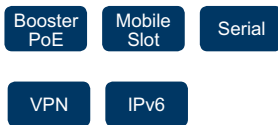


# JetBox 9562

## Embedded PoE VPN Router Computer: 1 WAN, 4 PoE, 4 Serial, Mobile module slot



- 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 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 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.

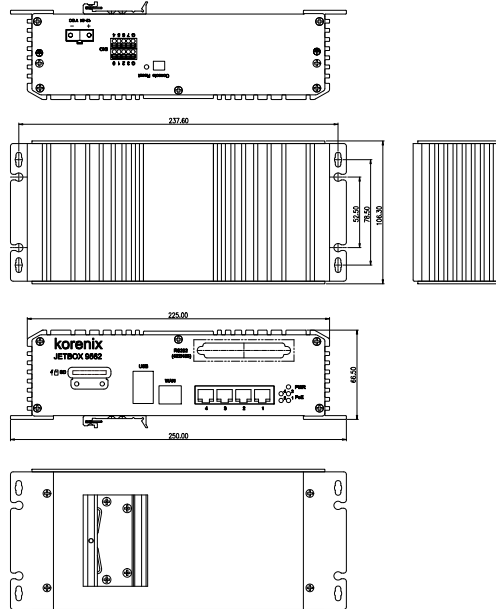
### GPS (optional)

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, 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

Multiport  
Serial Card

SFP Module

Din Rail  
Power Supply

## Hardware Specifications

### System

#### Processor:

Intel Xscale IXP435 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

**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 button**x1

**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

\*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

### 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, smtpclient, bind, l2tp, mrouted, quagga, wireless-tools, jamvm, syslogd, udhcp, setserial, goahead web 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 9562 Intel IXP435 667MHz, 12~24V DC, 128MB DDR2 RAM, 4 RS232/422/485**

Includes:

- JetBox 9562
- 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  
CF2G-LM-J Webmin UI & Modbus gateway for Linux
- 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

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