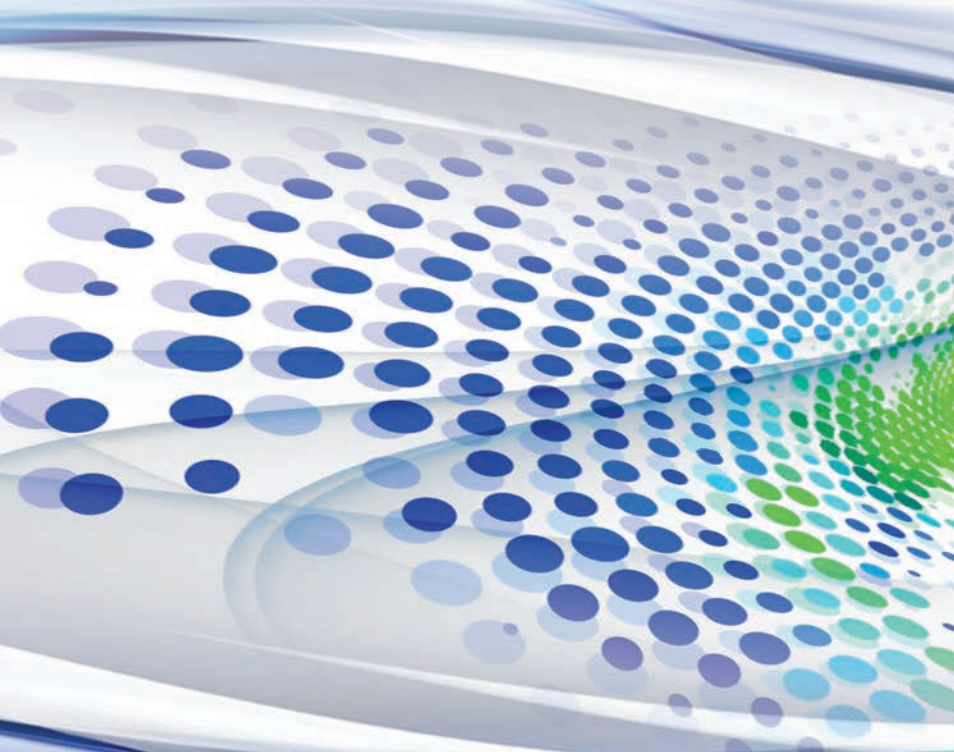# Connect Tech Inc.
Embedded Computing Experts

CARRIER BOARDS
AND **EMBEDDED SYSTEMS**

Powered by
Jetson™ TX2/TX2i/TX1

nVIDIA®

Partnering Together - Creating Excellence

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Astro Carrier

Astro is specifically designed to work with the NVIDIA® Jetson™ TX2/TX2i/TX1 supercomputer-on-module. Astro Carrier provides a platform that is easily customized for application specific needs.

Features

- 2 Gigabit (10/100/1000) Ports
- USB and HDMI Ports
- 87mm x 57mm (3.43" x 2.24")
- Use with COTS or custom break out boards
- Temperature Range,
  -40°C to +85°C (Astro Carrier)

Orbitty Carrier

Orbitty Carrier for NVIDIA® Jetson™ TX2/TX2i/TX1 is designed to match the NVIDIA Jetson module form factor. The Orbitty's design includes 1x USB 3.0, 1x USB 2.0 OTG, 1x HDMI, 1x GbE, 1x microSD, 2x 3.3V UART, I2C, and 4x GPIO. Ideal for robotics and unmanned applications or any small form factor rugged environment.

Features

- Extremely Small Size:
  87mm x 50mm (3.425" x 1.968")
- 1x GbE, USB 3.0, USB 2.0, 1x HDMI,
  1x MicroSD, 2x 3.3V UART, I2C, 4x GPIO
- +9V to +14V DC Nominal (+19V Peak)
- Temperature Range,
 -40°C to +85°C (Orbitty Carrier)

Cogswell Carrier

Cogswell Carrier for NVIDIA® Jetson™ TX2/TX2i/TX1 is ideal for use in Gigabit Ethernet Vision applications. This product provides up to 4 Gigabit Ethernet channels with built-in Power over Ethernet (PoE) sourcing capabilities, ideal for use with GigE Vision cameras. Cogswell's design includes a total of 5 Gigabit Ethernet Ports. Four of these ports can be used for IEEE 802.3af (PoE) 15.4W power sourcing or two of these ports can be used for IEEE 802.3at (PoE+) 25.5W power sourcing.

Features

- Specifically designed for use with
  GigE Vision Cameras
- Only a single +12V input required;
  No external 48V PoE power required
- 5 x Gigabit Ethernet Ports: 4x PoE,
  2x PoE + PSE Gigabit Ports
- Temperature Range, -40°C to +85°C
  (Cogswell Carrier)
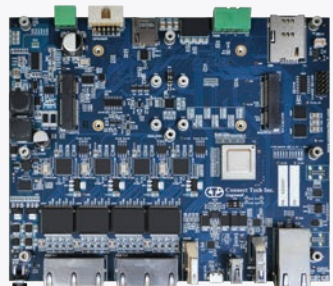
Sprocket Carrier

Sprocket Carrier for NVIDIA® Jetson™ TX2/TX2i/TX1 is designed to match the NVIDIA Jetson module form factor. The Sprocket's design includes 1x USB OTG, 1 x4 lane MIPI CSI-2, 2x 3.3V UART, 2x I2C, and 4x GPIO. This is our smallest and lowest profile solution yet. The Sprocket with Jetson TX1 or Jetson TX2 can be mounted flat, perfect for space constrained payloads such as that of a drone.

Features

- Extremely Small Size: 87mm x 50mm (3.425" x 1.968")
- 1x USB OTG, 1 x4 lane MIPI CSI-2 Input, 2x 3.3V UART, I2C, 4x GPIO
- +12V to +16V DC Input Range
- Temperature Range, -40°C to +85°C (Sprocket Carrier)

Elroy Carrier

Elroy Carrier for NVIDIA® Jetson™ TX2/TX2i/TX1 brings a rugged, low profile Jetson™ TX2/TX2i/TX1 Solution to the market. Designed to match the NVIDIA Jetson module form factor, the Elroy's design includes Dual x2 MIPI CSI-2 Video Inputs, Mini-PCIe/mSATA expansion, HDMI Video, USB 3.0 and 2.0, and two Serial Ports for RS-232/485.

Features

- Extremely Small Size: 87mm x 50mm (3.425" x 1.968")
- Head-to-Head Dual Mini-PCIe
- Dual x2 MIPI CSI-2 Video Inputs
- Temperature Range, -40°C to +85°C (Elroy Carrier)

Spacely Carrier

Spacely Carrier for NVIDIA® Jetson™ TX2/TX2i/TX1 is an ideal product for unmanned vehicle applications, or any application where situational awareness is critical. Spacely enables users to simultaneously capture from up to 6 MIPI CSI-2 cameras as well as offering built-in expansion for a GPS/GNSS module. This carrier includes a multi-I/O port specifically designed to allow easy connection to OEM Autopilots such as the Pixhawk.

Features

- Connect up to 6 MIPI CSI-2 Camera Inputs
- Tailored IO for easy connection to Pixhawk Autopilot
- 2x GbE, 1x uHDMI, 2x USB 3.0, 2x USB 2.0, 1x USB OTG, 1x miniPCIe Slot, mSATA Slot
- 2x UART, I2C, SPI, 14 bits GPIO all at +3.3V IO
- Temperature Range, -40°C to +85°C (Spacely Carrier)

Rudi Embedded System

Rudi holds a lot of power in a small package. Rudi is pre-integrated with the NVIDIA® Jetson™ TX2, TX2i or TX1 supercomputer-on-module, providing 256 CUDA® cores on the NVIDIA Maxwell™ or Pascal™ architectures. The system has 4GB LPDDR4 memory, 4K video decode/encode, WiFi, Bluetooth, USB 3.0, CAN 2.0b, USB 2.0, and mSATA and miniPCIe expansion. Multiple mounting options available.

Features

- 256 CUDA cores with NVIDIA® Maxwell™/Pascal™ GPU Architecture
- USB 3.0, USB 2.0, CAN 2.0b, USB OTG, RS-232, I2C, GPIO, WiFi, Bluetooth
- Extremely small footprint 135mm x 50mm x 105mm
- Temperature Range, -20°C to +80°C
- Fanless System

Rosie Embedded System

Rosie is a small form factor, rugged embedded system based on the NVIDIA® Jetson™ TX2, TX2i or TX1. Housed in a rugged compact enclosure with optional mounting brackets, Rosie features revolutionary NVIDIA® Maxwell™ or Pascal™ GPU with 256 NVIDIA® CUDA® Cores delivering over 1 TeraFLOP of performance with a Quad-core ARM® Cortex®-A57 MPCore Processor.

Features

- 163.6mm x 108.0mm x 96.3mm (6.438" x 4.250" x 3.790")
- 1x HDMI, 2x GbE, 2x USB 2.0, IEEE 802.11 ac, 1x RS-232
- +9V to +36V Power Input
- Tested to MIL-STD 810g and DO-160G for shock and vibration
- Designed to IP68 ingress protection rating
- Temperature Range -20°C to +80°C
- Fanless System

GraphiteVPX/CPU-TX2/TX2i/TX1

Connect Tech's GraphiteVPX/CPU-TX2/TX2i/TX1 is a VITA 65 compliant 3U VPX single board computer that brings the NVIDIA® Jetson™ TX2, TX2i or TX1 embedded computing platform to the VPX form factor.

Features

- 256 CUDA cores with NVIDIA® Maxwell™/Pascal™ GPU Architecture
- Conduction cooled
- The onboard PCIe Gen 3.0 switch supports two x4 port dataplane connections
- Temperature Range -40°C to +70°C

Cogswell Vision System

An embedded system based on the NVIDIA® Jetson™ TX2, TX2i or TX1. Ideal for Machine Vision applications, allows up to 5 Gigabit Ethernet cameras to be connected, 4 of which can be powered by on board Power over Ethernet. This system also comes equipped with USB 3.0, USB 2.0, USB OTG, RS-232, miniPCIe and mSATA expansion, all housed in a black anodized aluminum enclosure.

Features

- Specifically designed for use with GigE Vision Cameras
- 5 x Gigabit Ethernet Channels, 4 x PoE, 2 x PoE+ PSE Gigabit Ports, 2x 3.3V UART, I2C, 4x GPIO
- Temperature Range, -20°C to +80°C

OrbittyBox

Connect Tech's OrbittyBox easily turns the Orbitty carrier into a complete packaged NVIDIA® Jetson™ TX2/TX1 system.

Features

- Specifically designed for use with Jetson™ TX2/TX1 and Orbitty Carrier
- 2 piece metal enclosure
- Optional SMA Antenna Connectors
- 95.29 mm x 58.29 mm x 63 mm (LxWxH)

Jetson™ TX2 or TX1 Array Server

The scalable array server features Out of Band Management (OOBM) via an ARM-based SMARC module to control and monitor each of the Jetson™ TX2 or TX1 modules. The OOBM has the ability to monitor their health/boot and remotely hard power on/off each module individually.

Features

- Configurable array integrates up to 24x NVIDIA Jetson™ TX2/TX1 Modules
- 2x 10G SFP+, 2x 1G SFP Uplink Capability
- Optional 2.5" SATA drives
- 1U ATX style redundant power supply
- Operating Temperature: 0°C to +60°C

Need Custom Design Services?

Carrier board or System design, we offer QUICK TURN custom services including Multi-Jetson designs for dual, quad or more NVIDIA® Jetson™ TX2/TX2i/TX1 modules. Talk to us today about your unique requirements.

For more information, or to discuss a custom solution, email us at **sales@connecttech.com**

Carrier Board Specification Chart

www.connecttech.com

Name	Astro Carrier	Elroy Carrier	Orbitty Carrier	Spacely Carrier	Cogswell Carrier	Sprocket Carrier
Part Number	ASG001 w/ XBG201	ASG002	ASG003	ASG006	ASG007	ASG008
Dimensions	87mm x 57mm (3.43" x 2.24")	87mm x 50mm (3.425" x 1.968")	87mm x 50mm (3.425" x 1.968")	125mm x 95mm (4.92" x 3.74")	178mm x 147.5mm (7.008" x 5.81")	87mm x 50mm (3.425" x 1.968")
Mini-PCIe	1x Half Size Slot or 1x Full Size Slot	2x Half Size Slot or 1x Full Size Slot	N/A	1x Full Size Slot	1x Full Size Slot	N/A
mSATA	1x Half Size Slot	1x Half Size Slot or 1x Full Size Slot	N/A	1x Full Size Slot	1x Full Size Slot	N/A
Video Outputs	1x HDMI	1x HDMI	1x HDMI	1x HDMI	1x HDMI	N/A
Video Inputs	1x MIPI CSI-2 (2-lane)	2x MIPI CSI-2 (2-lane)	N/A (USB & GbE Cameras Only)	6x MIPI CSI-2 (2-lane) OR 3x MIPI CSI-2 (4-lane)	N/A (USB & GbE Cameras Only)	1x MIPI CSI-2 (2-lane) OR 1x MIPI CSI-2 (4-lane)
Serial	2x RS-232/RS-485	2x RS-232/RS-485	2x 3.3V TTL	2x 3.3V TTL	2x RS-232/RS-485	2x 3.3V TTL
CAN	N/A	N/A	N/A	1 x CAN 2.0b Port	1 x CAN 2.0b Port	N/A
USB	1x USB 3.0 2x USB 2.0	1x USB 3.0 1x USB 2.0	1x USB 3.0 1x USB OTG	2x USB 3.0 2x USB 2.0 1x USB CLIENT	1x USB 3.0 1x USB 2.0 1x USB OTG	1x USB OTG
Ethernet	2x GbE	1x GbE	1x GbE	2x GbE	5 x GbE (4x PoE, 2x PoE+)	N/A
Audio	1x Output via Codec 1x Output via HDMI	1x Output via HDMI	1x Output via HDMI	1x Output via HDMI	1x Output via HDMI	N/A
SD Card	1x microSD Card Slot	1x microSD Card Slot	1x microSD Card Slot	1x microSD Card Slot	1x microSD Card Slot	N/A
Misc	1x I2C 4x GPIO	1x I2C 4x GPIO	1x I2C 4x GPIO	1x I2C 16x GPIO 1x SPI	1x I2C 4x GPIO	1x I2C 4x GPIO
Input Power	+9V to 36V DC	+9V to +14V DC	+9V to +14V DC	+12V to +22V DC	+12V DC	+12V to +16V DC
Operating Temperature	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)