

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

Serial device server

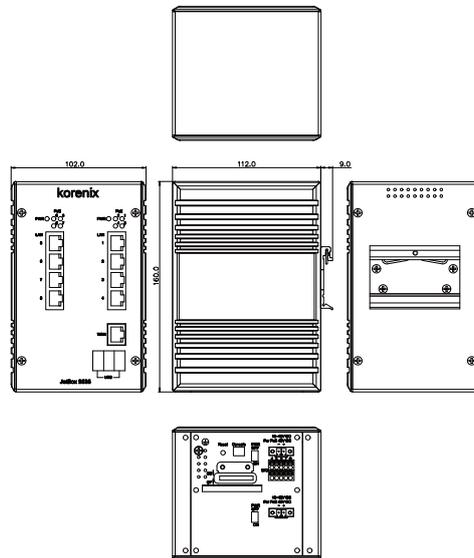
There are still a lot of device communication go through serial ports. JetBox 9532 also provides perfect solution to manage serial devices via Ethernet in flexible ways, such as TCP server, TCP client, and paired TCP modes. JetBox 9532 creates a transparent gateway for the serial communication to Ethernet.

VPN (Virtual Private Network)

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)



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-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

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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