



# Installation Manual

Software Version 16.2  
Part Number: DFM2100-A  
Document Number: 158



Manual by: Owen P Walker  
Copyright © 2000

## IMPORTANT NOTICE

### COPYRIGHT

The material in this document is copyright to Fairlight ESP Pty Ltd, and may not be quoted or reproduced in any form without written permission from the company.

### LIMITED WARRANTY POLICY

All the software and hardware provided with, or purchased especially for, Fairlight products has been tested for functionality. Fairlight ESP Pty Ltd will make its best efforts to correct reported defects for future releases subject to technical practicabilities. Fairlight ESP will also replace any defective media on which software has been delivered provided that the item to be replaced is returned to the dealer who supported the product within 90 days of purchase.

Fairlight ESP Pty Ltd makes no warranty or representation either expressed or implied with respect to the system's performance or fitness for a particular purpose.

In no event will Fairlight ESP Pty Ltd be liable for direct or indirect damages arising from any defect in the product or its documentation. Further, Fairlight ESP Pty Ltd will not accept any liability for any programs, sounds, audio recording or sequences stored in or used with Fairlight products, including the cost of recovery of such data.

The warranties, remedies and disclaimers above are exclusive and take precedence over all others, oral or written, express or implied, to the extent permitted by law in the geographical area of the product's use. No employee of Fairlight ESP, agent, distributor or employee of an agent or distributor is authorized to offer any variation from this policy.

Copyright 2000:

Fairlight ESP Pty Ltd,

Unit 2, 1 Skyline Place,

French's Forest, NSW 2086,

AUSTRALIA.

Telephone +61 2 8977 9999

Fax +61 2 8977 9900

# TABLE OF CONTENTS

<b>IMPORTANT NOTICE .....</b>	<b>2</b>	<b>SECTION 3 PHYSICAL INSTALLATION - CONTROL .....</b>	<b>21</b>
<b>CERTIFICATES &amp; COMPLIANCES .....</b>	<b>5</b>	<b>SURFACE .....</b>	<b>21</b>
<b>CC EMISSION CONTROL .....</b>	<b>5</b>	3.1 Introduction .....	21
<b>SAFETY SYMBOLS .....</b>	<b>6</b>	3.2 Mechanical Installation .....	21
<b>MAINS PLUGS &amp; MAINS POWER CORDS .....</b>	<b>7</b>	3.3 Installing the Fame 2 Console .....	22
<b>OBTAINING TECHNICAL SUPPORT .....</b>	<b>8</b>	Connecting The Various Fame 2 .....	
<b>SECTION 1 - INTRODUCTION .....</b>	<b>9</b>	Components .....	22
1.1 Product Description .....	9	3.4 Surround Monitor, Matrix and Remote ....	
1.2 Manual Summary .....	9	Mic Amp Setup. ....	24
1.3 System Overview .....	10	3.5 Monitor Box .....	25
1.4 Unpacking .....	11	3.5.1 Standard Connections - Inputs .....	25
1.5 Equipment Supplied .....	11	3.5.2 Standard Connections - Outputs. ....	26
1.6 System Overview .....	12	Main Inputs to Speaker Outputs .....	
1.6.1 FAME 2 Engine .....	12	Specifications (Unity Gain) .....	27
1.6.2 FAME 2 Control Surface .....	12	Main & External Analogue Inputs .....	
1.6.3 PC .....	12	Specifications .....	27
1.6.4 Monitor Box .....	12	Analogue Outputs Specifications .....	27
1.6.5 Matrix box .....	12	3.6 Electrical Installation - Surface .....	28
1.6.6 Audio I/O .....	13	3.6.1 Safety .....	28
1.7 FAME 2 Control Cable .....		3.6.2 Mains input voltage .....	28
Interconnections .....	14	3.6.3 Mains connection .....	28
1.8 Static Precautions .....	15	3.6.4 Fuses .....	29
1.9 Environment .....	15	3.7 Internal and External SCSI Devices ....	30
<b>SECTION 2 - PHYSICAL INSTALLATION - ENGINE ....</b>	<b>16</b>	<b>SECTION 4 - SYSTEM CONFIGURATION .....</b>	<b>31</b>
2.1 Mechanical Installation .....	16	4.1 Introduction .....	31
2.2 Electrical Installation .....	17	4.2 Switching on the Equipment .....	31
2.3 Engine Rear Panel Connections .....	18	4.2.1 Engine .....	31
2.4 Cabling .....	19	4.2.2 FAME 2 Console .....	33
2.5 External Cable Length Considerations .....	20	4.3 FAME 2 Engine Boot up .....	34
2.5.1 SONY 9-PIN CABLE .....	20	4.4 Software Installation .....	36
2.5.2 VGA CABLE .....	20	4.4.1 Installing Software From Exabyte .....	36
2.5.3 AUDIO CABLE .....	20	<b>SECTION 5 - CONFIGURING DISK DRIVES .....</b>	<b>37</b>
2.5.4 DIGITAL AUDIO CABLES .....	20	5.1 External Hard Disk Drives .....	37
2.6 Connecting The Various Engine .....		5.1.1 Wide Based Disk Drives .....	37
Components .....	20	5.1.2 Narrow Based Disk Drives .....	37
		5.1.2 Configuring The Engine For .....	
		Narrow Use .....	38
		5.1.3 Mixing Wide And Narrow Disk .....	
		Drives .....	39
		5.2 Checking for Newly Installed SCSI .....	

Devices .....	40	For 5.1, LCRS and Stereo .....	61
5.3 Setting Up Removable Media .....		B2 - EDAC Connections .....	63
Devices .....	40	B3 Matrix Connection Details .....	64
<b>SECTION 6 - ROUTINE MAINTENANCE .....</b>	<b>41</b>	B3.1 - 16 x 16 X-POINT CONNECTIONS .....	64
6.1 Cleaning The Exterior Of The Units .....	41	B3.2 - 24 x 8 X-POINT CONNECTIONS .....	64
6.2 Cleaning The Monitor Screens .....	41	B3.3 32 x 8 X-POINT CONNECTIONS .....	64
6.3 Cleaning The Engine Air Filter .....	41	B4.1 - 16 x 16 Cross Point .....	65
New Air Filters .....	42	B4.2 - 24 x 8 Cross Point .....	66
<b>SECTION 7 - MATRIX CONFIGURATION .....</b>	<b>43</b>	B4.3 - 32 x 8 Cross Point .....	67
7.1 Configuring Matrices .....	43	C1 FAME 2 PC Configuration .....	68
7.2 Configuring Racks .....	44	C1.1 - Slot 1 Graphics Driver Card.....	68
7.3 Building a Matrix .....	45	Fame 2 PC to Mixer Video Connector .....	
<b>APPENDIX - CONNECTION SPECIFICATIONS .....</b>	<b>46</b>	< 10 Meters .....	69
Introduction .....	46	Fame 2 PC to Mixer Video Connector .....	
A1 - Audio I/O Configuration .....	46	> 10 Meters .....	69
A1.1 Analog Audio I/O Specifications .....	47	C1.2 - Slot 2 Control Surface .....	
A1.2 Digital Audio I/O Specifications .....	47	Communications .....	70
QDC Configuration .....	48	C1.3 - Slot 3 Optional GPO Fader Start... Card .....	71
<b>APPENDIX - CONNECTION &amp; SIGNAL .....</b>	<b>46</b>	C1.4 - Slot 4 Surround Monitor, Matrix & RCMA Control Bus .....	72
<b>SPECIFICATIONS .....</b>	<b>51</b>	C1.5 - PC Communications Port A .....	72
A2 Control & Reference Pinouts .....	51	D1 Dimensions .....	73
A3 General Purpose Interface .....	52	D1.1 - FAME 2 Engine .....	73
A4 Mixer .....	53	D1.2 FAME 2 Surface Dimensions .....	74
A5 Controller .....	54	D1.3 Fame 2 Power Requirments .....	74
A6 Printer .....	55		
A7 9-Pin A .....	56		
A8 9-Pin B .....	56		
A9 9-Pin Slave .....	57		
A10 LTC - I/O .....	57		
A11 Serial Port .....	58		
A12 Midi I/O .....	58		
A13 AES Sync I/O .....	59		
A14 Modem .....	59		
A15 VGA.....	60		
A16 Video Sync - In .....	60		
A17 Word Clock - In .....	60		
A18 Word Clock - Out .....	60		
B1 Example Monitor Box Connections .....			

## CERTIFICATES & COMPLIANCES

### CC EMISSION CONTROL

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 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.

The MFX Console and Engine conform to the EMC directives :-

EN 55022:1998 Class A - Emissions

EN 55024:1998 Class 3 - Susceptibility

The MFX Console and Engine also conform to the Safety directives :-

UL 1419 - Professional Video & Audio Equipment

IEC 60950 - Information Technology Equipment

For further information on EMC procedures please refer to the following titles:-

Noise Reduction Techniques In Electronic Systems by Henry W Ott

EMC by Tim Williams

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. Changes or modifications not expressly approved by Fairlight ESP can affect emission compliance and could void the user's authority to operate this equipment.

CHARACTERISTICS	DESCRIPTION
Equipment Type	Supplemented Data: Information Technology
Equipment Class	Supplemental Data: Class 1 - Grounded equipment
Installation Category	Requirement Category 2 - Local level appliances, portable equipment etc.
Pollution Degree	Requirement: Level 2 operating environment - Normally only non-conductive pollution occurs. Occasionally there may be a temporary conductivity caused by condensation.

## SAFETY SYMBOLS

The lightning flash with arrowhead symbol, within an equilateral triangle, 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.

L'éclair, dans une triangle, est destiné à alerter l'utilisateur de la présence de haute tension dangereuse non isolée dans l'enclosure du produit, qui peut être d'un voltage suffisant pour constituer un risque d'électrocution.



Das dreieckige Schild mit Blitzsymbol soll den Benutzer vor unisolierten Hochspannungen innerhalb des Gerätes warnen. Es besteht Lebensgefahr durch elektrischen Schlag!

El simbolo del rayo dentro de un triángulo equilátero, es usado para indicar la presencia de un voltage peligroso en el interior del aparato, de suficiente intensidad, como para constituir riesgo de electrocución a las personas.

“三角形内加上闪电似的箭号”表示机件 / 机器内部有“暴露的高电压”，可能造成触电的危险。

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

Le point d'exclamation dans une triangle est destiné à alerter l'utilisateur de la présence d'instructions importantes de fonctionnement et d'entretien dans la littérature accompagnant l'appareil.



Das dreieckige Schild mit Ausrufungszeichen soll den Benutzer auf wichtige Bedienungs- und Wartungshinweise in der Bedienungsanleitung hinweisen.

El simbolo de exclamación dentro de un triángulo equilátero avisa al usuario de la presencia de instrucciones importantes acerca del funcionamiento y mantención del aparato en los documentos que se

“三角形内加上感叹号”表示提醒使用者查阅附上的“重要操作和维修指南”。

## MAINS PLUGS & MAINS POWER CORDS

The following lists the recommended Mains Plugs and Leads for use in various countries throughout the world.

<b>Mains Attachment Plugs</b>		
<b>Standards applicable for Mains Plugs</b>	<b>Rating</b>	<b>Country</b>
ASTA BS1363 1984	10A @ 250VAC	UK
BS546, 1950	10A @ 250VAC	India, Kenya, Nigeria, Kuwait, Parts of Asia and the Far East
IEC695-2-1 & NF-USE	10A @ 250VAC	France & Belgium
DIN49441 & CEE 7 Sheet VII	10A @ 250VAC	Europe
SEV	10A @ 250VAC	Switzerland
CEI23-16	10A @ 250VAC	Italy
NEMA5-15P & NEMA6-15P	10A @ 250VAC	USA
<b>Mains Power Leads</b>		
<b>Standards applicable for Mains Leads</b>	<b>Rating</b>	<b>Country</b>
CSA22.2 No.42 & UL498	10A @ 250VAC	Canada & Japan
ASE 1011 (1959)	10A @ 250VAC	Switzerland
CEI 2316	10A @ 250VAC	Italy
SRAF 1962	10A @ 250VAC	Denmark
AS3112-1990, NZSS198-1967	10A @ 250VAC	Australia, New Zealand, Fiji, Papua New Guinea, Republic of China
UL498 & SJT 10A minimum rating with IEC60320-1 coupler	10A @ 250VAC	USA

## OBTAINING TECHNICAL SUPPORT

Users requiring technical support should contact their local Fairlight office or distributor.

Information can also be found on the world wide web at :-

<http://www.fairlightesp.com>

<b>United Kingdom</b>	<b>USA – West Coast</b>
Fairlight ESP Limited Unit 12, Spectrum House 32-34 Gordon House Road London NW5 1LP England Tel: +44 171 267 3323 Fax: +44 171 267 0919	Fairlight USA 844 North Seward Street Hollywood, CA90038 USA Tel: +1 323 465 0070 Fax: +1 323 465 0080
<b>France</b>	<b>USA – East Coast</b>
Fairlight France 41-43 Rue des Peupliers 92100 Boulogne-Billancourt Paris France Tel: +33 1 4610 9292 Fax: +33 1 4610 9295	Fairlight USA 2 West 45 <sup>th</sup> Street, Suite 605 New York, NY 10036 USA Tel: +1 212 819 1289 Fax: +1 212 819 0376
<b>Germany</b>	<b>Japan</b>
Fairlight Deutschland GmbH August-Bebel-Strasse 26-53 14482 Potsdam-Babelsberg Berlin Germany Tel: +49 331 721 2930 Fax: +49 331 721 2933	Fairlight Japan Inc. Seijyo 4-2-23, Setagaya-Ku Tokoyo 157-0066 Japan Tel: +81 3 5940 1515 Fax: +81 3 5940 1516
<b>Asia - Pacific</b>	
Fairlight ESP Pty.limited Unit 2, 1 Skyline Place, Frenchs Forest NSW 2086 Australia Tel: +61 2 8977 9999 Fax: +61 2 8977 9900	



## SECTION 1 - INTRODUCTION

### 1.1 PRODUCT DESCRIPTION

The Fairlight ESP FAME 2 system is the first of a new generation of non-linear audio recording, editing and mixing solutions from Fairlight ESP. The system marries together the MFX user interface and FAME 2 Surface with the technology of the latest generation of digital audio workstation in a combination that has a significant impact on productivity and efficiency.

The FAME 2 interface incorporates a dedicated editing Console, unique graphical user interface and a dedicated mixing control surface. These tools allow the operator to work quickly and efficiently without impeding the creativity of the recording and editing process, and can now be fully utilized in the latest version of FAME professional audio suite. FAME 2 offers a number of unique benefits through its adaptation of DSP and proprietary technology to the audio environment.

For a more detailed explanation of the FAME 2 mixing control surface, please refer to the *FAME 2 Mix and Automation Manual*.

For a more detailed explanation of the FAME 2 editor surface and user interface please refer to the *FAME 2 Edit User Manual*.

### 1.2 MANUAL SUMMARY

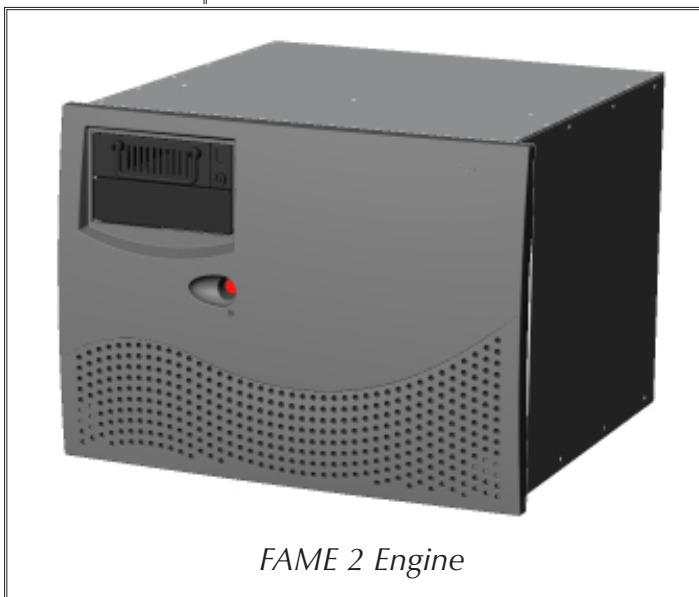
The purpose of this manual is to provide all the technical information required to design a suitable installation for the FAME 2 control / editor surface and Engine. It is assumed that the installer is familiar with both analog and digital audio signals.

### 1.3 SYSTEM OVERVIEW

The FAME 2 is made up of five interconnecting components, the Fame 2 Control surface, a PC, a Surround Monitor, an X-Point (sometimes referred to as the Matrix) and an Engine which contains all the electronic circuitry, disk drives and audio I/O necessary run the system.



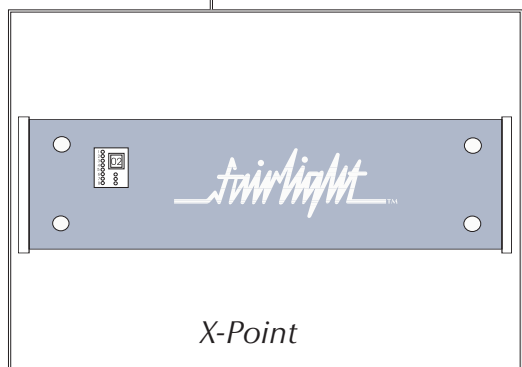
*FAME 2 Control and Editor Surface*



*FAME 2 Engine*



*Surround Monitor*



*X-Point*

## 1.4 UNPACKING

It is advisable that before any installation work is attempted the system be unpacked and the contents verified. A sizeable area approximately 3 meters square should be suitable. Using the basic packing list attached, record the items you have received and the serial number where applicable. This will both help you when you have to make an enquiry, by having the relevant details logged in your Installation Manual, in the event of a packing omission. At this stage do not power up the system, nor remove electronic modules from the system, as damage may occur if not handled correctly.

## 1.5 EQUIPMENT SUPPLIED

EQUIPMENT SUPPLIED	DESCRIPTION	CHECKLIST
Fame 2 Engine	Main Audio Processing Unit	1
Fame 2 Control and Editor Surface	Physical Control Surface	1
PC	Surface Control Computer	1
Surround Monitor	3U Analog Monitoring Unit	1
X-Point	Matrix	
MFX Cable	25 Way Centronics Cable to 37 way D	1
Video Cable	15 Way VGA Extension Cable - Engine	1
EDAC Connector Kit	EDAC Connectors for Surround Unit	1
CABHARNIBMS-COM	25 Way Ribbon cable, PC to Surface	1
Touch Screen Cable	TFT Display Cable	1
CABHARNRACK07	25 Way to 9 Way X-Point/Surround Control 1 Meter	1
CABHARNRACK06	9 Way to 9 Way X-Point/Surround Interconnect 1Meter	1

## **1.6 SYSTEM OVERVIEW**

FAME 2 consists of the following 5 elements:

### **1.6.1 FAME 2 ENGINE**

This 8U rack contains all of the digital processing, audio inputs and outputs, synchronization functions, VTR remote control ports, timecode Ports, ethernet and the disk sub system for FAME 2.

For detailed instructions on installing the FAME 2 Engine, working with hard disks and configuring SCSI or networking ports, please see later sections within this manual. The Engine has an SVGA output which displays the audio recording and Editing screens.

The user will need to supply a monitor for this, preferably mounted on the purpose built shelf at the rear of the FAME 2 Surface.

### **1.6.2 FAME 2 CONTROL SURFACE**

The FAME 2 Surface acts as a physical interface for the engine by means of a high speed serial connection via a PC linked to the surface. The PC controls the automation of the console and allows data to be saved and recalled at any time. The automation software is operated from the touch screen embedded into the surface.

The editing software is operated from the MFX console built into the surface. This is also connected via a high speed serial link to the Engine.

The only audio that passes through the FAME 2 control surface is the Talkback Mic signal, which runs through a connector on the top of the surface, through a Mic preamp to another connector on the rear of the surface. From here it can be connected to any of the available inputs.

### **1.6.3 PC**

The PC is used to run the automation and mixing software which controls the FAME 2 Control Surface.

### **1.6.4 MONITOR BOX**

The 3U Monitor box takes care of all the monitoring for FAME 2, and is described in detail later. Six specific audio outputs from the Engine are connected to the Monitor Box, which is itself then connected to the Monitor Speakers, metering and Dolby encode/decode units if required.

### **1.6.5 MATRIX BOX**

The 3U Matrix box is a passive relay matrix switcher, controlled from the touch screen. One switcher is provided with each system, intended for monitor source

---

selection and other necessary switching functions. A maximum of 15 units can be attached to the system, if required.

Please see Section 45 for more details on configuring the X-Point.

### **1.6.6 AUDIO I/O**

Fame 2 comes configured as standard with :-

- 24 Analog - physical inputs and outputs
- 24 Digital physical inputs and outputs

Fame 2 can also be ordered with the option of :-

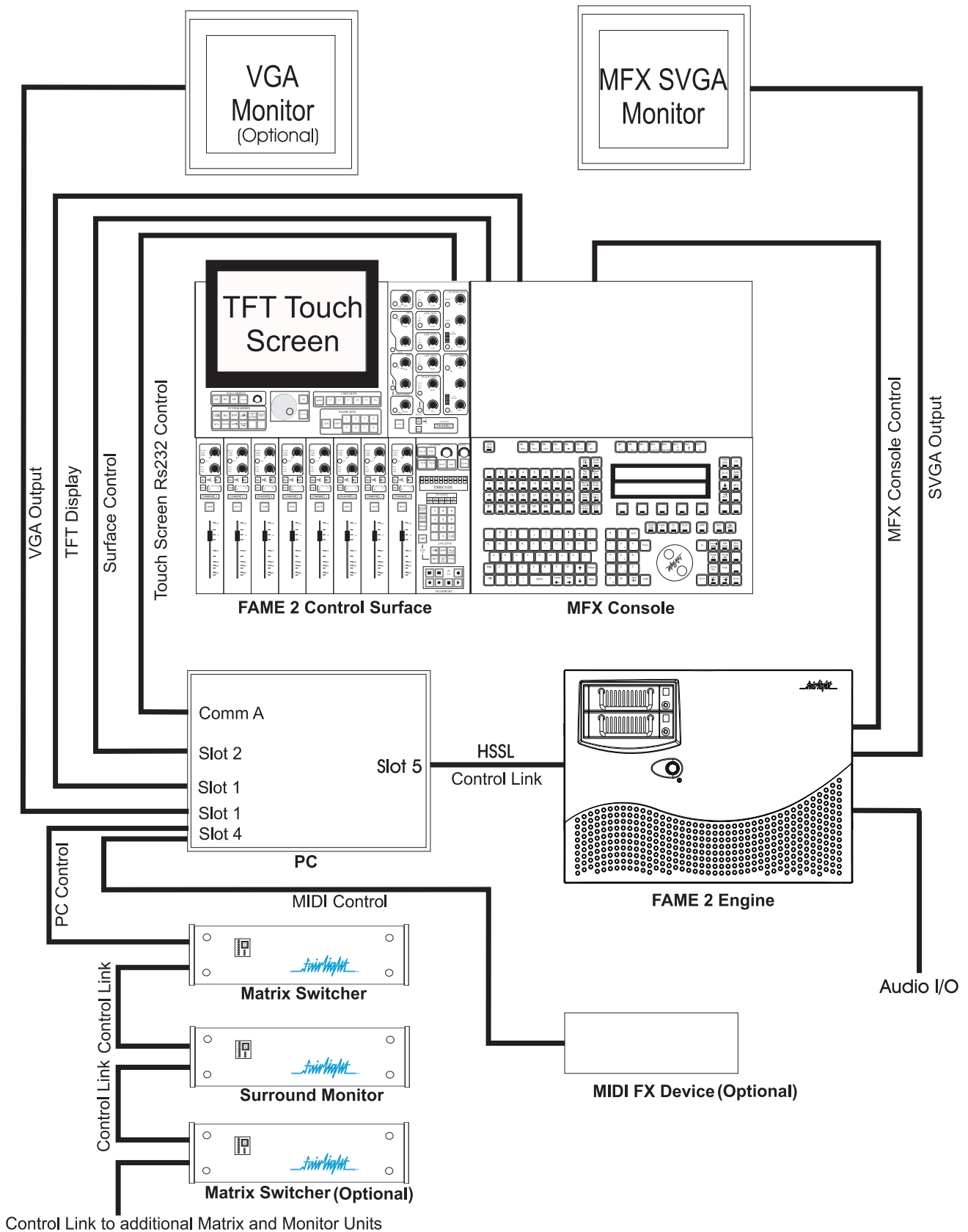
- 32 Analog - physical inputs and outputs
- 32 Digital physical inputs and outputs

The Physical I/O Connections are located on the rear panel of the FAME 2 Engine. For Wiring and Connector details please read page 50 within this Manual.

*For further details on the Control Surface Mixer Configuration please read the Fame 2 Mix Automation Manual.*

## 1.7 FAME 2 CONTROL CABLE INTERCONNECTIONS

The following diagram shows the interconnections which need to be made when connecting the various hardware devices.



## 1.8 STATIC PRECAUTIONS

Please take note that all Fairlight manufactured electronic modules are static sensitive and should be handled under anti static conditions. When working on a system always ensure that you have an anti static lead connected and that the system is connected to ground through an earth lead.

Never work on the system while powered up unless you are authorized by Fairlight to do so. As a matter of practice always touch the external chassis of the system before opening the front panel or disconnecting cables. If cards are not handled under anti static procedures your machine may sustain damage which could either cause a complete failure or may cause intermittent crashes and subsequential system failure.

When handling cards please ensure that they are placed in anti static bags when not in the system. For shipment purposes electronic modules should be placed in an anti static bag and then suitably surrounded with loose packaging materials in a solid card board box.

Cards shipped to Fairlight without the correct anti static packaging will have their warranty voided. If you have any enquiries on this matter please feel free to contact your local Fairlight office or distributor.

## 1.9 ENVIRONMENT

The system is designed to be operated in a clean air-conditioned environment. Generally, an area comfortable for people ( 20°C - 21°C ) should be suitable. The rack mounted units and disk drives, use fans for ventilation. Users may find it desirable to install these units away from the operator/console location. Note that cable lengths, as detailed in *Section 2.5 - External Cable Length Considerations*, should be taken into account when planning the installation.

Make sure that the rack unit can access cool air through the opening on the front of the Engine and expel warm air from the back. As with all computer systems, the system will operate more reliably if static generating floor coverings are avoided.

Do not fit the Engine into a closed environment except where ducted air is forced through the Rack. Do not run the Engine whilst it is on the ground as it will accumulate dust, which may eventually cause a failure.

The Engine is normally installed in a suitable 19" rack which is at least 600 mm deep, or has an open back section. It is recommended that external hard drives be mounted on a rack tray, above or below the Engine, using the shortest possible cables to prevent SCSI bus corruption.

Please Avoid:

- Fitting the Engine where air circulation will be restricted.
- Installing the Engine close to heat sources.
- Installing in dusty or damp area.
- Installing in an area subject to vibration.
- Installing in area with strong magnetic or electric fields

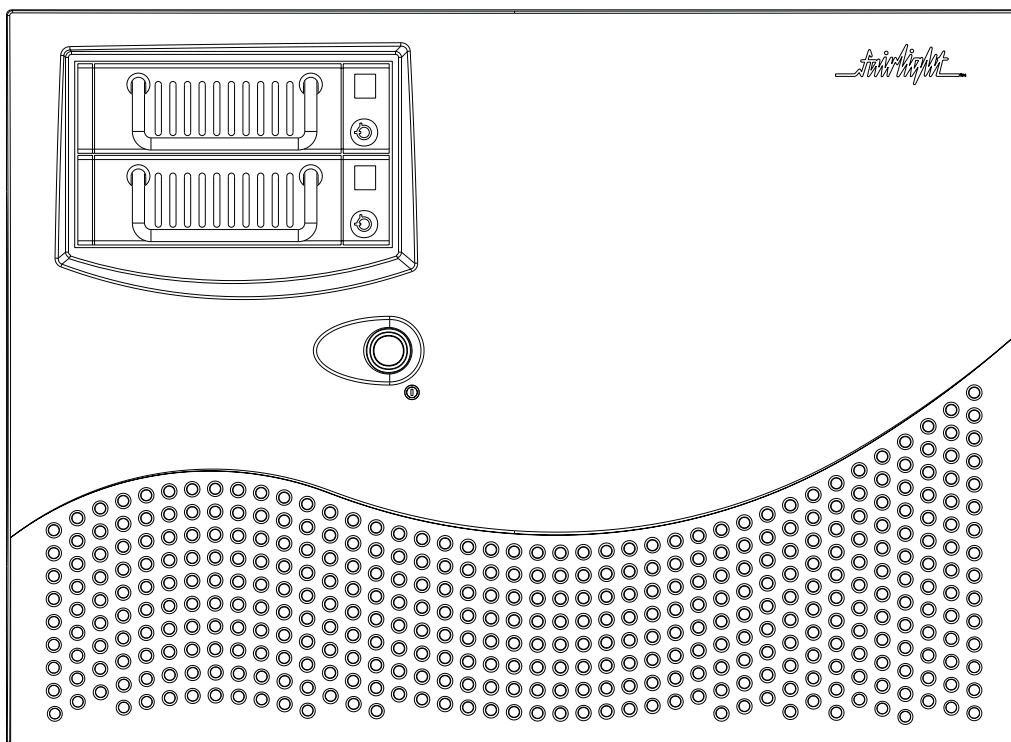
## SECTION 2 - PHYSICAL INSTALLATION - ENGINE

### 2.1 MECHANICAL INSTALLATION

The Engine, takes up 8 RU, when fitted into a 19" rack. It operates from either 100-120v or 200-250v, 50-60Hz with the mains input being auto-switching, as such there are no switches to be set. When used on mains supplies of 220 to 240 volts, the IEC mains connector should be fitted with an 5 amp mains input fuse. A 10 amp fuse should be used for supply voltages of 100 to 120 volts. At least two people are required to fit the Engine into a 19" rack as the unit is quite heavy. If available it is suggested that a third person be made available for the initial installation into the rack, such that a person can guide the Engine into the rack, from the rear.

The Engine should be fitted so that there are no restrictions to the ventilation, at the rear of the unit. If external SCSI devices are to be connected it is recommended that these be placed on a rack tray above or below the Engine.

It should be noted that typically the Engine unit is fitted with a boot drive with SCSI I.D. "0" ( although the boot drive can be any ID ). As the unit uses fans for its forced ventilation system, these generate an amount of ambient noise. The Engine should be located in an air conditioned machine room away from the studio and other heat generating equipment.

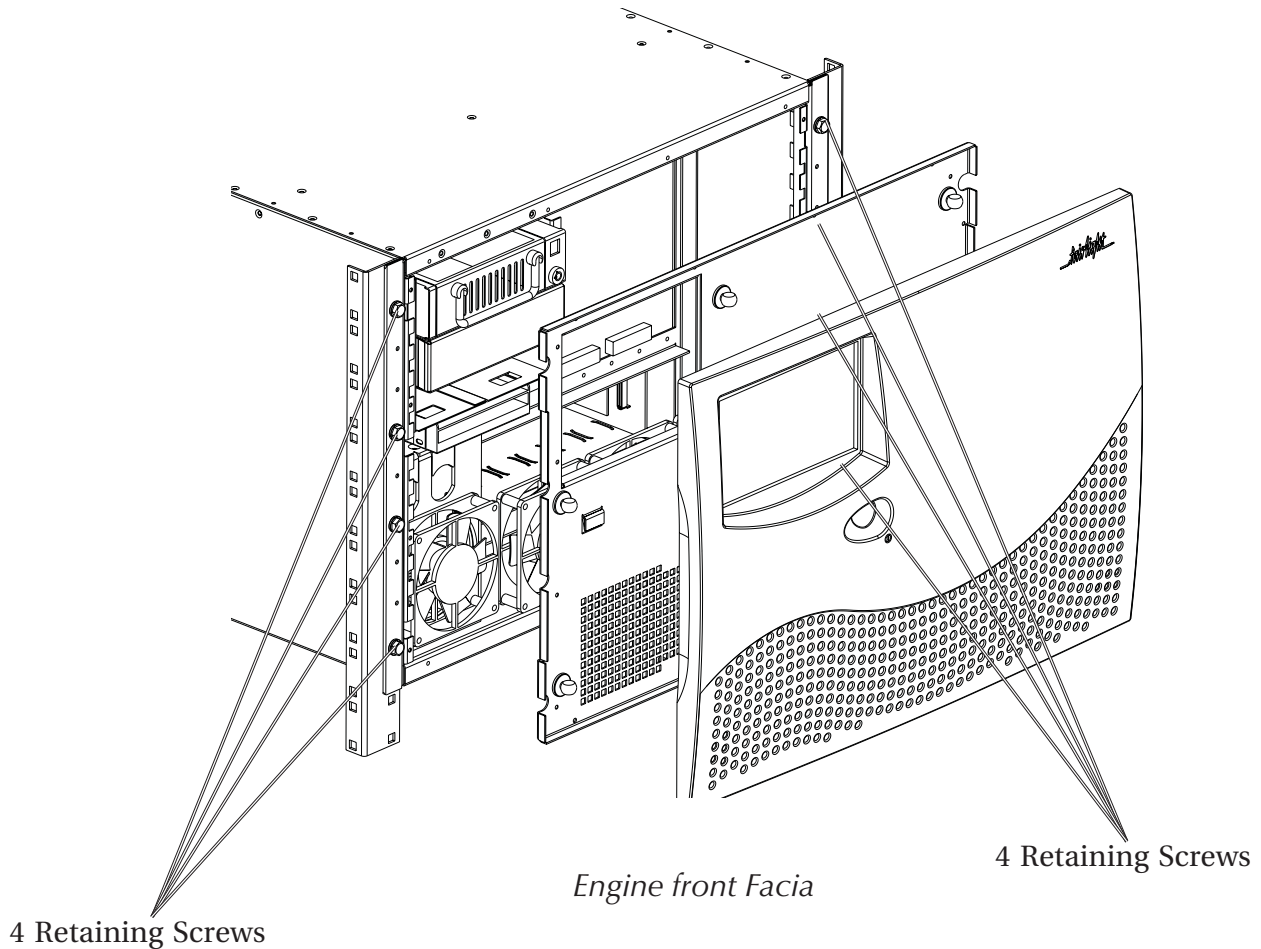


*Engine Front Panel*

1 Install the Engine into a 19" Rack unit. Once this is done, the front fascia of the Engine must be removed to allow 8 retaining screws to be fitted.

2 To mount the Engine into the rack, remove the front dress panel and insert 4 retaining screws on to both the left and right rack mounts. Once this is done reattach the front dress panel.





## 2.2 ELECTRICAL INSTALLATION

The Engine is designed to run from a single phase power source with one of its current carrying conductors at or near ground earth ground potential ( the neutral conductor). Only the line (live) conductor is fused for over-current protection. Systems that have both current carrying conductors live with respect to ground , such as phase-to-phase in multi-phase systems are not recommended as power sources.

It is recommended that both the Engine and Console are connected to the same electrical supply or ring main which ideally should be regulated and smoothed. If the power source is likely to be unexpectedly cut then both the units should be fed from a backed up power source such as a UPS.

For Power Requirements, See Appendix A21 at the back of this Manual.

Mains connections should be fitted with the appropriate type of plug. See Section “Mains Plugs & Power Chords” at the front of this Manual.

## 2.3 ENGINE REAR PANEL CONNECTIONS

The Engine rear is split into two distinct sections; the System I/O Panel, located to the right and the Audio I/O section, located to the left.

The System I/O Panel contains all the synchronization needed to allow communication with external devices including RS-422, Midi, LTC, AES Sync, Serial, and GPIO.

To allow communication with the FAME 2 surface, a Mixer port is provided.

To allow communication with the MFX Console, a Controller port is provided.

The System I/O Panel also contains the VGA Output, Word Clock and Video Sync In.

The Audio I/O Section can contain up to a maximum of 4 QDC cards, which perform all analogue and digital I/O Connections and Processing.

Each QDC card can contain a maximum of :-

- 16 Analog Inputs and 32 Analog Outputs

or a maximum of :-

- 32 Digital Inputs and Outputs
- 16 Analog Inputs.

Depending on what configuration is ordered, the system can allow for more QDC cards to be configured. Please contact your local Fairlight office or Distributor for further information regarding the maximum inputs and outputs which can be configured within the system.

Please refer to the Appendix page 48 for further details on the Audio I/O and System I/O Panels.



---

## **2.5 EXTERNAL CABLE LENGTH CONSIDERATIONS**

Poor cabling can be the bane of a good system. Earth loops, floating inputs and outputs and extended runs are just some of the issues to be addressed when planning an installation.

### **2.5.1 SONY 9-PIN CABLE**

The 9-Pin cable connects the Engine to a Sony 9-pin protocol machine. The recommended maximum length for this cable is 30 meters. Again it is recommended that the power be switched off at one end when connecting to protect the drivers.

### **2.5.2 VGA CABLE**

The Video cable connects the VGA output from the Engine to the attached Monitor. It is a 15-way shielded 50 Ohm cable with high density D-type connectors at each end. A maximum length of 20 meters is typical.

### **2.5.3 AUDIO CABLE**

Standard shielded audio cable is suitable.

### **2.5.4 DIGITAL AUDIO CABLES**

Digital cables connected to the FAME 2 system must be 110 Ohm impedance.

## **2.6 CONNECTING THE VARIOUS ENGINE COMPONENTS**

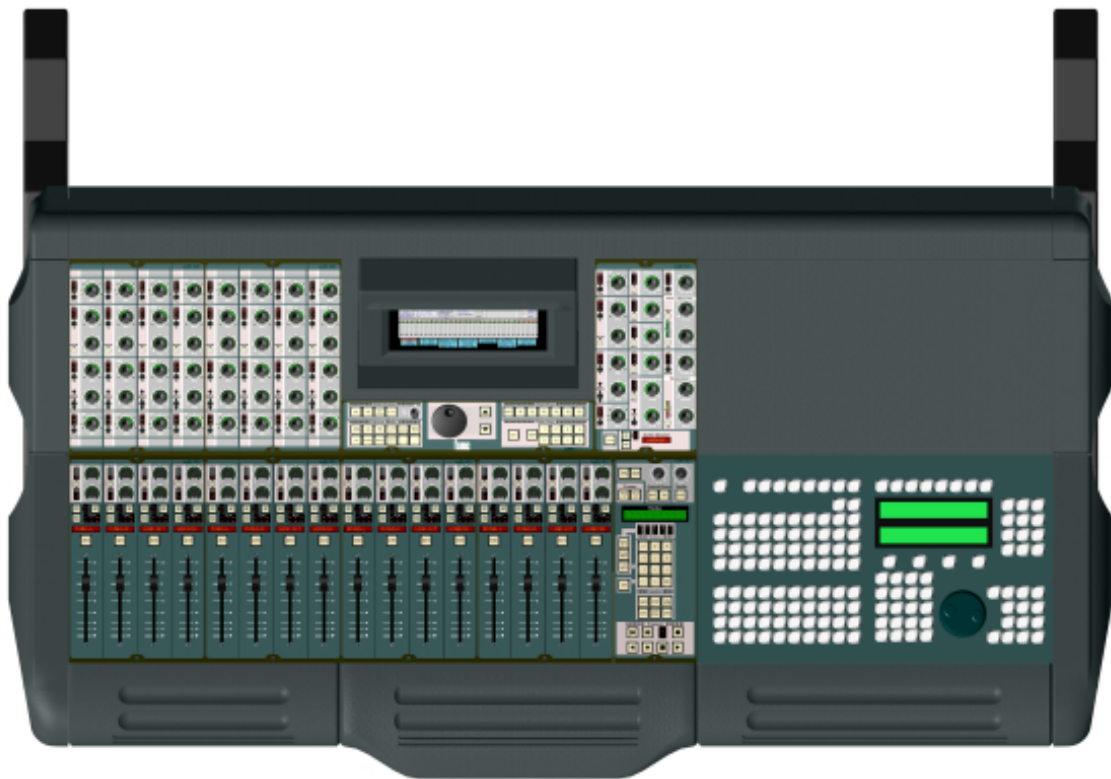
Once cabling issues have been dealt with the various Engine connections need to be made.

- 1 Connect an IEC Power lead to the back of the FAME 2 Engine.
- 2 Connect the 15 way D connector of a VGA monitor cable to VGA 1 connector on the System I/O Panel on the rear of the FAME 2 Engine.
- 3 Connect the Console Controller cable to the connector on the System I/O panel located on the rear of the FAME 2 Engine.
- 4 Connect any external SCSI drives to the external SCSI card (if fitted) and ensure that the last device is terminated. Ensure that the SCSI I.D.'s are not in conflict with each other.
- 5 Connect all Synchronization cables such as LTC, Word clock, Video Black burst etc.
- 6 Connect all audio input and output cables to the QDC cards located on the rear of the FAME 2 Engine.
7. Connect an IEC power lead to the back of the FAME 2 surface.
8. Connect the mix cable to the Engine port on the back of the PC.

## SECTION 3 PHYSICAL INSTALLATION - CONTROL SURFACE

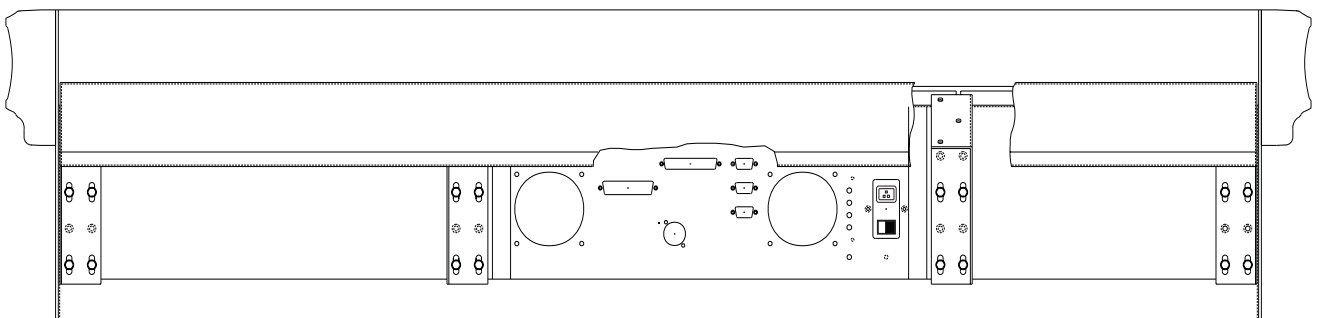
### 3.1 INTRODUCTION

The FAME 2 and MFX Console provides a control surface to allow the engineer to work quickly and efficiently. For more information regarding the operational use of the console please refer to the *FAME 2 Edit User Manual* and the *FAME 2 Mix Automation manual*.



### 3.2 MECHANICAL INSTALLATION

The FAME 2 surface should be sat on a level horizontal surface.



### 3.3 INSTALLING THE FAME 2 CONSOLE

There are 3 frame sizes available for the console in Standalone version only. These are:

- 48 Fader
- 40 Fader
- 32 Fader

There are 3 frame sizes available for the console in Standalone or Drop Through versions. These are:

- 24 Fader
- 16 Fader
- 8 Fader

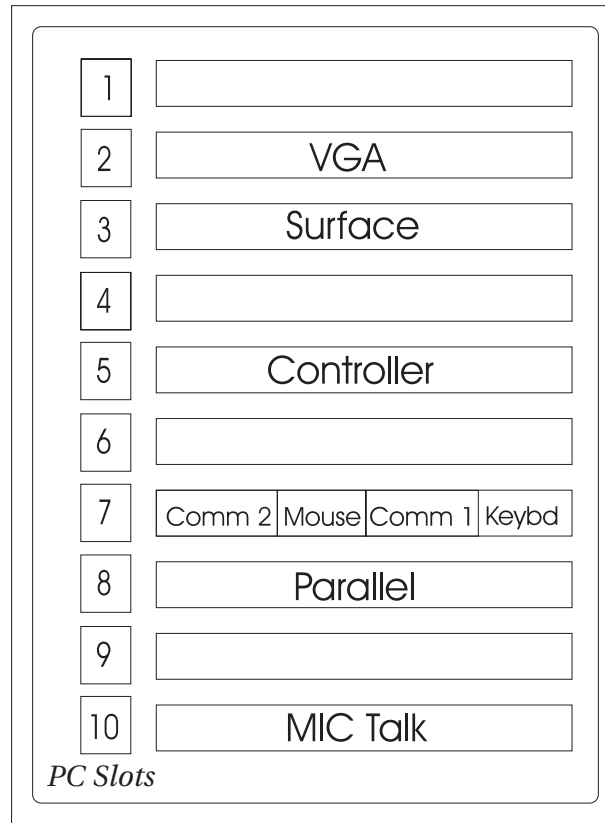
The drop through frame has been designed to allow a custom made frame to be built around the console. It is advised that the custom furniture be completed prior to delivery of the Fame 2 Console. Although the 'drop through' console can be supported on a flat surface as a temporary measure until installation is complete.

At least four people are required to lift a 24 fader Standalone Fame console. When lifting the console care should be taken to avoid damage to the protruding TFT display.

### CONNECTING THE VARIOUS FAME 2 COMPONENTS

1. Position the console to allow access to the rear connector panel beneath the TFT display.
2. Locate the PC, Matrix and Surround Monitor Units, with their associated power and control cables :-
  - 1 of 25 way round ribbon cable -Surface control
  - 1 of 9 pin D type F/M to 9 pin Male D type -Touch Screen Control
  - 1 of H D - 15 Male to Female connector with 44 way adaptors -TFT Display
  - 1 of 25 way male D type to 9 way male D type - X-Point control
  - 1 of 9 way male D type to 9 way male D type -X-Point to Surround interconnect cable
3. Before making any cable connections, ensure that power is **disconnected** from all equipment. This will prevent electrical damage to components within the equipment.
4. The PC should be mounted at a maximum distance of 10 meters from the rear connector panel on the console - This length is governed by the TFT display cable.

5. From **Slot 3** on the PC, connect the 25 way flat ribbon cable to the rear connector panel on the FAME 2 console. This is the surface control cable.
6. From **Slot 2** on the PC, connect the 44 way Hi Density cable to the rear connector panel on the Fame console. This is the TFT display cable.
7. From **COMM 1** on the PC, connect the 9 way Female to 9 way Male D type cable to the rear connector panel on the Fame console. This is the RS232 Touch Screen communication cable.



*PC Rear Panel*

8. From **Slot 10** on the PC, connect the 25 way D type to 9 way D type cable between the PC and the Cross Point Matrix Unit. The X-Point has two 9 way D type Female connectors labelled Data IN and Data Through. The PC connection is made to the Data IN port.
9. The Data Interconnect cable, 9 way to 9 way D type, should be connected from the Data Through port on the Matrix to the Data IN port on the Surround Monitor. Further Data interconnect cables to additional X-Point and Surround Monitors should be made at this point.
10. From **Slot 5** on the PC connect the 25 way male to 25 way Male D type to the “Mixer” port on the back panel of the FAME 2 Engine.
11. RCMA unit if supplied. Connect the 9 way D type to XLR control cable to the Data Through connector on the rear of the last X-Point Unit. The RCMA should make up the last unit in the chain.
12. From **Slot 4** on the PC connect the MIDI control cable to the client specific external FX processors. This cable is not supplied but pin out information is in the Appendix of this manual.

13. An external VGA monitor can be used to provide an additional display. This cable is not supplied, but should be connected to **Slot 2** on the PC. This is a 15 way Hi Density connector, the pin out information is in the Appendix of this manual.
14. A 15 way Hi Density VGA cable, should be connected to the VGA output on the rear of the FAME 2 Engine and the Editor Display Monitor (not supplied)
15. The 25 way D to D-Type 37 way cable supplied should be connected between the rear of the FAME 2 Engine "Controller Port" and the 37-way D connector on the rear of the FAME 2 chassis.

### **3.4 SURROUND MONITOR, MATRIX AND REMOTE MIC AMP SETUP.**

The Surround Monitor, Matrix and RCMA units communicate with the PC using a shared data bus. Each unit on the data bus must have a unique ID number. The ID number can be in the range of 1 to 16. The position of the unit on the bus does not relate to the ID number.

**The Surround Monitor Unit must be set for ID 2.**

The first unit on the data bus connects to the PC using a 25 way D to 9 way D type cable. Each additional unit is connected to the bus using the 9 way D type data link cables.

It is recommended that the Remote Mic Amp be connected at the end of the data bus. The ID set up for this unit is entered using the menus on the front control panel. The control cable for the RCMA is a 9 way D to male XLR. This connects from the Data Out connector on the Matrix or Monitor unit to the Master Control Input on the RCMA.



### 3.5 MONITOR BOX

The Monitor Box provides all the monitoring and meter switching for the Fame 2 Engine. It offers a total of 8 Speaker Feeds plus extra inputs and outputs for Metering, Dolby(r) Encoder/Decoder insertion and Nearfield speakers. The main Speaker Feeds are allocated as follows:

- 1: LEFT      2: RIGHT      3: CENTRE
- 4: SURROUND in LCRS mode or BOOM in 5.1 mode
- 5: LEFT SURROUND in LCRSS mode
- 6: RIGHT SURROUND in LCRSS mode
- 7: STUDIO LEFT      8: STUDIO RIGHT

Speaker paths 1-6 are controlled by the "Control Room" Monitor pot.

Speaker paths 7 & 8 are controlled by the "Studio" Monitor pot

#### 3.5.1 STANDARD CONNECTIONS - INPUTS

NAME	DESCRIPTION	LOCATION	SOURCE
EXT I/P 1	Source for Speaker 1 when monitoring switched to "External"	EDAC 4	Patchbay for connection of external source
EXT I/P 2	As above, speaker 2	EDAC 4	As above
EXT I/P 3	As above, speaker 3	EDAC 4	As above
EXT I/P 4	As above, speaker 4	EDAC 4	As above
EXT I/P 5	As above, speaker 5	EDAC 4	As above
EXT I/P 6	As above, speaker 6	EDAC 4	As above
EXT I/P 7	Source for Studio Speaker LEFT when switched to "M1" position	EDAC 4	Normally, directly from the auxiliary feed used to send to Headphones, for example AUX A LEFT
EXT I/P 8	As above, Studio RIGHT	EDAC 4	As above

MAIN I/P 1	Source for Speaker 1 when monitoring switched to "Internal"	EDAC 4	MFX outputs assigned to "CR Monitor" as appropriate for the operating mode
MAIN I/P 2	As above, speaker 2	EDAC 4	
MAIN I/P 3	As above, speaker 3	EDAC 4	
MAIN I/P 4	As above, speaker 4	EDAC 4	
MAIN I/P 5	As above, speaker 5	EDAC 4	
MAIN I/P 6	As above, speaker 6	EDAC 4	
MAIN I/P 7	Source for Studio Speaker LEFT when switched to "C/R" position	EDAC 4	Normally, Monitor Box "INS SEND 1" to obtain a signal which follows exactly the main monitor selection
MAIN I/P 8	As above, Studio RIGHT	EDAC 4	As above, "INS SEND 2"
STEREO I/P 1	External monitoring input for speaker path 1 which is POST Dolby Insert Return, for monitoring LT,RT encoded signals.	EDAC 4	Output of stereo machines used to record Dolby encoded stereo LT,RT from the Dolby encoder.
STEREO I/P 2	As above, Speaker Path 2	EDAC 4	As above

### 3.5.2 STANDARD CONNECTIONS - OUTPUTS

NAME	DESCRIPTION	LOCATION	DESTINATION
SPEAKER 1A	Feed for Speaker 1	EDAC 8	Main Monitor amplifier L
SPEAKER 2A	Feed for Speaker 2	EDAC 8	Main Monitor amplifier R
SPEAKER 3	Feed for Speaker 3	EDAC 8	Main Monitor amplifier C
SPEAKER 4	Feed for Speaker 4	EDAC 8	Main Monitor amplifier Surround (LCRS Mode) Main Monitor amplifier Sub (5.1 Mode)
SPEAKER 5	Feed for Speaker 5	EDAC 8	Main Monitor amplifier Surround L
SPEAKER 6	Feed for Speaker 6	EDAC 8	Main Monitor amplifier Surround R
SPEAKER 7	Feed for Studio Speaker LEFT	EDAC 8	Studio Speaker or headphones amplifier L
SPEAKER 8	As above, Studio Speaker RIGHT	EDAC 8	Studio Speaker or headphones amplifier R

Meter O/P 1	Meter feed from speaker path 1. NOTE signal is UNBALANCED, -6dB.	EDAC 8	Customer supplied external meters. These meters will meter whatever is switched to the main monitors, and are switchable PRE DOLBY, POST DOLBY, POST MONO or POST Monitor Pot.
Meter O/P 2	As above, speaker 2	EDAC 8	As above
Meter O/P 3	As above, speaker 3	EDAC 8	As above
Meter O/P 4	As above, speaker 4	EDAC 8	As above
Meter O/P 5	As above, speaker 5	EDAC 8	As above
Meter O/P 6	As above, speaker 6	EDAC 8	As above
Meter O/P 7	as above, Studio Speaker L.	EDAC 8	As above, but will meter Studio speaker selection
Meter O/P 8	As above, Studio Speaker R.	EDAC 8	As above.

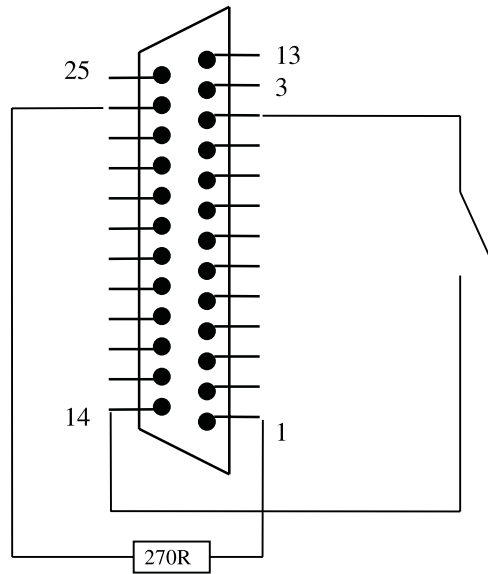
SPEAKER 1B	Pressing the "Near" monitor button on FAME causes the monitor box to become stereo, and Speaker Path 1 to be routed to this output via a relay.	EDAC 8	Stereo Nearfield speaker amplifier L
SPEAKER 2B	As above, Speaker Path 2	EDAC 8	As above, R.

The Monitor Box is controlled by FAME 2 via the 25 way D- Type Male Connector to 9 Way Male D-Type Connector cable, and must have its front panel ID set to 2. This is achieved by inserting a thin pointer into the small hole on the front panel and pressing the concealed switch there repeatedly until the numeral "2" is displayed on the front panel indicator. The unit must be switched on to achieve this, and the setting is remembered until a full reset or software download.

Audio connections are made via 4 x 56 way EDAC connectors.

Wiring details and a Monitor schematic showing signal flow can be found in the appendix at the back of this manual.

There is a 25 way D type connector on the rear of the unit. This connector provides the Return Talkback switch as shown in the following diagram. When a switch closure is made as shown, any signal present on the "Ret.TB" connections on the Monitor Box will be routed to the Main Monitors.:



25-way D male, viewed from solder side

### **MAIN INPUTS TO SPEAKER OUTPUTS SPECIFICATIONS (UNITY GAIN)**

Frequency Response	10 Hz Flat to 200KHz (-3dB)
Noise DIN	-87dBu
Distortion	20Hz to 20kHz at 0dBu <0.0025%

### **MAIN & EXTERNAL ANALOGUE INPUTS SPECIFICATIONS**

Connectors	56 way EDAC socket
Input	Balanced
Input Level (Max)	+26dBu
Input Sensitivity	+ 4dBu
Input Impedance	40K ohm Balanced

### **ANALOGUE OUTPUTS SPECIFICATIONS**

Connectors	56 way EDAC socket
Output Impedance	65 ohms Balanced
Output Level (Max)	+26 dBu

## **3.6 ELECTRICAL INSTALLATION - SURFACE**

It is recommended that both the Engine and Control surface are connected to the same electrical supply or ring main which ideally should be regulated and smoothed. If the power source is likely to be unexpectedly cut then both the units should be fed from a backed up power source such as a UPS.

Mains connections should be fitted with the appropriate type of plug. See Section “*Mains Plugs & Power Cords*” at the front of this Manual.

### **3.6.1 SAFETY**

Like all mains powered equipment, The console must be earthed. If hum problems arise, or if earth loops are suspected, it is never correct or safe to remove the earth from the unit having a three core mains input cable. Some other solution to break the earth loop can always be found.

Power supply units contain lethal voltages. Always disconnect the mains from the console before opening or removing covers.

### **3.6.2 MAINS INPUT VOLTAGE**

The power supply automatically adjusts for a wide range of input voltages.

Input voltages should be either between 90 and 132 volts or between 180 and 264 volts.

Despite the self adjusting input system, it is preferable for the mains to remain at a constant value and to be free from transients.

### **3.6.3 MAINS CONNECTION**

Do not replace the cable supplied with the power supply.

The mains cable contains three cores which are colour coded:

<b>Brown</b>	<b>live</b>
<b>Blue</b>	<b>neutral</b>
<b>Green/yellow</b>	<b>earth</b>

The earth connection must always be made.

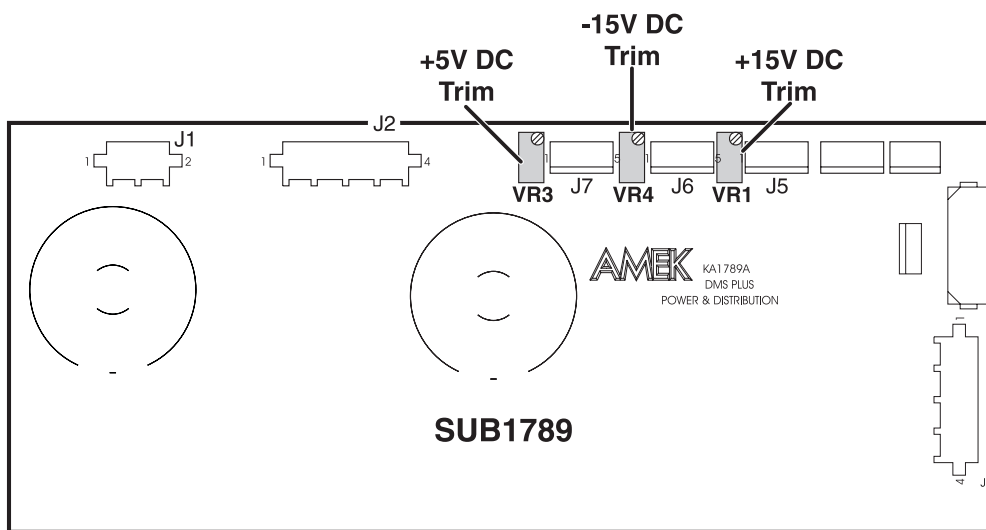
### 3.6.4 FUSES

When used on mains supplies of 220 to 240 volts, the IEC mains connector should be fitted with an 5 amp mains input fuse. A 10 amp fuse should be used for supply voltages of 100 to 120 volts. Only 20mm anti surge (T) types should be fitted opening the power supply.

To gain access to the Power Distribution Board the front panel supporting the keyboard and the mfx console must be removed from the front of the Fame 2 Console.

*Note The Board is always located below the Power supply*

Danger - Shock hazard - power cord must be disconnected before removing mfx console and keyboard panel.



*Internal Power Distribution Board*

### 3.7 INTERNAL AND EXTERNAL SCSI DEVICES

The FAME 2 Engine has been designed to accept two 3.5 Inch drives and 2 5.5" drive bays internally which can take either Kingston Technology drive enclosures or an Exabyte enclosure. The system typically comes configured with one system disk which contains the O/S9 Operating System and application software. This allows for 3 media drives to be fitted internally in the system.

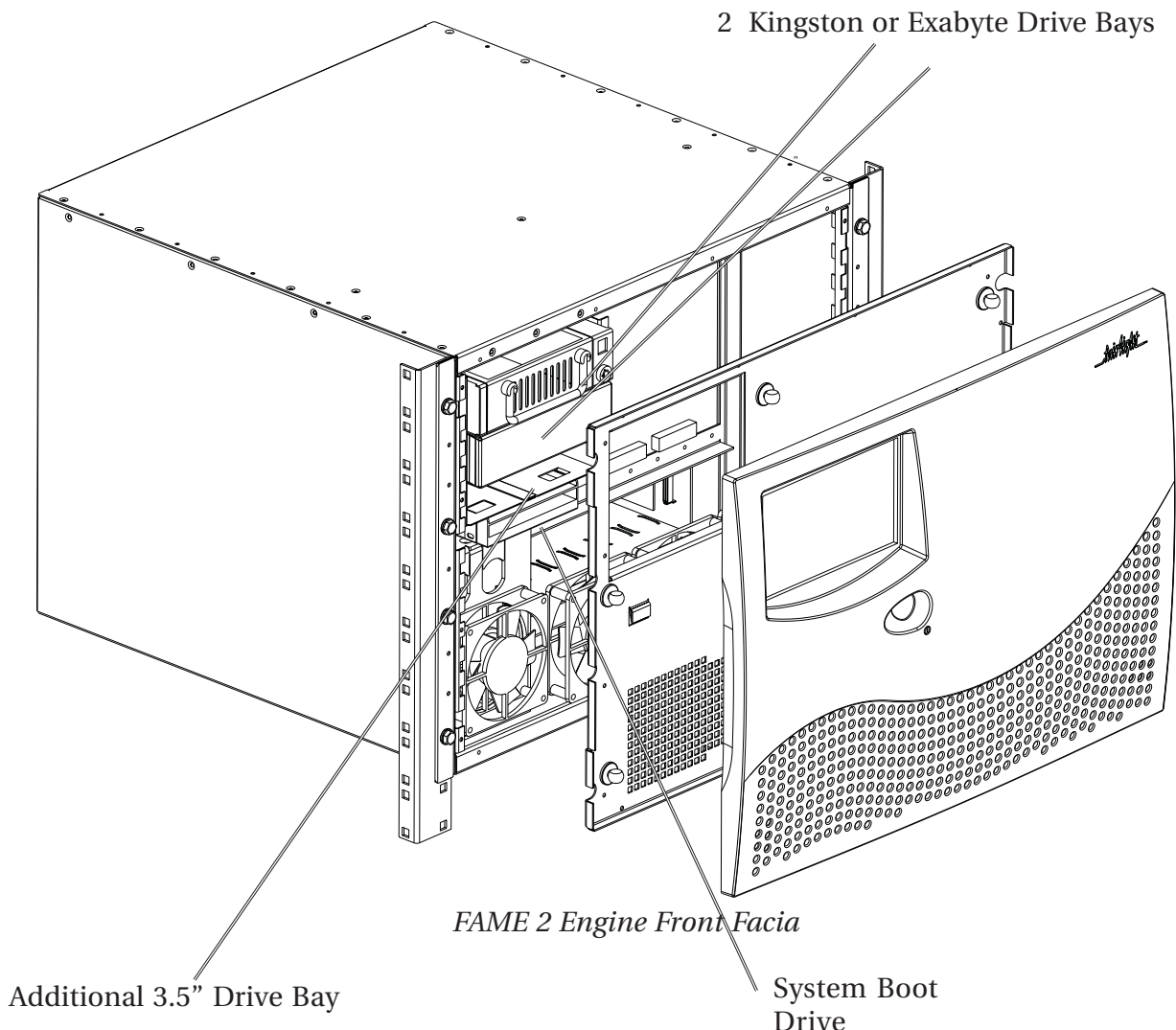
With a second SCSI Controller installed within the Engine an additional 7 SCSI devices can be attached externally.

Typically Exabyte drives should be set to ID "5" when connected on either SCSI Buss.

Optical based devices should be set to ID "3". When connected on either SCSI bus.

It is recommended that a rack tray be fitted either above or below the Engine to hold external SCSI devices. The cables should be the shortest length possible to avoid SCSI bus corruption.

*See Section 5 - Configuring Disk Drives*



## SECTION 4 - SYSTEM CONFIGURATION

### 4.1 INTRODUCTION

The following describes the procedure for powering on the Console and the Engine.

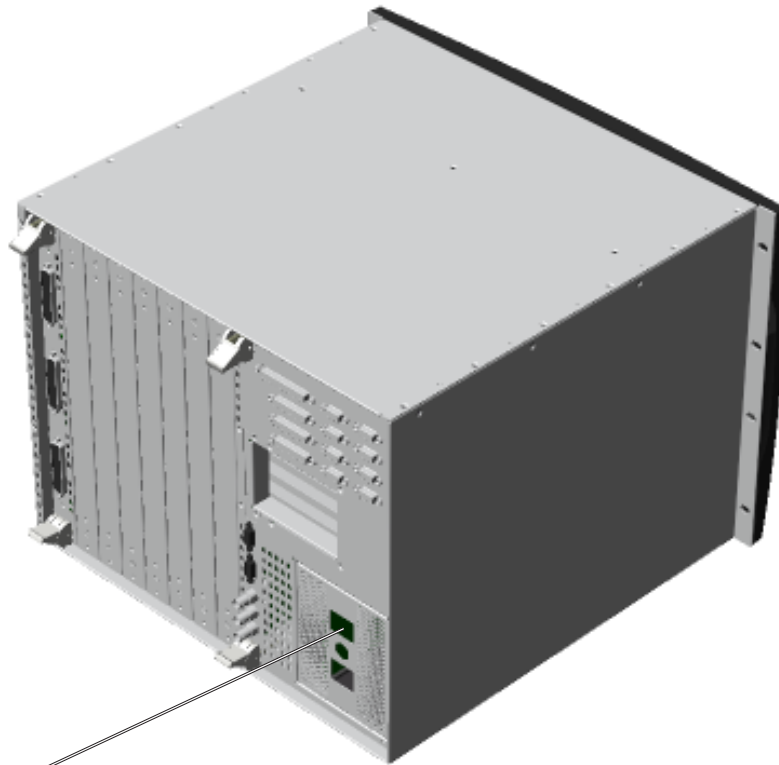
CAUTION : NEVER ATTEMPT TO ATTACH SCSI BASED DISK DRIVES OR OTHER CABLING WHILE THE SYSTEM IS RUNNING. ALWAYS POWER OFF BEFORE CONFIGURING ANY CABLES.

### 4.2 SWITCHING ON THE EQUIPMENT

#### 4.2.1 ENGINE

1. Ensure all SCSI cables and terminators are connected.
2. Power up all SCSI devices.
3. Verify monitor cable is connected and then power up the monitor.
4. Ensure all Sync Input/Output cables are connected and secure.
5. Turn down the master faders on the mixing console and disconnect any speakers.
6. Ensure all digital and analog Input / Output cables are connected and secure.
7. Ensure MFX Console cable is connected and secure.
8. Ensure 9 pin control cable is connected and secure.
9. Power up the Engine via the switch on the back panel then press the switch on the front panel.

Initially you will observe a gray and blue text screen, containing system configuration information. The system will continue booting until the Disk recorder program is loaded.



Back Panel Power Switch

*FAME 2 Engine Back Panel*



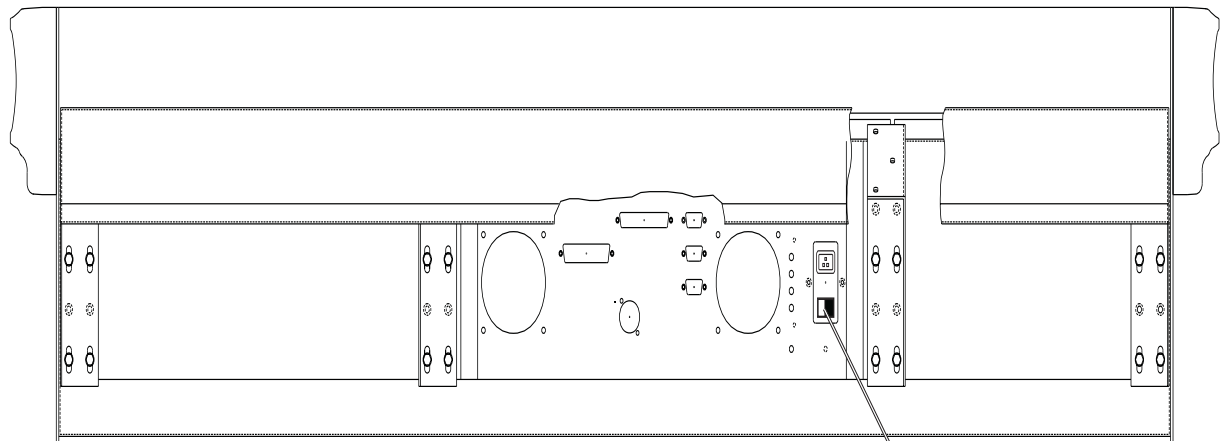
Front Panel Power Switch

*FAME2 Engine Front Panel*



## 4.2.2 FAME 2 CONSOLE

1. Turn on the power switch on the back of the FAME 2 and the Console will boot up.
2. Turn on the Power switch on the front of the PC.



*FAME 2 Console Back Panel*

*Power Switch*

## 4.3 FAME 2 ENGINE BOOT UP

At this point the system should be booting up and the following text should be seen on the graphical interface.

1. Take note of the SCSI devices being found in case a problem is encountered.

```

+-----[ Fairlight ESP - MFX Mainframe - Flashware v1.00 [16.1.07b] ]-----+
|           Backplane: Yes (9)           Compile Date: Feb 21 2000|
|           SIO [1]: No                   Compile Time: 12:05:16  |
|           SIO [2]: No                   IntGlue Xilinx: 34     |
|   Colour Graphics Card [A]: No         TSB Xilinx: 7         |
|   Colour Graphics Card [B]: No         Machine ID: 061C207A   |
+-----[ Non Volatile RAM Options ]-----+
|   SCSI Controller Boot Slot: 0         ROM Debug Level: OFF  |
|   SCSI Initiator ID: 7                 IOPACK Mode: 46 Lines |
|   Synchronous SCSI: Yes                |
|   Disconnecting SCSI: Yes              |
|   Wide SCSI: Yes                       |
+-----[ DIP Switch Settings ]-----+
|   Enable System Debugger #A1: No       Boot ROM Select (0) #B1: No
|   Disable PCI BIOS #A2: No             Boot ROM Select (1) #B2: No
|   Disable MMU #A3: No                  HIRES CG5 Enable #B3: No
|   Disable IOPACK Output #A4: Yes       DipSwitch #B4: No
|   Change CCB to CWT #A5: No            DipSwitch #B5: No
|   QDC Disable #A6: No                  DipSwitch #B6: No
|   QDC Order left->right #A7: No        DipSwitch #B7: No
|   DipSwitch #A8: No                    DipSwitch #B8: No
+-----[ PCI Buss Status ]-----+
|   On Board SCSI: Installed             Symbios 53c875 [1000:000F:#91]
|   Slot #1: Vacant                      |
|   Slot #2: Vacant                      |
|   Slot #3: Installed                   Intel i82557 [8086:1229:#90]

```

OS-9/68040 System Bootstrap [Dynamic RAM Version]

Press Key to Display Boot Menu ... 4 3 2 1 Autobooting

Scanning On Board PCI SCSI Controller

ID	DEVICE TYPE	VEENDOR	PRODUCT	FIRM	CAPACITY	SECT	MB
01	Fixed Disk	IBM	DRUS09U	0270 011191F9	512	8754	

Attempting to Boot to Target #1 on the Onboard Controller

Detected an RBF Formatted Disk.

A valid OS-9 bootfile was found.

-nt

Setting Lines Per Page to 48 - [TERM=xterm] .....

Loading Resident Modules .....

Starting Resident Fairlight Extension Modules .....

flight: v3.09 - Fairlight OS9 Extensions

ESP Messages Version 1.10

Initialising MMU .....

Starting RAM Resident IOPACK .....

Saving Last TUT Image (/dd/tvtlog.txt) .....

Press Any Key to Edit System Configuration ..... 4 3 2 1

Starting Network .....

Creating primary (MASTER) network interface "/ie0" for [Web]

HOSTNAME = mfx\_232

IP\_ADDRESS = 192.100.105.232

NET\_MASK = 255.255.0.0

DOMAINNAME = MFX

INNET=ffff0000 BDCST=ffffffff

Creating device descriptor "ie0" "if82557" "ifman"

Creating socket: Devices "/lo0 /ie0" for host "mfx\_232"

Starting Network

Starting TUT Drivers (TCP/IP Port 2700) .....

2. If the FAME 2 Engine has been configured to be part of a network, check that the Engine is attaching to the network. For further details on connecting to an Local Area Network, please refer to the *FAME 2 Edit User Manual*

```
Starting MFX Console .....
=====
System Identification
  Machine #:061c0283      Site:Fairlight ESP Pty Ltd
  MFX
  Multi-Out:YES          Printing:YES              Time-FX:YES              Audiobase:TWO
  FAME2
  Feeds:24               Busses:24
  Tracks:48              A-In:48                 A-Out:48                 D-In-Out:48
  Preview:YES            Connect:YES              MediaLink:YES
  Varispeed:YES          CD-Write:YES
=====
Creating Temporary Directory (/dd/TMP) .....
Starting File Gopher, DFN Server, FFS, ANETD and NODED .....
Starting SCSI Caching Sub-System and Media Daemon .....
Initialising Audio Hardware .....
jtag v2.06:
qdcinit v3.06
Resetting all QDCs
QDC 1 Slot 7 OK
DSP Resources
  1 QDC cards
  4 DCC sections
  8 DSP processors
I/O Resources:
  2 AIN cards
  2 AOUT cards
  2 DIO cards
  16 Analog Inputs
  16 Analog Outputs
  16 Digital Inputs
  16 Digital Outputs
Checking Versions of Modules, ROMS and Hardware .....
Starting Session .....
1 devices online
OS-9/68K V3.0.3  MFX/PX-DYNAMIC '/term' online 00/25/06 at 19:04:31
User name?: mfx

Process #32 logged on    02/01/06 19:04:52
Welcome!

MFX:
```

3. As the boot up process continues check that the MFX Console is being seen.
  
4. If a problem is encounter with audio I/O check that the system is logging the QDC card or cards within the system.
  
5. If problems persist please contact a local Fairlight office or distributor.

---

## 4.4 SOFTWARE INSTALLATION

From time to time software will need to be installed onto the FAME 2 Engine. The following describes the steps which need to be taken to install software.

### 4.4.1 INSTALLING SOFTWARE FROM EXABYTE

To update software from Exabyte when no release files are available;

1. Ensure that an Exabyte drive is connected and set to ID 5
2. Power up the Exabyte drive
3. Place the Exabyte software tape in the drive.
4. Power up the Engine.
5. Press the < Space Bar > immediately on powering up the system. You may need to press the < Space Bar > a few times. The aim is to stop the system booting from a hard drive if one is connected.
6. The displayed prompt is " Select a boot method from above menu: ".
7. Type " ROM " < Return > to boot to Rom.
8. Type " Upgrade -T " < Return>. This tells the system to boot from the Exabyte at ID 5.

Follow the procedure as appears on the screen. You will be asked if you want to reformat the drive. Answer NO to this if there are projects you require on the drive.

## SECTION 5 - CONFIGURING DISK DRIVES

### 5.1 EXTERNAL HARD DISK DRIVES

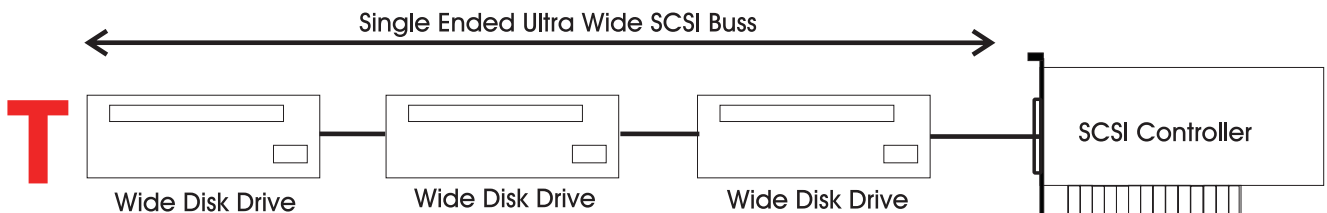
An additional SCSI controller can be added to the system and fitted in one of three PCI slots on the PXY Main Processor Board. With the controller physically installed an additional 7 SCSI devices can be connected to the system.

#### 5.1.1 WIDE BASED DISK DRIVES

The Ultra Wide single ended SCSI specification is used within the internal and external SCSI busses. This allows for ultra fast transfers speeds from a disk drive up to 40 megabytes a second.

The SCSI controller comes configured with a single ended 68 Pin configuration connector.

Only a Fairlight supplied SCSI Controller can be installed and configured with the Engine.



All cabling to SCSI devices must be kept as short as possible. The maximum length for the entire buss must not exceed more than 1.5 meters. It is highly recommended that drive enclosures with an active backplane be used to reduce cable lengths.

Some disks have SCSI terminating resistors in place and these should be checked and resistors removed when extra disks are being added to the system.

The last disk drive at the end of the chain must be terminated using an active terminator. Lower transfer rates and SCSI errors will result if the buss is not correctly terminated.

SCSI I.D.'s can be 0 through to 6. SCSI I.D. 7 is reserved for the SCSI controller.

#### 5.1.2 NARROW BASED DISK DRIVES

Narrow Based SCSI Disk Drives may be attached to the buss but must always be the last in the chain after any Wide disks are connected.

A quality 68 pin to 50 pin Adaptor must be used when connecting from the SCSI buss to a narrow disk drive.

The end of the Buss must be terminated using an active SCSI terminator plugged into the last drive in the chain.

When using narrow based disk drives along the SCSI buss the Engine must be configured for Narrow use only.

## 5.1.2 CONFIGURING THE ENGINE FOR NARROW USE

Connect disk drives to external SCSI buss port.

Power on the disk drives and Engine

When the BIOS screen appears PRESS THE SPACE BAR, before the -

“Press Key To Display Boot Menu” Countdown ends.

Under Booting Procedure press RC and press Enter .

A message should appear next on screen asking

“Do you want to use the recommendedNVRAM Configuration” PRESS N

Press C then Enter - to “Reconfigure The System Setup”

Press Return untill the cursor has moved down to the 11 th line -

Slot 1 SCSI Wide.....

At this point you will need to know which PCI slot the SCSI Controller Card has been fitted in. Looking at the Merlin Engine from the rear will show which slot the card is in -

- Slot 1 is the top most slot
- Slot 2 is the middle slot
- Slot 3 is the Bottom slot

Use the Enter key on the Console Keyboard to move down the list to the correct slot.

Next press 0 on the Console Keyboard to change from Wide to Narrow use.

Then Press Enter untill the following message appears on screen

“Enter the NVRAM Section you wish to Update”

Select Q and then press Enter.

A message will appear -

“NVRAM Configuration is complete ....System will now restart”

Press Return on the Console Keyboard.

The configuration is now complete.

### 5.1.3 MIXING WIDE AND NARROW DISK DRIVES

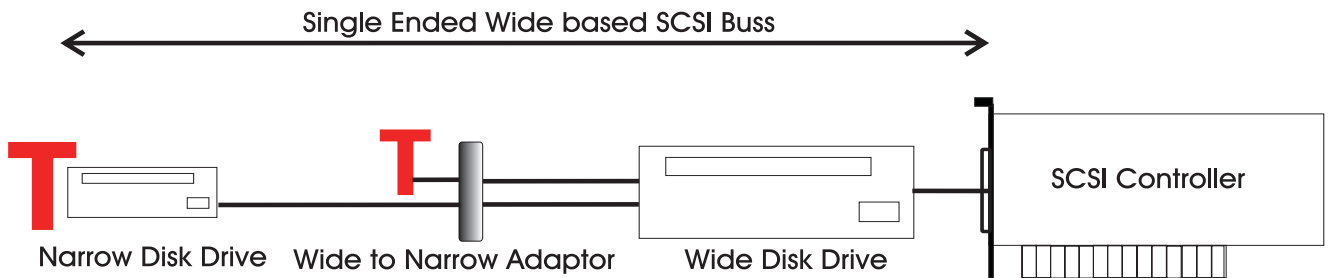
Wide and Narrow based disk drives can be mixed on the same SCSI buss at the same time -

Narrow Based SCSI Disk Drives must always be the last in the chain after any Wide disks are connected.

If the Engine is configured to run in Wide Mode, a quality 68 pin to 50 pin Adaptor must be used when connecting from the SCSI buss to a narrow disk drive.

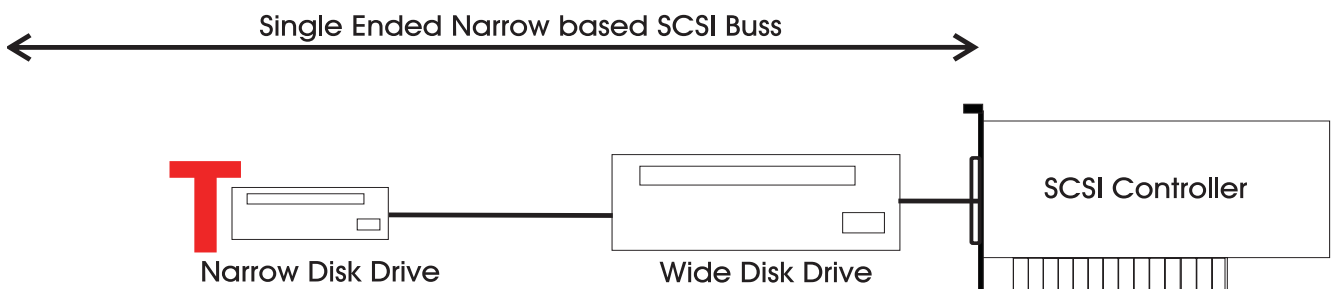
Please note the High Data Byte must be terminated when using an Adaptor, to allow for correct termination wide converting to a Narrow disk drive.

Remember to always terminate the last drive in the chain.



If the Engine is configured to run in Narrow mode, an Adaptor without High Byte termination may be used.

Remember to always terminate the last drive in the chain.



## 5.2 CHECKING FOR NEWLY INSTALLED SCSI DEVICES

Once you have mounted all external and internal SCSI devices, the following will aid you in determining if they are all detected.

1. Ensure that the FAME 2 Engine is completely reassembled and that there are no loose cables.
2. Power up the Engine.
3. Press the SPACE BAR once a gray display is seen. If you miss the time window in which the Space bar must be pressed, simply reboot and try again.
4. The displayed prompt is " Select a boot method from the above menu: ".
5. From the prompt type "SCAN" or "DF"< RETURN >.
6. Observe that all SCSI devices are detected.
7. You may need to run this command a couple of times as some drives are much slower to boot than the Engine.
8. If a SCSI device is not seen, power down the system and check all SCSI ID's and that the SCSI and power cables are connected.

## 5.3 SETTING UP REMOVABLE MEDIA DEVICES

To set up optical drives for use on the FAME2 Engine, it is not necessary to format the media. All that is required is that the following command be run on the media;

```
DISKINIT /tdwx -w -n="Name" ( e.g. Boot )
```

This command must be run from the shell on the FAME2 Engine, so you will need to quit from the main disk recorder application to the shell.

When media is not in use it is strongly recommended that the media is ejected from the drive to ensure that the media has not deteriorated due to the level of heat in the drive itself.

**CAUTION - KEEP MEDIA AWAY FROM DIRECT SUNLIGHT AND STRONG MAGNETIC FIELDS AS THIS CAN DAMAGE THE DISK.**

*Please Note* - The system automatically detects new SCSI devices. For example if an Optical drive is connected at boot up and the media is not present the device will be seen on the Project page, however it will indicate no media. On placing a suitable formatted media in the drive the device will become available for use.

Hard drives will also be automatically detected if they are installed correctly.

Please avoid connecting external devices by breaking the SCSI chain while the system is running as it can either crash the system or if a project is open lead to project corruption.



## SECTION 6 - ROUTINE MAINTENANCE

### 6.1 CLEANING THE EXTERIOR OF THE UNITS

You should clean the FAME2 system units often enough to prevent dust or dirt from accumulating. Dirt acts as a thermal insulating blanket that prevents effective heat dissipation and may provide high-resistance electrical leakage paths between conductors or components in a humid environment.

Clean the dust from the outside by wiping with a soft cloth or small brush. A brush is especially useful for removing dust from around connectors and cooling grilles. Use a cloth dampened in water that contains 50% Isopropyl alcohol to remove hardened dirt. You should not use abrasive cleaners.

### 6.2 CLEANING THE MONITOR SCREENS

The Graphics Monitor has a special coating on the screen which prevents glare. A cleaning cloth is normally supplied with most Graphics Monitors and the instructions given in the monitor manual should be followed.

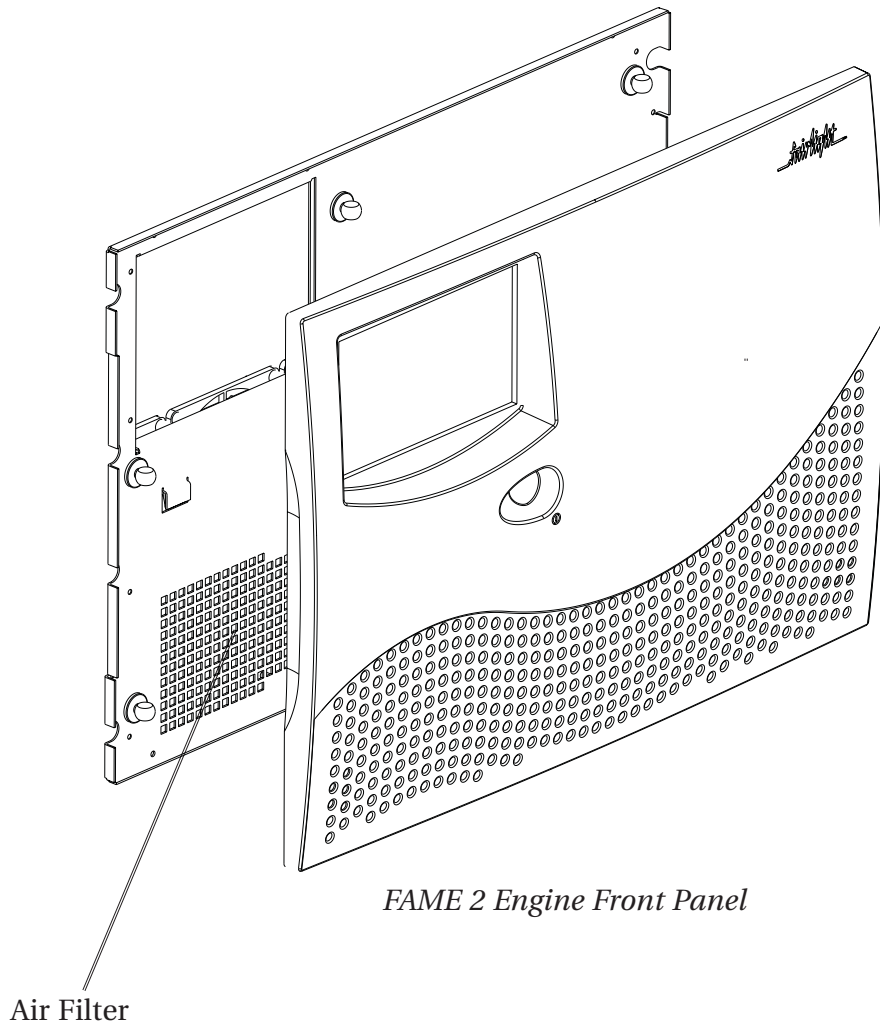
### 6.3 CLEANING THE ENGINE AIR FILTER

To ensure good airflow through the Engine, the air filter in the front panel must be periodically cleaned. It is usually sufficient to simply remove accumulated dust using a vacuum cleaner to suck it out of the front panel grille. From time to time, however, the front panel will have to be removed to give the filter a thorough clean or even replace it altogether. The front dress panel should be removed to allow access to the Air Filter.

1. Gently lift the dress panel away from the Engine.
2. Unclip the Air Filter and remove it from the front fascia of the 2nd panel.
3. Once the air filter has been removed, clean it thoroughly by washing it in warm water with mild detergent. Make sure it is completely dry before reinstalling it.

**CAUTION: DO NOT ALLOW WATER TO GET INSIDE ANY ENCLOSED ASSEMBLY OR COMPONENT. DO NOT CLEAN ANY PLASTIC MATERIALS WITH ORGANIC CLEANING SOLVENTS, SUCH AS BENZENE, TOLUENE, XYLENE, ACETONE, OR SIMILAR COMPOUNDS, BECAUSE THEY MAY DAMAGE THE PLASTIC. CAUTION: DO NOT USE CLEANING FLUIDS, OTHER THAN THOSE MENTIONED IN THE GRAPHICS MONITOR MANUAL, TO CLEAN THE SCREEN - THE SPECIAL COATING COULD BE DAMAGED.**

4. Reverse the above steps to attach the front dress panel back into place.



### NEW AIR FILTERS

If the filter cannot be cleaned properly or is worn out, a new one should be ordered. Please contact your local Fairlight office or distributor for further assistance.

## SECTION 7 - MATRIX CONFIGURATION

The X-Point is a 256 relay switcher box which can be controlled from the FAME 2 surface via the MATRIX page. It is possible to connect 15 X-Point boxes to a single FAME 2.

While the X-Point is normally used for routing audio (both analogue and digital) an X-Point can transmit any type of electronic signal, including MIDI and RS422 or any other signal which can be sent down a wire. Each Input and output on an X-Point has a through connection, which allows for the same signal to be connected to multiple points.

Physical X-point boxes are connected to the FAME 2 surface and then software matrices are setup to provide an interface between the user and the hardware, from the FAME 2 control surface.

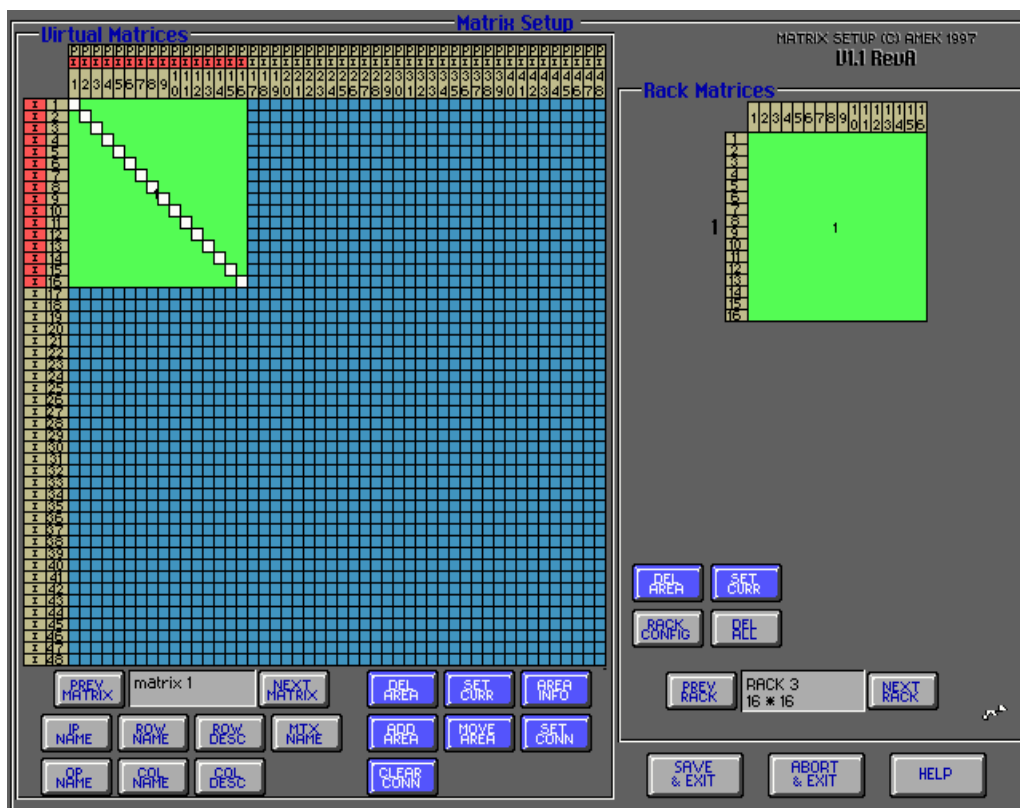
These matrices are called virtual matrices and are setup to provide a way of routing / controlling signals into and out of the various X-Point boxes connected. A virtual matrix is combinations of physical switching points from physical matrices.

6 Virtual Matrices can be defined. The user interface, accessed using the MATRIX page inside FAME 2, allows the user to easily route and reroute signals from the Inputs of the virtual matrix to the outputs of the virtual matrix on the screen.

### 7.1 CONFIGURING MATRICES

Matrices are setup using a utility program called SET\_MTX.EXE. This is located in the c:\DSP\SYSTEM directory on the FAME 2 PC. To set up matrices simply exit the application. Then at the DOS prompt go to this directory and type set\_mtx at the c: prompt.

The right hand column, entitled Rack Matrices, refers to the physical X-Point I/O Connections while the left hand column is used for configuring "virtual" matrices.



## 7.2 CONFIGURING RACKS

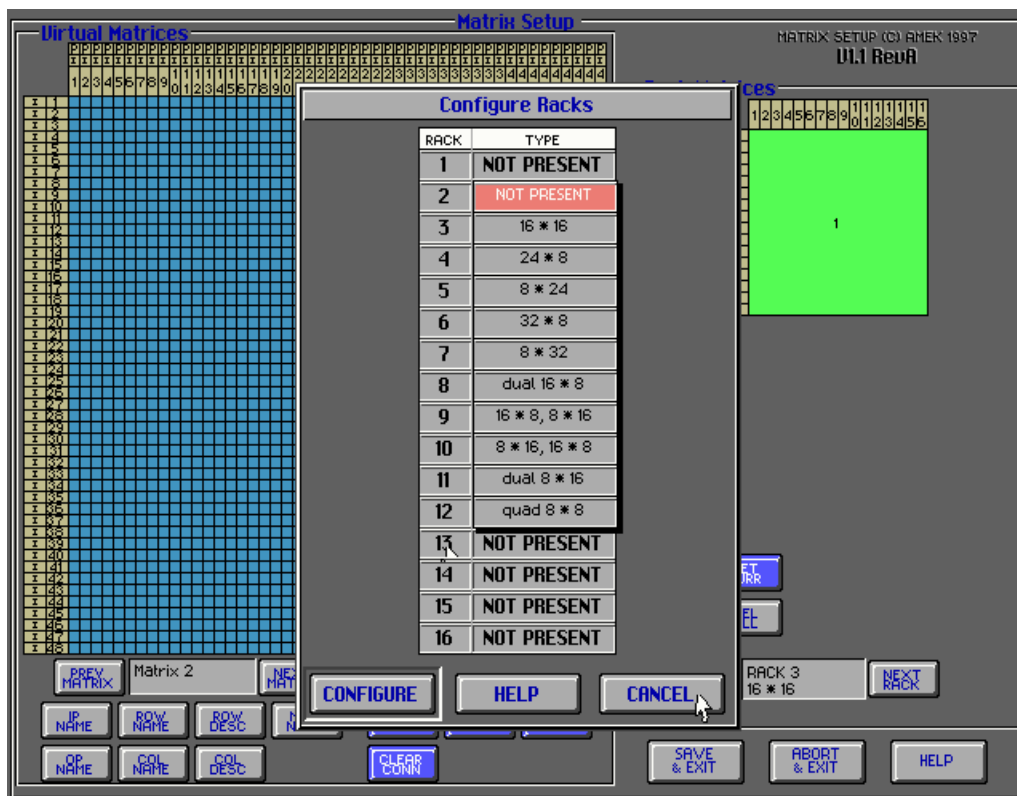
The first step is to configure all the X-Point racks connected.

The possible types of X-Points are; 16x16, 24x8, 8x24, 32x8, 8x32, dual 16x8, 16x8 / 8x16, 8x16/16x8, dual 8x16, quad 8x8.

To do this, press the button in the left column entitled RACK SELECT. When you do this the RACK CONFIGURE page is displayed. This consists of 2 columns - Rack Number and Rack Type.

The Rack Number is the Rack ID. The Rack Type refers to the type of X-Point connected to the corresponding Rack Number.

For each X-Point you have connected, set the Rack TYPE to the type of X-Point you have connected to the corresponding Rack ID. This is done by selecting the RACK TYPE field, next to any ID number, then picking the correct X-Point type from the drop down list provided.



Once every matrix has been configured, press the CONFIGURE button and then EXIT the Rack Configure page.

It is now possible to scroll through all the Racks you have connected using the horizontal scroll bar at the bottom of the Rack Matrices column. You will notice that each Rack is displayed visually as a matrix on screen. For example, a 16x16 X-Point will display as a matrix with 16 rows and 16 columns. This matrix relates to the Physical Inputs and Outputs to the Rack selected.

If you have a Surround Monitor connected, Rack 2 should be set to NOT Present.

## 7.3 BUILDING A MATRIX

Now that all the Physical boxes are defined, it is possible to build "virtual" matrices from the Rack matrices defined.

The virtual matrix is displayed in the left side of the Matrix Selection Page. The virtual matrix is "built" by selecting Inputs and outputs from various Rack Matrices and placing them onto the Virtual Matrix. The virtual matrices are the matrices that appear in the user interface of fame.

6 Virtual Matrices can be defined.

To define a matrix: Select a blank virtual matrix, done by using the Prev Matrix and Next Matrix buttons at the bottom of the virtual matrix side of the screen.

Select Inputs and Outputs from the physical rack you want the virtual matrix to control. This is done by scrolling to the Rack you want to select the I/O from and using a mouse to select an area which relates to this I/O. To select I/O, click on the square which relates to the first square of the area you wish to select, hold down the mouse and drag it down & right to select the I/O you wish to use from that rack, in the virtual matrix you wish to define. The area selected will now be highlighted in green.

Click on the Set Curr box in the Rack Matrix side of the screen, then click on the area you have selected - it should now turn red.

Place the Area selected onto the Virtual matrix. This is done by pressing ADD AREA on the virtual matrix side of the screen, and clicking in the square on the virtual matrix that you want to place the top left hand corner of the selected area. This can be anywhere on the Virtual matrix - the virtual matrix I/O doesn't have to match the physical I/O selected.

This can be repeated and I/O from multiple Racks can be placed onto one Virtual matrix.

The I/O for the virtual matrix can be named, as can the virtual matrix itself, and these names will show up on the MATRIX page inside FAME 2. It is a good idea to use this, especially if I/O defined on a virtual matrix is taken from more than one X-Point.

The things to remember are :-

Each physical I/O can only be assigned to one virtual matrix, so thought must be given as to how to set up the virtual matrices.

If I/O defined on one virtual matrix is made up of physical I/O of more than one X-Point, the user must be careful to know where the physical outputs of one box are patched to the physical inputs of another box, otherwise making the patch in the MATRIX page of FAME 2 will not make any sense.

# APPENDIX - CONNECTION SPECIFICATIONS

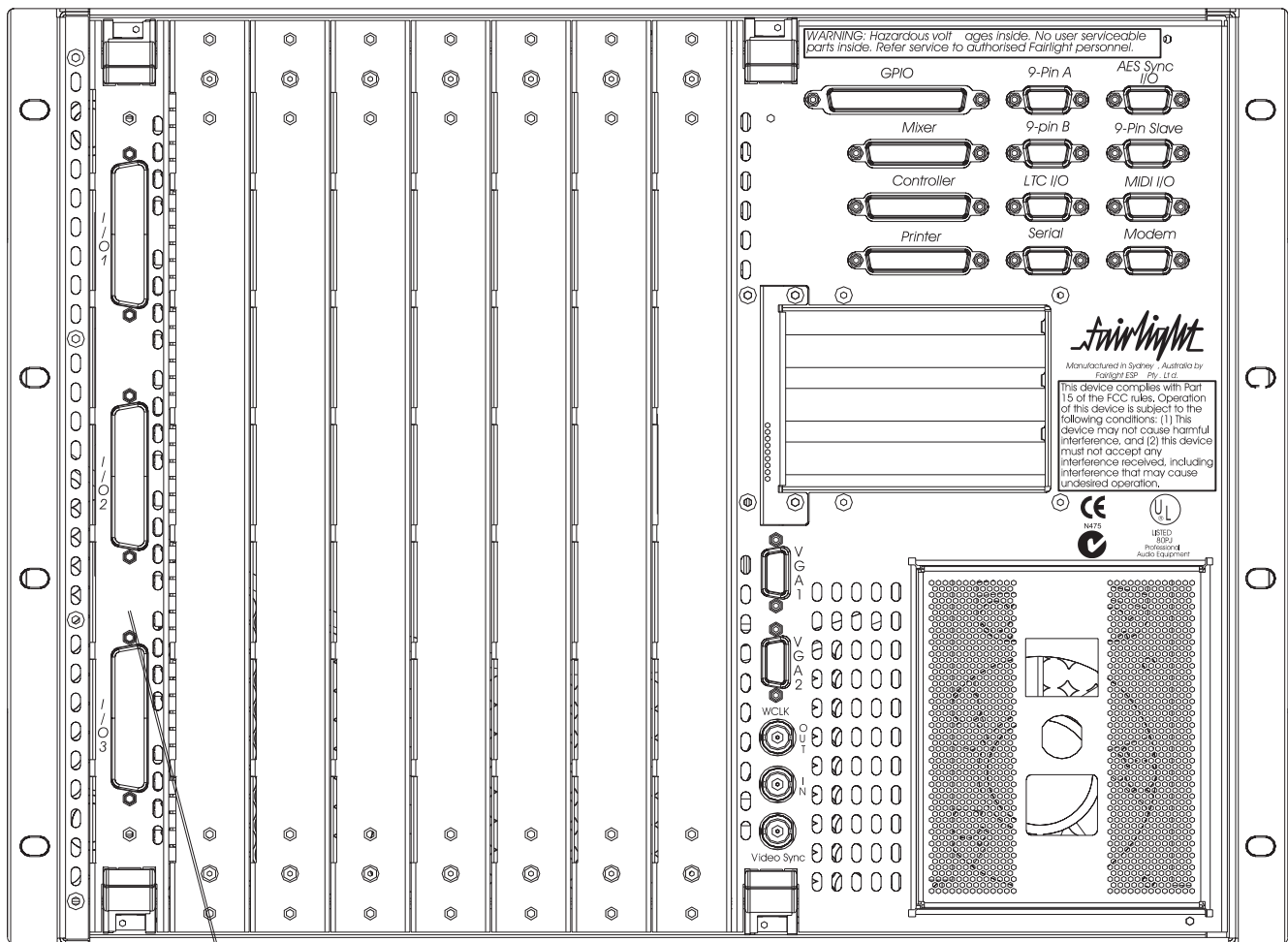
## INTRODUCTION

The following information contains all the wiring details to allow users to connect peripheral devices to the back panel of the Engine.

## A1 - AUDIO I/O CONFIGURATION

FAME 2 uses a Fairlight ESP designed proprietary card called the QDC, for all its audio I/O and processing. A number of QDC cards can be configured within a Engine.

The following pages describe the wiring pin outs for each QDC, to enable installation personnel to configure and wire the system.



FAME 2 Engine Rear Panel

QDC card

## A1.1 ANALOG AUDIO I/O SPECIFICATIONS

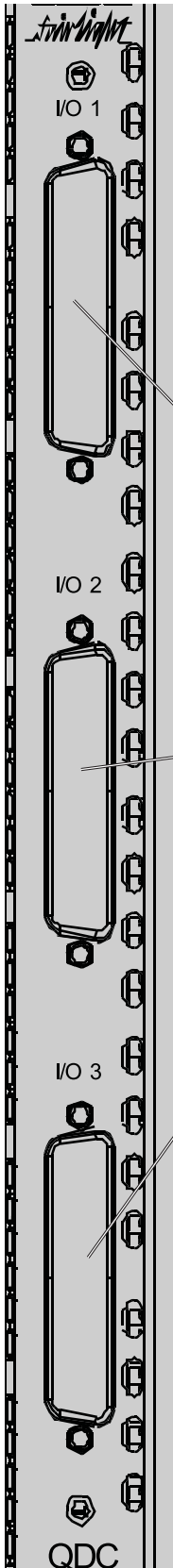
Connector	50 way 3 Row D Female
Input	Balanced
Input Level	+24dbu max
Input Sensitivity	+4dbu nominal (adjustable)
Input Attenuation Range Impedence	> 10k Ohms
Output	Electronic balanced differential
Output Level	+24dbu max at 0dBFS, nominal +4dbu
Output Impedence	< 55 Ohms
Output Load	>600 Ohms

## A1.2 DIGITAL AUDIO I/O SPECIFICATIONS

Connector	50 way 3 row D Female
Channels	16 stereo pairs per I/O Module
Sample Rates	32KHz, 44.1 KHz, 48KhZ
	0.1% run up and run down
Input Type	> 200mV differential
Output level	>4.3V TTL

## QDC CONFIGURATION

Each QDC card comes with three connectors, each housing 50 pins. The following table shows the Audio I/O Configuration - the connectors and Pinouts for FAME 2. In the standard configuration more than one QDC card is required to enable all analog and digital I/O.



+	GND	-
17	33	50
16	32	49
15	31	48
14	30	47
13	29	46
12	28	45
11	27	44
10	26	43
9	25	42
8	24	41
7	23	40
6	22	39
5	21	38
4	20	37
3	19	36
2	18	35

QDC Pin Outs Connector



## 24 Track Analog I/O 24 Track Digital I/O 2 QDC Cards

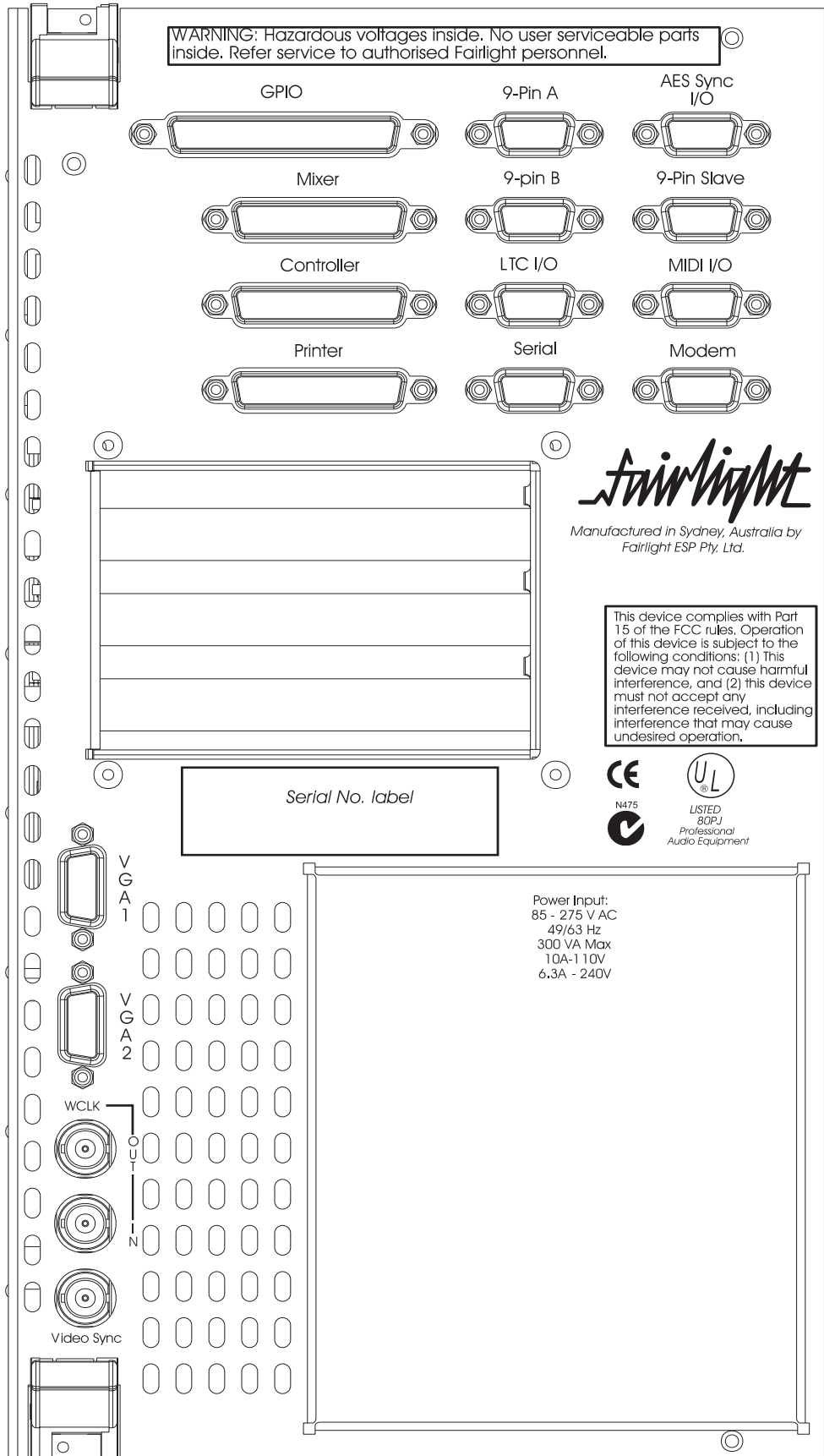
Analog Inputs				Analog Outputs				Digital Inputs				Digital Outputs			
Port	QDC	Con	Pins	Port	QDC	Con	Pins	Port	QDC	Con	Pins	Port	QDC	Con	Pins
A In 1	1	1	17 33 50	A Out 1	1	1	9 25 42	D In 1-2	1	2	17 33 50	D Out 1-2	1	2	13 29 46
A In 2			16 32 49	A Out 2			8 24 41	D In 3-4			16 32 49	D Out 3-4			12 28 45
A In 3			15 31 48	A Out 3			7 23 40	D In 5-6			15 31 48	D Out 5-6			11 27 44
A In 4			14 30 47	A Out 4			6 22 39	D In 7-8			14 30 47	D Out 7-8			10 26 43
A In 5			13 29 46	A Out 5			5 21 38	D In 9-10	1	2	9 25 42	D Out 9-10	1	2	5 21 38
A In 6			12 28 45	A Out 6			4 20 37	D In 11-12			8 24 41	D Out 11-12			4 20 37
A In 7			11 27 44	A Out 7			3 19 36	D In 13-14			7 23 40	D Out 13-14			3 19 36
A In 8			10 26 43	A Out 8			2 18 35	D In 15-16			6 22 39	D Out 15-16			2 18 35
A In 9	1	3	17 33 50	A Out 9	1	3	17 33 50	D In 17-18	2	2	17 33 50	D Out 17-18	2	2	13 29 46
A In 10			16 32 49	A Out 10			16 32 49	D In 19-20			16 32 49	D Out 19-20			12 28 45
A In 11			15 31 48	A Out 11			15 31 48	D In 21-22			15 31 48	D Out 21-22			11 27 44
A In 12			14 30 47	A Out 12			14 30 47	D In 23-24			14 30 47	D Out 23-24			10 26 43
A In 13			13 29 46	A Out 13			13 29 46								
A In 14			12 28 45	A Out 14			12 28 45								
A In 15			11 27 44	A Out 15			11 27 44								
A In 16			10 26 43	A Out 16			10 26 43								
A In 17	2	1	17 33 50	A Out 17	2	1	9 25 42								
A In 18			16 32 49	A Out 18			8 24 41								
A In 19			15 31 48	A Out 19			7 23 40								
A In 20			14 30 47	A Out 20			6 22 39								
A In 21			13 29 46	A Out 21			5 21 38								
A In 22			12 28 45	A Out 22			4 20 37								
A In 23			11 27 44	A Out 23			3 19 36								
A In 24			10 26 43	A Out 24			2 18 35								

## 32 Track Analog I/O 32 Track Digital I/O 2 QDC Cards

Analog Inputs				Analog Outputs				Digital Inputs				Digital Outputs			
Port	QDC	Con	Pins	Port	QDC	Con	Pins	Port	QDC	Con	Pins	Port	QDC	Con	Pins
A In 1	1	1	17 33 50	A Out 1	1	1	9 25 42	D In 1 - 2	1	2	17 33 50	D Out 1 - 2	1	2	13 29 46
A In 2			16 32 49	A Out 2			8 24 41	D In 3 - 4			16 32 49	D Out 3 - 4			12 28 45
A In 3			15 31 48	A Out 3			7 23 40	D In 5 - 6			15 31 48	D Out 5 - 6			11 27 44
A In 4			14 30 47	A Out 4			6 22 39	D In 7 - 8			14 30 47	D Out 7 - 8			10 26 43
A In 5			13 29 46	A Out 5			5 21 38	D In 9 - 10	1	2	9 25 42	D Out 9 - 10	1	2	5 21 38
A In 6			12 28 45	A Out 6			4 20 37	D In 11 - 12			8 24 41	D Out 11 - 12			4 20 37
A In 7			11 27 44	A Out 7			3 19 36	D In 13 - 14			7 23 40	D Out 13 - 14			3 19 36
A In 8			10 26 43	A Out 8			2 18 35	D In 15 - 16			6 22 39	D Out 15 - 16			2 18 35
A In 9	1	3	17 33 50	A Out 9	1	3	9 25 42	D In 17 - 18	2	2	17 33 50	D Out 17 - 18	2	2	13 29 46
A In 10			16 32 49	A Out 10			8 24 41	D In 19 - 20			16 32 49	D Out 19 - 20			12 28 45
A In 11			15 31 48	A Out 11			7 23 40	D In 21 - 22			15 31 48	D Out 21 - 22			11 27 44
A In 12			14 30 47	A Out 12			6 22 39	D In 23 - 24			14 30 47	D Out 23 - 24			10 26 43
A In 13			13 29 46	A Out 13			5 21 38	D In 25 - 26	2	2	9 25 42	D Out 25 - 26	2	2	5 21 38
A In 14			12 28 45	A Out 14			4 20 37	D In 27 - 28			8 24 41	D Out 27 - 28			4 20 37
A In 15			11 27 44	A Out 15			3 19 36	D In 29 - 30			7 23 40	D Out 29 - 30			3 19 36
A In 16			10 26 43	A Out 16			2 18 35	D In 31 - 32			6 22 39	D Out 31 - 32			2 18 35
A In 17	2	1	17 33 50	A Out 17	2	1	9 25 42								
A In 18			16 32 49	A Out 18			8 24 41								
A In 19			15 31 48	A Out 19			7 23 40								
A In 20			14 30 47	A Out 20			6 22 39								
A In 21			13 29 46	A Out 21			5 21 38								
A In 22			12 28 45	A Out 22			4 20 37								
A In 23			11 27 44	A Out 23			3 19 36								
A In 24			10 26 43	A Out 24			2 18 35								
A In 25	2	3	17 33 50	A Out 25	2	3	9 25 42								
A In 26			16 32 49	A Out 26			8 24 41								
A In 27			15 31 48	A Out 27			7 23 40								
A In 28			14 30 47	A Out 28			6 22 39								
A In 29			13 29 46	A Out 29			5 21 38								
A In 30			12 28 45	A Out 30			4 20 37								
A In 31			11 27 44	A Out 31			3 19 36								
A In 32			10 26 43	A Out 32			2 18 35								

# APPENDIX - CONNECTION & SIGNAL SPECIFICATIONS

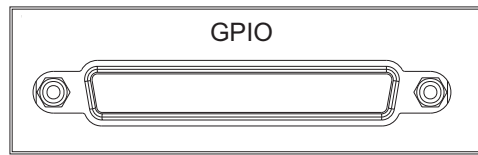
## A2 CONTROL & REFERENCE PINOUTS



FAME 2 Engine System I/O Panel

## A3 GENERAL PURPOSE INTERFACE

Connector            37 Pin D Male  
 Input                 TTL (1 LS Load)  
 Output/Bank        TTL (max 5 TTL loads)  
 +5V fused current < 1A



1	GND
2	GPIO 6
3	GPIO 5
4	GND
5	GPIO B0 2
6	GPIO B0 1
7	GND
8	GPIO IN 6
9	GPIO IN 5
10	GND
11	GPIO IN 2
12	GPIO IN 1
13	GND
14	GPIO OUT 6
15	GPIO OUT 5
16	GND
17	GPIO OUT 2
18	GPIO OUT 1
19	GND
20	GPIO B0 7
21	GND
22	GPI
23	GPIO B0 3
24	GND
25	GPIO B0 0
26	GPIO IN 7
27	GND
28	GPIO IN 4
29	GPIO IN 3
30	GND
31	GPIO IN 0
32	GPIO OUT 7
33	GND
34	GPIO OUT 4
35	GPIO OUT 3
36	GND
37	GPIO OUT 0

## A4 MIXER

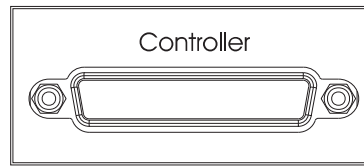
Connector 25 pin D Female



1	GND
2	RxFFN
3	RxCLKN
4	RxDATN
5	RxWRN
6	NC
7	NC
8	TxFFN
9	TxCLKN
10	TxDATN
11	TxWRPN
12	HSSLDET <sub>n</sub>
13	SYNCP
14	RxFFP
15	RxCLKP
16	RxDATP
17	RxWRP
18	NC
19	GND
20	TxFFP
21	TXxCLKP
22	TxDATP
23	TxWRP
24	GND
25	SYNCP

## A5 CONTROLLER

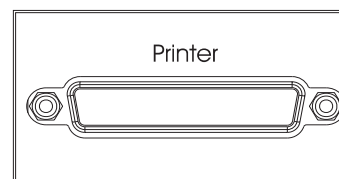
Connector 25 pin D Male at Engine  
37 pin D Male at Surface



25 Pin D Type Connector	Signal	37 Pin D Type Connector	Signal
PIN 1	GND	PIN 1	GND
PIN 2	CONTx	PIN 7	CONTx
PIN 3	CONRx	PIN 24	CONRx
PIN 5	H_TxDATA	PIN 6	H_TxDATA
PIN 7	GND	PIN 10	GND
PIN 9	GND	PIN 33	GND
PIN 10	CONTxPOS	PIN 13	CONTxPOS
PIN 11	CONRxPOS	PIN 12	CONRxPOS
PIN 20	H_RxDATA	PIN 25	H_RxDATA
PIN 23	CONTxNEG	PIN 31	CONTxNEG
PIN 24	CONRxNEG	PIN 30	CONRxNEG

## A6 PRINTER

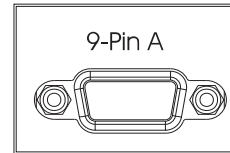
Connector      Standard 25 pin D female



PIN 1	PSTROBE <sub>n</sub>
PIN 2	PDR0
PIN 3	PDR1
PIN 4	PDR2
PIN 5	PDR3
PIN 6	PDR4
PIN 7	PDR5
PIN 8	PDR6
PIN 9	PDR7
PIN 10	PRACK <sub>n</sub>
PIN 11	PRBUSY <sub>n</sub>
PIN 12	PRERROR
PIN 13	PRSELECT
PIN 14	PRAUTOFD <sub>n</sub>
PIN 15	PRFAULT <sub>n</sub>
PIN 16	PRINTIT <sub>n</sub>
PIN 17	PRSELIN <sub>n</sub>
PIN 18	GND
PIN 19	GND
PIN 20	GND
PIN 21	GND
PIN 22	GND
PIN 23	GND
PIN 24	GND
PIN 25	GND

## A7 9-PIN A

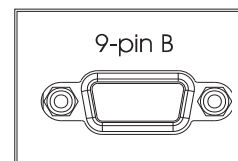
Connector 9 pin D female



PIN 1	GND
PIN 2	9ARxA
PIN 3	9ATxB
PIN 4	GND
PIN 5	NC
PIN 6	GND
PIN 7	9ARxB
PIN 8	9ATxA
PIN 9	NC

## A8 9-PIN B

Connector 9 pin D female

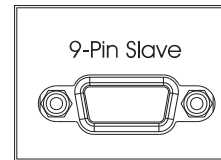


PIN 1	GND
PIN 2	9BRxA
PIN 3	9BTxB
PIN 4	GND
PIN 5	NC
PIN 6	GND
PIN 7	9BRxB
PIN 8	9BTxA
PIN 9	NC



## A9 9-PIN SLAVE

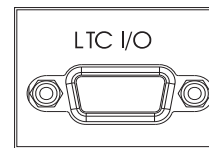
Connector 9 pin D female



PIN 1	GND
PIN 2	9BTxA
PIN 3	9RRxB
PIN 4	GND
PIN 5	NC
PIN 6	GND
PIN 7	9BTxB
PIN 8	9BRxA
PIN 9	GND

## A10 LTC - I/O

Connector 9 pin D male  
 Input Level -20dbm to +10dbm  
 Output Level 0dbm

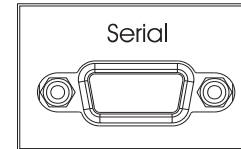


Important note: Unbalanced loads connected to LTC OUT should NOT ground the LTC OUT NEGATIVE signal.

PIN 1	GND
PIN 2	LTC A NEGATIVE
PIN 3	LTC OUT NEGATIVE
PIN 4	GND
PIN 5	LTC B POSITIVE
PIN 6	LTC A POSITIVE
PIN 7	GND
PIN 8	LTC OUT POSITIVE
PIN 9	LTC B NEGATIVE

## A11 SERIAL PORT

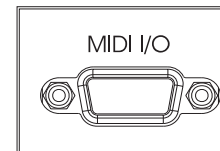
Connector     Standard 9 pin D male



PIN 1	SER_DCD
PIN 2	SER_Rx
PIN 3	SER_Tx
PIN 4	SER_DTR
PIN 5	GND
PIN 6	SER_DSR
PIN 7	SER_RTS
PIN 8	SER_CTS
PIN 9	NC

## A12 MIDI I/O

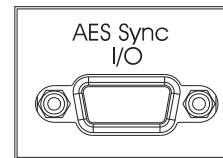
Connector     9 pin D female



PIN 1	NOT CONNECTED		
PIN 2	MIDI IN NEGATIVE	MIDI IN	DIN PIN 5
PIN 3	MIDI OUT NEGATIVE	MIDI OUT	DIN PIN 5
PIN 4	GND	MIDI THROUGH	DIN PIN 2
PIN 5	MIDI THROUGH POSITIVE	MIDI THROUGH	DIN PIN 4
PIN 6	MIDI POSITIVE	MIDI IN	DIN PIN 4
PIN 7	GND	MIDI OUT	DIN PIN 2
PIN 8	MIDI OUT POSITIVE	MIDI OUT	DIN PIN 4
PIN 9	MIDI THROUGH NEGATIVE	MIDI THROUGH	DIN PIN 5

## A13 AES SYNC I/O

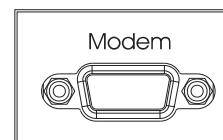
Connector 9 pin D Male



PIN 1	GND
PIN 2	AES IN NEGATIVE
PIN 3	AES OUT POSITIVE
PIN 4	BIPHASE TACH
PIN 5	BIP DIRECTION
PIN 6	AES IN POSITIVE
PIN 7	GND
PIN 8	AES OUT NEGATIVE
PIN 9	NOT CONNECTED

## A14 MODEM

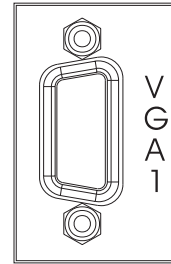
Connector 9 pin D Male



PIN 1	MOD_DCD
PIN 2	MOD_RX
PIN 3	MOD_TX
PIN 4	MOD_DTR
PIN 5	GND
PIN 6	MOD_DSR
PIN 7	MOD_RTS
PIN 8	MOS_CTS
PIN 9	NC

## A15 VGA

Connector 15 pin High Density D Female  
 Resolution 1024(H) x 768(V)  
 Frequency HSYNC: 60khz VSYNC: 75hz SVGA STANDARD



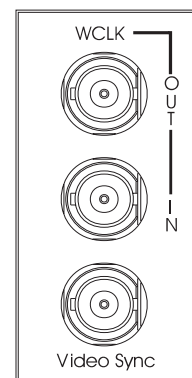
PIN 1	RED
PIN 2	GREEN
PIN 3	BLUE
PIN 4	GND
PIN 5	GND
PIN 6	GND
PIN 7	GND
PIN 8	GND
PIN 10	GND
PIN 11	GND
PIN 12	NC
PIN 13	HSYNC
PIN 14	VSYNC
PIN 15	NC

## A16 VIDEO SYNC - IN

Connector BNC  
 Input Level 1V p-p 75 Ohms Terminated Internally

## A17 WORD CLOCK - IN

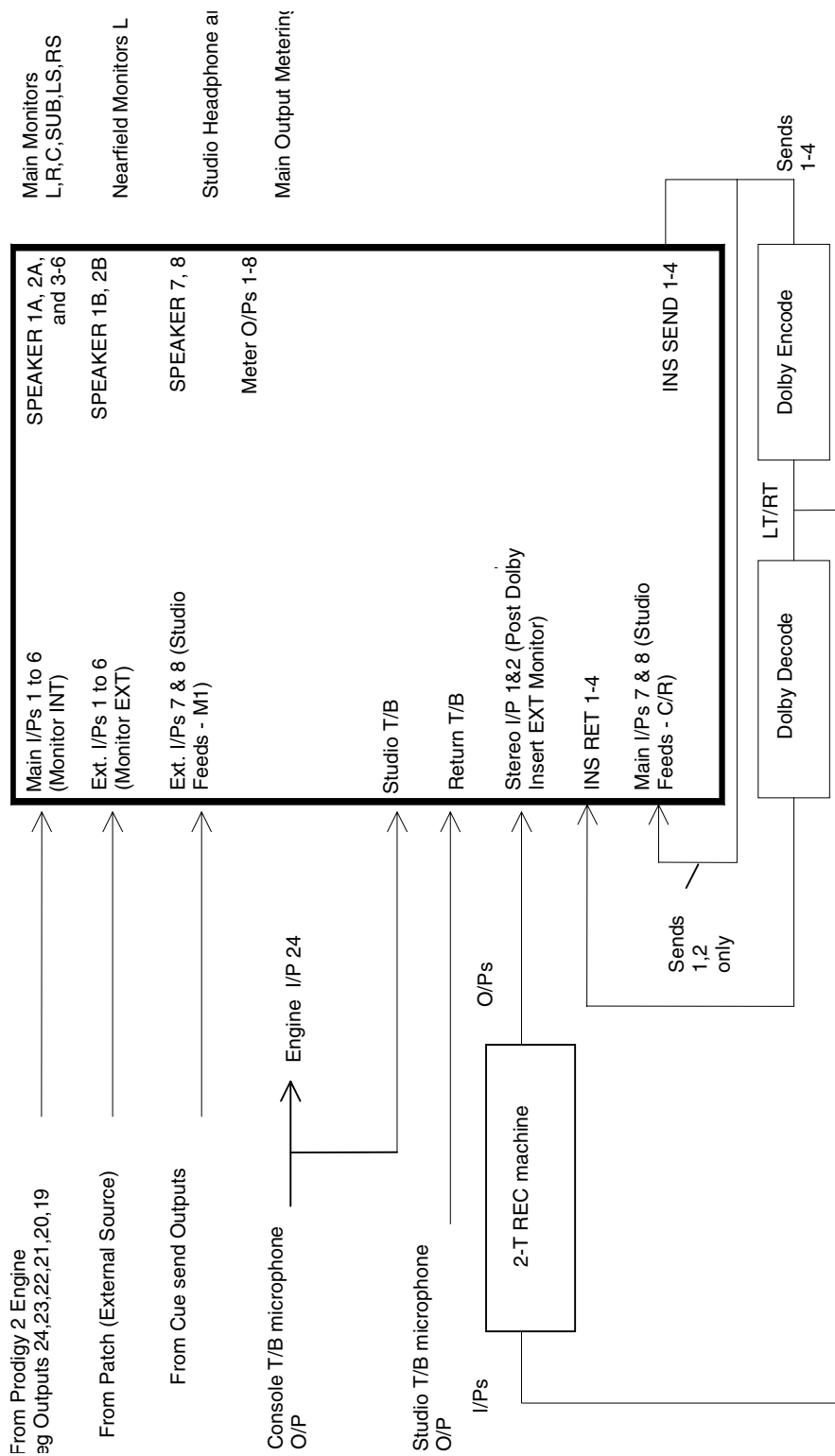
Connector BNC  
 Input Optically Isolated  
 Output Impedance 75 Ohms

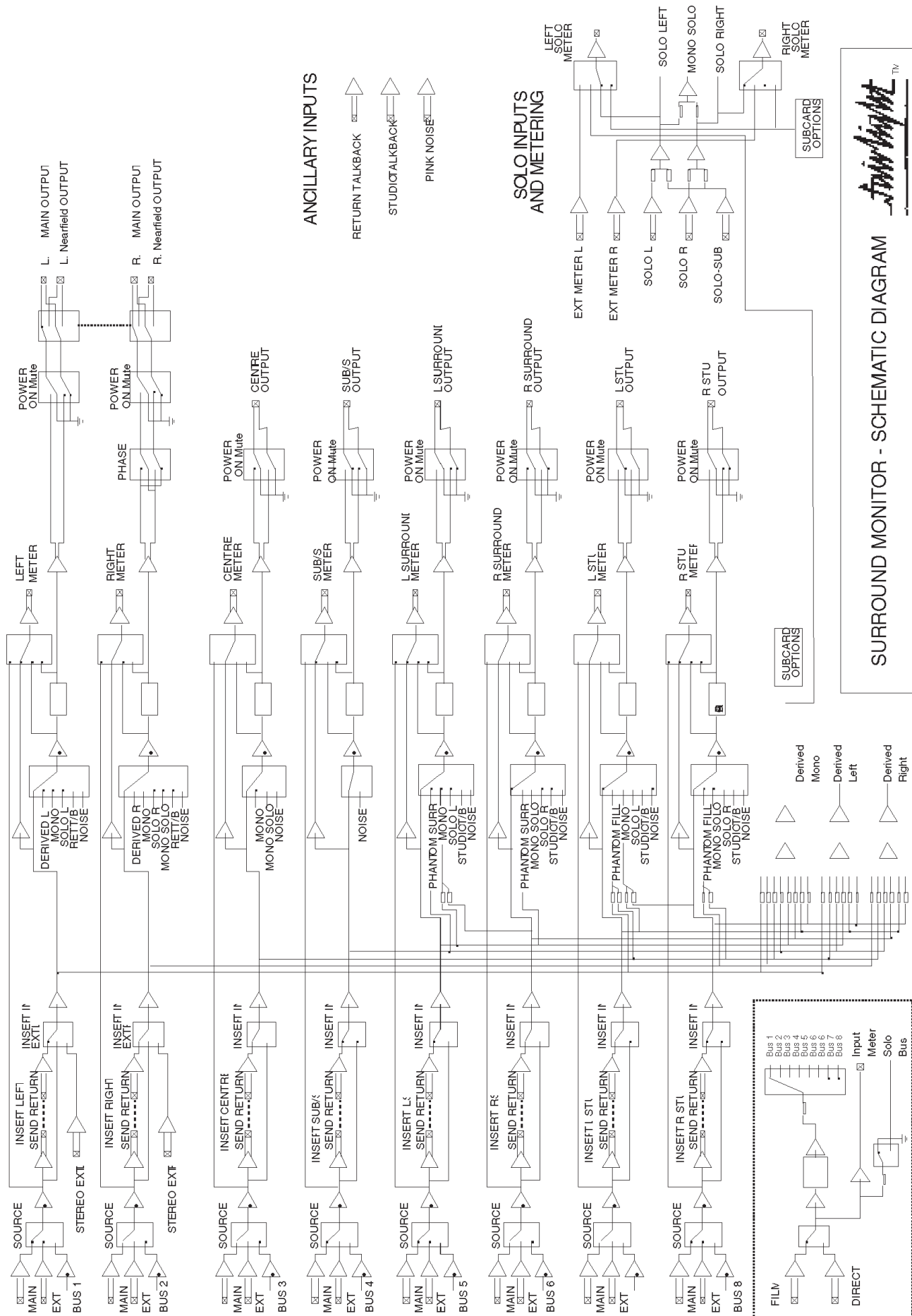


## A18 WORD CLOCK - OUT

Connector BNC  
 Output Level > 4.3V TTL  
 Output Impedance 75 Ohms

## B1 EXAMPLE MONITOR BOX CONNECTIONS FOR 5.1, LCRS AND STEREO

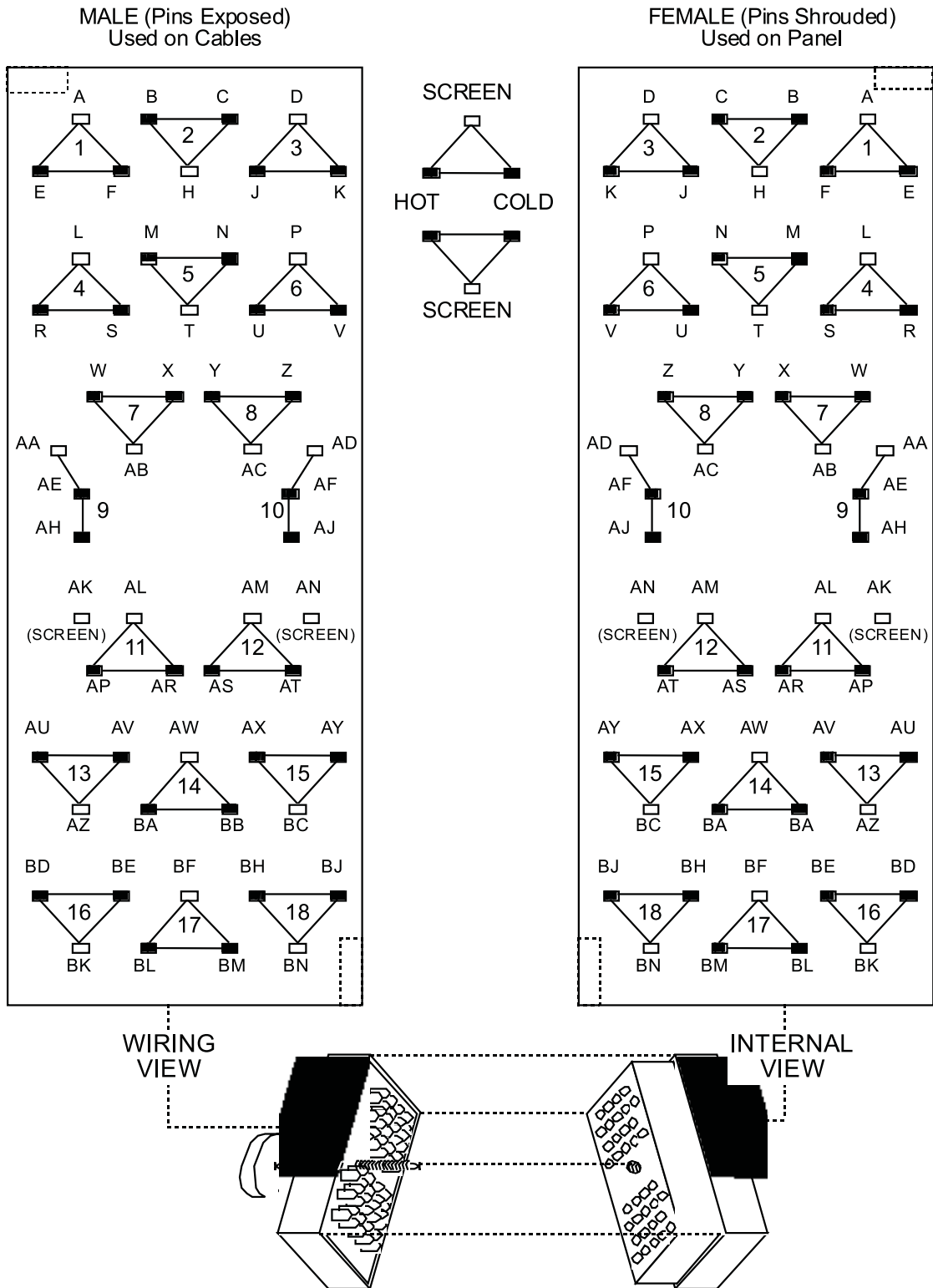




**SURROUND MONITOR - SCHEMATIC DIAGRAM**

## B2 - EDAC CONNECTIONS

Each EDAC can have up to 18 circuits, numbered 1 to 18.







## B4.1 - 16 x 16 CROSS POINT

EDAC 3			EDAC 4	EDAC 7			EDAC 8
CCT	INPUT	PIN	Input through	CCT	OUTPUT	PIN	Output Through
01	IN 1 Sc	A	Connections	01	OUT1 Sc	A	Connections
01	IN 1+	E	In Parallel	01	OUT1 +	E	In Parallel
01	IN 1-	F	with EDAC 3	01	OUT1 -	F	with EDAC7
02	IN 2 Sc	H		02	OUT2 Sc	H	
02	IN 2 +	B		02	OUT2 +	B	
02	IN 2 -	C		02	OUT2 -	C	
03	IN 3 Sc	D		03	OUT3 Sc	D	
03	IN 3 +	J		03	OUT3 +	J	
03	IN 3 -	K		03	OUT 3 -	K	
04	IN 4 Sc	L		04	OUT 4Sc	L	
04	IN 4 +	R		04	OUT 4+	R	
04	IN 4 -	S		04	OUT 4 -	S	
05	IN 5 Sc	T		05	OUT5 Sc	T	
05	IN 5 +	M		05	OUT 5 +	M	
05	IN 5 -	N		05	OUT 5 -	N	
06	IN 6 Sc	P		06	OUT6 Sc	P	
06	IN 6 +	U		06	OUT 6 +	U	
06	IN 6 -	V		06	OUT 6 -	V	
07	IN 7 Sc	AB		07	OUT7 Sc	AB	
07	IN 7+	W		07	OUT7 +	W	
07	IN 7 -	X		07	OUT7 -	X	
08	IN 8 Sc	AC		08	OUT8Sc	AC	
08	IN 8 +	Y		08	OUT 8 +	Y	
08	IN 8 -	Z		08	OUT 8 -	Z	
09	Not Used	AA		09	Not Used	AA	
09	Not Used	AE		09	Not Used	AE	
09	Not Used	AH		09	Not Used	AH	
10	IN 9 Sc	AD		10	Out9Sc	AD	
10	IN 9 +	AF		10	OUT9+	AF	
10	IN 9 -	AJ		10	OUT9-	AJ	
11	IN 10 Sc	AL		11	Out10Sc	AL	
11	IN 10 +	AP		11	OUT10+	AP	
11	IN 10 -	AR		11	OUT10-	AR	
12	IN 11 Sc	AM		12	Out11Sc	AM	
12	IN 11+	AS		12	OUT11+	AS	
12	IN 11-	AT		12	OUT11-	AT	
13	IN 12 Sc	AZ		13	Out12Sc	AZ	
13	IN 12+	AU		13	OUT12+	AU	
13	IN 12-	AV		13	OUT12-	AV	
14	IN 13 Sc	AW		14	Out13Sc	AW	
14	IN 13 +	BA		14	OUT13+	BA	
14	IN 13 -	BB		14	OUT13-	BB	
15	IN 14Sc	BC		15	Out14Sc	BC	
15	IN 14+	AX		15	OUT14+	AX	
15	IN 14 -	AY		15	OUT14-	AY	
16	IN 15Sc	BK		16	Out15Sc	BK	
16	IN 15+	BD		16	OUT15+	BD	
16	IN 15 -	BE		16	OUT15-	BE	
17	IN 16 Sc	BF		17	Out16Sc	BF	
17	IN 16 +	BL		17	OUT16+	BL	
17	IN 16 -	BM		17	OUT16-	BM	
18	Not Used	BN		18	Not Used	BN	
18	Not Used	BH		18	Not Used	BH	
18	Not Used	BJ		18	Not Used	BJ	

## B4.2 - 24 x 8 CROSS POINT

EDAC 1		EDAC 2		EDAC 5			EDAC 6
CCT	INPUT	PIN	Input Through	CCT	OUTPUT	PIN	Output Through
01	IN 1 Sc	A	Connections	01	IN 17 Sc	A	Connections
01	IN 1+	E	In Parallel	01	IN 17+	E	In Parallel
01	IN 1-	F	with EDAC 1	01	IN 17-	F	with EDAC 5
02	IN 2 Sc	H		02	IN 18Sc	H	
02	IN 2 +	B		02	IN 18+	B	
02	IN 2 -	C		02	IN 18-	C	
03	IN 3 Sc	D		03	IN 19Sc	D	
03	IN 3 +	J		03	IN 19+	J	
03	IN 3 -	K		03	IN 19-	K	
04	IN 4 Sc	L		04	IN 20 Sc	L	
04	IN 4 +	R		04	IN 20 +	R	
04	IN 4 -	S		04	IN 20 -	S	
05	IN 5 Sc	T		05	IN 21Sc	T	
05	IN 5 +	M		05	IN 21+	M	
05	IN 5 -	N		05	IN 21-	N	
06	IN 6 Sc	P		06	IN 22 Sc	P	
06	IN 6 +	U		06	IN 22 +	U	
06	IN 6 -	V		06	IN 22 -	V	
07	IN 7 Sc	AB		07	IN 23 Sc	AB	
07	IN 7+	W		07	IN 23 +	W	
07	IN 7 -	X		07	IN 23 -	X	
08	IN 8 Sc	AC		08	IN 24 Sc	AC	
08	IN 8 +	Y		08	IN 24 +	Y	
08	IN 8 -	Z		08	IN 24 -	Z	
09	Not Used	AA		09	Not Used	AA	
09	Not Used	AE		09	Not Used	AE	
09	Not Used	AH		09	Not Used	AH	
10	IN 9 Sc	AD		10	Out1Sc	AD	
10	IN 9 +	AF		10	OUT1+	AF	
10	IN 9 -	AJ		10	OUT1-	AJ	
11	IN 10 Sc	AL		11	Out2Sc	AL	
11	IN 10 +	AP		11	OUT2+	AP	
11	IN 10 -	AR		11	OUT2-	AR	
12	IN 11 Sc	AM		12	Out3Sc	AM	
12	IN 11+	AS		12	OUT3+	AS	
12	IN 11-	AT		12	OUT3-	AT	
13	IN 12 Sc	AZ		13	Out4Sc	AZ	
13	IN 12+	AU		13	OUT4+	AU	
13	IN 12-	AV		13	OUT4-	AV	
14	IN 13 Sc	AW		14	Out5Sc	AW	
14	IN 13 +	BA		14	OUT5+	BA	
14	IN 13 -	BB		14	OUT5-	BB	
15	IN 14Sc	BC		15	Out6Sc	BC	
15	IN 14+	AX		15	OUT6+	AX	
15	IN 14 -	AY		15	OUT6-	AY	
16	IN 15Sc	BK		16	Out7Sc	BK	
16	IN 15+	BD		16	OUT7+	BD	
16	IN 15 -	BE		16	OUT7-	BE	
17	IN 16 Sc	BF		17	Out8Sc	BF	
17	IN 16 +	BL		17	OUT8+	BL	
17	IN 16 -	BM		17	OUT8-	BM	
18	Not Used	BN		18	Not Used	BN	
18	Not Used	BH		18	Not Used	BH	
18	Not Used	BJ		18	Not Used	BJ	

### B4.3 - 32 x 8 CROSS POINT

EDAC 1			EDAC 2	EDAC 5			EDAC 6	EDAC 7			EDAC 8
CCT	IN	PIN	INPUT	CCT	IN	PIN	INPUT	CCT	OUT	PIN	OUTPUT
01	IN 1 Sc	A	Through	01	IN 17 Sc	A	Through	01	Out 1 Sc	A	Through
01	IN 1+	E	Connection	01	IN 17+	E	Connection	01	Out 1 +	E	Connection
01	IN 1-	F	In Parallel	01	IN 17-	F	In Parallel	01	Out 1 -	F	In Parallel
02	IN 2 Sc	H	With	02	IN 18 Sc	H	With	02	Out 2 Sc	H	With
02	IN 2 +	B	EDAC 1	02	IN 18 +	B	EDAC 5	02	Out 2 +	B	EDAC 7
02	IN 2 -	C		02	IN 18 -	C		02	Out 2 -	C	
03	IN 3 Sc	D		03	IN 19 Sc	D		03	Out 3 Sc	D	
03	IN 3 +	J		03	IN 19 +	J		03	Out 3 +	J	
03	IN 3 -	K		03	IN 19 -	K		03	Out 3 -	K	
04	IN 4 Sc	L		04	IN 20 Sc	L		04	Out 4 Sc	L	
04	IN 4 +	R		04	IN 20 +	R		04	Out 4 +	R	
04	IN 4 -	S		04	IN 20 -	S		04	Out 4 -	S	
05	IN 5 Sc	T		05	IN 21 Sc	T		05	Out 5 Sc	T	
05	IN 5 +	M		05	IN 21+	M		05	Out 5 +	M	
05	IN 5 -	N		05	IN 21 -	N		05	Out 5 -	N	
06	IN 6 Sc	P		06	IN 22 Sc	P		06	Out 6 Sc	P	
06	IN 6 +	U		06	IN 22 +	U		06	Out 6 +	U	
06	IN 6 -	V		06	IN 22 -	V		06	Out 6 -	V	
07	IN 7 Sc	AB		07	IN 23 Sc	AB		07	Out 7 Sc	AB	
07	IN 7+	W		07	IN 23 +	W		07	Out 7 +	W	
07	IN 7 -	X		07	IN 23 -	X		07	Out 7 -	X	
08	IN 8 Sc	AC		08	IN 24 Sc	AC		08	Out 8 Sc	AC	
08	IN 8 +	Y		08	IN 24 +	Y		08	Out 8 +	Y	
08	IN 8 -	Z		08	IN 24-	Z		08	Out 8 -	Z	
09	N/A	AA		09	N/A	AA		09	N/A		
09	N/A	AE		09	N/A	AE		09	N/A		
09	N/A	AH		09	N/A	AH		09	N/A		
10	IN 9 Sc	AD		10	IN 25 Sc	AD		10	N/A		
10	IN 9 +	AF		10	IN 25 +	AF		10	N/A		
10	IN 9 -	AJ		10	IN 25 -	AJ		10	N/A		
11	IN10Sc	AL		11	IN 26 Sc	AL		11	N/A		
11	IN 10+	AP		11	IN 26 +	AP		11	N/A		
11	IN 10 -	AR		11	IN 26 -	AR		11	N/A		
12	IN11Sc	AM		12	IN 27 Sc	AM		12	N/A		
12	IN 11+	AS		12	IN 27+	AS		12	N/A		
12	IN 11-	AT		12	IN 27-	AT		12	N/A		
13	IN12Sc	AZ		13	IN 28 Sc	AZ		13	N/A		
13	IN 12+	AU		13	IN 28+	AU		13	N/A		
13	IN 12-	AV		13	IN 28-	AV		13	N/A		
14	IN13Sc	AW		14	IN 29 Sc	AW		14	N/A		
14	IN 13+	BA		14	IN 29 +	BA		14	N/A		
14	IN 13 -	BB		14	IN 29 -	BB		14	N/A		
15	IN14Sc	BC		15	IN 30Sc	BC		15	N/A		
15	IN 14+	AX		15	IN 30+	AX		15	N/A		
15	IN 14 -	AY		15	IN 30 -	AY		15	N/A		
16	IN15Sc	BK		16	IN 31Sc	BK		16	N/A		
16	IN 15+	BD		16	IN 31+	BD		16	N/A		
16	IN 15 -	BE		16	IN 31 -	BE		16	N/A		
17	IN16Sc	BF		17	IN 32 Sc	BF		17	N/A		
17	IN 16+	BL		17	IN 32 +	BL		17	N/A		
17	IN 16 -	BM		17	IN 32 -	BM		17	N/A		
18	N/A	BN		18	Not Used	BN		18	N/A		
18	N/A	BH		18	Not Used	BH		18	N/A		
18	N/A	BJ		18	Not Used	BJ		18	N/A		

## C1 FAME 2 PC CONFIGURATION

### C1.1 - SLOT 1 GRAPHICS DRIVER CARD.

This card is a Cirrus Logic VGA adapter. It has TFT and VGA display outputs.

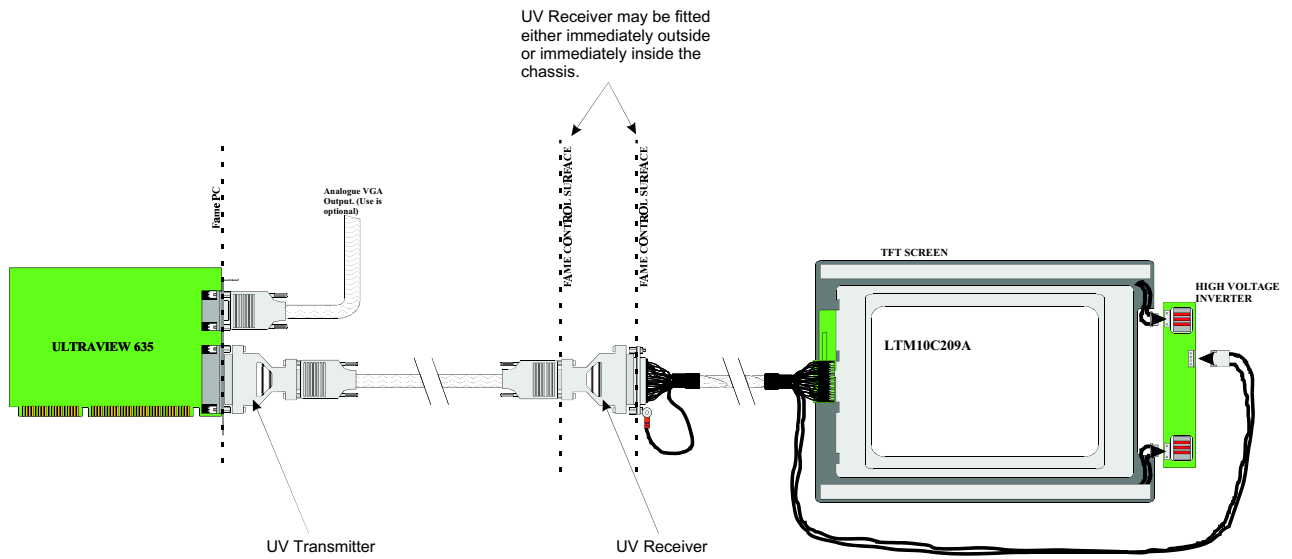
26 way Hi Density - TFT display end

PIN	FUNCTION
Pin 1	B1
Pin 2	B2
Pin 3	B3
Pin 5	G0
Pin 6	G1
Pin 7	G2
Pin 8	G3
Pin 10	R0
Pin 11	R1
Pin 12	R2
Pin 13	R3
Pin 18	SHIFT CLOCK
Pin 26	ENAB
Pin 22	VSYNC
Pin 35	HSYNC

15 way Hi Density - PC External VGA display end, resolution 640 x 480

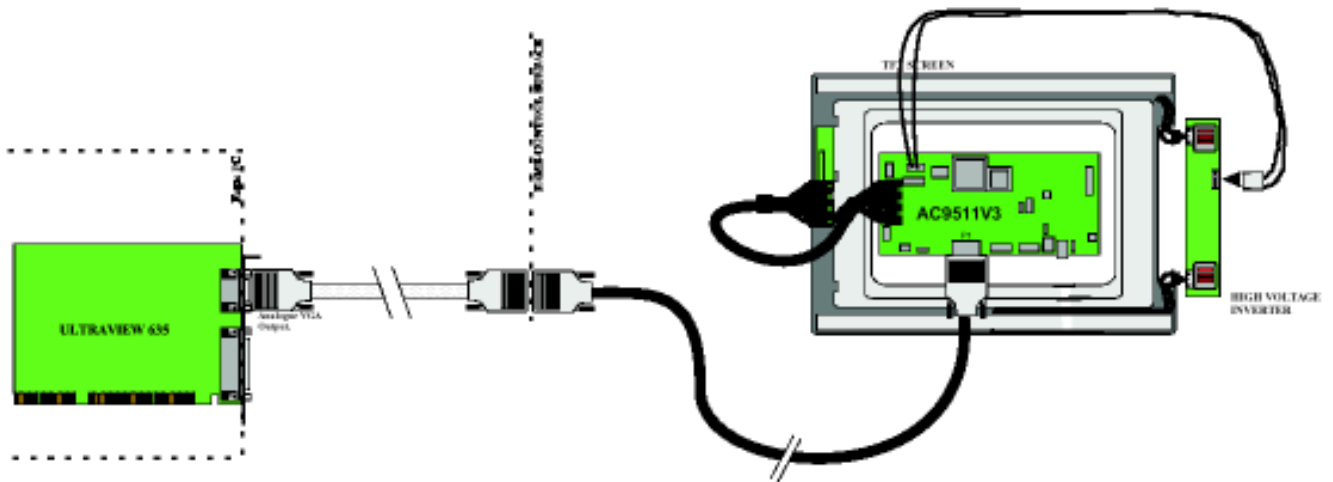
PIN	FUNCTION
Pin 1	Red
Pin 2	Green
Pin 3	Blue
Pin 4	GND
Pin 5	GND
Pin 6	GND
Pin 7	GND
Pin 8	GND
Pin 9	N/C
Pin 10	GND
Pin 11	GND
Pin 12	N/C
Pin 13	HSYNC
Pin 14	VSYNC
Pin 15	N/C

## FAME 2 PC TO MIXER VIDEO CONNECTOR < 10 METERS



When the cable length between the PC and the Surface, is less than 10 meters, a cable as illustrated in the above diagram is supplied.

## FAME 2 PC TO MIXER VIDEO CONNECTOR > 10 METERS



When the cable length between the PC and the Surface, is more than 10 meters, a cable as illustrated in the above diagram is supplied.

## C1.2 - SLOT 2 CONTROL SURFACE COMMUNICATIONS

This card is known as the '979 card. It has two connections.

One is used to communicate with the control surface Master Scan Processor card, the other is used to output MIDI data.

25 Way F/M D-Type flat ribbon

PIN	FUNCTION
Pin1	Screen
Pin2	XMT -FF (-)
Pin3	XMT - CLK (-)
Pin4	XMT - DAT (-)
Pin5	XMT - WR (-)
Pin6	N/C
Pin7	N/C
Pin8	RCV - FF (-)
Pin9	RCV - CLK (-)
Pin10	RCV - DAT (-)
Pin11	RCV - WR (-)
Pin12	N/C
Pin13	FRAME (-)
Pin14	XMT - FF +
Pin15	XMT - CLK +
Pin16	XMT - DAT +
Pin17	XMT - WR +
Pin18	N/C
Pin19	N/C
Pin20	RCV -FF +
Pin21	RCV - CLK +
Pin22	RCV - DAT +
Pin23	RCV - WR +
Pin24	N/C
Pin25	FRAME +

MIDI Control. 9 way F/M D type.

PIN	FUNCTION
Pin1	N/C
Pin2	N/C
Pin3	DGND
Pin4	MIDI TX (-)
Pin5	MIDI TX (+)
Pin6	MIDI RX (-)
Pin7	MIDI RX (+)
Pin8	DGND
Pin9	N/C

### C1.3 - SLOT 3 OPTIONAL GPO FADER START CARD

This card provides 40 General Purpose Outputs, software defined.

PIN	FUNCTION	PIN	FUNCTION
1	0V	26	GPO 21
2	GPO 2	27	GPO 24
3	GPO 5	28	GPO 25
4	GPO 8	29	GPO 28
5	GPO 9	30	GPO 31
6	GPO 12	31	GPO 36
7	GPO 15	32	GPO 39
8	GPO 34	33	+12V
9	GPO 19	34	0V
10	GPO 22	35	GPO 3
11	0V	36	GPO 6
12	GPO 26	37	0V
13	GPO 29	38	GPO 10
14	GPO 32	39	GPO 13
15	GPO 37	40	GPO 16
16	GPO 40	41	GPO 17
17	<b>+5V</b>	42	GPO 20
18	GPO 1	43	GPO 23
19	GPO 4	44	GPO 35
20	GPO 7	45	GPO 27
21	GPO 33	46	GPO 30
22	GPO 11	47	0V
23	GPO 14	48	GPO 38
24	0V	49	-12V
25	GPO 18	50	+5V

## C1.4 - SLOT 4 SURROUND MONITOR, MATRIX & RCMA CONTROL BUS

This card is called the 1609 Serial Expansion. It provides communications between the PC and the ancillary units. The communication protocol used is unique to Amek, and is named X-Link. Each device on the bus must have a unique ID number.

25 way D- Type Male Connector to 9 Way Male D-Type Connector

PIN	FUNCTION	PIN	FUNCTION
PIN 1	RX	PIN 1	TX (FROM PIN 5 )
PIN 2		PIN 2	
PIN 3	GND	PIN 3	RX (FROM PIN 1)
PIN 4		PIN 4	
PIN 5	TX	PIN 5	GND (FROM PIN 3)
PIN 6		PIN 6	
PIN 7		PIN 7	
PIN 8		PIN 8	
PIN 9		PIN 9	
PIN 10			
PIN 11			
PIN 12			
PIN 13			
PIN 14			
PIN 15			
PIN 16			
PIN 17			
PIN 18			
PIN 19			
PIN 20			
PIN 21			
PIN 22			
PIN 23			
PIN 24			
PIN 25			

## C1.5 - PC COMMUNICATIONS PORT A

This port is used for RS232 communications with the Touch Screen Driver card.

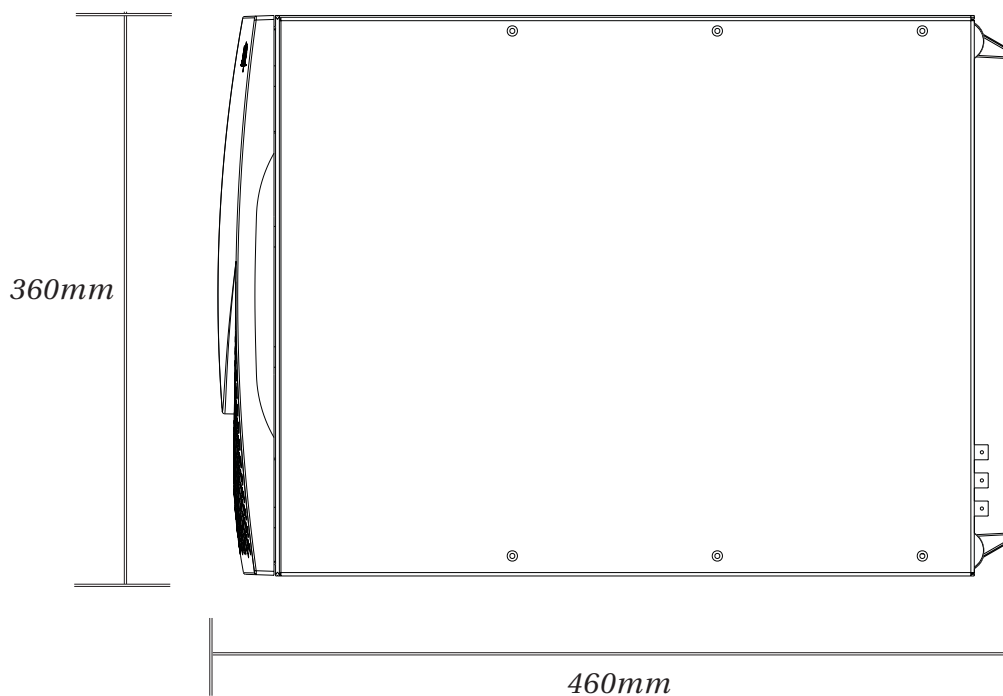
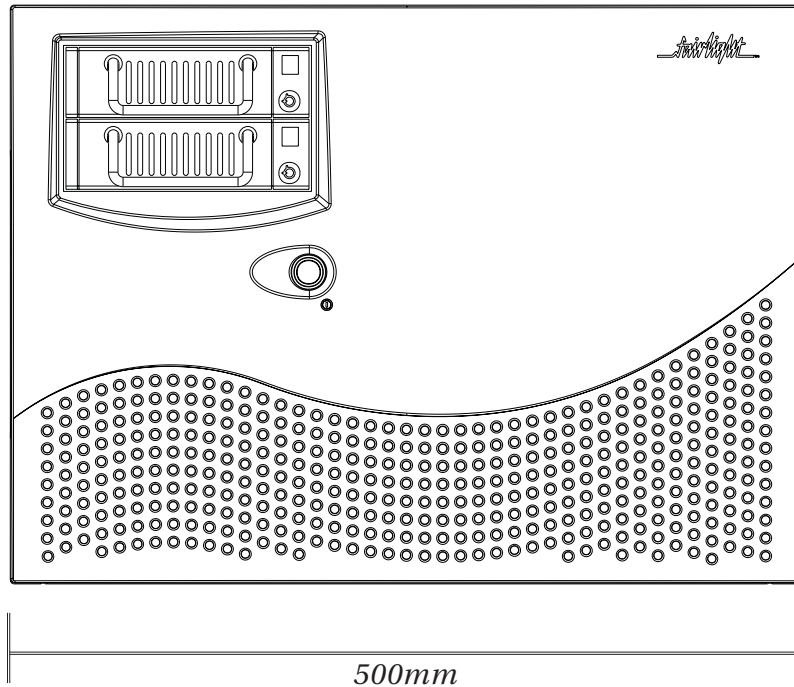
9 Way Male D-Type Connector.

PIN	FUNCTION
PIN 1	N/C
PIN 2	TX
PIN 3	RX
PIN 4	N/C
PIN 5	GND
PIN 6	N/C
PIN 7	N/C
PIN 8	N/C
PIN 9	N/C



## D1 DIMENSIONS

### D1.1 - FAME 2 ENGINE



## **D1.2 FAME 2 SURFACE DIMENSIONS**

Max Height: 996mm

Max Width: 24 fader stand alone 1852mm

16 fader stand alone 1486mm

8 fader stand alone 1120mm

24 fader drop through 1764mm

16 fader drop through 1398mm

8 fader drop through 1032mm

Depth: 990mm Stand alone

676mm Drop through

Weight: 24 fader stand alone 190 kg

(Approx. Net) 16 fader stand alone 130 kg

8 fader stand alone 80 kg

24 fader drop through 170 kg

16 fader drop through 115 kg

8 fader drop through 70 kg

## **D1.3 FAME 2 POWER REQUIRMENTS**

Input	85-275 VAC
	49-63Hz 300VA
	10A - 110V
	6.3A- 240V

Notes :