Configuring an Axis Camera

Three different Axis camera models are supported by the FRC software, the Axis 206, Axis M1011, and Axis M1013. This document provides instructions on how to configure one of these cameras for FRC use. To follow the instructions in this document, an installation of 2014 NI FRC Update is required.

Connect the camera

Connect the Axis camera to the computer using an Ethernet cable. Most modern computers are equipped with auto-sensing ports and will work with a normal Ethernet cable, but a crossover cable, or network switch between the devices may be necessary for some computers.

Configure computer IP address

Set your computer's IP address to 192.168.0.5. For instructions on how to set your computer IP, see the Imaging your cRIO document.
Launch the Setup Axis Camera Tool

Double click on the desktop icon that says Setup Axis Camera to launch the Setup Axis Camera Tool. The camera should be automatically detected and the green indicator light should be lit. If it is not, make sure the camera is powered on (the ring on the camera face should be green) and connected to your computer. If the indicator remains off follow the instructions in the tool textbox next to Troubleshooting the camera to reset the camera. You can also use the Camera not found? button to check the IP address of your computer.
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Setup the Camera

The recommended configuration (and the default expected by the robot code examples and FRC Dashboard) is to connect the camera to the Robot Radio. To configure the camera for this setup:

1. Make sure the **Robot Radio** bubble is selected
2. Enter your FRC team number in the **Team ID** box
3. Press **Apply**.

This will automatically configure the following settings on the camera:

- IP
- Add Username and Password: FRC/FRC
- Anonymous Viewing: Enabled (required for use with SmartDashboard)
- Resolution: 320x240
- Compression: 30
- Frame Rate: 15FPS

Note that the LabVIEW Dashboard and/or LabVIEW robot code will override these settings for their streams.
For more information about camera image settings see the Camera Settings article in the Vision Processing manual.

**Manual Camera Configuration**

It is recommended to use the Setup Axis Camera Tool to configure the Axis Camera. If you need to configure the camera manually, follow the instructions above for connecting the camera to the computer and setting the IP, then open a web browser and enter **192.168.0.90** in the address bar and press enter. You should see a Configure Root Password page, set this password to whatever you would like, but **admin** is recommended.
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Setup Page

Click **Setup** to go to the setup page.
Configure Users

On the left side click Users to open the users page. Click Add then enter the Username FRC Password FRC and click the Administrator bubble, then click OK. If using the SmartDashboard, check the Enable anonymous viewer login box. Then click Save.
Click **Video & Image** on the left side to open the image settings page. Set the **Resolution** and **Compression** to the desired values (recommended 320x240, 30). To limit the framerate to under 30 FPS, select the **Limited to** bubble under **Maximum frame rate** and enter the desired rate in the box. Color, Brightness and Sharpness may also be set on this screen if desired. Click **Save** when finished.

Note that the LabVIEW Dashboard and/or LabVIEW robot code will override these settings for their streams.

For more information about camera image settings see the [Camera Settings](#) article in the Vision Processing manual.
To connect the camera directly to the DLink DAP-1522 on the robot, the IP settings need to be changed. Click **Basic Configuration** then **TCP/IP** on the left side of the screen to go to the network configuration page. Click the bubble to **Use the following IP address**, then enter 10.xx.yy.11 in the box where xxyy is your 4-digit team number (pictured example is set for team 3). In the **Default Router** box enter 10.xx.yy.1. Click **Save**. Your Axis camera is now set up for use on the robot.