

BOARD SUPPORT PACKAGE

For Connect Tech NVIDIA® Jetson THOR Carriers

BSP Version:	THOR-39.2.0 V001
Last Updated:	2026/07/23

1. Introduction

This Board Support Package adds support for the Connect Tech Jetson Thor™ family of carrier boards to Linux4Tegra. It includes any extra files required to use all the features of Connect Tech carriers.

Please check Section 3 for supported features for your board and Section 8 for the changes made between versions. You can check which version of the BSP you have installed by running:

```
cat /etc/cti/CTI-L4T.version
```

Check for the Latest Version of the CTI-L4T BSP at:
<https://connecttech.com/resource-center/l4t-board-support-packages/>

2. Requirements

- x86/x64 based host machine running Ubuntu 22.04 or 24.04
- JetPack 7.2 / L4T 39.2.0 installed (see Section 4)
- Jetson Thor™ module
- Connect Tech carrier for Jetson Thor™
- USB Cable for flashing

*L4T version can be found in /etc/nv_tegra_release and will look like this:
R39 (release), REVISION: 2.0

3. BSP Features

3.1 Supported Modules in BSP

- Thor T5000
- Thor T4000

3.2 Supported Cameras in BSP

- No camera configurations in this release

3.3 Product Specific Details

AGX301 (Gauntlet)

- 10G and 1G ethernet Support.
- CAN Support (Only on T5000 modules).
- Display Port Support.
- USB 3.2 Support.
- USB OTG Support.
- I2C Support.
- SPI Support.
- UART Support.
- RS232/485 Support.
- GPIO Support.
- M.2 pcie Support.
- Key E 2230 Wifi/BT.
- Key B 3042/3052 LTE/5G with micro SIM.

AGX302 (Rogue-Thor)

- 2x10G and 2.5G ethernet Support.
- CAN Support (Only on T5000 modules).
- Display Port Support.
- USB 3.2 Support.
- USB OTG Support.
- I2C Support.
- I2S Support.
- UART Support.
- Debug USB UART.
- RS232/485 Support.
- GPIO Support.
- PWM Support.
- M.2 pcie Support.
- Key E 2230 Wifi/BT.

3.4 Limitations and Known Issues

1. With the D3 cameras, while it is possible to configure two different camera models (e.g. AR0234 and ISX031) on the same deserializer (ports 0 and 1, 2 and 3, 4 and 5, or 6 and 7)

camera streaming often failed in this setup. To avoid this, place sensors of different types on ports connected to different deserializer chips (e.g. ports 0 and 2).

2. The D3 IMX390 camera was observed to have issues switching modes between streams. Streaming a second time with the same mode was found to fix the errors observed.

3. Streaming with the ZED X stereo cameras was observed to intermittently fail with both the SDK and gstreamer + nvargus. We are currently investigating this issue.

4. When booting the Gauntlet on the t5000 module from zero power, a BPMP error occurs. This is also being investigated, for now, power cycling after a minute allows the system to boot normally.

5. The 10G-1 ethernet port on AGX301 Gauntlet is non-functioning on the Thor T4000 module. For 10G ethernet, insert cable into the 10G-2 port. Both ports are functional with a Thor T5000 module.

6. The Thor T4000 module does not have a CAN interface, therefore CAN is only available with a Thor T5000 module at this time.

7. Framer camera device trees may include modes for multiple camera types. Some camera modes may be for monochrome sensors, whereas others may be for chroma sensors. It is recommended you specify the mode index when streaming, as it is possible that the selected default mode may not work for your sensor type.

8. It has been noticed when streaming the IMX900 using gst-launch-1.0, using killall to terminate the streams, reloading the driver module and doing a warm reboot that an exception will occur. This exception was not present during testing when streams were properly closed. If you run into this issue, the watchdog will eventually reset your device.

4. Installation

4.1 Obtaining NVIDIA® Jetpack

Before installing the BSP you will need to install JetPack 7.2 on the host system using NVIDIA® SDK Manager (section 4.1.1) or from the NVIDIA® Embedded Download Center (section 4.1.2)

4.1.1 Installing JetPack from SDK Manager

Please follow installation steps from kdb373 for Jetpack 4.2+ <https://connecttech.com/resource-center/kdb373/>

4.1.2 Installing JetPack from NVIDIA® Embedded Download Center

1. Create a new directory for installing the Jetpack. Referred to as <BSP_ROOT> in these instructions.
 2. Go to <https://developer.nvidia.com/embedded/jetpack/downloads> and under "Jetson Linux Downloads and Documents" locate the table for "Jetson Linux 39.2".
 3. Download the "L4T Driver Package (BSP)" and "Sample Root Filesystem" files.
 4. Put the "L4T Driver Package (BSP)" and "Sample Root Filesystem" in <BSP_ROOT>. Afterwards, you should have the following files in <BSP_ROOT>
 - jetson_linux_r39.2.0_aarch64.tbz2
 - tegra_linux_sample-root-filesystem_r39.2.0_aarch64.tbz2
 5. Extract the "L4T Driver Package" tarball:
6. You should now have a new directory called Linux_for_Tegra in your <BSP_ROOT> folder. Extract the "Sample Root Filesystem" into Linux_for_Tegra/rootfs.

```
cd <BSP_ROOT>
sudo tar -jxf jetson_linux_r39.2.0_aarch64.tbz2

sudo tar -C Linux_for_Tegra/rootfs/ -xjf tegra_linux_sample-root-filesystem_r39.2.0_aarch64.tbz2
```

4.2 CTI BSP Installation

1. Copy the CTI-L4T-THOR-39.2.0-V###.tgz package into <BSP_ROOT>/Linux_for_Tegra.

If you are using Nvidia's SDK manager then "<BSP_ROOT>" will be:
~/nvidia/nvidia_sdk/<JetPack_Version>_Linux_JETSON_AGX_THOR_TARGETS

Otherwise if manually installing from the NVIDIA® Embedded Download Center <BSP_ROOT> will be the folder created previously

```
cp CTI-L4T-THOR-39.2.0-V###.tgz <BSP_ROOT>/Linux_for_Tegra
```

2. Extract the BSP: tar -xzf CTI-L4T-THOR-39.2.0-V###.tgz
cd <BSP_ROOT>/Linux_for_Tegra
sudo tar -xzf CTI-L4T-THOR-39.2.0-V###.tgz

3. Change into the CTI-L4T directory:

```
cd <BSP_ROOT>/Linux_for_Tegra/CTI-L4T
```

4. Run the install script (as root or sudo) to automatically install the BSP files to the correct locations:

```
sudo ./install.sh  
#return to Linux_for_Tegra  
cd ..
```

5. The CTI-L4T BSP is now installed on the host system and it should now be able to flash the Jetson Thor™ module.

5. Flashing Jetson Thor™ Modules

1. Connect the Jetson Thor™ and Carrier to the computer via USB, following the instructions in the appropriate manual.

2. Put the system to be flashed into recovery mode, following the instructions in the appropriate manual

3. There are two options for flashing Jetson modules:

Using CTI's automated script:

```
./cti-flash.sh
```

Follow the menu and select your desired configuration. Once selected,

the device will start to flash.

Using the Manual Method:

Note do not add the ".conf" file extension to the <config> parameter:

Manual Flash: `./l4t_initrd_flash.sh cti/<module>/<boardname>/<config> external`

<module> is thor

Example:

```
./l4t_initrd_flash.sh cti/thor-t5000/gauntlet/base external
```

4. Once the flashing has completed, the Jetson Thor™ will reboot

6. Upgrading to a New Package Release

Upgrading L4T or CTI-BSP versions without reflashing is not currently supported.

7. Switching Profiles on Jetson Thor™

1. Open a terminal on the Jetson Thor™
2. Run "sudo cti-thor-agx-fdt.sh"
3. Select the profile you wish to switch to from the menu
4. Restart the system

Note: This script updates the dtb by appending/replacing the FDT variable in extlinux.conf

8. Change Log

Version THOR-39.2.0-V001 July 23, 2026

- Initial release for Gauntlet and Rogue-Thor on Jetpack 7.2

Contact Connect Tech

If you have any problems, questions or suggestions regarding the Board Support Package and hardware, please feel free to contact Connect Tech Inc.

Contact Information	
Support	Please go to the Connect Tech Resource Center for product manuals, installation guides, device drivers, BSPs and technical tips. Submit your technical support questions to our support engineers. Technical Support representatives are available Monday through Friday, from 8:30 a.m. to 5:00 p.m. Eastern Standard Time.
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