JetBox 9560

Embedded PoE VPN Router Computer: 1 WAN, 4 PoE, 12~24V Booster, Mobile module slot

RoHS

Booster PoE | Mobile Slot | VPN | IPv6

- DC 12~24V Boost 48V PoE, 4 port, 15.4W per port
- Intel IXP435 667MHz Networking Processor
- Complete layer3 routing support: OSPF, RIP, DVMRP, IPv6
- Full managed features with QoS, VLAN, PoE scheduling
- Versatile interfaces of USB, DIO, SD control, and optional modules for RFID, WLAN, and WiMax
- Mobile network card slot for GSM/GPRS/3G/3.5G/HSUPA
- Embedded Linux UI—Modulized Webmin, capable of running customized control programs
- Cross-platform applications
- Fan-less and ruggedized industrial design for anti-vibration, anti-shock, and -25~70°C operation temperature

Overview

12~24V booster for 48V PoE

The JetBox 9560 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 devices. Rugged industrial design to withstand 50g shock and 5g vibration is suitable to be installed in carriages.

Mobile network (optional)
(GSM/GPRS/3G/3.5G/HSUPA)

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 9560. It makes IP surveillance in public transportation, trucks or railway 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.

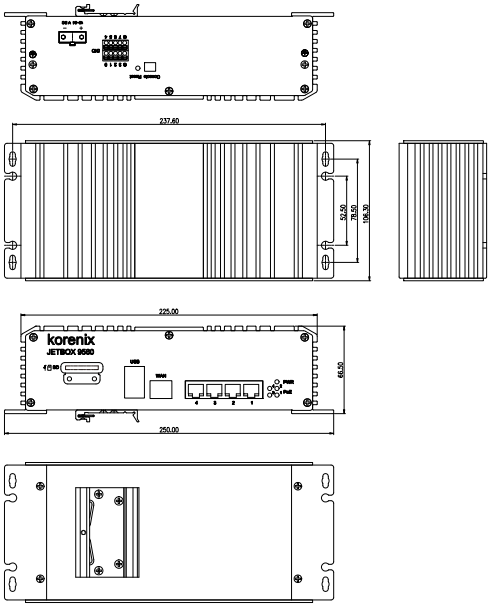
GPS (optional)

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 9560 carries 3 USB, 8 DIO and has the capability of layer3 routing, Linux computing, therefore the JetBox 9560 is the most powerful front-end control system used in moving vehicles.

Dimensions (Unit = mm)



Hardware Specifications

System

Processor:
Intel XscaleIXP435 667MHz RISC-based
Fanless
System memory: 128MB DDR2 RAM
System flash: 32MB
Ethernet: 10/100 Based-TxRJ-45 connector x5
Network cables for PoE:
10Base-T: 4-pair UTP/STP Cat.3,4,5, EIA/TIA-568 100ohm (100m)
100Base-Tx: 4-pair UTP/STP Cat.5 EIA/TIA-568 100ohm (100m)
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)
LED per port (on the port):
Link/Activity (Green on/Green blinking)
Full Duplex/Collision (Yellow on/ Yellow blinking)
LED per PoE port (LAN1~LAN4):
Powered/none x4(Yellow on/off)
LED per unit:
Power on/off x1 (Green on/off)
Reset buttonx1
HW Watchdog timer:
Generates a time-out system reset, 1sec
Power Supply: DC 12~24V
Power Consumption:
Single input 4.2A at 24V (Maximum, including PoE)
OS support: Embedded Linux 2.6.20

Mechanical

Construction: Rugged Aluminum Alloy Chassis, IP31 protection
Color: Silver
Mounting: Wall mount (DIN-rail optional)
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, UL*
EN55022 class A
EN55024
EN61000-3-2, 3
EN61000-4-2, 3, 4, 5, 6, 8, 11
IEC 60950
IEC61373* (Railway)
EN50155* (Railway)
EN50121-4* (Railway)
NEMA TS2* (traffic control)
Shock: IEC60068-2-27 (50g peak acceleration)
Vibration: IEC60068-2-6 (5g/ 10~150Hz/operating)
MTBF: 319,175 hours MIL-HDBK-217 GB (MILITARY HANDBOOK) standard*
Warranty: 5 years
*to be confirmed

Feature Specifications

WAN Interface
Ethernet: 10/100 Based-TxRJ-45 connector x1, auto MDI/MDI-X

LAN Interface
Ethernet: 10/100 Based-TxRJ-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
Transfer Rate: 14,880 ppsfor Ethernet port and 148,800 pps for fast Ethernet port
Transfer Packet Size: 64 bytes to 1522 bytes (with VLAN tag)
MAC address: 1K MAC address table
Memory Buffer: 512 Kbits

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
Basic Web UI Module (Webmin): PPP/PPPoEDial up, Configure file management, DHCP Server, Initial System Boot up, Firewall, Network Configuration, Scheduled Jobs, System Logs, System Time, User account manager Web minconfigure
Extensible for other proprietary Web UI modules: Routing, NAT, Switch, DIO, Serial, PoE
Extensible for other standard Web UI (webmin) modules
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
IEEE802.3af 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
*Optional

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: SD card, CF card, USB, Watchdog timer, UART, Ethernet, DIO
Protocol: ARP, PPP, CHAP, IPv4, IPv6, PAP, ICMP, TCP, UDP, NFS, RIP, RIP-II, OSPF, ISIS, BGP, DVMRP, L2TP, PPTP, SLIP, VLAN, IPsec, OpenVPN
Software packages: busybox (telnetd, inetd, udhcp), e2fsprongs, i2c-tools, ltp-testsuite, microcom, mtd, pciutils, usbmount,usbutils, bridge-utils, ethtool, iptables, net-snmp, ntp, openssh, openssl,openVPN, openSWAN, pppd, pptp-linux, proftpd, samba, smtpclient, bind, l2tp, mrouted, quagga, wireless-tools, jamvm, syslogd, udhcp, setserial, goaheadweb server
Korenix Linux auto-run function
Customized configuration
Process monitoring

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

Ordering Information

Jetbox 9560 Intel IXP435 667MHz, 12~24V DC, 128MB DDR2 RAM

Includes:

- JetBox 9560
- Console cable x1
- Attached 2-pin power terminal block
- Attached 5-pin DIO terminal block x 2
- Attached blanket to cover SD card slot
- 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 for Linux
- 802.11g wireless dongle
- 3.5G wireless card