an example of good metrics with plenty of bandwidth:

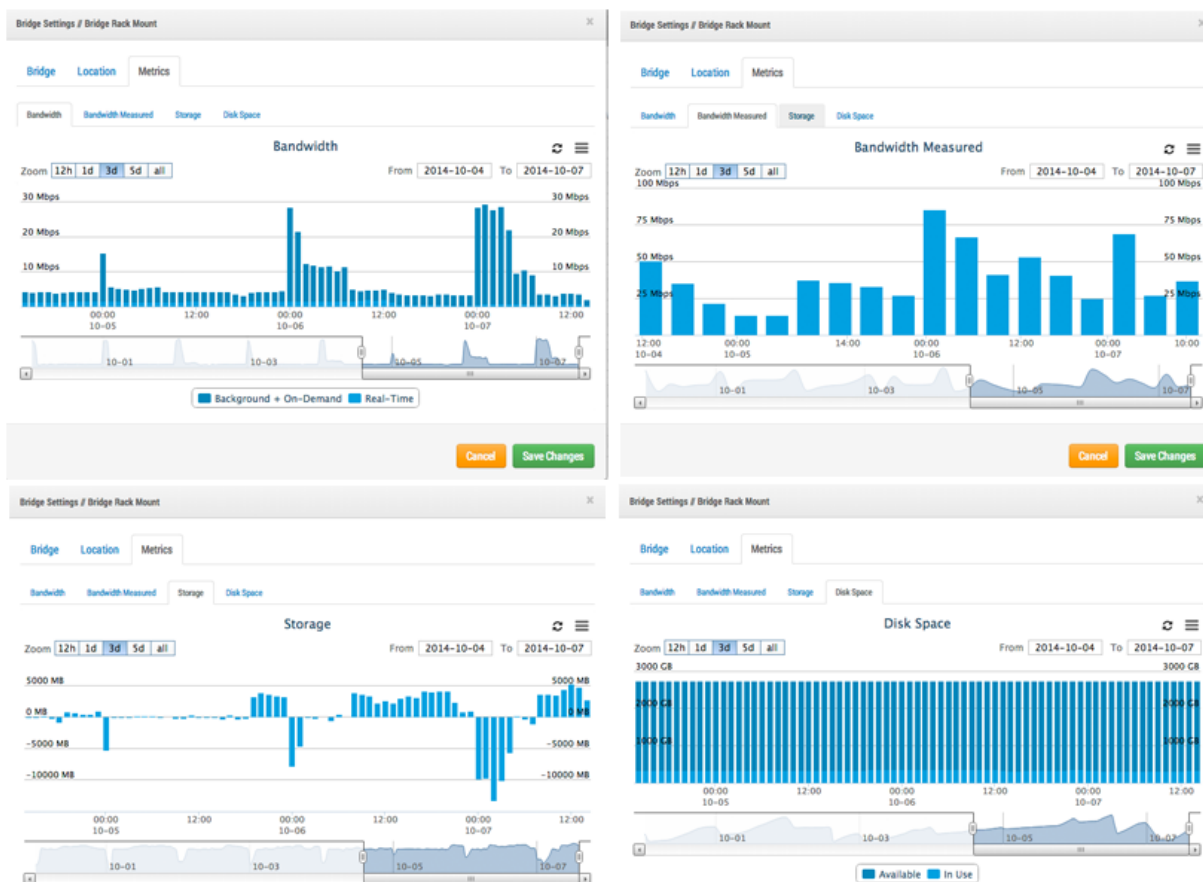


FIGURE 60 BANDWIDTH EXAMPLE 1

In the above example, the “Bandwidth” tab shows how much bandwidth the bridge is using over time. The “Bandwidth Measured” tab shows the available upload network bandwidth to the bridge also over time. Note the “storage” tab - it has both positive and negative. If there is enough bandwidth, there should be more negative than positive. Positive shows the buffering of video on the bridge. Negative shows the transmission of video to the cloud. The “Disk Space” tab shows very low amount of disk space being used -- which is also good as the video that was buffered is already transmitted to the cloud.

Here is an example of a bridge that has low available bandwidth, but it has been set to be able to utilize enough bandwidth during night time hours to successfully transmit the video to the cloud:

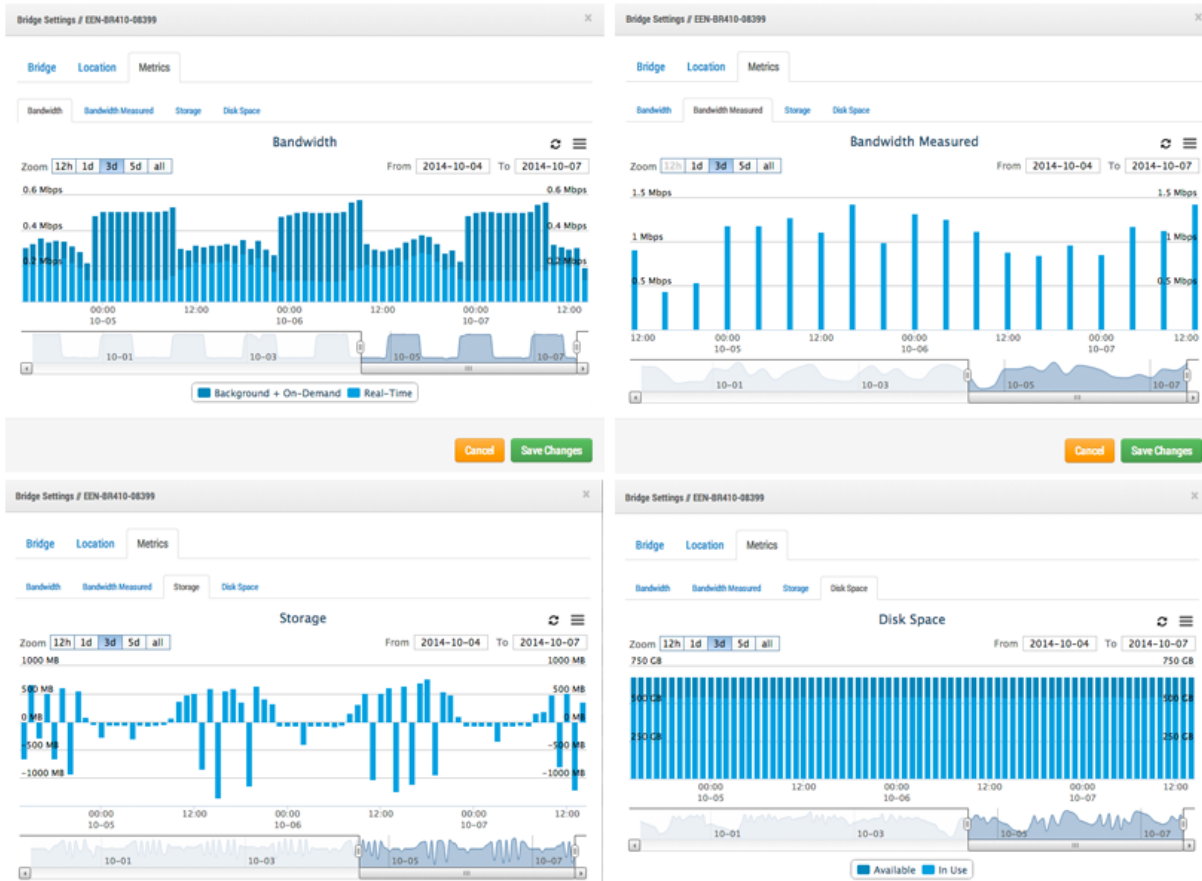


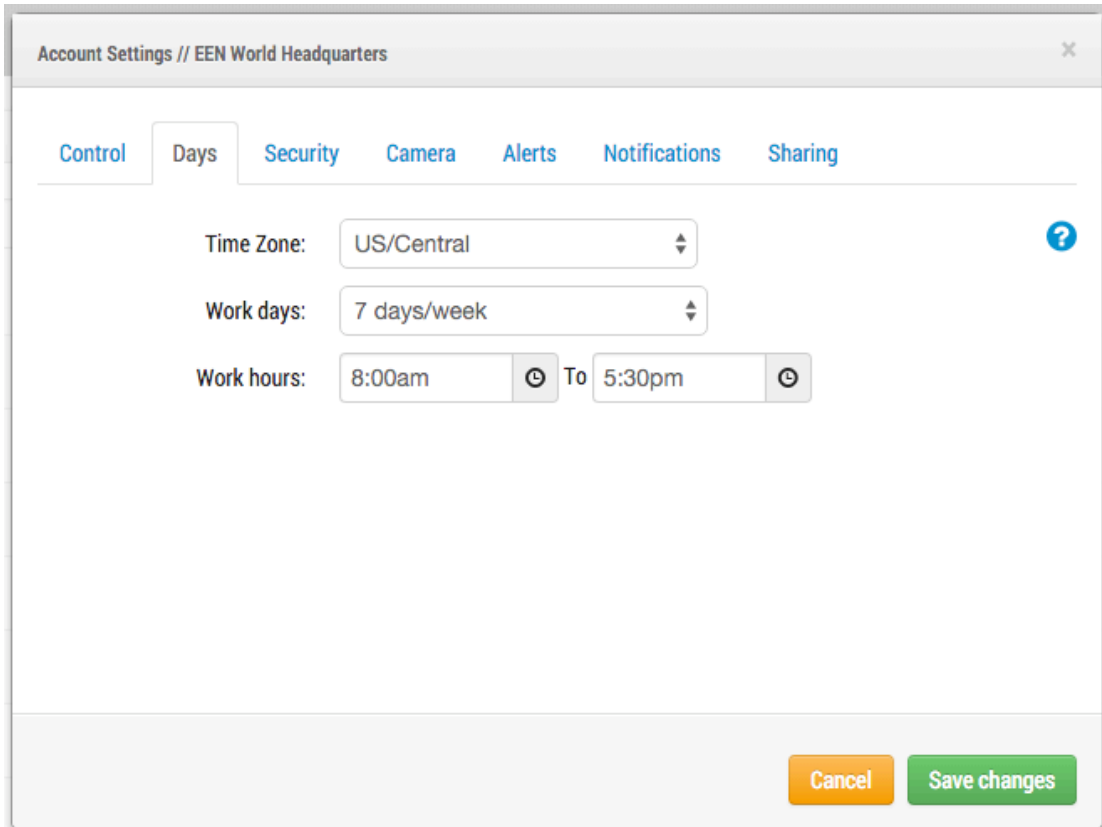
FIGURE 61 BANDWIDTH EXAMPLE 2

Notice that the cycle is predictable and repetitious.

In some cases, the bandwidth may change at a customer location. Here is an example of the bandwidth going down and the video storage building up over the last few days because there is more video being added to the bridge than can be transmitted. The only solution is to either give more Internet bandwidth, or adjust the video quality down. If it continues at this rate without intervention, then video will be purged and lost before it can be uploaded.

FIGURE 63 USER ACCOUNT SETTINGS

Next go to the “Days” tab:



Account Settings // EEN World Headquarters

Control Days Security Camera Alerts Notifications Sharing

Time Zone: US/Central ?

Work days: 7 days/week

Work hours: 8:00am To 5:30pm

Cancel Save changes

FIGURE 64 ACCOUNT SETTINGS DAYS

Here you can set the “Work hours” of the business. In this example, it is set from 8:00am to 5:30pm. By doing this, you will be able to maximize the available bandwidth outside of business hours. To do this, go to the bridge settings and change the “Scheduled Transmit Bandwidth” to “Non-work hours” as shown in this example:

Bridge Settings // 210 Rack

Bridge Location Metrics Local Display

Bridge Name: 210 Rack

Time Zone: US/Central

UPNP Enabled:

Default Transmit Bandwidth: 100 kb Current: None

Scheduled Transmit Bandwidth: Non-work hours 6 mb

FIGURE 65 BRIDGE SETTINGS

The bandwidth can also be adjusted to the maximum rate available based on the local Internet connection. So, in this example, during work hours, the maximum transmit rate is 100kb, but outside of work hours the transmit rate is 6mb. (6 Megabits).

Setting preview to very low resolution can also help with bandwidth. It is good to train the customer to view the low-resolution previews in order to decide what that would like to see of the high-resolution video. Our system is very unique in that we can have the preview stream set to “always” or “on demand.” Always means that the preview images are always sent to the cloud. Thus the bandwidth must be available for each camera. If the cameras are set to 100k preview, and you have 4 cameras, then you would need 400K bandwidth to transmit just the preview images. Our suggestion is to have 400K of bandwidth per camera, so a 4-camera system that has 1600K of bandwidth up should work quite well. This of course depends on what we call the “duty cycle” of the camera. The duty cycle is the percentage of time from 0% to 100% that motion triggers recording. So a camera with a duty cycle of 50% means that the high-resolution video is buffered on the bridge half of the time. There needs to be enough bandwidth available to transmit that video in the background, or outside of work hours within 2-3 days.

We have found that in very low bandwidth installations, it is good to allow the system to run for a few days to gather metrics and then adjust. It is also good to periodically check in on the status of customer systems from time to time. One good way to do this is using the installer tools to see the settings and duty cycle of the cameras installed. Note in the following example that you can see which cameras are the highest duty cycle (which means what percentage of time the camera is recording events).

Installer Diagnostic Tools							
Status	Name	IP Address	Duty Cycle	Preview/Video Size	Bandwidth Speed/Mode	Cloud Retention	
✔	1st Floor Back Wall	AXIS AXIS M3005 10.1.10.54	90%	320x240 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	1st Floor Frig	AXIS AXIS M3004 10.1.10.10	10%	320x240 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	1st Floor Front Door	AXIS AXIS M3026 10.1.10.67	99%	352x240 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	1st Floor Grill Area	AXIS AXIS M3005 10.1.10.53	98%	320x240 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	1st Floor Inside Back Door	AXIS AXIS M3004 10.1.10.52	39%	320x240 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	1st Floor Middle Area	AXIS AXIS M3006 10.1.10.63	86%	320x180 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	1st Floor Middle Corner	AXIS AXIS M3006 10.1.10.68	99%	320x180 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	1st Floor Over Register	AXIS AXIS M3006 10.1.10.65	84%	320x180 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	1st Floor Sink Area	AXIS AXIS M3006 10.1.10.18	75%	320x180 @ low quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	2nd Floor Back	AXIS AXIS M3005 10.1.10.12	89%	320x240 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	2nd Floor Front	AXIS AXIS M3005 10.1.10.47	70%	320x240 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	2nd Floor Stairs	AXIS AXIS M3024-L 10.1.10.60	44%	352x240 @ low quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	2nd Floor Storage	AXIS AXIS M3006 10.1.10.17	2%	320x180 @ low quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	3rd Floor Stairs	AXIS AXIS M3027 10.1.10.66	2%	640x480 @ med quality 1280x960 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	3rd Floor Storage	AXIS AXIS M3004 10.1.10.36	1%	320x240 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️
✔	Basement Aisle 1	AXIS AXIS M3004 10.1.10.55	4%	320x240 @ med quality 1280x720 @ med quality	always (500kbps) background (1000kbps)	14	⚙️

FIGURE 66 INSTALLER DIAGNOSTIC TOOLS

Out of 16 cameras, the average is 50% duty cycle overall. Most of the bridge installations we see fall into an average duty cycle of 40-50%. Outdoor cameras have significantly higher duty cycles. Higher duty cycles are no problem so long as there is adequate bandwidth. Otherwise, a CMVR is required.

BANDWIDTH USAGE AND RECOMMENDATIONS:

We recommend 100kbps per camera for our real-time preview stream. You can adjust the quality by raising or lowering the settings but those are safe averages. We load balance and pool requests so that multiple people watching the same live stream view it through our cloud and only a single live stream between the bridge and our cloud are required. This allows us to get more cameras on the same bandwidth. In addition, full resolution video streams can be watched live or through our history browser. Our Bandwidth management gets the most out of available bandwidth.

EXAMPLE 1:

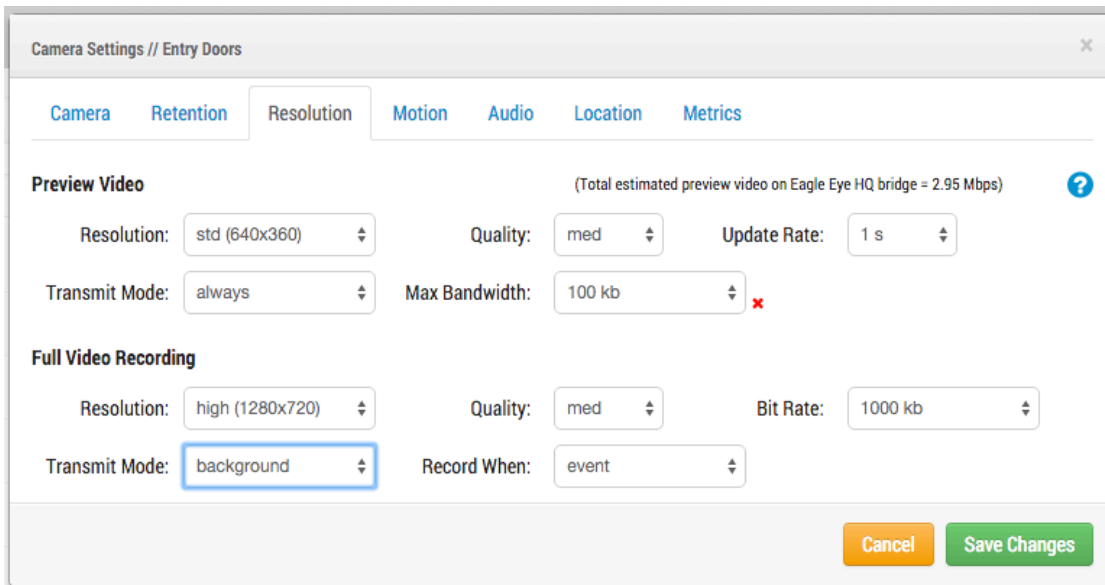
We have a low-bandwidth customer who has successfully deployed 8 HD cameras on our system on a 1.5 Mbps connection. We use 0.8Mbps for our low-resolution preview video. The quality of the cameras is set to “low” and 500 kb for full video. The customer has the ability to watch a live (or historic) HD video stream of any camera. The preview stream and background upload slow down while the full HD streaming is taking place. Once they finish, the preview stream speeds back up. A lower duty cycle as well as lower quality and bit rate for full video make this possible for the customer.

EXAMPLE 2:

We replaced a camera installation at a daycare center. They were providing low-resolution video to parents so they could check on their children. Using their previous system, they were only able to support ~20 simultaneous viewers. Using our platform, all 80+ parents can see the preview stream at the same time. The preview stream only uses 0.8Mbps to upload to our cloud and our cloud serves all the parents.

TECHNICAL EXPLANATION:

When talking about bandwidth we segment it into three groups; real-time bandwidth, background bandwidth, and on-demand bandwidth. Real-time bandwidth is what the bridge and cameras use to send and receive metadata and preview images. By default we set it to 50kpbs and recommend adjusting to 100kpbs or until image updates are smooth.



Camera Settings // Entry Doors

Camera Retention Resolution Motion Audio Location Metrics

Preview Video (Total estimated preview video on Eagle Eye HQ bridge = 2.95 Mbps) ?

Resolution: std (640x360) Quality: med Update Rate: 1 s

Transmit Mode: always Max Bandwidth: 100 kb

Full Video Recording

Resolution: high (1280x720) Quality: med Bit Rate: 1000 kb

Transmit Mode: background Record When: event

Cancel Save Changes

FIGURE 67 CAMERA SETTINGS RESOLUTION

Background bandwidth is how we refer to background video uploading. When video is saved to the bridge it goes into a queue and is scheduled to be uploaded. The metadata travels ahead to the cloud. As bandwidth allows, the background video is sent up and removed from the bridge. The bridge allows for bandwidth limits to be scheduled so as to not interfere with other network traffic.

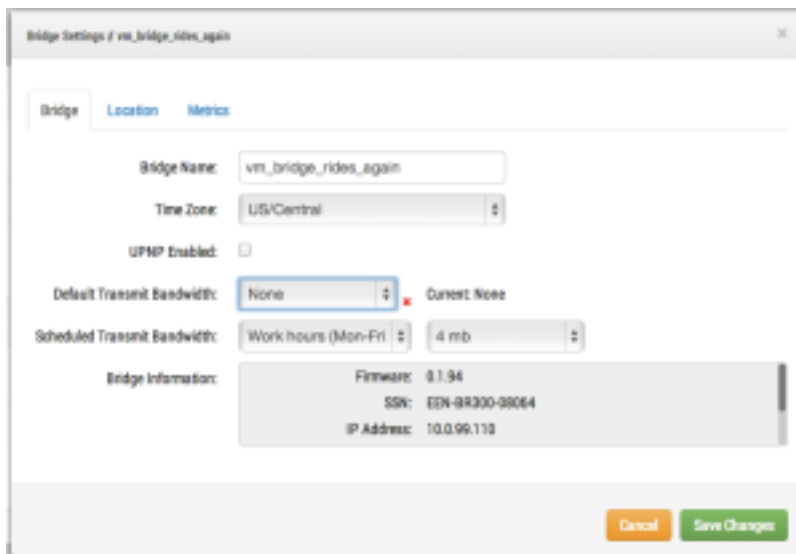


FIGURE 68 BRIDGE SETTINGS NO DEFAULT TRANSMIT

You can see that I have set the bridge to not use any background bandwidth during working hours and use 4mbps during non-work hours. Here is what that bridge metrics look like and they confirm those settings.

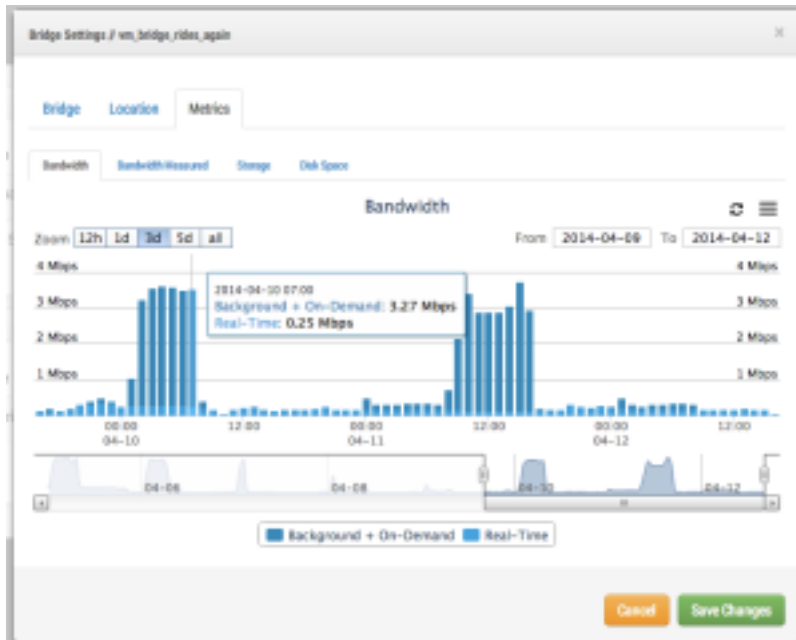


FIGURE 69 BRIDGE SETTINGS METRICS BANDWIDTH

On-demand bandwidth is the highest priority and will utilize all the bandwidth of real-time and background settings. When something is requested from the bridge that has not been uploaded yet, it will be immediately pulled from the bridge and sent to the client. This is the case for live video. Our cloud will also transcode the video into other formats depending on the client's request. Live streaming

has a couple seconds latency. Video conversion adds additional latency for live viewing. Our goal is to keep live streaming within 2-3 seconds and live stream with video conversion within 8-10 seconds.

Maps

Cameras can be added to Google Maps so that they can be overlaid on the map at their physical location. The range of view of the camera can also be indicated on the map. Clicking a camera on the map brings up the preview video of the camera. Once the preview is visible, the same controls are available as viewing cameras from the Layouts or Cameras page.

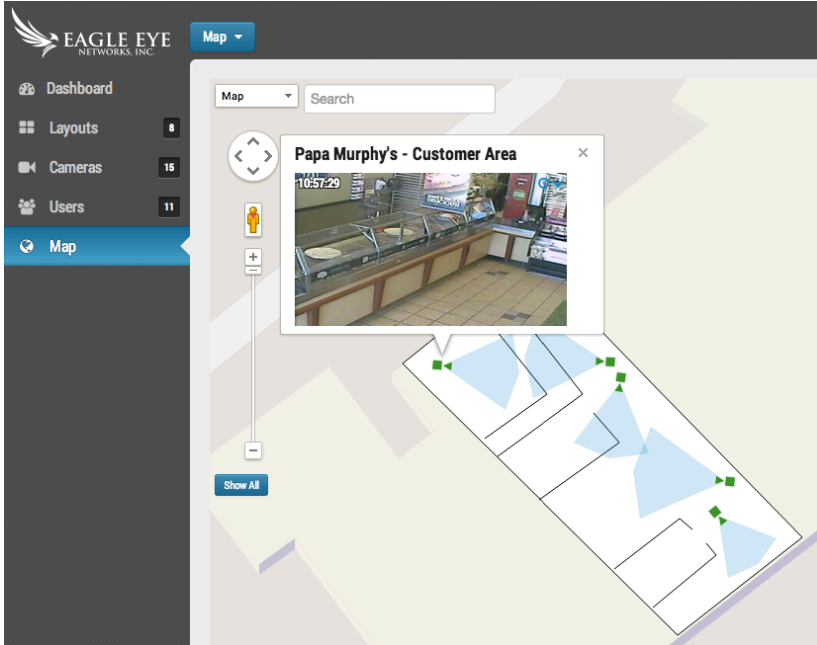


FIGURE 70 MAP EXAMPLE CAMERA PREVIEW

Multiple floors can be setup with separate views, or viewed all at once. A drop down menu is in the upper right corner of the map that allows selecting which floor or “All Floors

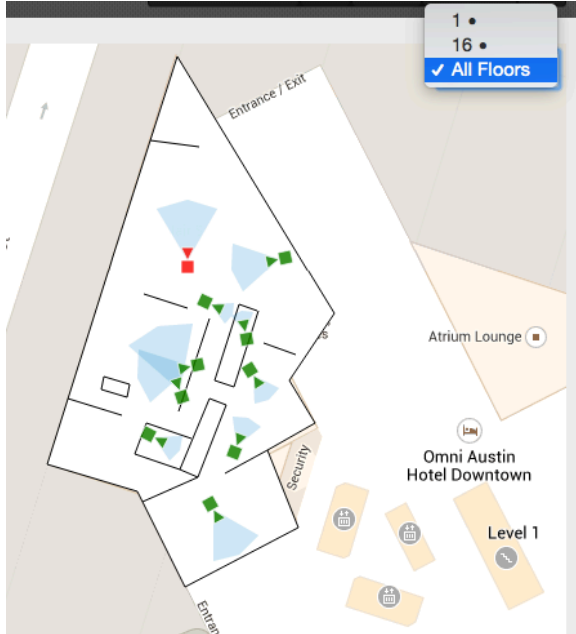


FIGURE 71 MAP EXAMPLE FLOORS

There are two ways to add cameras to the map. One is to add the address to a camera by going to camera settings and to the location tab.

Camera
Retention
Resolution
Motion
Audio
Location
Metrics

[?](#)

Street Address: (street, city, state, zip)

Latitude: (-90.0–90.0) Longitude: (-180.0–180.0)

Azimuth: (0.0–360.0; 0.0=North) Range: (feet)

Floor: (number)

Cancel
Save Changes

FIGURE 72 CAMERA SETTINGS LOCATION

Entering a street address will add it to the map and automatically fill in a latitude and longitude. By default, the cameras are added to the 1st Floor. Changing the number in settings will move the floor a camera is on. Floors from -10 to 100 can be added to the map.

The easiest way to add cameras is to go to the Map and click the “Map” drop-down button at the top left and select “Edit.”

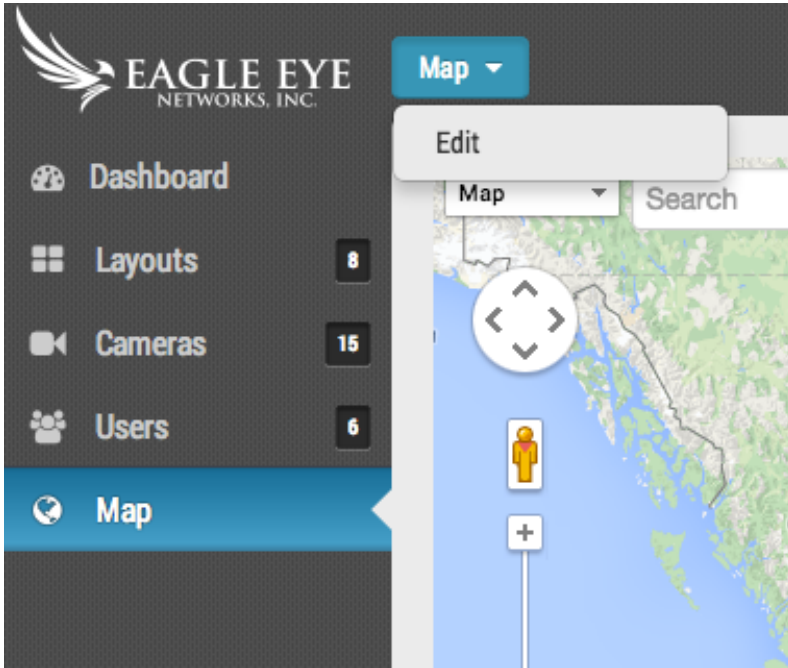


FIGURE 73 MAP EDIT

This will add a red outline to the map indicating you are in “edit” mode. A new set of buttons will appear at the top right of the map.

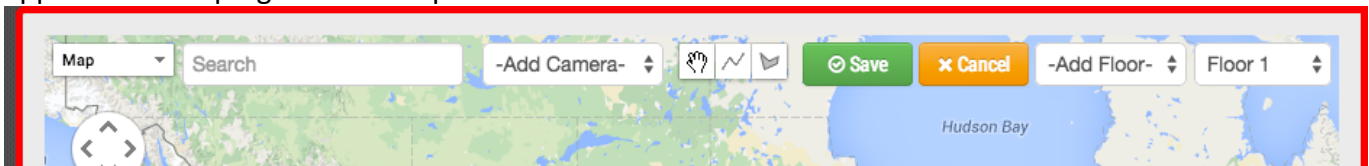
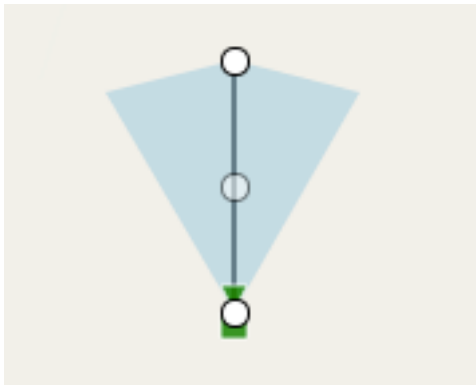


FIGURE 74 MAP EDIT SETTINGS

The next step is to enter the address of the location. This will zoom the map to the address location. Because this is an embedded Google Map, all the same functionality is available, such as pan and zoom using a mouse or touch pad.

Next, use the “-Add Camera-” drop down, which will present a list of the available cameras. Select the camera and it will be added immediately to the map.


FIGURE 75 CAMERA ON MAP

To move the camera, click and drag the circle directly on the camera. To change the direction and range of the camera, click and drag the circle farthest away from the camera. Add additional cameras and floors and then click the green “Save” button. Your changes will be saved. When cameras are added to the map, data is automatically populated in the camera settings “location” tab.

Camera
Retention
Resolution
Motion
Audio
Location
Metrics

Street Address: (street, city, state, zip)

Latitude: (-90.0–90.0) Longitude: (-180.0–180.0)

Azimuth: (0.0–360.0; 0.0=North) Range: (feet)

Floor: (number)

?

Cancel
Save Changes

FIGURE 76 CAMERA SETTINGS LOCATION FILLED IN BY MAP PLACEMENT

Additional changes can be made such as moving the camera between floors in the camera settings. To remove a camera from the map, delete the street address, latitude, and longitude, in the camera settings “location” tab.

System Alerts and Notifications

System Alerts and Notifications can be sent to any user that is an ADMIN. Enabling system notifications is a two-step process. Your reseller must enable system notifications for your account, and you must also enable them as an admin user. Go to the user profile by clicking your name in the upper right corner when you are logged into the EEN system. Select “My Profile” and go to the “Notifications” tab.

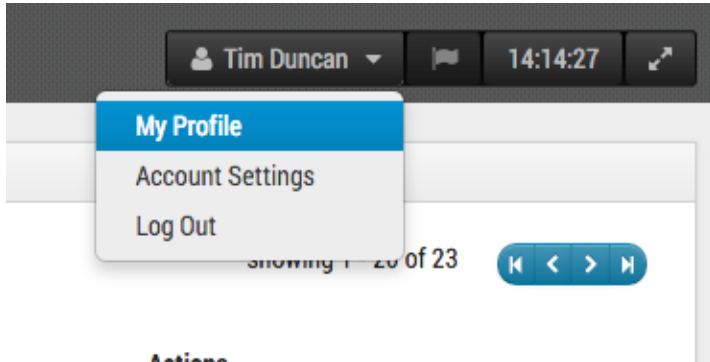


FIGURE 77 USER MY PROFILE

Make sure and check “System” for “Notify on System Alerts” as shown in Figure 78 My Profile Notifications.

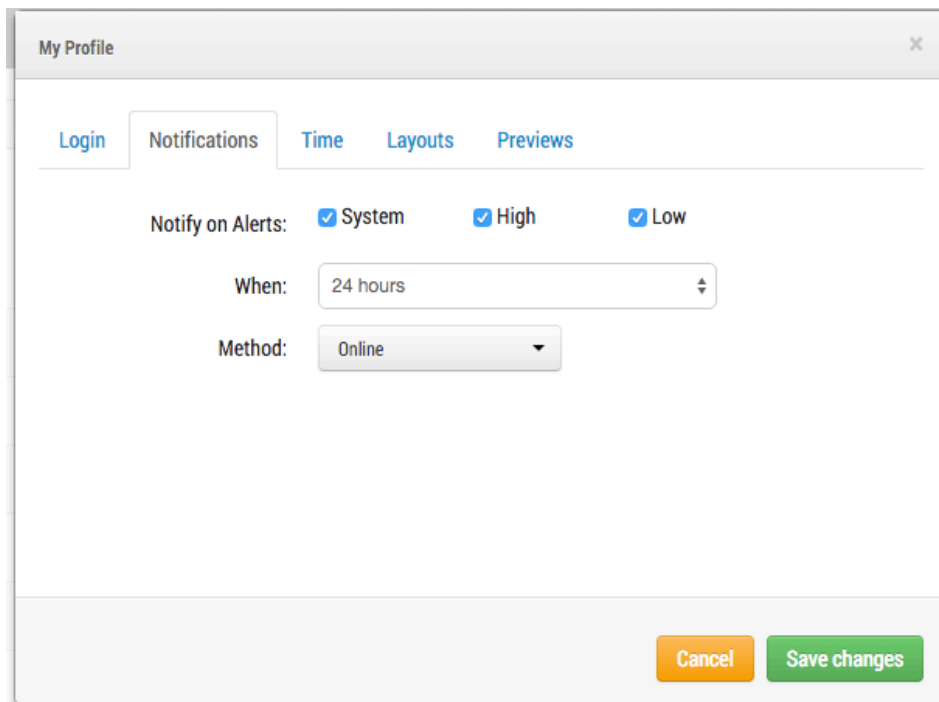


FIGURE 78 MY PROFILE NOTIFICATIONS

You may also select High and/or Low Alerts for motion alerts. Select “When” to receive and what method. You may choose online, email, or both. The Eagle Eye system will send email alerts when cameras go offline and come back online.

Timeline Colors:

When System Notifications are enabled, additional colors are turned on in the history browser as shown in Figure 79 Timeline Colors. This is very helpful for troubleshooting the system.

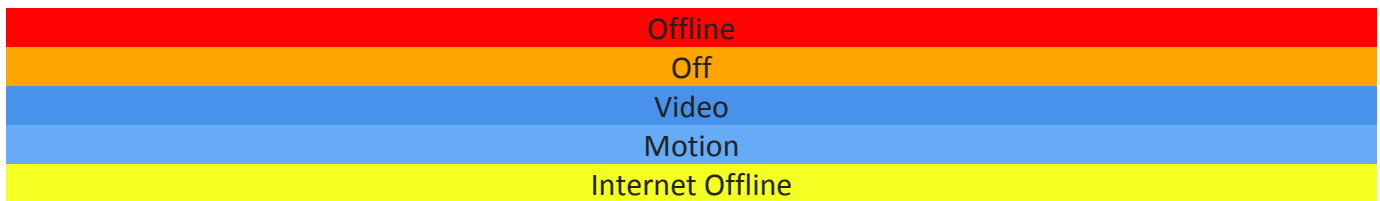


FIGURE 79 TIMELINE COLORS

History Browser in Detail

ZOOM LEVEL:

The history browser zoom level can be 8 Hr., 2 Hr., 10 Min or 1 Min as shown in Figure 80 History Browser Zoom Level. The darker grey and lighter colors each indicate whatever time span is selected by the zoom. The dates at the bottom also show weekdays in lighter color and weekends in darker grey. The darkest grey is future.

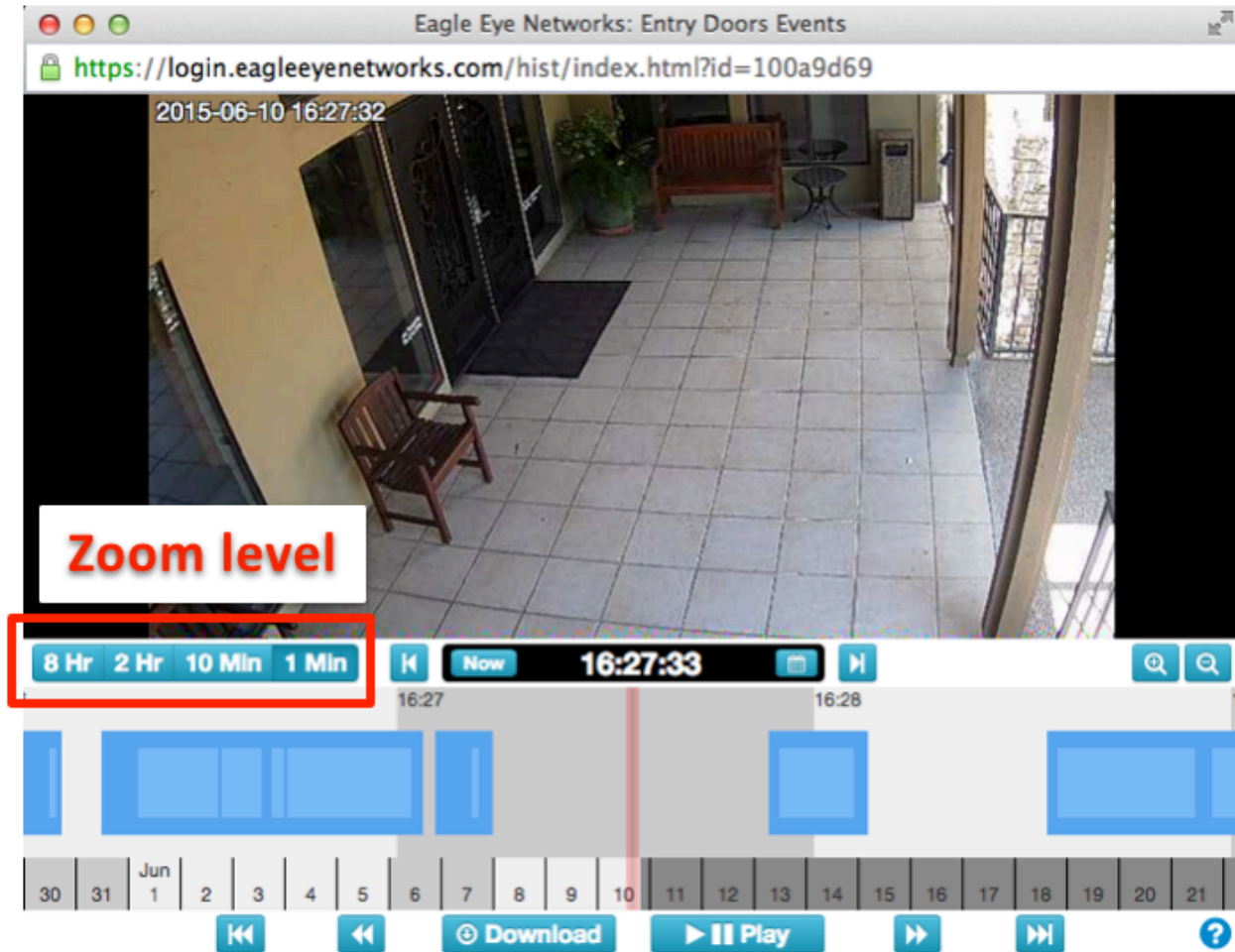


Figure 80 History Browser Zoom Level

SCROLLING:

Scrolling in the history browser is done by clicking in the middle of the timeline and holding down the left mouse button while moving it left and right.

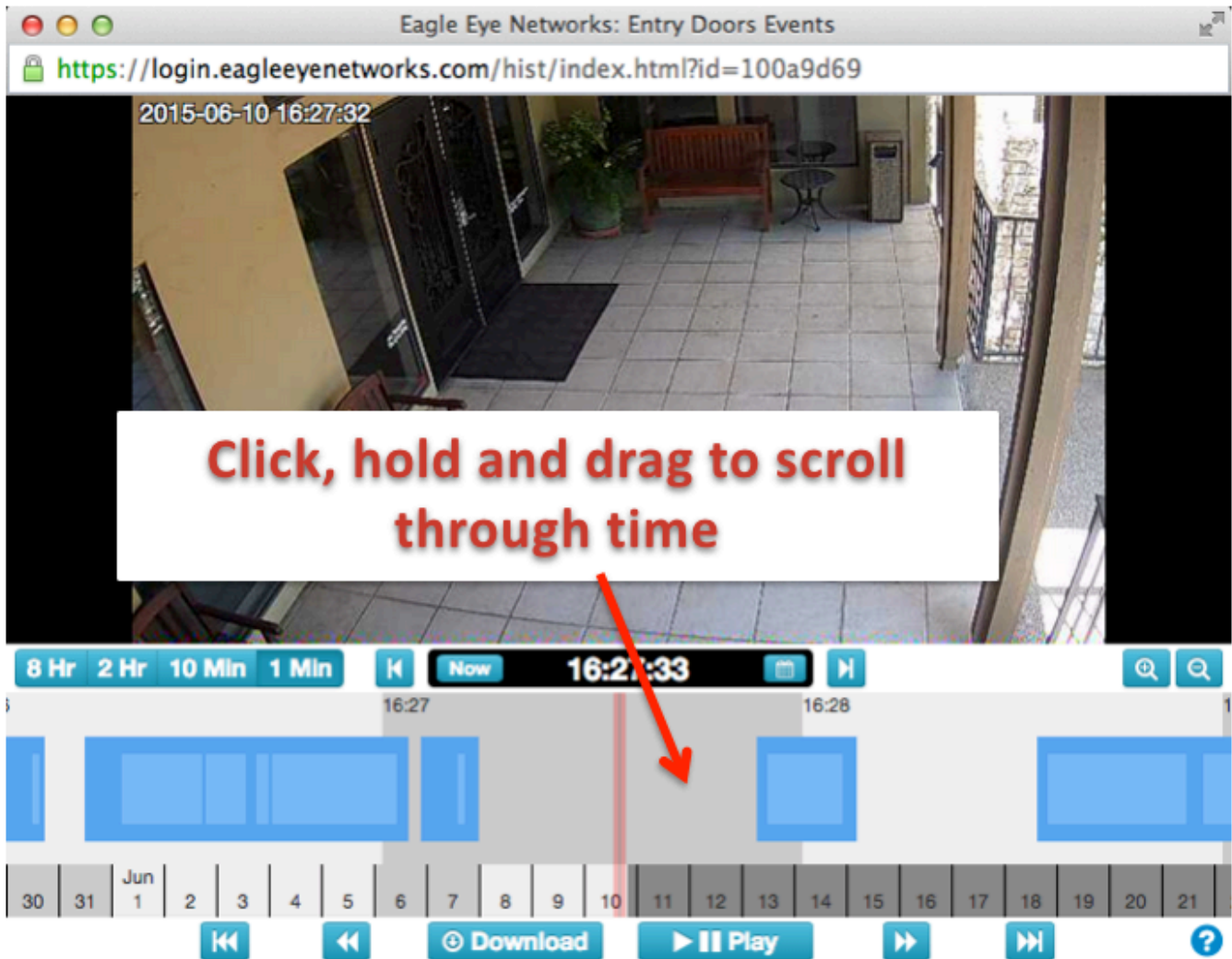


FIGURE 81 HISTORY BROWSER SCROLLING BY TIME

You may also scroll through dates by clicking, holding and dragging on the dates at the bottom of the history browser. See Figure 82 History Browser Scroll Dates.

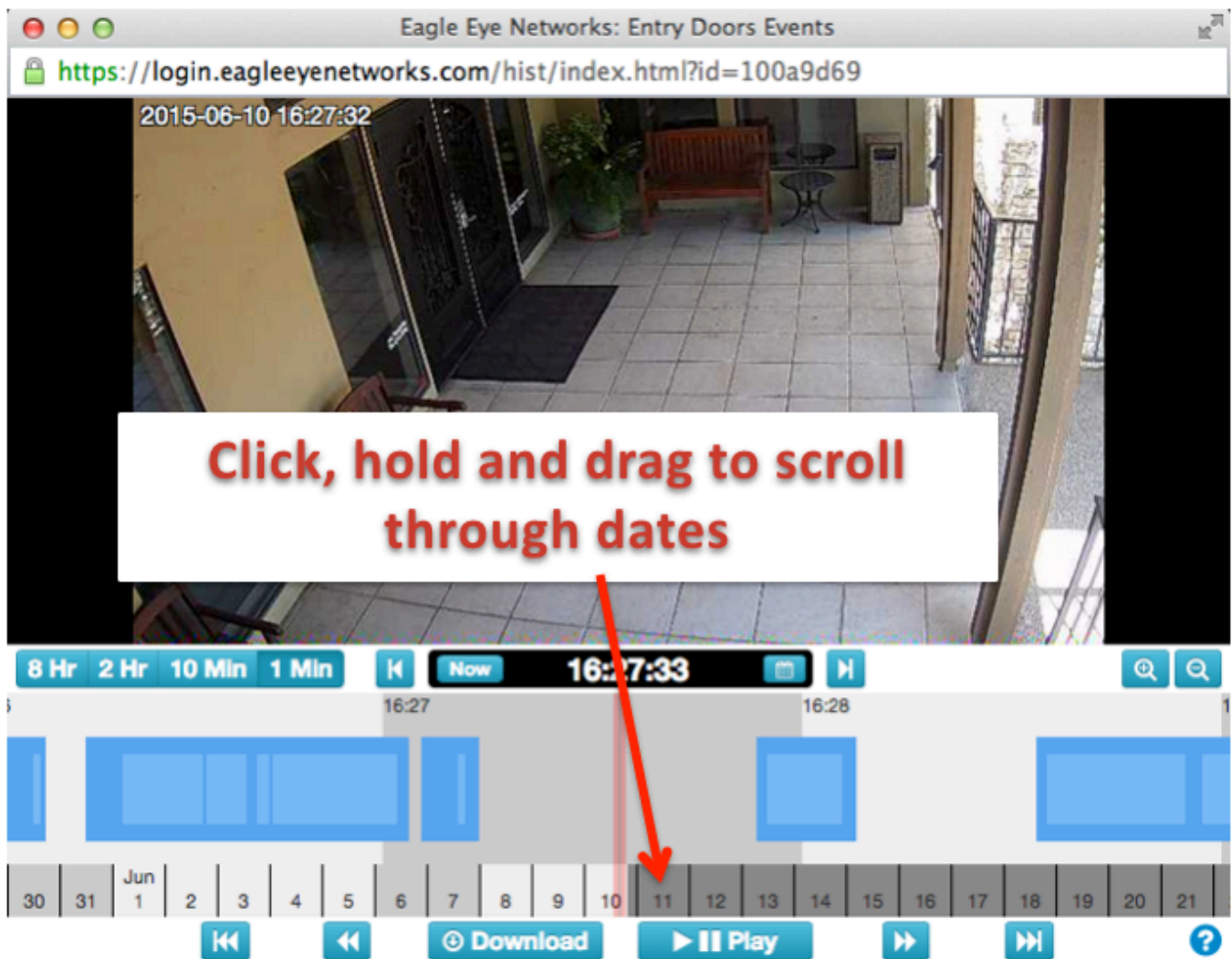


FIGURE 82 HISTORY BROWSER SCROLL DATES

POPUP CALENDAR:

Click on the calendar icon near the time indicator to select a date to view historic video as shown in Figure 83 History Browser Calendar.

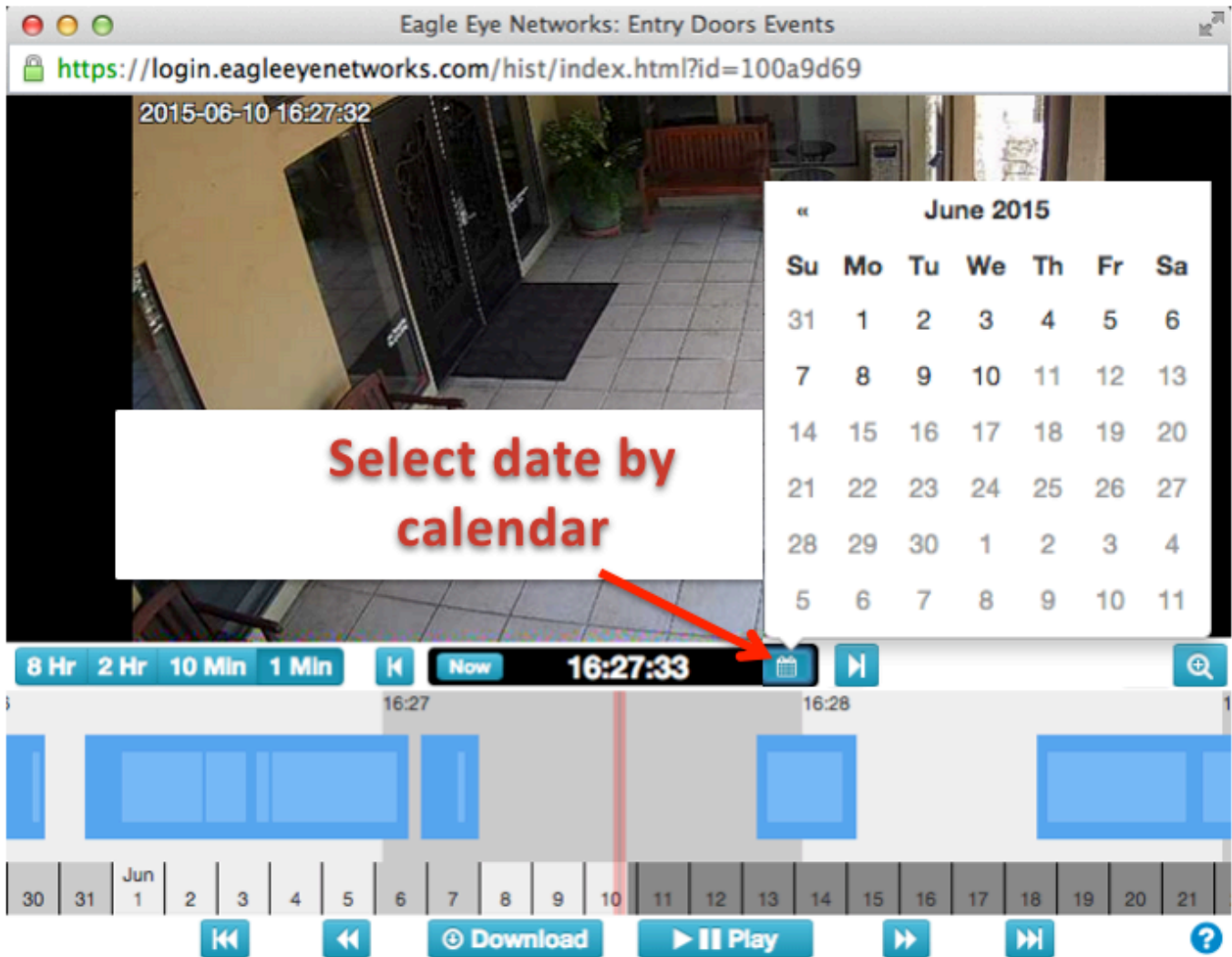


FIGURE 83 HISTORY BROWSER CALENDAR

POPUP TIME SELECTOR:

There is a way to directly jump to a specific hour, minute, and second in the history browser. Left mouse click directly on the time display to access the popup as shown in Figure 84 History Browser Time Selector.

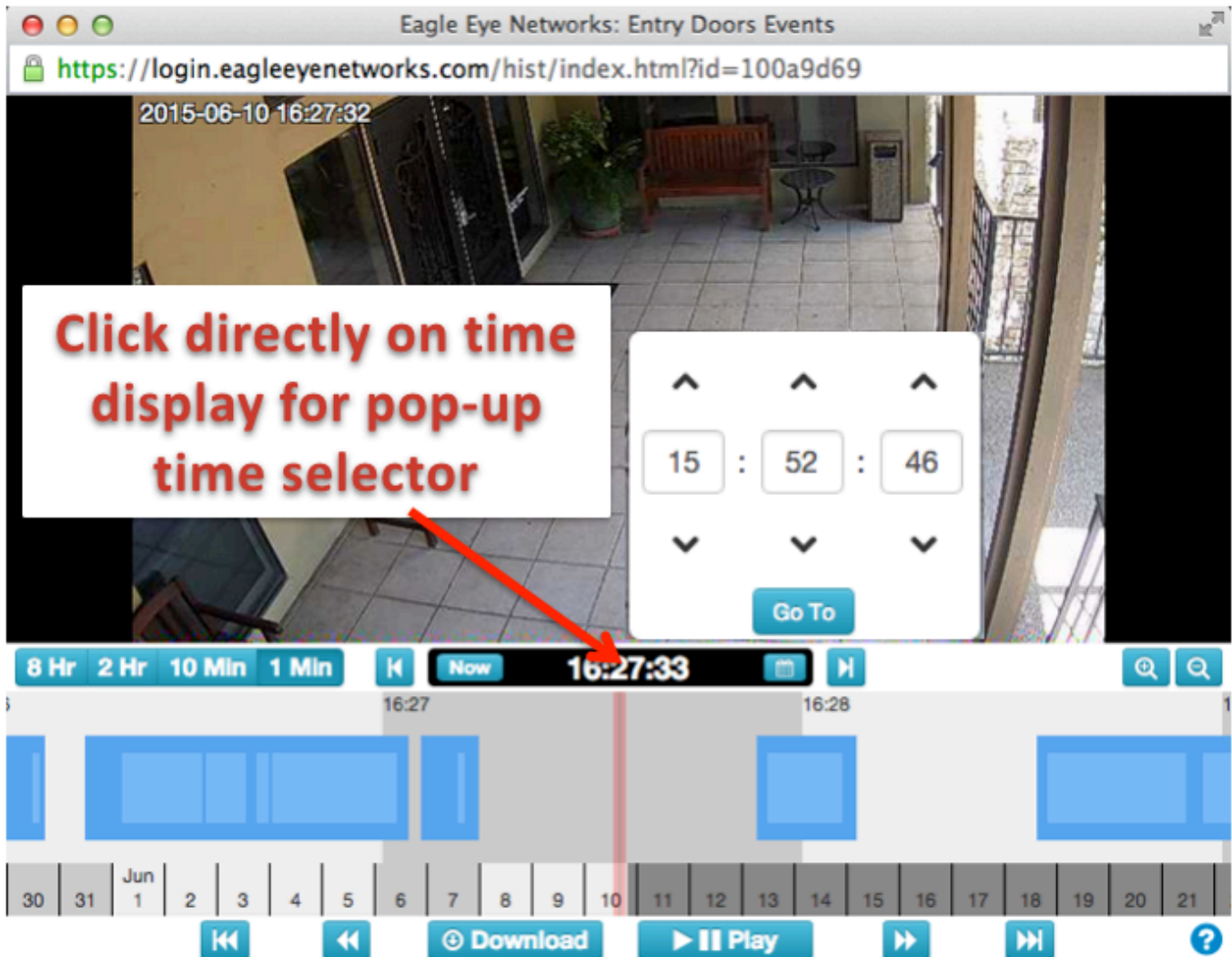


FIGURE 84 HISTORY BROWSER TIME SELECTOR

PREVIOUS AND NEXT FRAMES:

Figure 85 History Browser Previous and Next Frames, illustrates the buttons for one frame at a time forward and backwards. The arrow keys on the keyboard will also perform the same functions. Press and hold to get continues advance of frames.

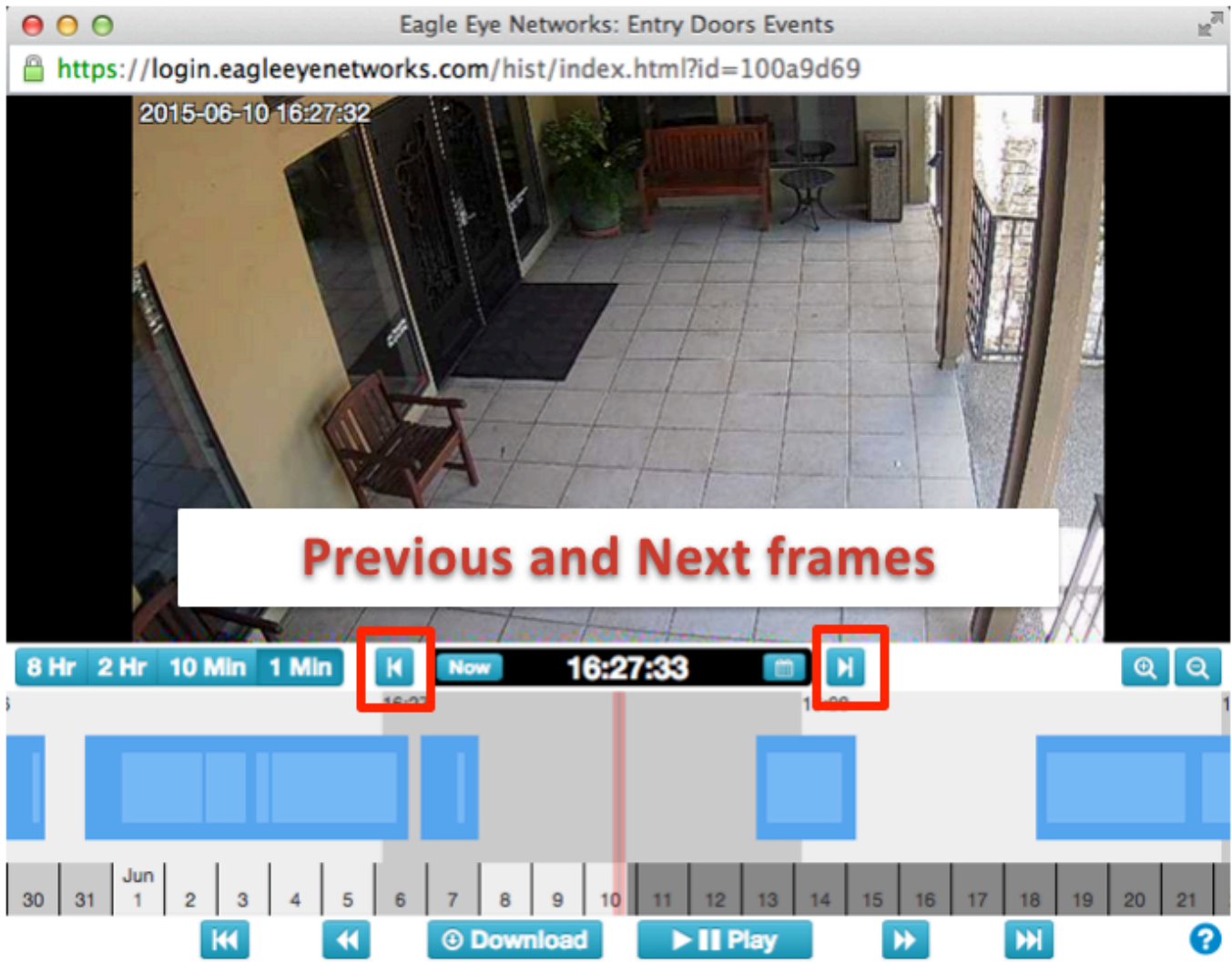


FIGURE 85 HISTORY BROWSER PREVIOUS AND NEXT FRAMES

PREVIOUS AND NEXT VIDEO:

The previous and next video buttons are shown in Figure 86 History Browser Previous and Next Video. The history browser is advanced to the start of the next or previous dark blue area marked as full video recording.

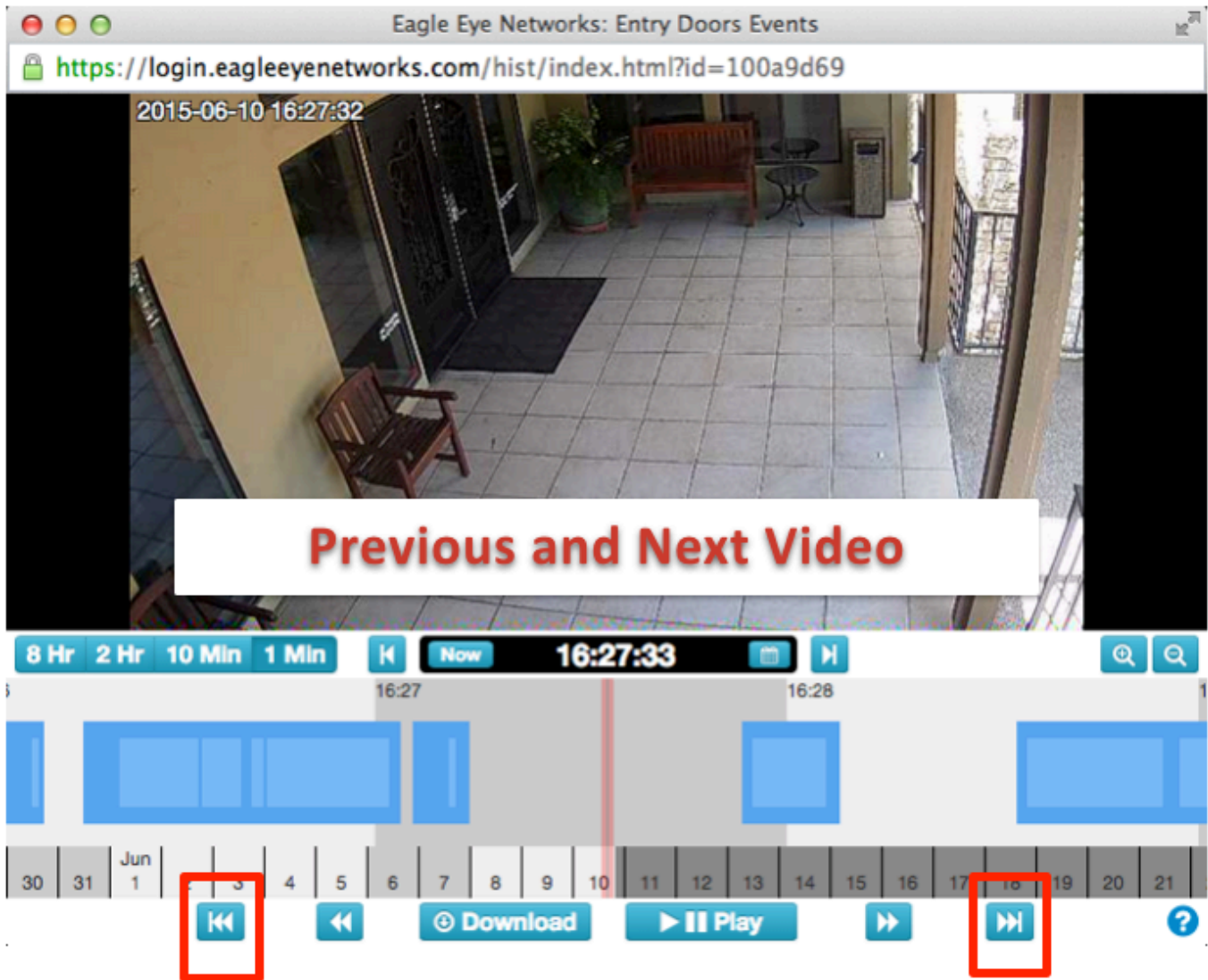


FIGURE 86 HISTORY BROWSER PREVIOUS AND NEXT VIDEO

PREVIOUS AND NEXT KEY IMAGE:

Previous and Next Key Image buttons are shown in Figure 87 History Browser Previous and Next Key Image. The Eagle Eye Networks system tracks objects on the screen. When an object is as large as it ever gets and as close to the center of the screen as it gets, it is marked as a "key image." Key images can be very useful for a shot of a hallway or isolated door entryway. They are also used when sending alerts. Pressing either button and holding down will advance to the next or previous key images successively.

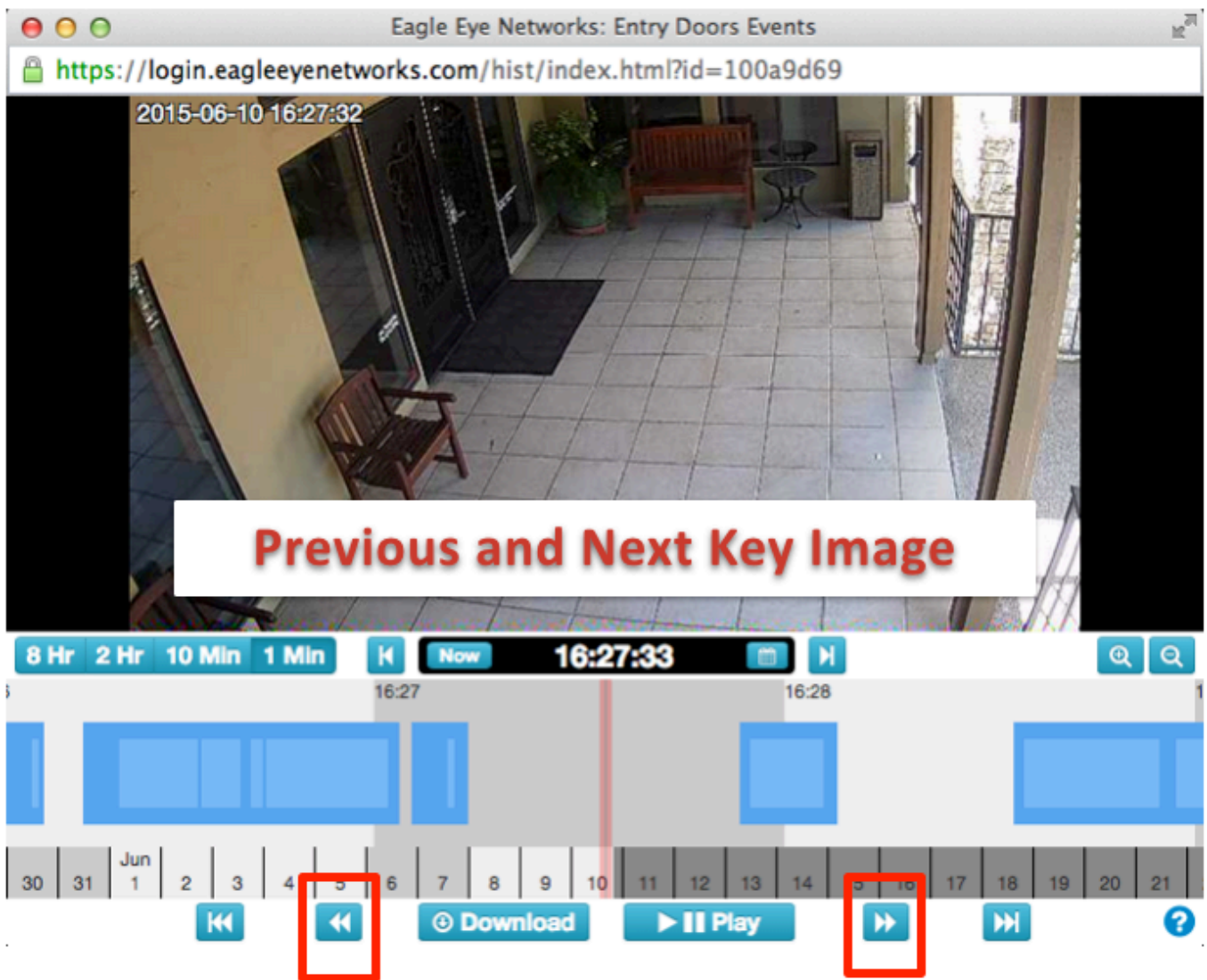


FIGURE 87 HISTORY BROWSER PREVIOUS AND NEXT KEY IMAGE

MARK AN AREA:

Figure 88 History Browser Mark an Area illustrates how to mark an area for playback or download, whether it is a part of a recorded area or across several areas. Hold down the "shift" key on the keyboard and left mouse click at the start point and then at the end point to mark the area. It will appear highlighted in yellow. Click anywhere in the history browser timeline to de-select the area.



FIGURE 88 HISTORY BROWSER MARK AN AREA

PLAYBACK OR DOWNLOAD:

With an area marked, the video can be played in the browser. If the user has permissions to "download video" then the download button will appear. Pressing this button will start the download process. If it takes more than 15 seconds for video to be retrieved, a new dialogue window will open and you will be notified when the video is ready to download.



FIGURE 89 HISTORY BROWSER DOWNLOAD OR PLAY

ZOOMING:

It is possible to zoom in to the preview of full video by clicking the zoom in button at the lower right of the history browser. If you zoom out past the original image size, it will open the gallery viewer.

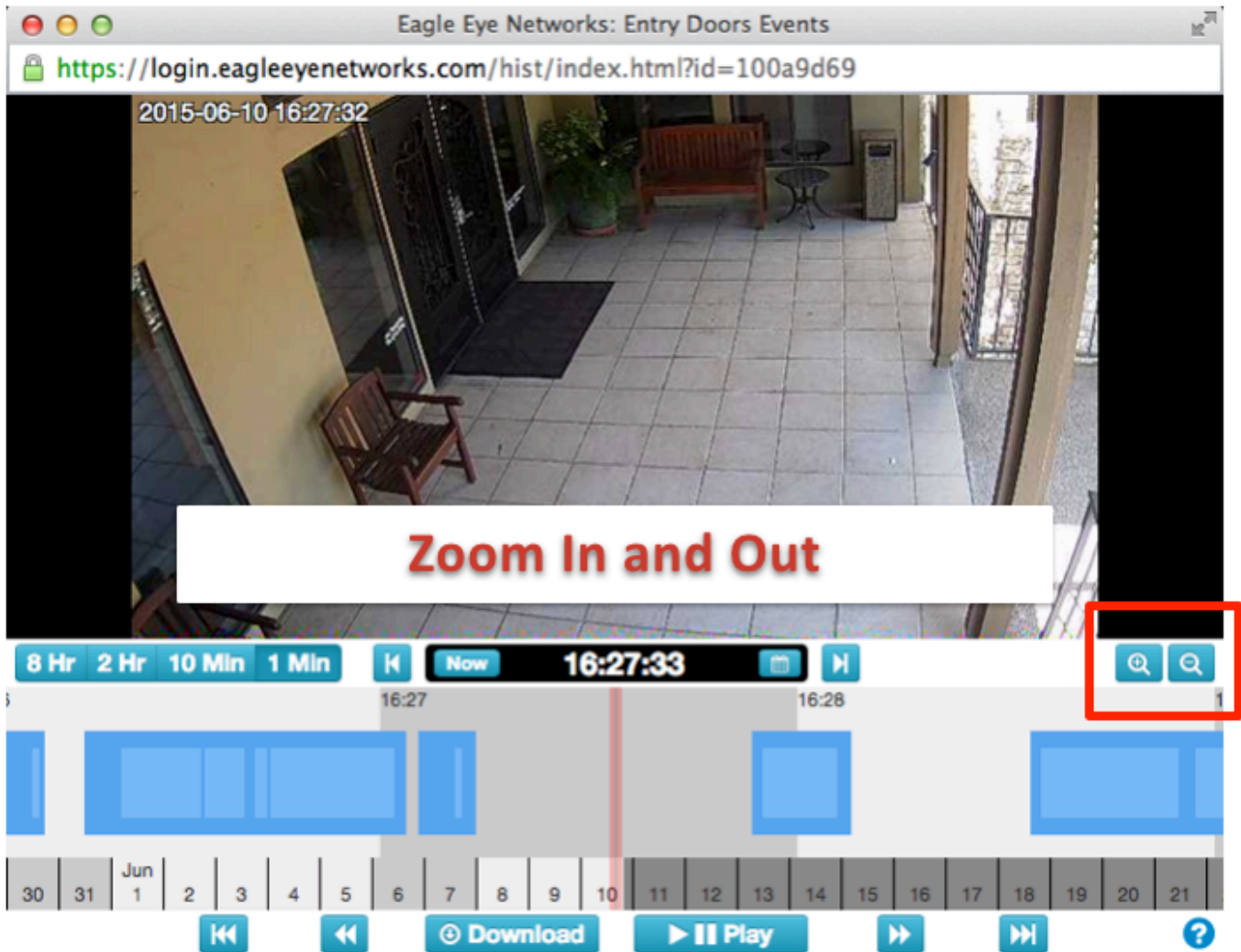


FIGURE 90 HISTORY BROWSER ZOOM

Gallery Viewer:

The gallery viewer may also be accessed by selecting it under the action menu from a live preview of a camera. This includes from the Map view. The action menu can be seen in Figure 7 Camera Action Menu.

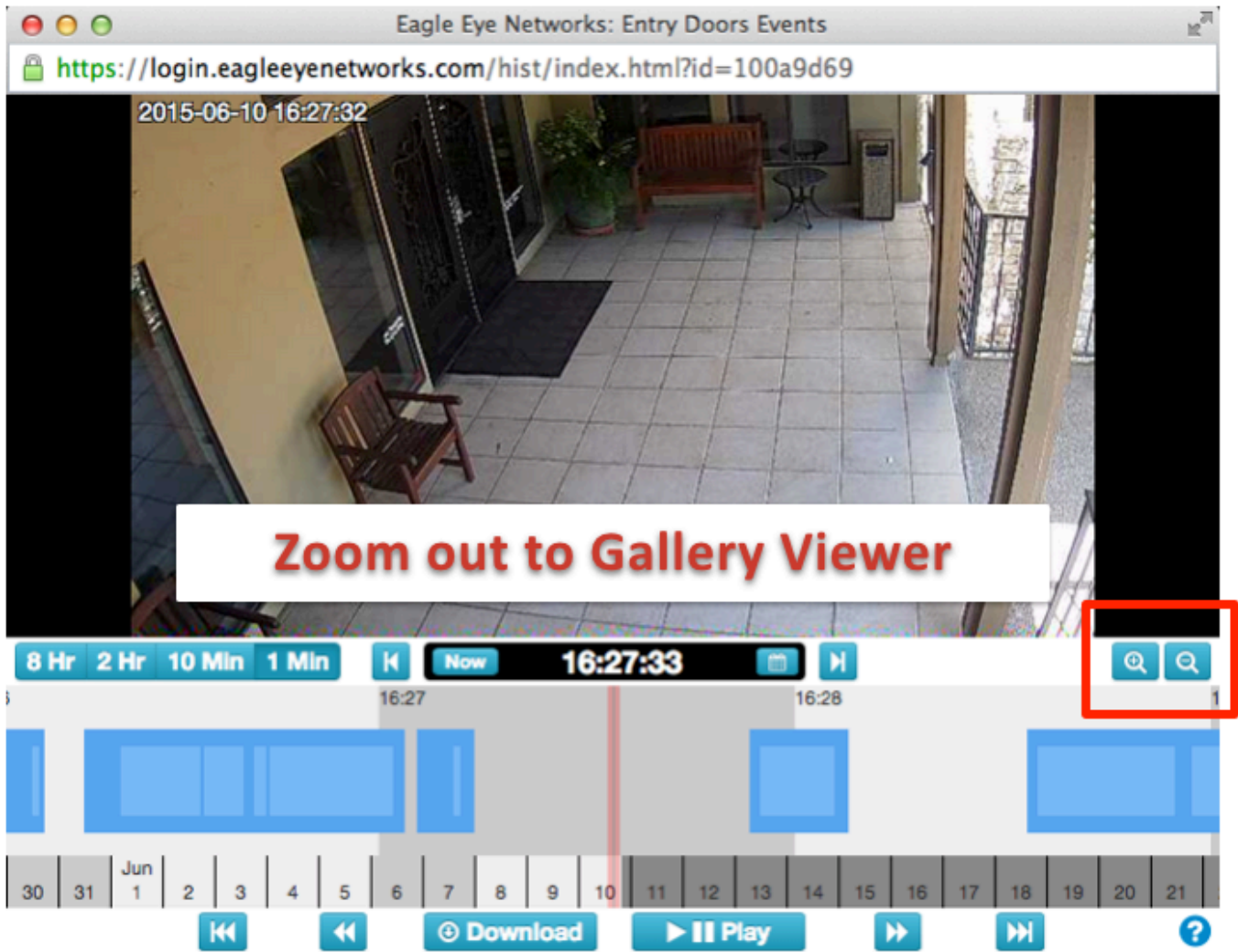


FIGURE 91 HISTORY BROWSER ZOOM OUT TO GALLERY VIEWER

The gallery view shows a series of images in a 3x3, a 4x4 or a 5x5 view. Markers appear at the top of the timeline to represent the frames that appear in the gallery viewer.

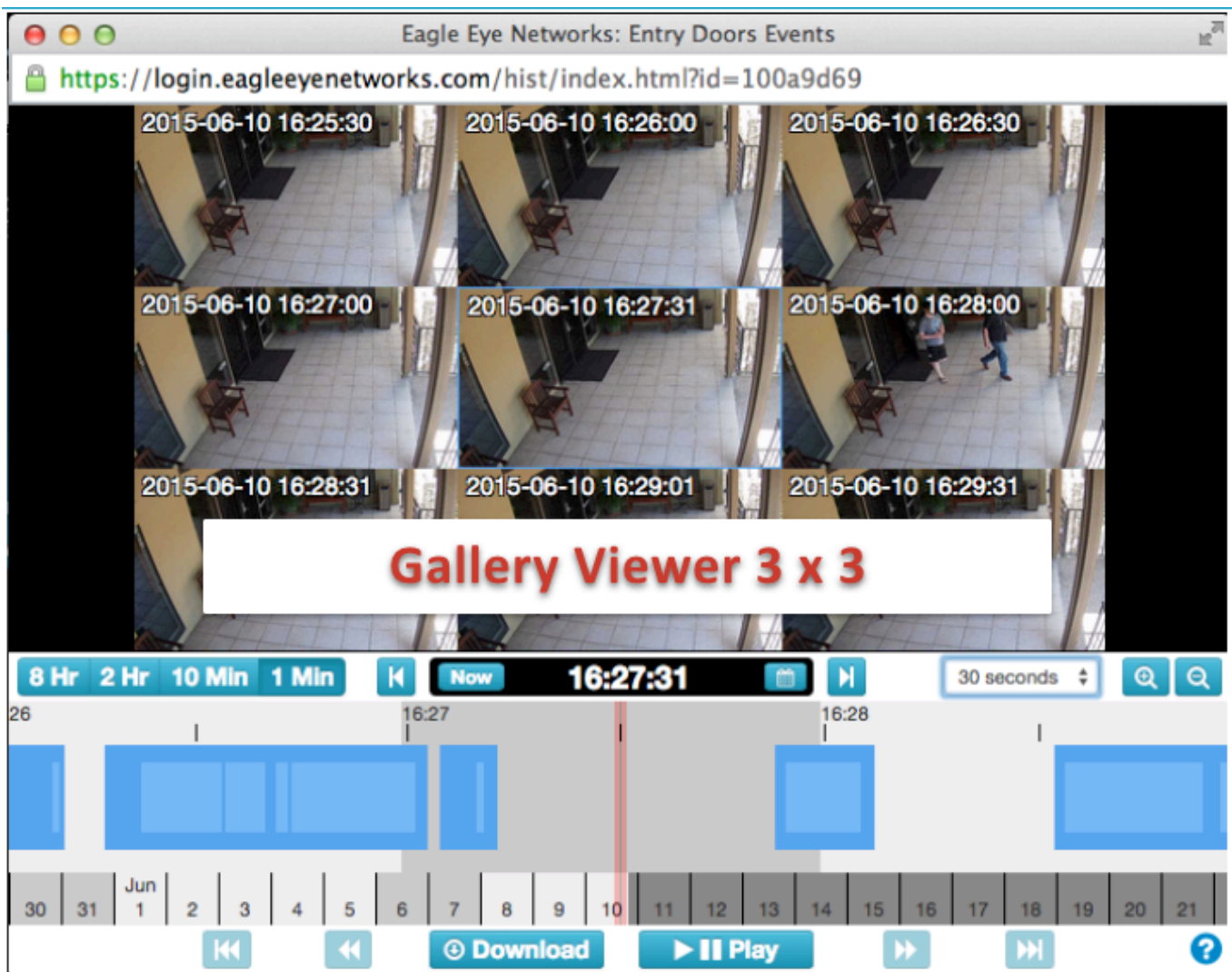


FIGURE 92 GALLERY VIEWER 3 x 3

Figure 93 Gallery Viewer Choose Display shows the drop menu allowing the viewing of frames to be based on time, key images, or videos. The time span between images depends on the current zoom level. 8 Hr. zoom will show 1 frame every 4 hours. 2 Hr. zoom will show 1 frame every hour. 10 Min zoom will show 1 frame every five minutes. 1 Min zoom will show 1 frame every 30 seconds. Choosing key images will show only the key images. Choosing videos will show the first key image in a recorded video segment. Click on a single image to center it and this will also refresh the other images around it. Scrolling of the timeline will refresh the images. Double a click an image to bring it full screen and take the history browser to that point in time.

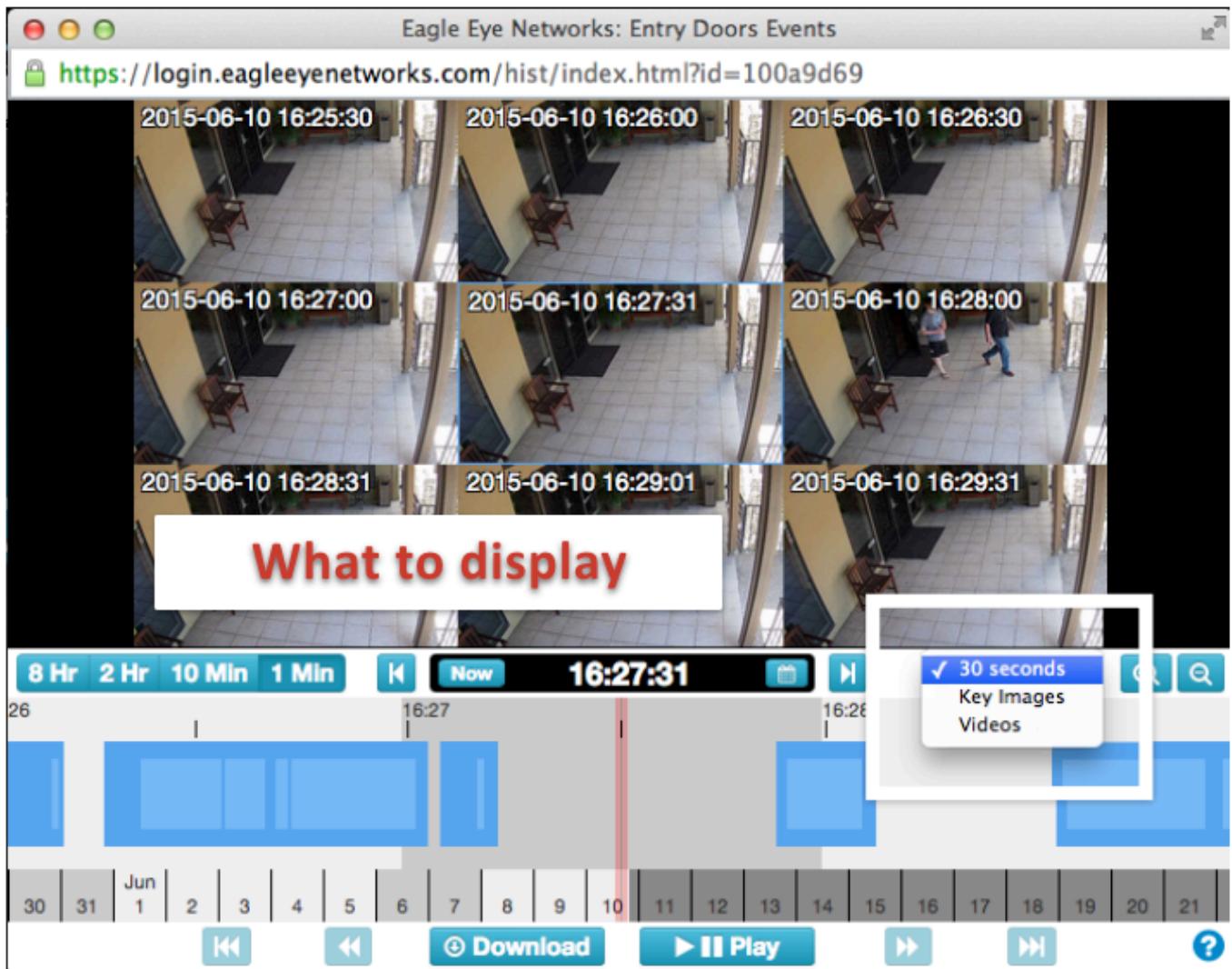


FIGURE 93 GALLERY VIEWER CHOOSE DISPLAY

Table Of Figures

FIGURE 1 - WIRING DIAGRAM FOR EAGLE EYE BRIDGE OR CMVR.....	11
FIGURE 2 – ADD A BRIDGE.....	12
FIGURE 3 – ATTACH A BRIDGE.....	13
FIGURE 4 – ADD CAMERAS.....	14
FIGURE 5 – NEW CAMERA FIELD OF VIEW.....	14
FIGURE 6 – CAMERA SETTINGS.....	15
FIGURE 7 CAMERA ACTION MENU.....	16
FIGURE 8 – ADD A BRIDGE.....	20
FIGURE 9 - ATTACH A BRIDGE.....	21
FIGURE 10 – ADD A CAMERA.....	22
FIGURE 11 – NEW CAMERA FIELD OF VIEW.....	23
FIGURE 12 – CREATE A LAYOUT.....	24
FIGURE 13 – LAYOUT MENU.....	25
FIGURE 14 – ADD CAMERAS TO A LAYOUT.....	26
FIGURE 15 – LAYOUT SETTINGS.....	27
FIGURE 16 - CAMERA SETTINGS.....	29
FIGURE 17 - CAMERA RETENTION SETTINGS.....	30
FIGURE 18 - CAMERA RESOLUTION SETTINGS.....	32
FIGURE 19 - MOTION DETECTION SETTINGS.....	34
FIGURE 20 - AUDIO RECORDING SETTINGS.....	35
FIGURE 21 - CAMERA LOCATION INFORMATION.....	36
FIGURE 22 - CAMERA BANDWIDTH UTILIZATION.....	37
FIGURE 23 - CAMERA PACKET LOSS.....	38
FIGURE 24 - BRIDGE SETTINGS.....	39
FIGURE 25 - BRIDGE LOCATION INFORMATION.....	40
FIGURE 26 - BRIDGE BANDWIDTH UTILIZATION.....	41
FIGURE 27 - BRIDGE BANDWIDTH MEASUREMENT.....	42
FIGURE 28 - BRIDGE DISK INPUT/OUTPUT.....	43
FIGURE 29 - BRIDGE DISK UTILIZATION.....	44
FIGURE 30 - BRIDGE SETTINGS LOCAL DISPLAY.....	45
FIGURE 31 - BRIDGE SETTINGS ANALOG.....	46
FIGURE 32 DASHBOARD EXAMPLES OF BRIDGE ANALOG SETTINGS.....	47
FIGURE 33 BRIDGE SETTINGS LOCAL DISPLAY.....	47
FIGURE 34 - USER MANAGEMENT.....	48
FIGURE 35 - ADDING A USER.....	49
FIGURE 36 - DELETING A USER.....	50
FIGURE 37 – USER ACCESS.....	51
FIGURE 38 - RESTRICTED CAMERAS.....	52
FIGURE 39 - RESTRICTED LAYOUTS.....	53
FIGURE 41 ONLINE NOTIFICATION INDICATOR.....	55
FIGURE 42 NOTIFICATIONS PAGE.....	55
FIGURE 43 - THE HISTORY BROWSER.....	56
FIGURE 44 - SELECTING A PORTION OF VIDEO TO DOWNLOAD.....	57
FIGURE 45 - GALLERY VIEWER.....	58
FIGURE 46 - HISTORY BROWSER WITH NO VIDEO SELECTED.....	59
FIGURE 47 - SELECTING VIDEO FOR DOWNLOAD.....	59
FIGURE 48 - FIELD OF VIEW WITHOUT MOTION TUNING.....	60
FIGURE 49 - MOTION DETECTION SETTINGS.....	61
FIGURE 50 - MOTION DETECTION EXCLUSION ZONE SETTINGS.....	61
FIGURE 51 - EXCLUSION ZONE IN PLACE.....	62

FIGURE 52 - HISTORY BROWSER TUNED FOR MOTION DETECTION.....	62
FIGURE 53 CAMERA VIEW	63
FIGURE 54 MOTION SETTINGS.....	64
FIGURE 55 ALERT WHEN	65
FIGURE 57 ALERT LEVEL.....	66
FIGURE 58 ALERT SUMMARY.....	66
FIGURE 59 EMAIL ALERT EXAMPLE	67
FIGURE 60 BANDWIDTH EXAMPLE 1.....	68
FIGURE 61 BANDWIDTH EXAMPLE 2.....	69
FIGURE 62 BANDWIDTH EXAMPLE 3.....	70
FIGURE 63 USER ACCOUNT SETTINGS.....	71
FIGURE 64 ACCOUNT SETTINGS DAYS.....	71
FIGURE 65 BRIDGE SETTINGS.....	72
FIGURE 66 INSTALLER DIAGNOSTIC TOOLS	73
FIGURE 67 CAMERA SETTINGS RESOLUTION	74
FIGURE 68 BRIDGE SETTINGS NO DEFAULT TRANSMIT	75
FIGURE 69 BRIDGE SETTINGS METRICS BANDWIDTH.....	75
FIGURE 70 MAP EXAMPLE CAMERA PREVIEW	77
FIGURE 71 MAP EXAMPLE FLOORS	78
FIGURE 72 CAMERA SETTINGS LOCATION.....	78
FIGURE 73 MAP EDIT.....	79
FIGURE 74 MAP EDIT SETTINGS	79
FIGURE 75 CAMERA ON MAP	80
FIGURE 77 USER MY PROFILE	81
FIGURE 78 MY PROFILE NOTIFICATIONS.....	81
FIGURE 79 TIMELINE COLORS	82
FIGURE 80 HISTORY BROWSER ZOOM LEVEL.....	83
FIGURE 81 HISTORY BROWSER SCROLLING BY TIME.....	84
FIGURE 82 HISTORY BROWSER SCROLL DATES	85
FIGURE 83 HISTORY BROWSER CALENDAR.....	86
FIGURE 84 HISTORY BROWSER TIME SELECTOR	87
FIGURE 85 HISTORY BROWSER PREVIOUS AND NEXT FRAMES	88
FIGURE 86 HISTORY BROWSER PREVIOUS AND NEXT VIDEO	89
FIGURE 87 HISTORY BROWSER PREVIOUS AND NEXT KEY IMAGE.....	90
FIGURE 88 HISTORY BROWSER MARK AN AREA	91
FIGURE 89 HISTORY BROWSER DOWNLOAD OR PLAY	92
FIGURE 90 HISTORY BROWSER ZOOM	93
FIGURE 91 HISTORY BROWSER ZOOM OUT TO GALLERY VIEWER.....	94
FIGURE 92 GALLERY VIEWER 3 x 3	95
FIGURE 93 GALLERY VIEWER CHOOSE DISPLAY	96