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| Overview | |
| This driver is for LI-AR0234CS-GMSL2-OWL V1.0 camera kit with Nvidia Jetson AGX Xavier Developer kit.  This driver supports four LI-AR0234CS-GMSL2-OWL V1.0 cameras.  This driver supports 1920x1200@30fps  This driver is based on R34.1.1(Jetpack 5.0.1). | |
| Download link | |
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| Platform | Camera |
| Nvidia Jetson AGX Xavier Developer kit | 4 x LI-AR0234CS-GMSL2-OWL V1.0 |
| Cable | Adapter/Carrier Board |
| 1 x 4-in-1 Fakra cable | 1 x NVIDIA max96712 adapt board(E3653-a03).  1 x 19VDC power supply |
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| Revision | | SVN version | Release Date | Author | Tested by | |
| 20220321 | |  | 03/21/2022 | Xingxing Gu |  | |
| Updates | | | | | | |
| Revision | Description | | | | | Release Date |
| 20220321 | First Release based on R32.7 | | | | | 20220321 |
| 20220609 | Support 34.1.1 | | | | | 20220609 |
| 20220822 | Support 35.1 | | | | | 20220822 |
| 20220916 | Fix the first owl camera streaming issue | | | | | 20220916 |
| 20220922 | Fix the ethernet issue when installed the ko files | | | | | 20220922 |
| Known bugs | | | | | | |
| Orin isp not ready yet | | | | | | |

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| Setup Procedure 1/2 |
| **Hardware:**  1. Nvidia Jetson AGX Orin Developer Kit x 1  2. E3653-A03 x 1  3. LI-AR0234CS-GMSL2-OWL x 4  4. 4-in-1 Fakra cable x 1  5. USB 3.0 Type-C cable x 1 (for flashing OS image)  6. Monitor with HDMI cable x 1  7. Keyboard and Mouse (with USB hub) x 1  **Driver installation:**  1. Download the R34.1.1 OS Image (from link below) to your Ubuntu OS on Intel x64 Host PC (we are using Ubuntu 18.04, virtual machine is fine) and follow the l4t\_quick\_start\_guide to install the Jetpack to Orin.  R34.4.1 OS Image: <https://www.dropbox.com/sh/xkn3e0gp9q5mm4x/AABpxtWnWY9lVJBIGcUpjFKna?dl=0>  2. Copy the tegra234-p3701-0000-p3737-0000.dtb to the /boot/dtb/kernel\_tegra234-p3701-0000-p3737-0000.dtb in your Orin platform.  cp tegra194-p2888-0001-p2822-0000.dtb /boot/dtb/kernel\_tegra194-p2888-0001-p2822-0000.dtb  2.1. Copy the tegra194-p2888-0001-p2822-0000.dtb to the /boot/dtb/kernel\_tegra194-p2888-0001-p2822-0000.dtb in your Orin platform.  cp tegra194-p2888-0001-p2822-0000.dtb /boot/dtb/kernel\_tegra194-p2888-0001-p2822-0000.dtb  3. Reboot AGX Orin/Xavier kit.    4. Open a terminal and do below commands. The 2 .ko files can be downloaded from the link in first page.  insmod ar0234 .ko  insmod max96712 .ko  5. Then do below command to get live video output.  nvgstcapture-1.0 |

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| Run Camera |
| 1. Argus software  Download the Multimedia package from link below and copy it to Orin.  <https://www.dropbox.com/s/qz0ey3ygvb6a6nj/jetson_multimedia_api.tar.gz?dl=0>  Open a terminal, do  sudo apt-get update  sudo apt-get install cmake libgtk-3-dev libjpeg-dev libgles2-mesa-dev libgstreamer1.0-dev  Uncompress the tgz file.  tar zxvf jetson\_multimedia\_api.tgz  Under jetson\_multimedia\_api/argus/cmake, do  cmake ..  make  sudo make install  Do "argus\_camera --device=0” to get the video.  2. Gstreamer  gst-launch-1.0 nvarguscamerasrc sensor-id=0 ! 'video/x-raw(memory:NVMM), width=(int)1920, height=(int)1200, framerate=30/1' ! nvvidconv flip-method=0 ! 'video/x-raw, format=(string)I420' ! xvimagesink -e  3. v4l2-ctl capture raw  v4l2-ctl -V --set-fmt-video=width=1920,height=1200,pixelformat=RG10 --set-ctrl bypass\_mode=0 --stream-mmap --stream-count=1 --stream-to=ar0234cs.raw -d /dev/video0  Note:  1）The 0 can be changed to 1 to run other cameras.  2）Please use below commands to install v4l2.  sudo apt-get update  sudo apt-get install v4l-utils |