

BushNET

5in1 Central Nervous System for GVA

FEATURES

2 × 10G Base-SR fibre uplinks

1 × 1000 Base-BX BiDi fibre ports (I-BTN)

23 × 1000/100 Base-T copper ports

Quad core Cortex-A76 ARM CPU (option)

IEEE 802.3 compliant

Fully Managed (Cisco) Layer-2/3+

Cisco IOS-XE switching

MIL-STD-810H, MIL-STD-461F

MIL-SPEC-1275 power

IPv4, IPv6 support

IGMP Snooping multicast

Out of Band Management port

MIL-D38999 series 3 connectors

−40°C to +85°C operating range

IP68 rated

Fan-less convection cooling

Hosted UK GVA v10 Services (option)

Built in Test (option)

CAN to GVA bridging (option)

Bring Your Own server software

BushNET is the AI-enabled central nervous system of the modern combat vehicle, connecting sensors, screens, radios, cameras, alarms, drones and robotic systems so they operate as one coordinated team. Designed and manufactured in Australia, it delivers a sovereign, enterprise-grade networking solution built to withstand the harshest military environments while enabling seamless GVA-everywhere integration across platforms.

At the heart of BushNET is a powerful 5-in-1 architecture that dramatically reduces SWaP-C by consolidating multiple standalone subsystems into a single compact unit. It combines an ARM-based server, an AI/ML neural accelerator, Cisco-managed enterprise switching, a secure IP router and an automotive gateway for dual-CAN bridging. This all-in-one approach simplifies integration, lowers cost, reduces cabling and power demands, and accelerates deployment across new and legacy vehicles.

BushNET's onboard AI mini-computer runs Generic Vehicle Architecture (GVA), ensuring every subsystem "speaks the same language" for faster, more reliable data exchange. From thermal cameras identifying threats to natural-language interfaces supporting

the crew, BushNET keeps information flowing securely and consistently. It can also host ROS2, SAPIENT Registry, TAK services and other mission applications, giving integrators the freedom to deploy new capabilities without adding new hardware.

Built on Cisco IOSXE, BushNET delivers trusted enterprise-grade security, switching and routing with familiar management tools. Its rugged, fanless design with MIL-DTL-38999 connectors ensures reliable operation from −40°C to +85°C, even under extreme shock and vibration. With support for GVA-compliant MediaX video streaming, embedded BIT diagnostics and open-standards alignment with LOSA and DEF-STAN 23-009, BushNET provides a future-ready backbone for vehicle digitisation.

Whether deployed in fighting vehicles, mobile command centres, base security systems or CsUAS hemispherical protection networks, BushNET brings the reliability of military-grade hardware together with the flexibility of centralised AI services. The result is a compact, sovereign and highly capable CNS that makes GVA more affordable, more scalable and easier to deploy across the modern battlefield.



MADE IN AUSTRALIA

GVA CENTRAL NERVOUS SYSTEM FOR LAND



FIND OUT MORE

Commercial Off The Shelf (COTS) and Modified Off The Shelf (MOTS) solutions.
Astute Systems is a global leader in rugged AI computing and software for autonomous military systems and deployment in harsh environments.

SPECIFICATIONS

SWITCH PORTS

- 2 × 10 Gigabit GVA standard fibre 10GBase-SR
- 1 × 1 Gigabit I-BTN fibre 1000Base-BX BiDi
- 23 × 1 Gigabit GVA standard copper 100Base-T / 1000Base-T
- RS-232 console
- USB console

ARM CPU (OPTION)

- Quad core A76 (ARMv8) SoC @ 2.4GHz, NXP eIQ® Neutron Neural Processing Unit
- 16Gb RAM / 64Gb eMMC
- GVA Registry / GVA Alarms (UK GVA v10)

PERFORMANCE

- IPv6 Indirect routes: 512
- IPv4 Indirect routes: 3000
- IGMP groups: 1000
- STP instances: 256
- VLAN IDs: 256
- MAC addresses: 16k

BUSHNET ESSENTIALS (BNE)

- Layer 2 Switching: IEEE 802.1/802.3, VLANs (including voice), EtherChannel, and spanning tree (PVST+, MSTP, RSTP)
- Multicast: IGMP snooping / filtering
- Management: Web UI, SNMP/MIB, DHCP, port mirroring, Flexible NetFlow, NETCONF, and RESTCONF
- Security: Port security, 802.1x, DHCP snooping, ARP inspection, IP source guard, storm control, secure management (SCP, SSH, SNMPv3, TACACS+, RADIUS), and optional certificate-based MACsec on 1G ports
- QoS: Ingress policing, rate limiting, queuing/shaping, and auto QoS
- IPv6: Host and management support (HTTP/SNMP over IPv6)

BUSHNET ESSENTIALS (BNE)

Redundancy/Timing: REP and IEEE 1588 PTP v2 (on 1G ports)

BUSHNET ADVANCED (BNA)

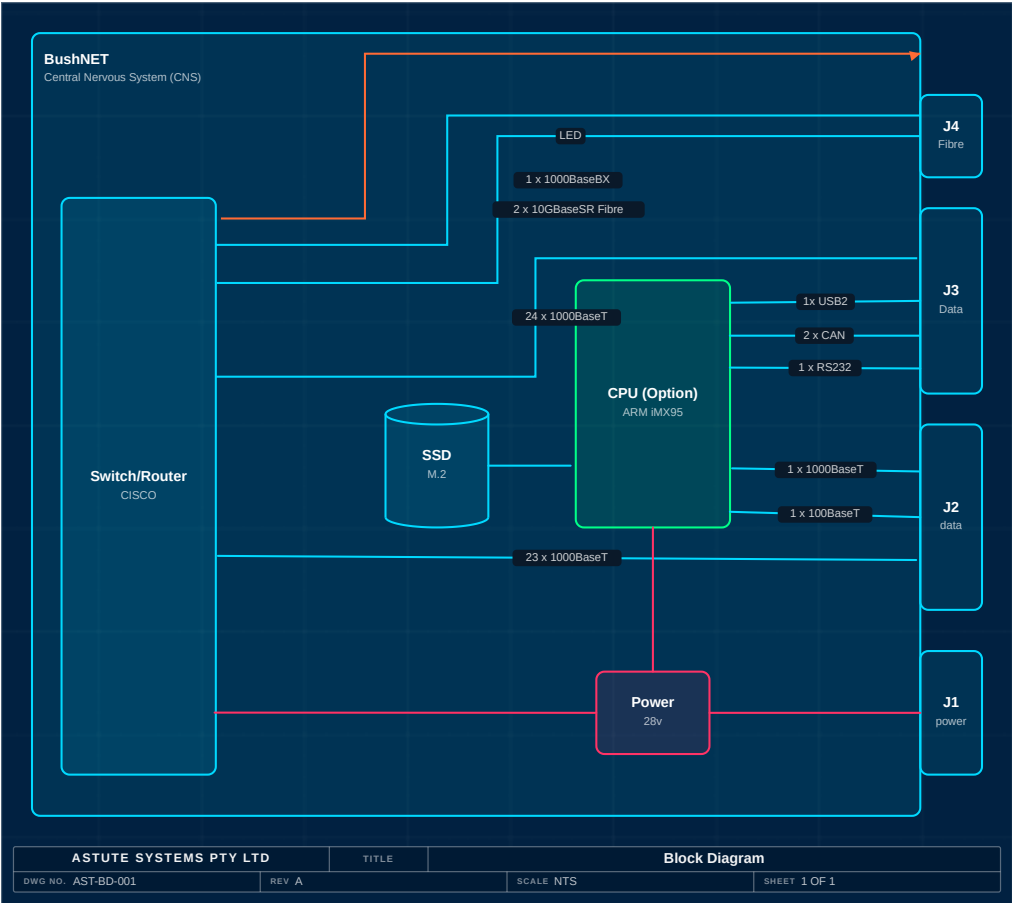
- IP Routing: OSPF (v2/v3), RIP (v1/v2), ISIS, EIGRP, and policy-based routing
- Virtualisation: VRF-lite
- Enhanced Security: MACsec-256 on 1G downlink ports
- Multicast Routing: PIM (Sparse, Dense, Sparse-Dense)
- High Availability: BFD echo mode, HSRP, and VRRP (IPv4 & IPv6)

DIMENSIONS

- Height: 148mm (5.8 inches)
- Width: 244mm (9.6 inches)
- Depth: 86mm (3.4 inches)
- Weight: 2.8 kg (6.2 lbs)

ENVIRONMENTAL

- Operational –40 to 85°C (–40 to 185°F)
- Storage –40 to 85°C (–40 to 185°F)
- MIL-STD-810H compliant
- MIL-SPEC-1275 compliant
- MIL-STD-461F compliant



** Preliminary Datasheet Specifications are subject to change

CONTACT YOUR LOCAL REPRESENTATIVE

FOR MORE INFORMATION ON HOW WE CAN ADAPT OUR SOLUTIONS TO MEET YOUR IO REQUIREMENTS

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