

## JetNet 7850G-2XG / 6852G

### Industrial 48G+2 x 10G SFP+/48G+4G SFP Ports Gigabit Layer 3 Managed Ethernet Switch



CE FC RoHS



- 48-port 10/100/1000 BaseT with 2 x 1/10 GbE dual speed SFP+ ports (JetNet 7850G-2XG)
- 48-port 10/100/1000 BaseT with 4 x 100/1000 SFP ports (JetNet 6852G)
- Supports IP, VLAN & Multicast routing
- IP Routing protocol supports RIP v1 / v2, OSPF v1/v2
- Supports L3 Multicast, PIM-DM and PIM-SM, DVMRP, IGMP v1/v2/v3
- Virtual Redundant Router Protocol (VRRP) for gateway redundancy
- Supports LLDP and korenix NMS for network auto-topology visualization and efficient group management
- 802.1s Multiple Spanning Tree Protocol and 802.1w RSTP for network redundancy and MSR member mode
- Supports 4k VLANs, GVRP/GMRP, protocol VLAN
- 802.3ad LACP, up to 64 trunk groups, unicast and multicast load balance
- Supports L2 / L3 / L4 ACL (access control list)
- IEEE 802.1x Port-Based Authentication, RADIUS and TACACS client, SSH, SSL, TLS, Port binding
- -10~55°C wide operating temperature

Industrial Intelligent NMS
Rackmount PoE Plus Switch
Industrial PoE Plus Switch
Industrial 12-24V PoE Switch
Industrial PoE Switch
<b>Rackmount L3/L2 Switch</b>
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 JetNet 7850G-2XG is a 19-inch Gigabit Layer 3 Managed Switch, equipped with 48 10/100/1000 Base-TX ports including 2 x 1/10 GbE dual speed SFP+ ports delivering maximum throughput and flexibility for high-density and ultra high-speed connection. In addition to the 100-240VAC power-based JetNet 7850G-2XG model, Korenix provides the JetNet 7850G-2XG series, which support 48V power inputs and feature a design with -10~55°C wide operating temperature for severe industrial applications.

#### Triple Layer 3 Routing (IP, VLAN and Multicast routing)

The JetNet 7850G-2XG IP routing layer contains the IP forwarding layer, Address Resolution Protocol (ARP) mapping layer and Routing Tables. With IP forwarding table, the JetNet 7850G-2XG provides wire speed IP and VLAN inter-routing. A single JetNet 7850G-2XG allows users to configure multiple IP subnets and assign them to the physical interface. The routing table can be updated

according to the routing information defined by configured static route or learnt by dynamic Routing Protocols.

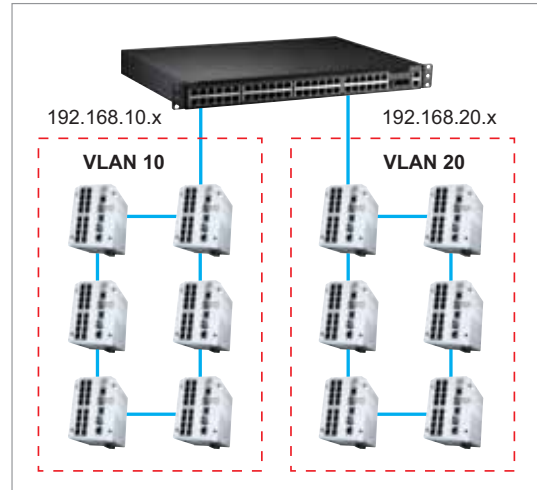
The dynamic Routing Protocols supported by JetNet 7850G-2XG are RIPv1, v2, OSPFv1 and V2. Aiming to route multicast streams such as movies, videos, industrial automation streams through different subnets, in addition to IP and VLAN routing, the dynamic multicast routing protocols, such as PIM-DM and PIM-SM, DVMRP, IGMP v1/v2/v3, are needed. Korenix JetNet 7850G-2XG outstands from other layer 3 switches by its multicast routing feature. With IGMP snooping and IGMP router port selection protocols, the JetNet 7850G-2XG acts as an access level switch or aggregated switch, so that the clients can be divided into different subnets for wire speed routing and for exchanging routing information with other L3 routers/switches.

## What is Layer 3 Switch

Layer 3 means the 3rd level of the OSI 7 layers. It is known as IP layer. Layer 3 switch is also known as Multi-Layer switch which includes the wire-speed layer 2 MAC switching and layer 3 IP routing capabilities.

Some scenes can be planned for the layer 3 switch/router in the network topology.

1. The hosts located in different Broadcast domains cannot communicate by themselves.
2. VLAN-enabled switches cannot forward traffic across VLAN boundaries by themselves.
3. Each IP Subnet is single broadcast domain.
4. The unknown target destination address can be directed to default gateway.
5. Users in different IP Subnet/VLAN cannot access the same Public Server.
5. HTTP, FTP, Video, Movie... cannot be directed to target users through remote service provider.



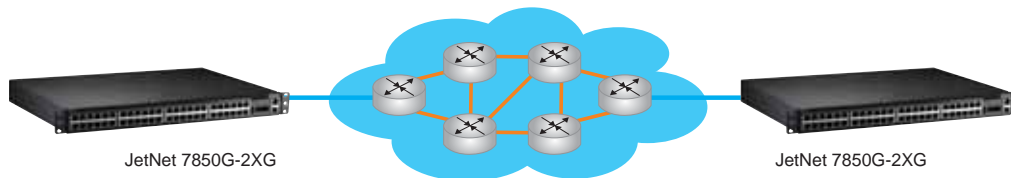
## Routing Protocol

Routing is the process of moving packets through an internetwork, such as the Internet. To Route traffic, a router or layer 3 switch needs to know the destination IP address, the sources IP it can learn from, the possible routes. Besides, it should find the best route, maintain and verify routing information.

If the next hop address is known or assigned by IT manager or service provider, the static route can direct the correct routing request to the connected interface. If not, the dynamic routing protocol is needed.

The dynamic routing protocol includes unicast routing and multicast routing protocols. The unicast routing protocol includes hop based or distance vector based protocols. RIP is the typical hop based protocol, where the less hops path is always the best route. OSPF is a typical distance vector based protocol, where the lowest cost is the best route path.

To route multicast services, like movies, videos, industrial automation streams, the multicast routing and related protocols are needed. The DVMRP, PIM-DM, PIM-SM are supported by JetNet 7850G-2XG series.



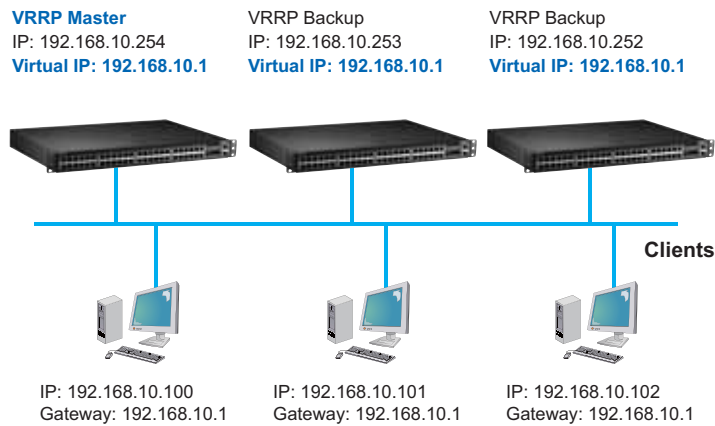
- Static Route
- Dynamic IP Unicast Routing
- Dynamic IP Multicast Routing

## VRRP (Virtual Router Redundancy Protocol)

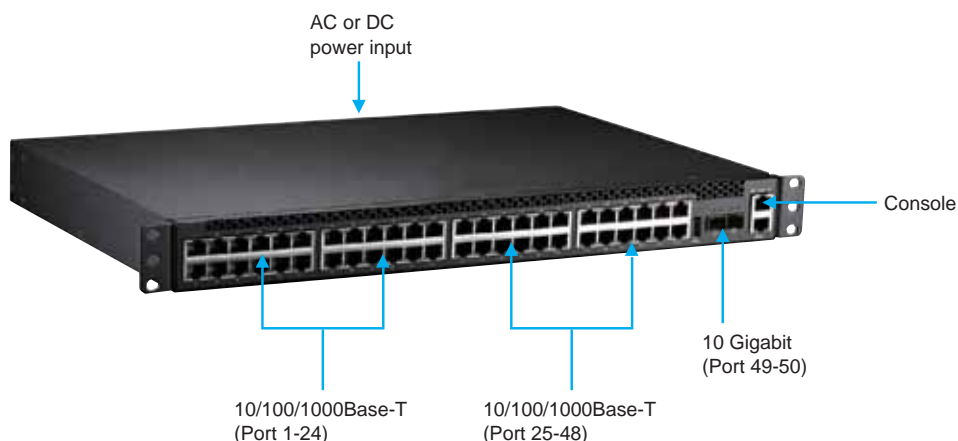
When the source host and the destination host are not on the same segment/subnet, the source host sends the data to the default gateway first. The hosts must have their own IP, subnet mask and default gateway. The VRRP (Virtual Router Redundancy Protocol) is also known as default gateway redundancy. With VRRP, the hosts can continuously direct traffic to the default gateway without changing default gateway

configuration.

Once the VRRP master failure happens, the backup VRRP router activates immediately. The TCP connection will not be terminated within short failover time, the hosts will not aware the default gateway failure. The VRRP is a standard protocol and ensures the high reliability of the environment.



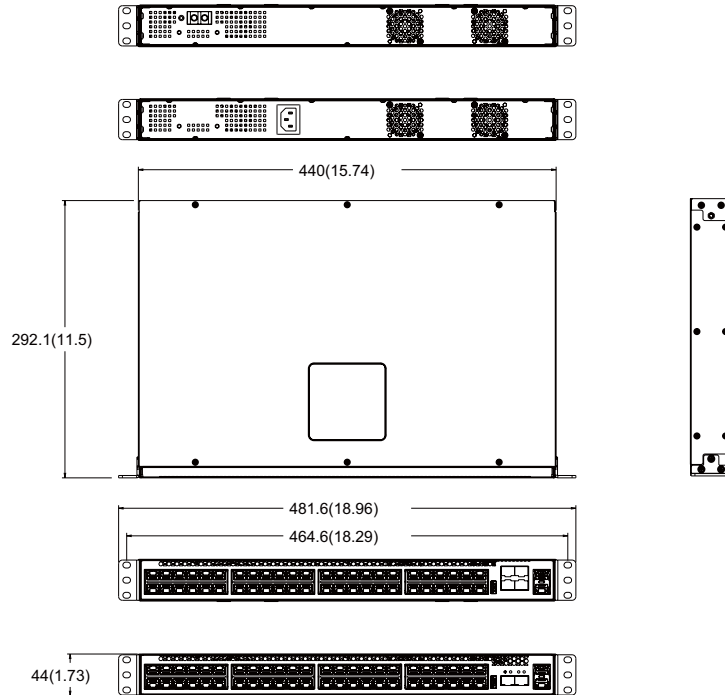
## JetNet 7850G-2XG Appearance



- 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
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- Media Converter
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- SFP Module
- Din Rail Power Supply



## Dimensions, unit: mm(inch)



## Specification

### Technology

#### IEEE Standard:

IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX and 100Base-FX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-SX, IEEE 802.3x Flow Control and Back-pressure, IEEE 802.1p class of service, IEEE 802.1Q VLAN, IEEE 802.1D-2004 RSTP, IEEE 802.1s MSTP, IEEE802.3ad LACP, IEEE802.1X Port based Network Access Control, IEEE802.1v Protocol-based VLAN

#### RFC Documents:

RFC791 IP, RFC768 UDP, RFC 793 TCP, RFC 783 TFTP, RFC 854-859 TELNET, RFC 1157 SNMP, RFC 1213 MIB-II, RFC 1215 Traps, RFC 1493 Bridge MIB, RFC 1757 RMON, RFC 1866 HTML, RFC 2068 HTTP, RFC1112 IGMP V1, RFC2236 IGMP V2, RFC1058 RIPv1, RFC1723/2453 RIPv2, RFC1583 OSPF, RFC2328 OSPFv2

### Performance

#### Switch Technology:

Store and Forward Technology, 136Gbps Switch Fabric.

**Transfer packet size:** Typical: 64 bytes to 1536 bytes,

**Jumbo Frame:** Up to 9,216bytes.

**MAC Address:** 16K

**IP Routing:** IPv4 routing at wire speed

### Management & Security

**Configuration:** Cisco-Like CLI, Telnet, Web, SNMP, IPv6, sFlow, SSL, SSH, TLS, Backup/Restore, Admin password, Port Speed/Duplex control, status, statistic, MAC address table display, Static MAC, Aging time, BOOTP/DHCP Client, Warm reboot, Reset to default, Ping, traceRoute, SysLog, korenix NMS Protocol

**Jumbo Frame Enable/Disable:** up to 9,216KBytes

**LLDP:** Link Layer Discovery Protocol to advertise system/ port identity and capability on the local network

**SNMP:** SNMP v1, v2c, v3 and Traps

**SNMP MIB:** MIB-II, Bridge MIB, VLAN MIB, SNMP MIB, RMON, Radius, RIP, OSPF, VRRP, Diffserv, PIM, DVMRP, and Private MIB

**SNTP:** Simple Network Time Protocol to synchronize time

**Port Mirroring:** Online traffic monitoring

**Port Trunk:** Static Trunk and 802.3ad LACP, Up to 64 Trunk Groups, 8 ports per trunk

**Storm Control:** Broadcast, Unicast and Multicast storm control for each port

**VLAN:** IEEE802.1Q, GVRP/GMRP. Up to 4K VLANs

**Protocol VLAN:** 802.1v Protocol based VLAN

**Quality of Service:** 8 priority queues per port, IEEE802.1p COS and IP TOS/Precedence/DSCP

**IGMP Snooping:** IGMP Snooping V1/V2 for multicast Filtering, 256 dynamic groups, 16 router ports  
**GMRP:** GARP Multicast Registration Protocol  
**Port Security:** Assign authorized MAC to specific port  
**IP Security:** IP security to prevent unauthorized access  
**802.1x:** Port based Network Access Control  
**RADIUS:** Remote Authentication Dial In User Service  
**Access Control List:** Permit/Deny layer 2/3/4 access control lists

**DHCP Relay Agent:** Relay the DHCP request and Reply when they are not on the same physical subnet

### Network Redundancy

**Rapid Spanning Tree Protocol:** 802.1w RSTP, compatible with Legacy STP

**Multiple Spanning Tree Protocol:** IEEE802.11s MSTP, each MSTP instance can include one or more VLANs

**Multiple Super Ring Member mode:** Ring member of MSR single ring

### Layer 3 Routing Support

**IP Routing:** 64 L3 routes, 512 host route

**IP Multi-Netting:** More than one IP on a network interface

**Virtual LAN Routing:** Incorporates both 802.1Q bridging and Routing function

**Routing Information Protocol:** Hop-based IP routing protocol, supports RIPv1 and RIPv2

**Open Shortest Protocol First:** Link state based IP routing protocol, supports OSPFv1 and OSPFv2

**IGMP:** The multicast group membership discovery protocol, support IGMP v1,v2 and v3.

**PIM-DM:** Multicast routing protocol, short of Protocol Independent Multicast -Dense Mode

**PIM-SM:** Multicast routing protocol, short of Protocol Independent Multicast – Sparse Mode

**DVMRP:** Hop-based multicast routing protocol, short of Distance Vector Multicast Routing Protocol

**ICMP Router Discovery:** Help find the better route

**VRRP:** Short of the Virtual Router Redundancy Protocol. Automatically backup routing route to specific router

### Interface

#### Number of Fixed Gigabit Ports:

10/100/1000Base-TX: 48 x RJ-45  
 1000Base-X: 4 x SFP (JetNet 6852G)  
 10G SFP: 2 x 1/10 GbE dual speed SFP+ (JetNet 7850G-2XG)  
 USB: FW upgrade \* coming soon

#### Cables:

100 Base-TX: 2/4-pair UTP/STP Cat. 5 cable (100m)  
 1000 Base-T: 4-pair UTP/STP Cat. 5 cable (100m)

**Diagnostic LED** for Ethernet, SFP Ports

**RS232 Console:** DB-9 Connector

**Power:** AC or DC inputs

### Power Requirements

#### Power:

JetNet 7850G-2XG: 100-240VAC, 2.5 A, 50/60Hz AC power input  
 JetNet 7850G-2XG-DC48: -48V(-36 ~ -72V) DC input

**Power Consumption:** Max. 71 Watts

### Mechanical

**Installation:** 19-inch, 1U Rack Mount

**Dimension:** 44mm(H) x 440mm (W) x 292.1mm (D)

**Weight:** 4.5 kg with package

### Environmental

**Operating Temperature:** -10 ~55°C

**Operating Humidity:** 10% ~ 95% (non-condensing)

**Storage Temperature:** -40 ~ 85°C

### Regulatory Approvals

**EMI:** FCC Class A, EN55022, EN61000-3-2, EN61000-3-3

**EMS:** EN55024 (IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11)

**Shock:** IEC60068-2-27

**Vibration:** IEC60068-2-6, IEC60068-2-36

**Free Fall:** IEC60068-2-32

**Warranty:** 3 years

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NMS

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PoE Plus  
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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

## Ordering Information

### JetNet 7850G-2XG 48-Port Gigabit + 2 x 10G SFP+ Layer 3 Managed Ethernet Switch, 100-240VAC power input x1

Includes:

- JetNet 7850G-2XG (without SFP transceivers)
- Rack Mount Kit
- Console cable
- AC Power Cord

### JetNet 7850G-2XG-DC48 48-Port Gigabit + 2 x 10G SFP+ Layer 3 Managed Ethernet Switch, 48VDC Power input, no AC

Includes:

- JetNet 7850G-2XG-DC48 (without SFP transceivers)
- Rack Mount Kit
- Console cable



**JetNet 6852G 48-Port Gigabit + 4G SFP Layer 3 Managed Ethernet Switch, 100-240VDC Power input x1**

Includes:

- JetNet 6852G (without SFP transceivers)
- Rack Mount Kit
- Console Cable
- AC Power Cord

**JetNet 6852G-DC48 48-Port Gigabit + 4G SFP Layer 3 Managed Ethernet Switch, 48VDC Power input, no AC**

Includes:

- JetNet 6852G-DC48 (without SFP transceivers)
- Rack Mount Kit
- Console Cable

## Optional Accessories

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**SFP10GLR10D: 10GBase-LR/LW DDM single-mode SFP+ transceiver, 10km, -10~70°C**

**SFP10GSRD: 10GBase-SR/SW DDM multi-mode SFP+ transceiver, 300m(OM3), -10~70°C**

**SFPGSX:1000Base-SX multi-mode SFP transceiver,550m, -10~70°C**

**SFPGSX2:1000Base-SX plus multi-mode SFP transceiver,2Km, -10~70°C**

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**SFPGSX2:1000Base-SX plus multi-mode SFP transceiver,2Km, -10~70°C**