



# **LevelOne**

**KVM-0221/KVM-0421**

**KVM-0222/KVM-0422**

**2/4-Port USB KVM Switch**

## **User Manual**

Ver. 1.0.0-0711

# Safety

## FCC

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, including interference that may cause undesired operation.

## CE

This equipment is in compliance with the requirements of the following regulations: EN 55022: CLASS B

## RoHS

This product is RoHS compliant.



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# 1. Introduction

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LevelOne KVM-0221/KVM-0421/KVM-0222/KVM-0422 is 2/4-port Slim Desktop USB KVM Switch with optional audio and microphone switching function in select models. The KVM switch allows users to access, control two (KVM-0221/0222) or four (KVM-0421/0422) USB-enabled computers from a single console. (Keyboard, Monitor, Mouse, and speaker set and microphone). It also offers user-programmable simultaneous/independent switching of PC channel and Audio/Mic channel for flexible multimedia application with KVM switching. For users who might need to use a hotkey preceding sequence other than **scroll locks**, LevelOne KVM switch also offers five alternatives keys for easy configuration. Setup is fast and easy; plugging cables into the appropriate ports is all that is entailed. LevelOne KVM Switch provides two convenient methods to bring the KVM focus to the target computer:

- a) By pressing one of the port selection switches located on the unit's front panel.
- b) By entering the hotkey combinations from the keyboard.

There is no better way to access your multiple computers than with LevelOne KVM switch. By allowing a single console to manage all of the computers, the KVM switch eliminates the expense of purchasing a separate keyboard, monitor and mouse for each one. Additionally, it saves the extra space and energy costs that additional consoles would require, and it eliminates the inconvenience and waste effort involved in constantly having to move around from one computer to another.



## **Note**

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**KVM-0222 and KVM-0422 are non-audio models without Audio and Microphone support.**

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## 1.1 Feature overview

- 1 2-port Slim Desktop USB KVM switch
- 2 Share Speakers and Microphone between computers (KVM-0221/KVM-0421)
- 3 Hot-plugging PCs for maintenance without powering down the KVM Switch or PCs
- 4 Computer selection via hotkeys or push buttons
- 5 Auto-scan mode for PC monitoring
- 6 LED display for easy status monitoring
- 7 High VGA resolution supports up to 2048 x 1536

## 1.2 Package Contents

- KVM-0221/KVM-0421/KVM-0222/KVM-0422
- KVM Cable Set
- CD Manual
- Quick Installation Guide

Check to make sure that all of the components are present and in good condition. If anything is missing, or was damaged in shipping, please contact your dealer immediately.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the KVM switch or to any other devices on the installation.



### **Note**

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**2-Port USB KVM Switch KVM-0221 and KVM-0222 contains with 2 cable sets in the package.**

**4-Port USB KVM Switch KVM-0421 and KVM-0422 contains with 4 cable sets in the package.**

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## 2. Hardware Installation

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The default setting of the KVM-0221/KVM-0421/KVM-0222/KVM-0422 is appropriate for most systems. The KVM Switch is a Plug-and-Play device for installation. In fact, user does not need to configure the KVM Switch before installation.

For the first time installation of the KVM Switch, please follow the instructions below for setup sequence:

1. **Connect the shared keyboard, monitor and mouse (and optional speaker set and microphone) to the KVM Switch first, and then connect the computers.**
2. **Power up your connected computers**

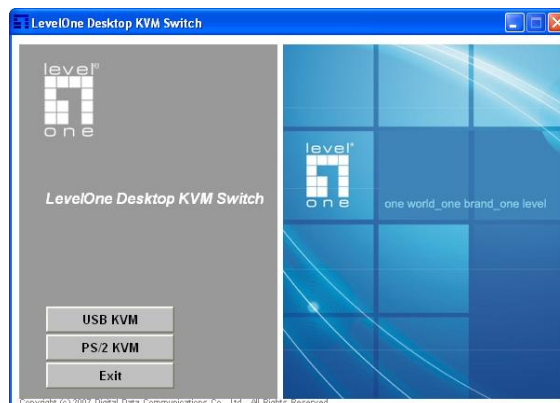
Since the KVM Switch receives power from the computer's USB interface, it is powered up when user connects the KVM Switch to a PC.

Please see next section for detail installation.

### 2.1 Step by Step Installation

Take the companion CD, KVM Cables and the KVM Switch out of the box and follow the steps below for installation.

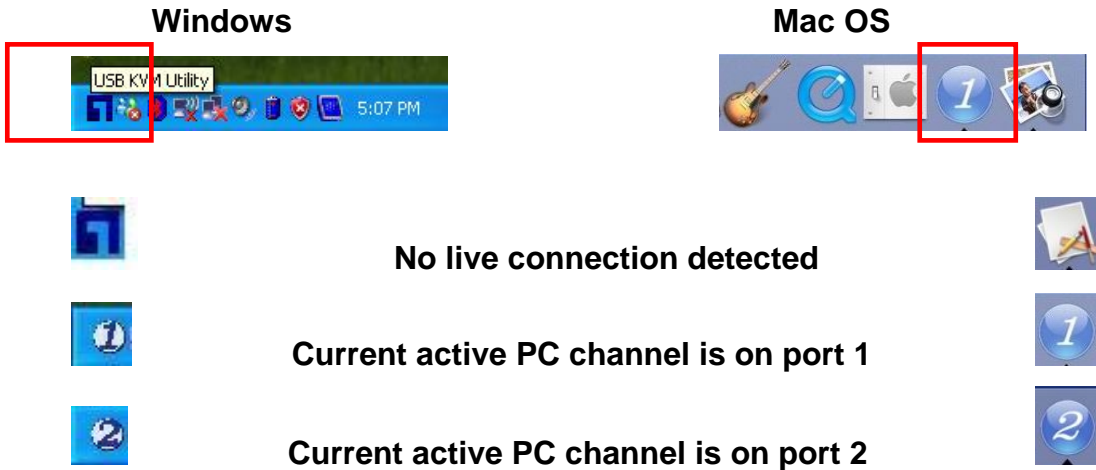
1. Insert the companion CD into CD-ROM drive, the Autorun screen will pop up automatically. (Please locate Autorun.exe in the CD and double-click it to start if the Autorun screen did not pop up).



2. For Windows/Mac: Select "USB KVM" and then click on "Utility for Windows" or "Utility for Mac" to begin software installation. (If the Mac version software does not start, user should then copy the files to the local Hard disk on Mac). Follow the on screen

instructions to completion. When installation is complete, a LevelOne icon will be on the system tray of user's desktop. For operation details of the KVM Switch utility, please refer to the user manual for detail.

3. The Windows KVM Switch utility is recommended for use on Windows XP or later. The Mac KVM Switch utility is recommended for use on Mac OS 10.4 or later.

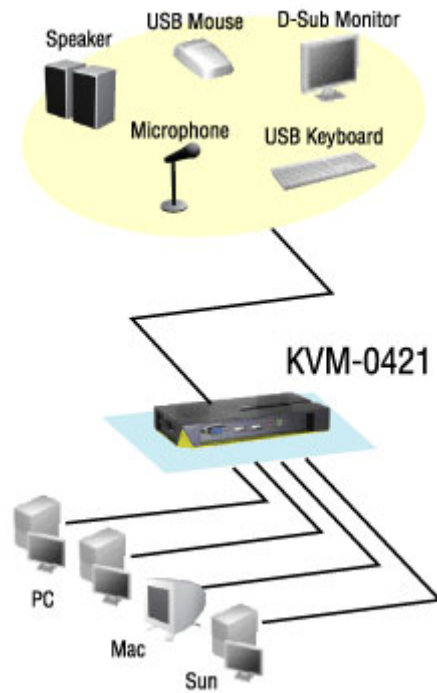


The KVM Switch Utility supports both the Windows and the Mac OS operating systems. For other OS platforms such as Linux, user can only use the keyboard hotkey – **Scroll Lock + Scroll Lock** - to switch PC. However, this switching hotkey is not available on non-PC platform such as Mac OS.

4. Connect the shared USB keyboard, USB mouse, D-Sub monitor, speaker/headphone and microphone each to its port on the KVM Switch.

**(Models KVM-0222 and KVM-0422 not support audio switching)**

5. Connect each KVM PC port to a computer, using the slim 3-in-1 KVM combo cable and the audio/MIC cable. Once the KVM Switch and computers connected properly, user can now operate the KVM Switch immediately.



### Note

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Some older computers with USB interface might need to manually enable the USB option in the BIOS setting before using USB devices. If USB interface does not work, please check the USB option setting in BIOS.

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## 2.2 Easy Operation

There are three methods to control your KVM Switch for PC and Audio/MIC channel selection: using the **Face-Panel Push Buttons**, **Hotkey Commands**, or the **KVM Switch Utility**.

### Face-Panel Buttons

The Face-Panel Buttons allow a direct control over PC port switching; simply press the button to switch PC port. By default, PC port switching and Audio/MIC switching are bound together (both will be switched simultaneously).

Please notice that user is able to use the face-panel button to switch to an empty port that is not connected with any computer. Normally, if user uses keyboard hotkeys or the KVM Switcher software, it will not be able to switch to an empty port.



## Keyboard hotkey

There are two kinds of hotkey, **User-definable hotkeys** and **Universal hotkey**.

For user-definable hotkey, user must install the software utility before using it.

For universal hotkey, software utility installation is not necessary; user is able to use universal hotkey for PC switching even without software utility installed in the PC.

User-definable hotkeys for PC selection:

**Hotkey sequence = Ctrl + Alt + [command key]\***

\* Please refer to next section for keys that are qualified to be used as a command key



### **Note**

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The above hotkey sequence keys should be pressed and held together. And it is upon the release of all three keys, and then the switching action will be executed.

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**Universal hotkey for PC toggle-switching:**

**Universal Hotkey sequence = Scroll Lock + Scroll Lock**

\* For other operating systems on PC such as Linux, user must use Universal Hotkey to facilitate PC switching. The universal hotkey is not available for Mac. HOWEVER, user can press button to switch in any case.

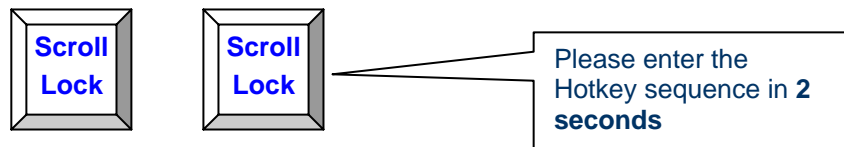
The universal hotkey, Scroll Lock + Scroll Lock and the user-definable hotkey, Ctrl + Alt + [command key] WILL NOT allow user to switch to an empty port that is not connected with any computer. To force KVM to switch to an empty port, just press the face-panel button to switch.

Each keystroke within a hotkey sequence should be pressed within 2 seconds. Otherwise, the hotkey sequence will not be validated.

After perform port switching, user must wait till the KVM Switch icon shows forth the target port before user can perform next switching again. The KVM Switch icon could be found on the system tray of the Windows desktop after its installation.

All the hotkeys are only functional after PCs are booting into the OS. If user would like to switch PC in the BIOS or pre-boot stage, press the face-panel button to switch.

***Each keystroke within a hotkey sequence should be pressed within 2 seconds. Otherwise, the hotkey sequence will not be validated.***



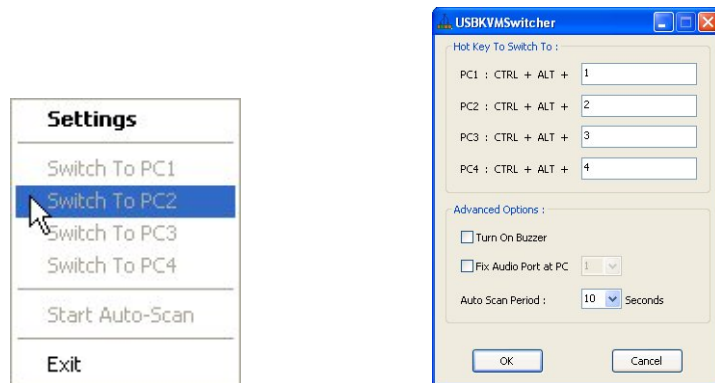
### 3. KVM Switch Utility Operation

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In addition to PC switching, the KVM Switch Utility also provides user more advanced functions such as described in below.

#### Switch to PC x by Operation Menu

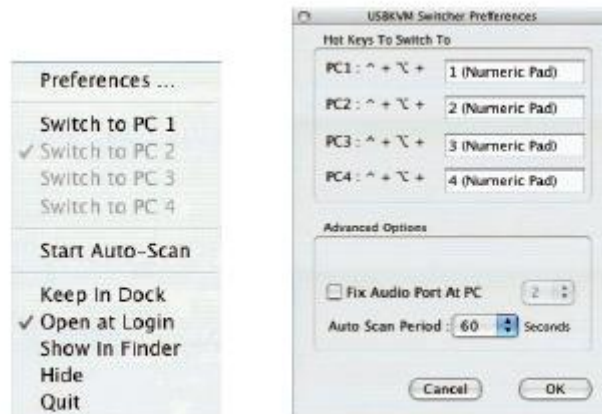
Double click the KVM Switch utility icon on the desktop screen to evoke the operation menu, and then select whichever PC that is available for switching. Once user selects a PC channel, it will immediately switch to that PC. Note that the unconnected port(s) or the active port will be grayed-out and non-selectable.



**Windows:**

Operation Menu

Configuration Dialog Box



**Mac OS:**

Operation Menu

Configuration Dialog Box

## Switch to PC x by Keyboard Hotkeys

Hit the hotkey according to your current hotkey definition:

Hotkey sequence = Ctrl + Alt + [command key]\*

\* The factory default hotkey setting is Ctrl + Alt + 1/2/3/4 for PC 1/2/3/4. User can also use Scroll Lock + Scroll Lock to switch PC.

## Start Auto-scan

Double click the KVM Switch utility icon on the desktop screen to evoke the operation menu, and then select *Start Auto-Scan* to activate auto-scanning.

## Stop Auto-scan

While auto-scanning, right-click the KVM Switch utility icon to evoke the operation menu, then select *Stop Auto-Scan* to de-activate auto-scanning. Or you can press any button on the face-panel to stop Auto-scan.

## KVM Switch Utility configuration

Right-click the KVM Switch utility icon and select *Settings* or double-click the icon to bring up the configuration dialog box.

## Define Hotkey commands

User can specify the command key as you like by typing it in. For example, you can specify the hotkey for switching to PC 1 as CTRL + ALT + A by typing an A (not case-sensitive) in the editable field.

**Hotkey Sequence = CTRL + ALT + [command key]\***

\* The command key is user-definable via the configuration dialog box

Except those control keys such as Alt, Ctrl, Shift, CAPS, Tab, Esc and those functions keys and edit keys, all other keys on the keyboard, including those number keys on the number pad are all qualified to be used as hotkey command key. In addition to the software KVM Switching by the operation menu and the user-defined hotkeys, user can always use the universal hotkey for PC switching – Scroll Lock + Scroll Lock

**Fix Audio Port at PC x**

Check this option and then select the PC to fix the audio/mic channel to the selected PC. Once this option is checked, the audio/mic channel will be fixed and become non-switchable.

**Auto Scan Period**

Select the Auto-scan period from 10 ~ 60 seconds with an increment of 5 seconds. The Auto-scan period is the time KVM Switch will wait to switch to next PC.

## 4. Switch Mode on Various Operating System

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Operating System	USB KVM Switch
Windows	<ul style="list-style-type: none"><li>- Face-panel button</li><li>- Software Menu Switching</li><li>- User-definable hotkeys (Software hotkeys)</li><li>- Universal hotkey</li></ul>
Linux	<ul style="list-style-type: none"><li>- Universal hotkey</li></ul>
Mac OS	<ul style="list-style-type: none"><li>- Face-panel button</li><li>- Software Menu Switching</li><li>- User-definable hotkeys (Software hotkeys)</li></ul>
SUN	<ul style="list-style-type: none"><li>- Face-panel button</li></ul>
Note	<ul style="list-style-type: none"><li>- Switch utility only available for USB KVM Switch models</li><li>- Software Hotkeys for USB model - Ctrl-Alt-(x)</li><li>- USB model Software switch functional feature:<ul style="list-style-type: none"><li>Select right-click menu item for port switching;</li><li>Check option items for operations such as –<ul style="list-style-type: none"><li>• fix audio port at PC x</li><li>• Autoscan</li><li>• Universal hotkey selection</li><li>• Autoscan period</li></ul></li></ul></li></ul>

## 5. Technical Specification

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Model No.	KVM-0221/0222	KVM-0421/0422
PC Port	2	4
PC Port Connector (All Female Types)	VGA HDDB 15pin-F (integrated with USB interface)	
Local Console Port (All Female Types)	1 x USB Type A 1 x HDB 15-pin female 1 x 3.5 mm audio/mic jack (KVM-0221/0421)	
PC selection	HotKeys, Push Button, Software Utility	
PC Port LED	2 (Green)	4 (Green)
Keyboard Emulation	USB	
Mouse Emulation	USB	
VGA Resolution	2048 x 1536	
Housing	Plastic	
KVM Switch Power Type	USB Interface Power	
Operation Temperature	0~40°C	
Storage Temperature	-10 ~ 50°C	
Humidity	0~80% RH Non-Condensing	
Dimension (mm)	100(L) X 71.5(W) X 26 (H)	170(L) X 87(W) X 26 (H)