

# JetBox 9532

## Embedded 4-Port Serial & 4-Port PoE VPN Routing Computer



- 4 RS 232/422/485
- 4 PoE
- DIO
- USB
- SD/CF Card
- Modbus
- JamVM
- Linux SDK
- L3 Router
- VPN
- IPv6

- Intel IXP 435 667MHz networking processor
- VPN, DMVPN for enhanced secure networking
- Complete layer3 routing: OSPF, RIP, DVMRP, IPv6
- 4-port PoE delivers full 15.4W per port
- DC 12~48V power input (48V for PoE)
- 4-port RS232/422/485 (DB37 connector), supporting TCP server/client and paired TCP modes
- Full managed features with QoS, VLAN, PoE scheduling
- Versatile interfaces of USB, DIO, SD control
- NTP for network time management
- Embedded Linux UI—Modulized Webmin, capable of running customized control programs
- Linux Auto-run SD card for customized configuration
- Cross-platform applications by JamVM
- Fan-less and ruggedized industrial design for anti-vibration, anti-shock
- -25~70°C operating temperature



- Industrial Intelligent NMS
- Rackmount PoE Plus Switch
- Industrial PoE Plus Switch
- Industrial 12-24V PoE Switch
- Industrial PoE Switch
- Rackmount L3/L2 Switch
- Gigabit Managed Switch
- Managed Ethernet Switch
- Entry-level Switch
- Wireless Outdoor AP
- Embedded PoE/Router Computer (LINUX)**
- Industrial Communication Computer (WIN/LINUX)
- Ethernet/PoE/Serial Board
- Ethernet I/O Server
- Media Converter
- Serial Device Server
- SFP Module
- Din Rail Power Supply

### 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-touse

interface. Compared to general purpose Linux system, embedded Linux is performance-optimized for front-end industrial control.

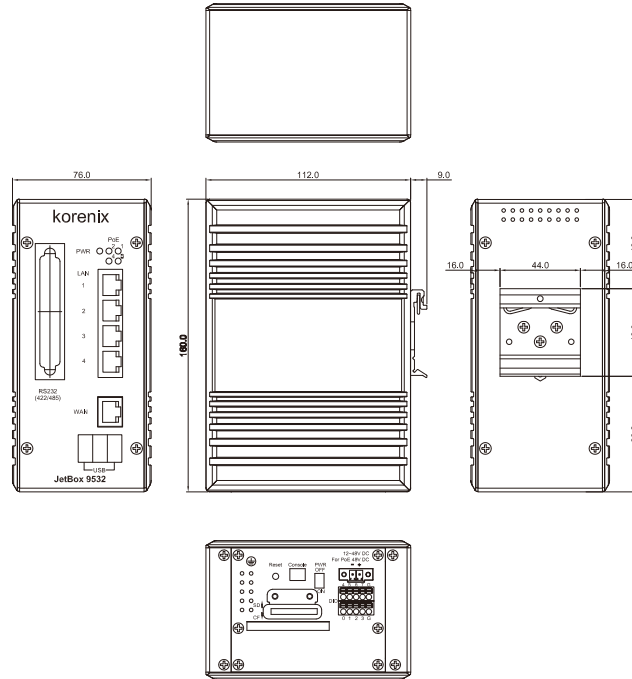
#### Serial device server

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)

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.

## 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

**PoE:** 4 ports with PoE, IEEE802.3af compliant, 15.4W per port

#### Network cables for PoE:

10Base-T: 4-pair UTP/STP Cat.3,4,5 100ohm (100m)

100Base-Tx: 4-pair UTP/STP Cat.5 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 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)

**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:

90W with PoE

25W without 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

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 200,000 hours @ 25°C

**Warranty:** 5 years

\*Specifications may change without prior notice

**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

Web UI Webmin (optional)

Linux shell access via TELNET connection or console port

SNMP v1, v2c, v3: MIB-II and traps

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

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**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, OSPF, 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, mrouded, 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



## Ordering Information

### JetBox 9532 Embedded 4-Port Serial & 4-Port PoE VPN Routing Computer

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
- Attached name plate to cover CF 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 & JamVM for Linux
  - CF2G-LM-J Webmin UI, Modbus gateway & JamVM 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