Prodigy 2

Installation Manual

Software Version 16.2
Part Number: DPR2202-C
Document Number: 163

Manual by: Owen P Walker
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IMPORTANT NOTICE

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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 Prodigy 2 Surface and Engine conform to the EMC directives :-

EN 55022:1998 Class A - Emissions

EN 55024:1998 Class 3 - Susceptibility

The Prodigy 2 Surface 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 Catergory	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'eclair, 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.

Mains Attachment Plugs		
Standards applicable for Mains Plugs	**Rating**	**Country**
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
Mains Power Leads		
Standards applicable for Mains Leads	**Rating**	**Country**
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

United Kingdom	USA – West Coast
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
France	**USA – East Coast**
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 45th Street, Suite 605 New York, NY 10036 USA Tel: +1 212 819 1289 Fax: +1 212 819 0376
Germany	**Japan**
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

Asia - Pacific
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 Prodigy 2 is a non-linear audio recording, editing and mixing solution from Fairlight ESP. The system marries together the MFX user interface and Prodigy 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 Prodigy 2 interface incorporates a dedicated editing Console, a 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 Prodigy professional audio suite.

Prodigy 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 Prodigy 2 mixing control surface, please refer to the Prodigy 2 *Mix and Automation Manual.*

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

1.2 MANUAL SUMMARY

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

1.3 System Overview

The Prodigy 2 is made up of three interconnecting components, the Prodigy 2 Control surface, a Surround Monitor Unit and an Engine, which contains all the electronic circuitry, disk drives and audio I/O necessary run the system.

Note Flat Screens in picture not supplied with system.

Prodigy 2 Control and Editor Surface
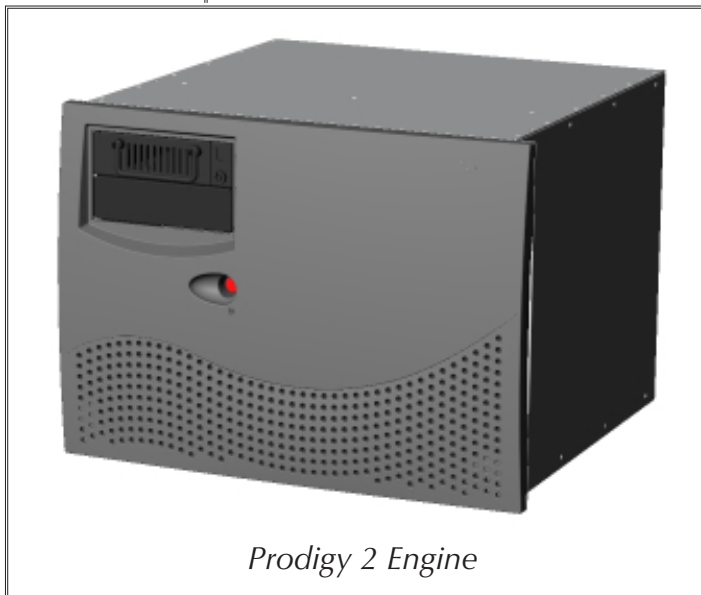
Prodigy 2 Engine

Surround Monitor

1.4 UNPACKING

It is advisable that before any installation work is attempted that 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	QUANTITY	LENGTH
PRODIGY 2 Console	Control surface	1	
PRODIGY 2 Engine	19 inch rack (8U)	1	
Monitor Box	Analogue Monitoring unit (3U)	1	
Controller cable	25 D Way to 37 D Way Cable	1	10 Meters
EDAC Connector Kit	EDAC Connectors for Monitor Unit	1	
X-Link control cable	9 Way to 9 Way Monitor Control	1	10 Meters
Mixer Control cable	25 way MFX to Surface Control Cable	1	10 Meters

OPTIONAL USER SUPPLIED ITEMS	QUANTITY
SVGA Monitor for Surface Display (Panasonic Panaflat LC50 or LC50S recommended)	1
SVGA Monitor for MFX display (Panasonic Panaflat LC50 or LC50S recommended)	1
Video monitor for video machines (Panasonic Panaflat LC50 or LC50S recommended, with external Composite Video to VGA convertor)	1
1 x 12V electret talkback microphone	1

1.6 SYSTEM OVERVIEW

Prodigy 2 consists of the following 3 elements:

1.6.1 PRODIGY 2 ENGINE

This 8U rack contains all of the digital processing, audio inputs and outputs, synchronization functions, VTR remote control ports, timecode Ports and disk systems for Prodigy 2. For detailed instructions on installing the Prodigy 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 Prodigy 2 Surface.

1.6.2 PRODIGY 2 CONTROL SURFACE

The Prodigy 2 Surface acts as a physical interface for the engine by means of a high speed serial connection via a an internal PC within 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 trackball and keyboard fitted 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 Prodigy 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 MONITOR BOX

The 3U Monitor box takes care of all the monitoring for Prodigy 2. 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. Please see the Appendix at the back of this manual for further set up instructions.

1.6.4 AUDIO I/O

Prodigy 2 comes configured as standard with :-

• 24 Analog - physical inputs and outputs

• 24 Digital physical inputs and outputs

The Physical I/O Connections are located on the rear panel of the Prodigy 2 Engine. For Wiring and Connector details please read page 47 within this Manual.

For more information on the mixer configuration please read the Prodigy 2 Mix Autmation Manual

1.7 PRODIGY 2 CONTROL CABLE INTERCONNECTIONS

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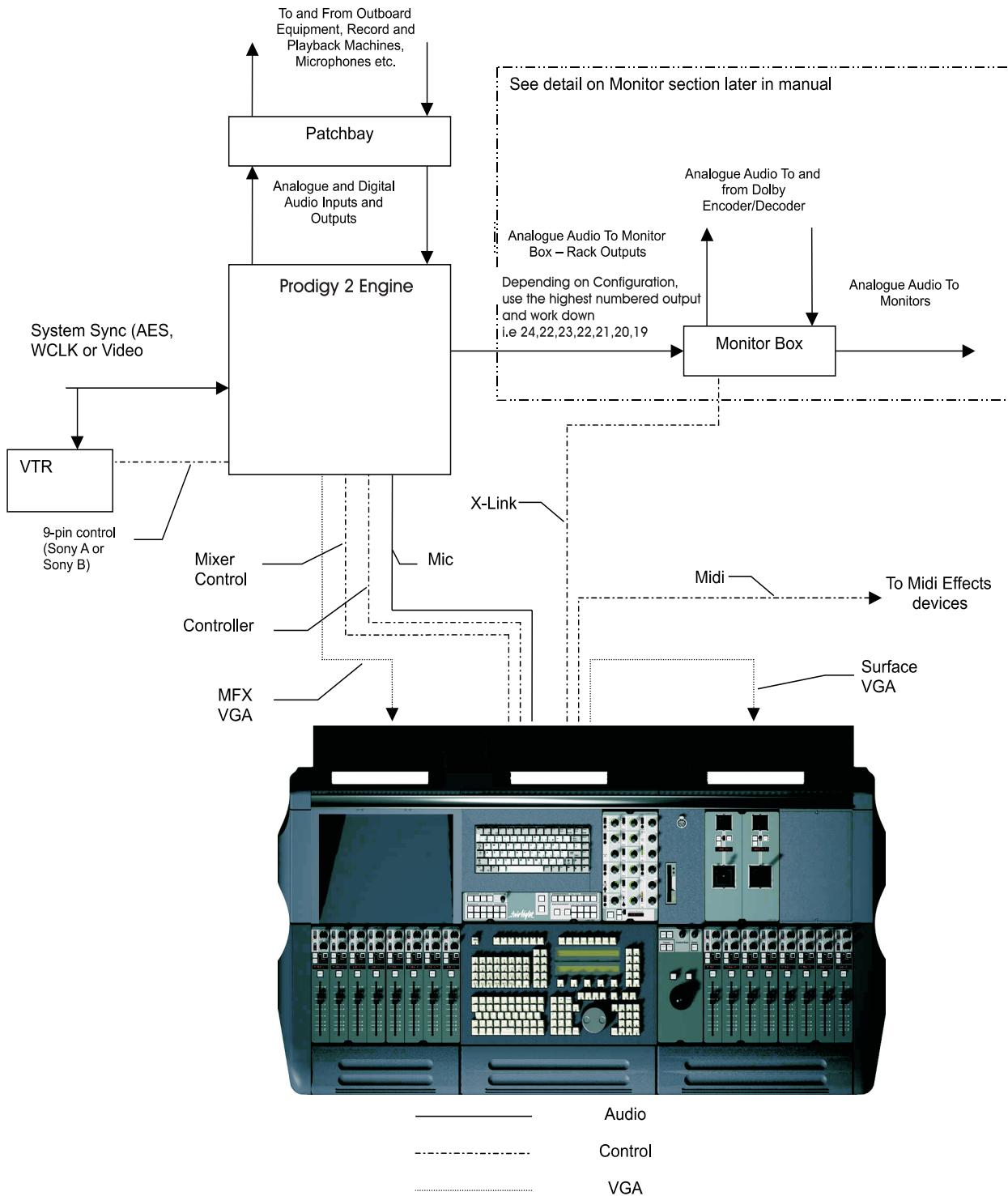
1.8 STATIC PRECAUTIONS

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.
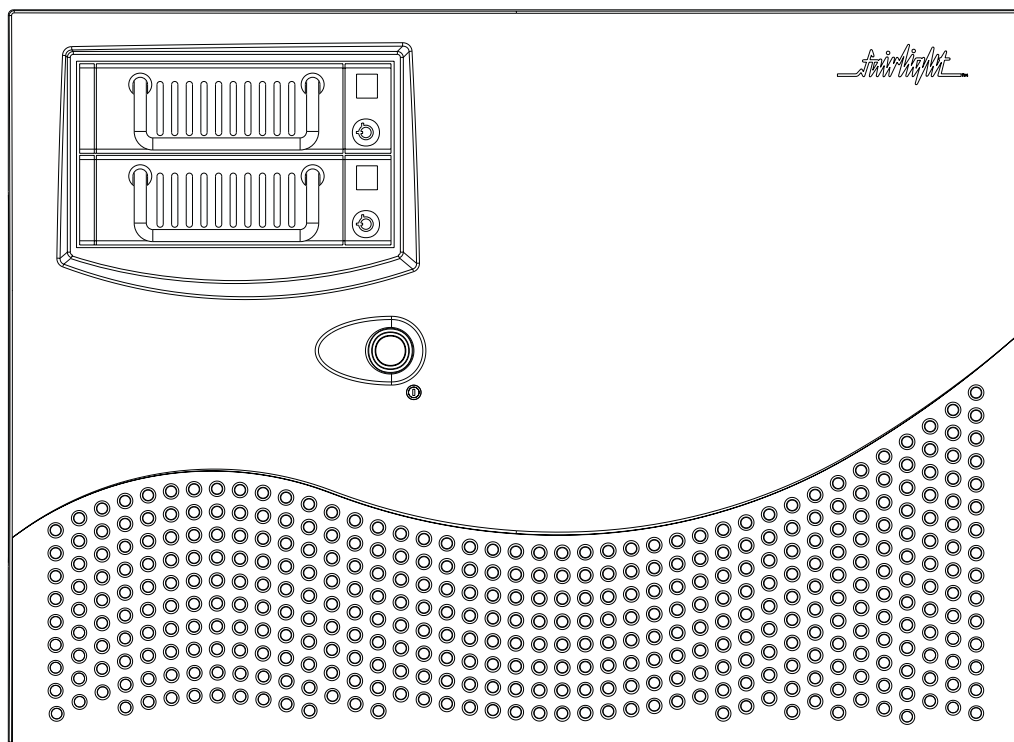
Engine Front Panel

1 Install the Engine into a 19" Rack unit. Once this is done, the front facia 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.

4 Retaining Screws

Engine front Facia

4 Retaining Screws
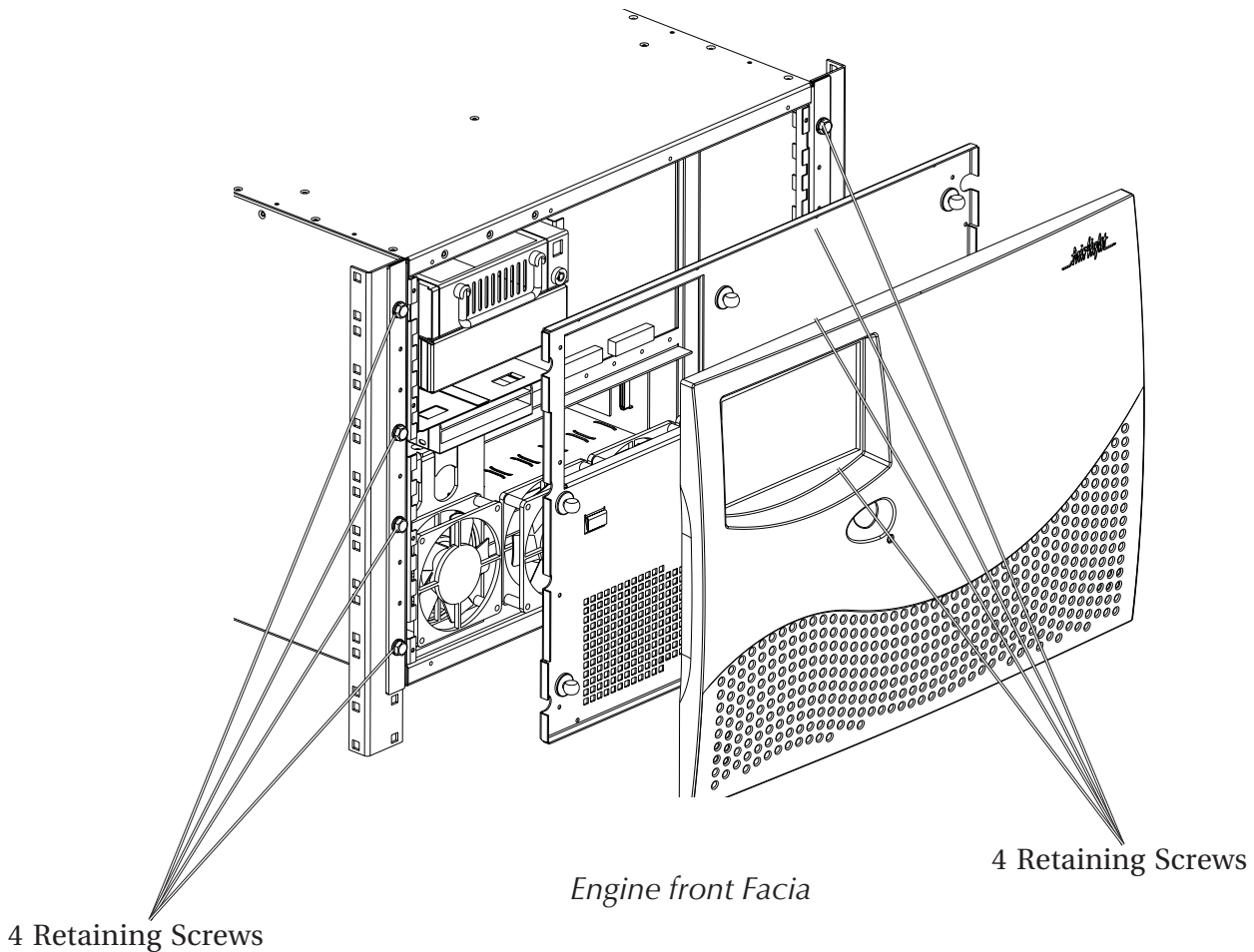
2.2 ELECTRICAL INSTALLATION

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 Requirments, See Appenix 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, ethernet and GPIO .

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

To allow comunication 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 3 QDC cards, which perform all analogue and digital I/O Connections and Processing.

Each QDC card can contain a maximum of -

16 Analogue Inputs and 32 Analogue Outputs.

or a maximum of 32 Digital Inputs and 32 DigitalOutputs and 16 Analogue Inputs per board.

Please refer to the Appendix - page 41, for further details on the Audio I/O and System I/O Panels.
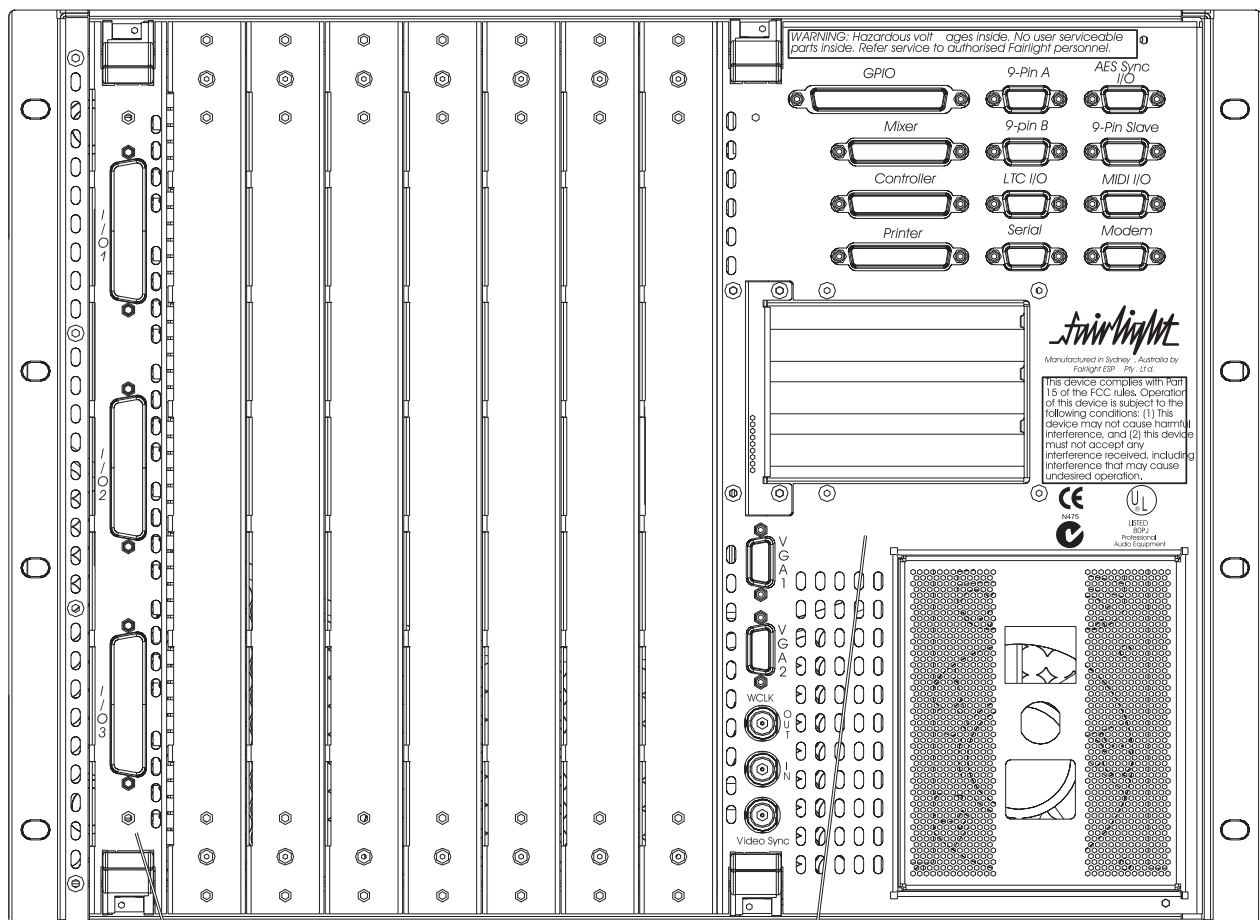
Prodigy2 Engine Back Panel

QDC Card

System I/O Panel

2.4 Cabling

Once the mechanical installation of the Engine is complete, a number of cables must be connected. Some of these connect various components together and may have been supplied with the Prodigy 2 system, others provide connection to the rest of the environment.

The interconnecting cables suppled as standard may not be long enough for your installation, in which case you must provide longer cables. The following information gives specific wiring details and highlights any special requirements, however as with all equipment not supplied with the Prodigy 2 system, it is the installer's responsibility to ensure that these cables comply fully with the applicable safety and EMC regulations.

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 Prodigy 2 system must be of the correct 110 Ohm impedence.

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 Prodigy 2 Engine.

2   Connect the 15 way D connector of a Video cable to VGA 1 connector on the System I/O Panel on the rear of the Prodigy 2 Engine.

3   Connect the Console Controller cable to the connector on the System I/O panel located on the rear of the Prodigy 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 Prodigy 2 Engine.

7.   Connect an IEC power lead to the back of the Prodigy 2 surface.

8.   Connect the mix cable to the Mixer port on the back of the Engine.

SECTION 3 PHYSICAL INSTALLATION - CONTROL SURFACE

3.1 INTRODUCTION

The Prodigy 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 Prodigy 2 *Edit User Manual and the* Prodigy 2 *Mix Automation Manual.*
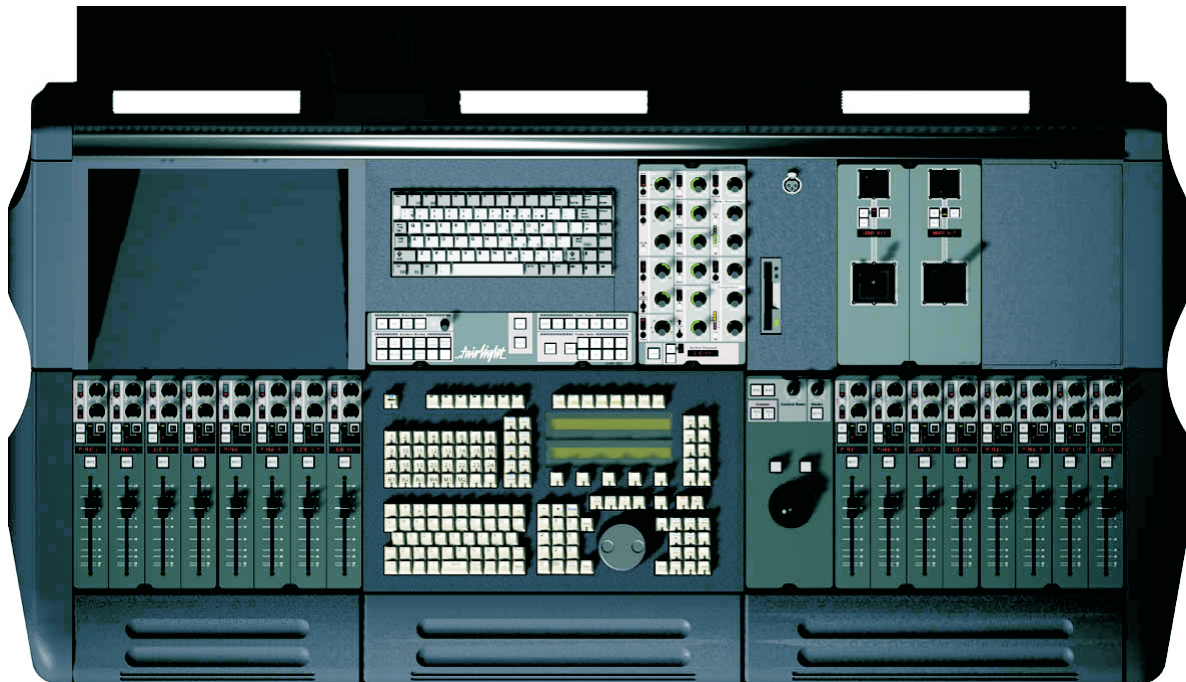
3.2 MECHANICAL INSTALLATION

The Prodigy 2 surface should be sat on a level horizontal surface.
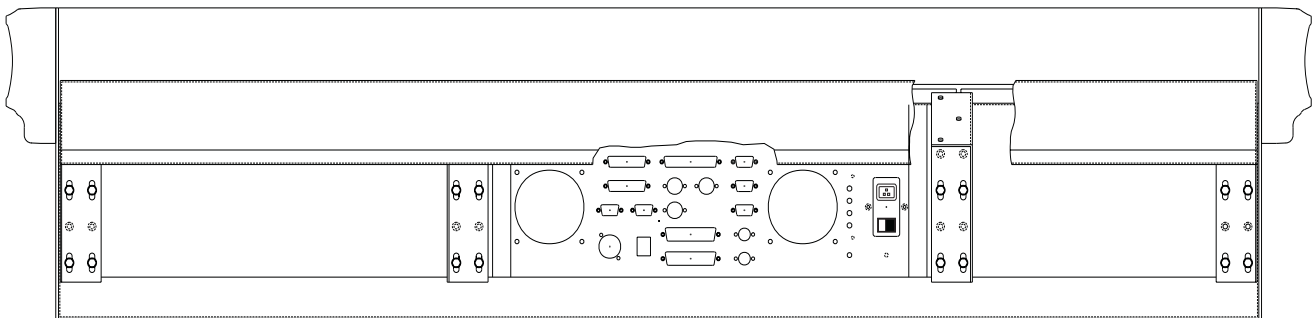
Prodigy 2 Surface Rear Panel

3.3 CONNECTING THE VARIOUS PRODIGY 2 SURFACE COMPONENTS
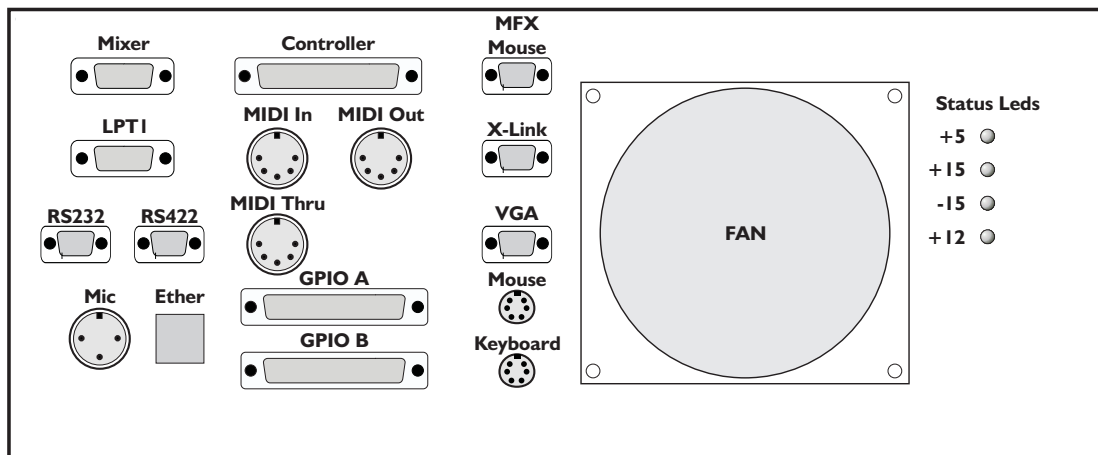
1. Position the console to allow access to the rear connector panel.

2. Locate the Engine and Surround Monitor, with their associated power and control cables :-

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. From the **Controller Port**, connect the 37 way to 25 way the 25 way cable to the **Controller Port**, on the rear of the Prodigy 2 Engine.

5. Fromthe **X-Link Port**, connect the 9 way to 9 way D type Cable to the Surround Monitor Box **X-Link Port**.

6. From **the Mixer Port**, connect the 25 way male to 25 way male cable to the **Mixer Port** on the System I/O Panel, on the back panel of the Prodigy 2 Engine.

7. From **Midi Ports**, connect to a Midi compatible device. A cable is not supplied but pin out information can be located at the back of this Manual within the Appendix.

8. An external VGA Monitor is required to display the Automation software program. This Monitor and cable are not supplied, but should be connected to the **VGA Port**. This is a 15 way Hi Density connector, the pin out information can be located at the back of this Manual within the Appendix.

9. From the **GPIO Ports,** connect to a GPIO compatible device.

3.4 SURROUND MONITOR AND REMOTE MIC AMP SETUP.

The Surround Monitor unit communicates with the surface 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 9 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 Monitor unit to the Master Control Input on the RCMA.

3.5 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 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.

3.5.1 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.

3.5.2 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.

3.5.3 MAINS CONNECTION

 Do not replace the cable supplied with the power supply.

The mains cable contains three cores which are colour coded:

Brown	**live**
Blue	**neutral**
Green/yellow	**earth**

The earth connection must always be made.

3.5.4 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 Prodigy 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.
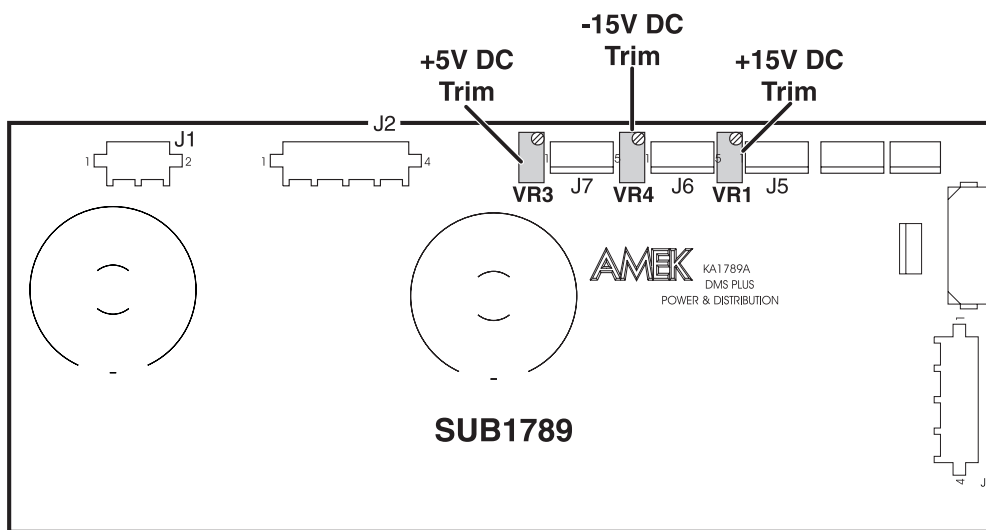
Prodigy 2 Surface Internal Power Distribution Board

3.6 INTERNAL AND EXTERNAL SCSI DEVICES

The Prodigy 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 last device on the chain should be terminated with all other devices being looped through. The cables should be the shortest length possible to avoid SCSI bus corruption.

See Section 5 - Configuring Disk Drives

2 Kingston or Exabyte Drive Bays

FAME 2 Engine Front Facia

Additional 3.5" Drive Bay

System Boot Drive
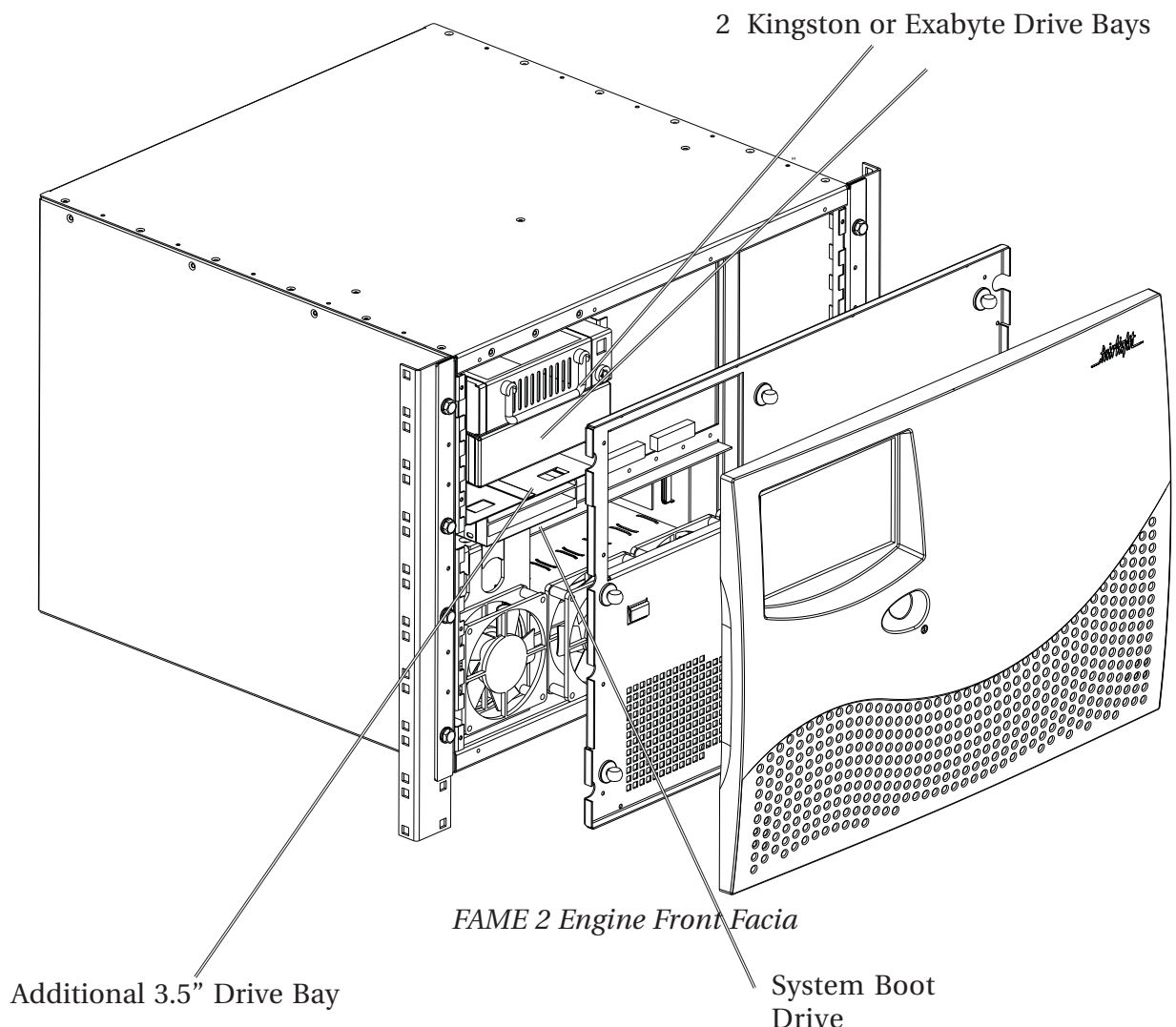
SECTION 4 - SYSTEM CONFIGURATION

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. *See Section 5 Configuring Disk Drives.*

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.

At this point the system is booting up if all has gone to plan. 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.
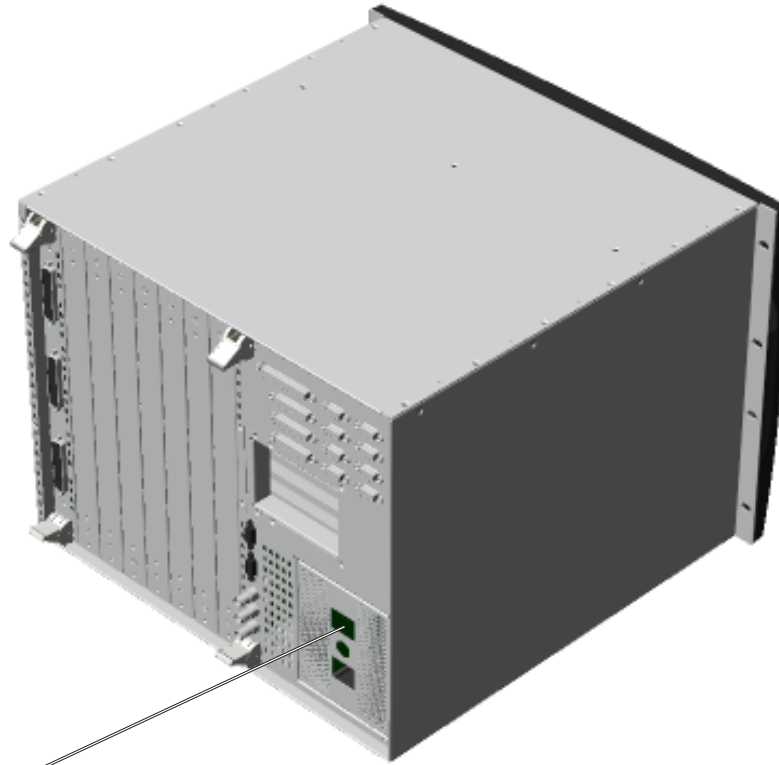
Back Panel Power Switch   *Prodigy 2 Engine Back Panel*

Prodigy 2 Engine Front Panel

Front Panel Power Switch

4.2.2 PRODIGY 2 CONSOLE

1. Turn on the power switch on the back of the Prodigy 2, the Console and internal PC will boot up.
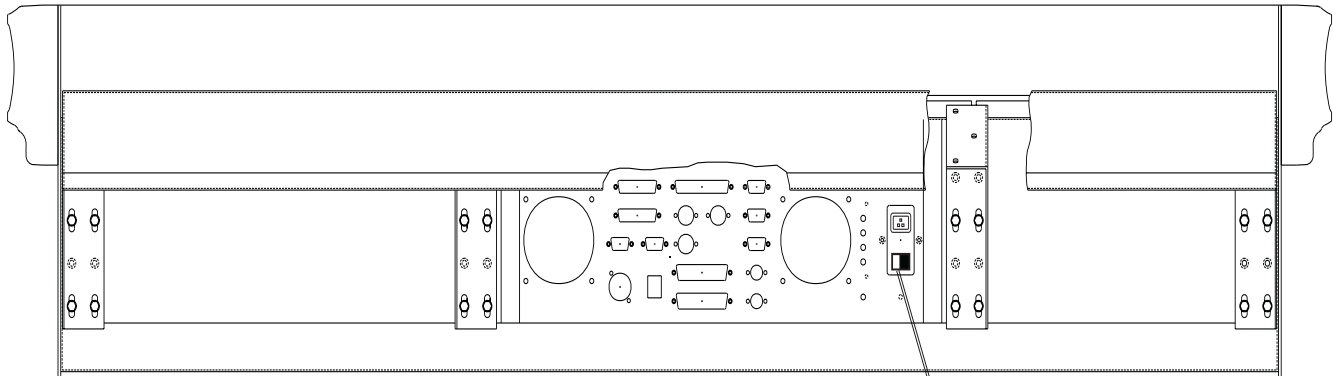
Prodigy 2 Console Back Panel

Power Switch

4.3 PRODIGY 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    VENDOR    PRODUCT        FIRM CAPACITY SECT    MB
----------------------------------------------------------------------
01 -    Fixed Disk    IBM       DRVS09V        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 TVT 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 TVT Drivers (TCP/IP Port 2700) .......................................
```

2. If the Prodigy 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 *Prodigy 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 ENGINE SOFTWARE INSTALLATION

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

4.7.1 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 Prodigy 2 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.

Single Ended Ultra Wide SCSI Buss

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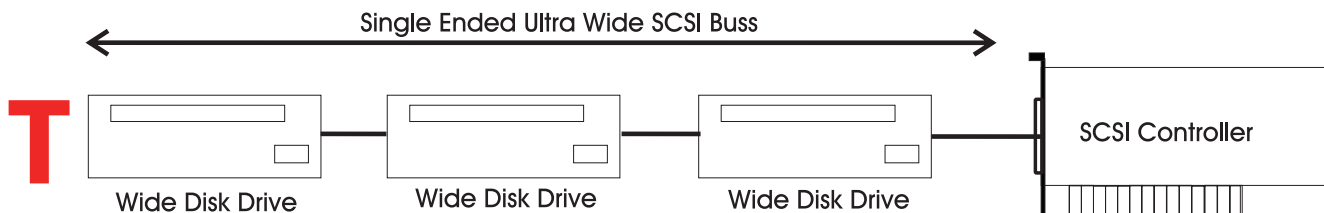
All cabling to SCSI devices must be kept as short as possible. The maximum length for the entire buss must not exceed more than 1.5 meters. It is highly recommended that drive enclosures with an active backplane be used to reduce cable lengths.

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.

Single Ended Wide based SCSI Buss

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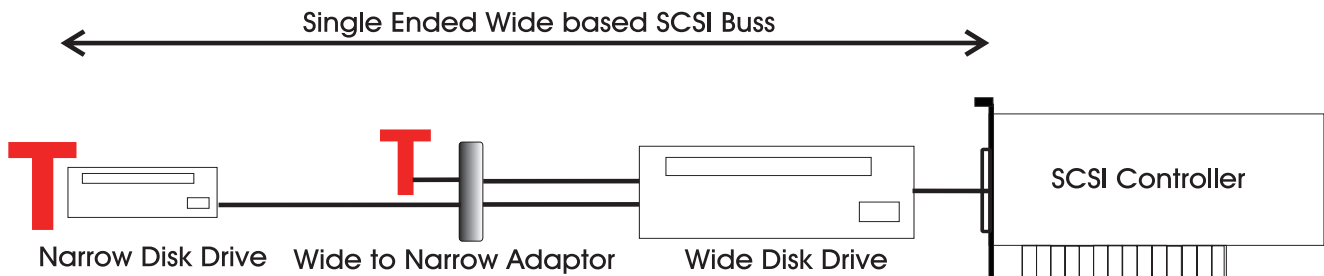
If the Engine is configured to run in Narrow mode, an Adaptor without High Byte termination may be used.

Remember to always terminate the last drive in the chain.

Single Ended Narrow based SCSI Buss

Narrow Disk Drive   Wide Disk Drive   SCSI Controller
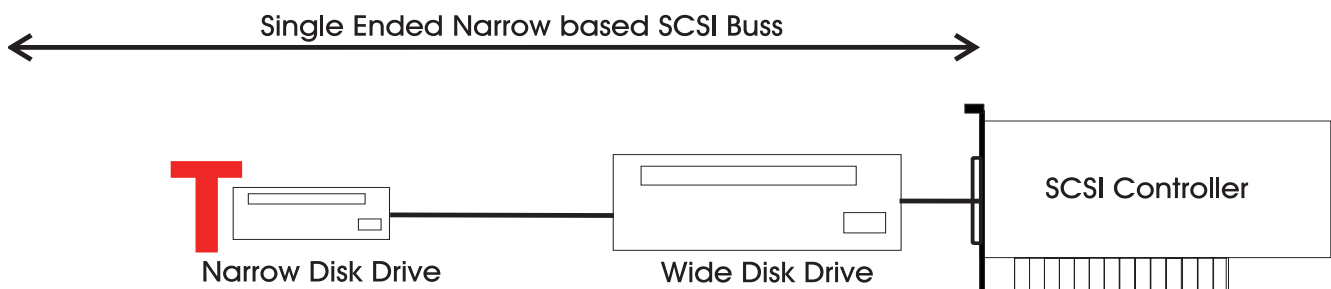
5.2 CHECKING FOR NEWLY INSTALLED SCSI DEVICES

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 Prodigy 2 Engine is completely reassembled and that there are no loose cables.

2. Power up the Prodigy 2 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 " < 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 Prodigy 2 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 Prodigy 2 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 - BISCUIT PC CONFIGURATION

The Prodigy2 Surface has an embedded miniature PC, within the chasis, which runs all the automation software.

The PC comprises of a single board based Cyrix 233Mhz computer with 64 MB SDRAM and an on board flash memory card instead of a conventional hard drive, with a 16MB capacity, running IBM PC DOS 2000, an advanced version of MS-DOS 6.22.

A high speed link card called the HSL card connects on to the PC board. This is a proprietary Fairlight designed card which converts MIDI, serial, parallel and the X link signals between the Prodigy 2 Surface and the Engine.

Below is a simplified picture of the board layout showing the connections used.

SVGA Connector   **PS/2 Keyboard + Mouse Connector**   **PC 104 Connector**

Top of card

Power Connector

16MB Compact Flash Disk Card

64MB SDRAM

Underside of card

1035 Comms Connector

X-Link Connector

Dip Switches should be set to OFF

1 2 3 4

HSL Comms Card

MIDI Connector

Prodigy2 Surface to Engine

6.2 BIOS SETTINGS

Once the Prodigy Control Surface has been powered up, the VGA output will display the biscuit PC's start up screen. If the BIOS configuration needs to be accessed the :-

<DEL>

key should be pressed.

The following settings are used by Fairlight when configuring the BIOS of the Biscuit PC.

First select the option to display the **BIOS FEATURES SETUP**

Boot sequence	**A,C,SCSI**
Boot Up NumLock Status	**OFF**

Press ESC to exit this menu.

Select **IDE HDD AUTO DETECTION**

Primary Master	**N**
Primary Slave	**N**
Secondary Master	**Y**
Secondary Slave	**N**

Goto **INTEGRATED PERIPHERALS**

Build In CPU Audio   Disabled

Video Memory   **4.0 M**

Then Save and exit the BIOS setup.

6.3 SOFTWARE INSTALLATION FOR PRODIGY 2 SURFACE

From time to time software will need to be installed onto the Prodigy 2 surface.

Prodigy software comes on one floppy disk.

Insert the disk into the floppy disk drive on the front of the Prodigy 2 Surface and type the following command at the dos prompt :-

a:install

press enter, then follow the on screen instructions.

Section 7 - Routine Maintenance

7.1 Cleaning The Exterior Of The Units

You should clean the Prodigy 2 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.

7.2 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.

7.3 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 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 facia 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.

Prodigy 2 Engine Front Panel
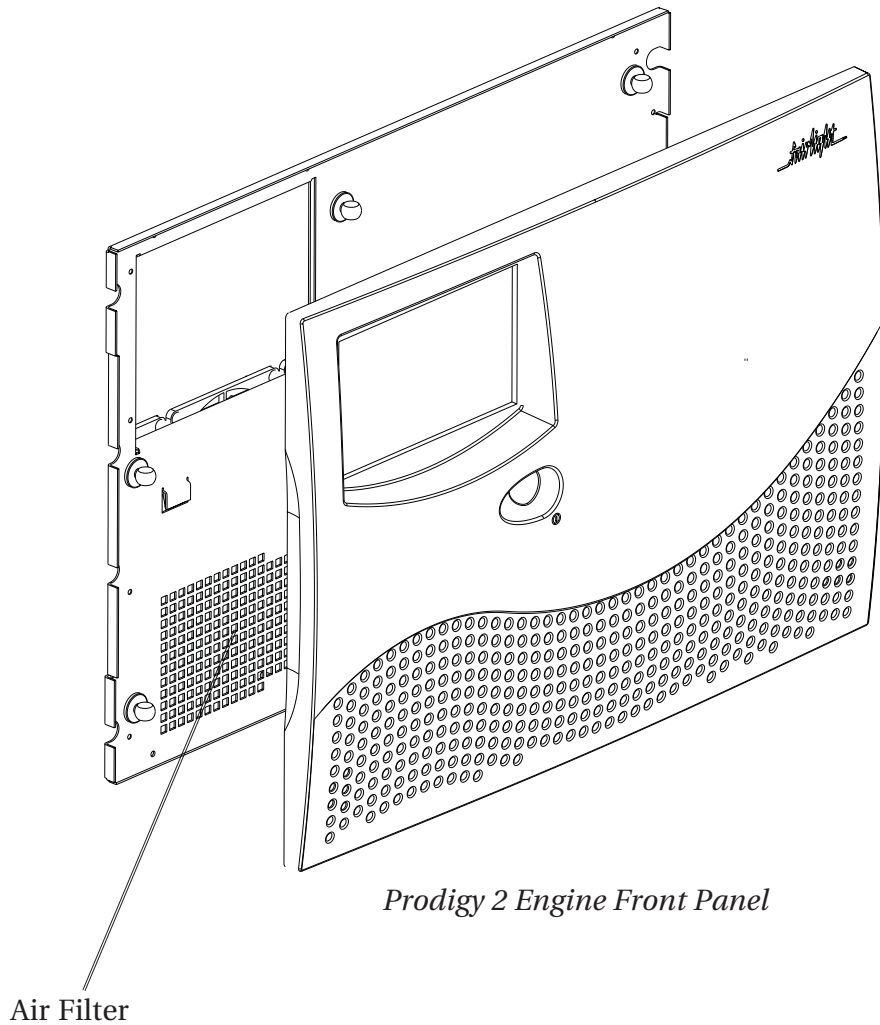
Air Filter

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.

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

Prodigy 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.
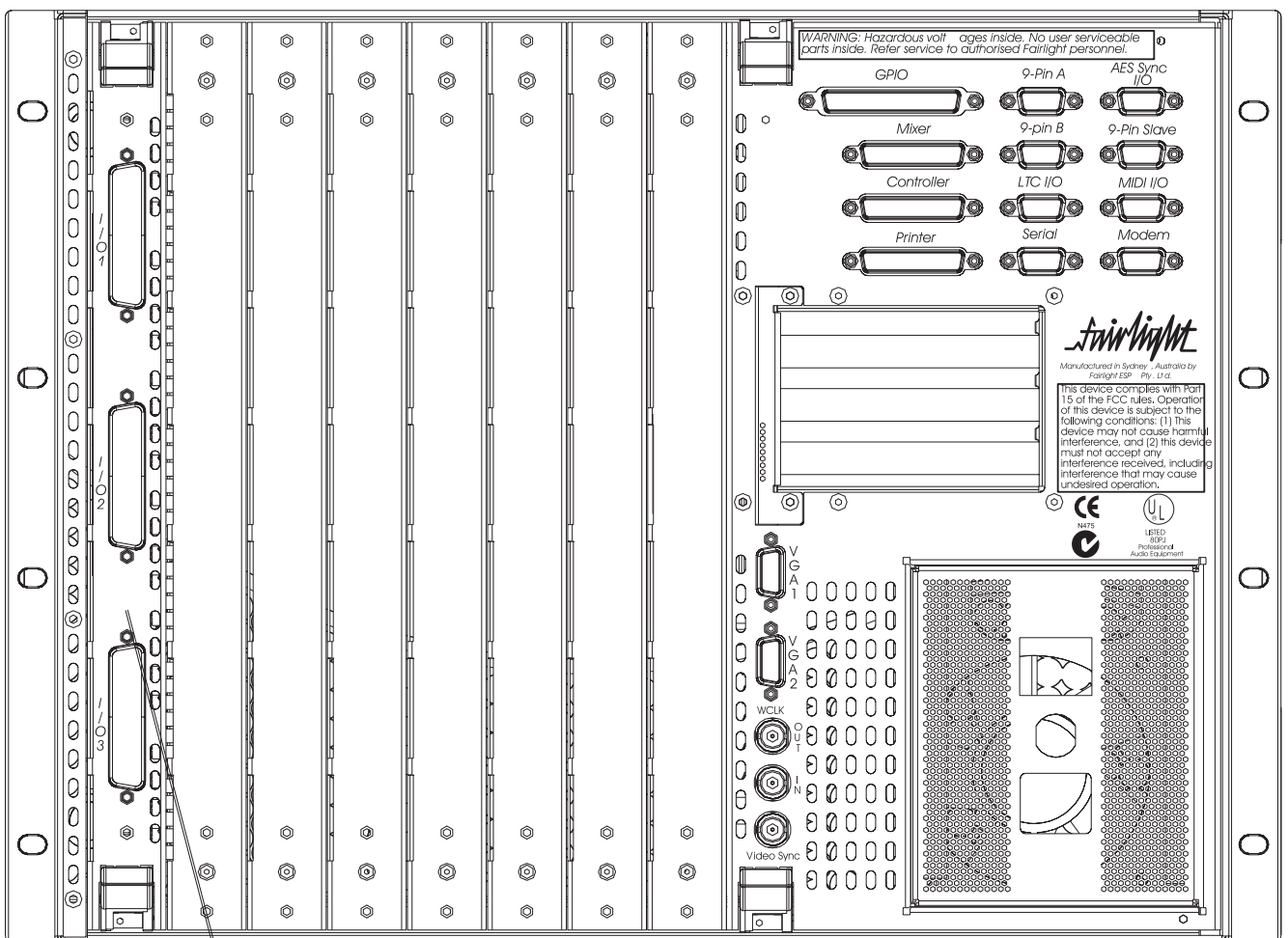
Prodigy 2 Engine Rear Panel

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 Impendence	< 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 Prodigy 2. In the standard configuration more than one QDC card is required to enable all analog and digital I/O.
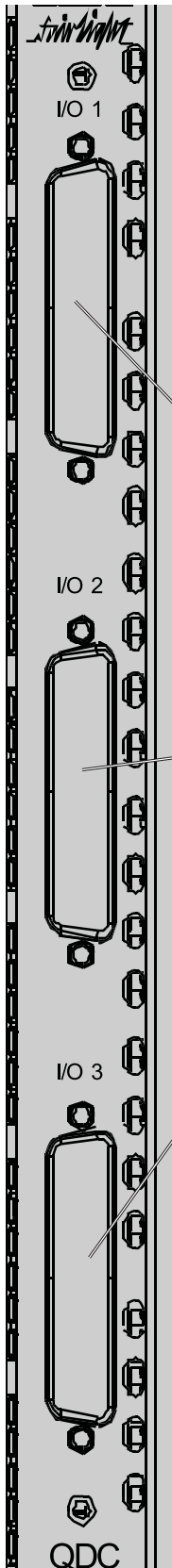
+	GND	-
17	33	50
16	32	49
15	31	48
14	30	47
13	29	46
12	28	45
11	27	44
10	26	43
9	25	42
8	24	41
7	23	40
6	22	39
5	21	38
4	20	37
3	19	36
2	18	35

QDC Pin Outs Connector

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

Analog Inputs

Port	QDC	Con	+	GND	-
AIn1	1	1	17	33	50
AIn2			16	32	49
AIn3			15	31	48
AIn4			14	30	47
AIn5			13	29	46
AIn6			12	28	45
AIn7			11	27	44
AIn8			10	26	43
AIn9	1	3	17	33	50
AIn10			16	32	49
AIn11			15	31	48
AIn12			14	30	47
AIn13			13	29	46
AIn14			12	28	45
AIn15			11	27	44
AIn16			10	26	43
AIn17	2	1	17	33	50
AIn18			16	32	49
AIn19			15	31	48
AIn20			14	30	47
AIn21			13	29	46
AIn22			12	28	45
AIn23			11	27	44
AIn24			10	26	43

Analog Outputs

Port	QDC	Con	+	GND	-
AOut1	1	1	9	25	42
AOut2			8	24	41
AOut3			7	23	40
AOut4			6	22	39
AOut5			5	21	38
AOut6			4	20	37
AOut7			3	19	36
AOut8			2	18	35
AOut9	1	3	9	25	42
AOut10			8	24	41
AOut11			7	23	40
AOut12			6	22	39
AOut13			5	21	38
AOut14			4	20	37
AOut15			3	19	36
AOut16			2	18	35
AOut17	2	1	9	25	42
AOut18			8	24	41
AOut19			7	23	40
AOut20			6	22	39
AOut21			5	21	38
AOut22			4	20	37
AOut23			3	19	36
AOut24			2	18	35

Digital Inputs

Port	QDC	Con	+	GND	-
DIn1-2	1	2	17	33	50
DIn3-4			16	32	49
DIn5-6			15	31	48
DIn7-8			14	30	47
DIn9-10	1	2	9	25	42
DIn11-12			8	24	41
DIn13-14			7	23	40
DIn15-16			6	22	39
DIn17-18	2	2	17	33	50
DIn19-20			16	32	49
DIn21-22			15	31	48
DIn23-24			14	30	47

Digital Outputs

Port	QDC	Con	+	GND	-
DOut1-2	1	2	13	29	46
DOut3-4			12	28	45
DOut5-6			11	27	44
DOut7-8			10	26	43
DOut9-10	1	2	5	21	38
DOut11-12			4	20	37
DOut13-14			3	19	36
DOut15-16			2	18	35
DOut17-18	2	2	13	29	46
DOut19-20			12	28	45
DOut21-22			11	27	44
DOut23-24			10	26	43

32 Track Digital I/Os – 32 Track Analog I/Os   2 QDC Cards

Analog Inputs

Port	QDC	Con	+	GND	-
A In 1	1	1	17	33	50
A In 2			16	32	49
A In 3			15	31	48
A In 4			14	30	47
A In 5			13	29	46
A In 6			12	28	45
A In 7			11	27	44
A In 8			10	26	43
A In 9	1	3	17	33	50
A In 10			16	32	49
A In 11			15	31	48
A In 12			14	30	47
A In 13			13	29	46
A In 14			12	28	45
A In 15			11	27	44
A In 16			10	26	43
A In 17	2	1	17	33	50
A In 18			16	32	49
A In 19			15	31	48
A In 20			14	30	47
A In 21			13	29	46
A In 22			12	28	45
A In 23			11	27	44
A In 24			10	26	43
A In 25	2	3	17	33	50
A In 26			16	32	49
A In 27			15	31	48
A In 28			14	30	47
A In 29			13	29	46
A In 30			12	28	45
A In 31			11	27	44
A In 32			10	26	43

Analog Outputs

Port	QDC	Con	+	GND	-
A Out 1	1	1	9	25	42
A Out 2			8	24	41
A Out 3			7	23	40
A Out 4			6	22	39
A Out 5			5	21	38
A Out 6			4	20	37
A Out 7			3	19	36
A Out 8			2	18	35
A Out 9	1	3	9	25	42
A Out 10			8	24	41
A Out 11			7	23	40
A Out 12			6	22	39
A Out 13			5	21	38
A Out 14			4	20	37
A Out 15			3	19	36
A Out 16			2	18	35
A Out 17	2	1	9	25	42
A Out 18			8	24	41
A Out 19			7	23	40
A Out 20			6	22	39
A Out 21			5	21	38
A Out 22			4	20	37
A Out 23			3	19	36
A Out 24			2	18	35
A Out 25	2	3	9	25	42
A Out 26			8	24	41
A Out 27			7	23	40
A Out 28			6	22	39
A Out 29			5	21	38
A Out 30			4	20	37
A Out 31			3	19	36
A Out 32			2	18	35

Digital Inputs

Port	QDC	Con	+	GND	-
D In 1 - 2	1	2	17	33	50
D In 3 - 4			16	32	49
D In 5 - 6			15	31	48
D In 7 - 8			14	30	47
D In 9 - 10	1	2	9	25	42
D In 11 - 12			8	24	41
D In 13 - 14			7	23	40
D In 15 - 16			6	22	39
D In 17 - 18	2	2	17	33	50
D In 19 - 20			16	32	49
D In 21 - 22			15	31	48
D In 23 - 24			14	30	47
D In 25 - 26	2	2	9	25	42
D In 27 - 28			8	24	41
D In 29 - 30			7	23	40
D In 31 - 32			6	22	39

Digital Outputs

Port	QDC	Con	+	GND	-
D Out 1 - 2	1	2	13	29	46
D Out 3 - 4			12	28	45
D Out 5 - 6			11	27	44
D Out 7 - 8			10	26	43
D Out 9 - 10	1	2	5	21	38
D Out 11 - 12			4	20	37
D Out 13 - 14			3	19	36
D Out 15 - 16			2	18	35
D Out 17 - 18	2	2	13	29	46
D Out 19 - 20			12	28	45
D Out 21 - 22			11	27	44
D Out 23 - 24			10	26	43
D Out 25 - 26	2	2	5	21	38
D Out 27 - 28			4	20	37
D Out 29 - 30			3	19	36
D Out 31 - 32			2	18	35

APPENDIX - CONNECTION & SIGNAL SPECIFICATIONS

A2 CONTROL & REFERENCE PINOUTS
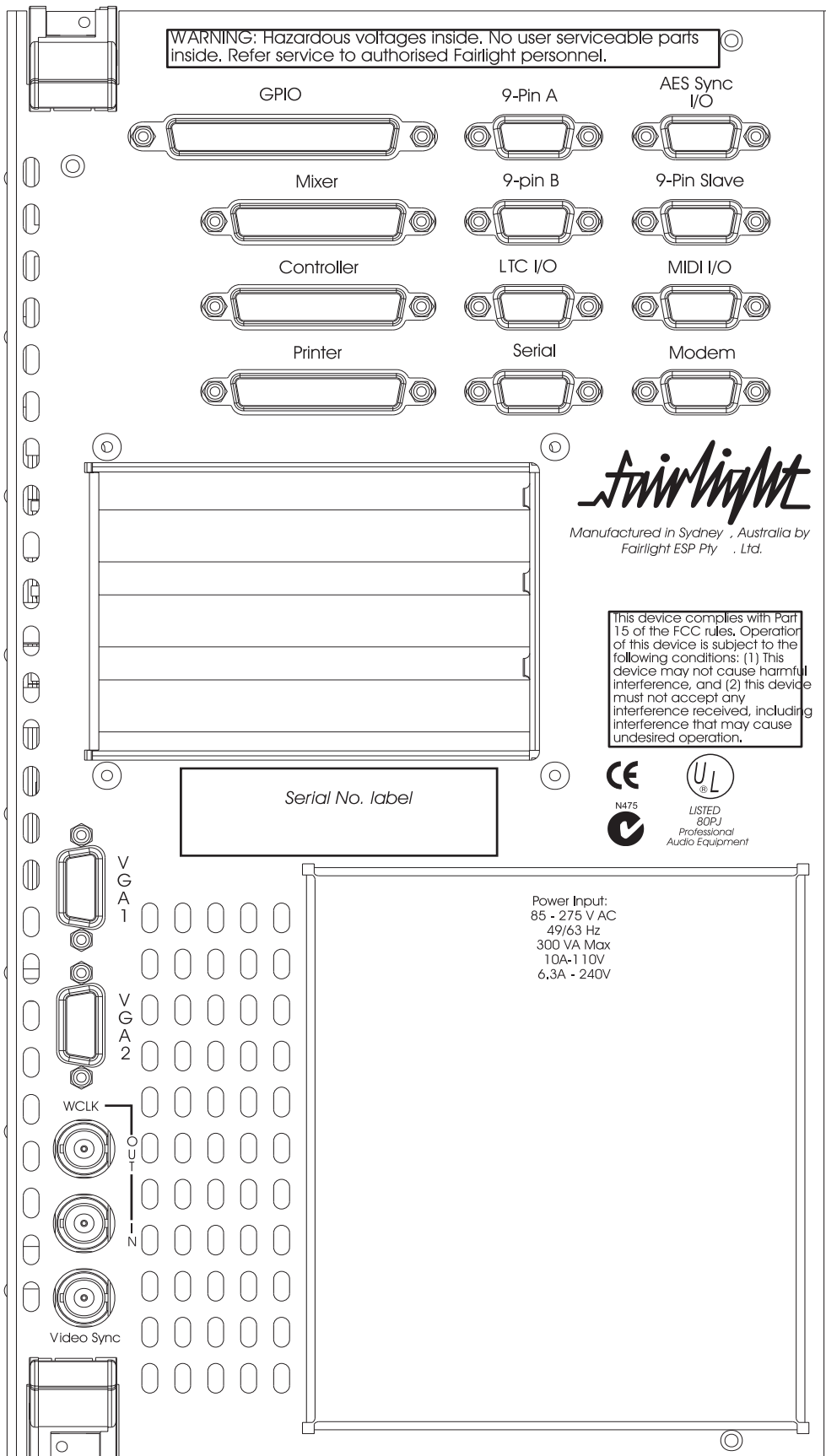
Prodigy 2 Engine System I/O Panel

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

GPIO

1	GND
2	GPIO 6
3	GPIO 5
4	GND
5	GPIO BO 2
6	GPIO BO 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 OUT6
15	GPIO OUT5
16	GND
17	GPIO OUT2
18	GPIO OUT1
19	GND
20	GPI0B07
21	GND
22	GPI
23	GPIO BO 3
24	GND
25	GPIO BO 0
26	GPIO IN 7
27	GND
28	GPIO IN 4
29	GPIO IN 3
30	GND
31	GPIO IN O
32	GPIO OUT7
33	GND
34	GPIO OUT4
35	GPIO OUT3
36	GND
37	GPIO OUT0

A4 MIXER

Connector   25 pin D Female

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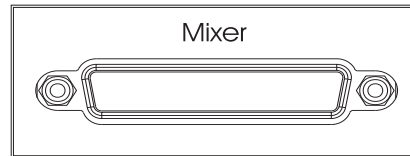
1	GND
2	RxFFN
3	RxCLKN
4	RxDATN
5	RxWRN
6	NC
7	NC
8	TxFFN
9	TxCLKN
10	TxDATN
11	TxWRPN
12	HSSLDETn
13	SYNCN
14	RxFFP
15	RxCLKP
16	RxDATP
17	RxWRP
18	NC
19	GND
20	TxFFP
21	TXxCLKP
22	TxDATP
23	TxWRP
24	GND
25	SYNCP

A5 CONTROLLER

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

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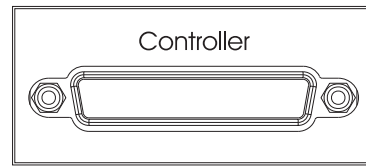
25 Pin D Type Connector	Signal	37 Pin D Type Connector	Signal
PIN 1	GND	PIN 1	GND
PIN 2	CONTx	PIN 7	CONTx
PIN 3	CONRx	PIN 24	CONRx
PIN 5	H_TxDATA	PIN 6	H_TxDATA
PIN 7	GND	PIN 10	GND
PIN 9	GND	PIN 33	GND
PIN 10	CONTxPOS	PIN 13	CONTxPOS
PIN 11	CONRxPOS	PIN 12	CONRxPOS
PIN 20	H_RxDATA	PIN 25	H_RxDATA
PIN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

A6 PRINTER

Connector   Standard 25 pin D female

Printer
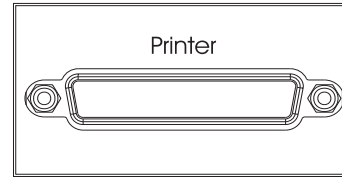
PIN 1	PSTROBEn
PIN 2	PDR0
PIN 3	PDR1
PIN 4	PDR2
PIN 5	PDR3
PIN 6	PDR4
PIN 7	PDR5
PIN 8	PDR6
PIN 9	PDR7
PIN 10	PRACKn
PIN 11	PRBUSYn
PIN 12	PRERROR
PIN 13	PRSELECT
PIN 14	PRAUTOFDn
PIN 15	PRFAULTn
PIN 16	PRINTITn
PIN 17	PRSELINn
PIN 18	GND
PIN 19	GND
PIN 20	GND
PIN 21	GND
PIN 22	GND
PIN 23	GND
PIN 24	GND
PIN 25	GND

A7 9-PIN A

Connector   9 pin D female

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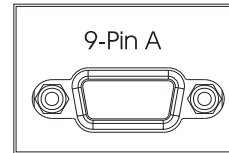
PIN 1	GND
PIN 2	9ARxA
PIN 3	9ATxB
PIN 4	GND
PIN 5	NC
PIN 6	GND
PIN 7	9ARxB
PIN 8	9ATxA
PIN 9	NC

A8 9-PIN B

Connector   9 pin D female

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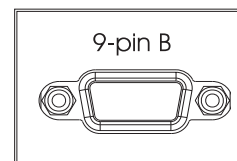
PIN 1	GND
PIN 2	9BRxA
PIN 3	9BTxB
PIN 4	GND
PIN 5	NC
PIN 6	GND
PIN 7	9BRxB
PIN 8	9BTxA
PIN 9	NC

Prodigy

A9 9-Pin Slave

9-Pin Slave

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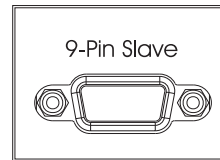
PIN 1	GND
PIN 2	9BTxA
PIN 3	9RRxB
PIN 4	GND
PIN 5	NC
PIN 6	GND
PIN 7	9BTxB
PIN 8	9BRxA
PIN 9	GND

A10 LTC - I/O

LTC I/O

Connector   9 pin D male

Input Level   -20dbm to +10dbm

Output Level   0dbm
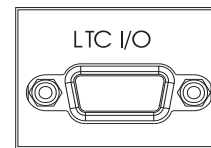
Important note: Unbalanced loads connected to LTC OUT should NOT ground the LTC OUT NEGATIVE signal.

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

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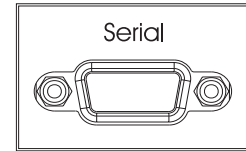
PIN 1	SER_DCD
PIN 2	SER_Rx
PIN 3	SER_Tx
PIN 4	SER_DTR
PIN 5	GND
PIN 6	SER_DSR
PIN 7	SER_RTS
PIN 8	SER_CTS
PIN 9	NC

A12 MIDI I/O

Connector   9 pin D female
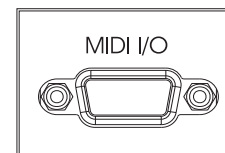
MIDI I/O

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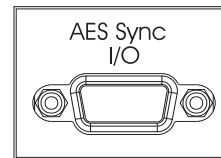
PIN 1	GND
PIN 2	AES IN NEGATIVE
PIN 3	AES OUT POSITIVE
PIN 4	BIPHASE TACH
PIN 5	BIP DIRECTION
PIN 6	AES IN POSITIVE
PIN 7	GND
PIN 8	AES OUT NEGATIVE
PIN 9	NOT CONNECTED

A14 Modem

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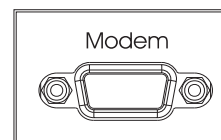
PIN 1	MOD_DCD
PIN 2	MOD_RX
PIN 3	MOD_TX
PIN 4	MOD_DTR
PIN 5	GND
PIN 6	MOD_DSR
PIN 7	MOD_RTS
PIN 8	MOS_CTS
PIN 9	NC

A15 ENGINE VGA 1

Connector   15 pin High Density D Female

Resolution   1024(H) x 768(V)

Frequency   HSYNC: 60khz   VSYNC: 75hz SVGA STANDARD
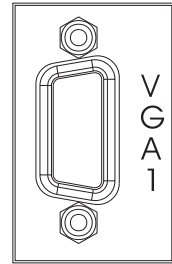
PIN 1	RED
PIN 2	GREEN
PIN 3	BLUE
PIN 4	GND
PIN 5	GND
PIN 6	GND
PIN 7	GND
PIN 8	GND
PIN 10	GND
PIN 11	GND
PIN 12	NC
PIN 13	HSYNC
PIN 14	VSYNC
PIN 15	NC

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
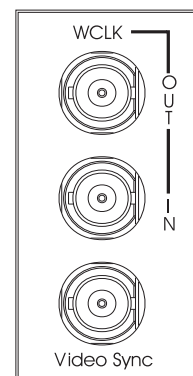
A18 WORD CLOCK - OUT

Connector   BNC

Output Level   > 4.3V TTL

Output Impedence   75 Ohms

B1 Example Monitor Box Connections For 5.1, LCRS and Stereo

From FAME 2 Engine
eg Outputs 24,23,20,19,16,15 ──────────→ Main I/Ps 1 to 6
(Monitor INT)

From Patch (External Source) ──────────→ Ext. I/Ps 1 to 6
(Monitor EXT)

From Cue send Outputs ──────────→ Ext. I/Ps 7 & 8 (Studio
Feeds - M1)

Console T/B microphone
O/P ──────────→ Engine I/P 22

Studio T/B microphone
O/P ──────────→ Studio T/B

I/Ps ──────────→ Return T/B

O/Ps ──────────→ Stereo I/P 1&2 (Post Dolby
Insert EXT Monitor)

INS RET 1-4

2-T REC machine ──────────→ Main I/Ps 7 & 8 (Studio
Feeds - C/R)

SPEAKER 1A, 2A,
and 3-6 ──────────→ Main Monitors
L,R,C,SUB,LS,RS

SPEAKER 1B, 2B ──────────→ Nearfield Monitors L &

SPEAKER 7, 8 ──────────→ Studio Speakers or
Headphone amps

Meter O/Ps 1-8 ──────────→ Main Output Metering

INS SEND 1-4

Derived Stereo Ou

Sends
1-4

Dolby Encode

LT/RT

Dolby Decode

Sends
1,2
only

B2 Surround Monitor Schematic

SURROUND MONITOR - SCHEMATIC DIAGRAM

ANCILLARY INPUTS

RETURN TALKBACK
STUDIO TALKBACK
PINK NOISE

SOLO INPUTS AND METERING

B3 MONITOR BOX WIRING

The Monitor Box provides all the monitoring and meter switching for the Prodigy 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

B3.1 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

NAME	DESCRIPTION	LOCATION	SOURCE
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	EDAC 4	Output of stereo machines used to record Dolby encoded stereo LT,RT from the Dolby encoder.

B3.2 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

NAME	DESCRIPTION	LOCATION	DESTINATION
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.

The Monitor Schematic provides more detailed signal flow information.

The Monitor Box is controlled by Prodigy 2 via the X-Link 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, the Surround Monitor Rear View diagram shows the relevant EDAC circuits. Refer to the diagrams for the relevant EDAC pin outs.

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.:
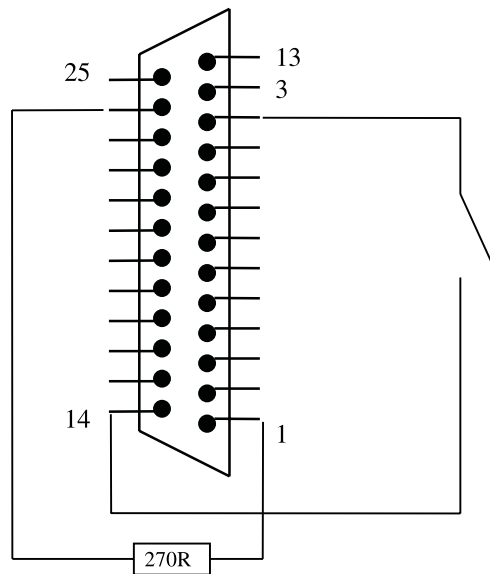
25-way D male, viewed from solder side

B3.3 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%

B3.4 MAIN & EXTERNAL ANALOGUE INPUTS SPECIFICATIONS

Connectors   56 way EDAC socket

Input   Balanced

Input Level (Max)   +26dBu

Input Sensitivity   + 4dBu

Input Impedance   40K ohm Balanced

B3.5 ANALOGUE OUTPUTS SPECIFICATIONS

Connectors   56 way EDAC socket

Output Impedance   65 ohms Balanced

Output Level (Max)   +26 dBu

B3.6 MONITOR BOX CONNECTOR VIEW

REMOTE
9-PIN RS-232

IN   THROUGH

POWER

	EDAC CIRCUIT	
SPEAKER 1 A		
SPEAKER 2 A		
SPEAKER 3		
SPEAKER 4		
SPEAKER 5		
SPEAKER 6		
SPEAKER 7		
SPEAKER 8		
SPEAKER 1B		
METER O/P 1	SOLO I/P L	EXT I/P 1	INS RET 1	1
METER O/P 2	SOLO I/P R	EXT I/P 2	INS RET 2	2
METER O/P 3	EXT MET I/P L	EXT I/P 3	INS RET 3	3
METER O/P 4	EXT MET I/P R	EXT I/P 4	INS RET 4	4
METER O/P 5	SOLO MET O/P L	EXT I/P 5	INS RET 5	5
METER O/P 6	SOLO MET O/P R	EXT I/P 6	INS RET 6	6
METER O/P 7	RETURN T/B	EXT I/P 7	INS RET 7	7
METER O/P 8	STUDIO T/B	EXT I/P 8	INS RET 8	8
SPEAKER 2 B		STEREO I/P 1		9
		MAIN I/P 1	INS SEND 1	10
		MAIN I/P 2	INS SEND 2	11
		MAIN I/P 3	INS SEND 3	12
		MAIN I/P 4	INS SEND 4	13
		MAIN I/P 5	INS SEND 5	14
		MAIN I/P 6	INS SEND 6	15
		MAIN I/P 7	INS SEND 7	16
		MAIN I/P 8	INS SEND 8	17
		STEREO I/P 2		18

EDAC 8   EDAC 7   EDAC 6   EDAC 5   EDAC 4   EDAC 3   EDAC 2   EDAC 1

B3.7 EDAC Pinout Diagram

Each EDAC can have up to 18 circuits, numbered 1 to 18.
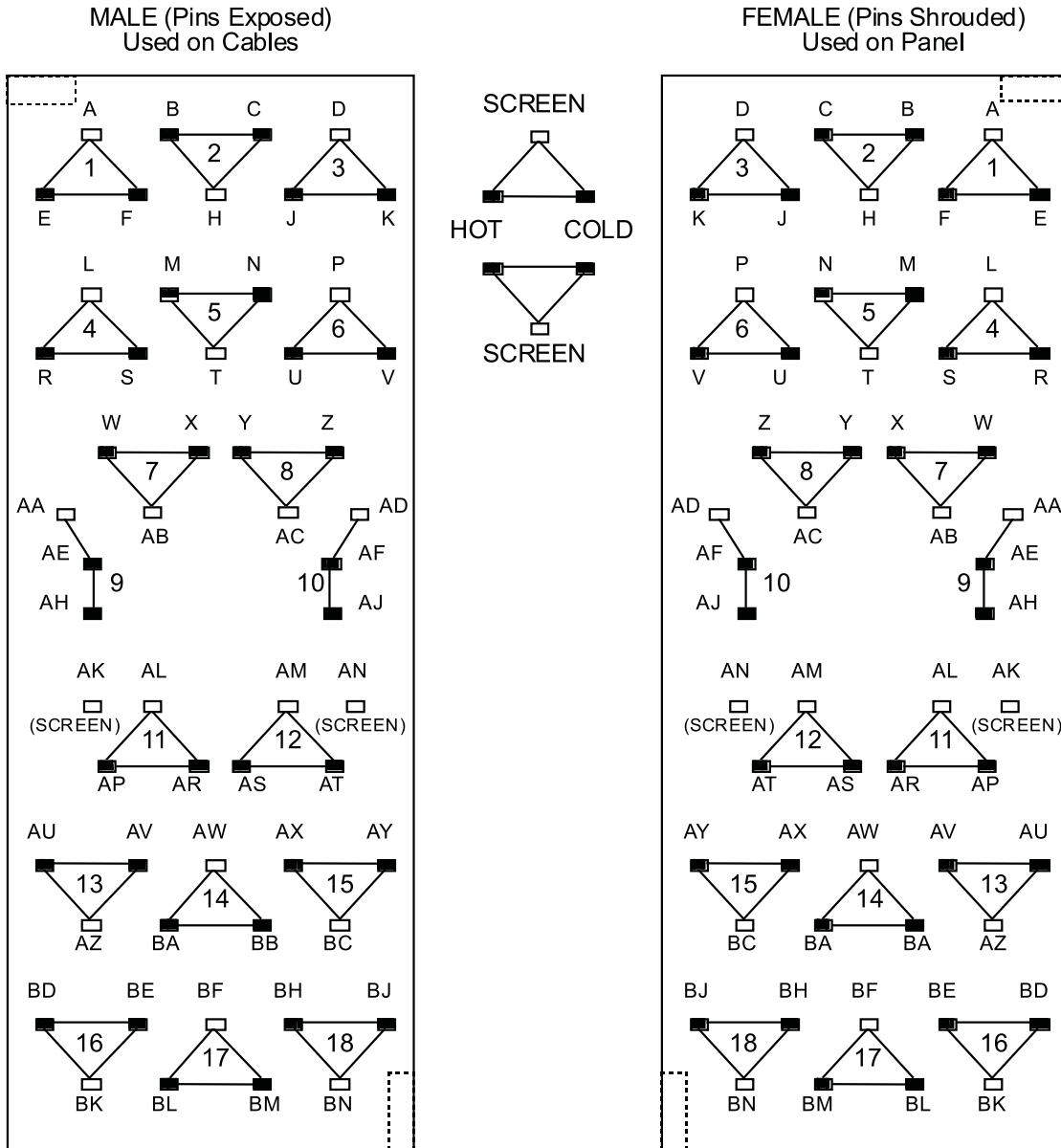
B4 Monitor Box EDAC Connections

EDAC 8		
CCT	Function	Pin
01	SPKR 1A Sc	A
01	SPKR 1A +	E
01	SPKR 1A -	F
02	SPKR 2A Sc	H
02	SPKR 2A +	B
02	SPKR 2A -	C
03	SPKR 3 Sc	D
03	SPKR 3 +	J
03	SPKR 3 -	K
04	SPKR 4 Sc	L
04	SPKR 4 +	R
04	SPKR 4 -	S
05	SPKR 5 Sc	T
05	SPKR 5 +	M
05	SPKR 5 -	N
06	SPKR 6 Sc	P
06	SPKR 6 +	U
06	SPKR 6 -	V
07	SPKR 7 Sc	AB
07	SPKR 7+	W
07	SPKR 7 -	X
08	SPKR 8 Sc	AC
08	SPKR 8 +	Y
08	SPKR 8 -	Z
09	SPKR 1B Sc	AA
09	SPKR 1B +	AE
09	SPKR 1B -	AH
10	MTR O/P 1 Sc	AD
10	MTR O/P 1 +	AF
10	MTR O/P 1 -	AJ
11	MTR O/P 2 Sc	AL
11	MTR O/P 2 +	AP
11	MTR O/P 2 -	AR
12	MTR O/P 3 Sc	AM
12	MTR O/P 3 +	AS
12	MTR O/P 3 -	AT
13	MTR O/P 4 Sc	AZ
13	MTR O/P 4 +	AU
13	MTR O/P 4 -	AV
14	MTR O/P 5 Sc	AW
14	MTR O/P 5 +	BA
14	MTR O/P 5 -	BB
15	MTR O/P 6 Sc	BC
15	MTR O/P 6+	AX
15	MTR O/P 6 -	AY
16	MTR O/P 7 Sc	BK
16	MTR O/P 7+	BD
16	MTR O/P 7 -	BE
17	MTR O/P 8 Sc	BF
17	MTR O/P 8 +	BL
17	MTR O/P 8 -	BM
18	SPKR 2B Sc	BN
18	SPKR 2B +	BH
18	SPKR 2B -	BJ

EDAC 7		
CCT	Function	Pin
01		A
01		E
01		F
02		H
02		B
02		C
03		D
03		J
03		K
04		L
04		R
04		S
05		T
05		M
05		N
06		P
06		U
06		V
07		AB
07		W
07		X
08		AC
08		Y
08		Z
09		AA
09		AE
09		AH
10	Solo I/P L Sc	AD
10	Solo I/P L +	AF
10	Solo I/P L -	AJ
11	Solo I/P R Sc	AL
11	Solo I/P R +	AP
11	Solo I/P R -	AR
12	Ext MTR I/P L Sc	AM
12	Ext MTR I/P L +	AS
12	Ext MTR I/P L -	AT
13	Ext MTR I/P R Sc	AZ
13	Ext MTR I/P R +	AU
13	Ext MTR I/P R -	AV
14	Solo MTR O/P L Sc	AW
14	Solo MTR O/P L +	BA
14	Solo MTR O/P L -	BB
15	Solo MTR O/P R Sc	BC
15	Solo MTR O/P R +	AX
15	Solo MTR O/P R -	AY
16	Return TB Sc	BK
16	Return TB +	BD
16	Return TB -	BE
17	Studio TB Sc	BF
17	Studio TB 15+	BL
17	Studio TB 15 -	BM
18		BN
18		BH
18		BJ

EDAC 4		
CCT	Function	Pin
01	EXT I/P 1 Sc	A
01	EXT I/P 1+	E
01	EXT I/P 1-	F
02	EXT I/P 2 Sc	H
02	EXT I/P 2 +	B
02	EXT I/P 2 -	C
03	EXT I/P 3 Sc	D
03	EXT I/P 3 +	J
03	EXT I/P 3 -	K
04	EXT I/P 4 Sc	L
04	EXT I/P 4 +	R
04	EXT I/P 4 -	S
05	EXT I/P 5 Sc	T
05	EXT I/P 5 +	M
05	EXT I/P 5 -	N
06	EXT I/P 6 Sc	P
06	EXT I/P 6 +	U
06	EXT I/P 6 -	V
07	EXT I/P 7 Sc	AB
07	EXT I/P 7+	W
07	EXT I/P 7 -	X
08	EXT I/P 8 Sc	AC
08	EXT I/P 8 +	Y
08	EXT I/P 8 -	Z
09	Ext Stereo I/P L Sc	AA
09	Ext Stereo I/P L +	AE
09	Ext Stereo I/P L -	AH
10	MAIN I/P 1 Sc	AD
10	MAIN I/P 1 +	AF
10	MAIN I/P 1 -	AJ
11	MAIN I/P 2 Sc	AL
11	MAIN I/P 2 +	AP
11	MAIN I/P 2 -	AR
12	MAIN I/P 3 Sc	AM
12	MAIN I/P 3 +	AS
12	MAIN I/P 3 -	AT
13	MAIN I/P 4 Sc	AZ
13	MAIN I/P 4 +	AU
13	MAIN I/P 4 -	AV
14	MAIN I/P 5 Sc	AW
14	MAIN I/P 5 +	BA
14	MAIN I/P 5 -	BB
15	MAIN I/P 6 Sc	BC
15	MAIN I/P 6+	AX
15	MAIN I/P 6 -	AY
16	MAIN I/P 7 Sc	BK
16	MAIN I/P 7+	BD
16	MAIN I/P 7 -	BE
17	MAIN I/P 8 Sc	BF
17	MAIN I/P 8 +	BL
17	MAIN I/P 8 -	BM
18	Ext Stereo I/P R Sc	BN
18	Ext Stereo I/P R +	BH
18	Ext Stereo I/P R -	BJ

EDAC 3		
CCT	Function	Pin
01	INS RET 1 Sc	A
01	INS RET 1+	E
01	INS RET 1-	F
02	INS RET 2 Sc	H
02	INS RET 2 +	B
02	INS RET 2 -	C
03	INS RET 3 Sc	D
03	INS RET 3 +	J
03	INS RET 3 -	K
04	INS RET 4 Sc	L
04	INS RET 4 +	R
04	INS RET 4 -	S
05	INS RET 5 Sc	T
05	INS RET 5 +	M
05	INS RET 5 -	N
06	INS RET 6 Sc	P
06	INS RET 6 +	U
06	INS RET 6 -	V
07	INS RET 7 Sc	AB
07	INS RET 7+	W
07	INS RET 7 -	X
08	INS RET 8 Sc	AC
08	INS RET 8 +	Y
08	INS RET 8 -	Z
09		AA
09		AE
09		AH
10	INS SEND 1 Sc	AD
10	INS SEND 1 +	AF
10	INS SEND 1 -	AJ
11	INS SEND 2 Sc	AL
11	INS SEND 2 +	AP
11	INS SEND 2 -	AR
12	INS SEND 3 Sc	AM
12	INS SEND 3 +	AS
12	INS SEND 3 -	AT
13	INS SEND 4 Sc	AZ
13	INS SEND 4 +	AU
13	INS SEND 4 -	AV
14	INS SEND 5 Sc	AW
14	INS SEND 5 +	BA
14	INS SEND 5 -	BB
15	INS SEND 6 Sc	BC
15	INS SEND 6+	AX
15	INS SEND 6 -	AY
16	INS SEND 7 Sc	BK
16	INS SEND 7+	BD
16	INS SEND 7 -	BE
17	INS SEND 8 Sc	BF
17	INS SEND 8 +	BL
17	INS SEND 8 -	BM
18		BN
18		BH
18		BJ

C1 PRODIGY 2 SURFACE CONFIGURATION

C1.1 SURFACE VGA CABLE

15 Way D Female Connector

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	GND
PIN 10	GND
PIN 11	NC
PIN 12	NC
PIN 13	HSYNC
PIN 14	VSNYC
PIN 15	NC

C1.2 X-LINK CABLE

9 Way D Female Connector at surface end. 9 Way D Male Connector at Monitor Box end.

| PIN	FUNCTION
PIN 1	TX
PIN 2	NC
PIN 3	RX
PIN 4	NC
PIN 5	GND
PIN 6	NC
PIN 7	NC
PIN 8	NC
PIN 9	NC

C1.3 Prodigy 2 Surface Mixer Cable

25 Way D Male Connector at the Engine, 25 Way Female Connector at the Prodigy 2 Surface end.

PIN	FUNCTION
Pin 1 Screen	Screen
Pin 2 XMT -FF (-)	XMT -FF (-)
Pin 3 XMT - CLK (-)	XMT - CLK (-)
Pin 4 XMT - DAT (-)	XMT - DAT (-)
Pin 5 XMT - WR (-)	XMT - WR (-)
Pin 6 N/C	N/C
Pin 7 N/C	N/C
Pin 8 RCV - FF (-)	RCV - FF (-)
Pin 9 RCV - CLK (-)	RCV - CLK (-)
Pin 10 RCV - DAT (-)	RCV - DAT (-)
Pin 11 RCV - WR (-)	RCV - WR (-)
Pin 12 N/C	N/C
Pin 13 FRAME (-)	FRAME (-)
Pin 14 XMT - FF +	XMT - FF +
Pin 15 XMT - CLK +	XMT - CLK +
Pin 16 XMT - DAT +	XMT - DAT +
Pin 17 XMT - WR +	XMT - WR +
Pin 18 N/C	N/C
Pin 19 N/C	N/C
Pin 20 RCV -FF +	RCV -FF +
Pin 21 RCV - CLK +	RCV - CLK +
Pin 22 RCV - DAT +	RCV - DAT +
Pin 23 RCV - WR +	RCV - WR +
Pin 24 N/C	N/C
Pin 25 FRAME +	FRAME +

D1 Dimensions

D1.1 - Prodigy 2 Engine, Surface and Monitor Box

500mm

360mm

460mm
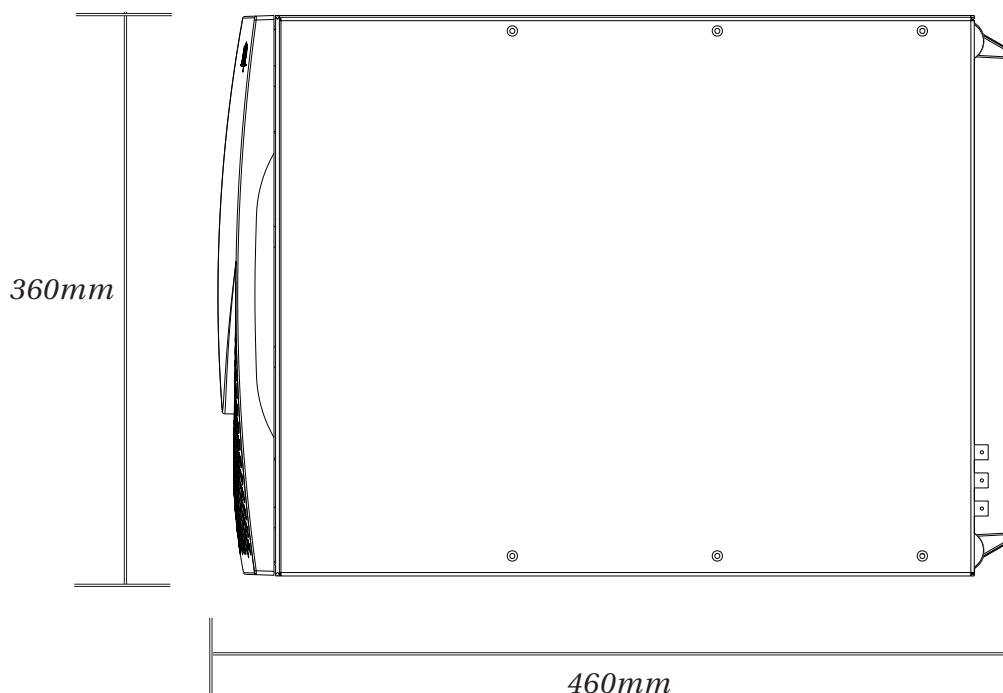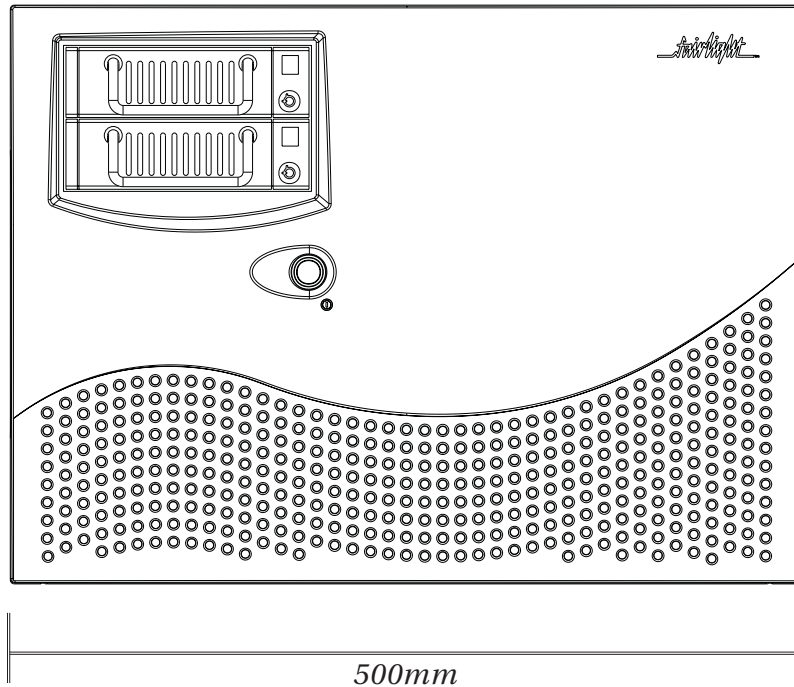
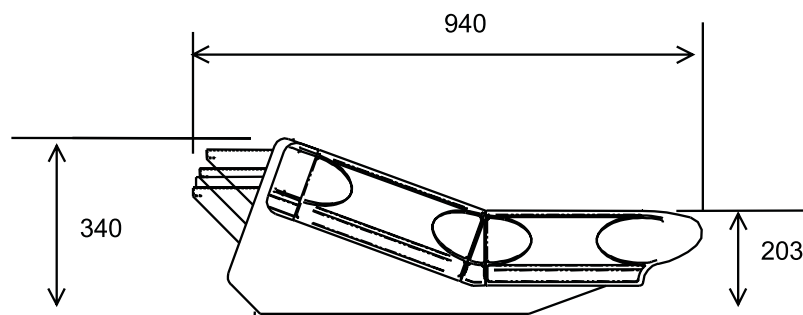## PRODIGY 2 - SURFACE
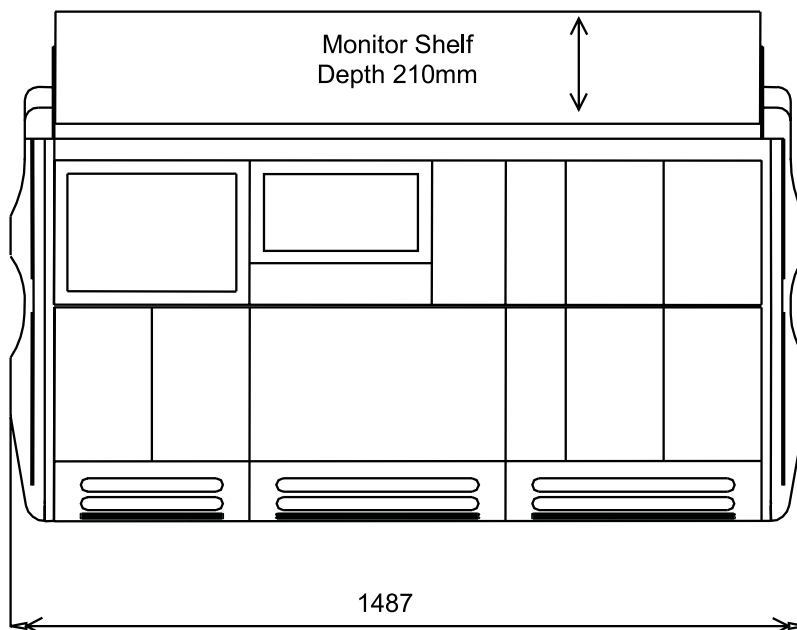
Height: 340 mm
Width: 1487mm
Depth: 940 mm including shelf
Weight: 190 kg
DC Power Consumption: 400 VA
Voltage: 100 - 240 VAC, auto sensing.

PRODIGY 2 - MONITOR BOX

Height: 3U
Depth: 405mm
Weight: 7kg approx.
Power Consumption: 60 VA
Voltage: Switched 110 – 120 /220 - 240 VAC
Fuse rating   3.15 Amp

D1.2 Prodigy 2 Engine - Power Requirements

Input   85-275 VAC

49-63Hz 300VA

10A - 110V

6.3A- 240V