

# Mosaic-SQ16 User Manual



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## FCC Compliance

### Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and 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 in a commercial, industrial or business environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the manufacture's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will no occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Warning! Any changes or modifications to this product not expressly approved by the manufacturer could void any assurances of safety or performance and could result in violation of Part 15 of the FCC Rules.**

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## Declaration of Conformity – FCC

### DECLARATION OF CONFORMITY

Per FCC Part 2 Section “. 1077(a)



**Responsible Party Name:** Datapath Limited  
**Address:** Alfreton Road, Derby,  
**Phone:** +441332-294441

Hereby declares the product:

**Product Name:** Video Overlay Card  
**Model Number:** Mosaic-SQ16

Conforms to the following specifications:

FCC Part 15 Subpart B                      Class A Digital Device

Supplementary Information:

This device has been shown to be in compliance with and was tested in accordance with the measurement procedures specified in the Standards & Specifications listed above and as indicated in the measurement report number: 5C9213GUS1

Representative Persons Name: Tony Jones, Operations Director



Signature:

Date: 23 May 2006

## Declaration of Conformity – CE

### DECLARATION OF CONFORMITY

Per EN55022



**Responsible Party Name:** Datapath Limited  
**Address:** Alfreton Road, Derby,  
**Phone:** +441332-294441

Hereby declares the product:

**Product Name:** Video Overlay Card  
**Model Number:** Mosaic-SQ16

Conforms to the following specifications:

CE Regulation EN55022                      Class A Digital Device

Supplementary Information:

This device has been shown to be in compliance with and was tested in accordance with the measurement procedures specified in the Standards & Specifications listed above and as indicated in the measurement report number: 5C9213GEU1

Representative Persons Name: Tony Jones, Chairman



Signature:

Date: 23 May 2006

## Introduction

The Mosaic-SQ16 is a PCI plug-in card that has 16 analogue to digital converters that accept PAL, NTSC or SECAM in composite or S-Video format. The digital output from each of the decoders is put onto a high-speed digital bus.

The Vantage4-SIP and iH4-SIP take the digital video from the high-speed bus and put it on the displays. Each display can show up to 16 video inputs.

Up to eight Mosaic-SQ16 cards can be connected to a single high-speed digital bus.

The driver for Mosaic-SQ16 is installed with the display driver for the graphics card you are using (Vantage4 or iH4).

The Wall Control application is used to create and manage Mosaic windows.

An SDK is provided so that you can integrate Mosaic windows into your applications.

## Unpacking

Your packing box should contain the following items:

- The Mosaic-SQ16 PCI plug-in card.
- 2 x multi-way splitter cables. (BNC 16 - Cable)
- 1 x SIP-cable. (Ribbon Cable)

The Mosaic-SQ16-NC is supplied without any cables.

### **Notes:**

**All plug-in cards are static sensitive and are packed in anti-static materials. Please keep the card in its packaging until you are ready to install.**

**We recommend that you do not discard the packing box until you are completely satisfied with the Mosaic-SQ16, and it is fully installed and working correctly. We also recommend that you make note of the serial number of the card in a prominent place before you plug the card into the computer. This should hasten any query should you need to contact our Technical Support Department. The serial number is displayed on the card and the box label.**

## Specification

Card Format	32bit 66MHz PCI adapter
Card Size	105 x 310 (mm)
Number of Video Inputs	16
Supported Video Formats	PAL, NTSC, SECAM (Composite or S-Video)
Power consumption	20 watts
Power Requirements	+12V at 1Amp, +5V at 0.5Amps, +3.3V at 3 Amps
Max capture resolution per channel	720 x 288
Video Window up date rate	Real time 25/30 frames per sec (PAL/NTSC)
Operating Temperature	0 to 35 Deg C ambient
Storage Temperature	-20 to +70 Deg C
Relative Humidity	5% to 90% non-condensing

## Installing the Mosaic-SQ16 Card

The Mosaic-SQ16 outputs digital video onto a high speed bus. The graphics card (Vantage4-SIP or iH4-SIP) takes the digital video from the high speed bus and puts it on the displays. The high speed bus runs from card to card via SIP cables. The SIP cables are short and can be connected in only one direction.

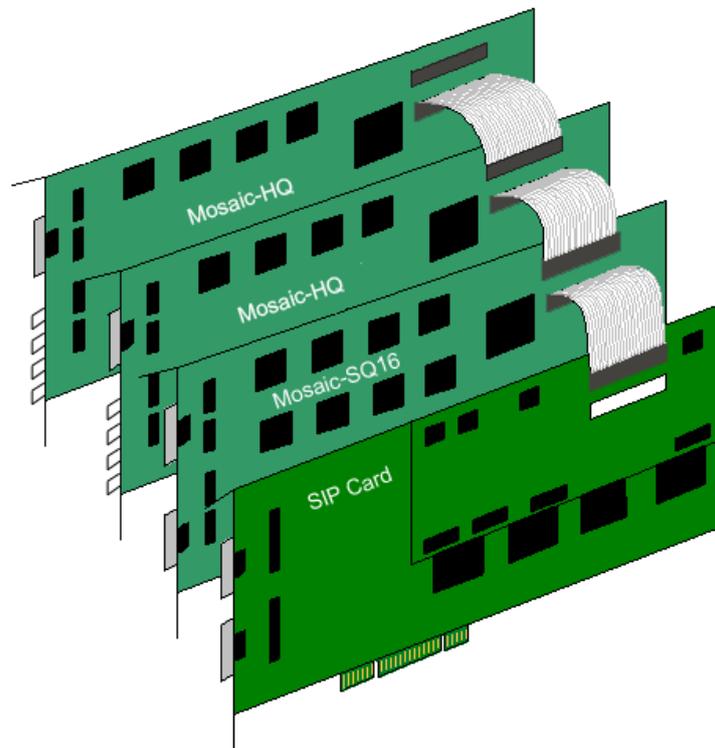
When you design a system that incorporates Mosaic-SQ16, you must follow these rules:

- The Mosaic-SQ16 cards must be grouped together and the graphics cards must be grouped together.
- There can be up to eight Mosaic-SQ16 cards in a group.
- The number of graphics cards in a group is limited by your system.
- The Mosaic-SQ16 cards must be positioned with their heat sinks facing the graphics cards (see Diagram 2).
- You can have multiple groups of Mosaic-SQ16 cards and graphics cards but for a video to be displayed on a graphics card, the video source must be connected to a Mosaic-SQ16 card that is connected to the graphics card.

Up to sixteen videos can be displayed on a screen simultaneously.

**Note:**

**If Mosaic- HQ and Mosaic-SQ16 are being installed in the same system, the Mosaic-HQ cards MUST be installed after the Mosaic-SQ16 cards, i.e furthest away from the Vantage4 card. See illustration below.**



Install and configure all the required graphics cards in the system, carefully following the installation instructions. Ensure that your multi-screen system is working correctly before installing the Mosaic-SQ16 card.

**Note:**

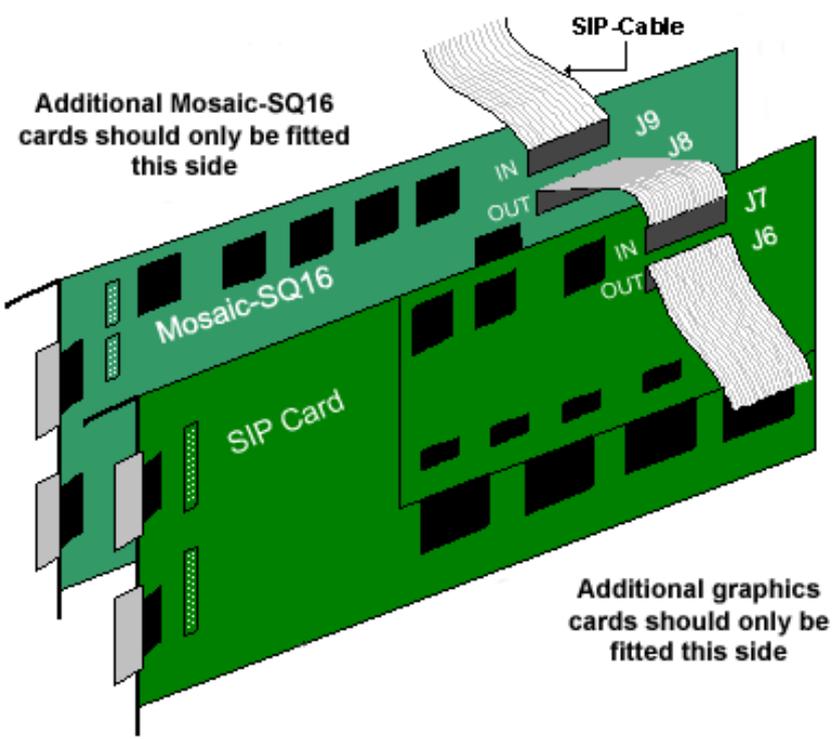
**You are likely to need a flat blade and a Phillips head screwdriver for the installation so please ensure you have these to hand before you begin.**

- Power down your complete system (including peripherals) at the PC and the main power supply.
- Disconnect all the cables connected to the PC, noting the positions for correct reconnection after the Mosaic-SQ16 card is installed. Carefully remove the cover from your PC.
- Locate an available PCI slot to install your Mosaic-SQ16 card next to your graphics card.
- Holding the card firmly by its top edge at each end of the card's length, slide it into the slot. Care should be taken when sliding the card into the PCI slot.
- Using the retaining screw, secure the bracket to the back panel.

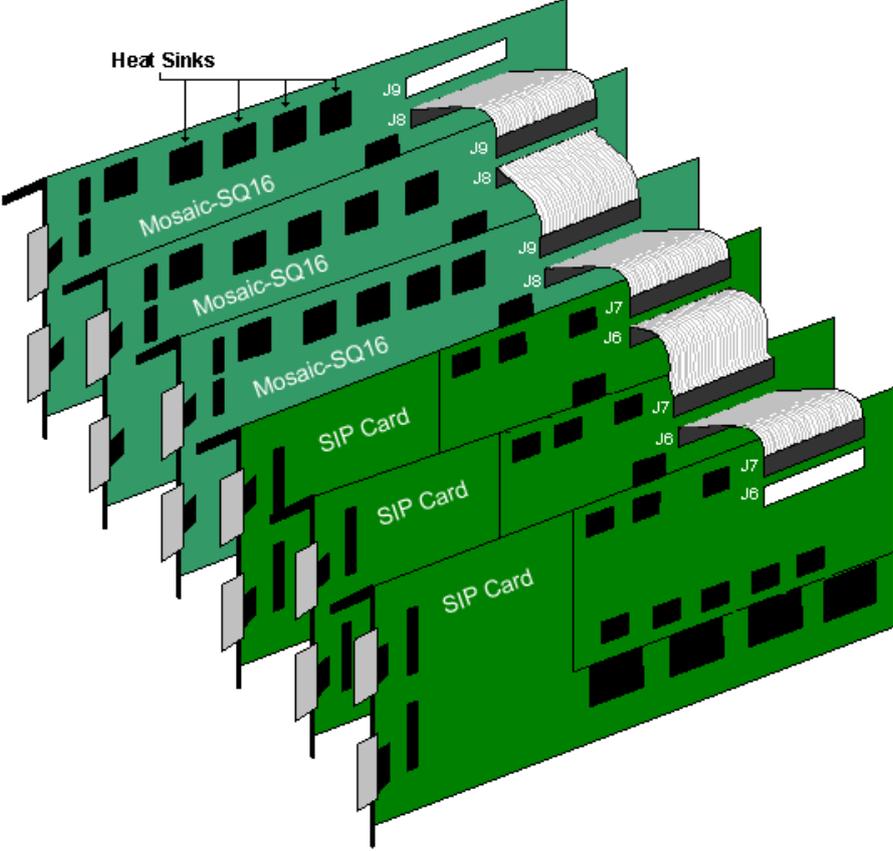
Connect the SIP-Cable from the Mosaic-SQ16 card to graphics cards. The headers on the Mosaic-SQ16 cards are marked J8 and J9 and should be connected to the graphics cards as follows:

Connect the J8 header on the Mosaic-SQ16 to the J7 headers on the graphics card.

The diagram (1) on the following page shows the location of the headers on each of the cards:

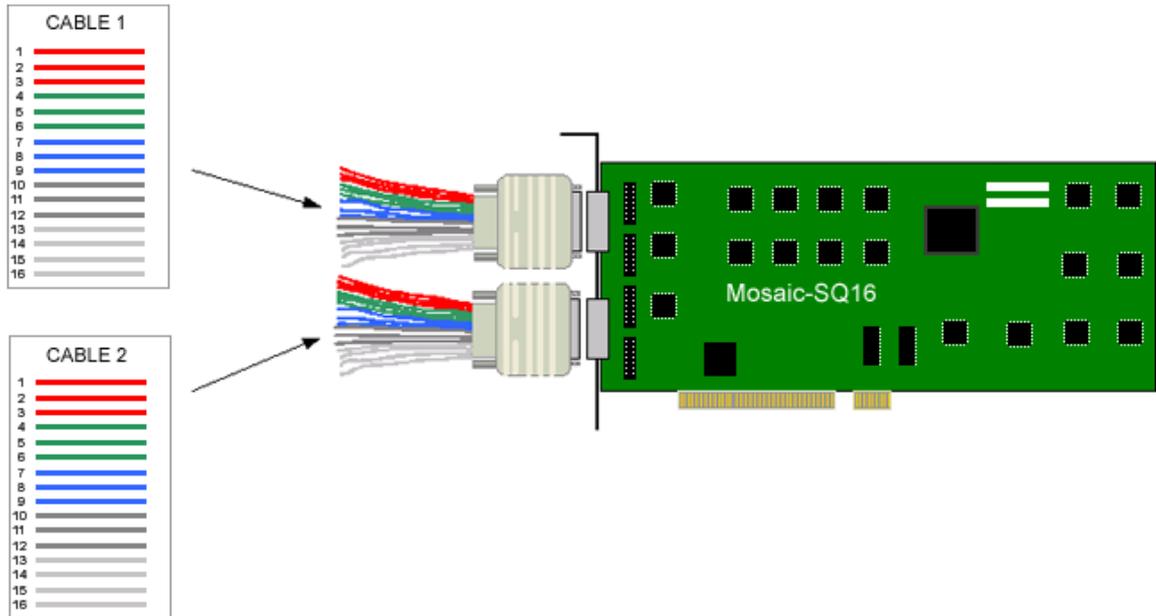


*Diagram 1*



*Diagram 2*

## How To Connect Video Inputs



*Diagram 3*

Composite inputs are connected to the top splitter cable.

The Luma part of a S-Video input is connected to the top splitter cable and the chroma part is connected to the corresponding connector on the bottom splitter cable.

If you are using a single Mosaic-SQ16, the input numbers specified in the software correspond to the labels on the splitter cable. (1-16)

If you have connected more than one Mosaic-SQ16, connect inputs 1-16 to the Mosaic-SQ16 closest to the graphics card. Connect inputs 17-32 to the next Mosaic card and so on.

Mosaic-SQ16 card provides the 75ohm termination for each input. The links should be fitted to apply termination. (All links are fitted as standard.)

## Software Installation

The Mosaic-SQ16 driver is installed on your system using one of the following methods:

- The Datapath Software Installation Suite CD supplied with the Mosaic-SQ16 Card.
- The Datapath Web Site.

### From The Datapath Software Installation Suite CD

Insert the Datapath CD into your CD ROM drive, the CD will autorun. Select **Install Drivers...** and the Driver Install wizard will detect which Datapath cards you have in your machine and install the required drivers.

Follow the Installation Wizard instructions as prompted.

### From The Datapath Web Site:

The most up to date Driver Install can be downloaded from the web site [www.datapath.co.uk](http://www.datapath.co.uk) and installed using the Driver Install Wizard.

Follow the software installation wizard instructions as prompted.

Once the installation is complete, reboot the system.

## Datapath Limited

Datapath has a long and very successful history in the computer graphics industry. Datapath has been designing and supplying high performance, high quality graphics display systems to the worlds largest and most demanding companies and institutions since 1982. Datapath was one of the founding companies of multi screen Windows acceleration using single and multi board solutions. Now, using the very latest display technology Datapath offers some of the world's leading multi screen graphics accelerators for the most demanding applications.

As new technology advances, so we at Datapath improve the performance and functionality of both our hardware and software to give our customers more. Following a continuous development program, we pride ourselves on our support and responsive nature towards all our customers and their changing needs. As more sophisticated equipment and techniques become readily available, so we are there to exploit the power and potential that this technology presents.

### Technical Support

You can access our technical support staff by email or by using the Problem Report form on the support page on the Datapath Web Site, usually with a response within 24 hours (excluding weekends).

**Via Email:** Send an email to [support@datapath.co.uk](mailto:support@datapath.co.uk) with as much information about your system as possible. To enable a swift response we need to know the following details:

- Specification of the PC - including processor speed
- Operating System
- Application Software
- Datapath Hardware / Software
- The exact nature of the problem - and please be as specific as possible.

Please quote version and revision numbers of hardware and software in use wherever possible.

### Copyright Statement

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