

PRIMA™ IP4 K5

4 x IP KVM Switch
32 x 4 Matrix
Cat5/Cat6 Cabling



Ordering Information

PRIMA IP4-32K5D: 32x4 Matrix Cat5 IP KVM Switch, with 2x IP/SSL Links

PRIMA IP4-32K5Q: 32x4 Matrix Cat5 IP KVM Switch, with 4x IP/SSL Links

CM-VPU: Computer Module Supporting the VGA and the PS/2 and USB Keyboard / Mouse Connections

RC-VPU: Console Extender over Cat5/ Cat6 Cable for Second User Console.



CM-VPU Computer Module



MultiViewer

PRIMA IP4 K5 is a high level IP KVM switch intended for datacenter management. It allows four simultaneous and independent users to access and manage 32 servers connected by Cat5/6 cables. When daisy chained with PRIMA4-K5EXT extension switches, it can give access to 256 servers at very competitive cost per port. Authorized remote users can login over the network and control the connected computers from BIOS to GUI level.

Video Quality and Bandwidth: The PRIMA IP4 KVM switches can support IP-video resolutions as high as 1600x1200 or 1680x1050 with automatic adjustment. By using high compression and by reducing the number of colors, they can work with bandwidths as low as 50 Kbps.

Compatibility: The perfect USB/PS2 keyboard/mouse emulations provide good compatibility with all machines and operating systems. For each computer the mouse can be setup to run either in relative (classic mode) or in absolute mode. The absolute mode (default) allows for accurate synchronization between local and remote mice without any mouse settings on the server.

Daisy Chain: PRIMA IP4 can be the master of a daisy chain comprising up to seven PRIMA4-K5EXT switches, which increase the possible number of computers under local and remote control to 256. Remotely, any server in the daisy chain can be selected by a simple mouse click. PRIMA IP4 K5 manages automatically the firmware of all KVM switches in the daisy chain, upgrading them to the last version when necessary. It also collects the log messages that can be consulted remotely. On the contrary of traditional cascade systems, the PRIMA daisy-chain maintains the same video quality whatever how many switches are interconnected.

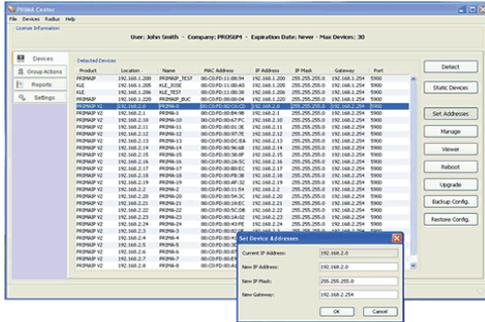
Computer Modules: They connect the computers to the Cat5/Cat6 UTP cables. They are powered by the computers and they work regardless of the fact that the KVM switch is alive or not. This solution permits to maintain the mouse and keyboard emulation even if the cable is unplugged, or if the KVM switch is powered off (keep-alive). The skew and attenuation of the cables can be compensated by PRIMA IP4 K5. The brightness, contrast, and deskewing settings, whose values are recorded in Flash memory, are to be made only once according to the characteristics of cables.

MultiViewers: To control the attached servers over the network, you must run on your PC either the Win32 or the JAVA™ viewer software. If no viewer has been yet installed on your computer, all you need is login to the PRIMA IP4 management with any browser and download the viewer program. You can also simply run the viewer from inside the Web management without any previous installation, providing your browser supports JAVA™. The viewers are able to show the 4 computers in real time. You can toggle between single-view and multi-view by simple mouse click. The Win32 viewer is compatible with all Windows OS. The Java™ viewer can work on all platforms supporting the SUN Java™ JRE, including Windows.

PRIMA™ IP4 K5

PRIMA Center:

Like all PRIMA IP KVM switches, PRIMA IP4 K5 can be managed with PRIMA Center. PRIMA Center is a centralized management software running on JAVA™ that can detect and manage all KLE and PRIMA IP KVM switches located on your LAN and over the Internet. PRIMA Center is a cost effective solution to manage medium to large numbers of IP KVMs. It does not require any specific hardware. It can gather and store on disk all alarms and logs coming from your switches. With PRIMA center you can update all your KVMs in a single operation and run the management or the viewer in a single mouse click



PRIMA Center

Network Connections: PRIMA IP4 K5 features two Ethernet ports for redundant connections over two LANs. It accesses the Internet via the gateway of your local area network. It supports the DDNS protocol which makes it reachable even if you don't own a fixed IP address.

PPP out of band connection: The PPP connection through the high-speed RS232 port can be set up as server or client. If the PPP port is set up as server, it can accept direct connections over phone lines, providing a backup system to access your servers while the network is down. If set up as client, it permits a redundant connection to the Internet with a modem. The serial port can work at 1Mbps allowing the use of fast wireless serial modems.

Power Control:

PRIMA IP4 K5 can drive most of PDUs (Power Distribution Unit) that can be controlled by a RS232 connection. The PDU login and control messages are configurable. Using a power supply unit makes it possible to remotely power off and power on the servers individually. The natural PDU companion of PRIMA IP4 K5 is ioPower.



ioPower

Monitoring and Alarms: PRIMA IP4 K5 can survey the servers automatically and detect several symptoms revealing a mal functioning machine. When a faulty server has been identified, and depending on the detected default, PRIMA IP4 K5 can generate an alarm email describing the problem to several destinations. It can also send an SNMP trap to an SNMP manager.

RC-VPU Local Consoles:

You can directly connect a set of keyboard, mouse, and monitor to PRIMA IP4 K5. You can also use a twisted pair cable and the console accessory (RC-VPU) to connect a second set of devices up to 200m. The local and extended consoles share their access with remote IP users #3 and #4, but the mouse is faster because there is no transmission delay. At consoles, in addition to keyboard hotkeys, PRIMA IP4 K5 provides OSD menus for intuitive commands and for some basic settings such as IP address. The OSD menus show the computer names that have been setup by using the web management interface.



RC-VPU

Security: PRIMA IP4 provides a high level of security based on full 1024-bit PKI authentication and 256-bit SSL data encryption. You can choose from among three security levels in combination with three types of password policies and three categories of user privileges. When the full PKI is in service, you must provide a set of certificates permitting a bidirectional authentication of the remote user by PRIMA IP4 and PRIMA IP4 by the remote user. These certificates can be managed internally in your company or bought from an official CA. The technical support of Prosum can help you manage and generate your certificates.

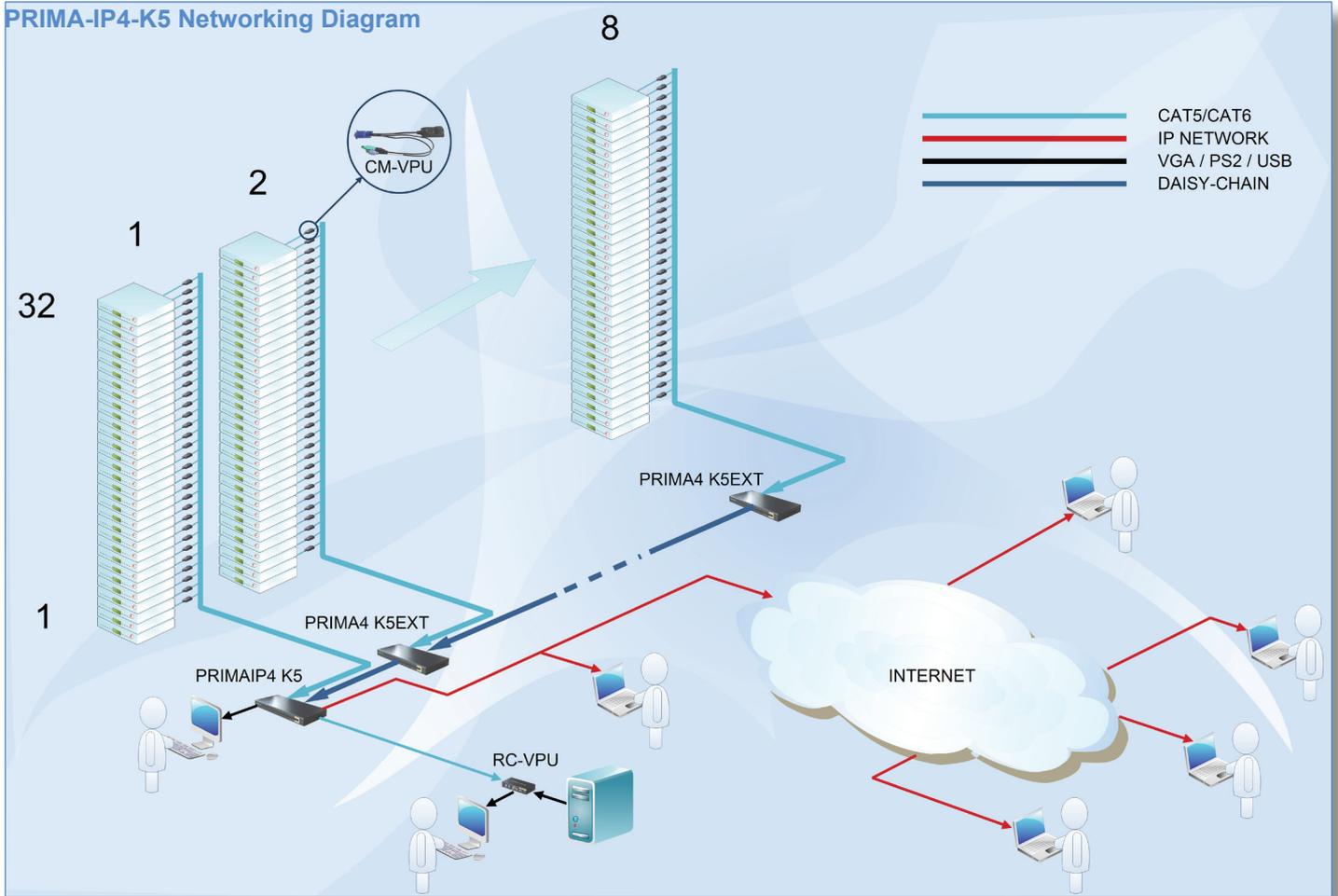
User Authentication: PRIMA IP4 checks the user ID/ Password and privilege by reading a locally managed database into its Flash memory, or by requesting information from LDAP / RADIUS / Active Directory servers, if your company has already set up a centralized management of users.

User Groups: User Groups are restricted to a subset of computers. Each user is attached to a specific user group and can access only those computers that are within that group. User groups can be managed locally or can be provided by remote Radius or LDAP servers.

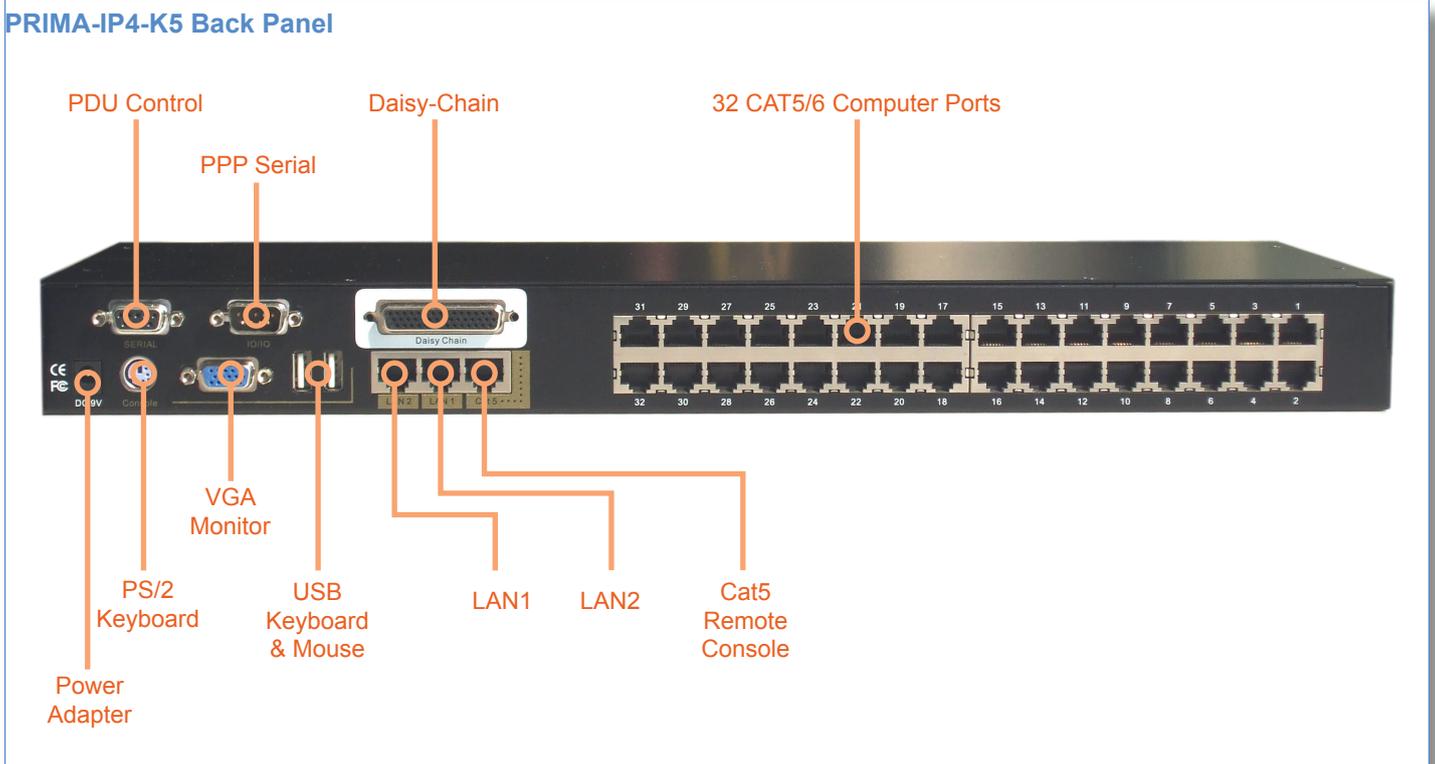


PRIMA™ IP4 K5

PRIMA-IP4-K5 Networking Diagram



PRIMA-IP4-K5 Back Panel



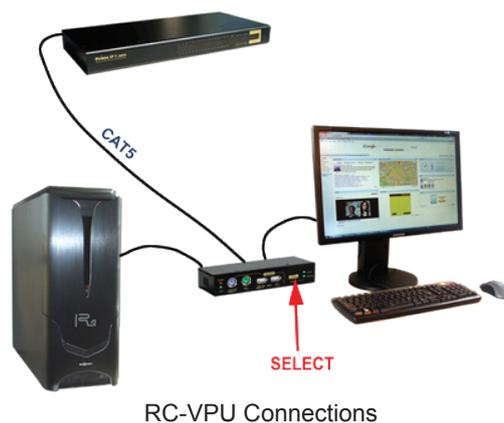
PRIMA™ IP4 K5

Technical Specifications

PRIMA IP4 K5D and PRIMA IP4 K5Q	
Main Processors	One ARM7 and one or two ARM11 at 533 MHz (depending on the model).
VGA Capture and Compression	Hardware, special FPGA
Computer Ports	32 x RJ45 connector for UTP twisted-pair cable. Computer Connection with Computer Module (CM-VPU)
Local Console	Direct connection to the KVM switch. - PS/2 Keyboard 6-pin Mini Din female - 2 x USB Type A for USB mouse and keyboard - VGA HDB 15-pin female
Extended Console	Up to 200m connection with twisted pair UTP cable and special RC-VPU accessory. In addition to the Cat5 connection, RC-VPU provides a local attachment (CAB2067) allowing to share the keyboard, mouse and monitor with a local computer.
Dual Ethernet Interfaces	2 x RJ-45 connectors, 10/100 BASE-T connection with auto-sensing
Serial PDU Control	RS232, DSUB9 Male, 9600 bps (Preferably ioPower)
Serial PPP Connection	DSUB9 Female / 1Mbps high-speed serial for connection to external modem

PRIMA IP4 K5D and PRIMA IP4 K5Q	
Video Resolution over IP	1600x1200@60Hz or 1680x1050 @60Hz max
Viewers	- Win32 and JAVA MultiViewers. They can show 2 or 4 computers simultaneously (depending on the model). - Java applet run by browser from the Web management (the browser must support Java)
Management	With any browser via HTTPS secure connection
Security	SSL, Encryption with 256-bit ephemeral keys User/server authentication based on password and PKI certificates
Keyboard and Mouse Emulation	PS/2 and USB Two selectable working modes for the mouse: relative or absolute
Computer Remote Power ON/OFF	By use of an optional PDU connected to the serial port.
Power supply	External DC 12V 4A
Consumption	30W max
Temperature	Operation: 0 to 50°C Storage: -20 to 60°C
Humidity	0 to 90%, non-condensing
Dimensions	435 x 200 x 44.5 mm (1U)
Weight	2.7 Kg (D), 2.8 Kg (Q)
Safety / EMI	FCC, CE

RC-VPU	
Connection to KVM Switch	RJ45 connector for UTP twisted-pair cable. 200m max.
VGA to Monitor	HDB 15-pin female
Keyboard and Mouse	2 x 6-pin Mini Din female 2 x USB Type A
Connection to Local Computer	HDB 15-pin female for combo cable 2067
Indicators	Power, Link, Local/Remote
Power supply	External DC 5V 0.5A
Temperature	Operation: 0 to 50°C Storage: -20 to 60°C
Humidity	0 to 90%, non-condensing
Dimensions	130 x 65 x 25 mm
Weight	300g
Safety / EMI	FCC, CE



PROSUM is engaged in design and development of networking products, analogue and IP KVM switches, remote power distribution units, computer extenders, and video broadcasting systems, for more than 18 years.