To enter the update OSD menu, press the "Scroll lock" / "ScrLk" key consecutively for 5 times. The OSD menu will be visible on the upper left side of the screen. If the remote part is powered for more than 5-10 minutes, switch it off and on again. This is a safety feature. The update menu can only be activated in the first 5-10 power on minutes.

Please make sure the mouse cursor is <u>not</u> on the .bmp firmware image that is displayed on the center of the screen (zoom factor 100%, program window maximized).

Now press "U" on your keyboard to start the update.

If you get an error message immediately before the update starts and if you have the impression that the colors on your monitor are slightly wrong especially with no pure black (or white) background behind the firmware picture, please see the remark for HDMI monitors in the chapter Installation as well as the remark for Windows 7/8 above.

10 passes are automatically done at the local and remote part. Pass 1 to 9 can be interrupted at any time. Do not interrupt pass 10, otherwise both units will be permanently damaged and must be returned for repair.

Press "Q" to quit and reboot your system.

After rebooting you can check the actual firmware version via the OSD menu (by pressing 5x "Scroll Lock" key; only works within the first 5-10 minutes after reboot/switch-on). Press "Q" to quit the menu.

In case you have purchased and upgraded with a new USB 2.0 Memory (mass storage) option firmware you need to enter the additional activation "matching code" dependent on the extender ID displayed in the OSM. This code can be obtained at a cost from LINDY upon request.

Solution of problems

Should you have any further problems with your extender please contact any of our support teams worldwide. Please find the contact information on our website www.lindy.com. Or send an email to support@lindy.com .

CE

Tested to comply with FCC Standards   FOR COMMERCIAL USE ONLY!

No.39221, 39222, 39223, 39224   © LINDY – 4th EDITION (SEP 2013)   **4**

Cat.5 KVM Extender DVI & USB 2.0

Manual

LINDY®
CONNECTION PERFECTION

> **This manual refers to the following 4 models:**
> **39221/39222: DVI & USB 2.0 without/with USB mass storage support,**
> **39223: version with optional Audio and VGA support;**
> **39224: version with fiber optic SFP module for distances up to 500m**

Introduction and Features

Thank you for purchasing the LINDY KVM Extender DVI & USB. This extender can transmit digital monitor and USB signals over distances up to 130m respectively 500m (No. 39224). Using digital transmission the extender has no loss of quality over long distances unlike traditional analog VGA extenders.

The connection is made by an inexpensive Cat.5/6/7 cable or fiber LC Duplex cable (No. 39224).

The extender supports DVI-D digital single link monitor signals up to a resolution of 1920x1200. Due to space requirements on the models 39221 and 39222 HDMI sockets are used and appropriate DVI/HDMI adapter cables are included to connect to your devices. HDMI features like Audio, YUV/YCbCr, Deep Colour and HDCP content protection are not supported.

In addition to monitor signals USB 1.1/2.0 signals are also extended. The basic versions of 39221, 39223 and 39224 support almost any USB 1.1/2.0 devices except USB Mass Storage like USB sticks, USB HDD enclosures/drives. No. 39222 also supports USB 2.0 Mass Storage and all other models can be upgraded at a cost to full USB 2.0 support including mass storage protocol. Please refer to section Firmware Upgrade and contact LINDY Technical Support for costs. Also see No. 09220.

A VGA option can be upgraded at a cost for model 39223 and 39224. The transmitter will accept VGA signals then convert them and transmit digital video and the receiver will output digital DVI. For conversion back to VGA an external converter is required.

Audio support for models 39223 and 39224 also can be upgraded at a cost via firmware upgrade.

The fiber SFP module of version 39224 can be exchanged with a Single Mode fiber SFP module to allow for larger distances – please contact LINDY support for a special make quotation.

Packaging Contents

- 1x Transmitter
- 1x Receiver
- 2x Multi country PSU (EU/UK/US/AUS/CN)
- 2x DVI-HDMI resp. DVI-DVI cables, 2m
- 1x USB cable A/B, 2m
- 8x rubber feet
- 4x Self adhesive hook-and-loop tape
- Manuals (EN, DE, FR, IT)

Installation and Use

Installation and use of these extenders are plug and play. Simply connect and switch on.
The USB 2.0 Memory (mass storage protocol) option, audio as well as the VGA option for 39223 and 39224 should be installed prior to field installation – please see section Firmware Upgrade.

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Continued: Installation and Use

The Extender consists of a transmitter, receiver and accessories. The transmitter (see product label or front panel printing **Local / PC**) connects to the PC or signal source that will be remotely used. Use the supplied DVI/HDMI and USB A/B cables to connect the transmitter. In addition the transmitter provides a local monitor control port.

The receiver (see product label or front panel printing **Remote / Mon**) connects to the remote user's console. The monitor is connected using the supplied second DVI/HDMI cable. The receiver offers four USB ports for direct device connections. It also supports USB hubs.

When required, the transmitter and receiver can be secured using the supplied self-adhesive hook-and-loop tape on the base of the units. Additionally accessories, mounting rails, DIN rails and a 19" rack mount shelf are available upon demand.

For connecting the transmitter and receiver of No. 39221, 39222, 39223, Category 5e/6/7 RJ45 STP cable provides the best results. For model 39224, use optical multimode 50µm LC Duplex cable, easily available from LINDY in different lengths.

For large distances and best quality Cat.6/7 solid core installation cable like LINDY No.12047/12048 should be used. For standard distances also STP patch cables may be used. See www.LINDY.com for our range of appropriate cables.

Now connect the power supplies and switch on all your devices. Transmitter and receiver will perform an automatic Cat.5/6/7 cable initialization and self-adjustment that takes around 5 to 10 seconds. During this time the front LED on the units will be flashing red. When completed the LED changes to solid green and the extender is ready for regular operation.

When using HDMI monitors or HDMI/DisplayPort graphic cards, the monitor may show wrong colors. This is caused by the HDMI EDID signal of the monitor being passed to the graphic card. In such case, make sure your graphic card signal is set to RGB signal, max. 32 bit (or 8 bit per channel) color depth and no HDCP (DVI compliant signal) or use a DVI port.

USB connections are hot plug. It is normal that after plugging a USB device some time is required for device recognition and driver installation. This process requires a slightly longer time for devices connected to the extender.

Troubleshooting

If you are faced any unexpected problems with the extender please don't hesitate to contact LINDY Support. You can reach us worldwide under the contact information provided on our website. Or send us an email to support@lindy.com.

On Screen Menu - Firmware Update & Upgrade

The On Screen Menu (OSM) is used to manage the extender and view its properties. It can also be used to **update** the firmware and to **upgrade** the basic versions with USB 2.0 Memory (mass storage) support.

For security reasons the OSM can only be invoked during the first 5-10 minutes of operation after the extender has been switched on. To invoke the OSM press the "Scroll Lock" key on the keyboard 5 times. A blue OSM window should appear on your screen. If this does not happen please disconnect the extender from the power supply, reconnect it and try again.

```
Menu USB High Speed

U  = Update Flash FW
M  = USB Memory Option
L  = Lock Menu disabled
I  = Monitor sync disabled
Q  = Exit

Remote (Mon) FW Ver=9987
Local  (PC)  FW Ver=9987
```

Menu item "U" allows you to update the firmware - see further below. The most recent version can be obtained from LINDY technical support team upon request. A detailed instruction is found further below.

Menu item "M" allows you to activate and deactivate the USB 2.0 memory option. It allows you to connect USB 2.0 storage devices and flash drives as well across the extender. If the extender already has the USB 2.0 option enabled it can be enabled and disabled at any time. If the extender does not have this option installed (No. 39221, 39223, 39224) this option can be added via a Firmware upgrade at some additional cost. To order the upgrade from LINDY you need the device ID as displayed in the OSM (here: 3fe687d5).

```
USB High Speed Memory
Option

Enable: send ID to
distributor

ID   = 3fe687d5

Enter matching code
code = --------
```

Please contact the LINDY support team and ask for a quotation for the upgrade (No. 09220) for the unit with this ID. Please also ask the support team for the most up to date firmware because this should be installed prior (see below). When the upgrade has been installed the extender will still operate in non-Memory option mode. The LINDY Support team will provide you the invoice and a "Matching Code" that needs to be entered in the OSM to activate the USB 2.0 function. The extender must be restarted after entering the matching code and will then display the USB Memory Option in the OSM.

Menu item "L" allows to lock (default) and unlock the OSM. When locked, the OSM is accessible only during the first 5 - 10 minutes after boot up. This prevents from unauthorized access to the OSM and to other features of the extender. In the "Lock Menu" you can press 0 to disable and 1 to enable the locking feature.

```
Lock Menu 10 Min after
Power-On is Disable

Enter 1 for enable or
      0 for disable:
```

Menu item "I" switches the monitor synchronization on and off. This option allows you to synchronize and match the frame rate of the graphics card with the frame rate of the monitor. This may help especially in situations where dynamic picture content like video or other multimedia content must be transmitted. On the other hand not every monitor and graphics card may correctly support this feature. Pressing 1 activates and 0 disables this feature. If the monitor picture starts to show errors, it should be switched off.

```
Monitor sync disabled

Enter 1 for enable or
      0 for disable:
```

Models 39223 and 39224 provide the additional OSD menu functions O and V. V allows to adjust the VGA display if the VGA option is installed. O allows to select the DVI DDC data. Either the DDC can be read from the local or from the remote monitor, or it can be selected between fixed preset resolutions 1280x768/1024, 1680x1050, 1920x1080/1200.

Pressing "Q" key in the OSM closes the menu.

Firmware Update for KVM extender DVI-D & USB

Connect the extender set normally to a PC. Transmitter (Local / PC) and Receiver (Remote / Mon) need to be connected to each other. The update is initiated at the receiver / remote part of the extender.

Connect your USB keyboard and mouse to the Remote / Mon unit. Please check if it works correctly with the operating system. The monitor signal needs to be displayed correctly and the keyboard must work.

Now display the firmware bitmap file (.bmp file included in the zip file) **in 1:1 non-scaled resolution** on the monitor, e.g. using Windows image or fax viewer in **100% view** of the .bmp file.

The program window must be maximized!!! It should be the only window displayed on the screen.

The zoom factor must be set to 100%!!!

No parts of the bitmap picture must be blocked!!!

Otherwise the extender will be damaged by the firmware upgrade and has to be returned for repair!

Remark for Win 7/8 users: in Full HD mode with 1920x1080 some Windows drivers reduce the video signal level by 10% causing an error when trying to update the firmware. In this case please reduce the video signal resolution to 1280x1024 or similar.