



Advanced Measurement Technology

System Installation Guide

February 2006

© 2006 Image Processing Techniques Ltd. All rights reserved

This documentation contains proprietary information of Image Processing Techniques Ltd. No part of this documentation may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, recorded or otherwise without the prior written permission of Image Processing Techniques Ltd.

The information contained in this documentation was prepared by Image Processing Techniques Ltd. with all reasonable care and is believed to be accurate. However Image Processing Techniques Ltd. does not assume responsibility for loss or damage resulting from omissions, inaccuracies or errors contained herein. The information contained in this document is subject to change and revisions hereto or new additions may be issued to incorporate such changes.

Table of Contents

1. System Installation	2
Introduction	2
Safety Considerations.....	2
Environmental Considerations	3
Unpacking & Installation	3
Card Connections.....	4
Cabling	4
<i>Connect the Video Reference.....</i>	<i>4</i>
<i>Connect the SDI/HDSDI Output.....</i>	<i>5</i>
<i>Connect the SDI/HDSDI Input</i>	<i>5</i>
<i>Connecting the SVGA Monitor.....</i>	<i>5</i>
<i>Connecting the Analog Monitor.....</i>	<i>5</i>
<i>Connecting Power</i>	<i>5</i>
<i>Installing the Mouse and Keyboard.....</i>	<i>6</i>
Support and Warranty Information.....	6
Windows Configuration.....	6
2. Remote Access.....	7
VNC.....	7
Alternatives.....	7

Trademarks

Please note that Windows, Windows Professional, and Windows XP, are all trademarks of Microsoft Corporation

1. System Installation

Introduction

This section describes how to install OmniTek products that have been supplied packaged in PC hardware, and safety information. Some of this information is also application to people installing our card into their own PC.

A separate manual is available specifically covering how to install OmniTek cards into your own PC.

The installation is divided up into the following sections:

- Safety Considerations
- Environmental Considerations
- Unpacking & Installation
- Cabling
- Technical Support
- Windows Configuration

Safety Considerations



Electric Shock Hazard

To avoid an electrical shock hazard:

- Do not connect or disconnect any cables or perform installation during an electrical storm.
- Connect all power cords to a properly wired and grounded electrical outlet.
- Never turn on any equipment if there is evidence of fire or water.
- Disconnect power cords before removing the any part of the cover, unless specifically instructed to do so by an OmniTek Engineer.
- Always ensure all equipment is turned off before connecting or disconnecting any cables.



Important

It is important to note that the power switch on the front of the unit does NOT disconnect all power within the unit. Using this switch to turn the unit off will NOT protect you from electric shock hazard if you remove the lid of the unit.



Lithium Battery Caution

The chassis unit contains a lithium battery. If it becomes necessary to replace it, only use an identical part, or a recommended equivalent.

Lithium batteries can explode if handled incorrectly.

Do not:

- Immerse in water
- Heat to more than 100 degrees Celsius.
- Disassemble the battery

Environmental Considerations

Physical Dimensions

OmniTek systems typically occupy 1 rack unit with physical dimensions of 44cm wide x 4.4cm high x 65cm deep, weighing approximately 13kg.

Operating Environment

The system chassis needs to operate in a clean (dust free) environment. Failure to observe this requirement will ultimately cause overheating as dust accumulates on the disk and obstructs air passages.

Power Requirements

The system chassis has been designed to operate on supply voltages of 115V/60Hz or 230V/50Hz AC. Typical power consumption will be approximately 60 Watts. However there will be an initial switch on power surge of approximately 200 Watts.

Operating Temperature

The system chassis has been designed to operate in temperatures from 5 – 30° C, non-condensing. Internal chassis forced air-cooling is provided. Air is drawn in through the front of the unit, and expelled through apertures at the rear. Please ensure other equipment does not block the vents, and if the unit is installed in a rack chassis, that adequate airflow is available within the rack chassis.

Unpacking & Installation

Inspection

Inspect the packaging carefully and notify Image Processing Techniques Ltd. and the carrier if the packaging shows signs of damage. As dispatched from Image Processing Techniques Ltd, the carton will be sealed with OmniTek packing tape. If your box is not sealed, or is sealed with any other tape, then it has been tampered with after dispatch. Unless you are satisfied that this due to an approved customs inspection, do not accept the package.

If the packaging does show damage, make a notation on the delivery receipt. Do not unpack the goods and request immediate return of the goods by carrier.



Important

In the event that the system is returned to the factory, it is essential that the unit be properly repacked in the original packaging.

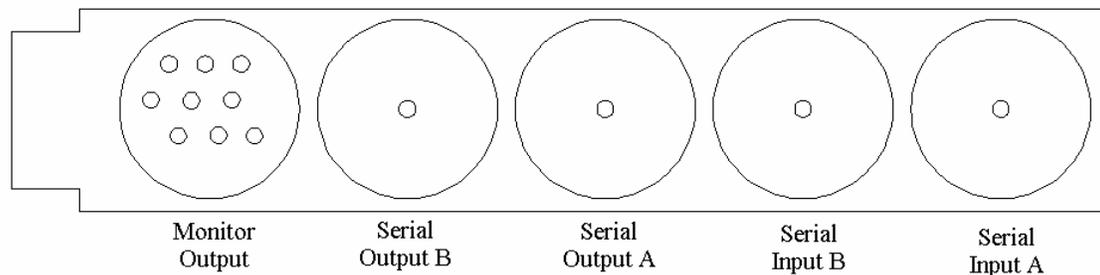
Cooling

Ensure that the unit is positioned where there will be sufficient airflow. OmniTek 1U chassis are designed using Pentium M processors, which only draw approximately 20 watts, and so don't generate a great deal of heat. However efficient ventilation is still necessary.

Card Connections

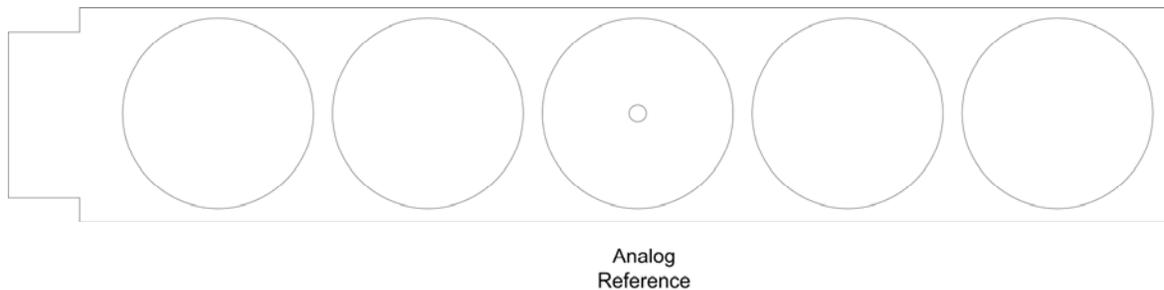
The OmniTek card has the following connections.

Standard OmniTek card



Cabling

Connect the Video Reference



If desired, connect an analogue video reference signal. The reference is normally the central connection on a separate PC plate, on the rear of the chassis, and will be adjacent to the main OmniTek PCI card.

If the system has been supplied for installation into your own PC, the analog reference cable is supplied as a metal PC plate with the BNC fitted, and a short brown cable that ends in a brass mini BNC connector. This plugs into a mating connector on the top edge of the daughter board, which is itself supplied already attached to the main PCI card.

The analog reference input is terminated on the PCI card.

If used, the analogue reference should be black reference. A video signal may also be used, but with some loss of performance. For SD, black burst is ideal.

The OmniTek card can also be configured to lock to a serial input, if one is present. This setting should be used when capturing external video.

For details on how to configure the sync settings, refer to the User Manuals for the application.

Connect the SDI/HDSDI Output

Connect the serial digital output of OmniTek card to suitable equipment, depending on which standard you will be using. There are two identical outputs on the OmniTek rear panel. Each output is a single link serial digital signal. If the system includes the XR product, plus the Dual Link option, and the Motion/Capture option, then the two outputs can be configured as a dual link output.

Connect the SDI/HDSDI Input

Connect the serial input to suitable equipment. The serial input is capable of accepting various standard definition signals, and high definition signals, using a single link coax. There are two physical input BNCs on the PCI card, which are labelled as the A and B inputs. It is necessary to select input A or input B from the Source toolbar in the OmniTek software. The two BNCs work jointly as the Dual Link input, if running the XR product in conjunction with the Dual Link option. From the Engineering menu, on the Dual Link tab, you can select which input will be used as the lock reference.

Connecting the SVGA Monitor

This refers to the SVGA monitor used to display the Windows operating system, and the OmniGen application. The SVGA monitor should be capable of displaying 1280 x 1024 pixels at a minimum of 60Hz. Position the monitor into the desired location. Connect the SVGA cable between the monitor and chassis SVGA output and tighten the fixing screws.

Connecting the Analog Monitor

OmniTek products can produce an analogue video output, (not of Broadcast grade), specifically for monitoring purposes. This output is available on a 9-way mini-din connector. OmniTek systems are supplied with a monitor cable, and this connects between the mini din socket and either an SVGA connector, or to five BNCs, depending on the cable type ordered. The BNC cable is supplied by default. Please note that the output is capable of displaying very high-resolution images, which may exceed the bandwidth of cheaper SVGA monitors. Further, the range of vertical frame rates available is likely to be greater than standard SVGA monitors are designed to accept, so not all video standards will work on some SVGA monitors. Also please note that the format of the signal can be changed between RGB and YUV. If it is being used with an SVGA monitor, then the format must be set to RGB. To change the format of the monitor output, go to the Engineering menu, and select Video Setup, as described in the application User Manuals. A composite output is also available in PAL or NTSC standards.

In composite mode, the green BNC output will have the composite signal. In this mode, SVHS outputs are also available on the red and blue BNCs.

In HD modes, the green output will also have tri-level syncs.

It is possible to extend the standard cable supplied, but using inferior quality SVGA extender cables will degrade the output significantly, especially in HD.

Please also note that the 9-pin mini-din connector is by necessity quite small, with thin pins. Take care whilst plugging it in so that the pins do not become damaged. If you do damage the connector, replacement cables are available from your dealer.

Connecting Power

The chassis requires mains power at either approx. 115V, or at approx. 230V, supplied via a standard IEC inlet cable. All 1U chassis types will auto-select between those two settings. Magma PCI expansion chassis MUST have the voltage correctly selected.

Installing the Mouse and Keyboard

All OmniTek products require a keyboard and mouse. Depending on which of two 1U chassis types are supplied, there will be either a single PS2 connector at the rear, or two USB connectors. If there is a single PS2 socket on the rear, then a 'Y' splitter cable will be supplied. This plugs into the single PS2 socket on the chassis. At the other end of the splitter cable there are standard green and purple PS2 sockets to attach a regular PS2 mouse and PS2 keyboard.

Ensure the chassis is turned off when installing the mouse and keyboard if using PS2 peripherals.

It is possible to extend the mouse and keyboard cables using a third party extension set if required.

Plugging the mouse and keyboard plugs into the opposite sockets will usually prevent the system from booting.

Support and Warranty Information

Image Processing Techniques provides a one-year warranty on all OmniTek products. The warranty covers hardware failure, and bug fix releases for the software. It does not include the addition of new features, in either hardware or software.

If your unit was purchased from a distributor, please contact your distributor in the event of any support being required, for both hardware problems, and for user/operational issues.

The factory can be contacted by email or telephone. If you have to contact the factory, please remember to quote the serial number of the unit, found on the outside of the chassis. Please also provide the version number of the OmniTek application, found by selecting the 'About' menu.

Support@omnitek.tv

+44 (0)118 988 6226

Windows Configuration

Since all OmniTek applications are windows application running on a Microsoft operating system, it is important to configure the unit to suit your requirements. As supplied from the factory, there will be an administrator user, and there will not be any password for that user. No other users will have been created. We would recommend that you immediately add a password to the administrator account.

In order to use the OmniTek software, we recommend that you create ordinary users. In this way, multiple users can each have their own choice of configurations for both Windows, and within the OmniTek applications.

Please note that a user with administration privileges is necessary to either uninstall or to install any OmniTek application.

Whilst we have tested OmniTek products with a variety of other software applications from various vendors, and not discovered any incompatibilities, we cannot guarantee that all applications will work correctly in conjunction with the OmniTek products.

2. Remote Access

VNC

OmniTek systems are designed to be controlled by using a mouse and keyboard to access the physical chassis. There are times when it is desirable to be able to control the system from a remote location. Image Processing Techniques Ltd. supports the use of an application called VNC for this function. This application permits remote access from other workstations connected to the same network.

VNC is available as a free download, from the organisation that produced it. For your convenience, we can provide a copy of the VNC download, for 32 bit Windows OS, on request.

The VNC server application must be installed on the chassis, and may be included in the Windows startup folder so that it is always present.

VNC client software can be installed on as many workstations as required. There is a version of software to run on standard Windows PCs, Linux, Solaris 2.5, various Macintosh OS, DEC Alpha systems, and Windows CE systems. At the time of writing, Image Processing Techniques Ltd. have only verified functionality with Windows workstations, and Mac OS9.1, but we will test others as resources permit.

Image Processing Techniques Ltd. cannot directly support VNC, as it is third party software. However, we will provide user support to anyone installing and using it to operate OmniGen or Quality Auditor from a Windows client, or from a Macintosh client running OS version 9.1. We will extend our support to other platforms and operating systems once we have been able to verify the functionality. VNC is not suitable for use with OmniView.

For best results when using VNC, we recommend changing from thumbnail images to text view, and adjust the size of the OmniGen window on the server unit to be no larger than the size of the screen on your client. This will prevent having to scroll the client view, which is a slow process. We also suggest you only use 100 BaseT networking with the VNC application. Although VNC performs correctly with 10 BaseT networks, the faster network performance is a considerable advantage.

For more information on VNC, and to access the free download page, please see <http://www.uk.research.att.com/vnc>.

Alternatives

Image Processing Techniques Ltd. is aware of other software applications that provide similar functionality to VNC. However, we are not in a position to verify, or to provide any support for any application other than VNC.

For people who don't wish to put the system on a network, but still require remote access to the system, we recommend a keyboard/mouse/VGA extender solution available from Black Box. They sell 'ACU1001A', which is a two box kit. One box is plugged into the OmniGen mouse, keyboard and VGA ports. Then the mouse, keyboard and VGA monitor are plugged into the other box. Both boxes are mains powered. The two boxes are simply connected with ordinary cat5 cable, with cable lengths up to 200 feet being supported. The cat5 cable can be routed through a patch panel, but not through a network hub or router. This approach works well with all OmniTek applications.

If you wish to purchase this solution, it is available directly from Black Box. Their web address is <http://www.blackbox.com>, and they have representation in several countries.