JetBox 9563G

Embedded 4-Port GbE & 5-Port Booster PoE VPN Routing Computer, w/ miniPCIe & SIM slot

Leading Product 2009 Taiwan

CE FC RoHS

- Intel IXP 435 667MHz networking processor
- VPN, DMVPN for enhanced secure networking
- Complete layer3 routing: OSPF, RIP, DVMRP, IPv6
- DC 12~24V Boost 48V 4-port PoE delivers full 15.4W per port
- 4-port Gigabit Ethernet for high-bandwidth data transmission
- Full managed features with QoS, VLAN, PoE scheduling
- Versatile interfaces of USB, DIO, SD control
- miniPCIe & SIM slot for mobile module (GSM/GPRS/3G/HSUPA)
- Embedded Linux UI—Modulized Webmin, capable of running customized control programs
- Cross-platform applications by JamVM
- Fan-less and ruggedized industrial design for anti-vibration, anti-shock
- -25~70°C operating temperature

4GbE	12~24V Booster PoE	DIO	USB	SD/CF Card
miniPCIe	SIM	JamVM	Linux SDK	L3 Router
VPN	IPv6

Programmable | 12~24V PoE

Overview

The JetBox 9563G is a specific surveillance system used in vehicles. It accepts 12~24V DC power input and boosts to 48V DC output for 802.3af standard PoE-enabled devices. Rugged industrial design to withstand 50g shock and 5g vibration is suitable to be installed in carriages. In addition to the PoE connectivities, the JetBox 9563G carries 4 Gigabit Ethernet ports to provide high-bandwidth network connections in Industrial environments.

Mobile network

(GSM/GPRS/3G/3.5G/HSUPA, optional)

The reserved mobile network card slot can extend the network communication via GSM/GPRS/3G/3.5G/HSUPA and enhance the mobility of the JetBox 9563G. It makes IP surveillance in public transportations, trucks or railways simple. General 12~24V industrial power input can enable 48V PoE IP cam and the captured IP cam images can be sent back to control center via wireless network.

GPS (optional)

GPS is another function which can be provided through the mobile network card for the geographic positioning service. It can deliver the vehicle position data through an unlimited networking and suitable to be used in fleet management.

The most powerful control system in moving vehicles

In addition to the vehicle-specific power input, and the mobile communication enhancement, the JetBox 9563G carries 3 USB, 8 DIO ports and has the capability of layer3 routing, Linux computing, and programs running in JamVM, therefore becoming the most powerful front-end control system used in moving vehicles.

JETBOX

Dimensions (Unit = mm)
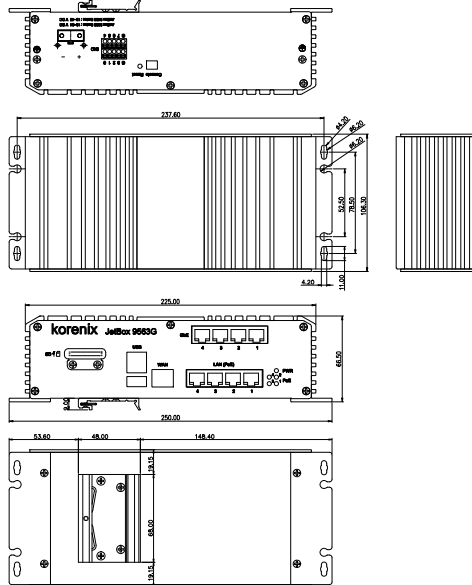
Hardware Specifications

System

Processor:
Intel Xscale IXP435 667MHz RISC-based
Fanless
System memory: 128MB DDR2 RAM
System flash: 32MB
Ethernet:
10/100/1000 Base-Tx RJ-45 connector x4
10/100 Base-Tx RJ-45 connector x5
PoE: 4 ports with PoE, IEEE802.3af compliant,
15.4W per port
Cables:
10 Base-T: 2-pair UTP/STP Cat. 3,4,5 cable (100m)
100 Base-Tx: 2-pair UTP/STP Cat. 5 cable (100m)
1000 Base-T: 4-pair UTP/STP Cat. 5 cable (100m)
10Base-T: 4-pair UTP/STP Cat 3,4,5, 100ohm (100m) for PoE
100Base-Tx: 4-pair UTP/STP Cat.5, 100ohm (100m) for PoE
Storage:
SD card slot x1
CF card slot x1
USB: USB 2.0 x3 (Host)
Supporting devices: USB flash, wireless dongle
Digital IO: 8 DIO (default 8 DI), DI or DO is defined by
customers
Console port: 3-pin header (RS232 interface)
Mobile slot:
miniPCIe x1
SIM x1
LED per unit:
PoE Powered/ none (Yellow on/ off) x4
Power on/ off (Green on/ off) x1

LED on Ethernet port:
Link/ Activity (Green on/ blinking)
Fdx/Col status (Yellow on/ blinking)
Gigabit copper: Link/Act (Green on/ Blinking)
Gigabit copper: Speed 1000M/ other (Yellow on/off)
Reset button x1
HW Watchdog timer:
Generates a time-out system reset, 1sec
Power Supply: DC 12~24V
Power consumption:
100W with PoE
25W without PoE
OS support: Embedded Linux 2.6.20

Mechanical
Construction: Rugged Aluminum Alloy Chassis, IP31 protection
Color: Silver
Mounting: Wall mount/DIN rail
Dimension: 66.5(H) x 250 (W) x 106.3 (D) mm
Net weight: 1.07kg

Environment
Operating Temp:
-13 ~ 158°F(-25 ~ 70°C), 5 to 95% RH
Storage Temp: -40 ~ 176°F(-40 ~ 80°C), 5 to 95% RH
Regulation: FCC class A, CE
EN55022 class A, EN55024, EN61000-3-2, 3
EN61000-4-2, 3, 4, 5, 6, 8, 11
Shock: IEC60068-2-27 (50g peak acceleration)
Vibration: IEC60068-2-6 (5g/ 10~150Hz/operating)
MTBF: Greater than 20,000 hrs@25°C
Warranty: 5 years
*Specifications may change without prior notice.

Feature Specifications

WAN Interface
Ethernet: 10/100 Base-Tx RJ-45 connector x1, auto MDI/MDI-X

LAN Interface
Gigabit Ethernet: 10/100/1000 Base-Tx RJ-45 x4
Ethernet: 10/100 Base-Tx RJ-45 connector x4 (with PoE), auto MDI/MDI-X
Routing per VLAN: Support port-based VLAN and IEEE802.1Q VLAN
Quality of Service: Four priority queues per port, 802.1p COS and IP Layer TOS/DiffServ

Ethernet Performance
Switch Technology: Store and forward technology with 32Gbps switch fabric
Transfer Rate: 14,880 pps for Ethernet port,148,800 pps for fast Ethernet port, and 1,488,100 pps for Gigabit Ethernet
Transfer Packet Size:
Up to 10K byte Jumbo frames for GbE port
64 bytes to 1522 bytes (with VLAN tag) for LAN port
MAC address: 1K MAC address table
Memory Buffer:
1 Mbits for GbE port
512 Kbits for LAN port

IP Routing Service
Static routing
Dynamic routing: RIP, RIP-II, OSPF, ISIS*, BGP*, DVMRP
PPP
PPPoE

IP Firewall/ Perimeter Security
IP address and port filtering
NAT/ DMZ
VPN: L2TP, PPTP, SLIP, VLAN, IPsec, OpenVPN, GRE*, NHRP*, DMVPN*

Management & Security
Security
HTTPS, SSH, SFTP
Web UI Webmin (optional)
Linux shell access via TELNET connection or console port
SNMP v1, v2c, v3: MIB and traps
MIB-II, Bridge MIB, Ethernet-like MIB, VLAN MIB
Proprietary SNMP MIB sample code
NTP for time management

Power over Ethernet
PD classification: detection, class ID 0~3 follow IEEE802.3af standard
PIN assignment (RJ45 connector): V+ (Pin 4,5), V- (Pin 7,8), Tx (Pin 1,2), Rx (Pin 3,6)
PoE control: Support user configuration for PoE enable, disable, or based on schedule
PoE schedule control: Each PoE port can be active and powered scheduling with different rules. It supports weekly schedule on hourly basis.
Power Limit Control: The control mode supports IEEE802.3af standard. The maximum DC power delivery on each PoE is 15.4W@DC 48 V input.

Technology
Standard:
IEEE802.3 10Base-T Ethernet
IEEE802.3u 100Base-Tx Fast Ethernet
IEEE802.3ab 1000Base-T
IEEE802.3af Power over Ethernet (PoE)
IEEE802.3x Flow Control and Back-pressure
IEEE802.1p Class of service
IEEE802.1Q VLAN
Processing: Store and Forward architecture
Packet filter: Broadcast packet filtering
*Specifications may change without prior notice

Linux Specifications

Embedded Linux
Bootloader: JetBox bootloader
Linux Kernel: 2.6.20
Shell: GNU ash
File system: jffs2, NFS, Ext2, Ext3, VFAT, FAT
Device drivers: USB, Watchdog timer, UART, Ethernet, DIO, PoE, SD/mSD card, CF card, HW IPsec VPN, HW Open VPN, JetCard1608/ 2105/ 2154G, VGA*, Mobile dongle*, GPS dongle*
Protocols: ARP, PPP, CHAP, IPv4, IPv6, PAP, ICMP, TCP, UDP, NFS, SNMP v1/v2c/v3, NTP, SSH1.0/2.0, SSL, OpenVPN, Ipsec, PPP, PPPoE, PPTP, FTP, HTTP, SMTP, DNS, L2TP, DVMRP, OSFP, RIP v1.0/2.0, BGP*, ISIS*, VRRP*, 802.11*, HSDPA*, GPRS* telnet, dhcp, VLAN
SW package: Busybox (telnetd, inetd, udhcp, syslogd), e2fsprogs, firmware, i2c-tools, microcom, mtd, netcat, pciutils, ser2net, setserial ssdutil, usbmount, usbutils, version, bridge-utils, ethtool, iptables, net-snmp, ntp, openssh, openssl, openvpn, openswan, pppd, rp-pppoe,

pptp-linux, proftpd, samba, goahead, mutt, bind, l2tp, mrouted, quagga, vrrpd, wireless-tools, wvdial
WebUI (optional) includes:
Webmin by Korenix: DIO, PoE, Device Server (TCP Server mode), DHCP, DMVPN, DVMRP, Firmware Upgrade, GPRS, Modbus Gateway*, Module Upgrade, OSPF, RIP, Switch Port, VLAN
Webmin basic
Webmin system
Webmin servers
Webmin others
JavaVM (optional)
Korenix Linux auto-run function
Customized configuration
Process monitoring

SDK
Linux tool chain: Gcc(C/C++ PC cross compiler), uClibc
Linux sample code

Note: Software supports differ from HW functions of each model

JET BOX

Ordering Information

Jetbox 9563G Embedded 4-Port GbE & 5-Port Booster PoE VPN Routing Computer, w/ miniPCIe & SIM slot

Includes:

- JetBox 9563G
- Console cable x1
- Attached 2-pin power terminal block
- Attached 5-pin DIO terminal block x2
- Attached blanket to cover SD card slot
- DIN rail kits
- Quick installation guide
- Documentation and software CD-ROM

Optional Accessories

- Additional applications on CF card: CF card capacity is 2G

  CF2G-L-J Webmin UI & JamVM for Linux