# 1RU 19" LCD Console Drawer with Integrated DVI-D KVM Switch - 12 Port
# (Military Grade)

## 1280 x 1024

## User Manual

# Contents

# 1. Introduction

12-port DVI LCD KVM Switch including DVI-D and USB inputs. DVI KVM Switch allows you to control up to 12 computers with DVI display output from a single keyboard, mouse and monitor. It configures with 2 additional USB console ports in the front for external keyboard/mouse control. It also supports various hotkey alternatives for free configuration. This KVM Switch allows its user to upgrade firmware contents whenever needed to enhance compatibility or functionality.

## 1.1                      Main Features

- One USB console controls 12 Single Link DVI computers
- Additional one USB console port to add local KB/Mouse (front)
- Supported video resolution up to 1280 x 1024
- Support Microsoft Windows, Unix, and Linux, Mac OS
- Support hardware: HP, IBM, Dell PC, Server and Blade Server, SUN, MAC
- No Software Required – easy computer selection via Push Buttons, Hotkeys
- Provide various Hotkey (Scroll-Lock) for switching computer port and other control functions, so Hotkey function can be used in various types of keyboards, and to avoid Hotkey duplicate problem
- Keyboard status restored when switching computers
- Support Mac/Sun keyboard emulation

## 1.2                    Package Contents

1 x LCD Console Drawer with Rack Mounting Sliding Rails

1 x AC Power Cable with lock connector

1 x CD-ROM with User Manuals, Quick Installation Guides and Utilities
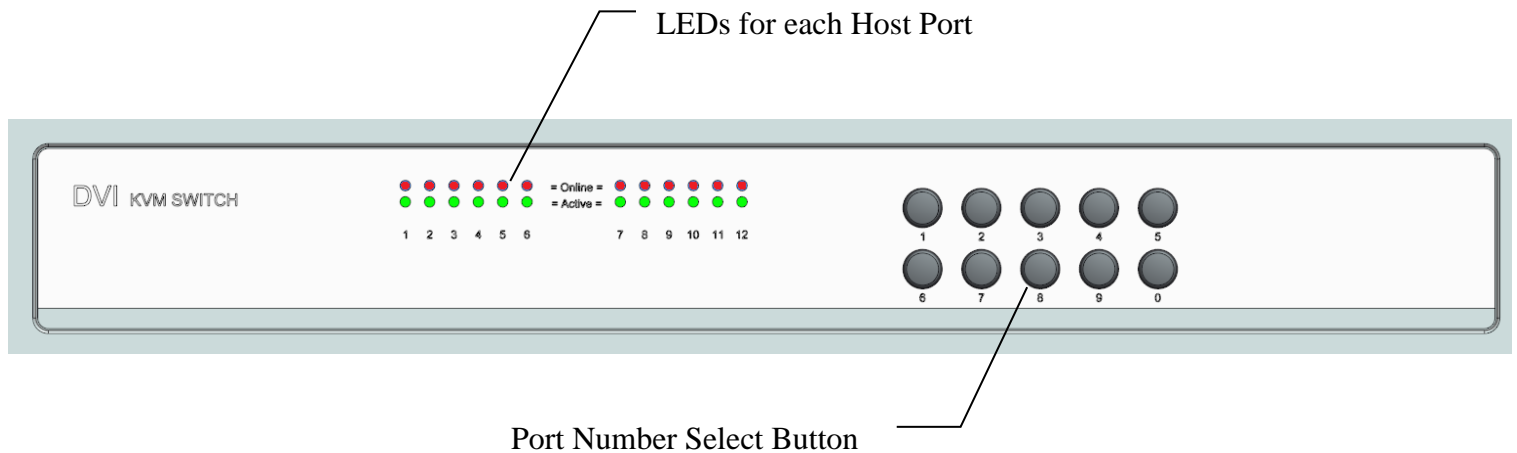
## 1.3                              LED Panel

LEDs for each Host Port



Port Number Select Button

**Figure 1. LED Panel View**

### 1.3.1   Port LED Indications
**There are two LED's for each port:**
- **ONLINE** LED: **Red** LED on indicating a PC is connecting to the port.
  *Notice: ONLINE indicator will turn on only when both USB cable is well connected.*
- **ACTIVE** LED: **Green** LED on indicating a selected port.

### 1.3.2   Buttons and Operations
There are 10 push buttons on the LED panel. The operations described in below.
(1) The "1", "2", "3", "4", "5", "6", "7", "8", "9", "0" are the port number select buttons
    Press to select channel from "01" to "12"
(2) If you pressed the invalid operation, the system will stay at the previous selected port.

## 1.4          Back Panels



Power switch

AC Power lock connector

Connector for each Host Port
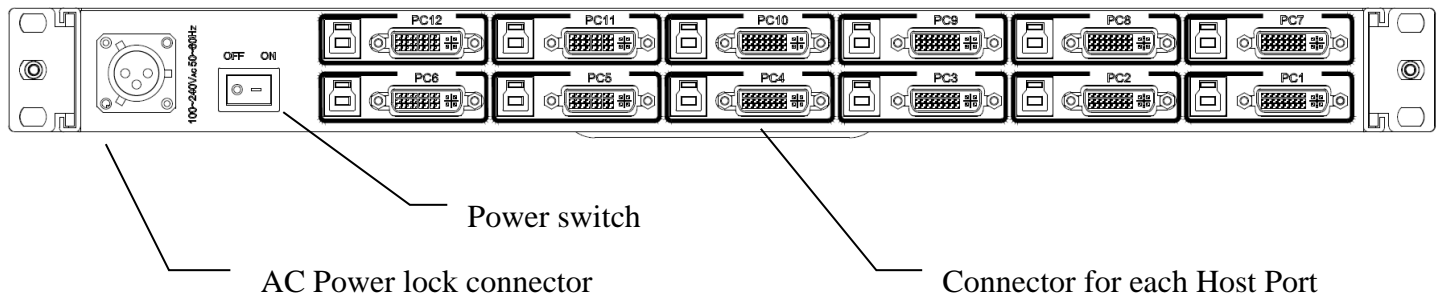
**Figure 2. Back Panel View**

## 1.5          Front USB for External Keyboard/Mouse

It provides one front port USB for external keyboard or mouse.



USB Keyboard or Mouse

# 2. Hardware Installation

Before installation, please make sure all of peripherals and computers have been turned off.
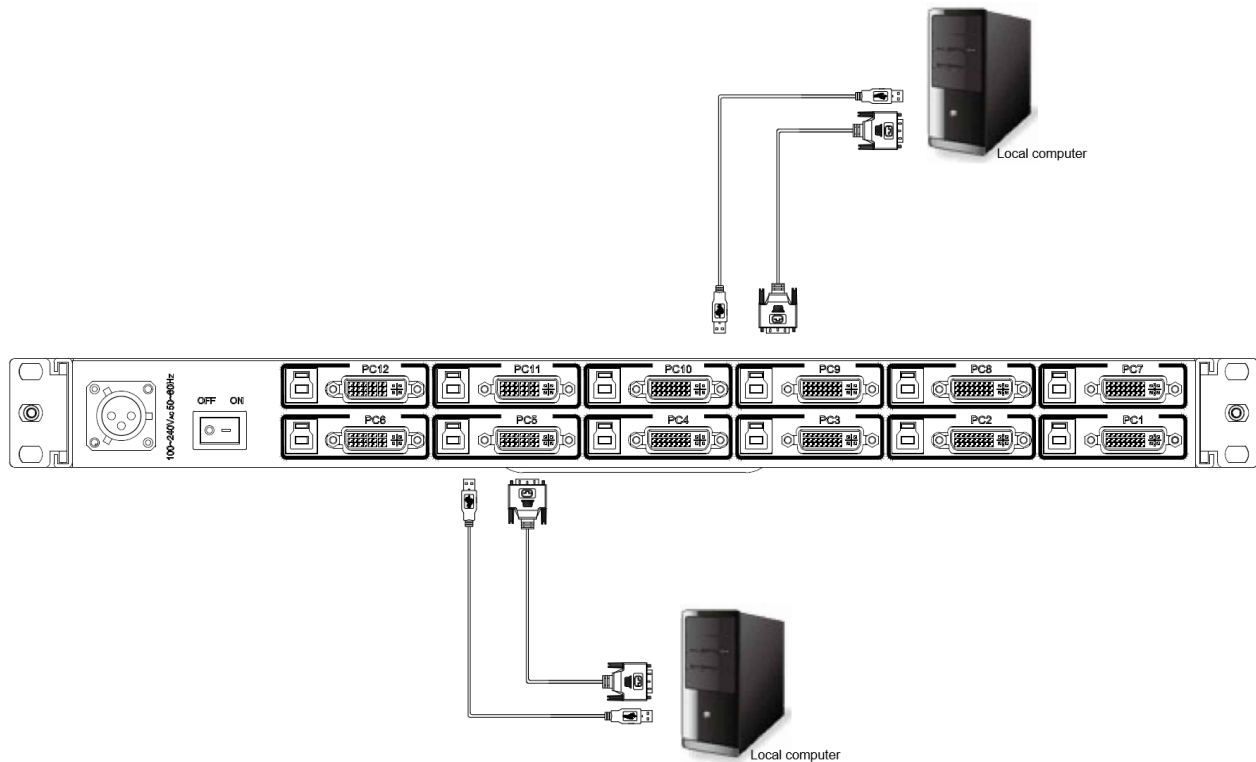
## 2.1 Computer/Server Installation



**Figure 3. Computer/Server Installation**

## 2.1.1 Connecting KVM switch to the host system

In order to connect the KVM switch of the host system performs the following steps:

**Step 1.** Power up you KVM Switch by connecting the power cord to it.

**Step 2.** Connect the shared USB keyboard, mouse to the KVM switch.

**Step 3.** Connect each of your computers to the KVM switch, using the DVI video cable.

**Step 4**. Power up the connected computers one by one. After your computers are powered up, the keyboard and mouse will be recognized and now you can begin operating the KVM switch.

## 2.2                                           Power Up Sequence

Double check whether all cables/connectors are properly connected. You can check the keyboard and mouse connectors to ensure the connectors and cables are connected correctly.

**The recommended Power Up sequence is as follows: Monitor, KVM Switch, finally the computers.**

Verify that all servers connected to the KVM Switch are powered on. If any connected servers have not been powered on, it is okay to do so at this time (servers can be powered on simultaneously). The KVM Switch emulates both a mouse and keyboard on each port and allows your server to boot normally.
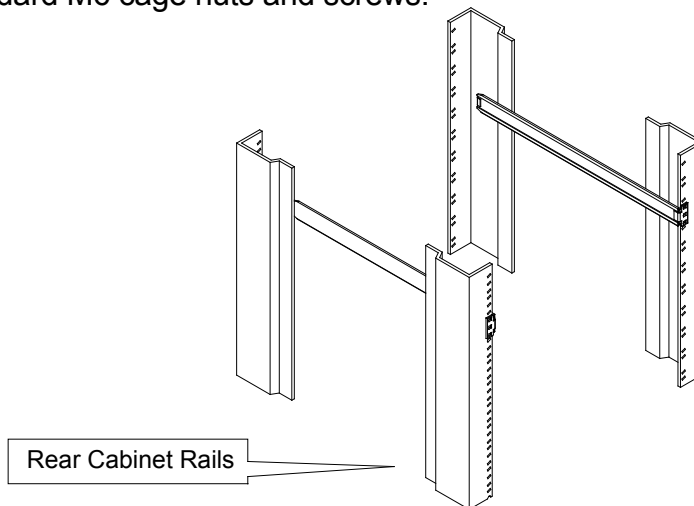
# 3. Rack Installation

**Step 1**

Loosen screw **A** on both sides to slide out and remove the two rear slide rails.

Rear Slide Rails

**A**
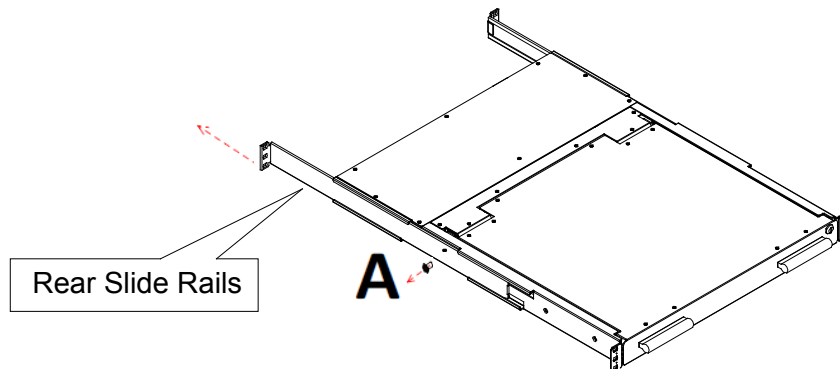
**Step 2**

Attach the two rear slide rails to the rear vertical mounting rails of the rack cabinet using standard M6 cage nuts and screws.

Rear Cabinet Rails

**Step 3**

Position the LCD console drawer so the two rear slide rails will slide into the main body of the LCD console drawer. Attach the mounting ears of the LCD console drawer to the front vertical mounting rails of the rack cabinet using standard M6 cage nuts and screws.
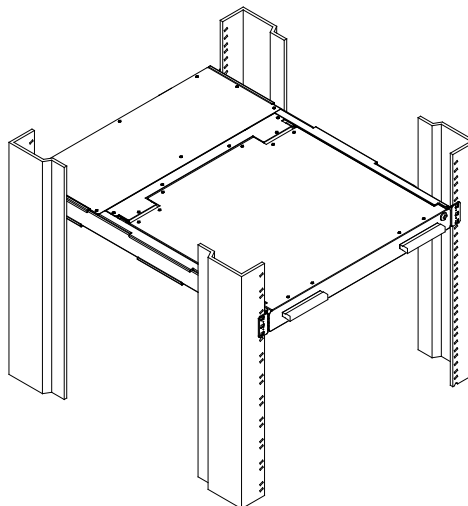
# 4. Usage

Now that you have connected your console and servers to your KVM Switch, it is ready for use.
You can control the KVM switch by two methods:

1. Using push buttons located on the LED panel of the KVM Switch
2. Using hot-key commands through the console keyboard

It takes few seconds for the video signal to refresh after switching servers. Re-synchronization of the mouse and keyboard signals also occurs. This is normal operation and ensures that proper synchronization is established between the console and the connected servers.

## 4.1                  Hotkey Commands

The default Hotkey is **Scroll Lock** + **Scroll Lock**, then the keys on the following table list.

| Command | Function |
|---|---|
| ↑ **or** ↓ | To switch to previous/next port |
| Port No. | To switch to specific port<br>-e.g. Port 4: **Scroll Lock + Scroll Lock + 0 + 4**<br>-e.g. Port 12: **Scroll Lock + Scroll Lock + 1 + 2** |
| **B** | To enable/disable **beep sound** function. |
| **S** | To activate the **Auto-scan** function. |

*You must press the hotkey within 2 seconds

*A beep sound will be heard for successful entering

## 4.2                  Hot Plug

The KVM Switch supports "Hot Plug" function for USB keyboard and mouse connectors.

> **Note**:
> ■ Normally, USB port is Hot pluggable, but some OS (Operation Systems), like Sun Micro and some Unix and Linux, do not support USB Hot Plug function. If you apply Hot Plug to this kind of OS, it will cause unpredictable behavior or shut down the Computer. Before attempting to use Hot Plug, please make sure OS and mouse software driver support the Hot Plug function.

# 5. Technical Specifications

| Feature | Specification |
|---|---|
| Host Port Connector | KB/MS : USB B Type<br>Video : DVI-D Single Link (digital) |
| Host Ports | 12 |
| Max. Distance<br>(KVM switch -- Host) | 16 feet (5m) |
| Video Resolution | Up to 1280 x 1024 |
| Computers Selection | (1) Hotkey<br>(2) Push button |
| Hotkey | Scroll-lock |
| Computer Port LED's | 2 x LED's per Host port:<br>ON LINE (Red)<br>ACTIVE (Green) |
| Auto-Scan Intervals | Fixed time |
| Local console | Front 1 x USB port for additional keyboard or mouse |
| Housing | Metal |
| Operation Temperature | 0 ~ 50℃ |
| Storage Temperature | -20 ~ 60℃ |
| Humidity | 0 ~ 95%, Non-Condensing |
| Mechanical | 19" Rack mount ,1U |
| Dimension ( W x H x D ) | 447.6 x 42 x 600 (mm) |

# 6. Troubleshooting

1. No LED display on KVM Switch

   ■ Make sure the power adapter plugged into the KVM Switch. If the LED's still won't light, perform soft reset to KVM switch.

   ■ Power cycle KVM switch.

2. The computer has started up, but keyboard or mouse won't work

   ■ Make sure your keyboard and mouse work fine if directly plugged into the computer.

   ■ Please unplug and plug in the USB connector, wait few seconds for USB bus emulations and start up process to cmplete.

   ■ Do not press any keys on the keyboard while the selected computer is booting up. Otherwise it might cause the keyboard error or keyboard is not detected at Host side.

   ■ Try a different keyboard, but use only 101/102/104-key keyboard.

   ■ Power cycle KVM switch.

   ■ Avoid moving the mouse or pressing the mouse buttons when switching ports.

3. No video signal is displayed on the LCD monitor.

   ■ Connect another monitor directly to the server to verify that your monitor is functioning properly.

   ■ Please check if all connectors are connected properly

   ■ The power adapter is not connected to the KVM switch.

   ■ See next item, make sure the computer VGA output resolution match with the monitor's resolution

4. The computer resolution does not match the monitor's resolution

   ■ Make sure the resolution works fine if directly connect the monitor to the computer.

   ■ Please turn off the computer, wait few seconds then turn on again. Notice that during computer startup, it will try to obtain the information of the connected monitor resolution from its related port. So before computer startup, the monitor and KVM switch should be already ON and running.

   ■ The DDC function of KVM Switch will dynamically detect and copy the DDC data from the monitor that attached to the **LOCAL console port**, and that data will feed to the host computer during computer startup.

   ■ The recommended Power ON sequence is as follows: monitor, KVM Switch, finally the computers.

# 7. Glossary

The following definitions are used throughout this User Manual.

- **Auto-Scan:** A mode of operation where the KVM switch scans from one port to another, on an ongoing basis, as configured by the user.
- **Console:** The all-in-one term for the keyboard, video monitor, mouse, and audio connected to a KVM switch.
- **Console Port:** An interface receptor on the KVM switch for the console to connect to the KVM switch via cables.
- **Control:** When discussing switching between ports, control means that the console is capable of sending input to the server. Control requires that the console also has focus on the port, and is viewing it.
- **DDC:** Short for Display Data Channel, a VESA standard for communication between a monitor and a video adapter. Using DDC, a monitor can inform a computer's video card about its properties, such as maximum resolution and color depth, to ensure that the user is presented with valid options for configuring the display.
- **HID:** Human Interface Device, the USB device class that includes keyboards and mice.
- **Host/Computer Port:** An interface receptor on the KVM switch for the computer/server to connect to the KVM switch via cable.
- **KVM:** Literally "Keyboard Video Mouse", this term refers to technology that allows two or more computers to be controlled by one keyboard, video monitor, and mouse; some switches that use KVM technology enable sharing of other peripherals such as audio speakers, microphones, and printers.
- **KVM Switch:** A device that allows a user to access and control multiple servers from a single console. It has at least one console port and multiple server ports.

# 8. Certifications

**<u>FCC</u>**

This equipment has been tested and found to comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference

(2) This device must accept any interference received. Include interference that may cause undesired operation.

**<u>CE</u>**

This equipment is in compliance with the requirements of the following regulations: EN 55 022: CLASS B.

**<u>RoHS</u>**

All contents of this package, including products, packing materials and documentation comply with RoHS.