

Eagle Eye Application Note - AN065

View Live Video with Apple TV or Windows PC and Eagle Eye QL Stream

2024-07-05 Revision 2.0

Target Audience

This Application Note is intended for Eagle Eye Cloud VMS users and administrators who wish to use a Windows Computer or Apple TV device that is on the same network as their Eagle Eye Bridge or CMVR to stream their local cameras in a Live Display.

Introduction

The NX-V Eagle Eye Viewer application converts any monitor or TV screen into a local spot monitor instantly. Leveraging local video viewing with Eagle Eye QL Stream, the app quickly locates all available Eagle Eye Cloud VMS connected cameras on your local network and gets you up and running in minutes.

The applications were developed by an Eagle Eye Networks API partner, and are owned and operated by INCA X. INCA X utilized the open source [Eagle Eye Networks Video API Platform](#) to develop this integration, and it is a perfect example of the potential to utilize our Video API Product to create custom Video Solutions from the Eagle Eye Cloud VMS.

The NX-V Eagle Eye Viewer app is available from the Apple tvOS [App Store](#), or Windows App Store. Alternatively, they can be linked from the developers page at <https://incax.com/apps>.

To use these applications, a user from the account must have access to the desired cameras they wish to display, and should have access to create or utilize layouts from the installed Eagle Eye VMS; this enables the user to display the layouts on their Windows or Apple TV device.

To enable the QL Stream features of the Bridge/CMVR, a user with access to Bridge Settings should first enable QL Stream (RTSP) in Bridge Settings for Local Display. If the user already has Bridge Settings permissions, the applications will enable the setting in the Bridge on login. Read [AN059: Using Eagle Eye QL Stream for Enhanced Local Video Viewing Solutions](#) for more information.

Below is a list of features enabled by this application. Simply launch the NX-V Eagle Eye Viewer app, sign in with your Eagle Eye Networks user credentials (first time only – the app will remember your credentials), select your layout, and you are ready to go.

- Select from your existing layouts
- Quickly view a single camera full-screen from the layout screen
- Switch layouts directly from the Layouts menu option
- Layouts will display up to 16 cameras (4x4), or for the Windows Application, display 2 layouts with dual monitor support each with up to 16 cameras.
- Expanded grid view with the selected camera displayed larger than the other cameras displayed in the grid is available if the layout settings can accommodate (explained below)
- Switch from including camera name labels to "live monitor" mode, displaying the camera streams only
- Auto rotate camera display order to minimize screen burnout

Recommended Hardware for either application:

- 3rd Generation Apple TV 4k Ethernet
- Intel i7 11-13th gen. 16- 32GB RAM

Logging In

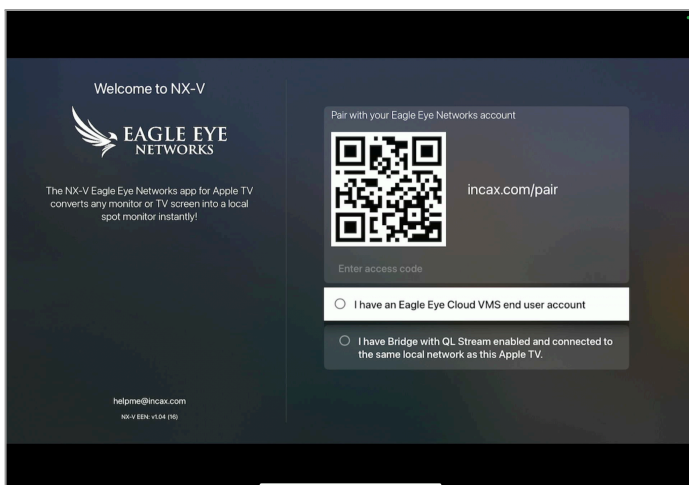
Download the application to your device (Apple TV or Windows PC), and make sure the IP address of the device is within the same network/subnet as the local Bridge/CMVR.

Open the application.

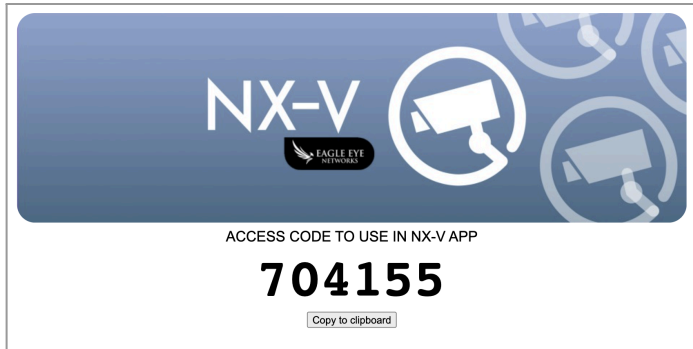
Apple TV Flow:

The application will generate a QR code the user can scan with their mobile device.

This will open a mobile browser window to the Eagle Eye Networks Cloud VMS login page on the device. If you cannot use a mobile device, simply go to <https://incax.com/pair> from anywhere.



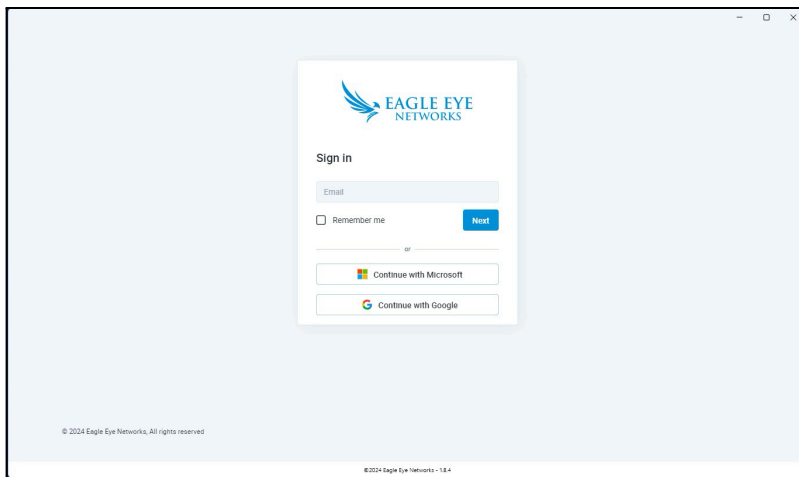
Once your user credentials are added (needs to be a user in the account containing the needed cameras, with QL Stream enabled in the Bridge/s), you will get an access code to enter into the application.



You will get confirmation that everything worked, and the application will load the user's first layout.

Windows Flow:

The first time the application is opened, it will load to the Eagle Eye Networks user authentication page. Enter the username and password for the user (needs to be a user in the account containing the needed cameras, with QL Stream enabled in the Bridge/s).



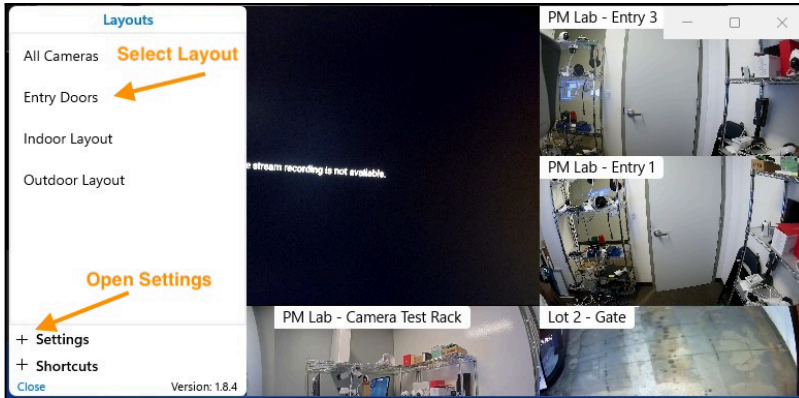
You will get confirmation that everything worked, and the application will load the user's first layout.

Navigating The User Interface

Both the Apple TV and Windows Applications share similarities in user interface and functionality. Navigating the Apple TV interface is done completely with the Apple TV remote, and should be easy to understand the process within a few minutes of navigating through the menu. For the Windows application, navigation is accomplished between keyboard and mouse commands.

In this guide, we are focusing on the Windows application, however, the Apple TV menu is formatted the same, with the exception that there are no keyboard shortcuts, no options for dual monitor support, and the settings menu is accessed with a gear icon on the bottom of the left hand menu. The menu for Apple TV is opened by pressing the “Back” button on the remote, and closing full screen tiles or the menu is also a function of the “Back” button. There are on screen descriptions for navigating the interface.

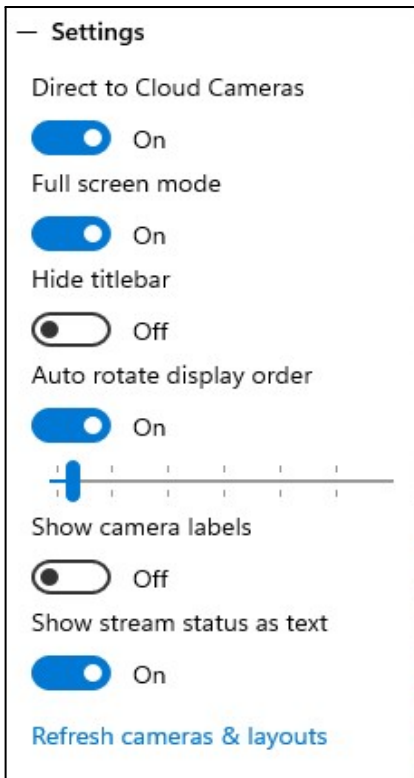
The Windows App Menu is opened by pressing the F1 key:



To change layouts, mouse click on your selection.

Selecting a layout will close the menu. You can also press ESC to exit.

Settings Options:



“Direct To Cloud Cameras” allows for cameras in the layout which are not on the local network, or are Camera Direct (no Bridge) cameras, to display their Cloud Preview stream (low resolution and low frames per second, to preserve bandwidth).

“Full screen mode” The Windows application can be run in full screen mode, or as a window.

“Hide title bar” enables/disables the top bar for “minimize/ close” buttons.

“Auto rotate display order” rotates the cameras on display to minimize screen burn-in on low motion cameras. The slider lets you select how often the cameras rotate. There is not an option to rotate layouts.

“Show camera labels” shows or hides camera names in layout.

“Show stream status as text” will show text for stream status if connection is not established.

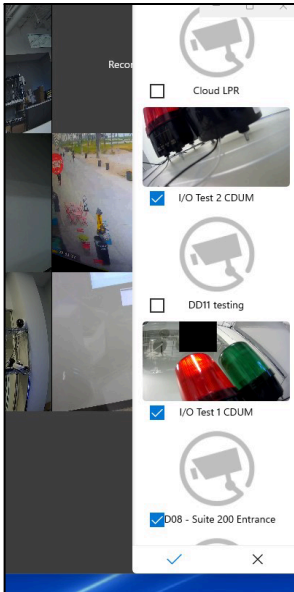
“Refresh cameras & layouts” will resync with Cloud VMS to attempt to reestablish connections, or if a new layout is created, it will pull the information for the new layout.

Shortcuts:

These keyboard shortcuts can accomplish some of the same settings as above.

CTRL+L - Select layout (opens the menu)

CTRL+E - Edit layout (enable/ disable some/any cameras from the layout on display)



CTRL+F - Go full screen (full-screen mode)

CTRL+R - Refresh & Sync (refresh connections / resync with cloud)

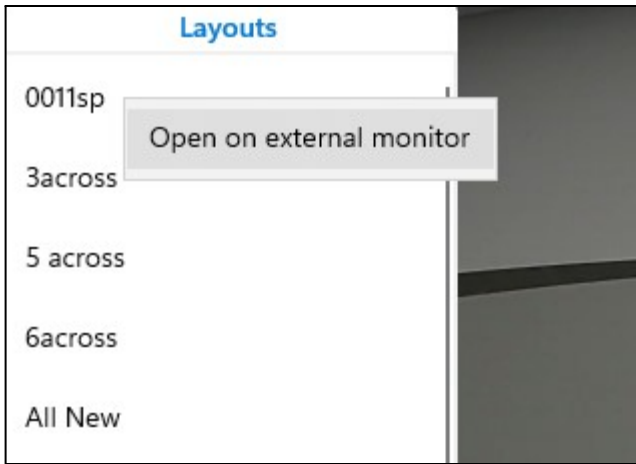
CTRL+M - Map view (will open map view [no video], data for location pulled from Cloud VMS settings)

CTRL+Q - Reset & logout (set the application back to default settings)

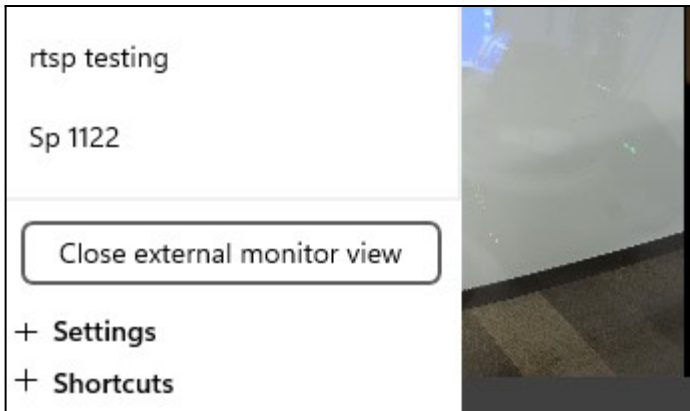
CTRL+D - App log (this option is for debugging, and will allow you to export and view system logs)

Dual Screen (External Monitor) support for Windows only:

If your Windows computer supports and has two monitors attached, the application will automatically enable support for a layout to be opened in the external monitor. To do this, open the menu, and right-click on the secondary layout you wish to display on the second monitor. To change the layout, you need to close it from the second monitor, and select a new layout to display.



To close the second layout, either click the Windows X from the displayed titlebar, or select the “Close external monitor view” from the menu:



Layout capabilities and limitations:

Both applications support up to 16 cameras in a 4x4 grid. For total supported camera megapixels on display, see the descriptions in the Appendix.


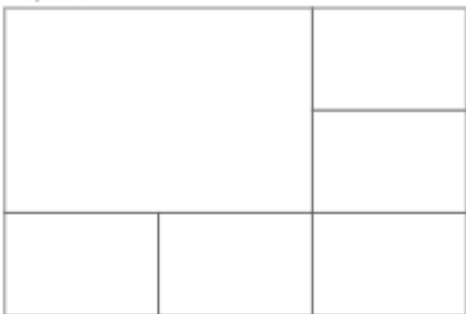
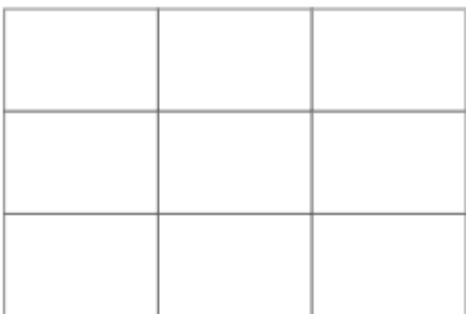
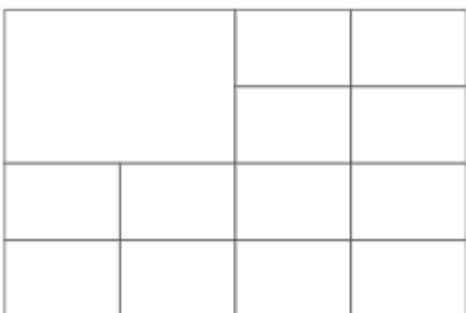
Both applications will do their best to accommodate the cameras that are selected in the Users created layouts in Eagle Eye Cloud VMS, and adapt the total cameras to a display grid that best displays the cameras utilizing as much screen as possible. Based on the total megapixel (MP) count of some layouts from Eagle Eye VMS, the applications may drop camera streams to keep performance in line with the specifications. For example, if the layout has 20 camera streams, only the first 16 will be displayed in a 4x4 grid, or, if the total MP of cameras exceeds support, the layout may drop the higher MP cameras and only display what is acceptable.

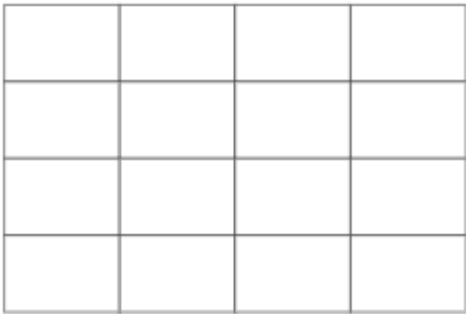
The cameras will display in the order that is specified in VMS, with the exception of 5 across/ 6 across layouts, because the applications have a max of 4 across, so cameras % will drop down and left to the next row.

Single Camera View:

To view a camera in Full Screen, simply select the camera from the layout with your mouse (or the Apple TV remote), it will enlarge to full screen. Press ESC key to go back to layout grid (or “Back” button on Apple TV remote).

Layout formats, cameras display from top left to bottom right in order with VMS settings:

Total Cameras in Layout	Display Grid
<p>1 Camera, or Full Screen view</p>	<p>Full Screen, or Full Window</p>
<p>2-4 Cameras will display in a 2x2 grid. Camera Rotation is counterclockwise.</p>	
<p>5-6 Cameras will display in 3x Expanded Grid mode, top left camera is enlarged. Camera Rotation is counterclockwise.</p>	
<p>7-9 Cameras will display in a 3x3 grid. Camera Rotation is counterclockwise.</p>	
<p>10-13 Cameras will display in 4x Expanded Grid mode, top left camera is enlarged. Camera Rotation is counterclockwise.</p>	

<p>14-16 Cameras will display in a 4x4 grid. Camera Rotation is counterclockwise.</p>	
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Appendix

Recommended Hardware:

- 3rd Generation Apple TV 4k Ethernet
- Intel i7 11-13th gen. 16- 32GB RAM

Performance Expectation:

Apple TV

All system performance was tested using a 3rd Generation Apple TV 4k Ethernet, with 64GB memory. For previous-generation Apple TV devices, performance may vary. Recommendations based on an average 25 FPS & H.264 (main) profile. The Apple TV device does not support multiple monitors.

Layout on display, max supported resolutions are as follows:

Resolution	2x2	3x3	4x4	MAX
720p	✓	✓	✓	16
1080p	✓	✓	✓	16
3MP	✓	✓	-	11
4MP	✓	✓	-	9
8MP	✓	-	-	4

Windows PC

All system performance was tested using an Intel NUC 13 PRO - i7 13th generation with 32GB RAM. Minimum recommended system specifications are Intel i7 11-13th generation with 16GB RAM; performance may vary depending on processor and RAM utilized. Recommendations based on an average 15-25 FPS & H.264 (main) profile.

Single Monitor: Layout on display, max supported resolutions are as follows:

Resolution	2x2	3x3	4x4	MAX
720p	✓	✓	✓	16
1080p	✓	✓	✓	16
3MP	✓	✓	✓	16
4MP	✓	✓	✓	16
8MP	✓	✓	-	9

Dual Monitor: Layout on display, max supported resolution per monitor are as follows:

Resolution	2x2	3x3	4x4	MAX
720p	✓	✓	✓	16
1080p	✓	✓	✓	16
3MP	✓	✓	-	9
4MP	✓	✓	-	9
8MP	✓	-	-	4

Use this calculator <https://incax.com/xdownload/mcv-calc.html> to help verify support for your layout.

Developer Support:

In the Settings Menu for Apple TV, there is a Feedback option, if you need support from the application developer. Select the “Send Feedback” option, and fill in any other details of what you are hoping to discuss with the application team. For Windows, go to incax.com/contact for support or feedback.