



MARK ROBERTS MOTION CONTROL

FOCUS ASSIST MODULE



QUICK START GUIDE

QSG Product code: MPMC-2168-00

Product Covered: MPMC-2087-00

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Contents

Chapter 1 Quick Start 1

 Overview 1

 Safety 1

 Hardware Requirements 1

 Mounting the Focus Assist Camera and Box 2

 Creating a Virtual Network Interface in INTime 4

 Setup in Flair 13

 Displaying the Heat Map 14

 Displaying the Depth Map 15

 Using Focus Assist 16

 Modifying the IP address of the Focus Assist box 17

Chapter 1 Quick Start

Overview

Thank you for using the Focus Assist Module from Mark Roberts Motion Control (MRMC). The Focus Assist Module is designed for reliable day-in, day out use in professional studio environments. Focus Assist Module camera to measure target distances in real time and accordingly instruct the program to adjust the Focus axis. This is used along with any MRMC rig, camera and Flair 7 software application.

Safety

- Do not use around flammable gas. All electrical equipment can generate sparks that can ignite flammable gas.
- Keep Away From Pets and Children. The track and camera heads have powerful motors that can pinch, so take care not to get your hands trapped in the gears or cabling.
- Keep the equipment dry. The system has **not** been made weatherproof. Do not use with wet hands.
- Keep cables tidy. Use cable ties to keep them out of harm's way.

Hardware Requirements

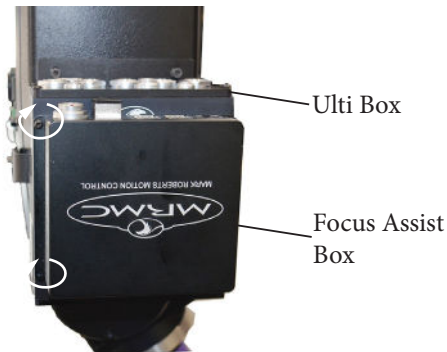
- Focus assist camera and box
- Ulti box
- Flair 7 PC, camera installed on MRMC rig and focus motor

Mounting the Focus Assist Camera and Box

1. Unscrew 4 x screws on the Ulti box housing mounted on the arm of the rig.

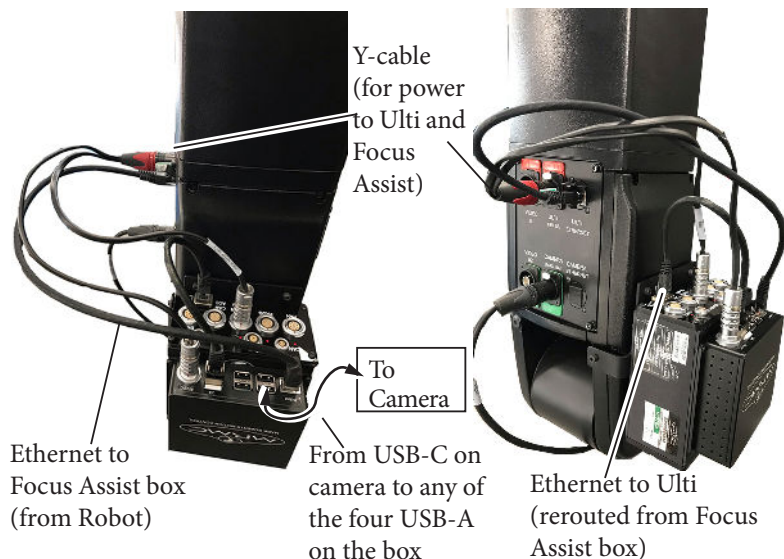


2. Replacing the 4 x screws with longer ones, mount the Focus assist box by attaching it to the Ulti box.



3. On the robot arm, mount the Camera Platform and the camera if not already mounted.

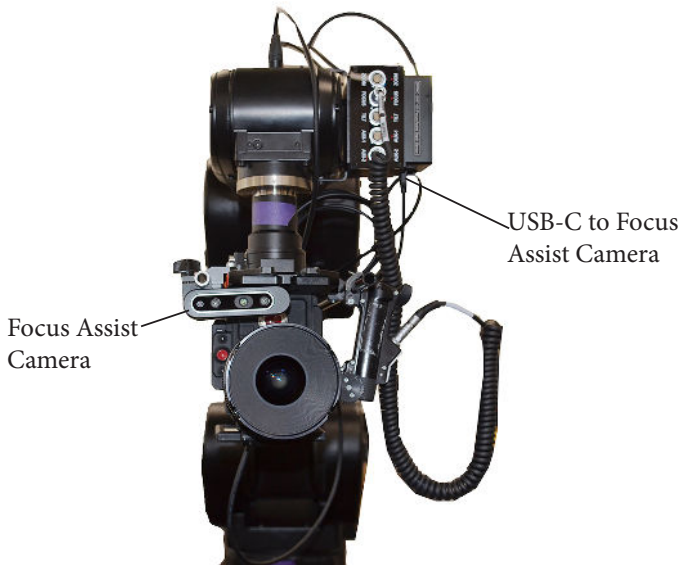
4. Connect the cables as shown:



5. Mount the Focus Assist camera on the matte bar on the camera platform and connect it with the USB-C port on the Focus Assist camera using the USB-C to USB-A cable.

The position of the focus assist camera relative to the actual camera sensor is important to get the right target distance. The measure of offsets in the lens setups may need to be adjusted depending on where the focus assist camera is mounted. Note that for critical applications that require high degree of precision, it might be beneficial to use a tape measure to accurately measure target distances. Therefore, preferably mount focus assist camera in the same location as your usual measure point/hook with the correct

offsets so you can easily switch between the focus assist camera and the manual tape measure whenever needed.

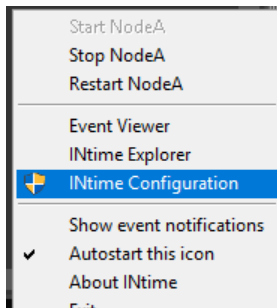


Note: The Focus Assist IP address is set to default 192.168.1.201.
This doesn't need to be changed.

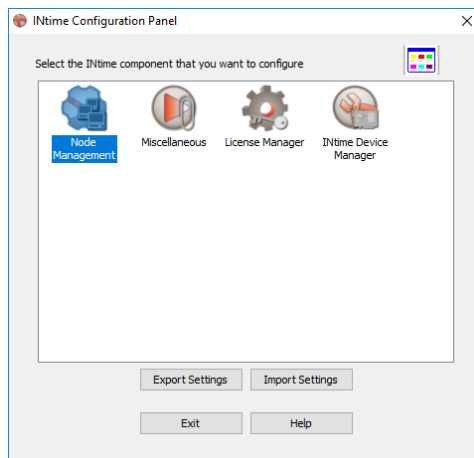
Creating a Virtual Network Interface in INTime

1. Close Flair 7, if open.
2. Create a Virtual interface within INtime NodeA:

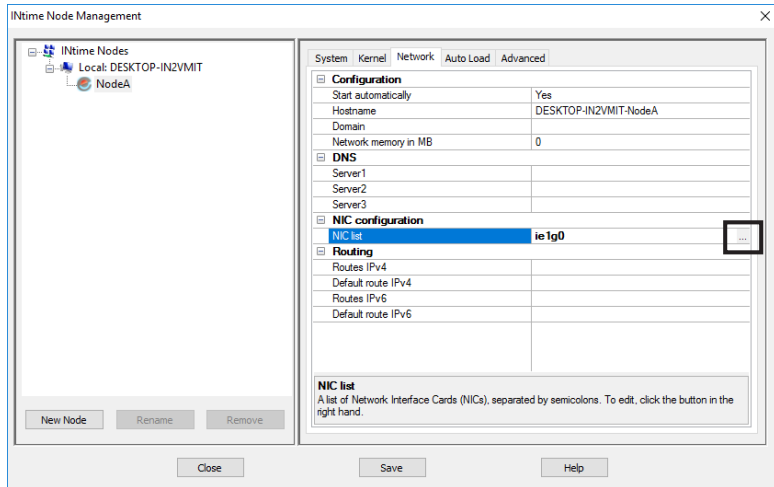
- 2.1 Ensure that INtime is running. From the System Tray, right click the INtime icon and select **INtime Configuration**.



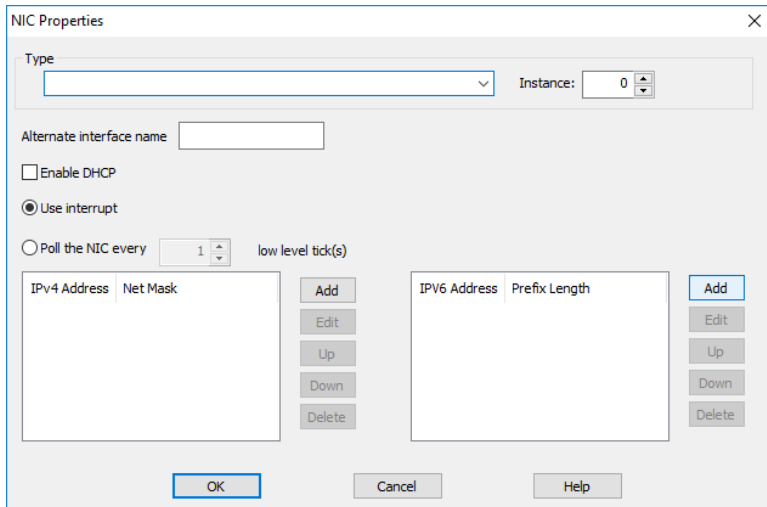
- 2.2 Double-click **Node Management**.



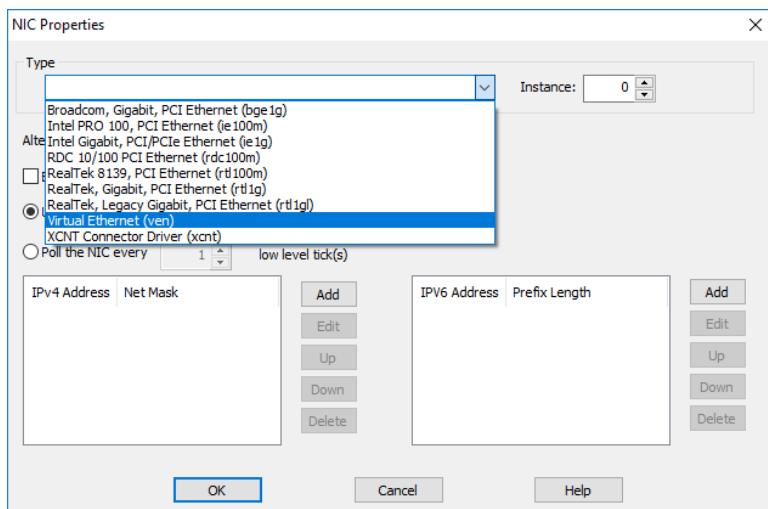
- 2.3 The Intime Node Management window appears with one item in the NIC list. Click the ellipses.



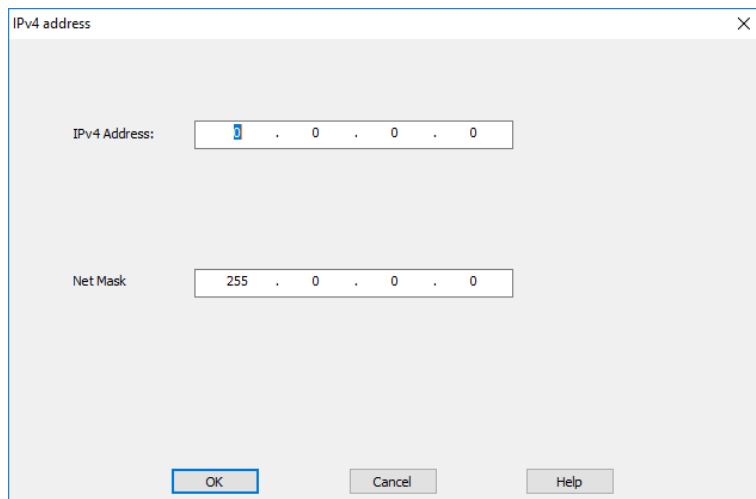
- 2.4 The NIC Properties dialog box appears.



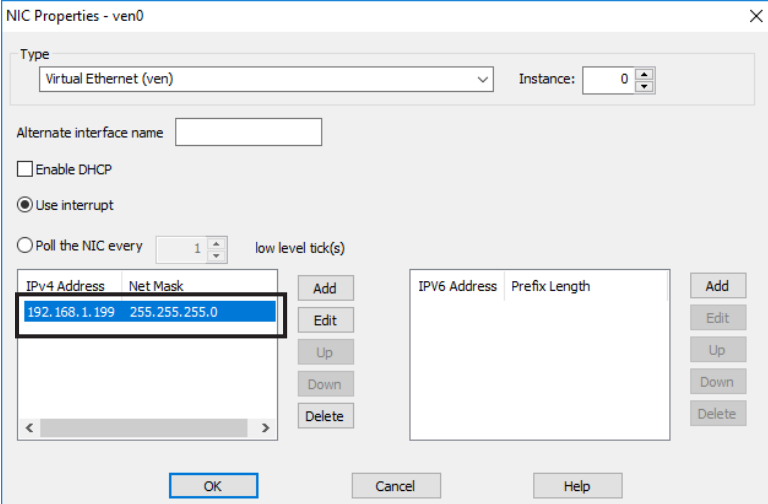
- 2.5 Select the NIC Type as **Virtual Ethernet (ven)**. Then, click **Add** to add an IPv4 Address.



- 2.6 In the appearing window, specify the IPv4 address as **192.168.1.199** and subnet mask as **255.255.255.0**. Click **OK**.



- 2.7 The IP address should now appear in the list of IPv4 address. Click OK.

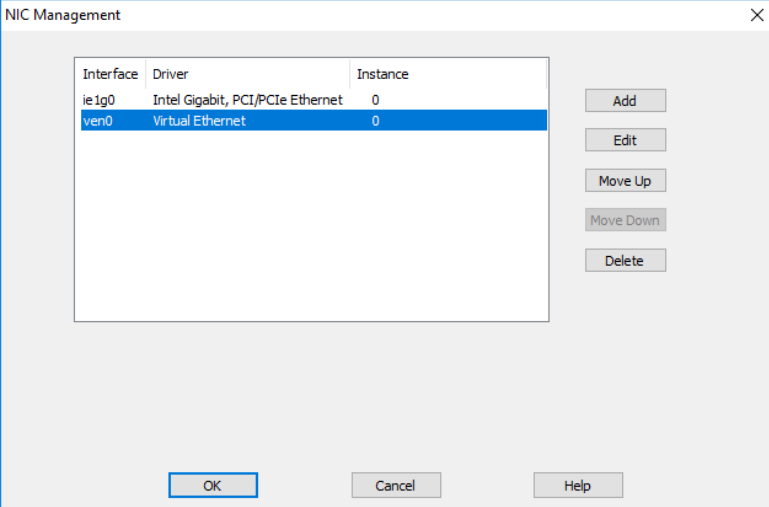


The dialog box titled "NIC Properties - ven0" shows the configuration for a virtual network interface. The "Type" is set to "Virtual Ethernet (ven)". The "Instance" is set to "0". The "Alternate interface name" field is empty. The "Enable DHCP" checkbox is unchecked. The "Use interrupt" radio button is selected. The "Poll the NIC every" field is set to "1" with the unit "low level tick(s)". The "IPv4 Address" table has one entry: "192.168.1.199" with a "Net Mask" of "255.255.255.0". The "IPv6 Address" table is empty. The "Add", "Edit", "Up", "Down", and "Delete" buttons are visible for both tables. The "OK", "Cancel", and "Help" buttons are at the bottom.

IPv4 Address	Net Mask
192.168.1.199	255.255.255.0

IPv6 Address	Prefix Length
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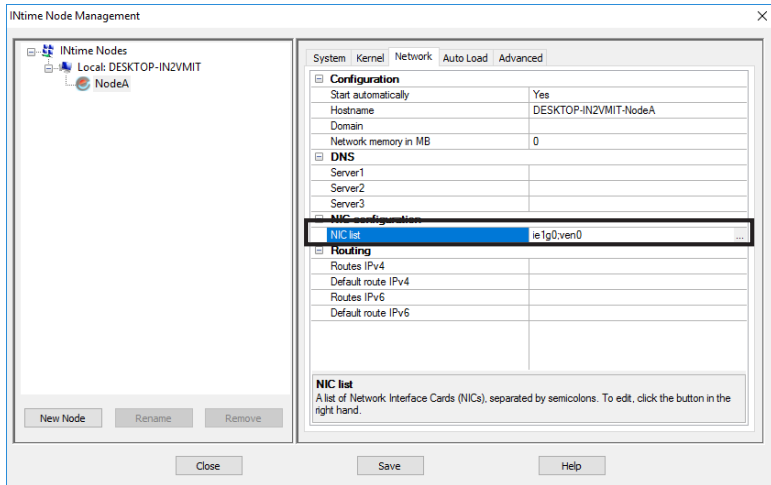
- 2.8 The NIC card is now added. Click OK in the NIC Management dialog box.



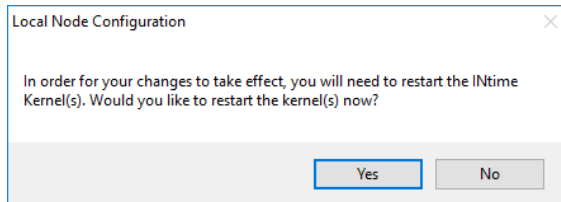
The dialog box titled "NIC Management" shows a list of network interfaces. The "Interface" column lists "ie1g0" and "ven0". The "Driver" column lists "Intel Gigabit, PCI/PCIe Ethernet" and "Virtual Ethernet". The "Instance" column lists "0" and "0". The "ven0" row is selected. The "Add", "Edit", "Move Up", "Move Down", and "Delete" buttons are visible. The "OK", "Cancel", and "Help" buttons are at the bottom.

Interface	Driver	Instance
ie1g0	Intel Gigabit, PCI/PCIe Ethernet	0
ven0	Virtual Ethernet	0

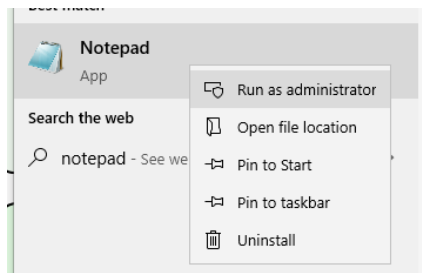
2.9 The virtual network interface is now created. Click Save and Close.



2.10 A message box appears for permission to restart INtime. Click Yes.

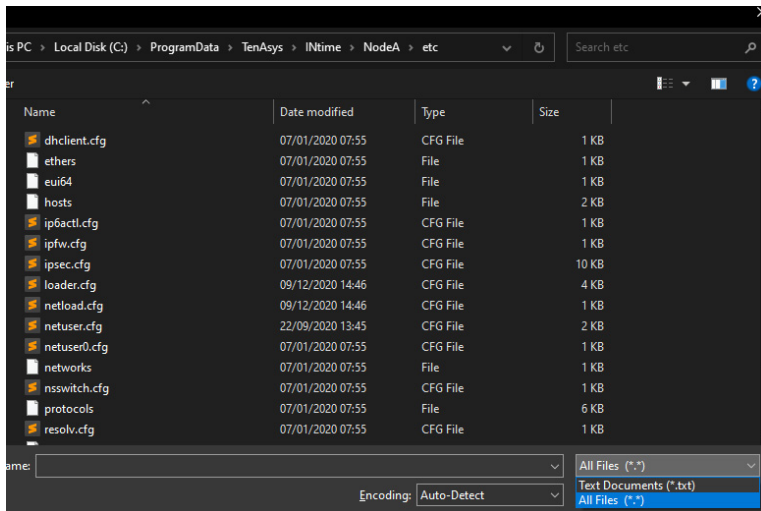


2.11 Open Notepad as an administrator.



2.12 Open the netuser.cfg file shown below. You will need to change the filter to see all files.

C:\ProgramData\TenAsys\INtime\NodeA\etc\netuser.cfg

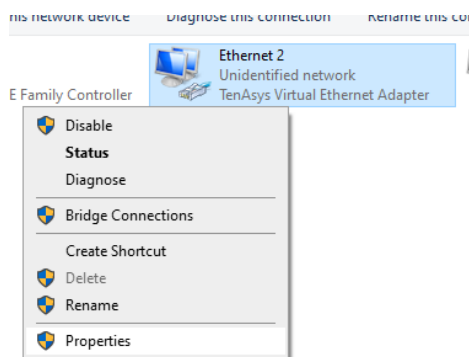


2.13 Add the following lines to this file. Replace rtl1g0 with the name of the interface you noted earlier.

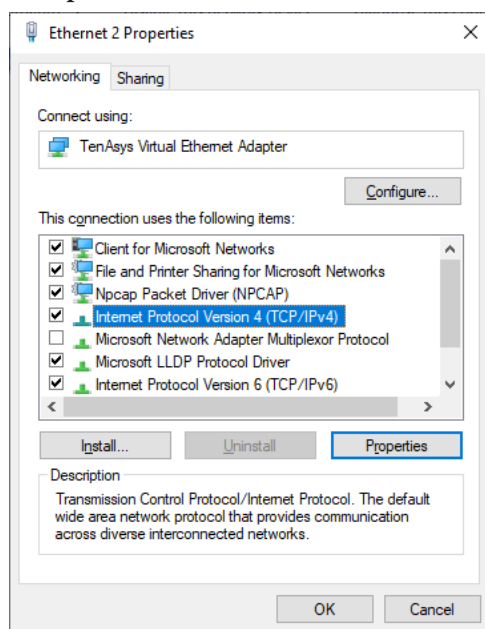
```
ifconfig.rta -q bridge create
ifconfig.rta bridge0 addm ven0 addm rtl1g0 up
ifconfig.rta ven0 up
```

2.14 Save and Exit.

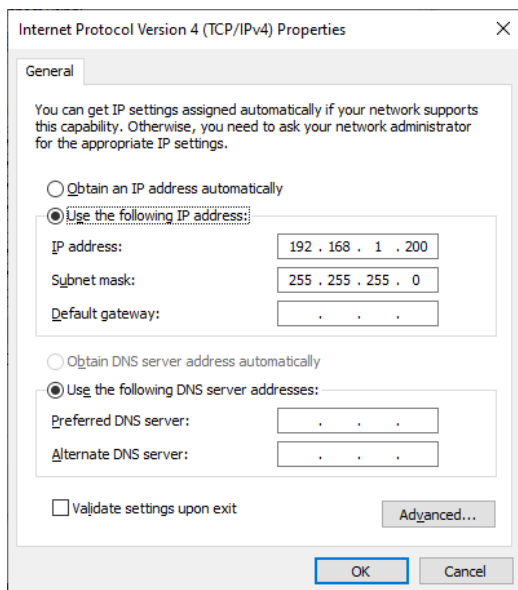
- 2.15 Open the Windows Network Connections window. You will see TenAsys Virtual Ethernet Adapter listed. Right-click and open the Properties window.



- 2.16 Locate the Internet Protocol Version 4 (TCP/IPv4) item and click **Properties**.

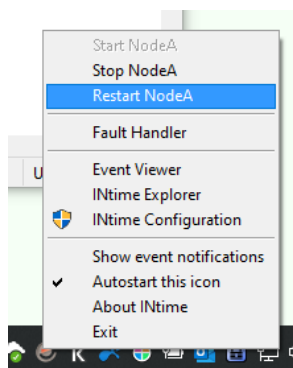


- 2.17 Check **Use the following IP address** and enter the IP address **192.168.1.200**.



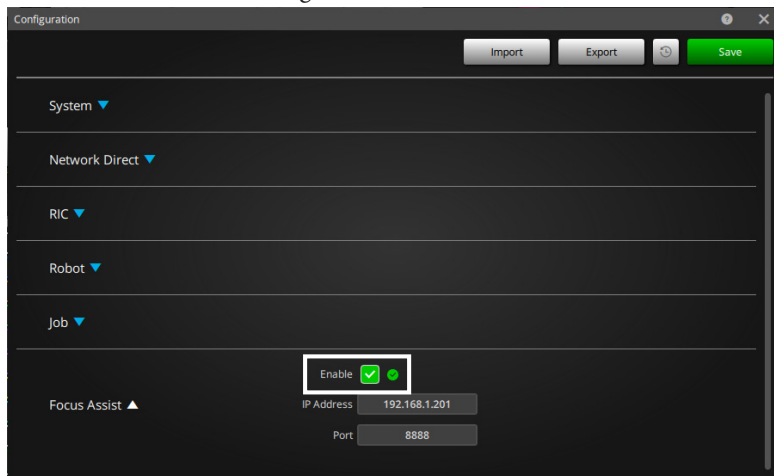
- 2.18 Click **OK** and close.

- 2.19 Restart the INtime Node A.



Setup in Flair

1. Launch Flair 7.
2. In Flair, select **System > Configuration** to open the System Configuration window. ensure the IP address is **192.168.1.201**. Check the **Enable** box and click **Save**. The icon next to the Enable checkbox should turn green.

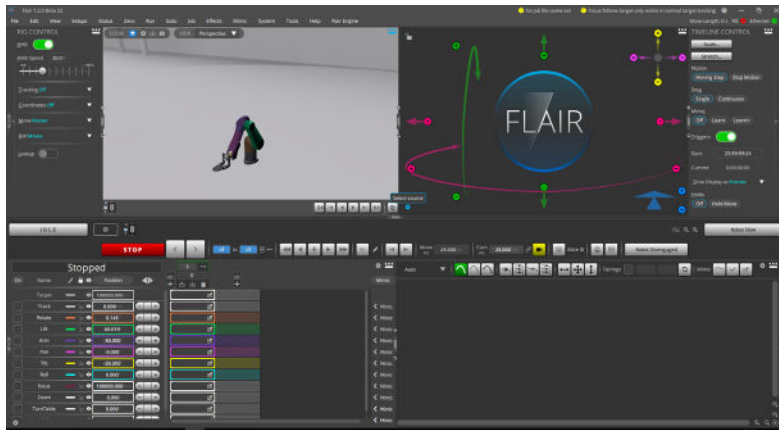


Note

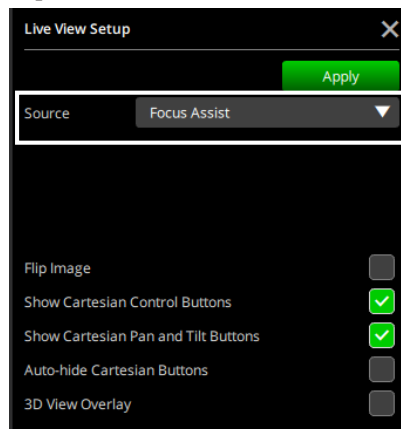
The X offset of the Focus Assist camera to the nodal point of the main film camera follows the same direction as the lens setup, so forward of the film camera is the X positive direction. The Y and Z offsets can be ignored as the Focus Assist camera will (or should) always be mounted in the same direction as the film camera

3. **Save** and close the dialog box. The Status Icon **MUST** go green to indicate that the Focus assist bridge communication is successful.

4. In the LiveView, open the setup popup.



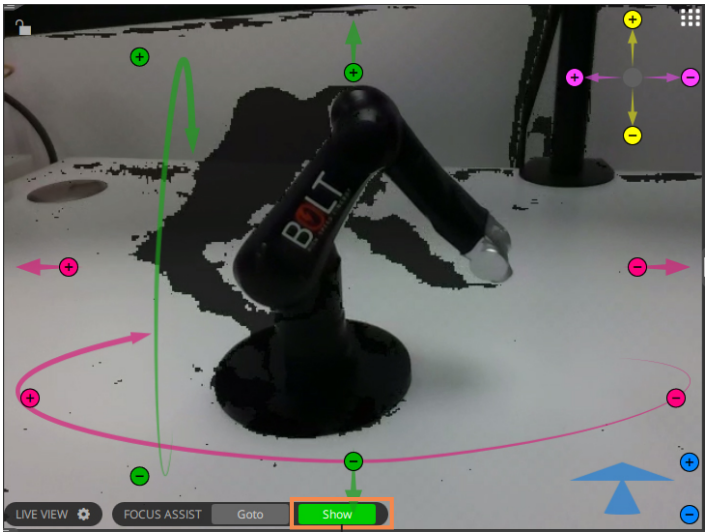
5. In the LiveView Setup dialog box, select **Focus Assist** from the Source drop-down list.



The video from the Focus Assist will now appear in the LiveView area.

Displaying the Heat Map

When Focus Assist is installed and configured and LiveView is set to display the video from a source (that is you have selected a source other than Focus Assist in the Live View Setup dialog box), you can toggle the LiveView to show the video from the source and that from the Focus Assist camera by clicking the **Show** button.

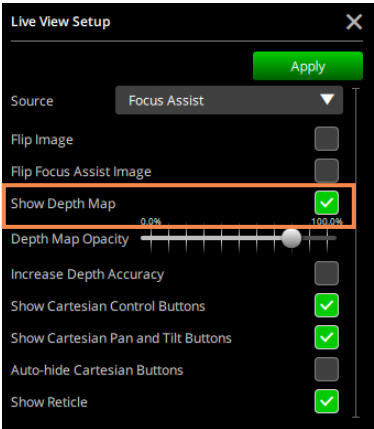


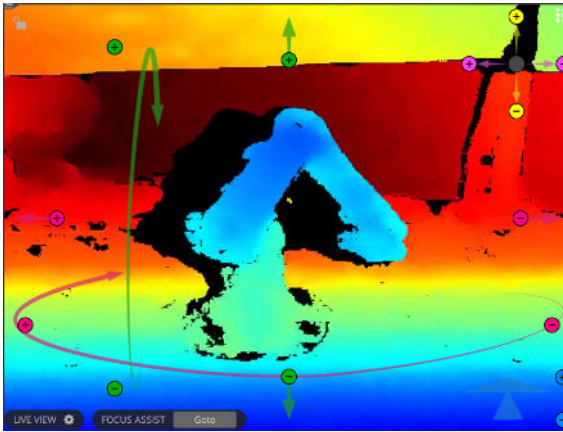
Use to toggle video from main camera and focus assist camera

However, if you open two LiveView windows, one for the main camera video and another for the focus assist camera, the Show button will not be available.

Displaying the Depth Map

A depth map of the video can be displaying by enabling the **Show Depth Map** option in the Live View Setup dialog box.





A depth image is an image channel in which the RGB colours on the image represent the distance between the image plane and the corresponding object.

Using Focus Assist

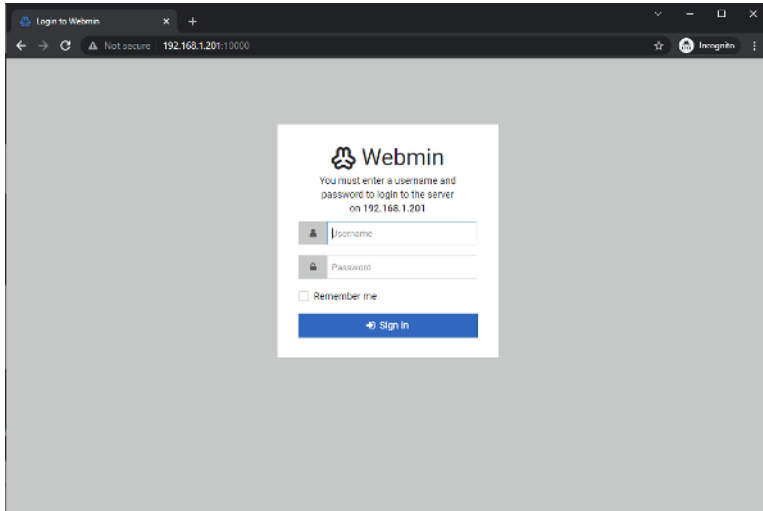
Once the heat map from the Focus Assist camera is displayed in LiveView, the Goto button in LiveView can be used to toggle between the following two functions:

1. When the Goto button is grey, clicking at a target in the LiveView will display the target distance (focus position) in the Waypoint view allowing you to store the focus value in the key frames
2. When the Goto button is green, clicking in the LiveView will pull the focus axis to focus on that target.

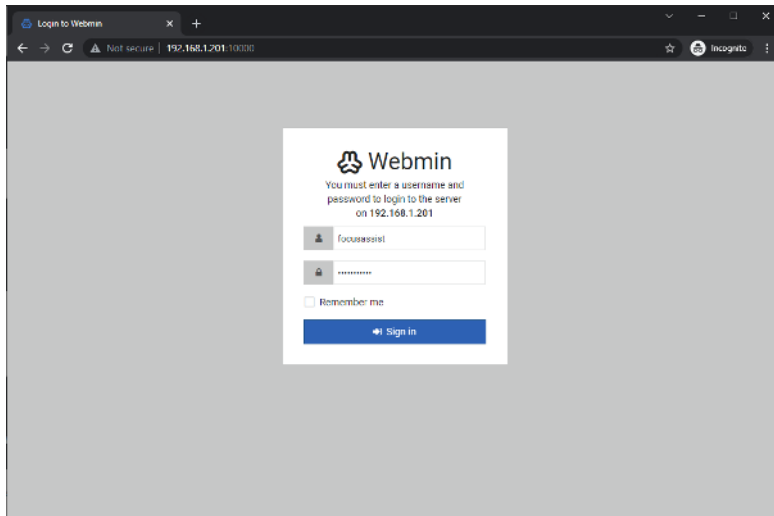
If you hover the mouse pointer in the LiveView area, it should have changed to '+' rather than a pointer in the Target mode. Point at a target and double-click. The lens motor will move to bring the target in focus. The lens must be calibrated for Focus Assist to measure target distances accurately.

Modifying the IP address of the Focus Assist box

1. Open a web browser on the Flair PC and visit `http://192.168.1.201:10000`.



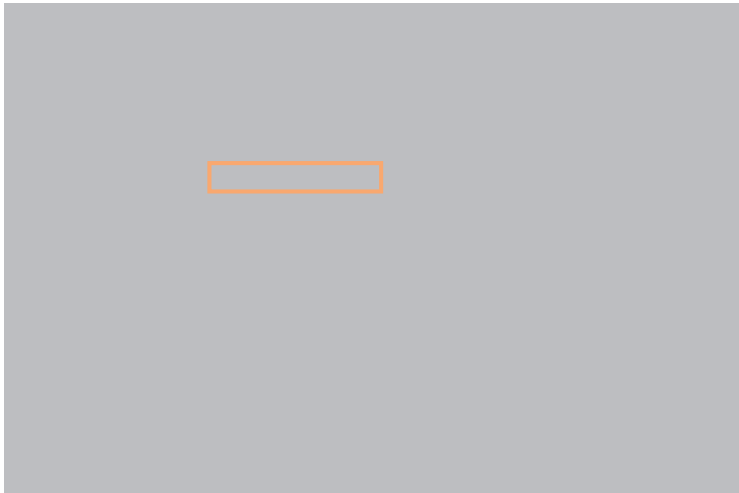
2. Log on with username “focusassist” and password “focusassist”.



3. On the left, select Tools -> Custom Commands.



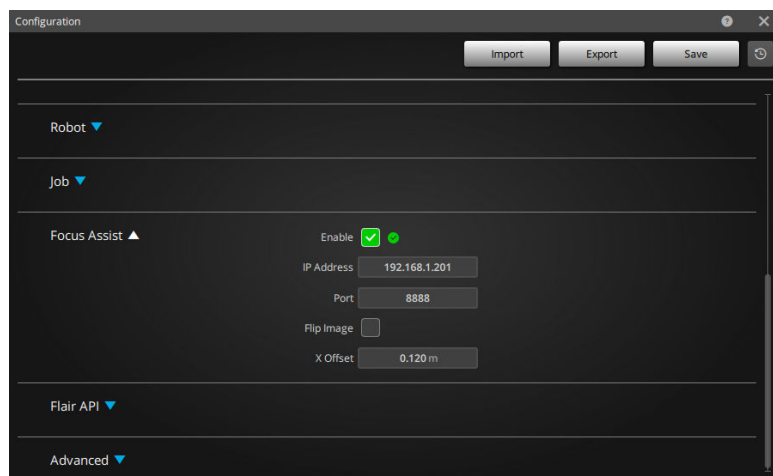
4. Enter the new IP address in the input field.



- Click 'Set IP Address'.



- Click **Save**. The browser will lose connectivity because the IP address will have changed. Log on with the updated IP address to verify.
- In Flair, in the **System > Configuration** window, change the Focus Assist IP address to match with the changed IP address. The port should remain the same.



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