

JCA Electronics – Eagle Feature Sheet (Preliminary)

The JCA Eagle is a rugged high-performance computing platform designed for autonomous off-highway solutions. It is based around the Nvidia Jetson Xavier SOM with integrated dual L1 and L2 RTK enabled GPS receivers with an IMU. This provides the computing power to run modern AI and perception algorithms from multiple sources, paired with sub inch absolute positioning and orientation.

The targeted applications include:

- Autonomous off-highway mobile machine perception and guidance platform
- High performance artificial intelligence platform for cutting-edge vision applications

A summary of the JCA Eagle capabilities are:

- Environmentally sealed (IP66), -25°C to +85°C
- Designed for 12V and 24V systems (5V to 36V operation)
- 512-core NVIDIA Volta @ 1377MHz with 64 TensorCores
- 8-core 64-bit ARMv8.2 @ 2265MHz
- 16GB of RAM
- 128GB of high-speed storage (with options of up to 1TB)
- 6 Axis IMU for orientation
- Two Gigabit Ethernet interfaces
- Four CAN Buses
- Four dedicated inputs, software configurable to measure voltage, resistance or frequency
- Up to 4 outputs grouped into pairs
 - Each pair can output up to 10 A as a pair (5 A/5 A), or 7 A individually (7 A/0 A)
- 5V sensor reference output
- Options:
 - Dual GPS RTK receivers with GPS L1 L2, GLONASS L1 L2, Galileo E1 E5, and BeiDou B1 and B2 support
 - Up to 8 Camera interfaces (LVDS Coax Camera, GMSL or FPD-Link III)
 - Wi-Fi/WLAN (IEEE 802.11 ac/a/b/g/n) and Bluetooth 4.2
 - 900 MHz radio
 - Cellular capability (LTE CAT 1 [USA/Canada] or HSPA+ [Global])

