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Disclaimer

While every precaution has been taken in the preparation of this manual, the manufacturer assumes no responsibility for errors or omissions. Neither does the manufacturer assume any liability for damages resulting from the use of the information contained herein. The manufacturer reserves the right to change the specifications, functions, or circuitry of the product without notice.

The manufacturer cannot accept liability for damage due to misuse of the product or due to any other circumstances outside the manufacturer's control (whether environmental or installation related). The manufacturer shall not be responsible for any loss, damage, or injury arising directly, indirectly, or consequently from the use of this product.

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.**

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

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 Converter unit and power supply 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.**

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: AC1038A

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

EN 55022:	1999	Class A
EN 55024:	1999	
IEC 61000-4-2:	2001	
IEC 61000-4-3:	2001	
IEC 61000-4-4:	2001	
EN 61000-3-2	2001	
EN 61000-3-3	2002	

The device was tested in a typical configuration with PC.

$$C \epsilon$$

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.

Contacting Black Box Technical Support

Country	Web Site/E-Mail	Phone	Fax
US	www.blackbox.com info@blackbox.com	724-746-5500	724-746-0746
Germany	www.black-box.de techsupp@black-box.de	+49 811 5541 110	+49 811 5541 499

Shipping and Packaging

If you need to transport or ship your DVI2VGA Converter:

- 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 supply. If you are returning it, please include everything you received with it. Before you ship the Converter back to your dealer for repair or return, contact him to get a Return Authorization (RA) number.

BLACK BOX ®
NETWORK SERVICES

DVI-D to VGA Converter
(DVI-Singlelink)
AC1038A

(manual)

http://www.blackbox.com

Black Box Network Services -
The world's largest network services company
We are, with 25 years of experience, the world leader in network infrastructure services.

1 Introduction

This DVI to VGA Converter is mainly designed to connect DVI-KVM Extenders local outputs to traditional VGA KVM-Switches. Additionally they may be used to convert DVI signals of a graphic card, to be displayed on a VGA monitor – especially on older, expensive beamers etc. Depending on a strange behavior of some display drivers, it cannot be guaranteed, that it will work (on first attempt, without modifications) on each graphic card. For further information on this, please contact 'Technical Support'.

2 Quick Setup

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

Install system
1.   Connect VGA monitor cable to Converter.
2.   Connect DVI-D graphic source to Converter.
3.   Connect p.s.u. to Converter.
4.   Power up the system.

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 DVI to VGA Converter more conveniently.

3.1 Package Contents

You should receive the following items in your converter package:

- DVI-D to VGA Converter unit
- 1x 5V DC universal power supply for the DVI-D to VGA Converter
- This manual
- CPU cable (1.8m) DVI-D video (DVI-D single link male) connector – DVI-D video (DVI-D single link male) connector

3.2 System Setup

To install your DVI to VGA Converter:

1. Switch off all devices.
2. Connect the monitor to the Converter unit
3. Using the supplied CPU cable, connect the converter to your DVI-D graphic source.
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. Power up the system.
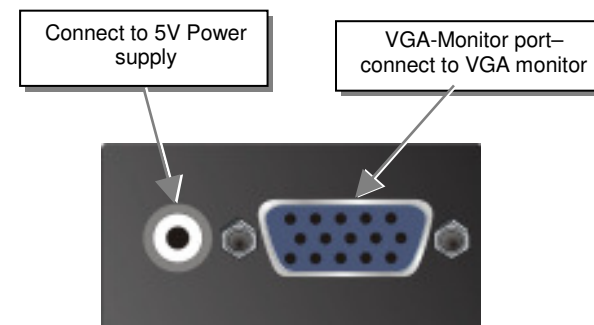
3.3 Interconnection Cable Requirements

To connect the Converter unit you will need:

- **DVI-D:** Please ensure, that you use high quality DVI-D cables, to attach the system to your CPU. The length of the cable should not expire 1.8m (6ft). The device should also work with longer cables . however this can never be guaranteed. To our experiences, lengths above of 5m normally fail.

- **VGA:** Please ensure, that you use high quality VGA cables, to attach the monitor to your Converter. The length of the cable should not expire 1.8m (6ft). The device should also work with longer cables . however this can never be guaranteed. To our experiences, lengths above of 20m normally fail.

4 Device view

Connect to
DVI-D graphic source
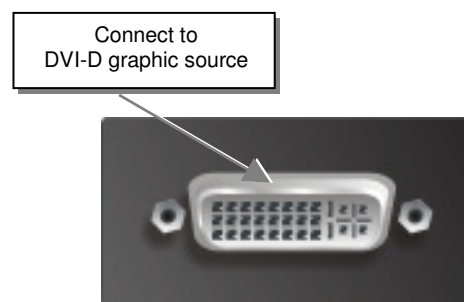
DVI to VGA Converter – DVI side view

Connect to 5V Power supply

VGA-Monitor port– connect to VGA monitor

DVI to VGA Converter – VGA side view

5 Supported Resolutions

The Converter can handle all known DVI resolutions up to 1920x1080. Nevertheless, there is only a selection of most common resolutions stored in the DDC (EDID) table. If the converter does not show any picture on the VGA output, it may depend on a missing resolution in the table or a mal programmed driver, which is not able, to use any other than the preferred resolution. In this case, please contact Technical Support, to program a user defined DDC-table.

Detailed Timings :
1.) (preferred)   1024x768 at 60Hz   fh = 48kHz, fd = 65MHz
2.)   1600x1200 at 60Hz   fh = 75kHz, fd = 162MHz

Standard timings supported :

640x480/60Hz	640x480/67Hz
640x480/72Hz	640x480/75Hz
720x400/70Hz	720x400/88Hz
800x600/56Hz	800x600/60Hz
800x600/72Hz	800x600/75Hz
832x624/75Hz	1024x768/60Hz
1024x768/60Hz	1024x768/70Hz
1024x768/75Hz	1152x870/75Hz
1280x720/60Hz	1280x960/60Hz
1280x1024/60Hz	1280x1024/75Hz
1360x765/60Hz	1400x1050/60Hz
1600x900/60Hz	1600x1200/60Hz
1680x1050/60Hz	1920x1080/60Hz

Timing characteristics :

|	
VESA GTF support	Not supported
Horizontal scan range	22-95kHz
Vertical scan range	48-90Hz
Video bandwidth	170MHz

6 Troubleshooting

There isn't a picture.

- Check the power supply.

- Your DVI Source provides a 1920x1200 resolution. VGA cannot display the 1920x1200 resolution, because this has a timing with no black shoulders. VGA monitors cannot detect the synchronization signals, if there is no black shoulder.

- The DVI2VGA Converter has a built-in, virtual 'Digital DDC' to show the graphic source, that a DVI monitor is attached. As there is no possibility, to translate 'analogue DDC' from the attached VGA monitor, this virtual DDC simulates the presence of a DVI monitor.

Some mal programmed drivers have strange reactions to this DDC information: Some do only display the preferred (native) resolution. Others do, if you have 1600x1200 for preferred resolution, not display 1920x1080 because 1920 is bigger than 1600. On the other hand, if you have 1920x1080 for maximum resolution, it will not display 1600x1200 because 1200 is bigger than 1080.

Under some circumstances, it is helpful, to deselect ‚Hide modes that this monitor cannot display' in … 'Graphic Properties' – 'Settings' – 'Advanced' – 'Monitor'

Deselect ‚Hide modes that this monitor cannot display'
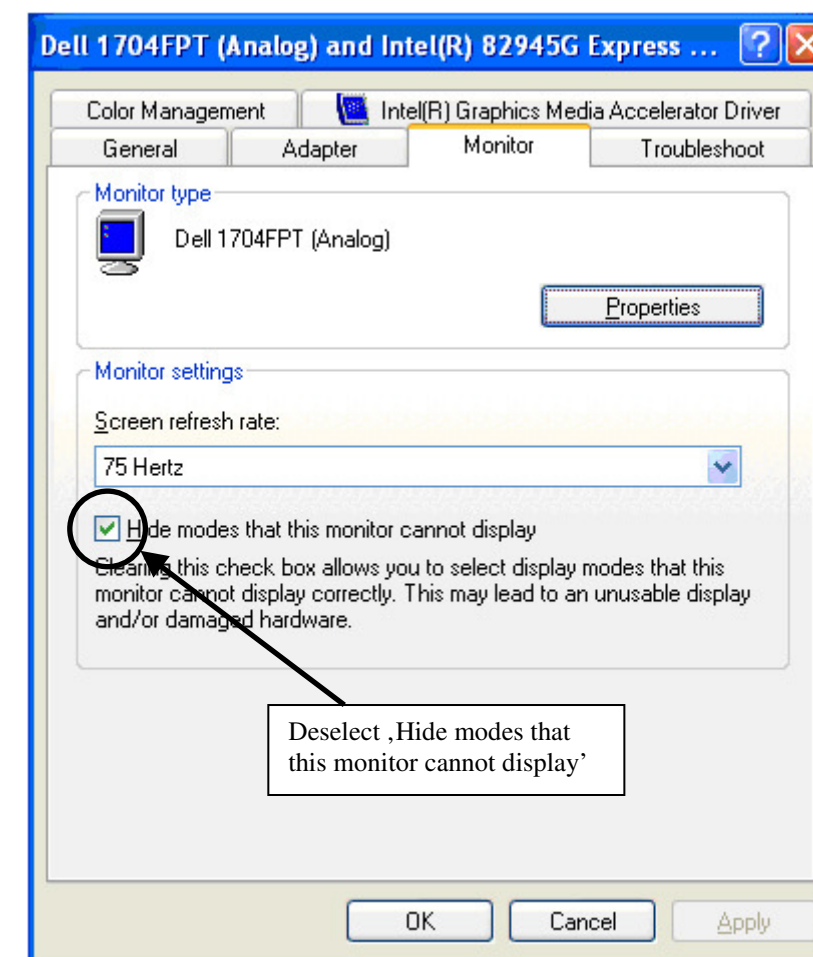
If this does not help, please contact ‚Technical Support' for a user adapted DDC table.