



# JetBox 9532

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



- Intel IXP435 667MHz with Networking Processor to enhance routing and VPN performance
- Complete Layer3 routing support: OSPF, RIP, DVMRP, IPv6
- Full managed features with QoS, VLAN
- 48V PoE, 4 port, 15.4W per port
- 4-port serial device server (DB37 connector), supporting TCP server/client and paired TCP modes
- Versatile interfaces of USB, DIO, CF/ SD card slot
- Linux ready platform with Linux UI Webmin (optional), programmable
- Cross-platform applications
- DC 12~48V power input (48V for PoE)
- Fan-less and Ruggedized Industrial Design for anti-vibration, anti-shock, and -25~70°C operation temperature



## Overview

The JetBox 9532 series is an Intelligent Linux Ready Embedded networking PoE VPN Router Computer designed with serial ports to deliver flexible connectivity and management of access and security control devices in industrial video surveillance systems, remote telemetry, etc. In addition to its rich interface of LAN, WAN, DIO and USB ports, the RISC-based computer is designed with PoE ports for delivering power along with data to PoE enabled devices. The multifunctional computer with complete Layer3 routing and VPN functionalities can operate as a networking gateway to expend networking capabilities and reduce system costs by effectively managing dynamic long-distance and secure overlay gigabit network groups. Combining rugged fan-less, anti vibration/shock design, the JetBox 9532 series ensures the reliability and high-performance of large network infrastructures in severe industrial environments.

### Embedded Linux Ready

Korenix is devoted to the Linux computing and benefits customers by providing the JetBox series

with embedded Linux ready system and easy-to-use interface. Compared to general purpose Linux system, embedded Linux is performance-optimized for front-end industrial control.

### Serial device server

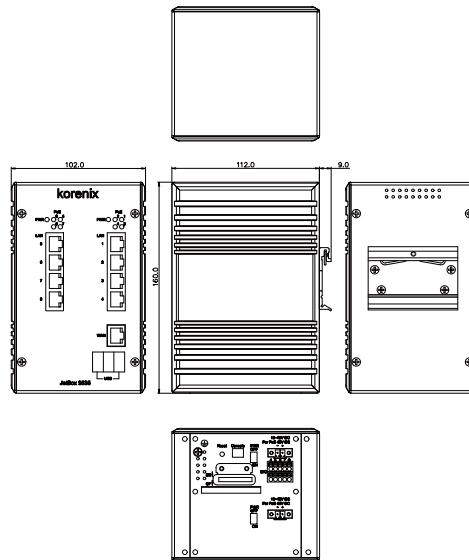
There are still a lot of device communication go through serial ports. JetBox 9532 also provides perfect solution to manage serial devices via Ethernet in flexible ways, such as TCP server, TCP client, and paired TCP modes. JetBox 9532 creates a transparent gateway for the serial communication to Ethernet.

### VPN (Virtual Private Network)

Since computer networks are no longer closed systems and may consist of intranets, extranets, and Internet sites. The key remote access requirement of an enterprise organization can be provided using VPN to mitigate the risks of malicious intrusion and establish a mechanism of users' identity. DMVPN (Dynamic Multipoint Virtual Private Network) is an enhancement of VPN and an effective solution for dynamic secure overlay networks.

## Industrial Communication Computer

### 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 Based-Tx RJ-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 (DB37 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~LAN8):

Powered/none x4(Yellow on/off)

##### LED per unit:

Power on/off x1 (Green on/off)

**Power on/off switch x1**

**Reset button x1**

##### HW Watchdog timer:

Generates a time-out system reset, 1sec

##### Power Supply:

DC input 48V (for PoE)

DC 12~48V

##### Power Consumption:

Single input 1.6A at 48V (Maximum, including PoE)

**OS support:** Embedded Linux 2.6.20

#### Mechanical

##### Construction:

Rugged Aluminum Alloy Chassis, IP31 protection

**Color:** Silver

**Mounting:** DIN rail

**Dimension:** 160(H) x 112 (W) x 76 (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

**Shock:** IEC60068-2-27 (50g peak acceleration)

##### Vibration:

IEC60068-2-6 (5g/10~150Hz/operating)

**MTBF:** greater than 200,000 hours @ 25°C

**Warranty:** 5 years

\*Proceeding

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

## 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, 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,

setserial, 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, 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 9532 Intel Xscale IXP435 667MHz, 48V DC, 128MB DDR2 RAM, 4 Serial**

Includes:

- JetBox 9532
- Console cable x1
- Attached 2-pin power terminal block
- Attached 5-pin DIO terminal block x2
- 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
- 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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