

Fame Installation Manual

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1. Fame Specifications

FAME CONTROLLER SURFACE

Max Height: 996mm

Max Width: 24 fader stand alone 1852mm

16 fader stand alone1486mm8 fader stand alone1120mm24 fader drop through1764mm16 fader drop through1398mm8 fader drop through1032mm

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

DC Power: Maximum for 24 faders 0.4 KVA

FAME PROCESSOR RACK (MFX)

Height: 8U
Max Depth: 465mm
Weight: 19kg approx.

Voltage: 100 - 240 VAC, auto sensing.

Fuse rating: 125V @ 6.5 Amp 240V @ 3.15 Amp

IBM PENTIUM PC

Height: 154mm Width: 420mm Depth: 447mm

Voltage: 100 - 120V/220 - 240 VAC: Selectable on mains inlet.

Power: 150 VA

AMEK 400 SERIES POWER SUPPLY

Height: 3U

Width: 19 inch rack mount

Depth: 550mm, allowing for DC power cable at rear of unit

Weight: 11 kg Power: 0.5 KVA

Cooling: Fan assisted from fan mounted on top of unit. Adequate

ventilation must be provided to allow air to be drawn in from

the top by the fan.



2. System Setup

Each Fame system comprises of the following sub systems:

- 1. Fame PROCESSOR RACK
- 2. Fame CONTROL SURFACE (Including Stem Mic)
- 3. P100 IBM PC
- 4. 400 SERIES POWER SUPPLY
- 5. 16 BY 16 X-POINT MATRIX SWITCHER
- 6. SURROUND MONITOR UNIT
- 7. Optionally, any number of the following
 - · X-POINT MATRIX
 - · Remote Controlled Microphone Amplifier (RCMA)

Power Connections

All Fame systems are factory Preset for their destination power requirements.

Check the voltage setting and adjust as appropriate before applying power to any of the units, in particular the PC.

The following units have auto-sensing AC mains inlets, from 100 to 240 VAC.

- 1. Fame processor rack anti surge fuse ratings of 6A for 110V and 3A at 220V
- 2. AMEK 400 Series Power Supply

The AMEK400 series power supply provides the power to the control surface using an 8 metre DC power cable. The specifications for the power cable can be found in the Cable Appendix of this manual.

Environment

The Fame processor rack, Matrix and Surround Monitor units should be located in a suitable machine room, with an ambient operating temperature between 18 - 24 Deg.C. The equipment should ideally be mounted in a 19 inch rack with a minimum depth of 600 mm, or with an open back section.

Ensure that air flow for the Fame processor rack through the front of the grill, is not restricted.

The Matrix and Surround Monitor units should be mounted with a 1U spacing above and below. This is required for sufficient cooling.

For all installations the following should be avoided:

- · Dusty areas
- · Damp areas
- Areas subject to vibration
- · Areas with strong magnetic or electric fields
- · Installation near heat sources
- · Installation in area with restricted air circulation



3. FAME COMPONENT CHECKLIST

The following list of components are those shipped with a typical Fame system. The list does not include extra items which may have been specified.

ITEM	DESCRIPTION	QUANTITY
Fame Console	Control surface (24, 16, 8 faders)	1
Fame Processor Rack	MFX 19 inch rack	1
P100 IBM PC	Surface control computer	1
AMEK 400 Series PSU	Control Surface Power Supply	1
X-Point Matrix	3U Cross Point Switcher (16 by 16)	1
Surround Monitor Unit	t 3U Analogue Monitoring unit	1
MFX Cable	24 Way Centronics Cable 10 Metre	1
Video Cable	15 Way VGA Extension Cable 10 Metre	1
9 Pin Control Cable	Sony Machine Control Cable 5 Metre	1
IEC Power Cable	Power Leads 2 Metre	5
SCSI Cable	External Drive SCSI Cable 1 Metre	1
SCSI Terminator	SCSI Bus Active Terminator	1
Connector Kit	D Connectors for MFX Audio Connections	1
EDAC Connector Kit	EDAC Connectors for Matrix & Surround Units	s 2
CABHARNIBMS-COM	25 Way Ribbon cable, PC to Surface	1
CABHARNDSPSCREX	9 D to 9 D, PC to Touch Screen Cable 3 Metre	1
10.4TFTSCNHARN	TFT Display Cable 3 Metre	1
CABDCLIT 19X2	DC Power to Control Surface 8 Metres	1
CABHARNRACK07	25 Way to 9 Way Matrix/Surround Control 2 M	etre 1
CABHARNRACK06	9 Way to 9 Way Matrix/Surround Interconnect	1M 1
CAB0200	RS 232 MFX to PC Control Cable 10 metres	1
Stem Mic	Control Room Talk Back Mic	1



4. FAME SYSTEM CABLES

The cables supplied with each Fame system may need modifying to suit the installation. The length of each cable supplied is defined in the Fame Component Checklist table. Below is a list defining the maximum tested length for each cable. High specification cable and connectors should be used for all cabling in the Fame system.

1. Fame Processor Rack Cables

- 1 of Console control cable 10 metres supplied, 30 metres maximum using Belden 8 twisted pair data cable.
- 1 of VGA extension cable 10 metres supplied, 30 metres maximum. Use Gepco VFM809 and terminate with BNC connectors. Use a short BNC to 15 way adapter cable. If a greater distance is required use a VGA Booster for lengths of 200 metres.
- · 1 of Sony 9 pin cable 5 metres supplied, 300 metres maximum.
- · 1 of High Speed 25 way serial communication cable 10 metres, 25 metres maximum.
- · 2 of IEC Power cable

2. IBM PC Interconnect Cables

The length of these cables are governed by the maximum length for the TFT display cable which is 3 metres.

- 1 of CABHARNIBMS-COM, 25 way ribbon cable connecting computer sub 979 card to the control surface, 3 metres supplied.
- 1 of CABHARNDSPSCREX, 9 pin to 9 pin touch screen controller cable, 3 metres.
- · 1 of 10.4TFTSCNHARN, TFT display cable, 3 metres. This is the maximum length for this cable.

3. AMEK 400 Series Power Supply

- · 1 of CABDCLIT19X2, 8 metre DC power lead. Can extend to 15 metres maximum.
- Type of cable used is LITTON YY-NR-BK-18 Core 2.5mm SQ-Black
- Connectors CIR06A 22-14P F80 T39-PG21-26 and CIR06A 22-14S F80 T39-PG21-26

4. X-POINT Matrix Switcher Unit

- 1 of CABHARNRACK07, 25 Way to 9 way serial control cable, 2 metres, 100 metres maximum.
- · 1 of CABHARNRACK06, 9 way to 9 way rack interconnect control cable, 100 metres maximum.

5. Remote Control Mic Amplifiers

· 1 of SUBDSPFameXLR, 9 way to XLR, 100 metres maximum.

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5. INSTALLING THE FAME SYSTEM

The following block diagram is included for referencing the data cable interconnections for the Fame system.

THE FAME CONSOLE

The console dimensions can be found in the Dimensions Appendix of this manual. There are three frame sizes for the console in either a Standalone or Drop through version. 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 Console. Although the 'drop through' console can be supported on a flat surface as a temporary measure until installation is complete. All relevant dimensions can be found in the Appendix of this manual.

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.

- 1. Position the console to allow access to the rear connector panel beneath the TFT display.
- 2. Locate 400 Series Power Supply, IBM PC, Matrix and Surround Monitor Units, with their associated power and control cables.
 - · 1 of 25 way flat ribbon cable (Surface control)
 - · 1 of 9 pin D type F/M to 9 pin Male D type (Touch Screen Control)
 - · 1 of 44 way Hi Density Male to Male connector (TFT Display)
 - · 1 of 8 metre DC power cable (Surface DC supply)
 - · 1 of 25 way male D type to 9 way male D type (Matrix control)
 - · 1 of 9 way male D type to 9 way male D type (Matrix 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 3 metres from the rear connector panel on the console. This length is governed by the TFT display cable.
- 5. From **Slot 2** on the PC, connect the 25 way flat ribbon cable to the rear connector panel on the Fame console. This is the surface control cable.
- 6. From **Slot 1** 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 **COM A** 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.



- 8. From **Slot 4** 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 Matrix 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 Matrix 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 MFX Mainframe (Fame Processor rack).
- 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 Matrix 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 1** on the PC. This is a 15 way Hi Density connector, the pin out information is in the Appendix of this manual.
- 14. The VGA extension cable, 15 way Hi Density, should be connected to the VGA output on the rear of the MFX rack.
- 15. The Centronics 24 way to D-Type 37 way cable supplied should be connected between the rear of the MFX mainframe and the 37-way D connector on the underside of the FAME chassis.

Surround Monitor, Matrix and Remote Mic Amp Setup.

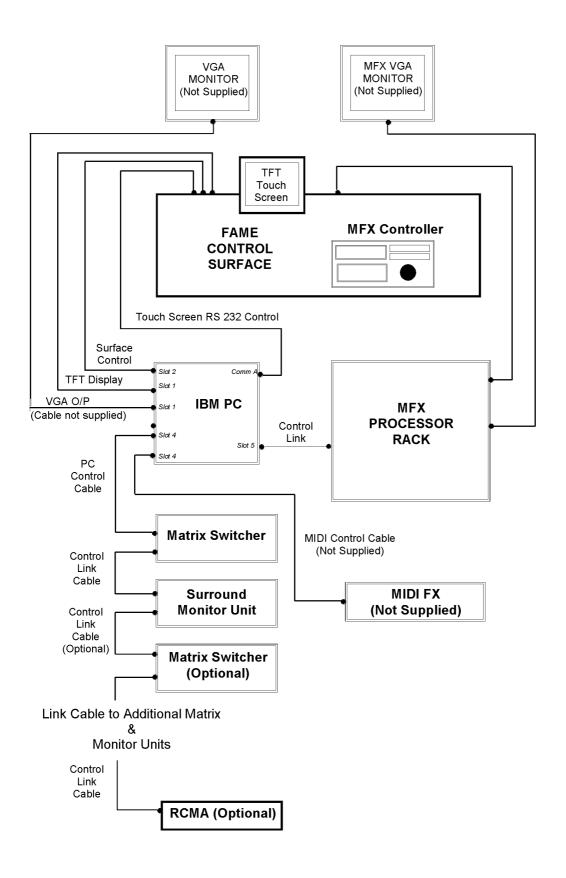
The Surround Monitor, Matrix and RCMA units communicate with the PC using a shared data bus. Each unit on the data bus must have a unique ID number. The ID number can be in the range of 1 to 16. The position of the unit on the bus does not relate to the ID number.

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.

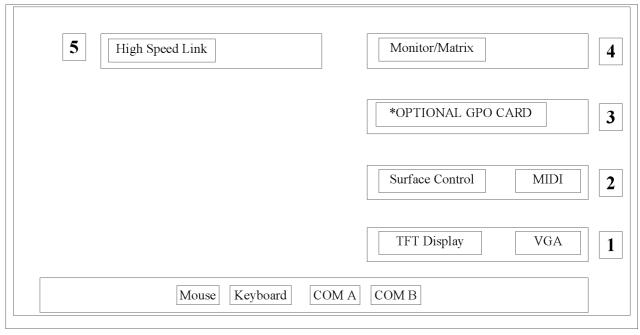
FAME System Control Cable Interconnections





6. Pentium PC Connection Details

IBM PC REAR VIEW OF CONNECTOR PANEL.



There are 5 card slots on the rear connector panel of the PC. Below is a description of each card and it's relevant slot location.

SLOT 1 - GRAPHICS DRIVER CARD.

This card is a Cirrus Logic VGA adapter, UV 635, part code 10.4TFTSCNDRV. It has TFT and VGA display outputs.

Connectors:

26 way Hi Density - TFT display

Pin 1	B1
Pin 2	B2
Pin 3	В3
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 - External VGA display, resolution 640 x 480. * Cable not supplied

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

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.

Connectors:

· 25 Way F/M D-Type flat ribbon - Control surface Comms.

```
Pin1
           Screen
Pin2
           XMT -FF (-)
Pin3
           XMT - CLK (-)
Pin4
           XMT - DAT (-)
           XMT - WR (-)
Pin5
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 +
           XMT - CLK +
Pin15
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.

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

Cable not supplied.

SLOT 3 - OPTIONAL GPO FADER START CARD

This card provides 40 General Purpose Outputs, software defined. The connector is a 50 pin female high density D-type, specified as follows:

PIN	FUNCTION	PIN	FUNCTION
1	$\mathbf{0V}$	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	$\mathbf{0V}$
10	GPO 22	35	GPO 3
11	$\mathbf{0V}$	36	GPO 6
12	GPO 26	37	$\mathbf{0V}$
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	+5V	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	$\mathbf{0V}$
23	GPO 14	48	GPO 38
24	$\mathbf{0V}$	49	-12V
25	GPO 18	50	+5V

Each output is an open collector which can sink 24 mA at 0.45V sourced from a 4k7 resistor at +5V. This is not very much current. The system is designed to be TTL compatible and can be set to float in either direction at reset in groups of 8. External driver circuitry is required to interface the Fader Start system.

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 EX-Link. Each device on the bus must have a unique ID number.

25 Way Female D-Type Connector

```
Pin 1 RX Signal
Pin 2 N/C
Pin 3 Signal Common
Pin 4 N/C
Pin 5 TX Signal
Pin 6 through Pin 25 N/C.
```

SLOT 5 - HIGH SPEED CONTROL LINK

This card is used for high speed communications with the Fairlight. It is a 979 card.

The connector is a 25 way female D-type, specification is as follows:

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

The following pairing should be used on the interconnecting cable to the Fairlight. (Recommended cable is Belden 9510)

Pin 1	Screen	
Pin 2	Pair 1	Pin 14
Pin 3	Pair 2	Pin 15
Pin 4	Pair 3	Pin 16
Pin 5	Pair 4	Pin 17
Pin 6	N/A	Pin 18
Pin 7	N/A	Pin 19
Pin 8	Pair 5	Pin 20
Pin 9	Pair 6	Pin 21
Pin 10	Pair 7	Pin 22
Pin 11	Pair 8	Pin 23
Pin 12	N/A	Pin 24
Pin 13	Pair 9	Pin 25

COM A

This port is used for RS232 communications with the Touch Screen Driver card. 9 way Male connector.

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

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7. 9098 MICROPHONE AMPLIFIER

To use the RCMA on the Fame system the following definition file needs to be modified:

C: \ DSP \ SYSTEM \ IO.DEF

The format of the statement to modify is as follows:

IO_CHANNEL, Dir, Type, Link, Desc, Name, ID, Mic#

The parameters are as follows:

dir: direction + 8, direction is 1 = input, 2 = output

type: 9 = Remote RCMA port

link: Identifies stereo ports, 0= not linked, 1 = linked to next port, -1= linked to previous port

desc: description field (eg. MIC1) appears in the I/O Description field on the IO

name :user editable field (eg. RCMA1) appears in the Name field on the IO List ID : this is the RCMA unique ID number set up on the front control panel

For an RCMA set for ID 4, the following lines of code would be entered in the IO.def file:

IO_CHANNEL, 9, 9, 0, MIC1, RCMA1, 4, 0

IO_CHANNEL, 9, 9, 0, MIC2, RCMA2, 4, 1

IO_CHANNEL, 9, 9, 0, MIC3, RCMA3, 4, 2

IO_CHANNEL, 9, 9, 0, MIC4, RCMA4, 4, 3

CONTROL CABLING

On the rear of the RCMA connector panel there are two XLR Control connections:

MASTER IN

MASTER OUT

The control cable supplied with the RCMA unit is a 9 way Male D type to Male XLR. This cable should be connected from the Remote Through connection on the Surround Monitor / Matrix Unit to the **Master IN** XLR on the RCMA.

Additional RCMA units can be connected using a pin to pin XLR cable from Master Out.

The Master In control cable has the following pin out:

Male XLR 9 Way D Type Male
Pin 1 Pin 5
Pin 2 Pin 1
Pin 3 Pin 3

8. Fame Audio Connections

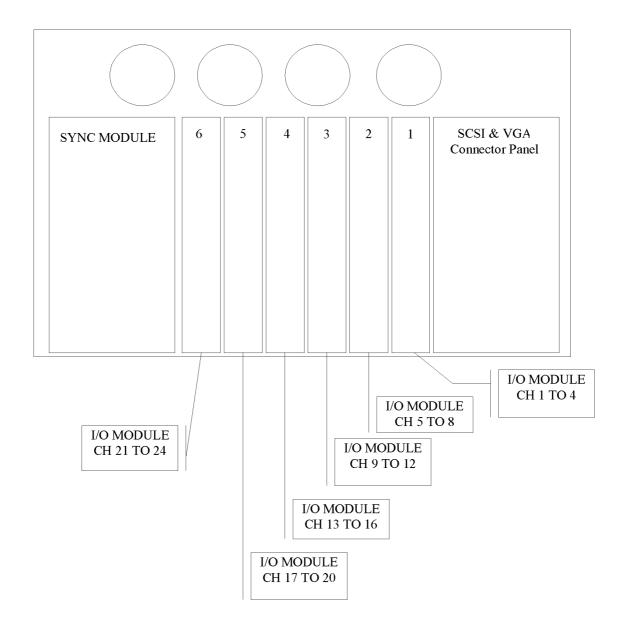
The Fame MFX3 rack has 24 inputs and 24 outputs. The input/output hardware is divided in to *modules*. There are 6 modules. Each module provides 4 channels worth of analogue and digital I/O processing.

On each module there are 3 connectors, these are:

- · 15 Way Male D Type for the Analogue Outputs
- · 15 Way Female D Type for the Analogue Inputs
- · 37 Way Female D Type for the Digital Inputs and Outputs

The specific pin outs for each connector can be found in the connection details in the Appendix.

REAR VIEW OF MFX 3 19 INCH RACK



9. FAME AUDIO ASSIGNMENTS

INPUT ASSIGNMENTS

There are 24 physical inputs to the Fame. These are divided in to 12 $^{\prime}\text{A}'$ inputs and 12 $^{\prime}\text{B}'$ inputs.

Electrically the A and B inputs are identical, however, there are restrictions as to how the A and B inputs are patched to FEEDS.

There are three types of FEEDS, **Track, Live** and **Insert Returns.** The following restrictions apply when patching an Input to a Feed:

- 1. Track feeds. Use A or B inputs.
- 2. Live feeds. Use A inputs only.
- 3. Insert Return feeds. Use B inputs only.

INPUT	TYPE	FEED
1	Α	LIVE INPUT
2	A	LIVE INPUT
3	B	INSERT RETURN
4	В	INSERT RETURN
5	A	LIVE INPUT
6	A	LIVE INPUT
7	В	INSERT RETURN
8	В	INSERT RETURN
9	A	LIVE INPUT
10	A	LIVE INPUT
11	В	INSERT RETURN
12	В	INSERT RETURN
13	A	LIVE INPUT
14	A	LIVE INPUT
15	В	INSERT RETURN
16	В	INSERT RETURN
17	A	LIVE INPUT
18	A	LIVE INPUT
19	В	INSERT RETURN
20	В	INSERT RETURN
21	A	LIVE INPUT
22	A	LIVE INPUT
23	В	INSERT RETURN
24	В	INSERT RETURN



OUTPUT ASSIGNMENTS

The Fame has 24 physical outputs.

These are also divided into A and B types.

Electrically the A and B outputs are identical, however, there are restrictions as to how the A and B outputs are used.

The outputs can be either **Bus** or **Insert Send** outputs. The following restrictions apply:

- 1. Buses can only use the A outputs
- 2. Insert Sends can only use the B outputs
- 3. Direct 'disk track' outputs can use any output

OUTPUT	TYPE	SOURCE
1	A	BUS OUTPUT
2	A	BUS OUTPUT
3	В	INSERT SEND
4	В	INSERT SEND
5	A	BUS OUTPUT
6	A	BUS OUTPUT
7	В	INSERT SEND
8	В	INSERT SEND
9	A	BUS OUTPUT
10	A	BUS OUTPUT
11	В	INSERT SEND
12	В	INSERT SEND
13	A	BUS OUTPUT
14	A	BUS OUTPUT
15	В	INSERT SEND
16	В	INSERT SEND
17	A	BUS OUTPUT
18	A	BUS OUTPUT
19	В	INSERT SEND
20	В	INSERT SEND
21	A	BUS OUTPUT
22	A	BUS OUTPUT
23	В	INSERT SEND
24	В	INSERT SEND

10. Fame Connector Details

The audio connector details are only shown for the first four channels. Each input output module has identical pin outs.

Analogue Inputs

Connectors: 15 pin D - mini Female

Input: Balanced
Input level: +22dBu Max

Input sensitivity: - 10 dBu / +4dBu software switched

Input attenuation range : 14dB to -99 dB Input impedance: > 10K ohm

PIN FUNCTION

1 Frame Ground

2 IN 1 GND

3 IN 2 +

4 IN 2 -

5 IN 3 GND

6 IN 4 +

7 IN 4 -

8 NC

9 IN 1 +

10 IN 1 -

11 IN 2 GND

12 IN 3 +

13 IN 3 -

14 IN 4 GND

15 NC

Analogue Outputs

Connector: 15 Pin D - mini Male

Output: Electronic Balanced Differential

Output Level: + 22 dBu max at 0 dBFS

Output impedance: < 55 ohms

Output Load: 600 ohms minimum

PIN FUNCTION

- 1 Frame Ground
- 2 OUT 1 GND
- 3 OUT 2 +
- 4 OUT 2 -
- 5 OUT 3 GND
- 6 OUT 4 +
- 7 OUT 4 -
- 8 NC
- 9 OUT 1+
- 10 OUT 1 -
- 11 OUT 2 GND
- 12 OUT 3 +
- 13 OUT 3 -
- 14 OUT 4 GND
- 15 NC



DIGITAL INPUTS AND OUTPUTS

AES / EBU Inputs

Connector: 37 way D mini Female

Channels: 2 by Stereo pairs per I/O module Sample Rates: 44.1 KHz, 48 KHz, 32 KHz, 44.056 KHz

Input Type: 200 mV Differential Minimum

Input Level: +22 dBu Peak (0 dBFS)

PIN FUNCTION
17 AES IN 1 GND
18 AES IN 2 19 AES IN 2 +
35 AES IN 1 36 AES IN 1 +
37 AES IN 2 GND

AES / EBU Outputs

Connector: 37 way D mini Female

Channels: 2 by Stereo pairs per I/O module Sample Rates: 44.1K, 48K, 32K, 44.056 KHZ

Output Level: 4.3V Minimum

PIN FUNCTION
14 AES OUT 1 GND
15 AES OUT 1 16 AES OUT 1 +
32 AES OUT 2 33 AES OUT 2 +
34 AES OUT 2 GND

11. MFX 3 Synchronisation Cables

CONSOLE CONTROL CABLE

24 Pin Male Centronics to 37 Pin Male D Connector. The cable is 12 twisted pair 7/0.02 stranded cores RS422 hi-speed low-impedance data cable with a braided screen (eg Garland MCP-12S/BS). The cable is wired pin for pin at both ends - NOTE PAIRING!

/ Pin 1	Ground	Green
\ Pin 4	Spare 3	Green/Red
/ Pin 2	Spare 1	Grey
\ Pin 3	Spare 2	Grey/Red
/ Pin 23	RSO2	Green
\ Pin 15	Spare 4	Green/Black
/ Pin 24	RSO1	Orange
\ Pin 16	Ground	Orange/Black
/ Pin 5	FS+	Brown
\ Pin 17	FS-	Brown/White
/ Pin 6	RX422+	Grey
\ Pin 18	RX 422 -	Grey/White
/ Pin 7	MI2+	Orange
\ Pin 19	MI2 -	Orange/White
/ Pin 8	MFX Sen	Green
\ Pin 20	SYSC	Green/Yellow
/ Pin 9	MI1+	Blue
\ Pin 21	MI1-	Blue/White
/ Pin 10	MO1+	Green
\ Pin 22	MO1-	Green/White
/ Pin 11	RSI2	Grey
\ Pin 13	Ground	Grey/Black
/ Pin 12	RSI1	Brown
\ Pin 14	Ground	Brown/Black





This is an itemised list of the cables supplied with each unit. The block diagram shows a typical set up. More units can be added using the appropriate interconnect cables.

MATRIX

PART CODE DESCRIPTION LENGTH

CABHARNRACK07 25 Way Male D to 9 way Male D 1 metre CABHARNRACK06 9 Way Male D to 9 way Male D 1 metre

Surround Monitor

PART CODE DESCRIPTION LENGTH

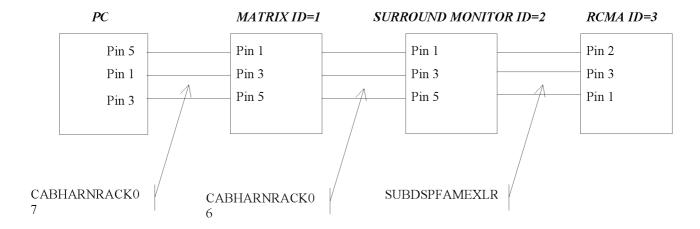
CABHARNRACK07 25 Way Male D to 9 way Male D 1 metre CABHARNRACK06 9 Way Male D to 9 way Male D 1 metre

RCMA

PART CODE DESCRIPTION LENGTH

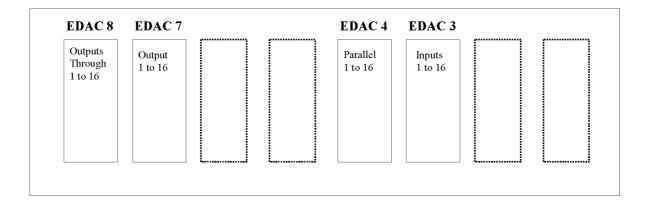
SUBDSPFameXLR XLR MALE TO 9 Way Male D3 metres

CONTROL CABLE SETUP

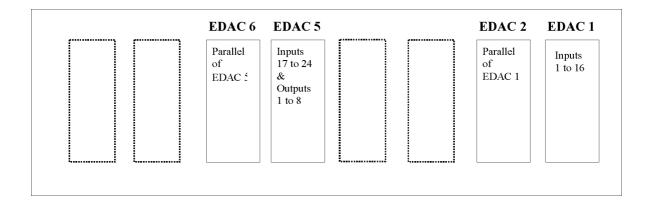


13. MATRIX EDAC CONNECTION DETAILS

16 x 16 X-POINT CONNECTIONS



24 x 8 X-POINT CONNECTIONS



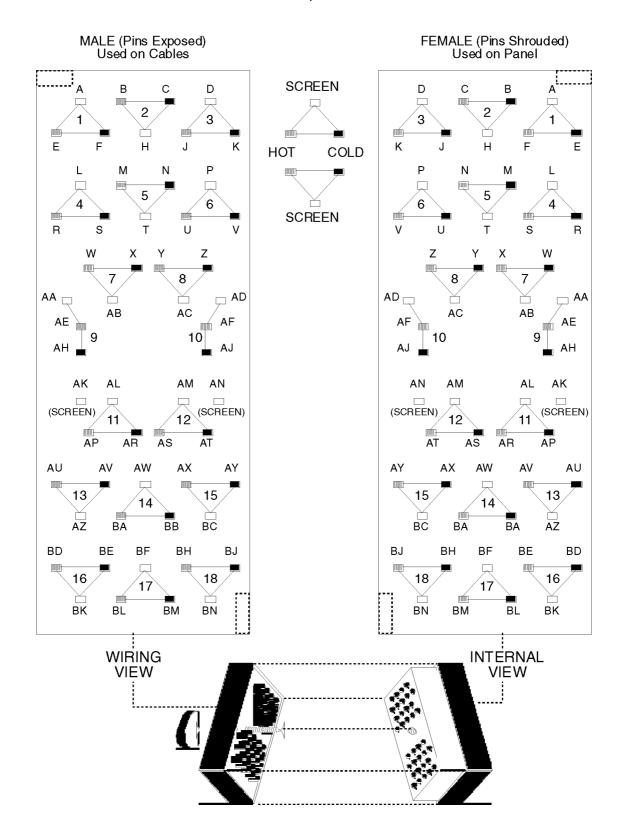
32 x 8 X-POINT CONNECTIONS

EDAC 8	EDAC 7	EDAC 6	EDAC 5	,	 EDAC 2	EDAC 1
Parallel tc EDAC 7	Output 1 to 8	Parallel tc EDAC 1	Inputs 17 to 32		Parallel tc EDAC 1	Inputs 1 to 16



EDAC Pinout Diagram

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



14. MATRIX EDAC CONNECTIONS

16 x 16 Cross Point

EDAC	EDAC 3		EDAC 4	EDA	C 7	EDAC 8	
CCT	Input	Pin	Input Through		CCT Output		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	Н		02	OUT2 Sc	Η	
02	IN 2 +	В		02	OUT2+	В	
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	
80	IN 8 Sc	AC		08	OUT8Sc	AC	
80	IN 8 +	Y		08	+ 8 TUO	Y	
80	IN 8 -	Z		08	OUT 8 -	Z	
09	Not Used	AA		09	Not Used	AA	
09	Not Used	AE		09	Not Used	ΑE	
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	ÁĹ		11	Out10Sc	ÁĹ	
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	ΑZ		13	Out12Sc	ΑZ	
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	
$\overline{14}$	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	1	6	OUT15-	BE
17	IN 16 Sc	BF	1	7	Out16Sc	BF
17	IN 16 +	BL	1	7	OUT16+	BL
17	IN 16 -	BM	1	7	OUT16-	BM
18	Not Used	BN	1	8	Not Used	BN
18	Not Used	BH	1	8	Not Used	BH
18	Not Used	BJ	1	8	Not Used	BJ

24x8 Cross Point

	14 IN 13 + BA 14 OUT5+ BA			EDAC 2 Input Through Connections In Parallel with EDAC 1	01 01 02 02 02 03 03 04 04 04 05 05 06 06 06 07 07 07 08 08 09 09 10 11 11 11 11 12 12 13 13 14 14 14	Output IN 17 Sc IN 17+ IN 17- IN 18Sc IN 18+ IN 18- IN 19Sc IN 19+ IN 19- IN 20 Sc IN 20 + IN 20 - IN 21Sc IN 21+ IN 21- IN 22 Sc IN 22 + IN 22 - IN 23 Sc IN 23 + IN 23 - IN 24 Sc IN 24 + IN 24 - Not Used Not Used Not Used Out1Sc OUT1+ OUT1- Out2Sc OUT2+ OUT2- Out3Sc OUT3+ OUT3- Out4Sc OUT4+ OUT4- Out5Sc OUT5+	AH AD AF AJ AL AP AR AM AS AT AZ AU AV AW BA	EDAC 6 Output Through Connections In Parallel with EDAC 5
14 IN 13 - BB 14 OUT5- BB	14 IN 13 + BA 14 OUT5+ BA	14 IN 13 +	BA		14	OUT5+	BA	

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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

32x8 Cross Point

edac 1 + edac 2			5 + edac 6	D.	edac	D!		
CCT	Pin	CCT		Pin	CCT		Pin	
01 IN 1 Sc	A	01	IN 17 Sc	A	01	Out 1 Sc	A	
01 IN 1+	E	01	IN 17+	E	01	Out 1 +	Е	
01 IN 1-	F	01	IN 17-	F	01	Out 1 -	F	
02 IN 2 Sc	H	02	IN 18 Sc	Н	02	Out 2 Sc	Н	
02 IN 2 +	В	02	IN 18 +	В	02	Out 2 +	В	
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	80	IN 24 Sc	AC	80	Out 8 Sc	AC	
08 IN 8+	Y	80	IN 24 +	Y	80	Out 8 +	Y	
08 IN 8 -	Z	80	IN 24-	Z	80	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	ΑZ	13	IN 28 Sc	ΑZ	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

Fame External Meters

The External Meter Housing has on 56 way EDAC connection with the following circuits:

CCT	FUNCTION	PIN
1	INPUT 1 Sc	A
1	INPUT 1 +	E
1	INPUT 1 -	F
2	INPUT 2 Sc	Н
2	INPUT 2 +	В
2	INPUT 2 -	С
3	INPUT 3 Sc	D
3	INPUT 3 +	J
3	INPUT 3 -	K
4	INPUT 4 Sc	L
4	INPUT 4 +	R
4	INPUT 4 -	S
5	INPUT 5 Sc	T
5	INPUT 5 +	M
5	INPUT 5 -	N
6	INPUT 6 Sc	P
6	INPUT 6 +	U
6	INPUT 6 -	V
7	INPUT 7 Sc	AB
7	INPUT 7 +	W
7	INPUT 7 -	X
8	INPUT 8 Sc	AC
8	INPUT 8 +	Y
8	INPUT 8 -	Z
9	Not Used	AA
9	Not Used	AE
9	Not Used	AH
10	Not Used	AD
10	Not Used	AF
10	Not Used	AJ
11	Not Used	AL

twirlight...

11	Not Used	AP
11	Not Used	AR
12	Not Used	AM
12	Not Used	AS
12	Not Used	AT
13	Not Used	AZ
13	Not Used	AU
13	Not Used	AV
14	Not Used	AW
14	Not Used	BA
14	Not Used	BB
15	Not Used	BC
15	Not Used	AX
15	Not Used	AY
16	Not Used	BK
16	Not Used	BD
16	Not Used	BE
17	Not Used	BF
17	Not Used	BL
17	Not Used	BM
18	Not Used	BN
18	Not Used	BH
18	Not Used	BJ



15. Surround Monitor Description

The Surround Monitor Unit provides the analogue monitor and meter switching for the Fame system. It comprises of the following features.

- · 8 Main Inputs. These inputs are fed from the designated Control Room Monitor outputs of the Fame.
- 8 External Inputs. These inputs can be fed from the X-Point Matrix to provide 'External to Monitor' switching. The definition file 'Mon_Sect.def' is used to control the external source selection.
- External Stereo Input. This input is provided for monitoring an external source 'Post Insert'. It can only be monitored on speaker feeds 1&2.
- * 12 in to 8 Surround Multiplexer Card. Two of these cards can be fitted. Each card provides an additional 12 A and 12 B inputs (12 Film and 12 Direct), which are mixed to 8 sub buses, L bus, R bus, C bus, S bus, LS bus, RS bus, LF bus and RF bus. Following the source selector, there are 12 meter feeds provided and a non destructive pre or post mute solo system.
- 8 Inserts. These are post source selection and allow for the insertion of an encoding device.
- Studio Talk Back input. This input can only be routed to speaker outputs 7 & 8, which should be used for feeding the 'Studio' monitors. The optional ACAD card can route the signal to the Secondary Studio Monitor.
- Return Talk Back input. This input is used for talk back from the Studio to the Control Room. The Talk Back signal can only be picked up by speaker outputs 1&2. The Return Talk Back function is triggered remotely using GPI inputs on the Surround Monitor Unit.
- · Solo Input L & R. Not used
- · External Meter Input L&R. This input can be fed to the Solo Meter Output L&R.
- *External Studio L&R Input. Used to feed an external source to the Secondary Studio Speakers.
- *Studio Output L&R. Used as the feed for the Secondary Studio Monitors (secondary monitor system).
- *Derived O/P L&R. Sourced from 'post inserts'. Used to feed the secondary monitor system or a stereo machine..
- *Noise I/O. Can be used as an input to inject Noise for monitor line ups. A Pink Noise generator is fitted to the ACAD card. The Noise can be switched to this output and used for adding ambience or monitor line up purposes.
- *Mono Speaker Output. This output can be used to feed a Mono speaker in a booth, or console near field speaker. It's source can be fed from the Mono Mix, Solo or Return Talk Back. The mono source can be pre or post the Academy filter card. Noise is not fed to this output.
- 8 Speaker Outputs. These are assigned as
 1= L, 2=R, 3=C, 4=S (or SUB in 5 channel or 5.1 mode), 5=LS, 6=RS, 7=Studio Left, 8=Studio R.
- · 2 Alternate Speaker Outputs (B1, B2). These can be used for near field stereo monitors
- · 8 Main Meter Outputs. Pre insert, pre monitor level control.
- · Solo Meters L & R. Can be sourced from L&R solo, L&R external input, Mono pre insert (L) and post insert (R) or from the secondary monitor source (if option fitted).
- *12 or 24 Meter Outputs. Requires one or 2 Multiplexer cards to be fitted.
- *Derived Mono Insert Send/Return.
- · Academy Filter. Optional filter card.

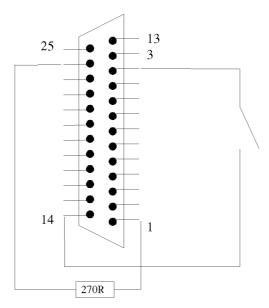


The Monitor Schematic provides more detailed signal flow information.

The Surround Monitor Unit, like the Matrix and RCMA, is controlled by the PC via the Serial Communication Bus. The Surround Monitor Unit must be set for **ID 2.** Audio connections are made via eight 56 way EDAC connectors, the Surround Monitor Rear View diagram shows the relevant EDAC circuits.

Refer to diagrams for the relevant EDAC pin outs.

There is a 25 way D type connector on the rear of the unit. This connection is the General Purpose I/O. Return Talk Back is triggered from this connector via the following connection:



25-way D male, viewed from solder side

Specifications

Main Inputs to Speaker Outputs (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

Connectors 56 way EDAC socket

Input Balanced
Input Level (Max) +26dBu
Input Sensitivity +4dBu

Input Impedance 40K ohm Balanced

Analogue Outputs

Connectors 56 way EDAC socket Output Impedance 65 ohms Balanced

Output Level (Max) +26 dBu

(More detailed specifications are available on request.)



CONNECTORS

General Purpose Interface.

8 general purpose inputs, opto-isolated $+5\mathrm{V}$ max. 2 general purpose outputs, opto-isolated $+5\mathrm{V}$ max.

25 Way D Female 'J2'

Pin 1	GPI 0+	
Pin 2	GPI 1+	
Pin 3	GPI 2 +	
Pin 4	GPI 3+	
Pin 5	GPI 4+	
Pin 6	GPI 5+	
Pin 7	GPI 6+	
Pin 8	GPI 7+	
Pin 9	GPO 0+	
Pin 10	GPO 1+	
Pin 11	DGND	
Pin 12	ADGND	
Pin 13	AD+V	
Pin 14	GPI 0-	
Pin 15	GPI 1-	
Pin 16	GPI 2-	
Pin 17	GPI 3-	
Pin 18	GPI 4-	
Pin 19	GPI 5-	
Pin 20	GPI 6-	
Pin 21	GPI 7-	
Pin 22	GPO 0-	
Pin 23	GPO 1-	
Pin 24	+5V	
Pin 25	AD IN	Control Voltage (+5V Max)

Remote IN.

Serial Comms Data to the PC.

9 Way D Type Female

Pin 1	Signal Gnd
Pin 2	N/C
Pin 3	RX
Pin 4	N/C
Pni 5	TX
Pni 6	N/C
Pin 7	N/C
Pin 8	N/C
Pin 9	N/C

Remote OUT.

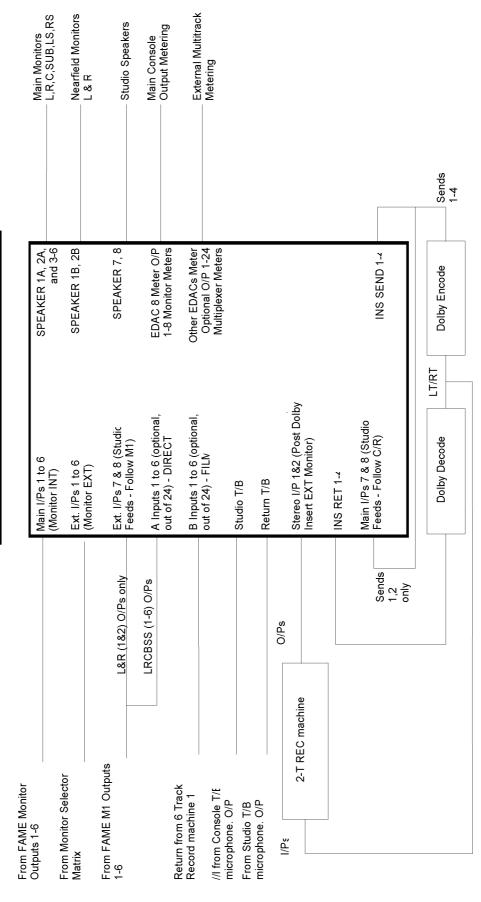
Serial Comms Data to additional Matrix units.

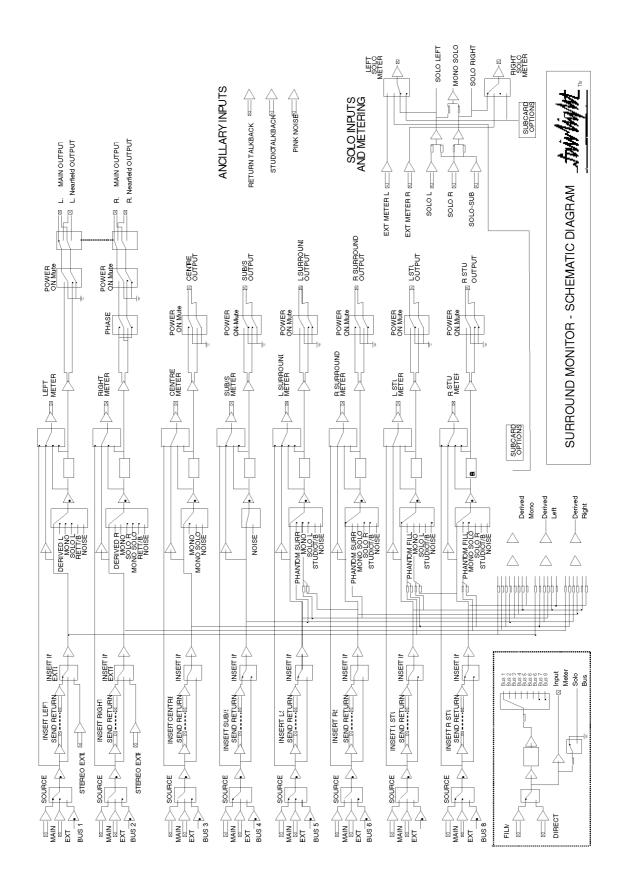
9 Way D Type Female

Pin 1	Signal Gnd
Pin 2	N/C
Pin 3	RX
Pin 4	N/C
Pni 5	TX
Pni 6	N/C
Pin 7	N/C
Pin 8	N/C
Pin 9	N/C



Example Surround Monitor I/O Connections for 6-4-2 Surround Sound work





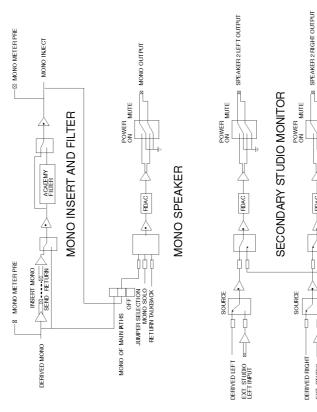


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STUDIOTALKBACK

PINK NOISE GENERATOR





SURROUND MONITOR - REAR VIEW

SEDA	- [1	m	7	w	•	-	•	0	유	Ξ	ij	ᄪ	₹	扣	#	4	甲		
	A INPUT 1 B INPUT 1	METER OVP 1	A INPUT2	B INPUT 2	METER OVP 2	A INPUT 3	B INPUT 3	METER OVP3	A INPUT 4	B INPUT 4	METER OVP4	A INPUTS	B INPUT 5	METER OVP 5	A INPUT B	B INPUT B	METER OVPB	EDAC 1	AOs 1 and 2 rif Sumound outs 1 to 12
	A INPUT 7 B N PUT 7	METER OVP7	A INPUT B	B IN PUT B	METEROVPB	A INPUT 9	B IN PUT 9	METEROVPB	A INPUT 10	B N PUT 10	METERO/P10	A INPUT 11	B N PUT 11	METER OVP11	A INPUT 12	B N PUT 12	METER OVP12	EDAC 2	Alle icuis on EDAOs 1 and 2 are associated with Sumound Multiplexer 1, inputs 1 to 12
	INS RET1	INS RET3	INS RET4	INS RETS	INS RETB	INS RET7	INS RETB	MONO RET	INS SEND 1	INS SEND 2	INS SEND 3	INS SEND 4	INS SEND 9	INS SEND B	INS SEND 7	INS SEND B	MONOSEND	EDAC 3	
	EXT IP 1 EXT IP 2	EXT VP 3	EXT VP 4	EXT I/P 5	EXT VP 8	EXT I/P 7	EXT I/P B	STERBO I/P1	MA N 1/2 1	MA N 1/P 2	MA N I/P 3	MA N 1/P 4	MA N 1/25	MA N I/PB	MA N 1/97	MAIN PB	STERBO IP2	EDAC 4	
	A INPUT 13 B INPUT 13	METER OVP 13	A INPUT 14	B INPUT 14	METER OVP 14	A INPUT 15	B INPUT 15	METER OVP 15	A INPUT 18	8 INPUT 18	METER OVP 18	A INPUT 17	B INPUT 17	METER OVP 17	A INPUT 18	B INPUT 18	METER OVP 18	EDAC 5	ACs Sand 8 rih Sumound outs 13 to 24
	A N PUT 19 B N P UT 19	METER CVP19	A N PUT 20	B NPUT 20		A N PUT 21	B NPUT 21	METER OVP 21	A N PUT 22	B NPUT 22	METER OVP 22		BINPUTZ	METER OVP 23	A N PUT 24	B NPUT 24	METER OVP 24	EDAC 6	All circuits on ED ACs Sand B are associated with Sumound Muliphecer2, inputs 13 to 24
\ \Z	"EXT STUDIOL A N PUT 19	*STUDIO CVP L	*STUDIO OVP R	UNUSED	UNITSED	"DERIVED OVP L	"DERIVED OVP R B NPUT 21	"MONO SPKR	SOLO IPPL	SOLO IVP R	EXT MET VP.L.	EXT MET VP R	SOLO METO/PL	SOLO METO/PR METER CVP Z3	BIT NRUTH	STUDIO 178	""NOISE I/O	EDAC 7	
	SPEAKER 1 A SPEAKER 2 A	SPEAKER3	SPEAKER4	SPEAKERS	SPEAKERB	SPEAKER7	SPEAKERB	SPEAKER 18	ME TER OVP 1	ME TER OVP 2	ME TER OVP3	ME TER OVP 4	ME TER OVP 5	ME TER OVPB	ME TER OVP 7	ME TER CVPB	SPEAKER 2 B	EDAC 8	
REMOTE 9 BIN DS 202	Sarah C			_	'n	IN THROUGH									_)			POWER

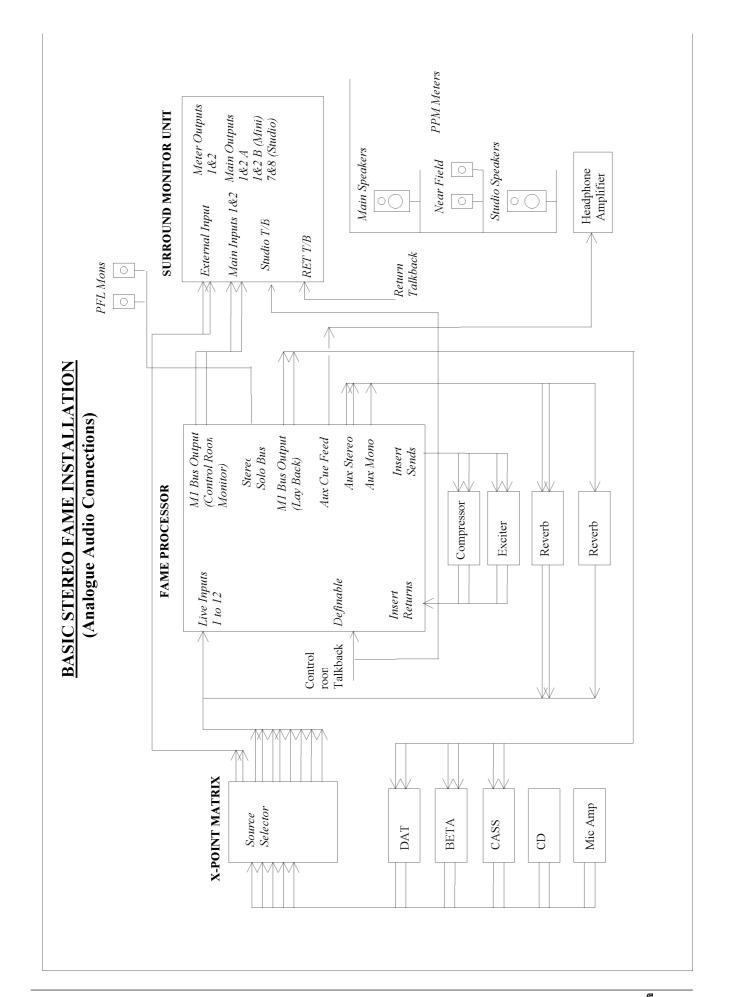
* All cicuits so marked are assezziated with the ACA Doptional card, which provides Noise cicuits, Academy Filts a and extra I/O ports.

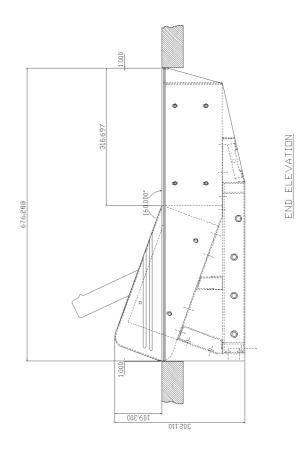
"The EXTERNAL STUDIO is uits are inputs to the ACAD card.

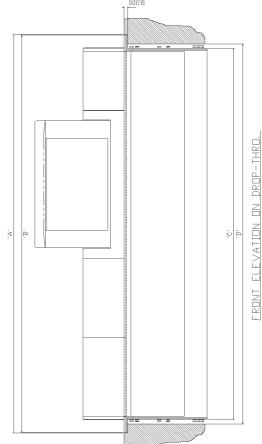
""The Noise I.O circul is normally an input through which the ownercan inject Noise for up purposes. When an ACAO is installed, the Noise is provided by it, and this circuit becomes an external output for the Noise signal.

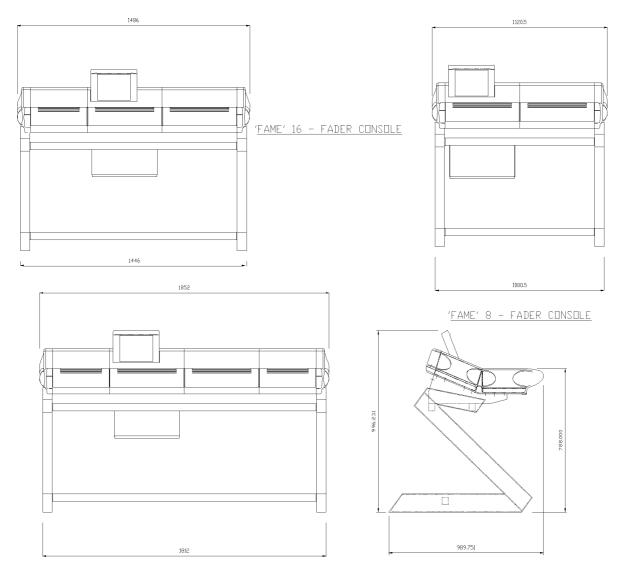












'FAME' 24 - FADER CONSOLE

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