BURK TECHNOLOGY

Technical Bulletin

Adding an IP Camera to AutoPilot®, Climate Guard or Plus-X EM

Scope

This document defines minimum IP Camera requirements for use with AutoPilot, Climate Guard, Climate Guard LT, Plus-X EM64 and Plus-X EM32. Configuration guidelines are also provided.

Camera Requirements and Configuration

Compression Type

In order to be compatible with AutoPilot, a camera must support JPEG (JPG) snapshot capability. AutoPilot will request a new JPEG image from the camera at a repetition rate of up to once per second, as configured by the user via the AutoPilot Custom View Editor.

Climate Guard and Plus-X EM work with cameras that support JPEG snapshot capability as described above for AutoPilot. The rate at which these products request JPEG snapshots from the camera is programmable, at up to once per second, in the camera setup dialog of the Climate Guard or Plus-X EM web interface.

Climate Guard and Plus-X EM also work with cameras that support Motion JPEG (MJPEG or MJPG) video streaming. In this case, the camera is provisioned by the user to send a stream of images at a particular rate in frames per second. When properly configured, Climate Guard or Plus-X EM will receive and display this MJPEG video stream on the camera page of its web interface.

Resolution or Image Size

AutoPilot displays each received JPEG image in its native resolution. If the image sent by the camera is smaller than the display box created by the user in the AutoPilot Custom View Editor, white space will be displayed at the edges of the image. If the image sent by the camera is larger than the custom view display size selected by the user, the image will be truncated for display.

Climate Guard and Plus-X EM change the size of received JPEG images and MJPEG streams to fit in a fixed-size 320x240 pixel viewing area. This makes it possible to display images or streams from up to 4 cameras on the camera page of the Climate Guard or Plus-X EM web interface.

Communication Protocol

For compatibility with AutoPilot, Climate Guard or Plus-X EM, a camera must support HTTP protocol. Some cameras refer to this as "HTTP server" capability. HTTP communication requires a URL. The URL for a JPEG image or a Motion JPEG stream is made up of the camera's IP address or Host Name, followed by an "image path". Examples of JPEG and Motion JPEG URLs are:

http://192.168.0.210/image/jpeg.cgi?

and

http://192.168.0.210/video.cgi?

In each example above, 192.168.0.210 should be replaced by your camera's IP address or host name as set up via the camera's user interface or configuration software. The image paths, "/image/jpeg.cgi?" and '/video.cgi?" in the above examples, can be harder to find. If the URL or image path for your camera is not specified in the camera's user manual or web interface, it is sometimes possible to find it in an online database. While these databases are far from complete and may include errors, they can be useful sources of URL information. Examples of online camera databases include:

https://www.ispyconnect.com/sources.aspx

http://wiki.micasaverde.com/index.php/IP_Cameras

Additional Camera Configuration

In addition to the camera specifications and settings described above, most cameras require a username and password for access to images and streams. These should be configured in the camera following the manufacturer's instructions.

AutoPilot Configuration

- In AutoPilot, use the Custom View Editor to start a new custom view or edit an existing custom view.
- Select the Camera Picture object or the Web Picture object.
- Enter the following Picture Settings:
    o In the Host Name field, enter the complete camera URL as defined above.
    o In the Refresh Rate field enter the desired image refresh interval in seconds.
    o Enter the camera's username and password in the designated fields
    o Other programmable fields can be set based on user preference.

Climate Guard and Plus-X EM Configuration

- In Climate Guard, Climate Guard LT, Plus-X EM 64 or Plus-X EM32, select the Cameras page of the web user interface.
- Select Add new camera…
- Enter the following settings in the Add New Camera dialog box:
    o The Camera name can be set based on user preference.
    o In the IP Address/Host Name field, enter only the address portion of the camera URL, without the image path information.
    o The port setting can typically be left at the default value of 80, unless the camera has been configured to communicate on a different TCP port number.
    o The Camera Type field should be set to Other.
    o In the Image Path field, enter the path information that follows the IP address in the camera URL.
    o In the Refresh Rate field enter the desired image refresh interval in seconds.
    o Enter the camera's username and password in the designated fields

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Thank you,

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