

DCM 224V

User Manual Volume 2

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DCM 224V User Manual Volume 1
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In line with the company's policy of continual improvement, specifications and function maybe subject to change without notice. This Operator Manual was correct at the time of writing. E&OE.

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Section 1.....General Information

This Volume of the DCM224V manual deals with technical aspects of the DCM224V console, including information required by technicians for servicing and field commissioning.

Operational information, and installation wiring details are given in Volume 1 of this Manual.

Section 3.....Spare Parts List

3.1 Mechanical Parts

3.2 Electronics Parts

3.1 Mechanical Parts

3.11 Switches

SPAD type BUS, TAPE, SOLO, CUT etc	SWT01 - 0007
ALPS SUJ type Chan/Mix Reverse	SWT01 - 0005
Mic to Mix	SWT01 - 0005
Post	SWT01 - 0005
Channel Cut	SWT01 - 0008
Channel Solo	SWT01 - 0008
Fader Reverse	SWT01 - 0006
Routing (1 - 32)	SWT01 - 0005
Shift	SWT01 - 0006
Mix	SWT01 - 0006
Pan In	SWT01 - 0005
Dir	SWT01 - 0004
Input Rev	SWT01 - 0008
Sub Group	SWT01 - 0005
Tape Rev	SWT01 - 0004
Filter	SWT01 - 0005
x3 (EQ MID)	SWT01 - 0004
Mic/DI	SWT01 - 0005
20dB	SWT01 - 0004
10/20kHz	SWT01 - 0004
Ins Chan	SWT01 - 0005
EQ Chan	SWT01 - 0005
C & K type Fader Status	

3.12 Switch Caps

ALPS SUJ type Grey	FRN03 - 0005
Blue	FRN03 - 0006
Red	FRN03 - 0008
SPAD type Mix CUT	FRN03 - 0012
Mix SOLO	FRN03 - 0013
Mix BUS	FRN03 - 0034
Mix TAPE	FRN03 - 0026

Switch Caps (continued)

Masters (engraved)	
PFL (red)	FRN03 - 0015
AFL (red)	FRN03 - 0016
SIP (red)	FRN03 - 0017
MIC (red)	FRN03 - 0018
O/DUB (red)	FRN03 - 0019
TAPE (red)	FRN03 - 0033
BUS (red)	FRN03 - 0035
MUTE A (black)	FRN03 - 0020
MUTE B (black)	FRN03 - 0021
TAPE A (red)	FRN03 - 0023
TAPE B (red)	FRN03 - 0024
GROUP (red)	FRN03 - 0025
MIX (red)	FRN03 - 0027
STUDIO (red)	FRN03 - 0028
COMM (red)	FRN03 - 0029
GREEN (black)	FRN03 - 0030
RED (black)	FRN03 - 0031

3.13 Potentiometers

P & G Fader, Mix, 110mm	POT03 - 0002
P & G Fader, Chan, 45 mm	POT03 - 0005
P & G Fader, Stereo	POT03 - 0003
4K7 Dual Pot	POT01 - 0001
10K Antilog Pot	POT01 - 0002
10K Log Pot	POT01 - 0003
10K Log Dual Pot	POT01 - 0004
47K Linear Pot	POT01 - 0005
100K Antilog Dual Pot	POT01 - 0006

3.14 Meters

VU Meter	MTR01 - 0002
Phase Meter	MTR01 - 0003

3.15 Connectors

XLR Female, 3 pin chassis	CON02 - 0004
EDAC connector, cable mount, with shell	CON06 - 0002
EDAC pin, solder type	CON06 - 0004
Patchbay Jack socket	CON02 - 0007

3.16 Control Knobs

P&G Fader Knob, White	FRN04 - 0008
P&G Fader Knob, Red	FRN04 - 0007
P&G Fader Knob, Yellow	FRN04 - 0006
Control Knob, Dark Grey Body	FRN05 - 0001
Control Knob, Grey Body	FRN05 - 0002
Control Knob Cap, Dark Grey	FRN05 - 0003
Control Knob Cap, Grey	FRN05 - 0004
Control Knob Cap, Red	FRN05 - 0005
Control Knob Cap, Blue	FRN05 - 0006
Control Knob Cap, Green	FRN05 - 0007

3.17 Fixings

Module Fixing Screw	HWR01 - 0018
Module Fixing Washer	HWR02 - 0004

3.18 Fuses

3.15A Slow Blow	CSM02 - 0006
6.3A Slow Blow	CSM02 - 0007
10A Slow Blow	CSM02 - 0008
10A Slow Blow, 20mm	CSM02 - 0011

3.2 Electronic Parts

3.21 Integrated Circuits

TL071	SEM06 - 0001
TL072	SEM06 - 0002
TL074	SEM06 - 0003
5534	SEM06 - 0004
5532	SEM06 - 0009
4556	SEM06 - 0017
5440 Serial decoder	SEM06 - 0018
33079	SEM06 - 0022
DBX 2150 VCA	SEM06 - 0021

3.22 Transistors

BC182	SEM04 - 0004
BC212	SEM04 - 0005
BC184	SEM04 - 0003
2SB737	SEM04 - 0006
BC441	SEM04 - 0007
BC461	SEM04 - 0008
2N3055	SEM04 - 0001
PN3055	SEM04 - 0002
KBL02	SEM03 - 0002
261 - 491	SEM03 - 0001
J111 Fet	SEM04 - 0010

3.23 Diodes

1N4148	SEM02 - 0001
1N4002	SEM02 - 0002
Zener, 12V	SEM02 - 0003
Zener, 56V	SEM02 - 0004
Zener, 25V	SEM02 - 0005
Zener, 4.7V	SEM02 - 0006
Zener, 6.8V	SEM02 - 0007
Zener, 9.1V	SEM02 - 0008
Zener, 22V	SEM02 - 0009

3.24 Indicators

Spad Bulb, 24 V	LMP01 - 0001
VU Meter Bulb	LMP01 - 0002
Led, 3mm red	SEM01 - 0002
Led, 3mm green	SEM01 - 0001
Led, Min Red	SEM01 - 0005
Led, Min Amber	SEM01 - 0007
Led, Min Green	SEM01 - 0006

Section 4.....Service/Technical Bulletins

This section is reserved for Service and Technical Bulletins which may be issued from time to time.

DCM SOFTWARE UPGRADE

This software has been updated to contain the following new EPROMs:-

Name	Type	Checksum
Main V4.5	27C256	35F3B1
VCA V3.3	27C512	DF9D03

This software is similar to Main V3.3 and VCA V2.3 with the additional facilities of:-

Mute Clear on any channel(s) or group(s) between specified timecode locations.

Timecode capturing "on the fly" to define the boundaries between which the mutes will be deleted.

Optional use of the RUN key except in SIMULATE mode where operation is unchanged.

Channel Event clear.

These new features are used in dynamic mode after a mix pass, in which mutes have been written, is made. Previously, in order to alter mutes it was necessary to use ROLL mode which could lead to confusion owing to a mute requiring an ON and an OFF command. Both commands must be deleted or else the remaining one could influence future mutes.

IN ORDER TO USE THE MUTE CLEAR AND CHANNEL CLEAR FACILITIES THE MIX MUST BE STOPPED AND THE RUN KEY MUST NOT BE FLASHING.

Mute Clear

The mute clear command allows the operator to clear mutes completely by means of the following steps.

- 1 Create a mix with mutes. During the period of the mix running the EXECUTE key may be pressed once to capture a timecode start value and again to capture a timecode stop value for use with the MUTE CLEAR feature. During the period of timecode capture a "C" appears in the top right hand corner of the screen.
- 2 Press the DEL key twice. You must not have the RUN key flashing - if it is then press it once to take the automation system "off line".

DDA CUSTOMER SUPPORT

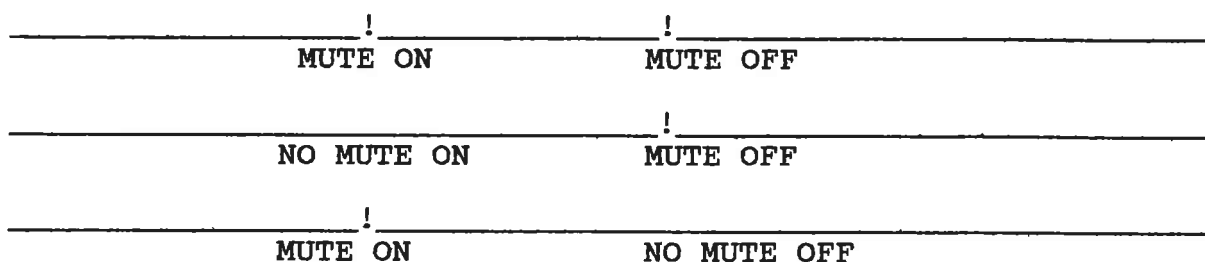
- 3 Enter the channel and or group numbers which you want to clear of mutes.
Do this by entering two digits per channel e.g. 07 for channel 7 or by using a full stop to separate channel numbers. Groups are selected by pressing the GROUP X key on the CAT where X is the number of the group to be deleted.

The command line should look like the following:-

DEL.DEL.GRP 1.01020324 OR DEL.DEL.GRP 1.01.02.03.24

and this will delete mutes on group 1 and channels 01, 02, 03 and 24.
- 4 Press the EXECUTE key.
- 5 The screen will now ask you for a timecode start value or, if you wish to use the timecode value stored in step 1 simply press EXECUTE. This sets the point from which mutes will be cleared. If timecode is entered manually all digits do not have to be entered but hours and minutes at least are required. Use a full stop between hours, minutes, seconds and frames as you type in the numbers. Ensure that this point is before the start of any mutes that are to be deleted.
- 6 Press the EXECUTE key if timecode was entered manually.
- 7 If stored timecode was used in step 6 then the stored end point is used to define the point after which mutes will not be cleared. If manual timecode entry was used in step 6 the screen will ask for a timecode stop value setting the point beyond which mutes will not be cleared. This need not be entered and hitting the EXEC key will mean that the mutes are cleared to the end of the mix. Ensure that this point is after all mutes that are to be deleted.
- 8 Press the EXECUTE key if timecode was entered manually.
- 9 The screen will now ask for confirmation of each group and channel - the normal response will be to press the Y key. The computer then clears that group or channel of mutes between the specified timecode points before requesting confirmation of the next group or channel.
- 10 The screen will now return to the dynamic automation and the mix can then be re-run by pressing the RUN key.

Note that as a mute consists of a MUTE ON and a MUTE OFF command then two possibilities exist for error. If the timecode values do not include the mute off command it will remain and will influence any new mutes written in front of it. If the timecode values do not include the mute on command it will remain and will produce a mute until the end of the mix or until the next mute off command.



With this system it is possible to delete one group or channel at a time or any number of groups and channels up to the number installed in the desk.

Channel Clear

To clear a channel of ALL automated switch changes the following command structure should be used:-

DEL.CHAN.02

This example will delete all switch information from channel 2 for the duration of the mix. The information can then be re-written during a subsequent pass of the mix.

Run Key

If you do not wish to have to press the RUN key after every pass of a mix then a new line has been added to the PARAMETER screen giving the option of Run Key ON/OFF. This line only appears if SIMULATE mode is not selected.

If you have selected the option of Run Key OFF then the mix will run again as soon as timecode is received by the automation computer and after the previous mix has been saved to disk. This is saved to disk automatically before the start of the next pass into a file called SYSTEMIX which is overwritten at the end of the next pass.

If you need to break out of this feature then simply press the RUN key and the following options will be available:-

Continue
Save Mix to Disk
Load Previous Mix
Static Mode

Continue allows you to run the mix again by pressing the RUN key. Before the mix is run the command line is available and, for example, groups can be created or the mute clear feature used by pressing DEL DEL. Access is also available to change the global fader modes between READ-WRITE-UPDATE-ISOLATE.

Save Mix to Disk allows the mix to be saved under a name of your choice such that it will not be overwritten by an automatic save.

Load Previous Mix allows the previous mix to be recovered. This in effect dumps the current mix and bases a future mix on the recovered mix.

Static Mode allows Static Mode to be entered. This can also be achieved by pressing the DYNAMIC key.

21 January 1992

Section 5.....Audio Schematics

This section contains circuit diagrams and PCB layouts of the Audio Modules in the DCM224V.

There are some component variances between the printed circuit schematics and the production pcb's. These are listed on the next few pages.

5.4 Control Room Master PCB

Resistor R27 is 4.7 kOhm (was 2.7 kOhm)
Resistor R71 is 4.7 kOhm
Resistor R67 is 4.7 kOhm
Resistor R63 is 4.7 kOhm
Resistor R85 is 4.7 kOhm

Capacitors C1 and C2 replaced by wire links

5.5 Studio Master PCB

Voltage regulator is removed.
Resistor R26 is 4.7 kOhm (was 2.7 kOhm)

Capacitors C1 and C2 replaced by wire links

5.6 Talkback Master PCB

Link to Pin 6 of IC8 replaced by resistor, 27 kOhm
Resistor R3 is 10 kOhm
Resistor R76 is 10 kOhm
Resistor R109 is 10 kOhm
Resistor R137 is 10 kOhm
Resistor R207 is 4.7 kOhm (was 100 kOhm)
Resistor R61 is 4.7 kOhm
Resistor R94 is 4.7 kOhm

5.7 Oscillator Module

Replace R178 (100 kOhm) with a wire link
Resistor R3 is 10 kOhm
Resistor R73 is 10 kOhm
Resistor R103 is 10 kOhm
Resistor R129 is 10 kOhm
Resistor R234 is 4.7 kOhm (was 100 kOhm)
Resistor R168 is removed completely

Section 6.....Motherboard Connections

This section gives pinout connections of all the motherboards in the DCM232 for servicing purposes.

Motherboards should not be removed without contacting DDA, as they require careful re-alignment on replacement.

6.1 I/O Module, Lower Motherboard

Row a		Row b
Line	32	Mic
+48V	31	Change
Mix Left -	30	Mix Left +
Ground	29	Ground
Mix Right -	28	Mix Right +
Aux Ground	27	Aux Ground
Aux A Right	26	Aux A Left
Aux B Right	25	Aux B Left
Aux 2	24	Aux 1
Aux 4	23	Aux 3
Dim	22	Metalwork Ground
Monitor Left -	21	Monitor Left +
Ground	20	Ground
Monitor Right -	19	Monitor Right +
0V Audio	18	0V Audio
0V Audio	17	0V Audio
+18V Audio	16	+18V Audio
-18V Audio	15	-18V Audio
AFL Right	14	AFL Left
Oscillator -	13	PFL
Osc Enable	12	Oscillator +
Group	11	Ground
Tape	10	Tape A/B
Fader Send	9	Fader Return
External Mute	8	Fader Ground
-10V	7	-10V
Mute A	6	Mute B
SIP Mode	5	SIP Mute
Flash	4	Solo Enable
-22V Logic	3	-22V Logic
0V Logic	2	0V Logic
+22V Logic	1	+22V Logic
Row a		Row b

N.B Connectors oriented for Pin 32 at the top of the module and Row a closest to edge of PCB.

6.2 I/O Module, Upper Motherboard

Row a		Row b
Mic In -	32	Mic In +
Mic Earth	31	Mic Earth
DI In -	30	DI In +
DI Earth	29	DI Earth
N/C	28	N/C
Ground	27	Ground
N/C	26	N/C
Bus 18	25	Bus 2
Bus 20	24	Bus 4
Bus 22	23	Bus 6
Bus 24	22	Bus 8
Bus 26	21	Bus 10
Bus 28	20	Bus 12
Bus 30	19	Bus 14
Bus 32	18	Bus 16
Bus Reference	17	Bus Reference
Bus 17	16	Bus 1
Bus 19	15	Bus 3
Bus 21	14	Bus 5
Bus 23	13	Bus 7
Bus 25	12	Bus 9
Bus 27	11	Bus 11
Bus 29	10	Bus 13
Bus 31	9	Bus 15
Ground	8	Ground
Ground	7	Meter Output
Tape B -	6	Tape B +
Tape A -	5	Tape A +
Mon Return -	4	Mon Return +
Group -	3	Group +
Insert Return -	2	Insert Return +
Insert Send -	1	Insert Send +
Row a		Row b

N.B. Connectors oriented for Pin 32 at the top of module and row a closest to edge of PCB.

6.3 Studio Monitor Module, Upper

Row a		Row b
Studio Right -	32	Studio Right +
Studio Left -	31	Studio Left +
	30	
	29	
Studio Off	28	Studio Enable
Talkback -	27	Talkback +
Aux A Left -	26	Aux A Left +
Aux A Right -	25	Aux A Right +
Aux B Left -	24	Aux B Left +
Aux B Right -	23	Aux B Right +
Aux 1 -	22	Aux 1 +
Aux 2 -	21	Aux 2 +
Aux 3 -	20	Aux 3 +
Aux 4 -	19	Aux 4 +
External Left -	18	External Left +
External Right -	17	External Right +
Tape 3 Left -	16	Tape 3 Left +
Tape 3 Right -	15	Tape 3 Right +
Tape 2 Left -	14	Tape 2 Left +
Tape 2 Right -	13	Tape 2 Right +
Tape 1 Left -	12	Tape 1 Left +
Tape 1 Right -	11	Tape 1 Right +
Stereo Mix Left -	10	Stereo Mix Left +
Stereo Mix Right -	9	Stereo Mix Right +
Monitor Mix Left -	8	Monitor Mix Left +
Monitor Mix Right -	7	Monitor Mix Right +
	6	
	5	
	4	
Mix Left -	3	Mix Left +
Insert Ret -	2	Insert Ret +
Insert Send -	1	Insert Send +
Row a		Row b

N.B. Connectors oriented for Pin 32 at the top of module and row a closest to edge of PCB.

6.4 Control Room Monitor, Upper

Row a		Row b
Control Room Left -	32	Control Room Left +
Alt Spkr Left -	31	Alt Spkr Left +
Control Room Right -	30	Control Room Right +
Alt Spkr Right -	29	Alt Spkr Right +
Ground	28	Left Meter
Ground	27	Right Meter
Aux A Left -	26	Aux A Left +
Aux A Right -	25	Aux A Right +
Aux B Left -	24	Aux B Left +
Aux B Right -	23	Aux B Right +
Aux 1 -	22	Aux 1 +
Aux 2 -	21	Aux 2 +
Aux 3 -	20	Aux 3 +
Aux 4 -	19	Aux 4 +
External Left -	18	External Left +
External Right -	17	External Right +
Tape 3 Left -	16	Tape 3 Left +
Tape 3 Right -	15	Tape 3 Right +
Tape 2 Left -	14	Tape 2 Left +
Tape 2 Right -	13	Tape 2 Right +
Tape 1 Left -	12	Tape 1 Left +
Tape 1 Right -	11	Tape 1 Right +
Stereo Mix Left -	10	Stereo Mix Left +
Stereo Mix Right -	9	Stereo Mix Right +
Monitor Mix Left -	8	Monitor Mix Left +
Monitor Mix Right -	7	Monitor Mix Right +
	6	
	5	
	4	
Mix Left -	3	Mix Left +
Insert Ret -	2	Insert Ret +
Insert Send -	1	Insert Send +
Row a		Row b

N.B. Connectors oriented for Pin 32 at the top of module and row a closest to edge of PCB.

6.5 Talkback Module, Upper

Row a		Row b
Foldback Right -	32	Foldback Right +
Foldback Left -	31	Foldback Left +
	30	
Talkback Enable	29	
	28	Studio Enable
Talkback -	27	Talkback +
Aux A Left -	26	Aux A Left +
Aux A Right -	25	Aux A Right +
Aux B Left -	24	Aux B Left +
Aux B Right -	23	Aux B Right +
Aux 1 -	22	Aux 1 +
Aux 2 -	21	Aux 2 +
Aux 3 -	20	Aux 3 +
Aux 4 -	19	Aux 4 +
External Left -	18	External Left +
External Right -	17	External Right +
Tape 3 Left -	16	Tape 3 Left +
Tape 3 Right -	15	Tape 3 Right +
Tape 2 Left -	14	Tape 2 Left +
Tape 2 Right -	13	Tape 2 Right +
Tape 1 Left -	12	Tape 1 Left +
Tape 1 Right -	11	Tape 1 Right +
Stereo Mix Left -	10	Stereo Mix Left +
Stereo Mix Right -	9	Stereo Mix Right +
Monitor Mix Left -	8	Monitor Mix Left +
Monitor Mix Right -	7	Monitor Mix Right +
	6	
	5	
	4	
	3	
	2	Osc In
External T/B -	1	External T/B +
Row a		Row b

N.B. Connectors oriented for Pin 32 at the top of module and row a closest to edge of PCB.

6.6 Oscillator Module, Upper

Row a		Row b
Foldback 2 Right -	32	Foldback 2 Right +
Foldback 2 Left -	31	Foldback 2 Left +
Ground	30	Mono Meter
Talkback Enable	29	
Studio Off	28	
Talkback -	27	Talkback +
Aux A Left -	26	Aux A Left +
Aux A Right -	25	Aux A Right +
Aux B Left -	24	Aux B Left +
Aux B Right -	23	Aux B Right +
Aux 1 -	22	Aux 1 +
Aux 2 -	21	Aux 2 +
Aux 3 -	20	Aux 3 +
Aux 4 -	19	Aux 4 +
External Left -	18	External Left +
External Right -	17	External Right +
Tape 3 Left -	16	Tape 3 Left +
Tape 3 Right -	15	Tape 3 Right +
Tape 2 Left -	14	Tape 2 Left +
Tape 2 Right -	13	Tape 2 Right +
Tape 1 Left -	12	Tape 1 Left +
Tape 1 Right -	11	Tape 1 Right +
Stereo Mix Left -	10	Stereo Mix Left +
Stereo Mix Right -	9	Stereo Mix Right +
Monitor Mix Left -	8	Monitor Mix Left +
Monitor Mix Right -	7	Monitor Mix Right +
	6	
	5	
	4	
	3	
	2	Osc In
Osc to Patch -	1	Osc to Patch +
Row a		Row b

N.B. Connectors oriented for Pin 32 at the top of module and row a closest to edge of PCB.

6.7 Masters, Lower Motherboard

For pin-outs see I/O Lower Motherboard

N.B. Connectors oriented for Pin 32 at the top of module and row a closest to edge of PCB.

Section 7.....Computer Schematics

This section gives Computer circuit diagrams and PCB layouts.

Section 8.....Bargraph Schematics

8.1.....Overview

8.2.....Operation

8.3.....Retrofitting & Installation

8.4.....Schematics

8.1 Overview

The Bargraph system designed jointly by DDA and Klark - Teknik offers a number of advantages over conventional moving coil metering and simple bargraph type level displays.

It is capable of showing signal levels with PPM, or VU characteristics, with a combination of the two possible which gives overall VU ballistics with a riding peak in PPM ballistics.

The peak level can be displayed, either as a visible line fading after a few seconds, or a line showing peak, and permanently visible until overridden by a higher peak level.

A calibrate mode expands the scale for alignment purposes, and there is also a VCA input (DC) to complement the DDA VCA fader automation system.

Separate sets of buttons control the bus/return meters and the stereo masters, so the masters can be set to different characteristics.

8.2 Operation

In operation, the system is simple to use.

Simply select the mode which applies to your mode of working.

The buttons are explained below.

VU

Selects the meter to show signals with VU type characteristics.

PEAK

Selects the meter to show signals with PPM type characteristics. Levels indicated are 6dB below scale settings, when reading a steady state sine signal.

VU/PK

Selects the meter to show the signal as a moving bar with VU characteristics, with a dancing peak line of PPM type.

CAL

Selects the calibrate mode. This shows the signal as an expanded scale to give fine resolution for signal calibration. (-3.5dB to +0.5dB)

VCA

Selects the VCA (DC) input to the bargraph system, based on the DCM232 fader automation system (additional hardware required).

HOLD

Shows the peak signal level as a line, fading out after a few seconds.

HELD

Shows the peak signal level as a line, remaining until the peak is overridden by a higher peak, or the system is reset.

RST

Resets the system.

8.3 Retrofitting & Installation

To retrofit a bargraph system to an existing AMR24 or DCM232 console is straightforward. It can only be fitted, however, to new style AMR24 frames, ie the type based around the extrusion system.

8.31 Fixing the new panels

To fix the panels into the meter bridge, additional nuts will need to be inserted into the extrusions. The totals needed are:

L/H Side (inputs) 11 top and bottom

R/H side (outputs) 11 top and bottom

These nuts can be added by either:

- a) Removing the wooden end cheeks and profile panel to expose the end of the extrusion, or
- b) Drilling a hole using an 8mm drill bit into the extrusion to provide access to the slot carrying the nuts. This will be covered by the panels when installed.

The panels should be installed in the configuration shown in Diagram 3. Each panel is fixed at the top and bottom with M3 x 6mm pozi screws. By leaving the screws loose initially the panels can be lined up vertically.

8.32 Preparation of audio connections

Inputs

The signal inputs to the bargraph system are carried on the twin screened cables. The connections which have been prewired are to attach to the bargraph inputs. Each connector carries 4 input signals and these are labelled 1-4, 5-8 etc. The individual cables are numbered 1-2, 3-4, 5-6 etc as each cable carries 2 signals. In each case the red wire will be the odd number.

The unterminated ends should be cut to length, and the screen sleeved back. The red or black wire will then replace the colour of the twisted pair on the motherboard connector. Please refer to Diagram 1 to see the layout of the input connectors on the bargraph system.

Masters

The signal input for the masters is taken from the master VU meters. These should be taken from the existing panel and located on the new panel.

The signal wires should then be attached as shown in diagram 2. This can be done in twisted cable as originally used.

N.B. The 3K6 resistors on the control room module (R43 and R47) should be replaced by links.

8.33 Installing power.

Power for the bargraph system is supplied via a single 10 way Hirose connector. This is fitted to a rectangular panel which is screwed behind the large rectangular cut-out below the normal console power tag strips.

The internal cable is fed through one of the slots in the meterbridge bottom panel and connects to the distribution pcb which is situated behind the Master Bargraph and switch panel. Connections are shown in diagram 4.

Please note, additional to the cable there is a thick green wire which must be taken to the console 0V audio connection.

8.34 Installing the PCB modules

Each display panel, 8 channel or master, is driven by a set of 3 main boards. These are mounted vertically using the sel-adhesive stand-off pillars.

Each section is connected to the display panels via four 50 way ribbon cables.

Each section is then connected individually back to the power distribution pcb via a 20 way ribbon cable.

The three sections which comprise the 24 track metering are connected via a daisy chain ribbon loom to the switch pcb.

The section which drives the master bargraphs is connected via a ribbon loom to the switch pcb.

The summary of interconnections is shown in Diagram 5.

8.4 Bargraph Schematics

FIP BARGRAPH SYSTEM CIRCUIT DIAGRAMS

CONTENTS

CD1075	Bargraph Microprocessor and Regulators	
CD1076	Bargraph Dual Display Board	
CD1077	Bargraph Display Driver Board	
CD1078	Bargraph Analog Board 1/2	Input Section
CD1079	Bargraph Analog Board 2/2	Microprocessor and VCA Interface
CD1081	Power Supply	