

## Welcome to the DVXi/ME Media-Extender Family!

Thank you for purchasing a DVXi/ME Media-Extender! We appreciate your business, and we think you'll appreciate the many ways that our DVXi/ME Media-Extender will save you money, time, and effort.

That's because our DVXi/ME Media-Extender is all about breaking away from the traditional model of attaching a new display to DVI graphic source. Using the DVXi/ME Media-Extender, you can remotely locate your monitor up to 2.000m away from your CPU.

Wherever long distances are usual, e.g. airports, industrial plants, call-centres or in distributed computer centres, the DVXi/ME Media-Extender is the best way, to solve all problems in remotely locating your console. There are 12 different types available: 4 LC- devices with an resolution up to 1600x1200@60 and 18Bit colour depth and 4 ET- devices for a resolution of up to 1920x1200 and either 18- (256K colours) or 24Bit (16M colours) colour depth. Furthermore there are four /XV devices for resolutions up to 1920x1200 and either 18-(256K colours) or 24Bit (16M colours) colour depth available. Using 3.2GBit Transceiver the /XV devices transfer the full 60Hz frame rate for resolutions up to 1920x1200 and at least 30Hz for all higher resolutions is available.

The devices are designed either for Singlemode or Multimode use.

An Audio/serial Option is also available.

This manual will tell you all about your new DVXi/ME Media-Extender, including how to install, operate, and troubleshoot it. For an introduction to the Converter, see **Chapter 2**. The Converter product codes covered in this manual are:

**K466-0M: Media-Extender/LC for DVI (Resolution 1600x1200)**

**K466-AM: Media-Extender/LC for DVI (Resolution 1600x1200) + Audio/serial**

**K466-0S: Media-Extender/LC for DVI (Resolution 1600x1200)**

**K466-AS: Media-Extender/LC for DVI (Resolution 1600x1200) + Audio/serial**

**K467-0M: Media-Extender/ET for DVI (Resolution 1920x1200)**

**K467-AM: Media-Extender/ET for DVI (Resolution 1920x1200) + Audio/serial**

**K467-0S: Media-Extender/ET for DVI (Resolution 1920x1200)**

**K467-AS: Media-Extender/ET for DVI (Resolution 1920x1200) + Audio/serial**

**K468-0M: Media-Extender/XV for DVI (Resolution 1920x1200)**

**K468-AM: Media-Extender/XV for DVI (Resolution 1920x1200) + Audio/serial**

**K468-0S: Media-Extender/XV for DVI (Resolution 1920x1200)**

**K468-AS: Media-Extender/XV for DVI (Resolution 1920x1200) + Audio/serial**

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## Cautions and Notes

The following symbols are used in this guide:



**CAUTION: This indicates an important operating instruction that should be followed to avoid any potential damage to hardware or property, loss of data, or personal injury.**



*NOTE. This indicates important information to help you make the best use of this product.*



**EUROPEAN UNION DECLARATION OF CONFORMITY**

This is to certify that, when installed and used according to the instructions in this manual, together with the specified cables and the maximum cable length <3m, the Units:

**K466-0M, K466-AM, K466-0S, K466-AS  
K467-0M, K467-0M, K467-0S, K467-0S  
K468-0M, K468-0M, K468-0S, K468-0S**

are shielded against the generation of radio interferences in accordance with the application of Council Directive 89/336/EEC as well as these standards:

<b>EN 55022:</b>	1999	Class A
<b>EN 55024:</b>	1999	
IEC 61000-4-2:	2001	
IEC 61000-4-3:	2001	
IEC 61000-4-4:	2001	
<b>EN 61000-3-2</b>	2001	
<b>EN 61000-3-3</b>	2002	

The device was tested in a typical configuration with PC.



Oberteuringen, March 15<sup>th</sup>, 2007

The management

This equipment has been found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

# SAFETY-PRECAUTIONS AND INSTALLATION GUIDLINES

## Safety Precautions and Installation Guidelines

To ensure reliable and safe long-term operation, please note the following installation guidelines:

- Only use in dry, indoor environments.
- The Remote unit, Local unit and any power supplies can get warm. Do not locate them in an enclosed space without any airflow.
- Do not place a power supply directly on top of a unit.
- Do not obstruct a unit's ventilation existing holes.



**To safeguard against personal injury and avoid possible damage to equipment or property, please observe the following:**

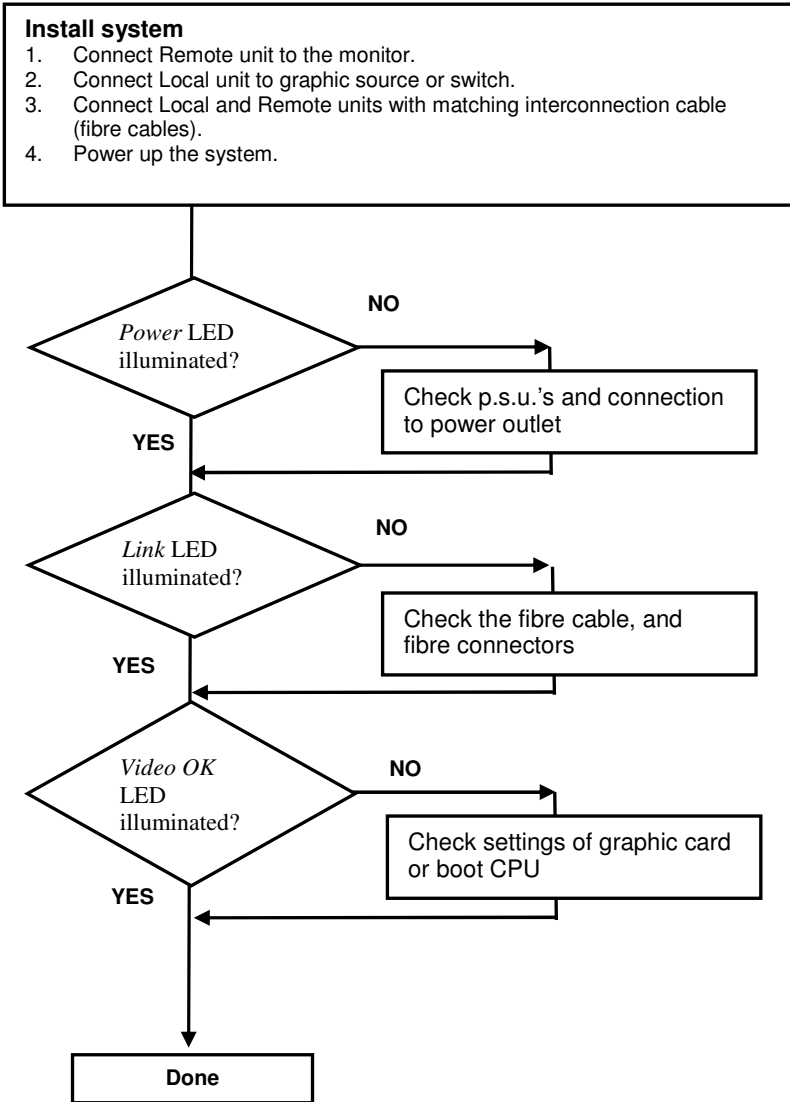
- **Only use power supplies originally supplied with the product or manufacturer-approved replacements. Do not attempt to dismantle or repair any power supply. Do not use a power supply if it appears to be defective or has a damaged case.**
- **Connect all power supplies to grounded outlets. In each case, ensure that the ground connection is maintained from the outlet socket through to the power supply's AC power input.**
- **Do not attempt to modify or repair this product.**

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# 1. Quick Setup

This section briefly describes how to install your MEDIA extender system. Unless you are an experienced user, we recommend that you follow the full procedures described in the rest of this manual.



## 2. Overview

### 2.1 Introduction

A glass fibre Media Extender is mainly used, to extend the maximum distance between a CPU and his Monitor considerably. In addition they are irrecoverable in installations in electromagnetic hazardous environments (EMI). Normal Monitor extender cables (and Extender using traditional cables) cannot go so far and EMI interferences may reduce the maximum distance and/or reliability. Using a DVXi/ME Extender system, these limitations are past. Remain your CPU in a secure rack cabinet or data centre while accessing from a 2.000m remotely located place.

A basic Media extension system comprises a *Local* unit (transmitter) and a *Remote* unit (receiver). The Local unit connects directly to the computer (or a Media switch system) using the supplied cable(s). The monitor attaches to the Remote unit. The Remote and Local units communicate information along the interconnecting cable. Local units offer dual access, allowing the connection of a second monitor close to the computer.

### 2.2 Glossary

The following terms are used in this guide:

<b><i>Glass fibre</i></b>	Singlemode or Multimode fibre cable
<b><i>Singlemode</i></b>	9 $\mu$ Singlemode fibre cable
<b><i>Multimode</i></b>	62,5 $\mu$ Multimode- or 50 $\mu$ Multimode-fibre cable
<b><i>DVI</i></b>	Digital Video standard, installed by <i>Digital Display Working Group</i> ( <a href="http://www.ddwg.org">www.ddwg.org</a> ) R, G, B, CLOCK in a data stream with up to 3x 1,6 Gbit/sec. Signals are TMDS Level.
<b><i>PSU</i></b>	The desktop power supply connected to the Local/Remote unit.

**CPU with DVI-D  
Graphic card**



**Local Monitor**



**DVXi/ME Media-Extender system  
Local Unit**



**DVXi/ME Media-Extender  
System Remote Unit**



**Remote Monitor**



**Optional Audio**

**DVXi/ME – Media Extender system (example)**

## 2.3 Features

All members of the DVXI/ME - DVI KVM Extender Series offer the following features:

- Support for DVI-D Graphic cards (all devices)
- Maximum resolution (DVI):
  - 1600x1200@60Hz (K466-0M, K466-0S, K466-AM, K466-AS)
  - 1920x1200@60Hz (K467-0M, K467-0S, K467-AM, K467-AS, K468-0M, K468-0S, K468-AM, K468-AS)
- Supporting:
  - 18Bit- (= 256K colours), for K466-0M, K466-0S, K466-AM, K466-AS
  - 18Bit- (= 256K colours) **or** 21Bit- (=2M colours) for (K467-0M, K467-0S, K467-AM, K467-AS)
  - 18Bit- (= 256K colours) **or** 24Bit- (=16M colours) for K468-0M, K468-0S, K468-AM, K468-AS
  - Using 3.2GBit Transceiver the /XV devices transfer the full 60Hz framerate for resolutions up to 1920x1200 and at least 30Hz for all higher resolutions is available (only K468-0M, K468-0S, K468-AM, K468-AS)
- Status indicator LED's on each device.
- Small footprint chassis.
- Rack mount options available.
- universal power supply is included

## 2.4 Product Range

There are 12 products in the range and various upgrade kits:

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### *DVXi/ME – Extender (glass fiber)*

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K466-0M (Multimode)	Media-Extender/LC for DVI (Resolution 1600x1200)
K466-AM (Multimode)	Media-Extender/LC for DVI (Resolution 1600x1200) + Audio/serial
K466-OS (Singlemode)	Media-Extender/LC for DVI (Resolution 1600x1200)
K466-AS (Singlemode)	Media-Extender/LC for DVI (Resolution 1600x1200) + Audio/serial
K467-0M (Multimode)	Media-Extender/ET for DVI (Resolution 1920x1200)
K467-AM (Multimode)	Media-Extender/ET for DVI (Resolution 1920x1200) + Audio/serial
K467-OS (Singlemode)	Media-Extender/ET for DVI (Resolution 1920x1200)
K467-AS (Singlemode)	Media-Extender/ET for DVI (Resolution 1920x1200) + Audio/serial
K468-0M (Multimode)	Media-Extender/XV for DVI (Resolution 1920x1200 and 3.2GBit transfer)
K468-AM (Multimode)	Media-Extender/XV for DVI (Resolution 1920x1200 and 3.2GBit transfer) + Audio/serial
K468-OS (Singlemode)	Media-Extender/XV for DVI (Resolution 1920x1200 and 3.2GBit transfer)
K468-AS (Singlemode)	Media-Extender/XV for DVI (Resolution 1920x1200 and 3.2GBit transfer) + Audio/serial

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### *Upgrade Kits*

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455-4G	19"/1HE Rackmount- Kit to mount up to 4 Singlehead devices
455-1K	Mounting plate to mount by screws
455-2K	Mounting plate to mount by snap on

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## 2.5 Compatibility

### Interface Compatibility

- **Digital Video (DVI-D):** Digital Video standard, installed by Digital Display Working Group ([www.ddwg.org](http://www.ddwg.org)) R, G, B, CLOCK in a data stream with up to 3x1,6 Gbit/sec. Signals are TMDS Level.

## 2.6 How to Use This Guide

This guide describes the installation and configuration of the DVXi/ME – Extender Series. Although the connection and operation of the system is relatively straightforward, you should consider the following before getting started:

### Connection & Compatibility

If you have purchased an *Extender Kit*, this will contain all the cables required to connect the Local unit to your PC or Media switch. Please see also: **Package Contents** (page 12)

For information about connection and installation please see page 12.

### DDC Information

Normally it is not necessary to make any adjustments to the DVXi- Extender. However, in some circumstances, it may be necessary to redefine the source of DDC Information for the CPU. By default, the DVXi/LC KVM-Extender uses its own internal DDC table. If this setting does not satisfy your requirements, the DDC table can either be switched to the locally attached screen or could be downloaded from remotely located screen and stored in the internal DDC table.

To modify the DDC-Setup, see **Service Setup** (page 18).

### Selecting the moment of switching to the next frame

The transmission of screen data is not synchronous to the screen change of the graphic card. Normally, the transmission is terminated during displaying a frame on the screen. If the device switches to the new frame during the displaying period of the old frame (somewhere on the screen), it's possible, that you can see horizontal screen breaks in the moment of switching (default). On the other hand the device must idle, until the actual frame is displayed completely (until VSYNC) -> the number of frames per second transmitted sinks.

To modify the switching behaviour, see **Service Setup** (page 18).

## 3. Installation

For first-time users, we recommend that you carry out a test placement, confined to a single room, before commencing full installation. This will allow you to identify and solve any cabling problems, and experiment with the Media extender system more conveniently.

### 3.1 Package Contents

**You should receive the following items in your extender package (all types):**

- DVXi/ME Media-Extender- pair (Local Unit + Remote Unit)
- 2x 5V DC universal power supply for the DVXi/ME - Extender
- 2x German type power cord
- User manual (Quick Setup)
- DVI-I (1,8m) video cable (DVI-I dual link male-to-male)

If anything is missing, please contact Technical Support (see **Appendix F – Calling Technical Support**).

## 3.2 Interconnection Cable Requirements

To connect the Local and Remote units you will need:

- **DVI:** Connect the supplied DVI CPU cable set to your CPU (Media.- Switch, etc.). Please ensure that the connection is tension-free!
- **Fibre Cables:**
  - **Multimode:** Two fibres 50µm or 62.5µm. E.g. I-V(ZN)H 2G50 (In house patch cable) or I-V(ZN)HH 2G62,5 (In house Breakout cable) or I/AD(ZN)H 4G50 (in house OR outdoor Breakout cable, stress resistant) or A/DQ(ZN)B2Y 4G62,5 (outdoor cable, stress resistant with protection against animal biting) All notations acc. VDE specification.
  - **Singlemode:** Two fibres 9µm. E.g. I-V (ZN)H 2E9 (In house patch cable) or I-V(ZN)HH 2E9 (In house Breakout cable) or I/AD(ZN)H 4E9 (in house OR outdoor Breakout cable, stress resistant) or A/DQ(ZN)B2Y 4G9 (outdoor cable, stress resistant with protection against animal biting) All notations acc. VDE specification.



*A point to point connection is required. Having one or more patch panels in the line is possible and allowed. Not allowed is a connection from the fibre link interface to any other products, especially telecommunications or network equipment.*

- **Power Supply**

Connect the supplied 5V/DC power supplies to the **Plug** terminal on the rear of both local and remote units.

## 3.3 System Setup

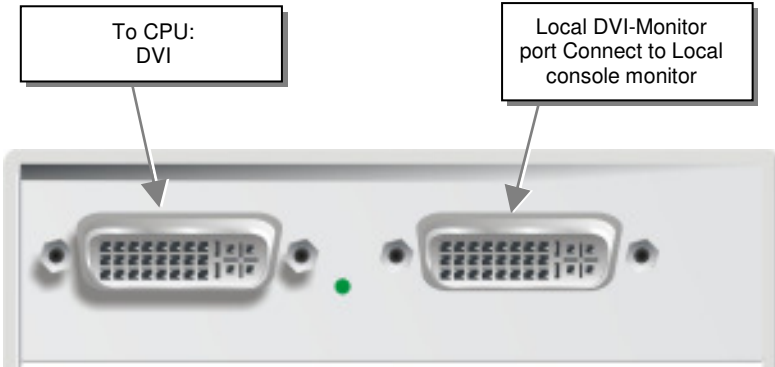
To install your DVXi/ME – Extender system:

1. Switch off all devices.
2. Connect your monitor(s) and speakers to the Remote unit (depending on device type).
3. Using the supplied DVI-cable(s), connect the local unit to the computer
4. Connect the 5V power supply to power the unit.

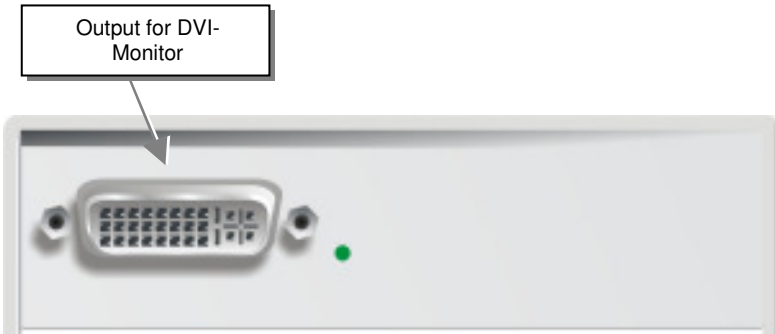


**Only use the power supply originally supplied with this equipment or a manufacturer-approved replacement.**

5. For a dual access system, connect the monitor for the Local console to the appropriate port on the Local unit.
6. Connect the interconnect cable to the INTERCONNECT socket(s)
7. Power up the system.

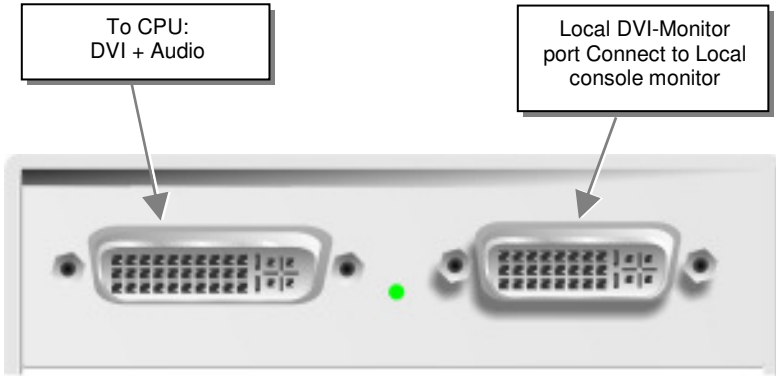


**K466-0M, K466-0S, K467-0M, K467-0S, 468-0M and K468-0S Local Unit**

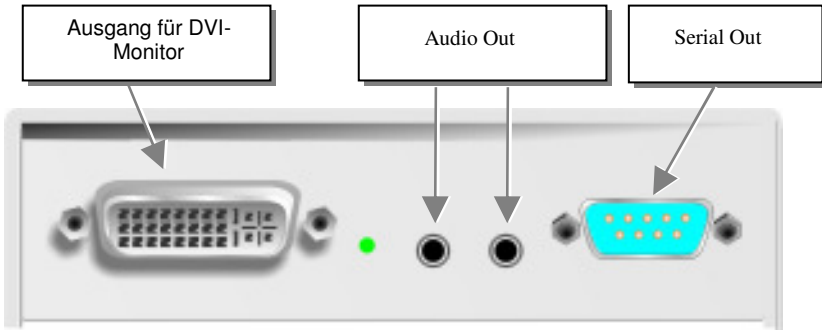


**K466-0M, K466-0S, K467-0M, K467-0S, 468-0M und K468-0S Remote Unit**

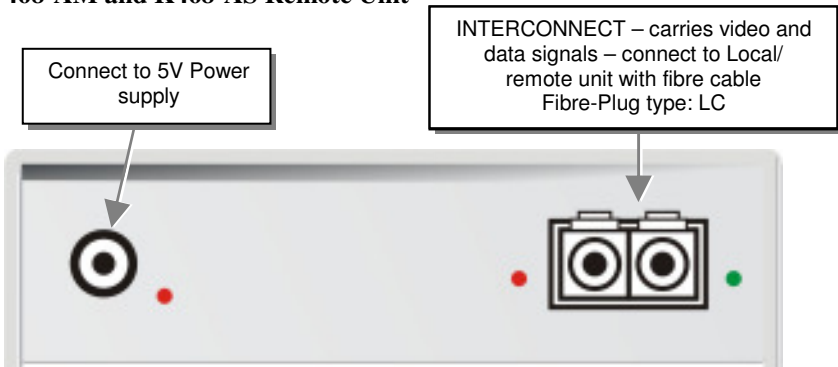
# DVXI/ME MEDIA-EXTENDER



**DVXi/ME Media-Extender Type K466-AM, K466-AS, K467-AM, K467-AS, 468-AM and K468-AS Local Unit**



**DVXi/ME Media-Extender Type K466-AM, K466-AS, K467-AM, K467-AS, 468-AM and K468-AS Remote Unit**

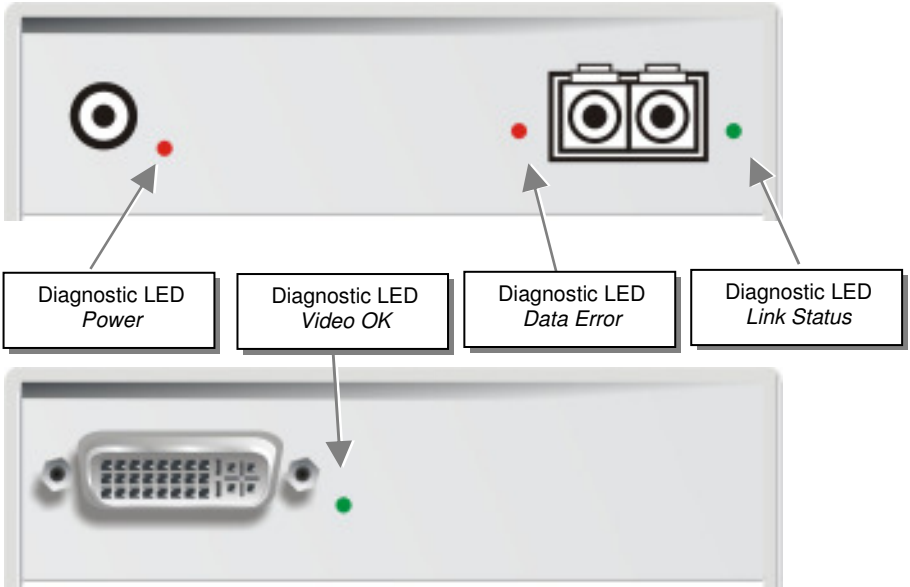


**DVXi/ME Media-Extender Type K466-0M, K466-AM, K466-0S, K466-ASW, K467-0M, K467-AM, K467-0S, K467-AS, K468-0M, K468-AM, K468-0S and K468-AS Local Unit und Remote Unit**

### 3.4 Diagnostic LED's

Each DVXi/ME Media-Extender is fitted with four indicator LED's: *Power, Video OK, Data Error, Link Status*: The *Power* LED's are next to the Power socket.

The location of the LED's is shown below:



**Diagnostic - LED's at DVXi/ME - Extender**

<i>LED</i>	<i>Appearance</i>	<i>Diagnostics</i>
<b>Power LED</b> (Red LED)	Off On	Device not ready Device ready
<b>Video Okay</b> (Green LED)	Off On	No or invalid video signal detected Device ready
<b>Link Status</b> (Green LED)	blinking On	No fibre connection Device ready
<b>Data Error</b> (Red LED)	Off blinking / On	Device ready Errors through data transmission over fibre Cable (Cable too long, too high attenuation or too much EMI interferences )

## 4. Service Setup

For most applications, you shouldn't need not to make any adjustments to set up your DVXi/ET KVM -Extender. Under some special circumstances it could be necessary to setup configuration specials.

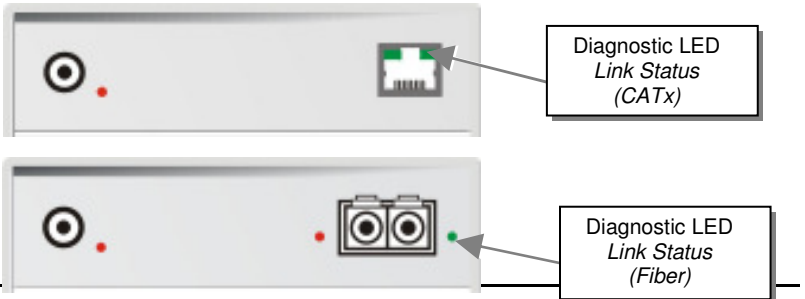
For some applications, you may need to open the Local Unit and/or the Remote Unit. Unscrew the Philips-type screws at both sides at the bottom of the device. Unscrew the UNC type screws at both sides of the monitor connectors. Carefully displace the lower and upper shells of the case.



The diagnostic LED 'Video OK' is located at the local unit between the both DVI connectors



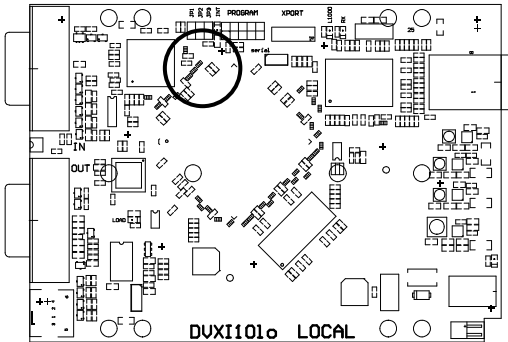
The diagnostic LED 'Video OK' is located near to the CATx- /fiber connectors



## 4.1 Setup at the Local Unit

After unscrewing and opening the upper shell, please place the device in this orientation: with the CATx/fiber connectors to the right and the electrical connectors to the left.

The main PCB then will look like this:



Use the diagram to locate jumpers.









### DDC (K466-xx)

You can select, whether the DDC is taken from internal DDC table or from local monitor or the DDC information could be downloaded from remote monitor and stored into internal table.

DDC	JP1	JP2	JP3
<i>From internal Table (default)</i>			
<i>From local Monitor</i>			
<i>Loading the DDC Information from the Remote Monitor into the internal DDC Table (see also below: Loading the DDC Information from the Remote Monitor into the internal DDC Table)</i>			
<i>Reset of the internal DDC Table to Default-Values (see also below: Reset of the internal DDC Table to Default-Values)</i>			

**DDC (K467-xx and K468-xx)**

You can select, whether the DDC is taken from internal DDC table or from local monitor or the DDC information could be downloaded from remote monitor and stored into internal table.

<b>DDC</b>	<b>JP1</b>	<b>JP2</b>
<i>From internal Table (default)</i>		
<i>From local Monitor</i>		
<i>Loading the DDC Information from the Remote Monitor into the internal DDC Table (see also below: Loading the DDC Information from the Remote Monitor into the internal DDC Table)</i>		
<i>Reset of the internal DDC Table to Default-Values (see also below: Reset of the internal DDC Table to Default-Values)</i>		

## **Loading the DDC Information from the Remote Monitor into the internal DDC Table**

To load the DDC Information from the Remote Monitor into the internal DDC Table, please proceed the following steps:

- Switch off the Local Unit and the Remote Unit, unplug the Video-Cable to the Remote Monitor (Dualhead devices: BOTH Monitors!)
- Open the Local Unit like described above
- Unplug Jumper JP3 and plug it to Position JP2 (Please bear in mind the position of JP3. Note: both – JP1 and JP2 are plugged now - Dualhead devices: jumper setting on BOTH PCB's!)
- Switch on the Local and Remote Unit (Please ensure, the interconnect cable – CATx or fiber is connected - Dualhead devices: BOTH interconnect cables!)
- Wait until the LINK-LED is illuminated (see above)
- Plug the Video-Cable of the Remote Monitor into the remote unit (switch on the Monitor if switched off - Dualhead devices: BOTH Monitors!))
- The DDC Information of the Remote Monitors is read automatically, transferred to the Local Unit and stored into the DDC-EPROM
- After a successful programming of the DDC EPROM, the 'Video-OK' LED at the Local Unit is blinking rapidly for approx. 1 second
- Switch off the Local Unit and the Remote Unit
- Unplug Jumper JP2 and plug it back to Position JP3 as kept in mind (Dualhead devices: jumper setting on BOTH PCB's!)
- Close the Local Unit like described above
- Switch on the Local Unit and the Remote Unit
- Done




## Reset of the internal DDC Table to Default-Values

If you have loaded several DDC Configurations and got no satisfying result, you can restore the original (default) DDC Table. To do this, please proceed the followin steps:

- Switch off the Local Unit
- Open the Local Unit like described above
- Unplug Jumper JP1 (Jumpers JP1 and JP2 are now open - Dualhead devices: jumper setting on BOTH PCB's!)
- Switch on the Local Unit
- After a successful reprogramming of the DDC EPROM, the 'Video-OK' LED at the Local Unit is blinking rapidly for approx. 1 second
- Switch off the Local Unit
- Replug Jumper JP1 (Dualhead devices: jumper setting on BOTH PCB's!)
- Close the Local Unit like described above
- Switch on the Local Unit
- Done

## Selection of Color depth 21Bit (K467-xx and K468-xx)

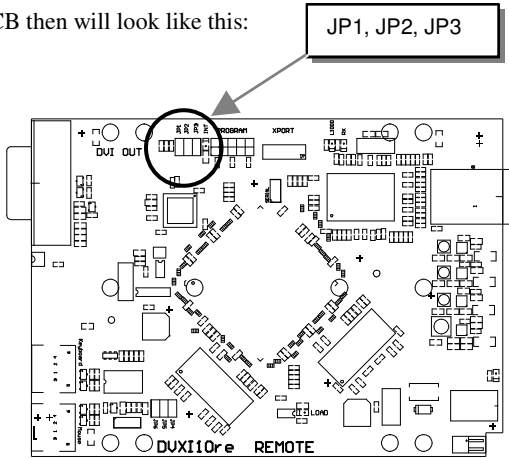
Using the devices of the /ET family, you can select, whether 18Bit colors (=256K colors) are transmitted or 21Bit (=2M colors)/ 24Bit (=16M colors) @ /XV. Low color depth enhances the count of frames, transmitted per second, high color depth gives smooth color grades. Please select to you choice the better mode.

Color depth	JP3
<i>18Bit (default)</i>	
<i>21Bit (K467-0C and K467-AC)</i>	
<i>24Bit (K468-0C and K468-AC)</i>	

## 4.2 Setup at the Remote Unit

After unscrewing and opening the upper shell, please place the device in this orientation: with the CATx connectors to the right and the electrical connectors to the left.

The main PCB then will look like this:



Use the diagram to locate jumpers.

### Selecting the moment of switching to the next frame

The transmission of screen data is not synchronous to the screen change of the graphic card. Normally, the transmission is terminated during displaying a frame on the screen. If the device switches to the new frame during the displaying period of the old frame (somewhere on the screen), it's possible, that you can see horizontal screen breaks in the moment of switching. On the other hand the device must idle, until the actual frame is displayed completely (until VSYNC) -> the number of frames per second transmitted sinks.

Moment to switch	JP3	behaviour
<i>Switching during HSYNC (default)</i>		Higher framerate but (possibly) horizontal breaks detectable
<i>Switching during VSYNC</i>		Lower framerate no horizontal breaks detectable but (possibly) stepping pictures

## 5. Troubleshooting

### *Monitor*

#### *There isn't a picture.*

Check the power supply connection at the Local and Remote unit. Is the *Power* (Red LED) at the Local and Remote unit illuminated? If not, the internal power-supply may be damaged or there may be an internal error.

Check that the Interconnection cable is connected at the Local Unit and the Remote Unit. Is the *Link Status* LED illuminated? If not, there may be a problem with the Interconnection cable:

Are there Errors through data transmission over fibre Cable (Cable too long, too high attenuation or too much EMI interferences )? Is the *Data Error* LED illuminated or blinking? If yes, check cable length and environment.

*Video Okay* LED is dark: CPU does not provide a video signal – Check settings of the graphic card. Try out, connecting a monitor to the local output, to see, whether there is a signal or not.

## **Appendix A: Example Applications**

This section illustrates some specific applications using the DVXi/ME - Extenders:



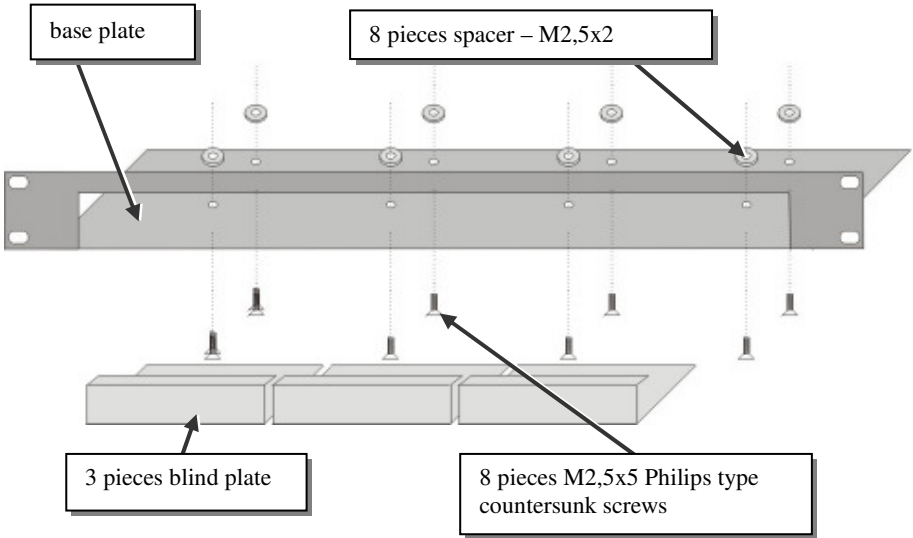
**DVXi/ME MEDIA-Extender with local, secondary screen and Audio option**

## Appendix B: Rack Mount Options

### Mounting Instruction Rackmount-Kit 455-4G

Using the Rackmount-Kit 455-4G, up to 4 devices of the device size 103x143x29mm (Singlehead Devices) can be mounted into a 19"-Server Rack. The Rackmount Kit requires 1U Rackspace. Blindplates (in the list of parts delivered) allow to cover unused device positions.

Rackmount-Kit 455-4G – List of parts delivered:



### Mounting instruction:

- Align the holes on the base plate with the vacant screw holes on the base of the device.
- Fasten the base of the unit to the plate of the mounting kit



**Only use the supplied, short screws, to prevent damages on the PCB's**

- Close the remaining gaps with blanking plates.

## APPENDIX B: RACK MOUNT OPTIONS

The Rackmount-Kit 455-4G allows, to mount a different count of devices (1...4 pieces):



Einbau 1 Gerät  
mounting 1 device



Einbau 2 Geräte  
mounting 2 devices

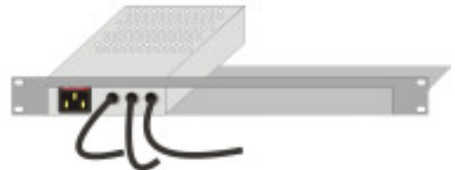
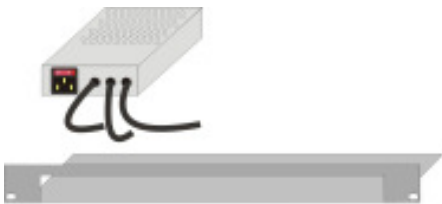


Einbau 3 Geräte  
mounting 3 devices



Einbau 4 Geräte  
mounting 4 devices

In the mostleft position you can mount a rack mountable p.s.u. type 455-PS instead of a regular device. This p.s.u. is capable to power up to three devices.



### **Please note:'**

- Use the back moved mounting holes to fix the p.s.u.
- After mounting the p.s.u., the circuit break switch is not longer easily accessible – it is covered by the cover strip.

## Appendix C: Devices with serial/AUDIO Option

The Audio/Serial Option consists of daughter boards which allow bi-directional stereo audio and a full-duplex serial data link to be sent across the regular interconnection cable in addition to DVI video. • To set up your video, follow the instructions in the user guide. • To set up the extender's audio and serial link, please follow all of the instructions detailed in this addendum. If you have any questions, contact Technical Support.

### Technical Data

#### **Serial link:**

Serial speed:	Any up to a maximum of 19,200 Baud
Serial Data Format:	Format Independent
Flow Control:	RTS, CTS, DTR, DSR are sent across link

#### **AUDIO link:**

Description:	Bi-directional stereo audio link
Transmission Method:	Digitised virtually CD quality audio (16-bit, 38.4KHz)
Signal Levels:	Line-Level (5 Volts Pk-Pk maximum)
Input Impedance:	47K
Local Unit Connectors:	2 x 3.5mm stereo jack socket (Line In & Line Out)
Remote Unit Connectors:	2 x 3.5mm stereo jack socket (Line/Mic In & Line Out)
Microphone Support:	A microphone may be connected to the Remote Unit. A Pullup resistor provides bias for condenser microphone. Option to set microphone amplification to +17dB

#### **Serial Interface - Set Up and Operation**

No setting up or user adjustments are required. Please note that on the dual access model, the serial link is always active. Please bear in mind that the Remote Unit's serial port is wired as DTE (i.e. the same as that on a PC). To connect a serial printer (or other DTE rather than DCE device) to the Remote Unit, you will need a Null-Modem (crossover) cable between the Remote Unit and the printer. Select Xon/Xoff software flow control on the printer and PC. A serial Touchscreen may be plugged directly into the Remote Unit.

### ***Serial Interface – Handling Multiple Serial Devices***

The extender's serial interface transmits/receives six signals (3 signals in each direction). Normally four of these signals are used for hardware handshaking (in addition to TX & RX). However, because each handshaking line can support signals up to 19,200 Baud it is possible to configure the serial interface to handle up to three simple 2-wire (Tx/Rx only) serial links. To do this you will need to construct a custom breakout cable. Please contact technical support for further information.

### ***Audio Interface - Set Up and Operation***

The audio interface is line-level and is designed to take the output from a sound card (or other line-level) source and be connected to a set of powered speakers at the other end of the link. Stereo audio may be transmitted either way across the link (simultaneously). No set up is required unless a microphone is connected to the remote unit. Connect up the extender as follows:

- Take the line-level output from your sound card (green connector) and connect to 'Line In' on the extender.
- A set of powered speakers may be connected directly to 'Line Out' at the opposite end of the link.

### ***Audio Interface – Using a Microphone***

A microphone may be plugged into the 'Line In' connector on the Remote Unit. There are two ways of setting up a microphone:

- The Local Unit's 'Line Out' connection should normally be wired to the microphone input (Red) on your sound card. The sound card should then be set up to provide additional amplification (+20dB). This is the preferred connection method.
- Alternatively, the Remote Unit itself can provide microphone amplification. To set this, open up the Remote Unit and locate the jumper labelled 'MIC' on the daughterboard. Connect this jumper across the pins. The Local Unit's 'Line Out' connection should then be wired to 'Line In' (Blue) on your sound card.

If your microphone is already amplified, follow the second method but DO NOT install the amplification jumper in the Remote Unit.

## Appendix D: Calling Technical Support

If you determine that your DDXI - DVI Media Extender is malfunctioning, *do not attempt to alter or repair it*. It contains no user-serviceable parts. Contact Technical Support at.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- The firmware-revision level printed on the bottom of the Extender (very important, especially for keyboard and mouse problems); The DVXI/ME - DVI Media extender's firmware revision level:

### Version Number Format:

Board: *xxLO/RE Myyy Pzzz Auuu Gvvvvvv*  
Transceiver: *C/M/S xx Pyy Mzz*  
Keyboard/Mouse: *P/U xx Vyyy*

- The nature and duration of the problem.
- When the problem occurs.
- The components involved in the problem—that is, what type of computers, what type of keyboard, brand of mouse, make and model of monitor, type and make of cable, etc.
- Any particular application that, when used, appears to create the problem or make it worse.
- The results of any testing you've already done.

To solve some problems, it might be necessary to upgrade the Extender's firmware. If this turns out to be the case for your difficulty, our Technical Support technicians will arrange for you to receive the new firmware and will tell you how to install it.

## Shipping and Packaging

If you need to transport or ship your DVXI/ME - DVI Media Extender:

- Package it carefully. We recommend that you use the original container.
- If you are shipping it for repair, please include the Unit's external power supplies. If you are returning it, please include everything you received with it. Before you ship the Extender back to your dealer for repair or return, contact him to get a Return Authorization (RA) number.

# Appendix E: Specifications

## Power Supply

<i>Voltage</i>	90-240VAC-0.5A-47-63Hz/5VDC-2000 mA
<i>Power required</i>	Local Unit : max. 750mA Remote Unit : max. 750mA

## Interface

(Depending on type of device)

<i>Video source/Monitor</i>	DVI-D up to 1600x1200@60Hz
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## Maximum Length of Interconnection Cable

<i>Singlemode 9 μm</i>	2.000m (5.700ft)
<i>Multimode 50μm</i>	400m (1.140ft) @ LC and ET 200m (570ft) @ XV
<i>Multimode 62.5μm</i>	200m (570ft) @ LC and ET 100m (285ft) @ XV

## Type of Interconnection Cable

<i>Singlemode 9 μm</i>	Two fibers 9μm. E.g. I-V (ZN)H 2E9 (In house patch cable) or I-V(ZN)HH 2E9 (In house Breakout cable) or I/AD(ZN)H 4E9 (in house OR outdoor Breakout cable, stress resistant) or A/DQ(ZN)B2Y 4G9 (outdoor cable, stress resistant with protection against animal biting) All notations acc. VDE specification.
<i>Multimode 50μm</i>	Two fibers 50μm, E.g. I-V(ZN)H 2G50 (In house patch cable) or I/AD(ZN)H 4G50 (in house OR outdoor Breakout cable, stress resistant) All notations acc. VDE specification.
<i>Multimode 62.5μm</i>	Two fibers 62.5μm. E.g. I-V(ZN)HH 2G62,5 (In house Breakout cable) or A/DQ(ZN)B2Y 4G62,5 (outdoor cable, stress resistant with protection against animal biting) All notations acc. VDE specification.
<i>Plug type</i>	For all cables: LC

## *Size and Shipping Weight*

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*DVXi/ME* 103 x 143 x 29mm (4"x5.6"x1.1") (2 devices)  
Weight: 0,6kg (1.3lb) each

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*Shipping box* Shipping Box: 210x140x165mm (8.3"x5.5"x6.5")  
Weight: 1,6 kg (3.5lb)

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## *Environmental*

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*Operating Temperature* 41 to 113°F (5 to 45 °C)

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*Storage Temperature* -13 to 140°F (-25 to 60 °C)

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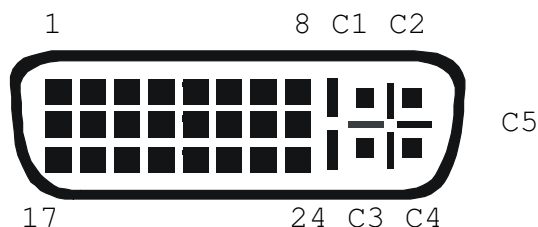
*Relative Humidity* max. 80% non-condensing

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## Appendix F: Connectors

### DVXi/ME Media-Extender Connector Pinouts

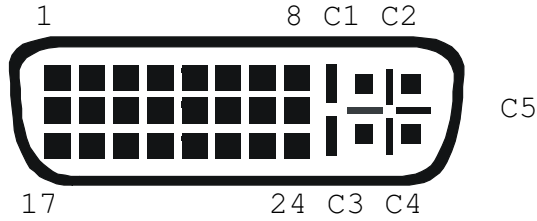
DVI-I female connector (Output connector for ALL devices)



<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	T.M.D.S data 2-	9	T.M.D.S data 1-	17	T.M.D.S data 0-
2	T.M.D.S data 2+	10	T.M.D.S data 1+	18	T.M.D.S data 0+
3	T.M.D.S data 2 GND	11	T.M.D.S data 1 GND	19	T.M.D.S data 0 GND
4	n.c.	12	n.c.	20	n.c.
5	n.c.	13	n.c.	21	n.c.
6	DDC Input (SCL)	14	+5V high impedance	22	T.M.D.S clock GND
7	DDC Output(SDA)	15	GND	23	T.M.D.S clock +
8	Internal use.	16	Hot Plug recognition	24	T.M.D.S clock -
C1	Internal use.			C3	Internal use.
C2	n.c.	C5	GND	C4	Internal use.

# DVXI/ME MEDIA-EXTENDER

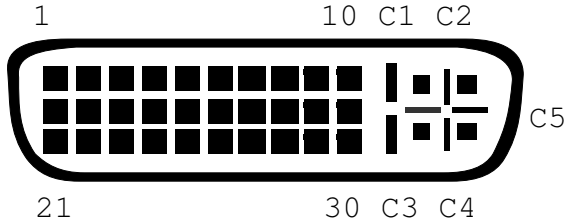
DVI-I female connector (Input connector for all devices)



<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	T.M.D.S data 2-	9	T.M.D.S data 1-	17	T.M.D.S data 0-
2	T.M.D.S data 2+	10	T.M.D.S data 1+	18	T.M.D.S data 0+
3	T.M.D.S data 2 GND	11	T.M.D.S data 1 GND	19	T.M.D.S data 0 GND
4	PS2-KBD CLK	12	PS2-MOUSE CLK	20	PS2-MOUSE VCC-IN +5V (not required)
5	PS2-KBD DATA	13	PS <sup>2</sup> -MOUSE-DATA	21	PS2-KBD VCC-IN +5V (always required)
6	DDC Input (SCL)	14	+5V In for DDC	22	T.M.D.S clock GND
7	DDC Output(SDA)	15	GND	23	T.M.D.S clock +
8	Analog VSYNC	16	Hot Plug recognition	24	T.M.D.S clock -
C1	n.c.			C3	n.c.
C2	n.c.	C5	GND	C4	n.c.

## APPENDIX F: CONNECTORS

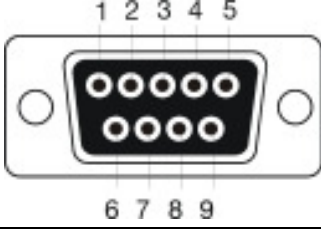
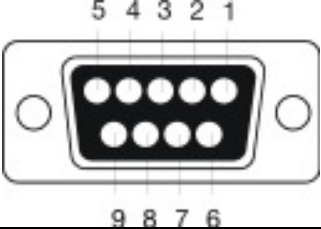
### Special female alike DVI-I (DVI cable set+ Audio/Serial)



<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	T.M.D.S data 2-	11	T.M.D.S data 1+	21	T.M.D.S data 0+
2	T.M.D.S data 2+	12	T.M.D.S data 1-	22	T.M.D.S data 0-
3	T.M.D.S data 2 SHLD	13	T.M.D.S data 1 SHLD	23	T.M.D.S data 0 SHLD
4	GND	14	T.M.D.S clock +	24	HP DET
5	Sense in	15	T.M.D.S clock -		GND
6	Sense Out	16	RS232 RTS		DDC data
7	T.M.D.S clock	17	RS232 CTS		DDC clock
8	n.c.	18	GND		+5 VDC
9	RS232 RX	19	n.c.		RS232 DSR
10	RS232 TX	20	n.c.		RS232 DTR
C1	Audio Line In Left.			C3	Audio Line Out Left.
C2	Audio Line In Right	C5	Audio SHLD	C4	Audio Line Out Right

# DVXI/ME MEDIA-EXTENDER

## Audio Serial

<i>Serial DB9-male</i>		<i>Serial DB9-femal</i>	
			
<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	n.c.	1	n.c.
2	RxD	2	RxD
3	TxD	3	TxD
4	DTR	4	DTR
5	GND	5	GND
6	DSR	6	DSR
7	RTS	7	RTS
8	CTS	8	CTS
9	n.c	9	n.c

## Power



<i>Pin</i>	<i>Signal</i>
inner	+5V
outer	GND

# NOTES