



# **Si Dante Card**

## **User Guide**



## IMPORTANT

**Please read this manual carefully before using  
your card for the first time.**



This equipment complies with the EMC directive 2004/108/EC

This product is approved to  
EMC standards  
EN55103-1: 2009 (E2)  
EN55103-2: 2009 (E2)

**Warning: Any modification or changes made to this device, unless explicitly approved by Harman, will invalidate the authorisation of this device. Operation of an unauthorised device is prohibited under Section 302 of the Communications act of 1934, as amended, and Subpart 1 of Part 2 of Chapter 47 of the Code of Federal Regulations.**

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not 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:

- \* Reorient or relocate the receiving antenna
- \* Increase the separation between the equipment and the receiver
- \* Connect the equipment into 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

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Part No. 5031819.V



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## IMPORTANT SAFETY INSTRUCTIONS

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Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with a dry cloth.

Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of a polarised or grounding type plug. A polarised plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.



Use only with the cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



**NOTE: It is recommended that all maintenance and service on the product should be carried out by Soundcraft or its authorised agents. Soundcraft cannot accept any liability whatsoever for any loss or damage caused by service, maintenance or repair by unauthorised personnel.**



**WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Do not expose the apparatus to dripping or splashing and do not place objects filled with liquids, such as vases, on the apparatus. No naked flame sources, such as lighted candles, should be placed on the apparatus.**

**Ventilation should not be impeded by covering the ventilation openings with items such as newspapers, table cloths, curtains etc.**



**NOTE:** This equipment has been tested and found to comply with the limits for a Class B 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.

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

**FOR YOUR OWN SAFETY AND TO AVOID INVALIDATION OF THE WARRANTY  
PLEASE READ THIS SECTION CAREFULLY.**

## **SAFETY SYMBOL GUIDE**

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For your own safety and to avoid invalidation of the warranty all text marked with these symbols should be read carefully.

### **WARNINGS**



The lightning flash with arrowhead symbol, is intended to alert the user to the presence of un-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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### **CAUTIONS**



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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### **NOTES**



Contain important information and useful tips on the operation of your equipment.

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### **HEADPHONES SAFETY WARNING**

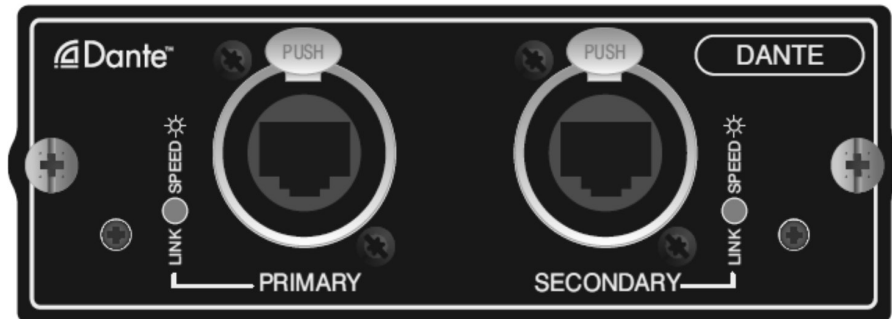


Contain important information and useful tips on headphone outputs and monitoring levels.

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## INTRODUCTION

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The Soundcraft® DANTE™ card is a 64 x 64 interface between an Si series console\*<sup>1</sup> and any Dante compatible device from Harman or other third-party manufacturer.

Dante provides a digital audio network that uses standard Internet Protocols over both 100Mbps and 1 Gigabit Ethernet. Dante uses audio-independent, high accuracy network synchronization standards to ensure all Dante devices are synchronized at all times. Dante runs on inexpensive off the shelf computer networking hardware, and does not require dedicated network infrastructure.

The Audinate Dante Virtual Soundcard software allows connection of a PC/Mac to a Dante audio network. This system allows the computer to record from and playback to the Dante network using most common DAW packages. Dante Virtual Soundcard uses the Ethernet port on the computer to communicate with the Dante network; no special hardware is required other than installing Dante Virtual Soundcard software.

Additional information about the DANTE system including the latest software set-up and tools may be found on the Audinate® web site <http://www.audinate.com/>

*\*<sup>1</sup> Not Si1, 2, 3 including 'plus' variants*



**NOTE: The packaging, in which your card arrived, forms part of the product and must be retained for future use.**

## CONFIGURING THE DANTE CARD

In a manner similar to CobraNet™, patching on the console makes a connection between console expansion bus channels and channels on the Dante card. Connections between the Dante cards are set using a tool, in this case the Dante Controller software from Audinate®. As communication across the Dante network is essentially between named cards and channels, the configuration must be correct to ensure cards talk and listen to the correct/desired channels on the Dante network.

This user guide summarises the process and provides a simple worked example; full setup details and configuration tools are downloadable from the Audinate web site [www.audinate.com](http://www.audinate.com).

NOTE: This manual used the 'Example Files' for an Si Performer 3 and Audinate Si Dante card, these may be downloaded from [www.soundcraft.com](http://www.soundcraft.com).

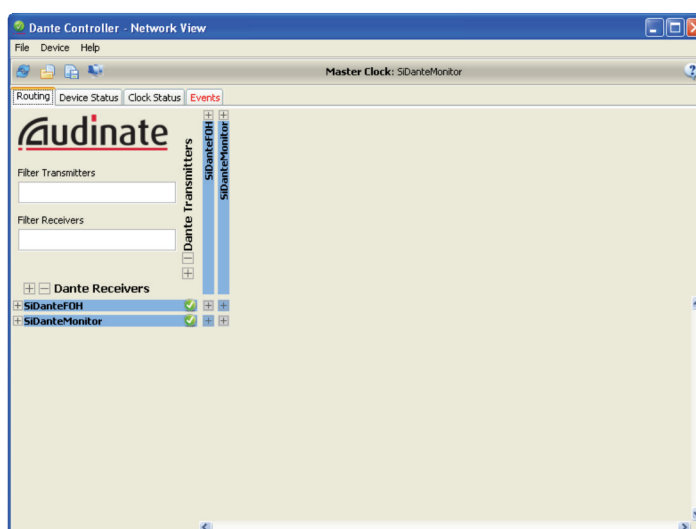
### Initial Setup

- Download and install the latest software for the Si consoles from [www.soundcraft.com](http://www.soundcraft.com).
- Download and install 'Bonjour' for PC from [www.audinate.com/DownloadBonjour](http://www.audinate.com/DownloadBonjour). Bonjour should be standard for Mac OSX; Bonjour is normally installed with iTunes®, ensure your version is current.
- Download and install latest Dante Controller software.
- Connect a Mac/PC to the Dante card, this may be via a switch/router or direct to either the PRIMARY or SECONDARY ports. The LINK indicator on the card will begin to flash indicating an active connection.



**NOTE: A crossover cable is not required as the network ports on the Dante card are auto-MDIX.**

- Start the Dante Controller application, after a few moments a screen similar to the one below will appear:



# USING DANTE

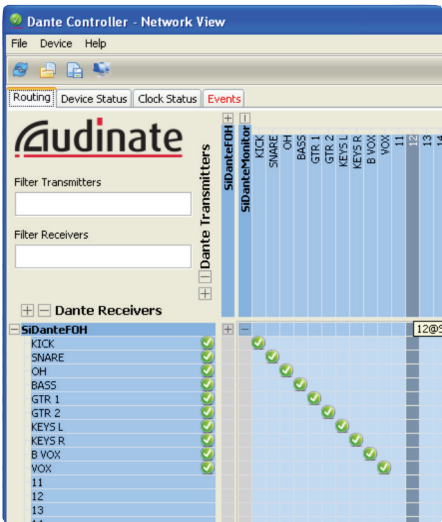
The following sections cover basic setup and use of the Si Dante cards. For detailed information regarding Dante please refer to information on Audinate's web site [www.audinate.com](http://www.audinate.com).

## Network View

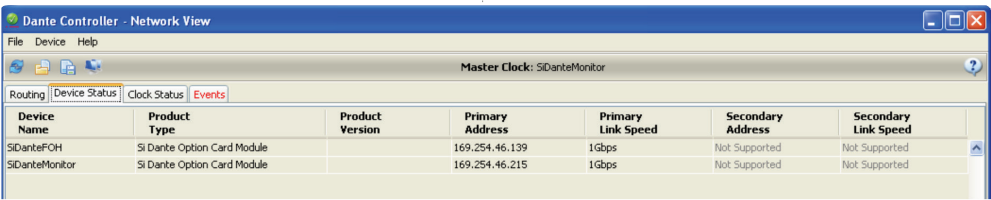
**Routing** – Matrix view of routing (click on a '+' symbol to expand the matrix view).



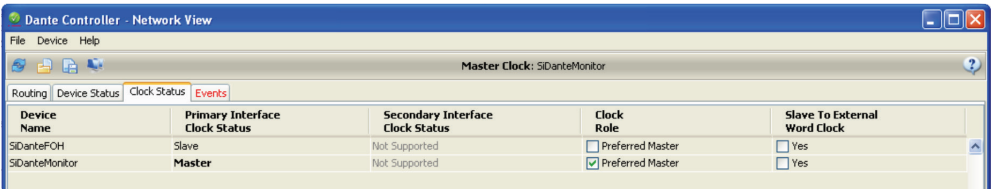
**NOTE:** Although Dante Controller software can work through a firewall some information such as Device Config, Network Config, Dante Controller etc. may not be accessible until the firewall is disabled or a port to Dante is opened



**Device Status** – Displays information about discovered Dante devices; double click a device name to enable its configuration.



**Clock Status** – View and edit Dante Network clock configuration.



**Clock Role:** Setting a single 'Preferred Master' will ensure that device is selected as the clock master, if two or more devices are set for 'Preferred Master' the master will be elected by the Dante system.



**NOTE:** Clock Status settings apply to the clocking of the Dante network, attached devices such as consoles must be clocked to/from the Dante network as appropriate or required in any given system.

**'Slave to External Word Clock':** When checked the Dante card will clock from the console internal word clock, if not checked the host device must be clocked to the Dante card or system word clock as appropriate or required in the given system.

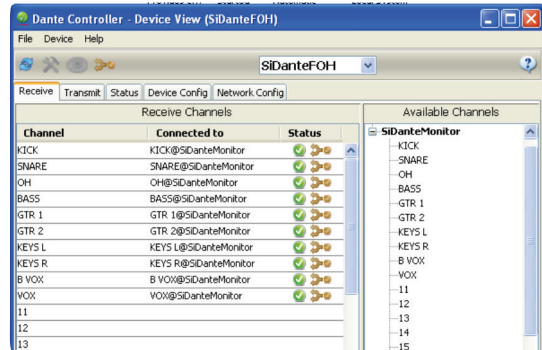


## DEVICE VIEW

The Device View allows viewing and editing of a selected Dante device.

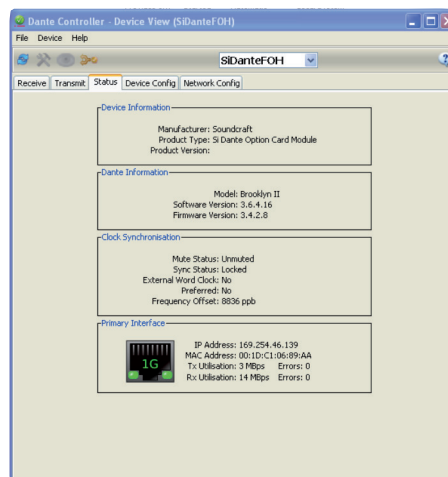
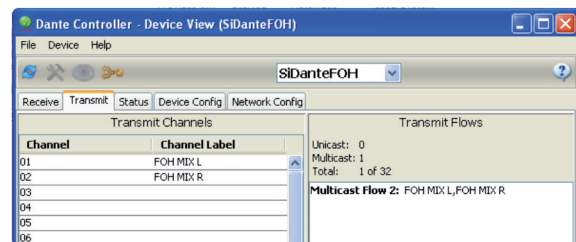
**Receive** – This tab presents information about all channels being received, and channels available to the current device. The tab is arranged into two areas:

- **Receive Channels:** Lists the Rx channels in the left pane of the window. It shows whether or not they are connected and, if connected, the channel they are connected to and the status of that connection.
- **Available Channels:** On the right pane of the window, lists the Tx channels from other devices that are available for subscription by the current device. You may drag and drop Available Channels to Receive Channels.



**Transmit:** This tab is used to view and edit the transmit configuration of a device.

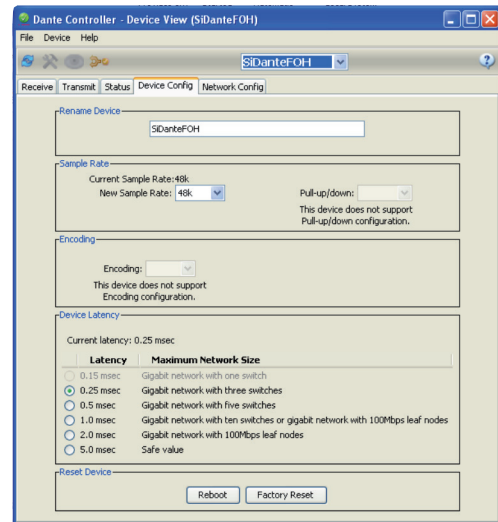
**Transmit Channels:** The area on the left pane of the tab shows the Tx channels for the device, and any user-defined channel label. It allows the user to create labels for transmit channels. Input to the table is filtered to prevent illegal characters from being used in channel labels. To change a Tx channel label double click on the label and type in a new one. Tx channel labels must be unique on a single device.



**Status:** The Status tab is used to view information about a Dante device, this information may be required for trouble shooting and checking software / firmware is up-to-date.

**Device Config:** This tab on the device view allows viewing and editing of the following device specific parameters.

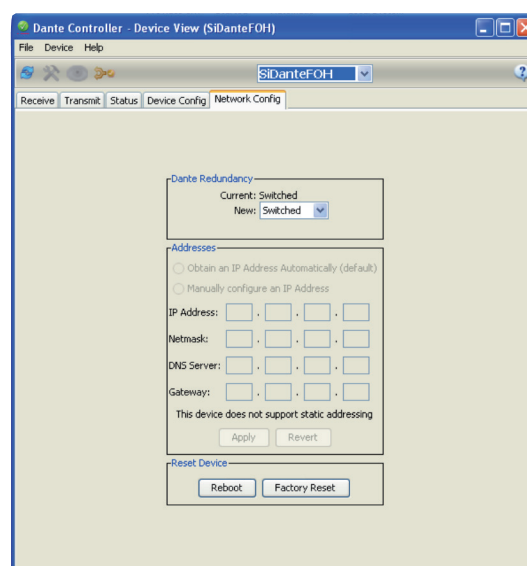
- **Rename Device:** Allows renaming of the Dante device.
- **Sample Rate:** 48K – this is fixed and cannot be edited.
- **Latency:** Allows selection of an appropriate latency.



**NOTE:** The 0.15 msec setting is unavailable on Si Dante cards as these include an internal switch.

**Factory Reset:** Allows remote reboot of the Dante interface and to reapply factory settings. Following a reboot it is recommended to power-cycle the console including disconnection of the AC power cord. Factory Reset wipes the following device configuration settings:

- User-defined device name.
- User-defined channel labels.
- Clock configuration (clock master / external clock master setting).
- Static IP addresses.
- Redundancy configuration.
- Sample rate setting (including pull-up/down).
- Latency setting.
- Any existing audio routes.



**Network Config:** This tab enables viewing and editing of Dante Redundancy mode.

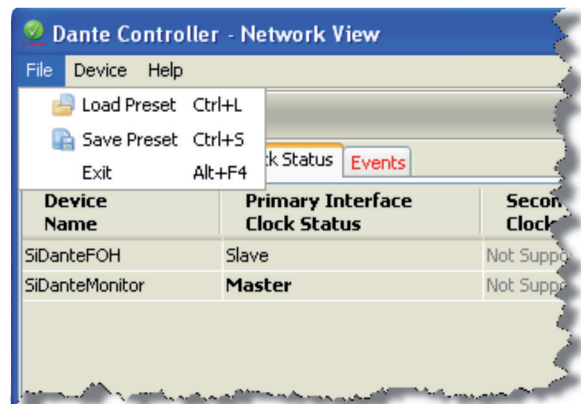
**Switched Mode:** When set to Switched, the secondary Ethernet port will behave as a standard switch port, allowing daisy-chaining through the device.

**Redundant Mode:** When set to Redundant, the device will duplicate Dante audio traffic to both Ethernet ports, allowing the implementation of a redundant network via the secondary port.

## DANTE PRESETS

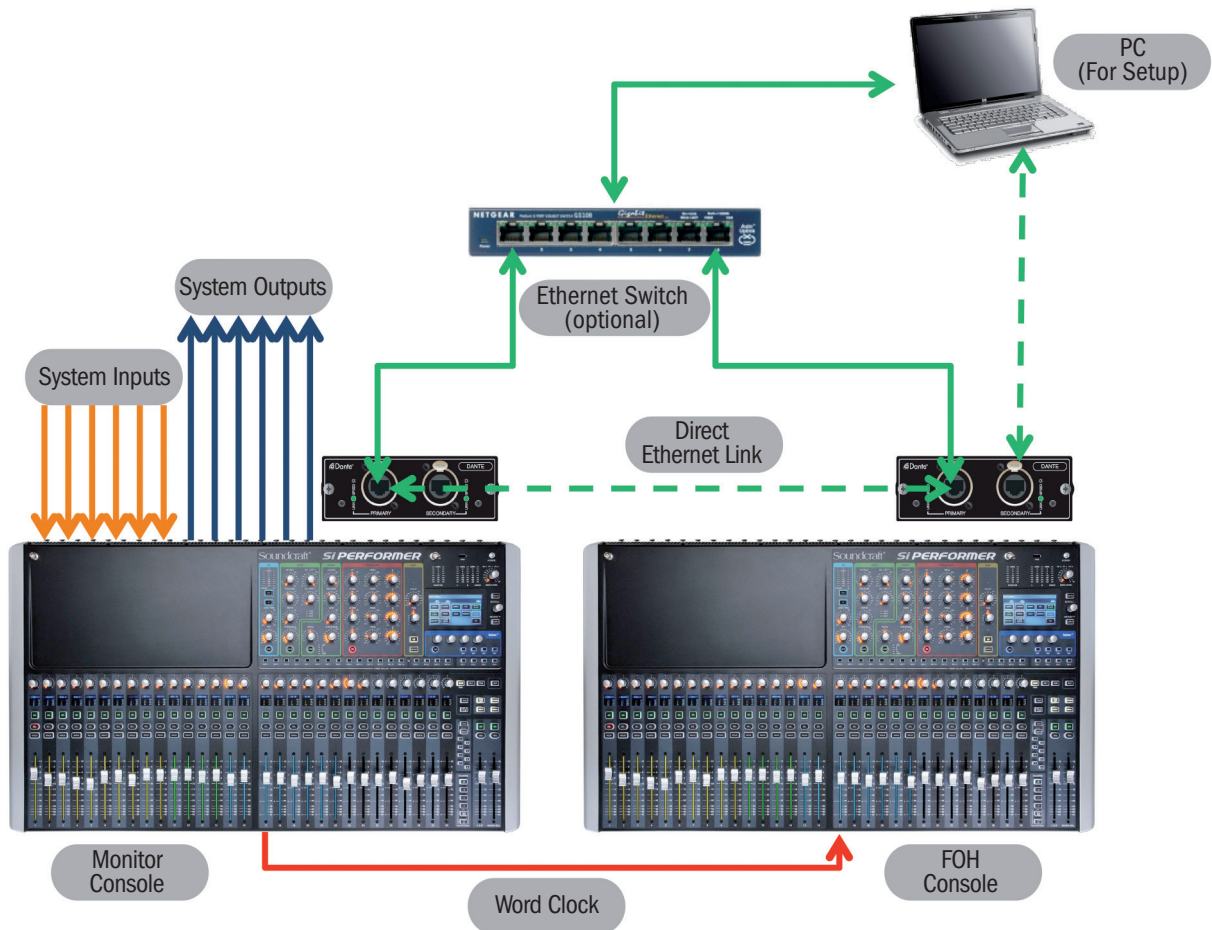
Although patching to and from the Dante card in the console is stored as part of a show, or part of a cue, the configuration and routing of the Dante cards and Dante audio streams is not.

In the event a Dante card is replaced or similar, the 'new' card will require configuring, this may be done manually or by loading a previously stored preset from the 'File' menu of the Dante Controller software.



## CONNECTING DANTE DEVICES

The following example illustrates two Si Performer 3 consoles 'House' and 'Monitor'.



Audio inputs are sent to the monitor console, these can be connected directly to the console or via a stagebox attached via a MADI card to the monitor console.

A direct output from each input of the monitor console feeds the FOH console which is patched to receive audio from the Dante option card.

The FOH console mix is returned to two spare channels of the monitor console and the direct outputs of those inputs are in turn patched to the system outputs; once again these can be directly on the console or attached via a MADI card to the monitor console.

The link between the Dante cards may be via a switch as shown with a solid green line or direct from card to card as shown by the dotted green line.



**NOTE: Once configured the PC is not required.**

**NOTE: Dante may operate in redundant mode, this is not shown for simplicity.**

Once audio is in the Dante domain the possibilities become near endless. In this alternative system:

- 
- The diagram illustrates a networked audio system architecture. At the top left is the **Recording Console**, which receives **System Inputs** (indicated by orange arrows) and sends **System Outputs** (indicated by blue arrows). It is connected to a **System Processor** via a green arrow. The **System Processor** is connected to an **Ethernet Switch** via a green arrow. The **Ethernet Switch** is connected to a **PC Running Virtual Soundcard** via a green arrow. The **PC Running Virtual Soundcard** is connected to the **Ethernet Switch** via a green arrow. The **Ethernet Switch** is also connected to a **PC (For Setup)** via a green arrow. The **PC Running Virtual Soundcard** is connected to a **FOH Console** via a green arrow. The **FOH Console** is connected to a **Monitor Console** via a red arrow. The **Monitor Console** is connected to the **Recording Console** via a red arrow. The **Monitor Console** also receives **Word Clock** (indicated by a red arrow) from the **Recording Console**. The **FOH Console** also receives **Word Clock** (indicated by a red arrow) from the **Monitor Console**.







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