

JetBox 9562 / 9562-w

4-Port Serial & 5-Port 12~24V Boost 48V PoE Routing Computer



Vehicle-specific 5-port 12~24V Boost 48V PoE Routing Computer with mobile network card extensibility

- DC 12~24V Boost 48V PoE, 4 port, 15.4W per port
- 4-port serial device server (DB37 connector), supporting TCP server/client and paired TCP modes
- Intel IXP430/435 667MHz Networking Processor
- Complete layer3 routing support: OSPF, RIP, DVMRP, IPv6
- Full managed features with QoS, VLAN, PoE scheduling
- Versatile interfaces of USB DIO SDIO control and optional modules Koren USB, DIO, control, 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 by JavaVM
- Fan-less and ruggedized industrial design for anti-vibration, anti-shock, and -25~70°C operation temperature (-40~80°C wide temperature)

Overview

12~24V booster for 48V PoE

The JetBox 9562 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.

Serial device server

There are still a lot of device communication go through serial ports. JetBox 9562 also provides perfect solution to manage serial devices via Ethernet in flexible ways, such as TCP server, TCP client, and paired TCP modes. JetBox 9562 creates a transparent gateway for the serial communication to Ethernet.

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 9562.

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.

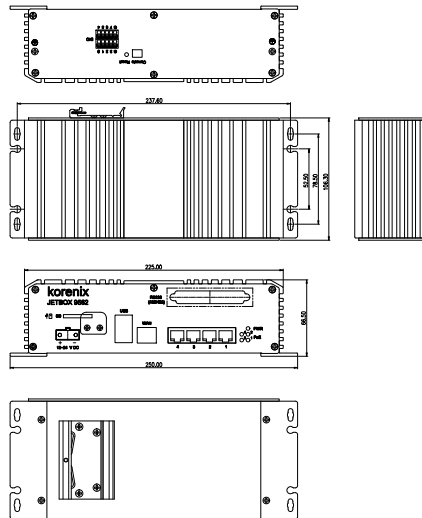
GPS (optional)

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 9562 carries 3 USB, 8 DIO and has the capability of layer3 routing, Linux computing, and programs running in JavaVM, therefore the JetBox 9562 is the most powerful front-end control system used in moving vehicles.

Dimensions (Unit = mm)



Industrial PoE Switch
IP67/68 Ethernet Switch
Rackmount Managed Switch
Gigabit Switch
Redundant Switch
Entry-Level Switch
Networking Computer
Communication Computer
Ethernet I/O Server
Serial Device Server
Media Converter
Multipoint Serial Card
SFP Module
Din Rail Power Supply

Hardware Specifications

System

Processor:

Intel Xscale IXP430 667MHz RISC-based
Intel Xscale IXP435 667MHz RISC-based (wide temp)
Fanless

System memory: 128MB DDR2 RAM

System flash: 32MB

Ethernet: 10/100 Based-TxRJ-45 connector x5
Built-in 15KV ESD protection of all signals

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

Serial port: RS232/422/485 x4 (DB39 connector) with long distance termination switches (internal), default RS232

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

-40 ~ 176°F (-40 ~ 80°C), 5 to 95% RH

(Wide temp version: JetBox 9562-w)

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

*Proceeding

Feature Specifications

Serial Interface

Serial service modes: TCP server, TCP client, Paired TCP

WAN Interface

Ethernet: 10/100 Based-Tx RJ-45 connector x1, auto

MDI/MDI-X

LAN Interface

Ethernet: 10/100 Based-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

Transfer Rate: 14,880 pps for 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

Back-plane: 1.2 Gbps

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/PPPoE Dial up, Configure file management, DHCP Server, Initial System Boot up, Firewall, Network Configuration, Scheduled Jobs, System Logs, System Time, User account manager Webmin configure

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, smtclient, bind, l2tp, mrouted, quagga, wireless-tools, jamvm, syslogd, udhcp, setserial, goahead web server

JavaVM

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 9562 Intel IXP430 667MHz, 12~24V DC, 128MB DDR2 RAM, 4 RS232/422/485

Jetbox 9562-w Intel IXP435 667MHz, 12~24V DC, 128MB DDR2 RAM, -40~80°C, 4 RS232/422/485

Includes:

- JetBox 9562/9562-w x1
- Console cable x1
- Attached 2-pin power terminal block
- Attached 10-pin DIO terminal block
- 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

- Add-on Webmin modules & JavaVM
- Advanced Linux configuration
- Modbus Gateway

802.11g wireless dongle

3.5G wireless card

Serial cable:

- **CM37M9x4-60** 4-port male DB37 to male DB9 connection cable, 60cm
- **CM37M25x4-60** 4-port male DB37 to male DB25 connection cable, 60cm

DIN-rail kits

Industrial
PoE Switch

IP67/68
Ethernet Switch

Rackmount
Managed
Switch

Gigabit Switch

Redundant
Switch

Entry-Level
Switch

**Networking
Computer**

Communication
Computer

Ethernet
I/O Server

Serial Device
Server

Media
Converter

Multiport
Serial Card

SFP Module

Din Rail
Power Supply