

# **LINDY®**

## **CONNECTION PERFECTION**

---

### **IP KVM Switch Classic USB**

**User Manual**

*English*

---



LINDY No. 39414

**[www.lindy.com](http://www.lindy.com)**



---

# PREFACE

The **LINDY IP KVM SWITCH CLASSIC USB** features the latest and most technologically advanced SoC (System on Chip) IP KVM solution, based on Raritan / Peppercon's latest IP-KVM engine technology.

Retaining the familiar management utilities, GUI and related software tools of its predecessor, the **CPU IP Access Switch LITE**, the **IP KVM SWITCH CLASSIC USB** delivers an advanced IP KVM solution whilst retaining compatibility with older models. It now also supports USB connections for keyboard and mouse as well as two RJ45 ports for cascading multiple devices.

This manual is based on the **CPU IP Access Switch LITE** manual and therefore shows many screenshots referring to this model, however, please note that although they may display a slightly different design they fully apply to the **IP KVM SWITCH CLASSIC USB** too. The **IP KVM SWITCH CLASSIC USB** may also be referred to as **IP-KVM** or **IP Access Switch** in this manual.

Due to constant technological advances and further development, changes to this product may be introduced without further notice.

LINDY Elektronik-GmbH & LINDY Electronics Ltd, October 2009

---

# Contents

---

<b>1. INTRODUCTION .....</b>	<b>1</b>
<b>1.1 Features .....</b>	<b>1</b>
<b>1.2 Package Contents .....</b>	<b>1</b>
<b>1.3 System Requirements .....</b>	<b>2</b>
<b>2. HARDWARE INSTALLATION .....</b>	<b>2</b>
<b>2.1 Operation Overview .....</b>	<b>2</b>
<b>2.2 Connections .....</b>	<b>3</b>
2.2.1 Host Connection Side .....	3
2.2.2 Console Connection Side .....	3
2.2.3 Network Connection .....	3
2.2.4 Connecting the IP ACCESS SWITCH LITE to a KVM switch .....	4
2.2.5 Connecting an External Power Switch option .....	4
2.2.6 LED indicators and Switches .....	4
<b>3. CONFIGURATION .....</b>	<b>5</b>
<b>3.2 Initial Configuration via a Serial Console .....</b>	<b>5</b>
<b>3.3 IP ACCESS SWITCH LITE Setup Tool .....</b>	<b>6</b>
3.3.1 MAC Address Detection .....	6
3.3.2 Authentication .....	7
3.3.3 IP Auto Configuration .....	7
<b>3.4 Keyboard, Mouse and Video configuration .....</b>	<b>8</b>
3.4.1 IP ACCESS SWITCH LITE Keyboard Settings .....	8
3.4.2 Remote Mouse Settings .....	8
3.4.3 Host System Mouse Settings .....	9
3.4.4 Single and Double Mouse Mode .....	9
3.4.5 Recommended Mouse Settings .....	9
3.4.6 Video Modes .....	9
<b>4. USAGE .....</b>	<b>10</b>
<b>4.1 Prerequisites .....</b>	<b>10</b>
<b>4.2 Logging In .....</b>	<b>11</b>
4.2.1 Login to the IP ACCESS SWITCH LITE .....	11
<b>4.3 Navigation .....</b>	<b>12</b>
4.3.1 Remote Console Main Window .....	13
4.3.2 Remote Console Control Bar .....	14
4.3.3 Remote Console Status Line .....	18

<b>5. MENU OPTIONS .....</b>	<b>19</b>
<b>5.1 Remote Control .....</b>	<b>19</b>
5.1.1 KVM Console .....	19
5.1.2 Telnet Console .....	19
<b>5.2 Virtual Media .....</b>	<b>21</b>
5.2.1 Floppy Disk .....	21
5.2.2 Create a CD-ROM/ISO Image .....	23
5.2.3 Drive Redirection .....	26
5.2.4 Options .....	28
<b>5.3 User Management .....</b>	<b>29</b>
5.3.1 Change Password .....	29
5.3.2 Users And Groups .....	29
<b>5.4 KVM Settings .....</b>	<b>31</b>
5.4.1 User Console .....	31
5.4.2 Keyboard/Mouse .....	34
5.4.3 Video .....	35
<b>5.5 Device Settings .....</b>	<b>36</b>
5.5.1 Network .....	36
5.5.2 Dynamic DNS .....	38
5.5.3 Security .....	40
5.5.4 Certificate .....	42
5.5.5 Serial Port .....	44
5.5.6 Date And Time .....	46
<b>5.6 Maintenance .....</b>	<b>49</b>
5.6.1 Device Information .....	49
5.6.2 Event Log .....	50
5.6.3 Update Firmware .....	50
5.6.4 Unit Reset .....	52
<b>6. TROUBLESHOOTING .....</b>	<b>53</b>
<b>7. KEY CODES .....</b>	<b>55</b>
<b>8. VIDEO MODES .....</b>	<b>57</b>
<b>9. RACK MOUNT KIT INSTALLATION .....</b>	<b>58</b>
<b>10. RADIO FREQUENCY ENERGY, CERTIFICATIONS .....</b>	<b>60</b>



# 1. Introduction

---

Thank you for purchasing the LINDY IP KVM SWITCH CLASSIC USB. This device allows operators to monitor and access their computers from remote locations. The IP KVM SWITCH CLASSIC USB connects to the internet, intranet, LAN or WAN using standard CAT5 or higher cable, then uses a KVM cable to connect a local KVM switch or server.

The IP KVM SWITCH CLASSIC USB combines convenient digital remote KVM access and control with integrated system management. It captures, digitizes and compresses the video signal and transmits it alongside the keyboard and mouse signals, to and from a remote computer. The IP KVM SWITCH CLASSIC USB provides a non-intrusive solution for remote access and control. Remote access and control software runs on its embedded processors only – so there is no interference with server operation, or impact on network performance.

The IP KVM SWITCH CLASSIC USB supports PS/2 as well as USB keyboard/mouse and 15-way VGA type monitor connections. It automatically detects the video mode of the console and allows manual fine tuning for improved video quality. However please note that when using a USB mouse and keyboard from the local console you have to use the USB connection to the server/KVM switch too. And when using PS/2 keyboard and mouse also the PS/2 connection to the server/KVM Switch has to be used.

The IP KVM SWITCH CLASSIC USB also features remote mass storage support – the unit connects via a USB connection to the server/KVM switch and allows virtual storage devices located at the remote users computer to provide data and a virtual drive to the server.

## 1.1 Features

- Remote access of KVM switches or servers via LAN, WAN, or the internet; control your installation from almost anywhere in the world
- KVM (keyboard, video, mouse) access over IP and analogue telephone line (requires modem)
- BIOS level access also for remote computers
- 256-bit SSL encryption, SSL Certificate Management
- No impact on server or network performance
- Automatically senses video resolution for best possible screen capture
- High-performance mouse tracking and synchronisation
- User console port for direct access to KVM switch
- Local mouse suppression (only when using SUN's Java Virtual Machine)
- Can be used with any standard PS/2 or USB Keyboard/Mouse & VGA Monitor from the local console
- Remote mass storage virtual media feature
- Compatible with Windows 98SE/ME/2000/XP & 2003 Server, Mac OS 10 and Linux Red Hat/Fedora/Knoppix

## 1.2 Package Contents

- IP KVM SWITCH CLASSIC USB
- Power Adapter, Multi Country for EURO, UK, US, AUS
- 19" Rack mount kit and set of 4 rubber feet for desktop use
- RS-232 Serial cable
- USB 2.0 A to Mini B type Cable
- 3-in-1 KVM Cable, 1m (to connect local console VGA and PS/2 via one connector)
- Software CD including tools and this manual

## 1.3 System Requirements

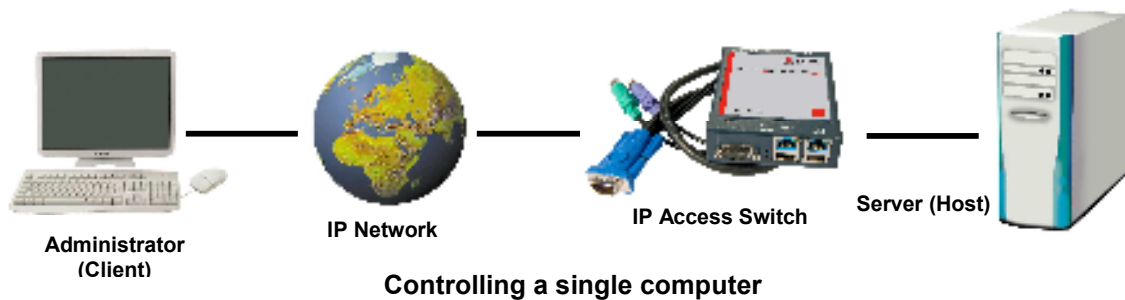
Item	Description
Local console side	One Keyboard, one Mouse, one VGA monitor
Remote Console side	PC with Java enabled browser linked to the network
Computer / KVM side	One PC/ Server or the console port of a KVM switch

## 2. Hardware Installation

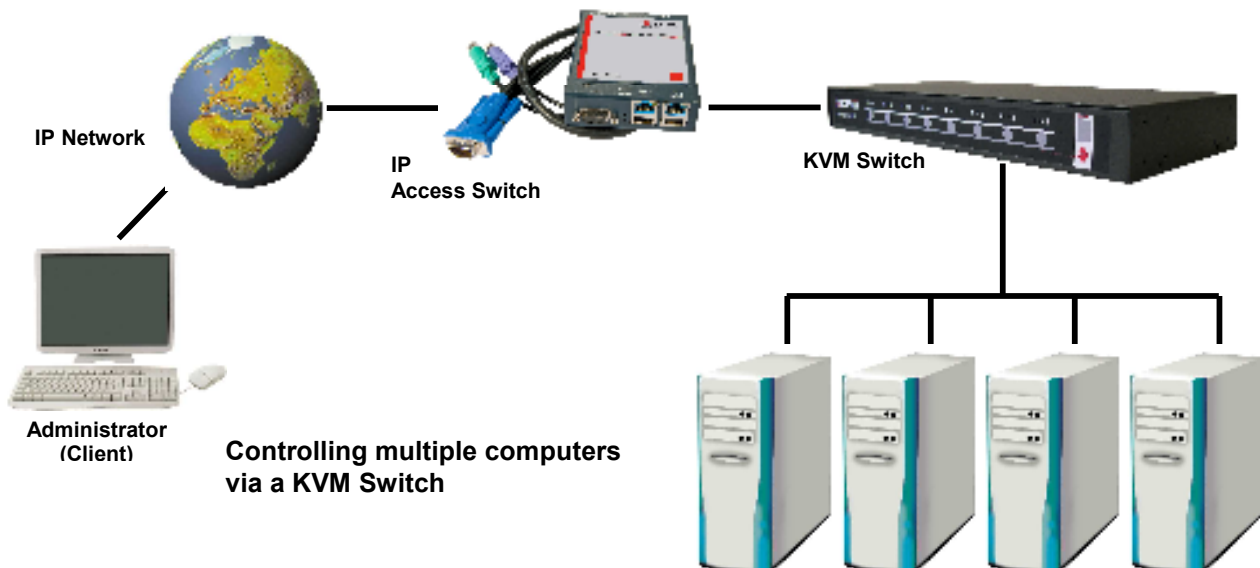
### 2.1 Operation Overview

The pictures below show the connection options of the IP KVM SWITCH CLASSIC USB.

The IP KVM SWITCH CLASSIC USB redirects local keyboard, mouse, and video signals to a remote administration console. All data is transmitted using the TCP/IP protocol.



The IP KVM SWITCH CLASSIC USB can be used in a multi administrator and multi server environment as well. Attaching one or more IP KVM SWITCH CLASSIC USB units to a KVM switch matrix allows multiple server access via a single remote console.



## 2.2 Connections



You may either use PS/2 or USB mouse and keyboard.  
However, please note that USB mouse and keyboard signals from your local console will not be converted and output as PS/2 signals to your server/KVM switch!

### 2.2.1 Host or KVM Switch Connection Side

Use the 3in1 KVM cable (VGA & 2x PS/2) attached to the KVM Switch to make the connections to the host computer. If you either want to use the USB mouse and keyboard or the USB virtual media feature, use the supplied USB A-Mini B cable to connect the USB Mini B port on the back of the IP KVM SWITCH CLASSIC USB to a USB port on your server or KVM switch.

### 2.2.2 Console Connection Side

Connect your local keyboard, monitor and mouse console using the short VGA and PS/2 3in1 KVM splitter cable - connected to the IP KVM Switch port labelled **Local** - if you want to use PS/2 peripherals – if you want to use USB peripherals only you may connect your monitor directly to the HD15 connector on the IP KVM Switch. If you want to use a USB mouse and keyboard connect them to the ports labelled **USB** located below the RJ45 ports. However, please note that USB mouse and keyboard signals from your local console will not be converted and output as PS/2 signals to your server/KVM switch.

### 2.2.3 Network Connection

The IP KVM SWITCH CLASSIC USB provides two RJ45 ports for Ethernet connection. The ports can be used with a 100Mbps, 100Base-TX connection or a 10Mbps, 10Base-T connection. The IP KVM SWITCH CLASSIC USB will sense the connection speed and automatically adjust to the appropriate operation mode. The second port can be used to cascade multiple KVM IP Switches.

#### 10Mbps Connection, 10Base-T

Please note that this slow connection may not provide sufficient performance for the compressed video data traffic and will result in low video and colour resolution and significantly delayed reaction time for remote connections.

## 2.2.4 Dial up Line / Modem Connection

The RS232 port of the IP KVM SWITCH CLASSIC USB can either be used to connect to an external Modem i.e. to set up a dial up line connection or can be used to connect to an external RS232 managed power switch. Use the supplied cable to connect the appropriate unit.

## 2.2.5 Connecting an External Power Switch option

At the time of writing (October 2009) the IP KVM SWITCH CLASSIC USB supports the following external power switch options.

- Peppercon IPM-220L
- Avocent SPC1 800/1600
- Sentry In-Line Power Module
- Leaning ePowerSwitch

However, we strongly suggest to use a directly IP managed power switch such as the LINDY IPower Switches No.s 32657, 32658, 32653 or 32654

## 2.2.6. LED indicators and Switches



LED	Indication
Power	RED – On when power is applied
LAN Ethernet Link/Act 10/100Mbps	Orange (10) -- 10BaseT Ethernet connection established Green (100) -- 100BaseT Ethernet connection established <i>Blinking: Activity</i> <i>ON: When no data activity and link is connected</i>
Link	Green -- Blinking when data is being transmitted

- **RESET** button: on the rear panel, hidden behind the small hole, press the button to reboot the IP-KVM unit

## 3. Configuration

---

The IP KVM SWITCH CLASSIC USB's communication interfaces are all based on TCP/IP. The switch comes pre-configured with the IP configuration detailed here:

Parameter	Value
IP auto configuration	none
IP-Address	192.168.0.70
Net-mask	255.255.255.0
Default-Gateway	none

If this initial configuration does not meet your requirements, the following section describes the configuration that is necessary to access the IP ACCESS SWITCH CLASSIC USB for the first time.

### 3.1 Initial IP Configuration via Network

If DHCP mode is enabled (IP auto configuration = DHCP), the IP Access KVM Switch Classic will try to contact a DHCP server in the subnet to which it is physically connected. If a DHCP server is found, it may provide a valid IP address, gateway address and net mask. Before you connect the device to your local subnet, be sure to complete the corresponding configuration of your DHCP server. It is recommended to configure a fixed IP assignment to the MAC address of the IP Access KVM Switch Classic. You can find the MAC address labelled on the bottom side of the metal housing.

There is a Network Setup Software tool (PSetup) for setting up the network configuration (IP address, Subnet mask, DHCP, etc). It is useful when you want to change the network settings or when you cannot access to the unit due to not knowing the network settings of the unit. In this case, you can view or change the settings via this utility. Follow the procedure described on the next page (**Section 3.3.**)

### 3.2 Initial Configuration via Serial Console

The IP KVM SWITCH CLASSIC USB has a serial line interface (host side) for connecting a serial terminal. This connector is compliant with the RS-232 serial line standard. The serial line has to be configured with the parameters given in this table:

Parameter	Value
Bits/second	115200
Data bits	8
Parity	No
Stop bits	1
Flow Control	None

When configuring with a serial terminal, reset the IP KVM SWITCH CLASSIC USB and immediately press the **ESC** key. You will see some device information and a "=>" prompt. Type **config** and press the **Enter** key. Wait a few seconds for the configuration questions to appear.

As you proceed, the following questions will appear on the screen. To accept the default values (shown in square brackets below) press the **Enter** key.

**IP auto configuration (non/dhcp/bootp) [dhcp]:**

**IP [192.168.0.70]:**

**Net mask [255.255.255.0]:**

**Gateway (0.0.0.0 for none) [0.0.0.0]:**

## 3.3 IP KVM SWITCH CLASSIC USB Setup Tool

### 3.3.1 MAC Address Detection

Connect the IP KVM SWITCH CLASSIC USB to your computer either via a local network, or via USB. If you use a USB connection Windows will detect the IP KVM SWITCH CLASSIC USB as a '**Removable Disk**' and an appropriate drive letter will be assigned.



Start the setup tool from the CD ROM.

A window opens as shown below:

On the upper left corner, the MAC address of the IP KVM SWITCH CLASSIC USB is displayed. To detect the MAC address, press the **Refresh Devices** button. The displayed MAC address is the same as that printed on the sticker on the base of the unit.

On the lower right corner of the window, there are two buttons: **Query Device** and **Setup Device**. Press the **Query Device** button to display the preconfigured values of the network configuration. The values are displayed in the text fields located above. If necessary, adjust the network settings to your needs. To save the changes enter a user login and a password (see **3.3.2 Authentication, on page 9**) and then press the **Setup Device** button.

### 3.3.2 Authentication

To adjust the authentication settings, enter your login as a super user and change your password.

#### Super user login

Enter the login name of the super user. The initial value is **super**. All of the characters are lower case.

#### Super user password

Enter the current password for the super user. This initial value is **pass**. All of the characters are lower case. Please change the password when configuring the IP KVM Switch for the first time. Not to change the default password may cause some unauthorized access to the switch and the servers connected! Please make sure to store the new password in a secure place you easily can find once you forget it.

#### New super user password

Enter the new password for the super user.

#### New password (confirm)

Re-type the new password for the super user.

To close the window and accept the changes, press the **OK** button, otherwise press the **Cancel** button.

### 3.3.3 IP Auto Configuration

With this option, you can specify whether the IP KVM SWITCH CLASSIC USB should obtain its network settings from a DHCP or BOOTP server. From the drop down list select either **DHCP** or **BOOTP**. If you select **NONE**, the IP auto configuration is disabled and you should manually input the following network settings:

#### IP address

The IP address the IP KVM SWITCH CLASSIC USB uses.

#### Net mask

The net mask of the connected IP subnet.

#### Gateway address

The IP address of the default router for the connected IP subnet. If you do not have a default router, enter **0.0.0.0**.

## 3.4 Keyboard, Mouse and Video configuration

Between the IP KVM SWITCH CLASSIC USB and the host, there are two interfaces available for transmitting keyboard and mouse data: USB and PS/2. The correct operation of the remote mouse depends on several settings which will be discussed in the following subsections.

### 3.4.1 IP KVM SWITCH CLASSIC USB Keyboard Settings

The IP KVM SWITCH CLASSIC USB settings for the host's keyboard type have to be correct in order to make the remote keyboard work properly. The settings can be checked using the IP KVM SWITCH CLASSIC USB web front-end.

### 3.4.2 Remote Mouse Settings

A common problem with KVM devices is the synchronization between the local and remote mouse cursors. The IP KVM SWITCH CLASSIC USB addresses this problem with an intelligent synchronization algorithm. There are two mouse modes available on the IP KVM SWITCH CLASSIC USB: **Auto mouse speed** and **Fixed mouse speed**.

#### **Auto mouse speed**

The automatic mouse speed mode tries to detect the speed and acceleration settings of the host system automatically. Speed detection is performed during mouse synchronization. If the mouse does not move correctly, there are two ways to re-synchronize the local and remote mouse:

**Fast Sync:** Fast synchronization is used to correct a temporary, but fixed skew. Choose this option using the Remote Console options menu or by pressing the mouse synchronization hotkey sequence - **[ALT] + [F12]**

**Intelligent Sync:** If the fast sync does not work correctly or the mouse settings have been changed on the host system, you can use the intelligent resynchronization option. This method can be accessed from the **Mouse Handling** sub menu of the Remote Console **Option** menu.

Intelligent synchronization requires a correctly adjusted picture. Use the auto adjustment function or manual correction in the Video Settings panel to setup the picture. **The Sync mouse button on top of the Remote Console can behave differently, depending on the current state of mouse synchronization.** Usually pressing this button leads to a fast sync, except in situations where the KVM port or the video mode was recently changed.

**Tip:** When first started, if the local mouse pointer is not synchronized with the remote mouse pointer, click the **Auto Adjust Button** once. If the mouse is still not synchronized select **Intelligent Sync** from the **Mouse Handling** sub menu of the Remote Console **Option** menu.

#### **Fixed mouse speed**

This mode just translates the mouse movements from the Remote Console in a way that one pixel move will lead to 'n' pixel moves on the remote system. This parameter 'n' is adjustable. However, it should be noted that this works only when mouse acceleration is turned off on the remote system.



### 3.4.3 Host System Mouse Settings

The host's operating system obtains various settings from the mouse driver.

**Note:** The following limitations do not apply when using USB mice and Windows 2000 and higher!

#### Special Mouse Driver

There are mouse drivers which influence the synchronization process and lead to desynchronized mouse pointers. If this happens, make sure you do not use a special vendor-specific mouse driver on your host system.

#### Windows XP Mouse Settings

If using Windows XP, disable the **enhance pointer precision / improve mouse acceleration** setting.

#### Active Desktop

If the Active Desktop feature of Microsoft Windows is enabled, do not use a plain background. Instead, use some kind of wallpaper. Alternatively, you could also disable the Active Desktop completely.

Navigate your mouse pointer into the upper left corner of the applet screen and move it back and forth slightly. In this way the mouse will be resynchronized. If re-synchronizing fails, disable mouse acceleration and repeat the procedure.

### 3.4.4 Single and Double Mouse Mode

The information above applies to **Double Mouse Mode**, where both remote and local mouse pointers are visible and need to be synchronized. The IP KVM SWITCH CLASSIC USB also features another mode - **Single Mouse Mode**, where only the remote mouse pointer is visible. Activate this mode in the open Remote Console and click into the window area. The local mouse pointer will be hidden and the remote one can be controlled directly. To leave this mode, use the hotkey combination **[ALT] + [F12]** to free the captured local mouse pointer.

### 3.4.5 Recommended Mouse Settings

For the different operating systems we can give the following advice...

#### MS Windows 2000/2003 (Professional and Server), XP

In general, we recommend the use of a USB mouse. Choose USB without Mouse Sync. For a PS/2 mouse choose Auto Mouse Speed. For XP disable the option called **enhance pointer precision** in the Control Panel.

#### SUN Solaris

Adjust the mouse settings either via **xset m 1** or use the CDE Control Panel to set the mouse to 1:1, no acceleration. As an alternative you may also use the Single Mouse Mode.

#### MAC OS X

We recommend using the Single Mouse Mode.

### 3.4.6 Video Modes

The IP KVM SWITCH CLASSIC USB switch recognizes a limited number of common video modes. When running X11 on the host system, please do not use any custom mode lines with special video modes. If you do, the IP KVM SWITCH CLASSIC USB switch may not be able to detect them. We recommend using any of the standard VESA video modes instead.

## 4. Usage

---

### 4.1 Prerequisites

The IP KVM SWITCH CLASSIC USB features an embedded operating system offering a variety of standardized interfaces. This section will describe these interfaces, and the way to use them in a more detailed manner. The interfaces are accessed using the TCP/IP protocol family.

The following interfaces are supported:

#### **Telnet**

A standard Telnet client can be used to access an arbitrary device connected to the IP KVM SWITCH CLASSIC USB's serial port via a terminal.

#### **HTTP/HTTPS**

Full access is provided by the embedded web server. The IP KVM SWITCH CLASSIC USB switch environment can be entirely managed using a standard web browser. You can access the IP KVM SWITCH CLASSIC USB using the insecure HTTP protocol, or using the encrypted HTTPS protocol. Whenever possible, use HTTPS.

The primary interface of the IP KVM SWITCH CLASSIC USB is the HTTP interface. This is covered extensively in this section. Other interfaces are addressed in the relevant subsections.

In order to use the Remote Console window of your managed host system, the browser must feature Java Runtime Environment version 1.1 or higher support. If the browser has no Java support (such as on a small handheld device), you can still maintain your remote host system using the administration forms displayed by the browser itself.

***Important:* We recommend you install the latest version of Sun's Java Virtual Machine which can be downloaded from the following web site:**

**[www.java.com](http://www.java.com)**

For a non-secure connection to the IP KVM SWITCH CLASSIC USB, we recommend the following browsers:

- Microsoft Internet Explorer version 6.0 or higher
- Netscape Navigator 7.0 or Mozilla 1.6 or higher

In order to access the remote host system using a securely encrypted connection, you need a browser that supports the HTTPS protocol. Strong security is only assured by using a key length of 128 Bit. Some older browsers do not have a strong 128 Bit encryption algorithm.

## 4.2 Logging In

### 4.2.1 Login to the IP KVM SWITCH CLASSIC USB

Launch your web browser. Direct it to the address of your IP KVM SWITCH CLASSIC USB which you configured during the installation process. The address used might be a plain IP address or a host and domain name if you have given your IP KVM SWITCH CLASSIC USB switch a symbolic name in the DNS.

**Example:** Type the following in the address line of your browser when establishing an unsecured connection:

**http://<IP address of IP KVM SWITCH CLASSIC USB >**

When using a secure connection, type in:

**https://<IP address of IP KVM SWITCH CLASSIC USB >**

This will lead you to the IP KVM SWITCH CLASSIC USB login page as shown below:



The IP KVM SWITCH CLASSIC USB has a built-in super user account that has all the permissions enabled to administrate your IP KVM SWITCH CLASSIC USB switch:

<b>Login name</b>	<b>super (factory default)</b>
<b>Password</b>	<b>pass (factory default)</b>

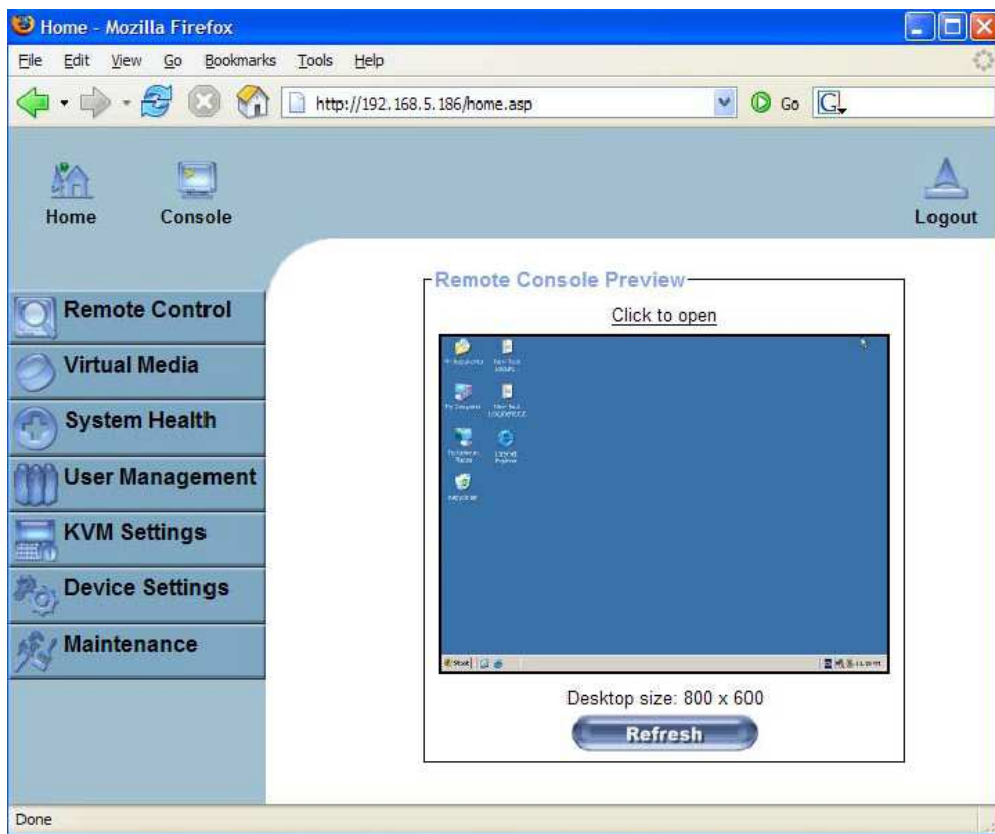
**Please note:** Your web browser has to accept cookies, or else login is not possible.

**Note:** The user “super” is not allowed to login via the serial interface of the IP-KVM switch.

Please make sure you change the super user password immediately after you have installed and accessed your IP KVM SWITCH CLASSIC USB for the first time. Not changing the password for the super user is a severe security risk and could result in unauthorized access to the switch and to the host system(s) to which it is connected.

## 4.3 Navigation

Once logged into the IP KVM SWITCH CLASSIC USB successfully, the main page appears. This page consists of three parts; each of them contains specific information. The buttons in the upper area allow you to navigate within the front end. The lower left area contains a navigation bar and allows you to switch between the different sections of the IP KVM SWITCH CLASSIC USB. Within the main area, task-specific information is displayed.



Home

Return to the main page of the IP KVM SWITCH CLASSIC USB



Logout

Logout from the IP KVM SWITCH CLASSIC USB



Console

Access the Remote Console

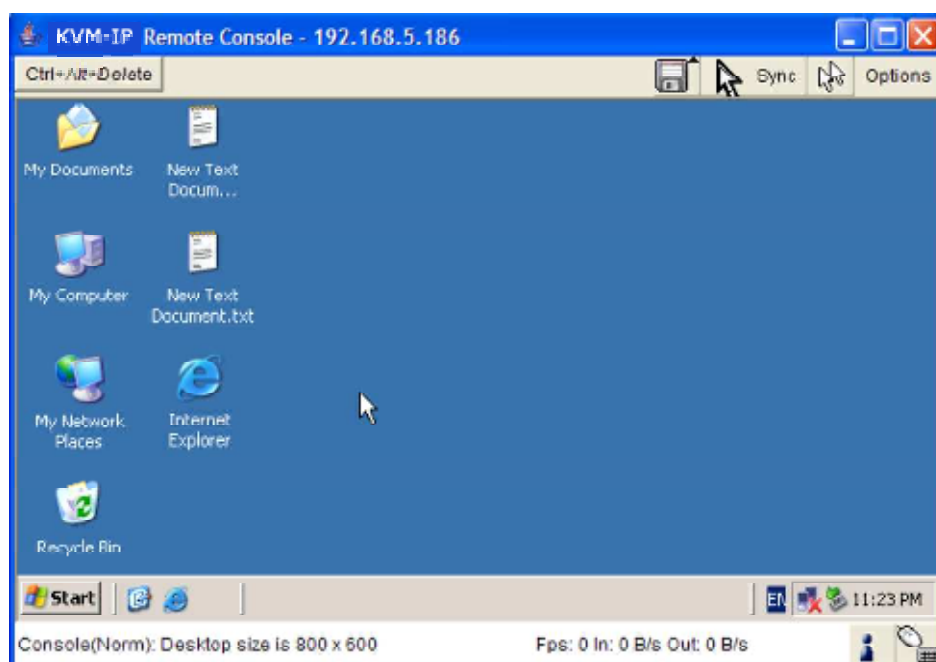
The Remote Console is the redirected screen, keyboard and mouse of the remote host system that the IP KVM SWITCH CLASSIC USB controls. Selecting this button opens the **Remote Console Main Window**.

The Remote Console window is a Java Applet that establishes its own TCP connection to the IP KVM SWITCH CLASSIC USB. The protocol that runs over this connection is neither HTTP nor HTTPS, but RFB (Remote Frame Buffer Protocol). RFB needs to establish a connection to port number 443. Your local network environment has to allow this connection to be made, i.e. your firewall and, if you have a private internal network, your NAT (Network Address Translation) settings have to be configured accordingly.

If the IP KVM SWITCH CLASSIC USB is connected to your local network environment and your connection to the Internet is available using a proxy server only, without NAT being configured, the Remote Console is very unlikely to be able to establish a connection. This is because today's web proxies are not capable of relaying the RFB protocol.

If you experience problems, please consult your network administrator in order to provide an appropriate network environment.

### 4.3.1 Remote Console Main Window



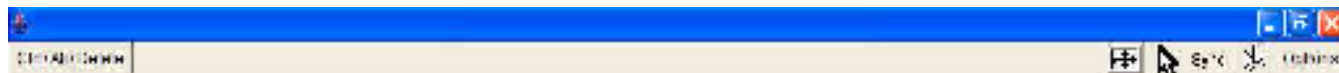
Starting the Remote Console opens an additional window. It displays the screen content of your host system. The Remote Console will behave in exactly the same way as if you were sitting directly in front of the screen of your host system. This means that the keyboard and mouse can be used in the usual way. However, be aware of the fact that the host system will react to keyboard and mouse actions with a slight delay. The delay depends on the bandwidth of the line which you use to connect to the IP KVM SWITCH CLASSIC USB.

**Note:** Your local keyboard changes its keyboard layout according to the remote host system. If you use a German administration system and your host system uses a US English keyboard layout for instance, some special keys on the German keyboard will not work as expected. Instead, the keys will result in their US English counterpart. You can circumvent such problems by adjusting the keyboard of your remote system to the same mapping as your local one.

The Remote Console window always tries to show the remote screen with its optimal size. That means it will adapt its size to the size of the remote screen initially and after the screen resolution of the remote screen has been changed. However, you can always resize the Remote Console window in your local window system as usual.

### 4.3.2 Remote Console Control Bar

The upper part of the Remote Console window contains a control bar. Using its elements you can see the state of the Remote Console and influence the local Remote Console settings. A description for each control follows.



**Ctrl+Alt+Delete**

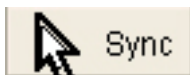
#### **Ctrl+Alt+Delete**

Sends the 'Control Alt Delete' key combination to the remote system



#### **Auto Adjust button**

If the video display is poor quality or distorted in some way, click this button and wait a few seconds while the IP KVM SWITCH CLASSIC USB tries to adjust itself for the best possible video quality.



#### **Sync mouse**

Activates the mouse synchronization process. Choose this option in order to synchronize the local AND remote mouse cursors. This is especially necessary when using accelerated mouse settings on the host system. In general, there is no need to change mouse settings on the host.



#### **Single/Double mouse mode**

Switches between the Single Mouse Mode (where only the remote mouse pointer is visible) and the Double Mouse Mode (where remote and local mouse pointers are visible) Single mouse mode is only available if using SUN JVM 1.3 or higher.

**Tip:** When in single mouse mode use the hotkey combination **[ALT] + [F12]** to release mouse control and access the menus etc.

## Options

### Options

Opens the Options menu. A short description of each of the options follows:

#### Monitor Only

Toggles the 'Monitor Only' filter on or off. If the filter is switched on, no remote console interaction is possible but monitoring is.

#### Exclusive Access

If a user has the appropriate permission, he can force the Remote Consoles of all other users to close. No one can open the Remote Console at the same time again until this user disables the exclusive access, or logs off.



A change in the access mode is also visible in the status line indicated by this icon.



#### Scaling

Allows you to scale down the Remote Console window: 25% / 50% / 100% / *Scale to fit*. You can still use both mouse and keyboard; however the scaling algorithm will not preserve all display details.

#### Mouse Handling

The submenu for mouse handling offers two options for synchronizing the local and the remote mouse pointer.

##### **Fast Sync**

The fast synchronization is used to correct a temporary, but fixed skew.

##### **Intelligent Sync**

Use this option if the fast sync does not work or the mouse settings have been changed on the host system.

**Note:** This method takes more time than fast sync and requires a correctly adjusted picture. Use the auto adjustment function or the manual correction in the Video Settings panel to setup the picture.

#### Local Cursor

Offers a list of different cursor shapes to choose from for the local mouse pointer: Transparent, Default, Big, Pixel, Crosshair. The selected shape will be saved for the current user and activated the next time this user opens the Remote Console. The number of available shapes depends on the Java Virtual Machine; a version of 1.2 or higher offers the full list.

#### Video Settings

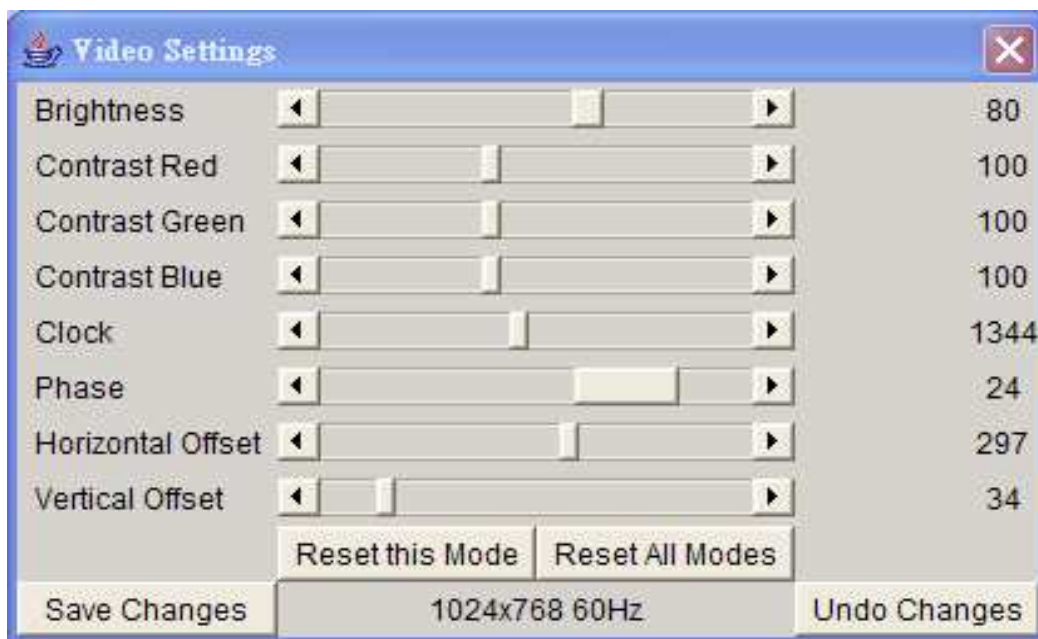
Opens a panel for changing the IP KVM SWITCH CLASSIC USB video settings. The IP KVM SWITCH CLASSIC USB features two different dialogs, which influence the video settings:

**Video Settings through the HTML-Frontend:** To enable the local video port, select this option. This option decides if the local video output of the IP KVM SWITCH CLASSIC USB is active and passing through the incoming signal from the host system.

The Noise Filter option defines how the IP KVM SWITCH CLASSIC USB reacts to small changes in the video input signal. A large filter setting needs less network traffic and leads to a faster video display, but small changes in some display regions may not be recognized

immediately. A small filter displays all changes instantly but may lead to a constant amount of network traffic even if display content is not really changing (depending on the quality of the video input signal). All in all the default setting should be suitable for most situations.

**Video Settings through the remote console:**



**Brightness**

Controls the brightness of the picture

**Contrast**

Controls the contrast of the picture

**Clock**

Defines the horizontal frequency for a video line and depends on the video mode. Different video card types may require different values here. The default settings in conjunction with the auto adjustment procedure should be adequate for most common configurations. If the picture quality is still bad after auto adjustment you may change this setting together with the sampling phase to achieve a better quality.

**Phase**

Defines the phase for video sampling, used to control the display quality together with the setting for sampling clock.

**Horizontal Offset**

Use the left and right buttons to move the picture in a horizontal direction

**Vertical Offset**

Use the left and right buttons to move the picture in a vertical direction

**Reset this Mode**

Reset mode specific settings to the factory-made defaults.

**Reset all Modes**

Reset all settings to the factory-made defaults.

**Save Changes**



Save changes permanently

### **Undo Changes**

Restore last settings

### **Soft Keyboard**

Opens up the sub-menu for the Soft-Keyboard:

#### **Show**

Pops up the Soft-Keyboard. The Soft-Keyboard is necessary in case your host system runs a completely different language and country mapping than your administration machine.



### **Mapping**

Used for choosing the language and country mapping of the Soft-Keyboard.

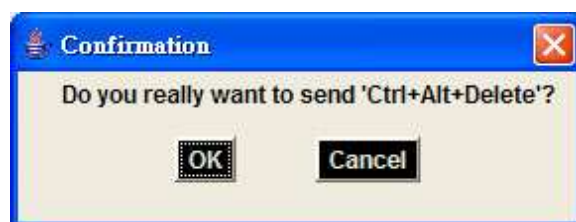
### **Local Keyboard**

Used to change the language mapping of your browser running the Remote Console Applet. Normally, the applet determines the correct value automatically. However, depending on your particular KVM and your browser settings this is not always possible. A typical example is a German localized system that uses a US-English keyboard mapping. In this case you must manually change the local keyboard setting to the correct language.

### **Hotkeys**

Opens a list of previously defined hotkeys. Choose one entry; the command will be sent to the host system.

A confirmation dialog can be added that will be displayed before sending the selected command to the remote host. Select **OK** to perform the command on the remote host.

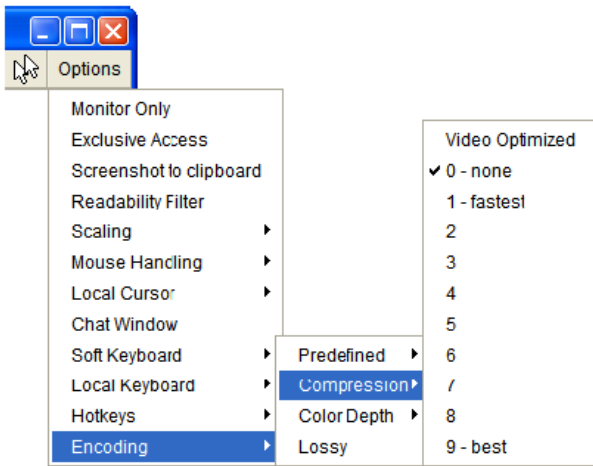


### **Encoding**

These options are used to adjust the encoding level in terms of compression and colour depth. They are only available if "Transmission Encoding" is determined automatically (see the Section called Transmission Encoding in Chapter 5.4).

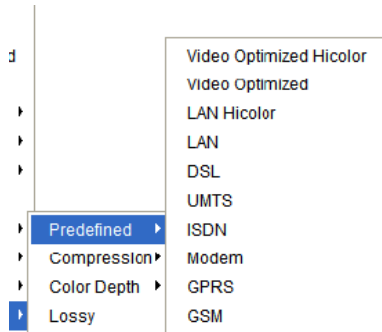
### **Compression Level:**

You may select a value between 1 and 9 with level 1 enabling the fastest compression and level 9 the best compression. The most suitable compression level should always be seen as a compromise between the network bandwidth that is available, on your video picture to be transferred, and on the number of changes between two single video pictures. We recommend



that you use a higher compression level if the network bandwidth is low. The higher the compression level the more time is needed to pack and unpack the video data on either side of the connection. The compression quality depends on the video picture itself, e.g. the number of the colours or the diversity of pixels. The lower the compression quality, the more data have to be sent and the longer it may take to transfer the whole video picture.

If level 0 is chosen the video compression is disabled, completely.



The option "Video Optimized" has its advantages if transferring high-quality motion pictures. In this case the video compression is disabled, completely and all video data is transferred via network as full-quality video snippets. Therefore, a high amount of bandwidth is required to ensure the quality of the video picture.

The next two options allow you to set the compression level to a predefined level OR to set a level for "lossy" compression. This compresses well, but leads to degradation in image quality.



#### Colour Depth:

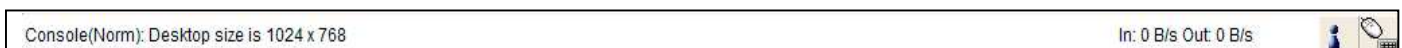
Set the desired colour depth. You may select between 8 or 16 bit for Video Optimized/compression level 0, or between 1 and 8 bit for compression levels 1 to 9. The higher the colour depth, the more video information has to be captured and to be transferred.

Note: If displaying motion pictures on a connection with low speed you may achieve an improvement regarding the video transfer rate by lowering the colour depth and disabling the option "Video Optimized". As a general result, the data rate is reduced (less bits per colour). Furthermore, the OPMA module will not have to do any video compression. In total, this will lead to less transfer time of the motion picture.

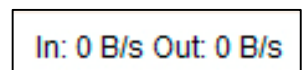
### 4.3.3 Remote Console Status Line

#### Status line

Shows both console and the connection state. The size of the remote screen is displayed. The example below was taken from a Remote Console with a resolution of 1024 x 768 pixels. The value in brackets describes the connection to the Remote Console. **Norm** means a standard connection without encryption, **SSL** indicates a secure connection.



Furthermore, both the incoming (**In:**) and the outgoing (**Out:**) network traffic are visible (in kb/s). If compressed encoding is enabled, a value in brackets displays the compressed transfer rate.

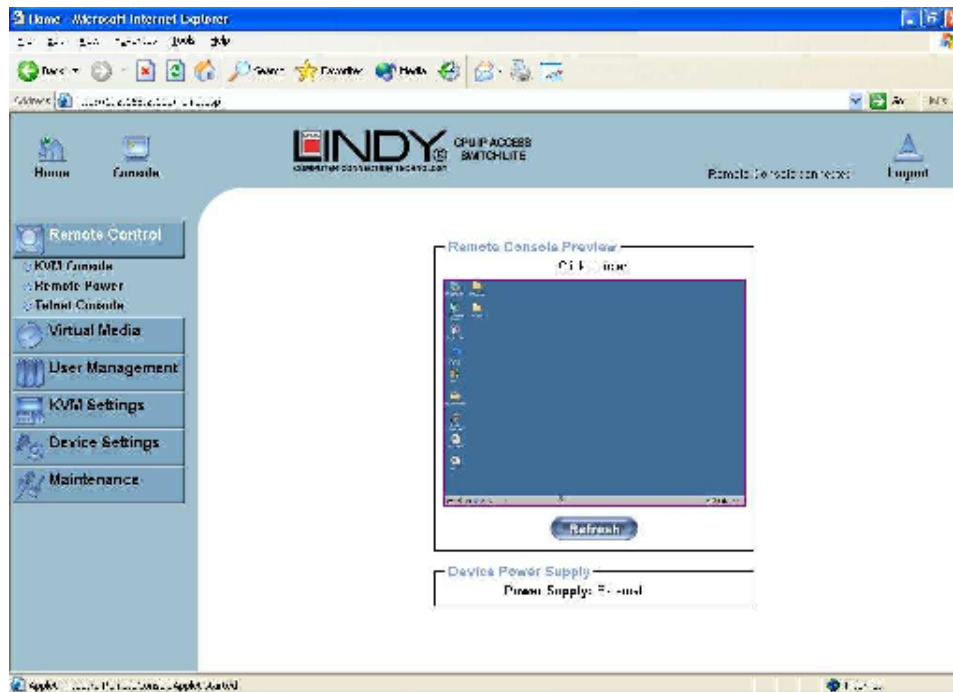


For more information about **Monitor Only** and **Exclusive Access** settings, see the relevant sections.

## 5. Menu Options

### 5.1 Remote Control

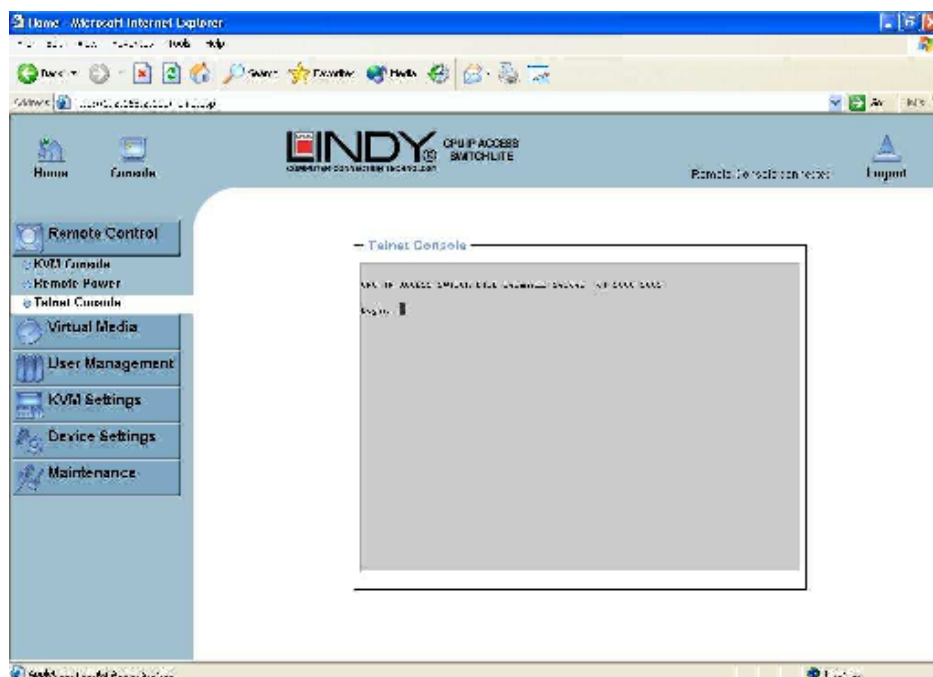
#### 5.1.1 KVM Console



To open the KVM console, click either the menu entry on the left or on the console picture on the right. To refresh the picture, click on the **Refresh** button.

For the **Remote Power** settings see **Section 2.2.5 on page 6**.

#### 5.1.2 Telnet Console



The IP KVM SWITCH CLASSIC USB firmware features a Telnet server that enables a user to connect via a standard Telnet client. If the Telnet program is using a VT 100, VT 102 or VT 220 terminal or appropriate emulation, it is even possible to perform a console redirection, as long as the IP KVM SWITCH CLASSIC USB host is using a text mode screen resolution.

Connecting to the IP KVM SWITCH CLASSIC USB is done as usual and as required by the Telnet client, for instance in a UNIX shell:

**telnet 192.168.1.22**

Replace the IP address by the one that is actually assigned to the IP KVM SWITCH CLASSIC USB . This will prompt for the username and password in order to log into the device. The credentials that need to be entered for authentication are identical to those of the web interface. That means the user management of the Telnet interface is entirely controlled with the appropriate functions of the web interface.

Once you have successfully logged into the IP KVM SWITCH CLASSIC USB a command line will be presented and you can enter management commands.

In general, the Telnet interface supports two operation modes: the command line mode and the terminal mode. The command line mode is used to control or display some parameters. In terminal mode the pass-through access to serial port 1 is activated (if the serial settings were made accordingly). All inputs are redirected to the device on serial port 1 and its answers are displayed on the Telnet interface.

The following list shows the command mode syntax and their usage.

#### **Help**

Displays the list of possible commands

#### **Cls**

Clears the screen

#### **Quit**

Exits the current session and disconnects from the client

#### **Version**

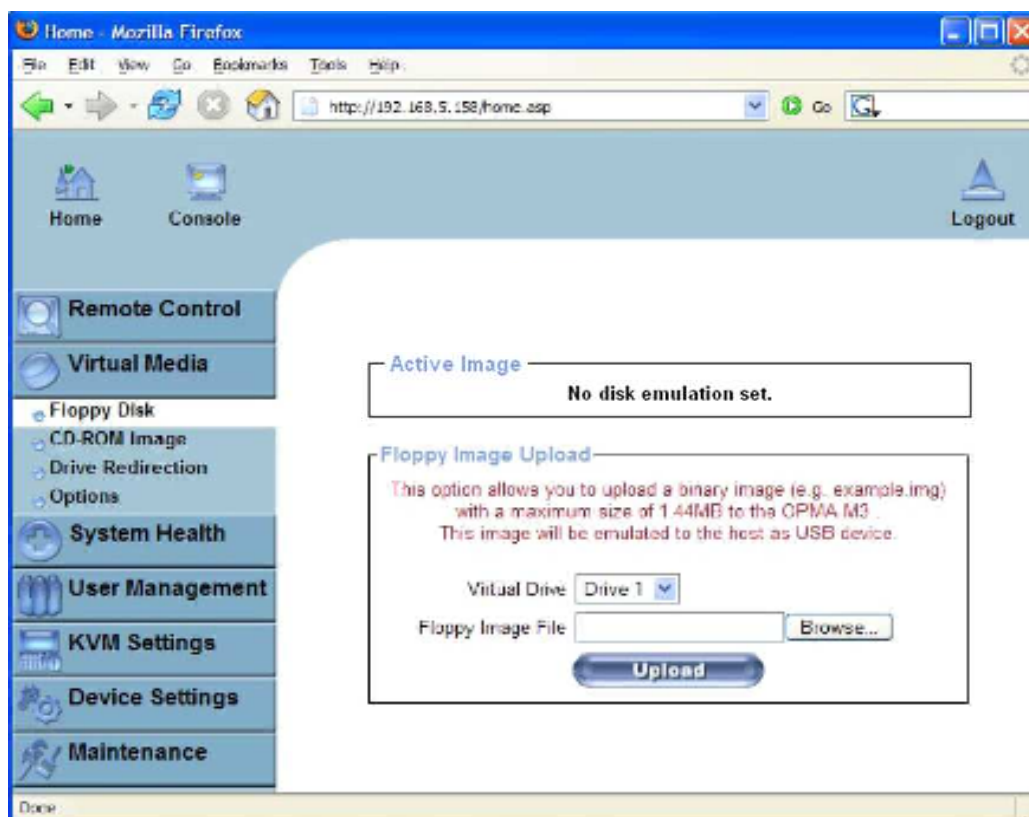
Displays the release information

#### **Terminal**

Starts the terminal pass-through mode for the serial port. The key sequence 'esc exit' switches back to the command mode.

## 5.2 Virtual Media

### 5.2.1 Floppy Disk



Follow the steps below to upload a virtual floppy image to the IP KVM SWITCH CLASSIC USB and create a virtual floppy drive on the host system

#### Create a Floppy Image

First, on your client PC you must create an image of your floppy disk which can be uploaded to the IP KVM SWITCH CLASSIC USB's built-in memory.

#### UNIX and UNIX-like OS

To create an image file, make use of **dd**. This is one of the original UNIX utilities and is included in every UNIX-like OS (UNIX, Sun Solaris, and Linux).

To create a floppy image file copy the contents of a floppy to a file. You can use the following command:


```
dd [ if=/dev/fd0 ] [ of=/tmp/floppy.image ]
```

**dd** reads the entire disc from the device **/dev/fd0** and saves the output in the specified output file **/tmp/floppy.image**. Adjust both parameters exactly to your needs (input device etc.)

## Windows

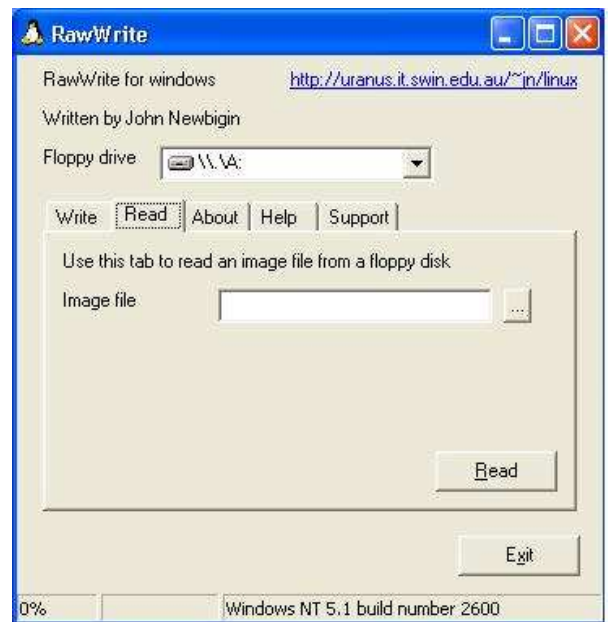
Windows users should use the tool **RawWrite for Windows** which is included on the supplied CD.

Launch **RawWrite**, you will see the window opposite:

Insert your floppy disk into your floppy drive. Click the **Read** tab and then click on 

Select a name and destination for the floppy image file and click the **Read** button. As the image is written, you will see the progress as a percentage figure in the bottom left hand corner.

When the image has been written you can upload it to the IP KVM SWITCH CLASSIC USB .



## Uploading a Floppy Image

Click the **Browse** button and navigate to the location of the image file, then click the **Upload** button.



After the image has uploaded you will see the dialog below:

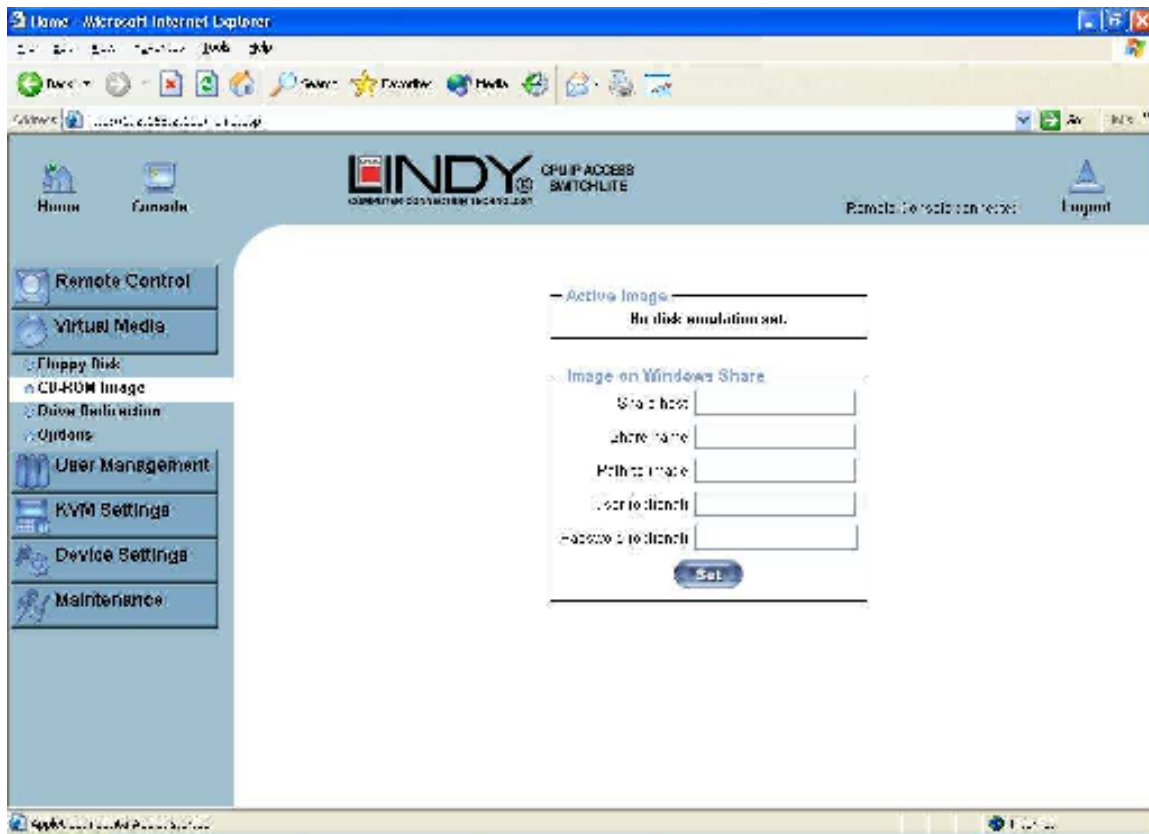


Click **Reactivate**. A virtual floppy drive will be installed on the host system and the image will be downloaded to the virtual floppy drive from the IP KVM SWITCH CLASSIC USB . You can access the virtual floppy drive in the same way you would a regular drive.

You can download the image from the IP KVM SWITCH CLASSIC USB to your remote system by clicking the **Download** button.

Clicking **Discard** removes the virtual floppy image from the IP KVM SWITCH CLASSIC USB and from the hosts system.

## 5.2.2 Create a CD-ROM/ISO Image



Follow the procedure below to create a CD-ROM image which can be accessed by the host system via the IP KVM SWITCH CLASSIC USB .

First, on your client PC you must create an image of your CD which can be accessed by the host system.

### **UNIX and UNIX-like OS**

To create an image file, make use of **dd**. This is one of the original UNIX utilities and is included in every UNIX-like OS (UNIX, Sun Solaris, and Linux).

To create a CDROM image file, copy the contents of the CD-ROM to a file. You can use the following command:

```
dd [ if=/dev/cdrom ] [ of=/tmp/cdrom.image ]
```

**dd** reads the entire disc from the device **/dev/cdrom**, and saves the output in the specified output file **/tmp/cdrom.image**. Adjust both parameters exactly to your needs (input device etc.).



## Windows

To create the image file, use your favourite CD imaging tool. Copy the whole contents of the disc into one single image file on your hard disk.

For example, with 'Nero' you choose 'Copy and Backup'. Then, navigate to the 'Copy Disc' section. Select the CD ROM or DVD drive you would like to create an image from. Specify the filename of the image, and save the CD ROM content in that file.



### Example:

1. Create a CD image and name it **image.iso**
2. Create a folder on your client PC and name it **Test**. Copy the file **image.iso** to the folder **Test**.
3. Now you need to 'share' this folder. Right click on the folder and select the option **Sharing and Security**. Select **Share this folder** and ensure the **Share Name** is set to **Test**. Click **Permissions** to set permissions for users who access this folder, according to your requirements. Click **Apply** then **OK** to complete.
4. Next you need to mount the image via a Windows Share. In the IP KVM SWITCH CLASSIC USB menu on the left hand side of the browser select **Virtual Media** and from the sub menu select **CD-ROM Image**.



5. Input the following parameters:

<b>Share host:</b>	Enter the IP address of your Console PC here (e.g. 192.168.2.103)
<b>Share name:</b>	Test (The share name of the previously created folder)
<b>Path to image:</b>	image.iso (the name of the CD image)
<b>User:</b>	super (Your user name, the default is super)
<b>Password:</b>	pass (Your password, the default is pass)

6. Click **Set**



7. You will see the dialog below detailing the active image:

**Image file set successfully**

**Active Image**

**CD-ROM Image**

**Image Host:** 192.168.2.104

**Image Share:** Test

**Image File with Path:** image.iso

**User name:** super

**Password:** not displayed

**Reactivate** **Unset**

**Image on Windows Share**

Share host

Share name

Path to image

User (optional)

Password (optional)

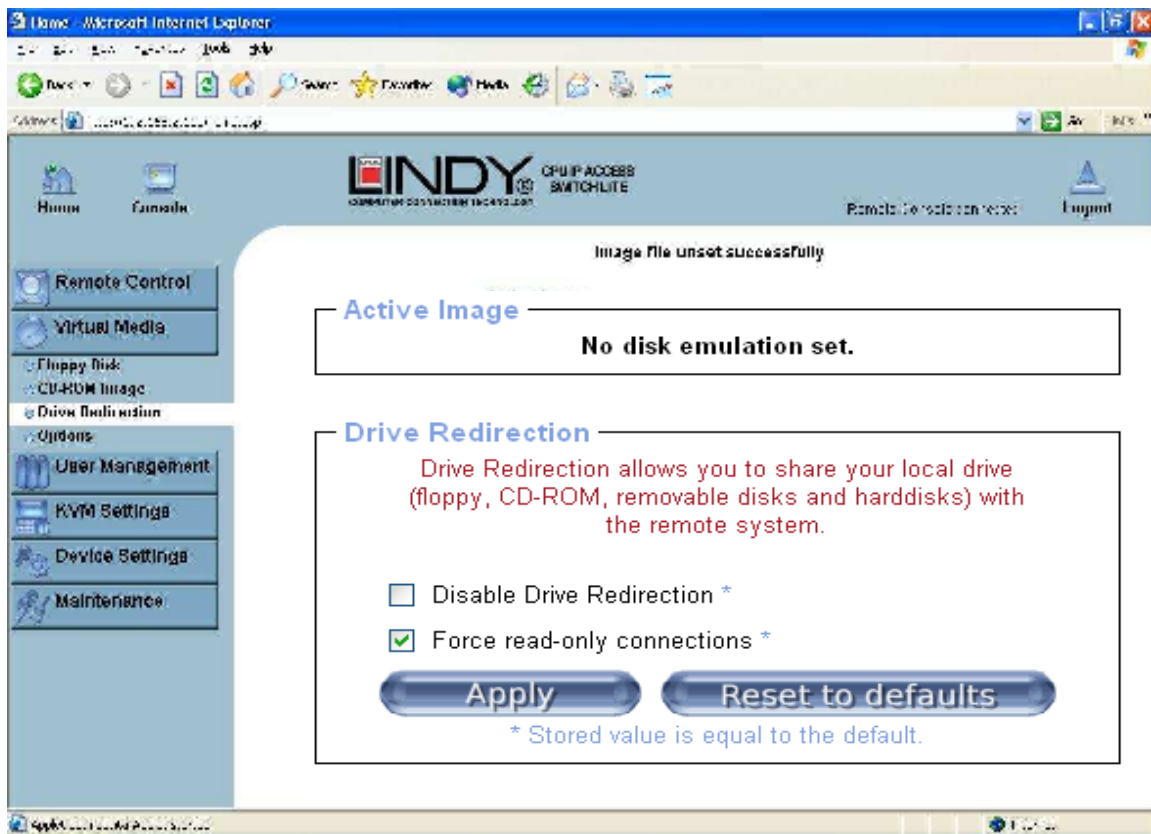
You must remove the current virtual disk to install a CD-ROM image.

8. Click **Reactivate**. Access the console window and you will see that another CD drive has been installed on the host computer. This is the virtual drive you have just set up. You can access the uploaded CD image as though it were a regular CD. Click **Unset** to remove the image.

### **SAMBA**

If you would like to access the share via SAMBA, SAMBA must be set up properly. You may either edit the SAMBA configuration file `/etc/samba/smb.conf`, or use the Samba Web Administration Tool (SWAT) or WebMin to set the correct parameters.

## 5.2.3 Drive Redirection



The Drive Redirection feature allows the host system to access the CD-Rom drives, hard drives, floppy drives etc. on your client PC.

With Drive Redirection you do not have to use an image file but may work with a drive from your local computer on the remote machine. The drive is hereby shared over a TCP network connection. Devices such as floppy drives, hard discs, CD ROMs and other removable devices like USB sticks can be redirected. It is even possible to enable a write support so that for the remote machine it is possible to write data to your local disc.

Please note that Drive Redirection works on a level which is far below the operating system. That means that neither the local nor the remote operating system is aware that the drive is currently redirected. This may lead to inconsistent data as soon as one of the operating systems (either from the local machine, or from the remote host) is writing data on the device. If write support is enabled the remote computer might damage the data and the file system on the redirected device. On the other hand, if the local operating system writes data to the redirected device the drive cache of the operating system of the remote host might contain older data. This may confuse the remote host's operating system. **Therefore, we recommend to use the Drive Redirection with care, especially the write support.**

### Disable Drive Redirection

If enabled the Drive Redirection is switched off.

### Force read-only connections

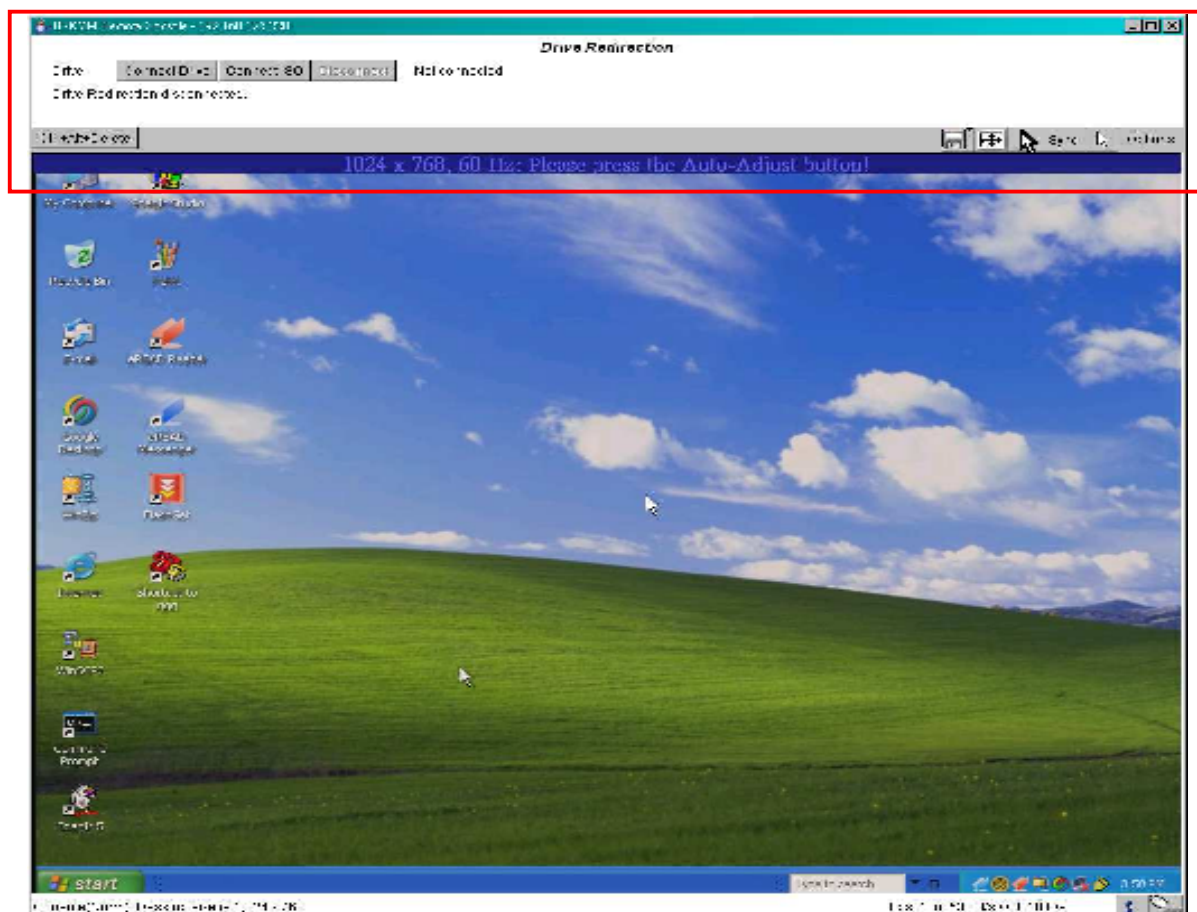
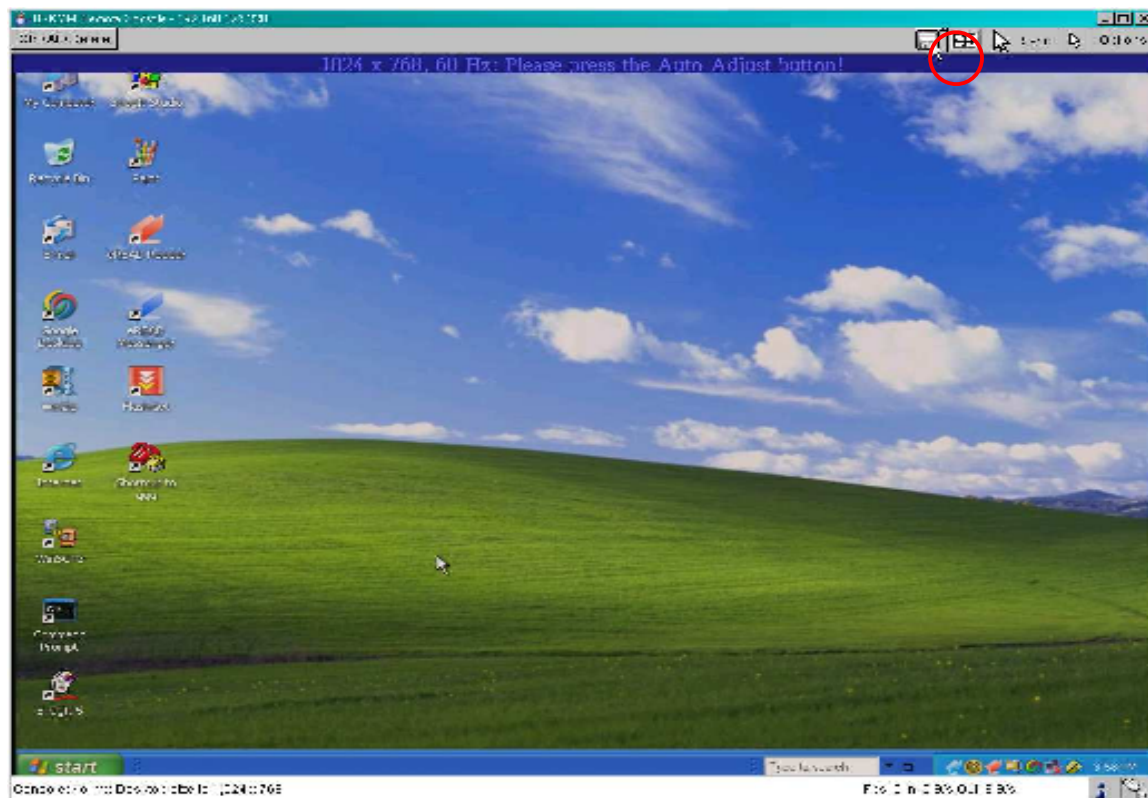
If enabled the Write Support for the Drive Redirection is switched off. It is not possible to write on a redirected device.

Click **Apply** to submit your changes.

## The method of Drive Redirection:

Built-in Java Drive Redirection function in Remote Console

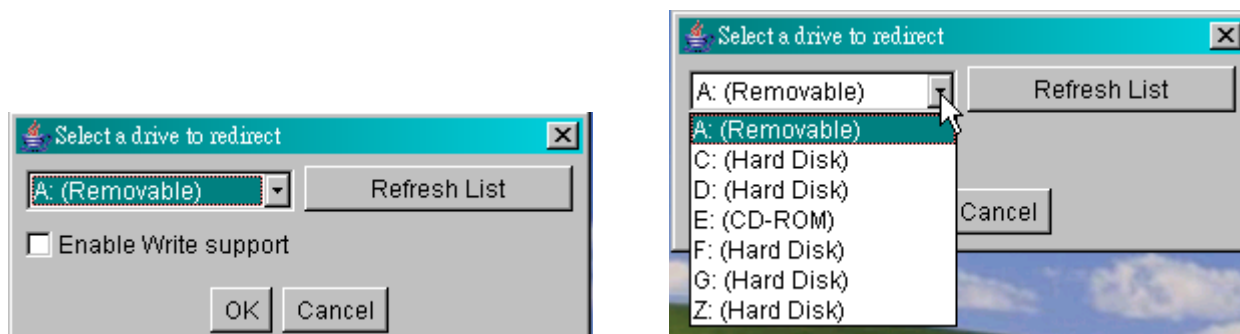
1. Run Remote Control > KVM Console.
2. Click “Floppy” icon 



### 3. Click **Connect Drive** or **Connect ISO**



### 4. Select a drive to redirect (if Connect Drive)

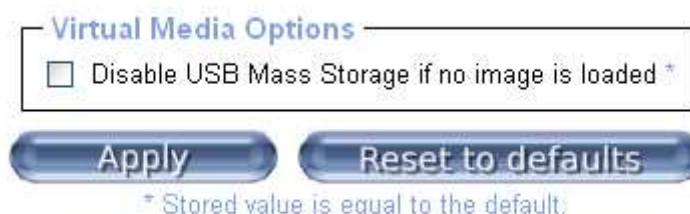


### 5. Select a ISO image to redirect (if Connect ISO)

#### IMPORTANT

1. Drive Redirection is only possible with Windows 2000 and later versions.
2. Drive Redirection works on a low SCSI level. The SCSI protocol cannot recognize partitions; therefore the whole drive selected will be shared instead of any particular partition.
3. When connecting to a legacy KVM switch, please select PS/2 mouse from the **Keyboard/Mouse setting** on the web page. Otherwise you will not be able to use Hot-keys.

## 5.2.4 Options

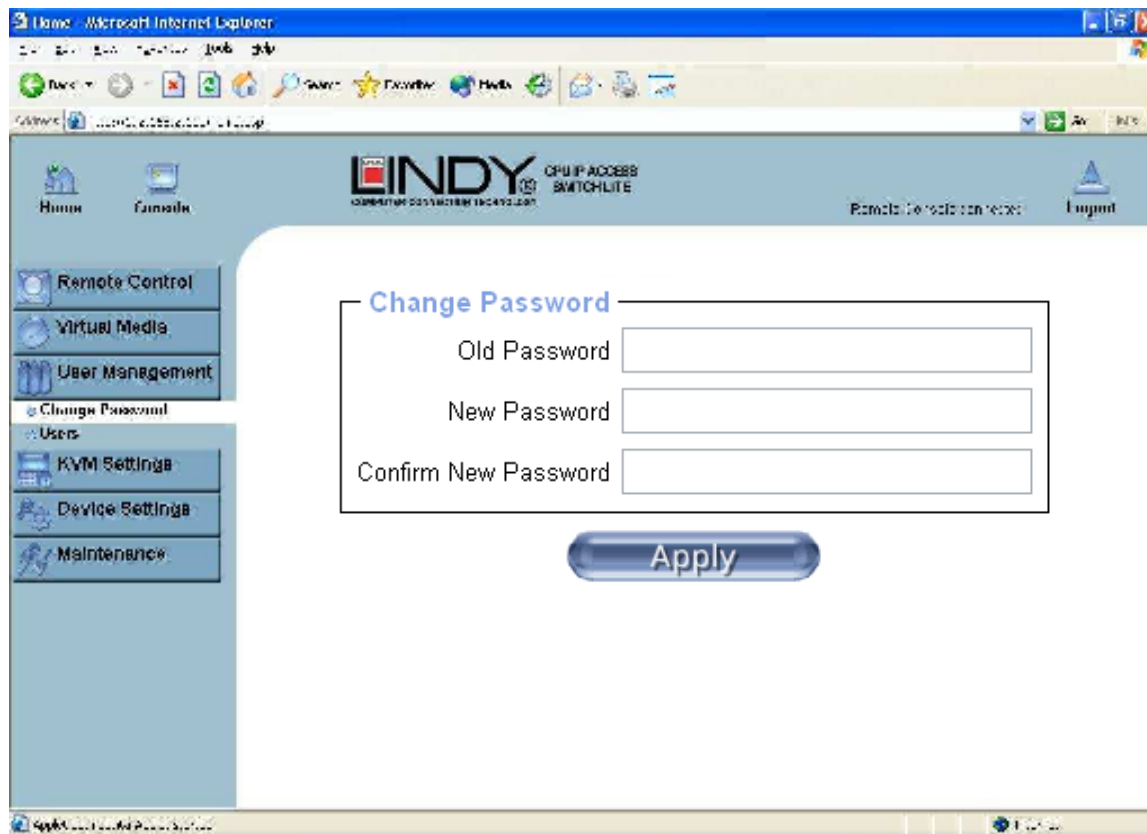


This option allows you to disable the mass storage emulation (and hide the virtual drive) if no image file is currently loaded. To set this option, press the button **Apply**.

## 5.3 User Management

### 5.3.1 Change Password

To change your password, enter the new password in the upper entry field. Retype the password in the lower field. Click **Apply** to submit your changes.

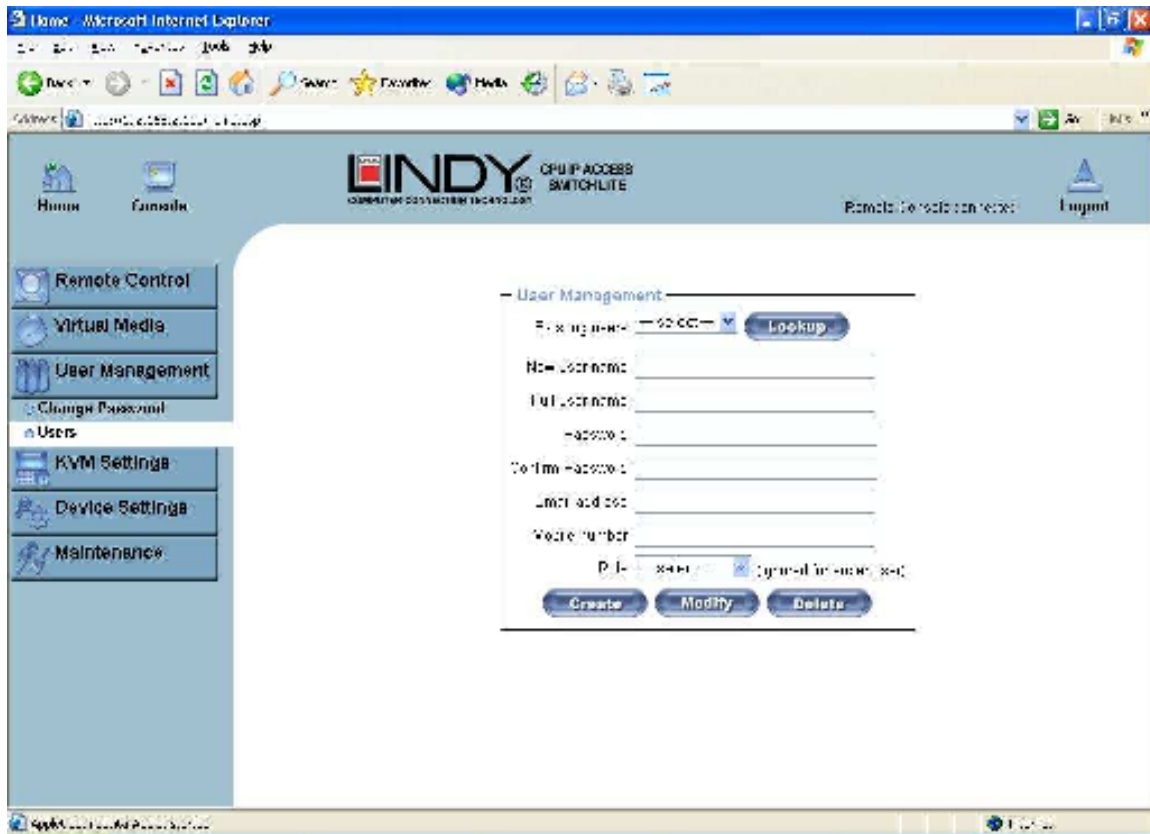


The screenshot shows a web browser window displaying the LINDY web interface. The interface has a blue header with the LINDY logo and navigation links. A left sidebar contains a menu with options: Remote Control, Virtual Media, User Management, Change Password (selected), Users, KVM Settings, Device Settings, and Maintenance. The main content area is titled 'Change Password' and contains three input fields: 'Old Password', 'New Password', and 'Confirm New Password'. Below these fields is a large blue 'Apply' button.

### 5.3.2 Users And Groups

The IP KVM SWITCH CLASSIC USB comes with 2 pre-configured user accounts that have fixed permissions. The **super** account has all possible rights to configure the device and to use all functions. The **user** account has only the permission to open and use the Remote Console. The default password for both accounts is **pass**. Ensure you change the passwords as soon as you have installed and accessed the IP KVM SWITCH CLASSIC USB for the first time.





While the **user** account never sees the following options, the **super** account can change the name and password for both accounts.

### Existing users

Select an existing user for modification. Once a user has been selected, click the lookup button to see the user information.

### New User name

The new user name for the selected account.

### Password

The password for the login name. It must be at least four characters long.

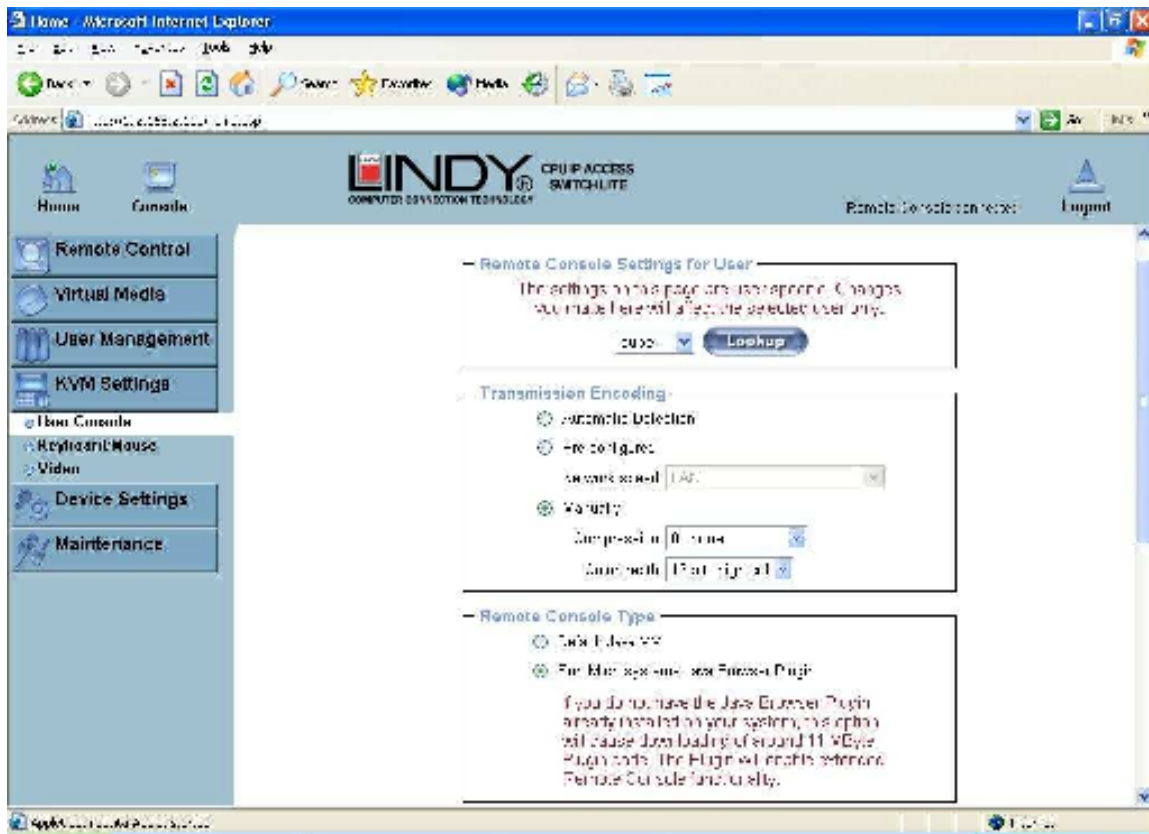
### Confirm password

Confirmation of the above password.

## 5.4 KVM Settings

### 5.4.1 User Console

The following settings are user specific. This means the super user can customize these settings for individual users separately. Changing the settings for one user does not affect the settings for the other users.



#### User select box

This box displays the user ID for which the values are shown and for which the changes will take effect. You may change the settings of other users if you have the necessary access rights.

#### Transmission Encoding

The Transmission Encoding setting allows you to change the image-encoding algorithm that is used to transmit the video data to the Remote Console window. It is possible to optimize the speed of the remote screen depending on the number of users working at the same time and the bandwidth of the connection line (Modem, ISDN, DSL, LAN, etc.).

#### Automatic detection

The encoding and the compression level are determined automatically from the available bandwidth and the current content of the video image.

#### Pre-configured

The pre-configured settings deliver the best result because of optimized adjustment of compression and colour depth for the indicated network speed.

#### Manually

Allows adjustment of both compression rate and colour depth individually. Depending on the selected compression rate the data stream between the IP KVM SWITCH CLASSIC USB and the Remote Console will be compressed in order to save bandwidth. Since high compression

rates are very time consuming, they should not be used when several users are accessing the IP KVM SWITCH CLASSIC USB simultaneously.

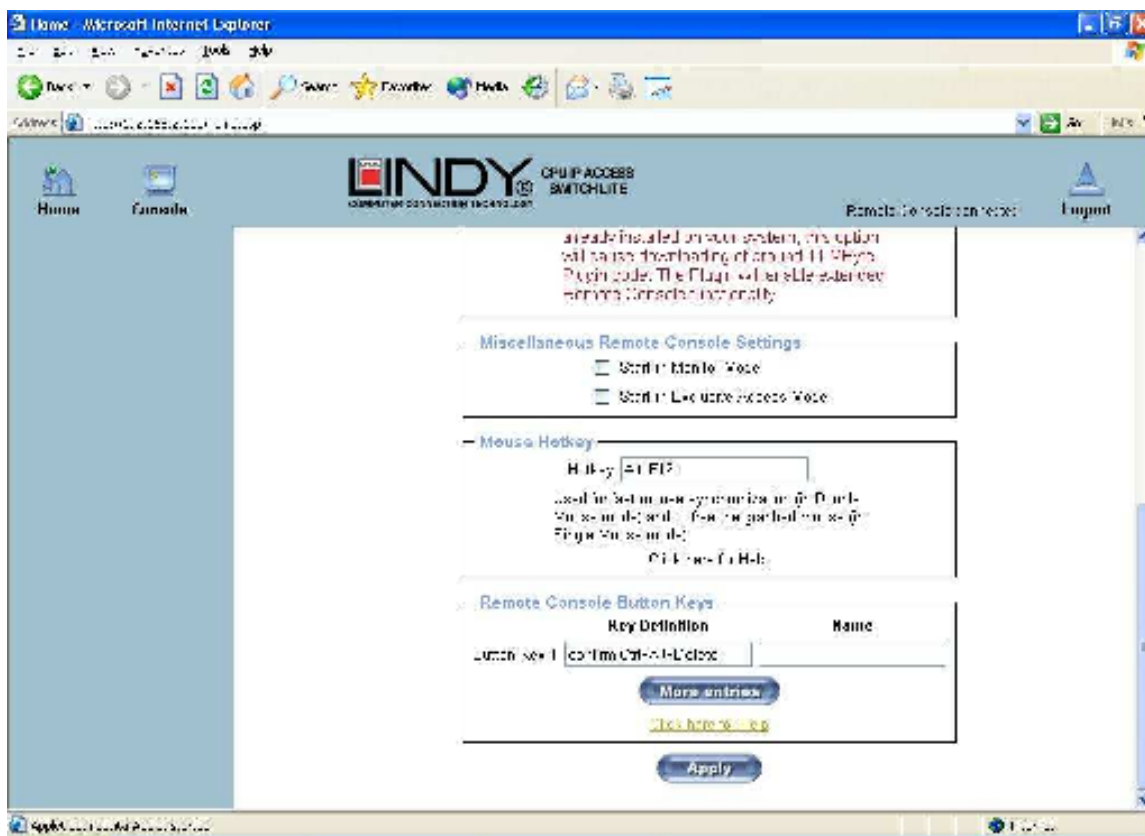
The standard colour depth is 16 bit (65536 colours). The other colour depths are intended for slower network connections in order to allow a faster transmission of data. Therefore compression level 0 (no compression) uses only 16 bit colour depth. At lower bandwidths only 4 bit (16 colours) and 2 bit (4 grey scales) are recommended for typical desktop interfaces. Photo-like pictures have best results with 4 bit (16 grey scales). 1 Bit colour depth (black/white) should only be used for extremely slow network connections.

### Remote Console Type

Specifies, which Remote Console Viewer to use.

### Default Java-VM

Uses the default Java Virtual Machine of your Browser. This may be the Microsoft JVM for Internet Explorer or the Sun JVM if it is configured this way. Use of the Sun JVM may also be forced (see below).



### Sun Microsystems Java Browser Plug-in

Instructs the web browser of your administration system to use Sun's JVM. The JVM in the browser is used to run the code for the Remote Console window which is actually a Java Applet. If you check this box for the first time on your administration system and the appropriate Java plug-in is not already installed on your system, it will be downloaded and installed automatically. However, in order to make the installation possible, you still need to answer the according dialogs with **yes**. The download size is around 11MB. The advantage of downloading Sun's JVM is in providing a stable and identical Java Virtual Machine across different platforms. The Remote Console software is optimized for Sun JVM versions and offers wider range of functionality when run with JVM.



## Miscellaneous Remote Console Settings

**Start in Monitor Mode** Sets the initial value for the monitor mode. By default the monitor mode is off. In case you switch it on, the Remote Console window will be started in a read only mode.

**Start in Exclusive Access Mode** Enables the exclusive access mode immediately at Remote Console start-up. This forces the Remote Consoles of all other users to close. No one can open the Remote Console at the same time again until this user disables the exclusive access or logs off.

### Mouse hotkey

Allows the user to specify a hotkey combination which starts either the mouse synchronization process if pressed in the Remote Console or is used to leave the single mouse mode.

### Remote Console Button Keys

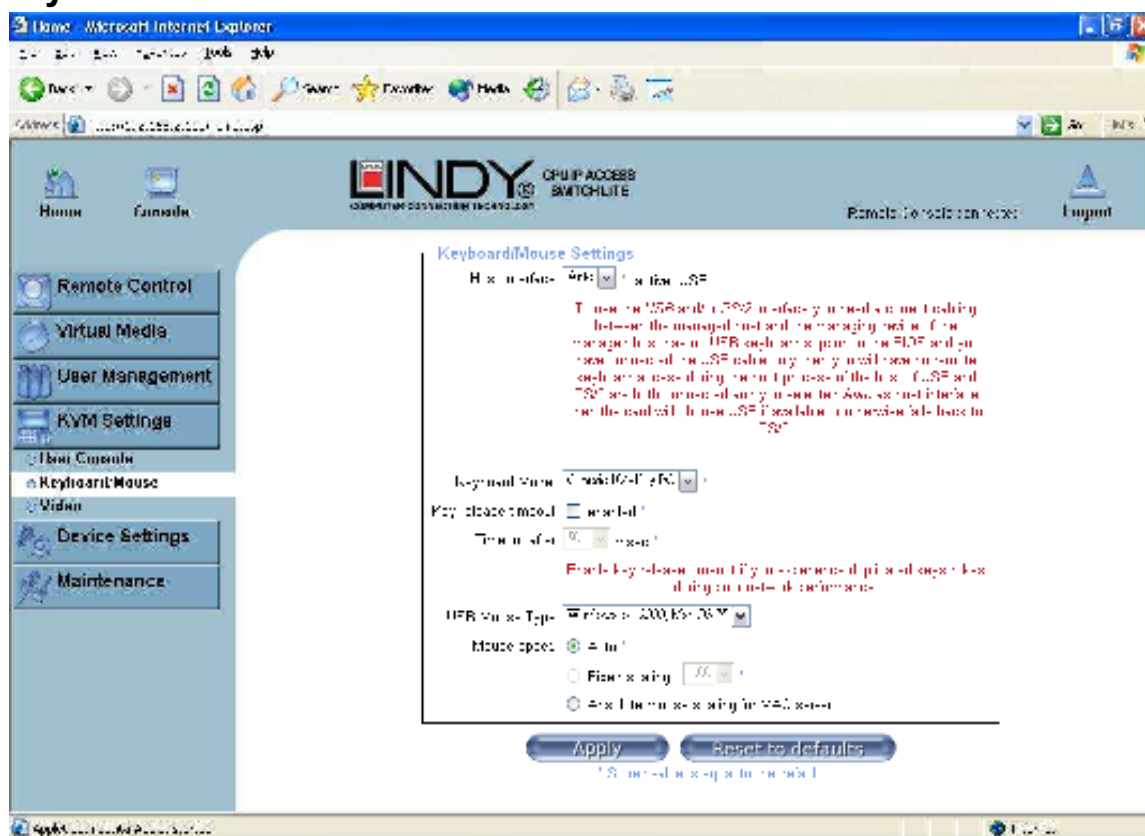
This allows simulating keystrokes on the remote system that cannot be generated locally. The reason for this might be a missing key or the fact that the local operating system of the Remote Console is unconditionally catching this keystroke already. Typical examples are **Control+Alt+Delete** in Windows and DOS, which is always caught, or **Control+Backspace** on Linux for terminating the X-Server. The syntax to define a new Button Key is as follows:

**[confirm] <keycode>[+|-[\*]<keycode>]\***

**confirm** requests confirmation by a dialog box before the key strokes will be sent to the remote host.

**keycode** is the key to be sent. Multiple key codes can be joined with a plus, or a minus sign. The plus sign builds key combinations; all keys will be pressed until a minus sign or the end of the combination is encountered. In this case all pressed keys will be released in reversed sequence. So the minus sign builds single, separate key presses and releases. The star inserts a pause with duration of 100 milliseconds.

## 5.4.2 Keyboard/Mouse



### Host Interface

Enables the interface the mouse is connected to. You can choose between **Auto** for automatic detection, **USB** for a USB mouse, or **PS/2** for a PS/2 mouse.

**Note:** To use the USB and/or PS/2 interface you need the correct cabling between the managed host and the managing device. If the managed host has no USB keyboard support in the BIOS and you have connected the USB cable only, then you will have no remote keyboard access during the boot process of the host. If USB and PS/2 are both connected and you selected **Auto** as host interface, then **USB** will be selected if available, otherwise it will revert to **PS/2**.

To enable USB remote keyboard access during the boot process of the host, the following conditions must be fulfilled:

- the host BIOS must have USB keyboard support
- the USB cable must be connected or must be selected in the Host interface option

### PS/2 Keyboard Model

Enables a certain keyboard layout. You can choose between **Generic 101-Key PC** for a standard keyboard layout, **Generic 104-Key PC** for a standard keyboard layout extended by three additional windows keys, **Generic 106-Key PC** for a Japanese keyboard, and **Apple Macintosh** for the Apple Macintosh.

### USB Mouse Type

Enables USB mouse type. Choose between **MS Windows 2000 or newer** for MS Windows 2000 or Windows XP, or **Other Operating Systems** for MS Windows NT, Linux, or OS X. In **MS Windows 2000 or newer** mode the remote mouse is always synchronized with the local mouse.

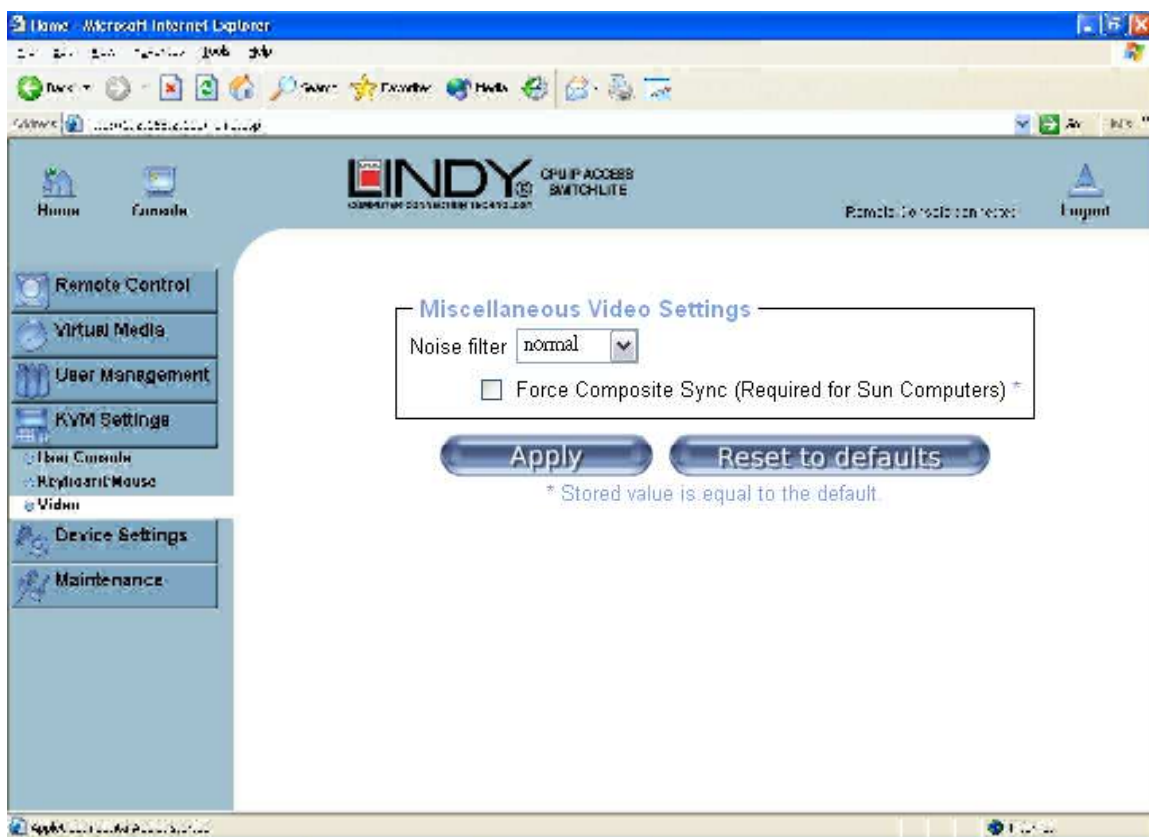
## Mouse Speed

- **Auto mouse speed** Use this option if the mouse settings on the host use an additional acceleration setting. The IP KVM SWITCH CLASSIC USB tries to detect the acceleration and speed of the mouse during the mouse sync process.
- **Fixed mouse speed** Use a direct translation of mouse movements between the local and the remote pointer.

You may also set a fixed scaling which determines the amount the remote mouse pointer is moved when the local mouse pointer is moved by one pixel. This option only works when the mouse settings on the host are linear. This means that there is no mouse acceleration involved.

To set the options, click on the **Apply** button.

## 5.4.3 Video



## Miscellaneous Video Settings

### Noise filter

This option defines how the IP KVM SWITCH CLASSIC USB reacts to small changes in the video input signal. A large filter setting needs less network traffic and leads to a faster video display, but small changes in some display regions may not be recognized immediately. A small filter displays all changes instantly but may lead to a constant amount of network traffic even if the display content is not really changing (depending on the quality of the video input signal). All in all the default setting should be suitable for most situations.

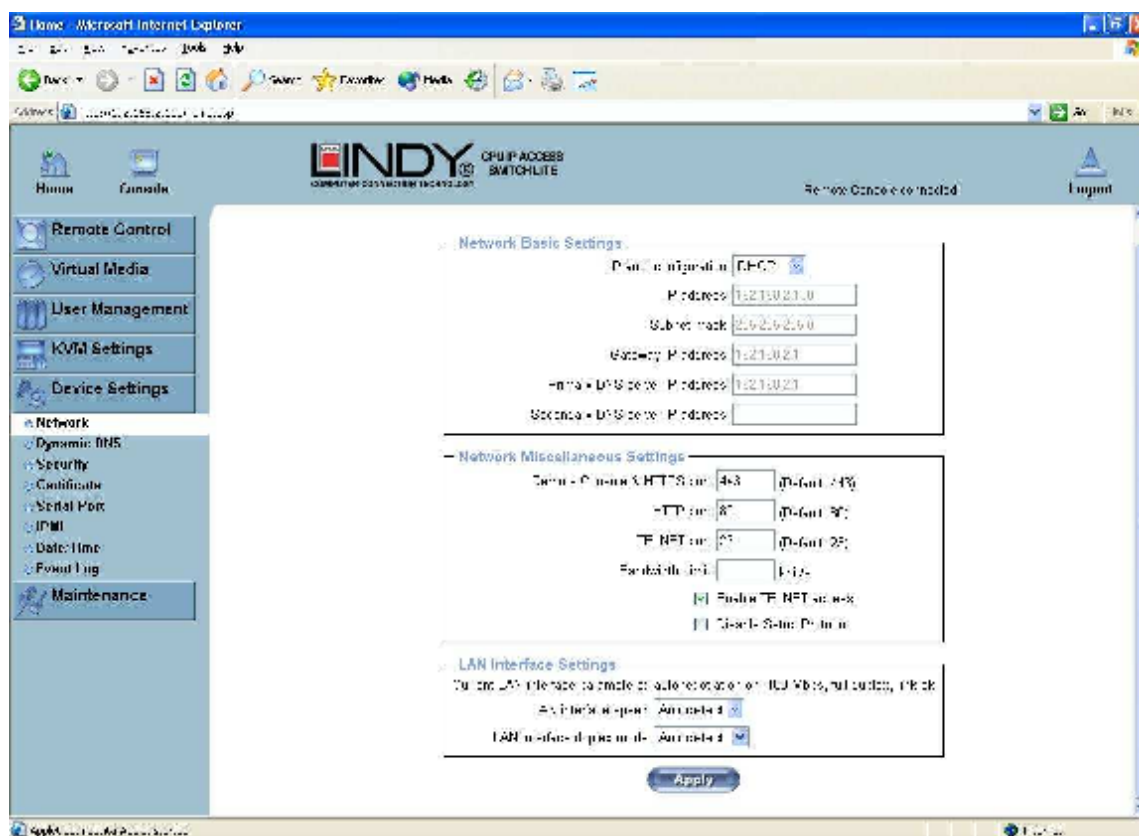
### Force Composite Sync (Required for Sun Computers)

To support signal transmission from a Sun machine, enable this option. If not enabled the picture of the remote console will not be visible. To set the options, click **Apply**.

## 5.5 Device Settings

### 5.5.1 Network

The Network Settings panel allows network related parameters to be changed. Each parameter will be explained below. Once applied the new network settings will immediately come into effect.



**Note:** The initial IP configuration is usually done directly at the host system using the special procedure described in **Section 3, page 7**.

Changing the network settings of the IP ACCESS KVM SWITCH CLASSIC might result in losing connection to it. In case you change the settings remotely make sure that all the values are correct and you still have an option to access the IP ACCESS KVM SWITCH

#### IP auto configuration

With this option you can control if the IP KVM SWITCH CLASSIC USB should obtain its network settings from a DHCP or BOOTP server. For DHCP, select **dhcp**, and for BOOTP select **bootp**. If you choose **none** then IP auto configuration is disabled.

#### IP address

IP address in the usual dot notation.

#### Subnet Mask

The net mask of the local network.

#### Gateway IP address

In case the IP KVM SWITCH CLASSIC USB is accessible from networks other than the local one, this IP address must be set to the local network router's IP address.

**Primary DNS Server IP Address**

IP address of the primary Domain Name Server in dot notation. This option may be left empty; however, the IP KVM SWITCH CLASSIC USB will not be able to perform name resolution.

**Secondary DNS Server IP Address**

IP address of the secondary Domain Name Server in dot notation. It will be used in case the Primary DNS Server cannot be contacted.

**Remote Console and HTTPS port**

Port number at which the IP KVM SWITCH CLASSIC USB 's Remote Console server and HTTPS server are listening. If left empty the default value will be used.

**HTTP port**

Port number at which the IP KVM SWITCH CLASSIC USB 's HTTP server is listening. If left empty the default value will be used.

**Telnet port**

Port number at which the IP KVM SWITCH CLASSIC USB 's Telnet server is listening. If left empty the default value will be used.

**Bandwidth limitation**

The maximum network traffic generated through the IP KVM SWITCH CLASSIC USB 's Ethernet device. Value in Kbit/s.

**Enable Telnet access**

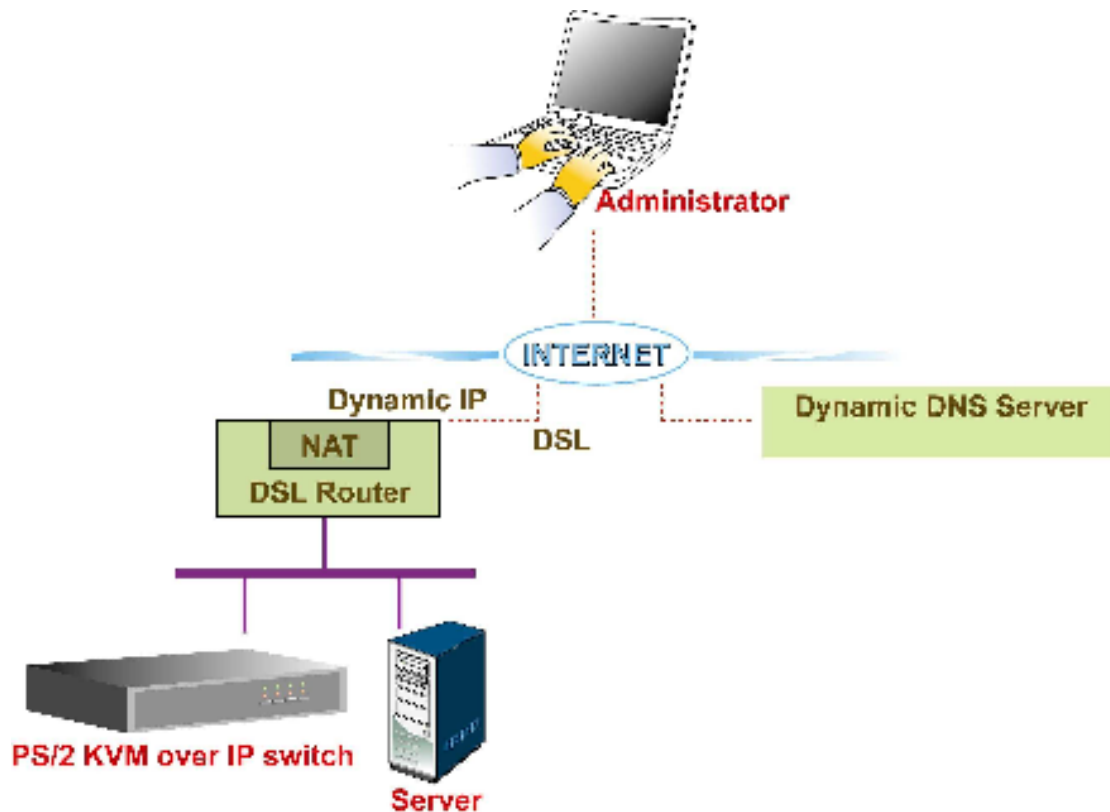
Set this option to allow access to ARA express using the Telnet Gateway (**see the Section called Telnet Console on page 23**).

**Disable Setup Protocol**

Enable this option to exclude the IP KVM SWITCH CLASSIC USB from the setup protocol.

## 5.5.2 Dynamic DNS

A freely available Dynamic DNS service (dyndns.org) can be used in the following scenario (see illustration below)

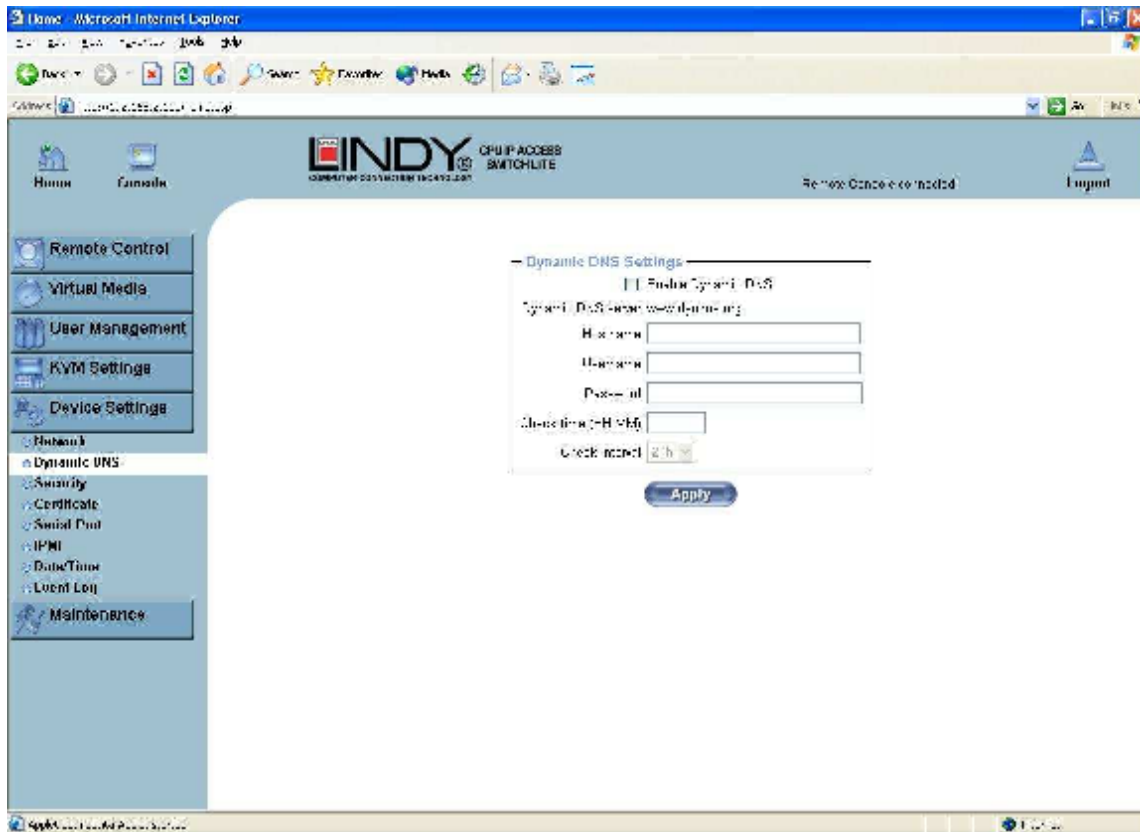


The IP KVM SWITCH CLASSIC USB is reachable via the IP address of the DSL router, which is dynamically assigned by the provider. Since the administrator does not know the IP address assigned by the provider, the IP KVM SWITCH CLASSIC USB connects to a special dynamic DNS server in regular intervals and registers its IP address there. The administrator may contact this server as well and pick up the same IP address belonging to his device.

The administrator has to register an IP KVM SWITCH CLASSIC USB that is supposed to take part in the service with the Dynamic DNS Server and assign a certain hostname to it. He will get a nickname and a password in return. This account information, together with the hostname, is needed in order to determine the IP address of the registered IP KVM SWITCH CLASSIC USB .

You have to perform the following steps in order to enable Dynamic DNS:

- Make sure that the LAN interface of the IP KVM SWITCH CLASSIC USB is properly configured.
- Open the Dynamic DNS Settings configuration dialog
- Enable Dynamic DNS and change the settings according to your needs (see the next page).



## Enable Dynamic DNS

Enables the Dynamic DNS service. This requires a configured DNS server IP address.

## Dynamic DNS server

This is the server name where the IP KVM SWITCH CLASSIC USB registers itself in regular intervals. At the time of writing, this is a fixed setting since only dyndns.org is currently supported.

## Hostname

This is the hostname of the IP KVM SWITCH CLASSIC USB that is provided by the Dynamic DNS Server. (Use the whole name including the domain, **e.g. testserver.dyndns.org** not just the actual hostname).

## Username

You have registered this username during your manual registration with the Dynamic DNS Server. Spaces are not allowed in the nickname.

## Password

The password used during manual registration with the Dynamic DNS Server.

## Check time

The IP KVM SWITCH CLASSIC USB registers itself in the Dynamic DNS server at this time.

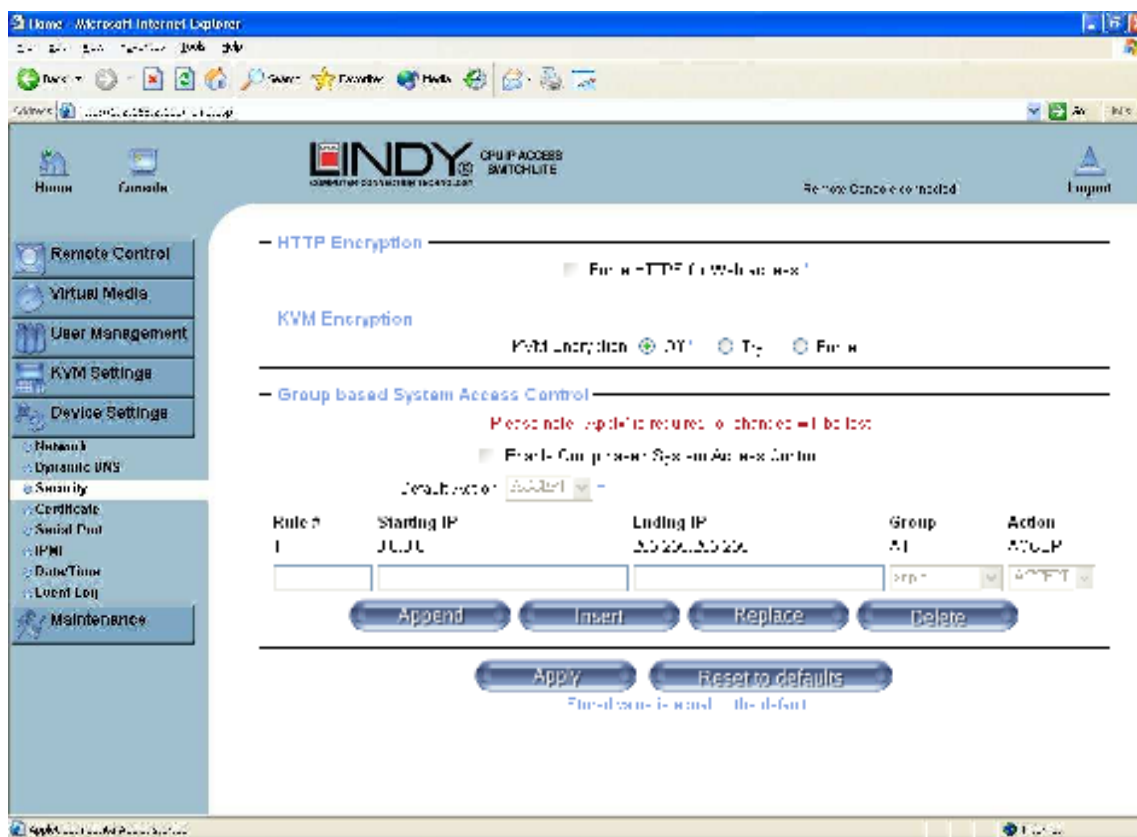
## Check interval

This is the interval for reporting again to the Dynamic DNS server by the IP KVM SWITCH CLASSIC USB.

**Note:** The IP ACCESS KVM SWITCH CLASSIC has its own independent real time clock. Make sure the time setting of the IP ACCESS KVM SWITCH CLASSIC switch is correct. (See the Section called Date and Time on page 50)



## 5.5.3 Security



### Force HTTPS

If this option is enabled, access to the web front-end is only possible using an HTTPS connection. The IP KVM SWITCH CLASSIC USB will not listen on the HTTP port for incoming connections.

If you want to create your own SSL certificate that is used to identify the IP KVM SWITCH CLASSIC USB **please refer to the section called Certificate on page 45.**

### KVM encryption

This option controls the encryption of the RFB protocol. RFB is used by the Remote Console to transmit both the screen data to the administrator's machine and the keyboard and mouse data back to the host. If set to **Off** no encryption will be used. If set to **Try**, the applet tries to make an encrypted connection. If connection establishment fails for any reason an unencrypted connection will be used. If set to **Force** the applet tries to make an encrypted connection. An error will be reported if connection establishment fails.

### Group-based System Access Control

This is the IP filtering function, it keeps unauthorized hosts from accessing to the IP-KVM by specifying IP filtering rules. It is important to fully understand what an IP filter is. If you don't fully understand this, you will get unexpected results against your original plan.



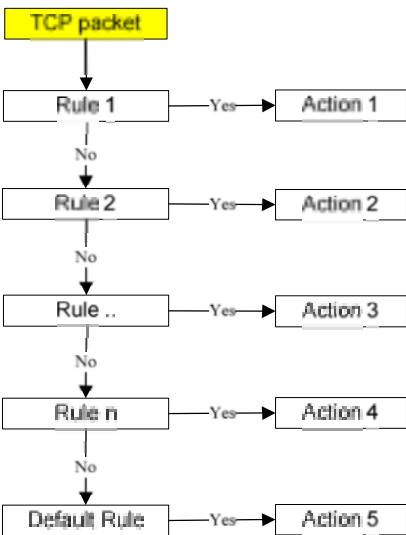
**Chain rule**

The Chain rule determines whether the access from the hosts is allowed or not. It can be one of these two values:

- ACCEPT : access allowed
- DROP : access not allowed

The rule can be configured to apply to a particular Group level (All, User, Super, Administrator).

When the IP-KVM receives a TCP packet, it will process the packet with the chain rule depicted below. The process ordering is important; the packet will enter the chain at rule 1 first, if it meets the rule then take action directly, otherwise go to chain rule 2.



Check the “Enable Group based System Access Control” to edit the rules

Users can add a new IP filtering rule by populating the fields in the new line by using Append or Insert. Users can remove a rule by using Replace or Delete. Use Apply to save your changes.

HTTP Encryption

☐ Force HTTPS for Web access \*

KVM Encryption

KVM Encryption ☒ Off\* ☐ Try ☐ Force

Group based System Access Control

Please note: 'Apply' is required, or changes will be lost.

☒ Enable Group based System Access Control \*

Default Action ACCEPT \*

Rule #	Starting IP	Ending IP	Group	Action
1	0.0.0.0	255.255.255.255	All	ACCEPT
2	192.168.123.99	192.168.123.230	<div>super</div> <div>All</div> <div>User</div> <div>super</div> <div>Administrator</div>	<span>ACCEPT</span>

Append

Insert

Replace

Delete

Apply

Reset to defaults

\* Stored value is equal to the default.

Group	Action
All	ACCEPT
super	<span>ACCEPT</span>
te	<span>ACCEPT</span>
	DROP

