# Revision History

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| **Version** | **Date** | **Description** | **Written By** |
| 1.0 | Dec. 30, 2022 |  | DS Kim |
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9. **ArgosVue Specifications**

|  |  |
| --- | --- |
| **Field of View** | 240 degrees (H) x 160 degrees (V)  |
| **Resolution** | 1200 x 800 (Max 1680 x 1120) |
| **Depth Range** | 0.3 ~ 7.0m |
| **Depth Accuracy** | 1% @1.0m, 5% @5.0m |
| **Frame Rate** | 15 fps (@1200 x 800) |

1. **ArgosVue ROS Topic List**

|  |  |  |
| --- | --- | --- |
| **Topic** | **Description** | **ROS Data Type** |
| /argosvue/equimage0 | Color image of camera 0 | Image |
| /argosvue/equimage1 | Color image of camera 1 | Image |
| /argosvue/depthmap | Depth map (units are in millimeters) | Image |
| /argosvue/pointcloud  | Point cloud | Pointcloud2 |

1. **Starting ArgosVue Camera System**
* Execute the following command at a terminal to start the camera system

$ roslaunch argosvue stereo.launch

* **username**: *argos*
* **password**: *qlwjs*
* You can reset the camera system by executing the following commands when the camera system doesn’t work properly.

$ sudo systemctl restart nvargus-daemon.service

1. **Visualizing ArgosVue’s Data with Rviz**
* Run the rviz with the provided rviz configuration file.

$ rviz -d argosvue.rviz



1. **Configurable ArgosVue’s Parameters**
* You can configure your ArgosVue by modifying parameters in the following file with your editor (i.e. vim).

/home/argos/catkin\_argosvue/src/argosvue/conf/settings.json

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Parameter** | **Description** | **Default**  |
| params | fov | Horizontal and vertical field of view (in degrees) | 240, 160 |
| pixel\_per\_degree | Pixels per degree (1~7) | 5 |
| funcs | detect\_short\_range | Enable near-range depth calculation. (0: min 0.5m, 1: min 0.2m)\* System will be slow down when it is enabled. | 0 |
| ROS\_outputs | output\_image0 | Enable publishing topic /argosvue/equimage0 | 1 |
| output\_image1 | Enable publishing topic /argosvue/equimage1 | 0 |
| output\_depthmap | Enable publishing topic /argosvue/depthmap  | 1 |
| output\_pointcloud | Enable publishing topic /argosvue/pointcloud | 1 |
| output\_colored | Enable publishing depthmap and pointcloud in color (1: color, 0: mono)\* System will be slow down when it is enabled. | 0 |

* Camera system should be restarted after modifying the parameters.

$ roslaunch argosvue stereo.launch

1. **Setting Up ArgosVue’s Network**

**IP address configuration**

* Set IP address of your system to 192.168.1.100

Network 🡪 Edit Connection 🡪 add a new connection 🡪 select ethernet 🡪 IPv4 setting🡪 Method: Manual 🡪 Add

**Address : 192.168.1.100, NetMask : 255.255.255.0**

🡪 Save

You can check the setting by executing the following command in a terminal.

$ ifconfig eth0



* Execute the following command to setup environment variables of terminal:

$ echo “export ROS\_MASTER\_URI=http://192.168.1.100:11311” >> ~/.bashrc

$ echo “export ROS\_IP=192.168.1.100” >> ~/.bashrc

$ source ~/.bashrc

 The following lines will be added to your .bashrc file:



If you want to use an IP address other than 192.168.1.100, you have to change the IP address in /home/argos/ArgosVue\_ROS\_env/ROS\_env\_setting.sh file.



* Start “roscore” in a terminal

$ roscore

* Connect your ROS1 system to ArgosVue with a LAN cable.
* Connect to ArgosVue with SSH.

$ ssh argos@192.168.1.50

**password**: *qlwjs*

* Start your ArgosVue
* $ roslaunch argosvue stereo.launch
* You can check if ArgosVue outputs images properly by listing ROS Topics or executing rviz.

$ rostopic list

* You can check the network connection from the top bar.



1. **Resetting ArgosVue Camera System**
* If your camera system doesn’t work properly, you can reset the camera system without rebooting using the following commands:

$ sudo systemctl restart nvargus-daemon.service

$ roslaunch argosvue stereo.launch