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**SOUNDCRAFT Venue II /  
Venue Theatre**

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*Technical Manual*

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Soundcraft

 This equipment complies  
with the EMC Directive  
89/336/EEC

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Issue 1

Part No. ZZ2774

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# 1. Specification

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# Typical Performance Figures

Typical Performance Figures Measured On 32 Channel Console.  
For details of measurement and further specs., refer to your dealer

<b>TOTAL HARMONIC DISTORTION</b>	Measured @ +20dBu, 30kHz Bandwidth, Unweighted	
	Group Output	1kHz:0.003% 10kHz:0.007%
	Aux Output	1kHz:0.003% 10kHz:0.006%
	Input to Line Output	1kHz:0.005% 10kHz:0.015%
	Line Input to Any Output	1kHz:0.005% 10kHz:0.02%
	Oscillator to Group Output @+16dBu	1kHz: <1%
<b>CROSSTALK</b>	Channel Muting	>100dB Measured @ 1kHz
	Maximum Fader Attenuation	>80dB
	Panpot Isolation (Active Pan)	>85dB
	Routing (Channel to Groups or Mix)	>95dB
	Maximum Aux Send Attenuation	>85dB
	Mic. Input @ Max Gain, CMRR	>80dB
	Line Input @ Unity Gain, CMRR	>40dB
<b>NOISE</b>	Measured 22Hz to 22kHz Bandwidth, Average reading, Unweighted	
	Mic. Input @ Max Gain, EIN with 200Ω Source	-127.5dBu
	Line Input @ Unity Gain, EIN with 40Ω Source	-90dBu
	Mix Bus Noise (32 Channels Routed, Faders Down)	-80dBu
	Typical Mix Output Noise (32 Channels Routed)	-73dBu
	Aux Bus Noise	<-80dBu
<b>FREQUENCY RESPONSE</b>	Mic or Line Input to Any Output 20Hz to 20kHz	+0,-0.5dB
<b>INPUT &amp; OUTPUT LEVELS</b>	Mic Input Max Level	+18dBu
	Line Input Max Level	+26dBu
	Insert Send Max Level into 5kΩ	+21dBu
	Insert Send Nominal Level	-2dBu
	Direct Output Max Level into 1kΩ	+21dBu
	Direct Output Nominal Level	-2dBu
	Group Output Max Level into 600Ω	+26dBu
	Group Insert Nominal Level	-2dBu
	Group Output Nominal Levels	+4dBu
	Aux Output Max Level	+21dBu
	Aux Output Nominal Level	+4dBu
	Mix Output Max Level	+26dBu
	Mix Insert Nominal Level	-2dBu
	Mix Output Nominal Levels	-10dBV or +4dBu
	Internal Operating Level	-2dBu
	Oscillator Max Level @ Group Output	+16dBu
	Headphones Output Max Level into 600Ω	+20dBu

**INPUT & OUTPUT**

**IMPEDANCES**

Mic Inputs	
Electronically Balanced (Transformer Option)	>2k $\Omega$
Line Inputs Electronically Balanced	>10k $\Omega$
R.I.A.A. Inputs	220pF, 47k $\Omega$
Insert Sends	75 $\Omega$
Insert Returns	10k $\Omega$

**METERING**

Outputs	75 $\Omega$
20 Segment LED Bargraph	
Selectable, Peak or Average Reading	
Calibration Range	'0'dB = -2dBu to +20dBu
Accuracy Relative to '0'dB	+/-1dB

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## Specification

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### Mono Input Module

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#### **MICROPHONE INPUT**

Electronically Balanced, (Transformer Optional)

Input Impedance	>2k $\Omega$
Maximum I/P Level	+18dBu
Sensitivity Range	-2 to -70dBu
CMRR	>80dB at Max Gain. 1kHz
EIN 150R Source	<-127.5dBu at max gain

#### **LINE INPUT**

Electronically balanced

Input Impedance	>10k $\Omega$
Maximum I/P Level	>+27dBu
Sensitivity Range	-20 to +10dBu
CMRR	>40dB at 1kHz
EIN 40R Source	<-90dBu at unity gain

#### **EQUALISER**

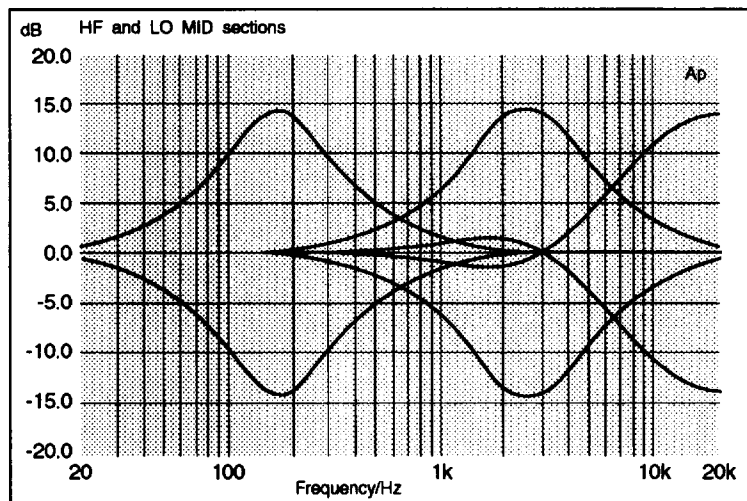
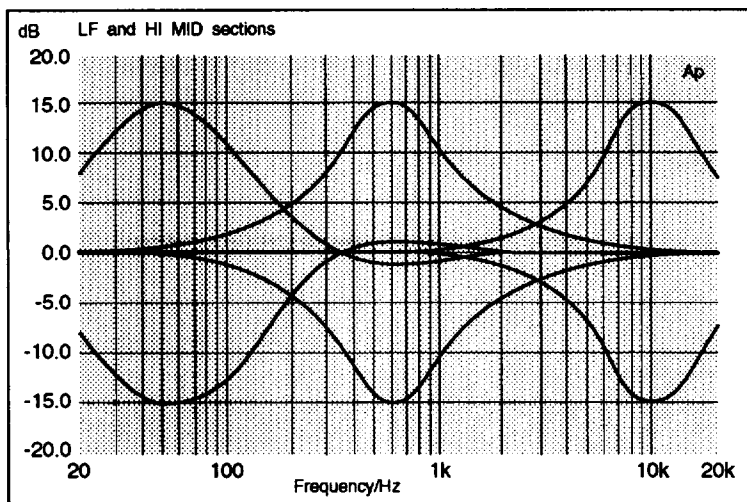
Boost/Cut Range	+/-15dB
Break Frequencies	HF 12kHz Shelving, 2nd Order HI MID 0.6 - 10kHz Peaking. Q=1.5 LO Mid 0.15 - 2.5kHz Peaking. Q=1.5 LF 60Hz 2nd Order Shelf with 30Hz VLF Rolloff
Highpass Filter	-3dB at 100Hz, 2nd Order

#### **GENERAL**

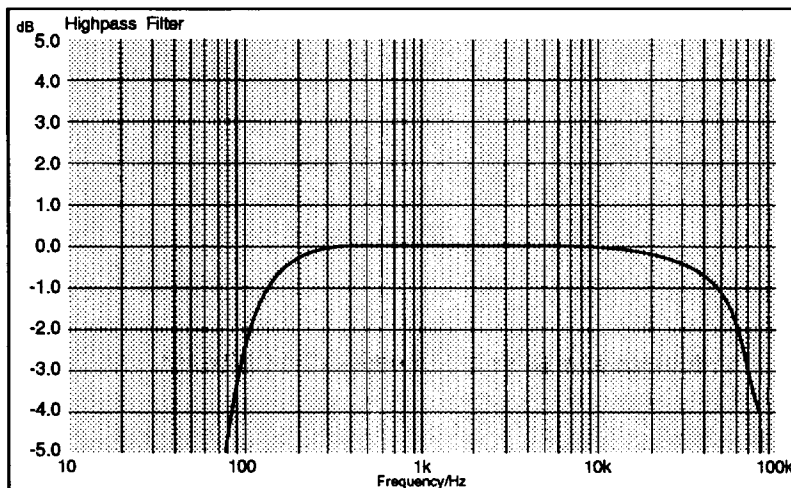
Insert Send Level	-2dBu, Unbalanced
Insert Send Max O/P	+21dBu into 2k $\Omega$
Direct Output Level	-2dBu, Unbalanced
Direct Output Max O/P	+21dBu into 600 $\Omega$
Mute Off Ratio	>100dB @ 1kHz, 90dB @ 10kHz
Fader Off Ratio	>80dB @ 1kHz, 80dB @ 10kHz
	Reference 0dB
Panpot Cross talk	<-85dB @ 1kHz, 80dB @ 10kHz
THD	<0.005% @ 1kHz <0.015% @ 10kHz

# Mono Input Module

## Frequency Response Curves of the Equaliser



## Frequency Response Curves of the Hi-Pass Filter



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## Specification

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### Stereo Input Module

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#### **LINE INPUTS**

Electronically Balanced	
Input Impedance	>10k $\Omega$
Maximum Input Level	+27dBu
Sensitivity Range	-20 to +10dBu
CMRR	>40dB @ 1kHz

#### **EQUALISATION**

Boost/Cut Range	+/-15dB
Break Frequencies	HF 12kHz Shelving MF 0.3 - 3kHz Peaking, Q=1 LF 60Hz Shelving

#### **GENERAL**

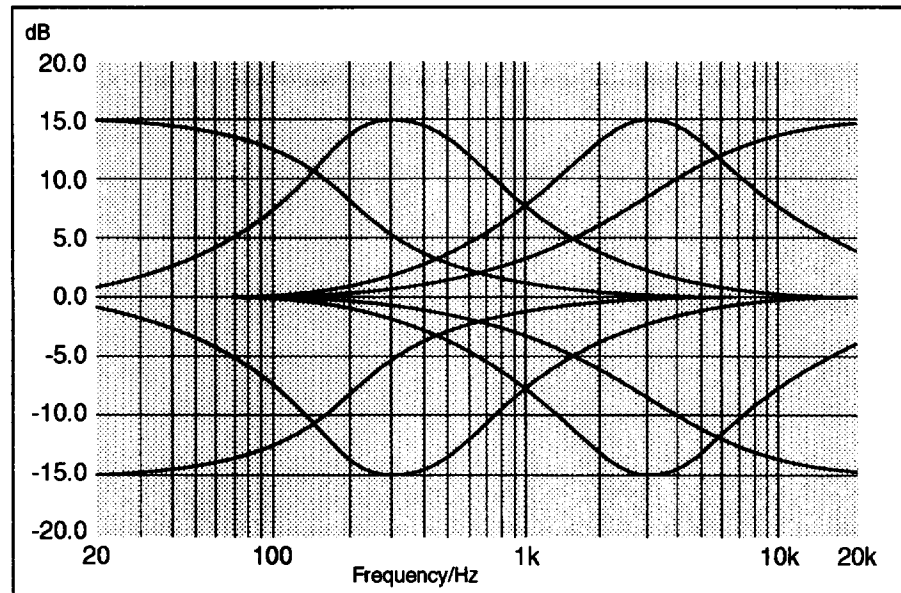
Mute Off Ratio	>95dB @ 1kHz, 90dB @ 10kHz
Fader Off Ratio	>80dB @ 1kHz, 80dB @ 10kHz
Balance Pot Off Ratio	<-85dB @ 1kHz, 80dB @ 10kHz
L/R Crosstalk	<-60dB @ 1kHz, 10kHz
Width Control at Centre	
THD	<0.005% @ 1kHz <0.02% @ 10kHz

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## Stereo Input Module

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### Frequency Response Curves of the Equaliser



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## Specification

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### Theatre Input Module

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#### **MICROPHONE INPUT**

Electronically Balanced, (Transformer Optional)

Input Impedance	>2k $\Omega$
Maximum I/P Level	+18dBu
Sensitivity Range	-2 to -70dBu
CMRR	>80dB at Max Gain. 1kHz
EIN 150R Source	<-127.5dBu at max gain

#### **LINE INPUT**

Electronically balanced

Input Impedance	>10k $\Omega$
Maximum I/P Level	>+27dBu
Sensitivity Range	-20 to +10dBu
CMRR	>40dB at 1kHz
EIN 40R Source	<-90dBu at unity gain

#### **EQUALISER**

Boost/Cut Range	+/-15dB
Break Frequencies	HF 12kHz Shelving, 2nd Order HI MID 0.6 - 10kHz Peaking. Q=1.5 LO Mid 0.15 - 2.5kHz Peaking. Q=1.5 LF 60Hz 2nd Order Shelf with 30Hz VLF Rolloff
Highpass Filter	-3dB at 100Hz, 2nd Order

#### **GENERAL**

Insert Send Level	-2dBu, Unbalanced
Insert Send Max O/P	+21dBu into 2k $\Omega$
Direct Output Level	-2dBu, Ground compensated
Direct Output Max O/P	+21dBu into 600 $\Omega$
Mute Off Ratio	>100dB @ 1kHz, 95dB @ 10kHz
Fader Off Ratio	>80dB @ 1kHz, 80dB @ 10kHz Reference 0dB
Panpot Cross talk	<-85dB @ 1kHz, 80dB @ 10kHz
THD	<0.005% @ 1kHz <0.015% @ 10kHz

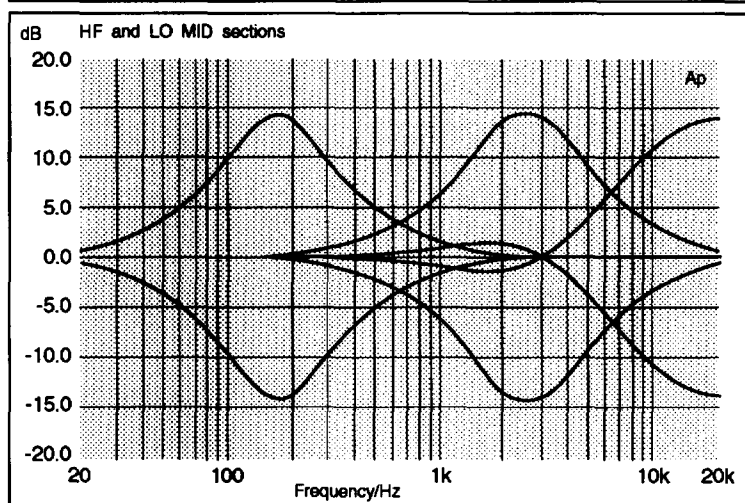
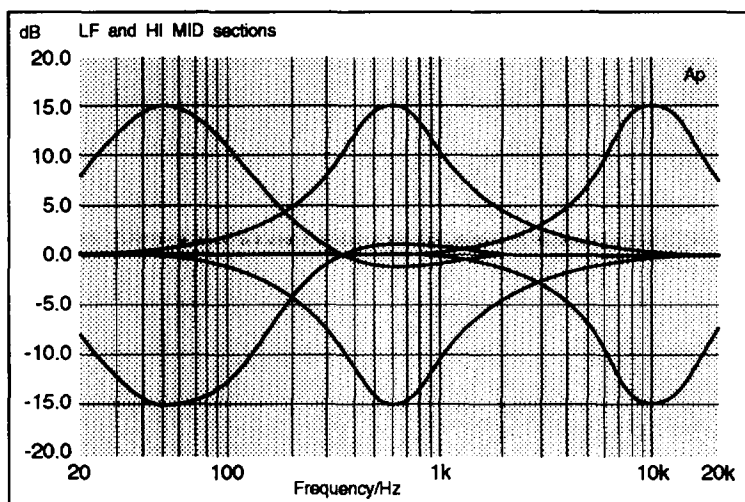


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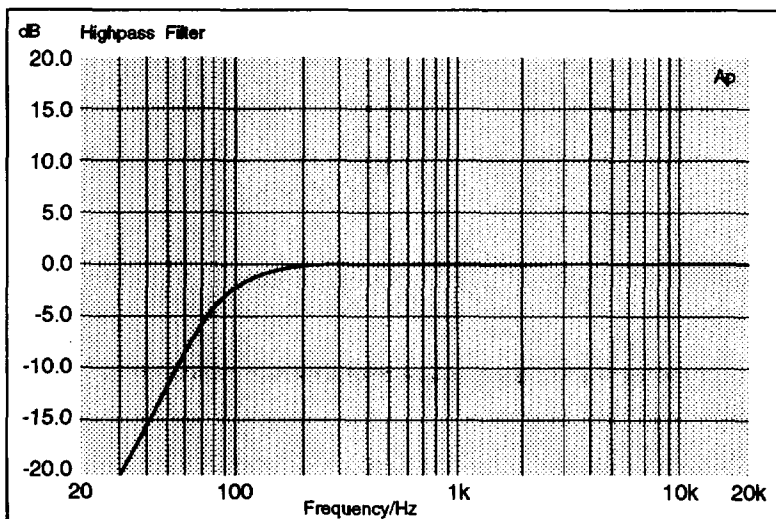
# Theatre Input Module

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## Frequency Response Curves of the Equaliser



## Frequency Response Curves of the Hi-Pass Filter



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## Specification

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### Dual Group/EQ Module

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#### **GROUP OUTPUT**

Electronically Balanced	
Insert Send Nominal Level	-2dB
Nominal Output Level	+4dBu
Maximum Output Level	>+26dBu into 600Ω
Output Impedance	75Ω
Group - Group Crosstalk	
Same Module	<-90dB @ 1kHz <-85dB @ 10kHz
Adjacent Module	<-105dB @ 1kHz <-95dB @ 10kHz
Fader Off Ratio	>85dB @ 1kHz >80dB @ 10kHz
Mix Switch Off Ratio	>100dB @ 1kHz >95dB @ 10kHz
THD	<0.005% @ 1kHz <0.010% @ 10kHz

#### **EQUALISATION**

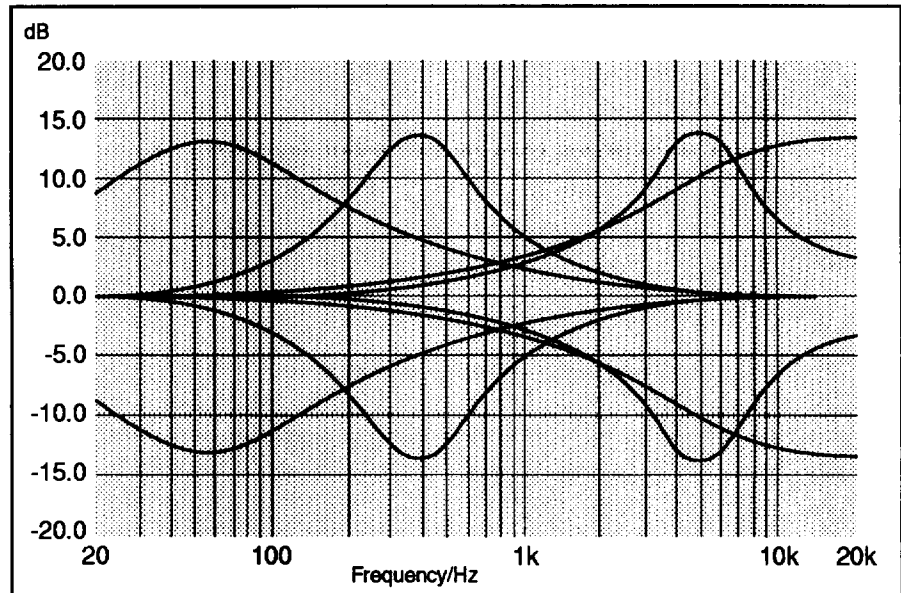
Boost/Cut Range	+/-15dB
Break Frequencies	HF 12kHz Shelving MF 0.25 - 4kHz Peaking, Q=1.5 LF 60Hz Shelving with 30Hz VLF Rolloff

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## Dual Group/EQ Module

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### Frequency Response Curves of the Equaliser



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## Specification

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### Dual Group/Stereo Return Module

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#### **GROUP OUTPUT**

Electronically Balanced	
Insert Send Nominal Level	-2dBu
Nominal Output Level	+4dBu
Maximum Output Level	>+26dBu into 600Ω
Output Impedance	75Ω

#### Group - Group Crosstalk:

Same Module	<-90dB @ 1kHz <-85dB @ 10kHz
Adjacent Module	<-105dB @ 1kHz <-95dB @ 10kHz
Fader Off Ratio	>85dB @ 1kHz >80dB @ 10kHz
Mix Switch Off Ratio	>100dB @ 1kHz >95dB @ 10kHz
THD	0.003% @ 1kHz 0.005% @ 10kHz

#### **STEREO RETURN**

Electronically balanced	
Input Impedance	10kΩ
Nominal Input Level	+4dBu/-10dBV, Switchable
Mute Off Ratio	>95dB @ 1kHz >90dB @ 10kHz
Fader Off Ratio	>75dB @ 1kHz, 10kHz
Balance Pot Off Ratio	>70dB @ 1kHz, 10kHz
L/R Crosstalk, Width Control at Centre	<-60dB @ 1kHz, 10kHz
THD	0.003% @ 1kHz 0.007% @ 10kHz

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## Specification

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### Dual Matrix Module

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#### **Matrix Output**

Electronically Balanced	
Nominal Output Level	+4dBu
Maximum Output Level	>+26dBu into 600 $\Omega$
Output Impedance	75 $\Omega$
A - B Crosstalk	<-100dB @ 1kHz <-95dB @ 10kHz
Fader Off Ratio	>90dB @ 1kHz, 10kHz
ON Switch Off Ratio	>100dB @ 1kHz, 10kHz
THD (Ext In to Matrix Out)	0.003% @ 1kHz 0.005% @ 10kHz

#### **External Inputs**

Input Impedance	10k $\Omega$
Nominal Input Level	+4dBu/-10dBV Switchable
Max Input Level	+21dB Above Nominal
CMRR	> 40dB @ 1kHz

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# Specification

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## Master Module

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### ***Auxiliary Send Outputs***

Electronically Balanced	
Nominal Level	+4dBu
Maximum Output Level	+26dBu into 600Ω
Output Impedance	75Ω
Master Gain Control Range	+10...-85dB
Aux-Aux crosstalk	<-80dBu at 1kHz
THD	0.003% at 1kHz 0.006% at 10kHz

### ***Mix L&R Outputs***

Electronically Balanced	
Insert Send Nom. Level (Unbal)	-2dBu
Insert Send Maximum Output	+21dBu into 1kΩ
Insert Return Impedance	10kΩ
Master Fader Rejection	>80dB at 1kHz
Stereo Mix Output Nom. Level	+4dBu/-10dBV Selectable
Stereo Mix Maximum Output	+27dBu into 600Ω
Output Impedance	75Ω
L/R Crosstalk	<-80dB at 1kHz
THD	0.003% at 1kHz 0.006% at 10kHz
Mono Output Level (Unbal)	+1dBu
Mono Maximum Output Level	+21dBu into 600Ω

### ***Monitor Outputs and Switching***

CR Mon Nominal Output Level	+4dBu
Maximum Output Level	+20dBu into 5kΩ
Output Impedance	<75Ω
Phones Nominal Output Level	+4dBu
Phones Output Maximum Level	+20dBu into 600Ω +14dBu into 50Ω 0dBu into 8Ω
2-Track Return Nominal Level	+4dBu/-10dBV Switchable
2-Track Return Maximum Level	+25dBu
2-Track Return to Mix Crosstalk	<-85dB at 1kHz

### **Oscillator**

Max Level at Group/Mix O/P	+16dBu
Frequency 1kHz	+/-10%
Distortion	<1% THD

### **Meter**

20 Segment LED Bargraph	
Response	Peak or Average Reading
Rise Time to -1dB	150msec (average) 4msec (Peak)
Decay Time to -20dB	250msec (Average) 1.2sec (Peak)
Accuracy Relative to 0dB	+/-1dB
Calibration Range	0dB+-2dBu...+20dBu (Output Nominal Level = +4dBu)

## Measurement methods and conditions

**A** The figures displayed in the Specification tables are for a 32 input channel console: other frame sizes may show different results.

**B** The console has a nominal output level of +4dBu: all input sensitivities are relative to this: i.e. with line input gain set to '0', an input of 0dBu, will give an output of +4dBu at any group or mix output and, a sensitivity of +4dBu gives unity gain from input to output.

**C** Noise measurements are taken with 22Hz-22kHz bandwidth, average reading response.

**D** Distortion measurements are made with an input of +20dBu (line inputs at +4dBu sensitivity) giving an output of +20dBu. The analyser reads THD+N with an average response, over a 30kHz bandwidth.

**E** Frequency response and F.Q. measurements are made with an input of 0dBu to line inputs at unity gain, outputs are quoted relative to 0dBu.

**F** Crosstalk and rejection measurements are made with an input level of +20dBu (line inputs at +4dBu sensitivity) giving an output of +20dBu on the active signal path. The ratio quoted is relative to +20dBu output.

**G** Gain tolerance +/-1.5dB or 10% of indicated value, which ever is the greater.

**H** All crosstalk and rejection figures stated with 16 channels routed to the measured output, where applicable.

**I** Mix noise figures are stated in three ways:

- Bus residual noise: Noise measured at the output with no inputs routed.
- Mix bus noise: Noise measured at the output with 16 channels routed, faders down.
- Typical mix noise: Noise measured at the output with 16 channels routed, faders at 0, line inputs at +4dBu sensitivity, terminated 40Ω.



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## **2. Statutory Notices**

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*Warranty*    **2.2**

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# Warranty

1. **Soundcraft** means Soundcraft Electronics Ltd.

**End User** means the person who first puts the equipment into regular operation.

**Dealer** means the person other than Soundcraft (if any) from whom the End User purchased the Equipment, provided such a person is authorised for this purpose by Soundcraft or its accredited Distributor.

**Equipment** means the equipment supplied with this manual.

2. If within the period of twelve months from the date of delivery of the Equipment to the End User it shall prove defective by reason only of faulty materials and/or workmanship to such an extent that the effectiveness and/or usability thereof is materially affected the Equipment or the defective component should be returned to the Dealer or to Soundcraft and subject to the following conditions the Dealer or Soundcraft will repair or replace the defective components. Any components replaced will become the property of Soundcraft.
3. Any Equipment or component returned will be at the risk of the End User whilst in transit (both to and from the Dealer or Soundcraft) and postage must be prepaid.
4. This warranty shall only be available if:
  - a) the Equipment has been properly installed in accordance with instructions contained in Soundcraft's manual; and
  - b) the End User has notified Soundcraft or the Dealer within 14 days of the defect appearing; and
  - c) no persons other than authorised representatives of Soundcraft or the Dealer have effected any replacement of parts maintenance adjustments or repairs to the Equipment; and
  - d) the End User has used the Equipment only for such purposes as Soundcraft recommends, with only such operating supplies as meet Soundcraft's specifications and otherwise in all respects in accordance Soundcraft's recommendations.
5. Defects arising as a result of the following are not covered by this Warranty: faulty or negligent handling, chemical or electro-chemical or electrical influences, accidental damage, Acts of God, neglect, deficiency in electrical power, air-conditioning or humidity control.
6. The benefit of this Warranty may not be assigned by the End User.
7. End Users who are consumers should note their rights under this Warranty are in addition to and do not affect any other rights to which they may be entitled against the seller of the Equipment.

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## **3. Technical Description - Introduction**

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*System Overview* 3.2

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*Precautions and safety instructions* 3.4

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# System Overview

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## General

The Venue II and Venue Theatre are fully modular 8 bus mixers providing unique versatility for live mixing, whether it's in a medium-sized theatre or concert hall, a conference auditorium or church.

The consoles provide full 8 bus routing and six independent auxiliary sends, and Mono, Stereo and Theatre inputs offer four mute groups. This allows the status of each channel to be controlled by four master mute busses for rapid resetting of the console during a live performance.

The Stereo Input includes a further innovation - a Stereo Width control, enabling the width of a stereo image to be continuously varied. This is a unique feature on a console of this type, and is ideal for enhancing theatre sound effects.

The Theatre version is based on a theatre input module specifically tailored to the requirements of theatre sound, providing comprehensive routing facilities on illuminated switches, individual channel metering and four master mute groups.

The Venue II series comprises a range of input module, output module and frame options that lets you configure the console for a wide variety of applications, and to alter the layout very easily if required. The only constraint on the selection and positioning of modules is that any console must have a master module (2 channels width) which must be fitted at the right hand of the console, and that any group output modules fitted have to be positioned immediately to the left of this. The master module is at right hand side on 16/24 channel consoles only; it is in the centre on 32, 40 and 44 consoles.

**Should you wish to replace or add extra modules, please contact your authorised Soundcraft dealer, who can supply the modules and change the configuration without voiding the warranty.**

The output section of the Venue has been carefully designed to offer the maximum number of independent outputs in a compact mixer. The Dual Matrix module provides superb versatility for theatre applications, allowing additional output mixes to be created from signals present at the group and mix outputs, or from external submixers. A full 10 x 8 matrix (8 groups plus mix left and right) is created by using only four modules, although any number can be specified.

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## Frame Sizes

Several sizes of frame are available, which allow considerable flexibility in configuration to suit individual installations:

### Venue II

- 16, 24, 32, 40 or 44 Channel

### Venue Theatre

- 24, 32, 40 or 44 Channel

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## Choice of Modules

The Venue II provides a choice of Mono or Stereo input modules. An RIAA pre-amp may be fitted to the stereo input module as an option.

The Venue Theatre would normally be based on the theatre input module, but frames may be filled with any combination of modules from the Venue range to suit individual requirements.

Maximum output flexibility is provided by a choice of Dual Group/EQ outputs or Dual Group/Stereo Return modules. In addition a full 10 x 8 matrix (8 groups plus mix left and right) is available by fitting just four Dual matrix modules.

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**Master Module**

A master module must be fitted to all consoles as this carries the main power distribution point within the console. Up to four group output modules can be fitted and, as these are connected directly to the master module via a ribbon loom, they are usually fitted to the left of the master.

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**Overbridge**

An optional VU overbridge is available for the 24, 32, 40 and 44 channel Venue II and Venue Theatre consoles, providing metering of the group and mix signals. An LED bargraph meter bridge is also available for 24, 32, 40 and 44 channel Venue II consoles, providing metering of the signal level in the input modules, as well as VU metering of the mix signals.

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**Illumination**

All frame sizes are pre-wired to allow the addition of up to two lamps on BNC connectors ('Littlite' or similar) for console illumination.

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**Frame Construction**

Folded welded and painted steel is used for the main frame with moulded self skinning polyurethane foam for the end cheeks and arm rest. The optional Meter Overbridge is easily removeable for transit.

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**Integral Rear Connectors**

Almost all of the modules are fully integrated with input and output connectors. An ancillary connector panel carries additional connectors for the Master module, and the group inserts on the Dual Group/Stereo Return module are on extra connector panels mounted in the blank cut-outs at the rear of the console.

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**Bus Connections via Ribbon Cable**

The main motherloom and the group and output looms are made from flexible ribbon cable and make use of insulation displacement technology for maximum reliability.

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**Concealed Screw Fixings**

On first glance at the console, the method of fixing modules to the frame is not apparent. The top and bottom fixing screws are concealed by the removable channel ident strips. The modules are held in place by these and by a screw which is visible on the rear panel.

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**Power Supply****Venue II :**

- 16 channel frames require the CPS450 or CPS450/B
- 24 & 32 channel frames require the CPS 650 or CPS650/B
- 40 channel frames require the CPS750 or CPS750/B
- 44 channel frames require the CPS750 or CPS750/B

**Venue Theatre**

- 24 & 32 channel frames require the CPS650 or CPS650/B
- 40 & 44 channel frames require the CPS750 or CPS750/B

# Precautions & Safety Instructions

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## **General Precautions**

Avoid storing or using the mixing console in conditions of excessive heat or cold, or in positions where it is likely to be subject to vibration, dust or moisture. Do not use any liquids to clean the fascia of the unit: a soft dry brush is ideal. Use only water or ethyl alcohol to clean the trim and scribble strips. Other solvents may cause damage to paint or plastic parts.

Avoid using the console close to strong sources of electromagnetic radiation (e.g. video monitors, high power electric cabling): this may cause degradation of the audio quality due to induced voltages in connecting leads and chassis. For the same reason, always site the console power supply away from the unit .

**Caution!** In all cases, refer servicing to qualified personnel.

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## **Handling & Transport**

The console is supplied in a rugged cardboard box. If it is necessary to move it any distance after installation it is recommended that this packing is used to protect it. Be sure to disconnect all cabling before moving. If the console is to be regularly moved (e.g. for touring) we recommend that it is installed in a foam lined flight case. At all times avoid applying excessive force to any knobs, switches or connectors.

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## **Power Supplies & Cabling**

Always make sure that the power supply has been set to the same source voltage as the mains supply.

Always use the power supply and power cable supplied with the mixer: the use of alternative supplies may cause damage and voids the warranty; the extension of power cables may result in malfunction of the mixing console.

**Always switch the power supply off before connecting or disconnecting the console power cable, removing or installing modules, and servicing. In the event of an electrical storm, or large mains voltage fluctuations, immediately switch off the PSU and unplug from the mains.**

Always ensure that that you use the correct type of power supply for the size of your console as follows:

### **Venue II :**

- 16 channel frames require the CPS450 or CPS450/B
- 24 & 32 channel frames require the CPS 650 or CPS650/B
- 40 & 44 channel frames require the CPS750 or CPS750/B

### **Venue Theatre**

- 24 & 32 channel frames require the CPS650 or CPS650/B
- 40 & 44 channel frames require the CPS750 or CPS750/B

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## Signal Levels

It is important to supply the correct input levels to the console, otherwise signal-to-noise ratio or distortion performance may be degraded; and in extreme cases damage to the internal circuitry may result. Likewise, on all balanced inputs avoid sources with large common mode DC, AC or RF voltages, as these will reduce the available signal range on the inputs. Note that 0dBu = 0.775V RMS.

The microphone input is designed for use with balanced low impedance (150 or 200 ohm) microphones.

**DO NOT use unbalanced microphones or battery powered condenser microphones with the +48V phantom power switched on: degraded performance or damage to the microphone may result.**

The sensitivity of the microphone input is variable from -2dBu to -70dBu (for +4dBu at the Stereo Mix outputs), and the maximum input level (balanced) is 20dB above the set sensitivity that is, with the gain control at minimum, the maximum input level is +18dBu. Although the microphone input can thus handle some line level signals, we don't recommend this, since the source may be unduly loaded by the low (2k $\Omega$ ) input impedance, or be damaged by the +48V phantom power.

The line input has a sensitivity variable between -20dBu and +10dBu, and can also handle a maximum input level up to 20dB above the set value. Note that the maximum input level for unbalanced inputs is 6dB less than that for balanced signals, so very high level unbalanced signals (e.g. loudspeaker outputs of power amplifiers) may cause distortion. The input impedance is approximately 20k $\Omega$ , and thus high impedance sources (e.g. electric guitars) may be loaded too heavily. Such sources are best fed through an external DI (Direct Inject) box to the microphone input.

The main outputs of the console (e.g. Stereo mix, group outputs, aux sends, matrix outputs) have a nominal output level of +4dBu, and an impedance of 75ohms. These outputs will deliver full level (+21dBu unbalanced, +27dBu balanced) into loads of greater than 600ohms. The Stereo mix output also has the facility to switch the operating level to -10dBV to allow interface to domestic and semi professional equipment. Secondary outputs such as insert sends are unbalanced and have a nominal output level of -2dBu and a higher output impedance of up to 200 $\Omega$ , and will only deliver the full output level of +21dBu into load impedances of greater than 5k $\Omega$ . Channel direct outputs are ground compensated at a level of -2dBu and will deliver full output of +21dBu into loads of 600 $\Omega$  or greater.





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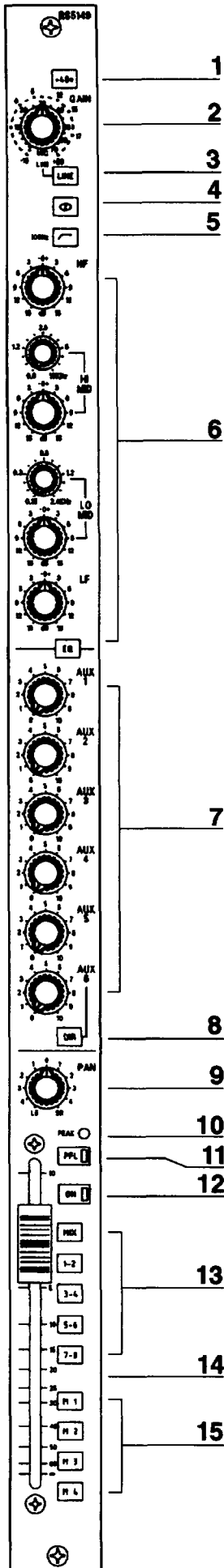
## 4. Functional Descriptions

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<i>Mono Input Module</i>	<i>4.2</i>
<i>Stereo Input Module</i>	<i>4.4</i>
<i>Theatre Input Module</i>	<i>4.6</i>
<i>Dual Group/EQ Module</i>	<i>4.8</i>
<i>Dual Group/Stereo Return Module</i>	<i>4.10</i>
<i>Dual Matrix Module</i>	<i>4.12</i>
<i>Master Module</i>	<i>4.14</i>

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# Mono Input Module



## Channel Input

- 1 +48V switch applies 48V phantom power to the microphone input.
- 2 GAIN adjusts the sensitivity of both mic and Line inputs. Mic input sensitivity: -2dBu to -70dBu. Line input sensitivity: -20dBu to +10dBu.
- 3 LINE selects the line input to the channel.
- 4 Ø (PHASE) reverses the phase of the selected input.
- 5 HI-PASS FILTER inserts a 100Hz second order filter immediately after the input amplifier.

## Equaliser

- 6 The EQUALISER is a 4-band semi-parametric. HF. +/- 15dB shelving at a fixed frequency of 12kHz. HI MID. +/- 15dB peaking between 0.6 - 10kHz. Q = 1.5 LO MID. +/- 15dB peaking between 0.15 - 2.5kHz. Q = 1.5 LF. +/- 15dB shelving at a fixed frequency of 60Hz, with 30Hz VLF rolloff. The cut/boost pots are centre detented, the centre position giving a flat response. EQ switches the equaliser into circuit.

## Auxiliaries

- 7 Six AUXILIARY SENDS are provided: Aux sends 1 through 4 have their sources individually selectable by internal jumpers. 1 & 2 can be: pre-EQ, pre-fade, or post-fade. 3 & 4 are either pre- or post-fade. The factory fitted default is AUX 1 and 2 pre-fade, AUX 3 and 4 post-fade. Aux sends 5 is permanently sourced post-fade. Aux 6 may be selected as pre-fade or post-fade by repositioning an internal jumper.

## Direct Output

- 8 DIR determines the source of the direct output signal. With the switch in the up position the direct output is post-fade at a fixed level, and the Aux 6 control feeds Aux 6 bus. Pressing DIR causes the direct output to be fed from the Aux 6 control, and the Aux 6 bus is disconnected from the module. The source of the Aux 6 control (and hence the direct output when DIR is pressed) is jumper selectable to be pre- or post-fade. The direct output signal is ground compensated.

## Routing

- 9 PAN determines the position of the signal within the stereo image. In the centre position (detented) there is a 4.5dB level drop. Pan left feeds the signal to odd numbered busses, pan right to even busses. Panning fully left or right sends signal to only the left or right side respectively.
- 13 Five ROUTING SWITCHES give access in pairs to MIX left and right busses and 8 group busses. The signal may be routed to an individual bus by using the relevant routing switches with the PAN control turned fully left or right.

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## Channel Status

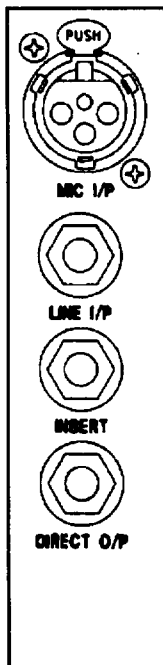
**10** The **PEAK LED** illuminates 7dB below clipping point, ie, it illuminates when a level of +14dBu is present within the module. It is sourced from the insert send.

**11** The illuminated **PFL** switch feeds the pre-fade signal into the monitor system, where it replaces the selected monitor source.

**12** The illuminated **ON** switch activates the signal to the pre- and post-fade auxiliaries, routing and direct output.

**14** The **FADER** is a 100mm Alps type, with 10dB gain.

**15** The **MUTING SYSTEM** allows the channel status to be controlled by four master mute busses, originating in the master module. Mute selection is made by four individual switches. The mute system has no effect when all switches are released.



**Rear Connector Panel**

The **INSERT POINT** is link selectable to be either pre- or post-EQ. The factory fitted default is post-EQ. Both the send and the return are unbalanced and at a level of -2dBu.

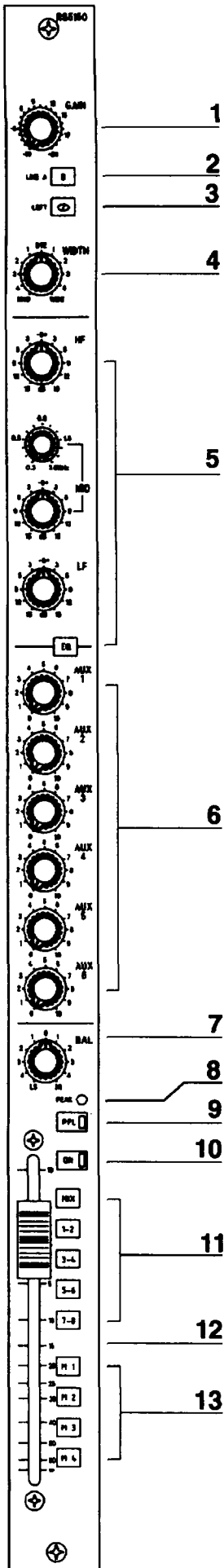
A **DIRECT OUTPUT** is provided. It is ground compensated at a level of -2dBu. See paragraph 8 on the previous page for a description of the sourcing and level control of the direct output.

The Microphone and Line inputs have provision for optional EDAC multicore interfacing. The signal from the Mic multicore connect in parallel to the XLR. The signal from the Line multicore enters the module via the break contacts of the line input jack.

The rear connector panel is integral to the module and houses all external interface connectors as shown on the left.

**INPUT METERING** is provided on an optional overbridge, and the monitored signal is the output of the mic/line input amplifier.

# Stereo Input Module



## Channel Input

- 1 **GAIN** adjusts the sensitivity of the line inputs of both channels from -20dBu to +10dBu.
- 2 **B** selects the alternative B inputs which may be fitted with an RIAA preamp option.
- 3 **Ø LEFT** reverses the phase of the left channel of the selected input.
- 4 **WIDTH** is a continuously variable control which allows the width of the stereo image to be varied from mono (ACW) through stereo (centre detent) to phase enhanced wide stereo (CW).

## Equaliser

- 5 The **EQ** section is 3-band semi-parametric. **HF.** +/- 15dB shelving at a fixed frequency of 12kHz. **MID.** +/- 15dB peaking between 0.3 - 3kHz. Q = 1.0 minimum. **LF.** +/- 15dB shelving at a fixed frequency of 60Hz. The cut/boost pots are centre detented, the centre position giving a flat response. **EQ** switches the equaliser into circuit.

## Auxiliaries

- 6 Six **AUXILIARY SENDS** are provided: Auxiliary sends 1 and 2 are internally link selectable for pre or post fade, and mono or stereo operation: when stereo is selected, the left channel feeds AUX 1, and the right AUX 2. The factory default is AUX 1 and 2 pre fade, mono. AUX 3 through 6 are permanently sourced mono, with AUX 3 and 4 link selectable to be pre fade or post fade (default), whilst AUX 5 and 6 are permanently post fade.

## Routing

- 7 The **BAL** (balance) control determines the relative level of the L and R signals. In the centre position (detented) its gain is unity. Turning it fully CW increases the right signal by +4.5dB, and totally kills the left signal. Full ACW rotation has the opposite effect. Balance left biases the signal to odd numbered busses, balance right to even busses.

- 11 Five **ROUTING SWITCHES** give access in pairs to MIX left and right busses and 8 group busses.

---

### **Channel Status**

**8** The **PEAK LED** illuminates 7dB below clipping point, ie, it illuminates when a level of +14dBu is present within the module. It is sourced from the post EQ signal.

**9** The illuminated **PFL** switch feeds a mono sum of the pre-fade signals into the monitor system, where it replaces the selected monitor source.

**10** The illuminated **ON** switch activates the signal to the pre- and post-fade auxiliaries and routing.

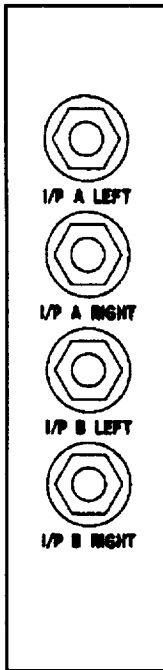
**13** The **MUTING SYSTEM** allows the channel status to be controlled by four master mute busses, originating in the master module. Mute selection is made by four individual switches. The mute system has no effect on the channel when all switches are released.

**12** The **FADER** is a stereo 100mm Alps type, with 10dB gain.

The inputs are electronically balanced. .

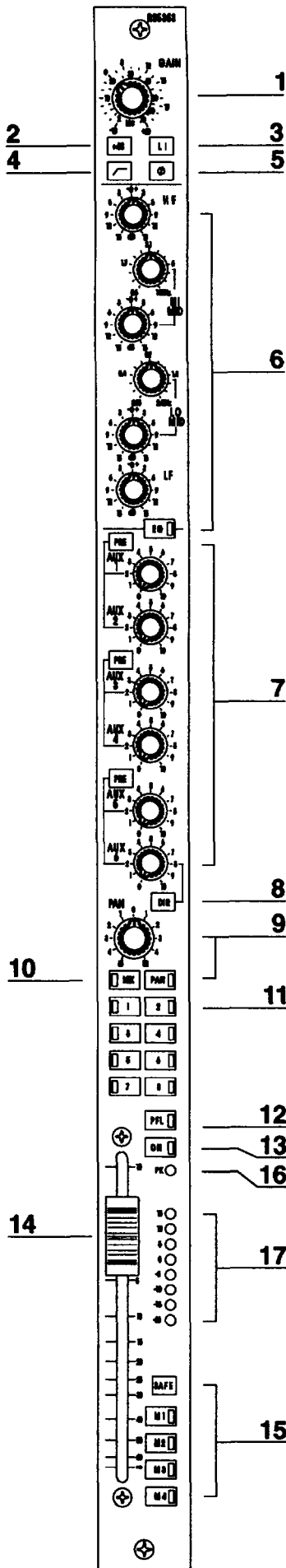
Line Input A has provision for optional EDAC multicore interfacing. The signal from the Line multicore parallels the input.

The rear connector panel is integral to the module and houses the 4 external interface connectors as shown on the left.



### **Rear Connector Panel**

# Theatre Input Module



## Channel Input

- 1 **GAIN** adjusts the sensitivity of both mic and Line inputs. Mic input sensitivity: -2dBu to -70dBu. Line input sensitivity: -20dBu to +10dBu.
- 2 **+48V** switch applies 48V phantom power to the microphone input.
- 3 **LINE** selects the line input to the channel.
- 4 **HI-PASS FILTER** inserts a 100Hz second order filter immediately after the input amplifier.
- 5 **Ø (PHASE)** reverses the phase of the selected input.

## Equaliser

6 The **EQUALISER** is a 4-band semi-parametric. HF. +/- 15dB shelving at a fixed frequency of 12kHz. HI MID. +/- 15dB peaking between 0.6 - 10kHz. Q = 1.5 LO MID. +/- 15dB peaking between 0.15 - 2.5kHz. Q = 1.5 LF. +/- 15dB shelving at a fixed frequency of 60Hz, with 30Hz VLF rolloff. The cut/boost pots are centre detented, the centre position giving a flat response.

7 **EQ** switches the equaliser into circuit.

## Auxiliaries

7 Six **AUXILIARY SENDS** are provided:

**AUX SENDS 1 & 2** are normally sourced post-fade; The associated **PRE** sources them pre-fade instead. The pre-fade signal is jumper selectable post-mute (default) or pre-EQ.

**AUX SENDS 3 & 4** are normally sourced post-fade; The associated **PRE** sources them pre-fade instead. The pre-fade signal is jumper selectable post-mute (default) or pre-EQ.

**AUX SENDS 5 & 6** are normally sourced post-fade; The associated **PRE** sources them pre-fade instead. The pre-fade signal is jumper selectable post-mute (default) or pre-EQ.

## Direct Output

8 The ground compensated **DIRECT OUT** is normally post-fade; **DIR** disconnects AUX 6 from the auxiliary bus, and uses it to control the level of the **DIRECT OUT** instead.

## Routing

9 **PAN** determines the position of the signal within the stereo mix, or enables the channel signal to be routed to selected output groups. In the centre position there is a 4.5dB level drop. Pan left feeds the signal to odd numbered group busses, pan right to even group busses. Panning fully left or right sends the channel signal to only the left or right side respectively.

The illuminated **PAN** switch activates the PAN control. When the switch is released all group output routing switches are sourced pre-PAN.

10 **MIX** routes the panned, post-fade signal to the left and right mix busses.

11 Eight illuminated **ROUTING SWITCHES** give access individually to the eight group busses. When used with the PAN control the channel signal may be routed to selected output groups by panning fully right (even groups) or left (odd groups), or panned smoothly between two or more outputs.

### **Channel Status**

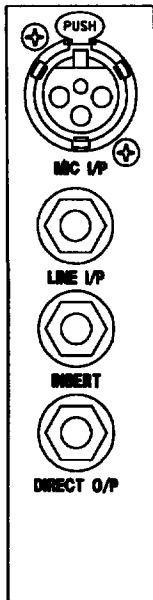
12 The illuminated **PFL** switch feeds the pre-fade signal to the phones or control room, replacing the selected monitor source.

13 The illuminated **ON** switch activates the signal to the pre- and post-fade auxiliaries, routing and direct output.

14 The **FADER** is a 100mm Alps type with 10dB gain at maximum, and controls the level to the routing, post-fade auxiliaries and direct output.

15 The **MUTING SYSTEM** allows the channel status to be controlled by four master mute busses, originating in the master module. Mute selection is made by four individual switches (**M1 - M4**) and the channel is muted whenever the corresponding mute master is pressed on the master module. The mute system has no effect when all switches are released.

Alternatively, the mute switches may be pre-selected and the channel isolated from the mute system by pressing **SAFE**. Mute action is enabled when required by releasing the **SAFE** switch.



### **Rear Connector Panel**

16 The **PEAK LED** illuminates when the signal level exceeds +14dBu (6dB before clipping) at the output of the input amplifier, the output of the EQ, the insert return or the output of the fader amplifier.

17 The 8 segment meter displays the signal level in the module. The meter '0' mark corresponds to the nominal internal operating level of -2dBu. The source for the meter is factory set as post-EQ, post-insert but may be alternatively set, by changing internal jumpers, to the output of the input amplifier or post-fade.

The **INSERT POINT** is link selectable to be either pre- or post-EQ. The factory fitted default is post-EQ. Both the send and the return are unbalanced and at a level of -2dBu.

A **DIRECT OUTPUT** is provided. It is ground compensated at a level of -2dBu. See paragraph 8 on the previous page for a description of the sourcing and level control of the direct output.

The Microphone and Line inputs have provision for optional EDAC multicore interfacing. The signal from the Mic multicore connects in parallel with the XLR. The signal from the Line multicore enters the module via the break contacts of the line input jack.

The rear connector panel is integral to the module and houses all external interface connectors as shown on the left.

# Dual Group/EQ Module

This output module provides simple subgrouping facilities with a 3 band semi-parametric EQ on each group.

## Equaliser

**1 & 2** The EQ section is a three band design, giving shelving HF and LF controls with frequencies of 12kHz and 60Hz, together with a MID section that operates from 250Hz to 4kHz. The LF section also has 30Hz VLF rolloff.

Cut and boost on all sections is +/-15dB maximum.

The upper section controls the odd numbered group, and the lower section the even numbered group.

The EQ is put into the signal paths by the EQ switches.

## Group Outputs.

The group busses are fed to single ended low noise virtual earth summing amplifiers via movable 0.1" links to select the position of the particular module in the console. The summing amplifier outputs are at a nominal level of -2dBu, and feed the insert sends on the rear panel: the insert return feeds the EQ and then the group faders.

**3 & 4** The post fade signals can be routed individually as mono signals at unity gain to the stereo mix bus by the illuminated MIX switches. If the STE switch is depressed, the group signals are fed to the stereo mix as stereo signals, odd groups routing to the left, even to right. The post fade group signals are also buffered, electronically balanced and fed to the rear panel XLR connectors: the nominal level at these connectors is +4dBu.

**5** The pre fade group signals are accessed by individual illuminated PFL switches.

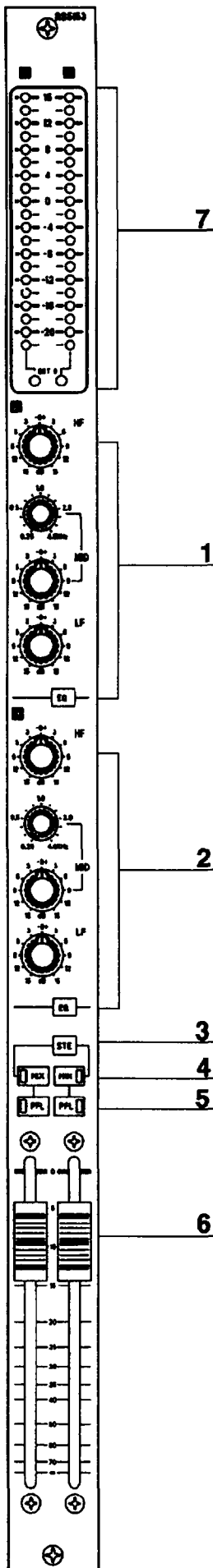
**6** The FADERS are 100mm Alps types, with unity gain (0dB) at the top of their travel.

**7** The 20 segment LED bargraph METERS read the group outputs and are jumper selectable for a peak or average response.

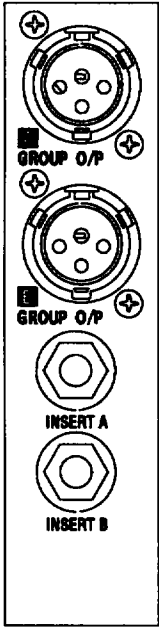
The post fade group signals are electronically balanced and fed to the rear panel XLR connectors: the nominal level at these connectors is +4dBu.

The group outputs have provision for optional EDAC multicore interfacing.

The rear connector panel is integral to the module and houses the 4 external interface connectors as shown.







**Rear Connector Panel**

## Dual Group/Stereo Return Module

Functionally this module comprises two separate parts: the dual group output and the stereo effects return.

### **Stereo return.**

The Left and Right line inputs are accessed by 1/4" stereo jacks on the rear connector panel. These inputs have a nominal sensitivity of +4dBu, switchable by a rear panel switch to -10dBV. The switch is recessed to prevent accidental operation.

**1** The **WIDTH** control allows continually variable control over the **WIDTH** of the stereo image from mono (ACW) through normal stereo (centre detent) to phase enhanced wide stereo (CW).

**2** Individual summed mono sends to auxiliary busses 1 and 2 are provided through the rotary controls **AUX 1** and **AUX 2**. These are shipped as pre-fade, but may be individually selectable by internal jumpers to be post fade.

**3** The **BALANCE** control trims the level of the signal being fed to the routing switches. In the centre position the gain of the balance control is unity. Turning it fully CW increases the right signal by +4.5dB, and totally kills the left signal. Full ACW rotation has the opposite effect. Balance left biases the signal to odd numbered busses, balance right to even busses.

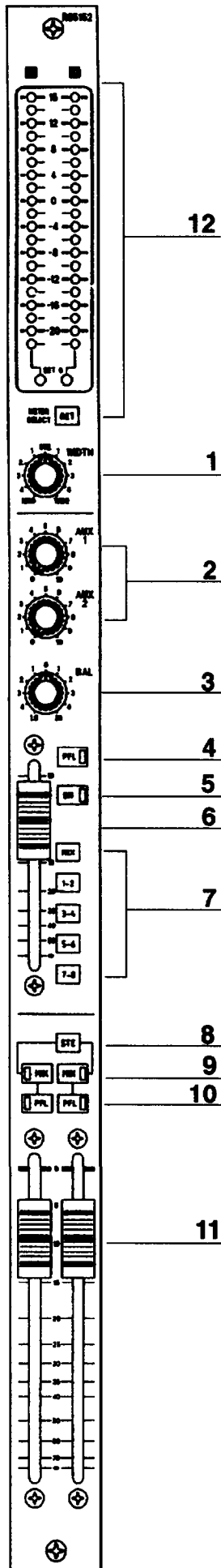
**4** The illuminated **PFL** switch allows monitoring of a mono sum of the signal.

**5** The illuminated **ON** switch enables the signal to be routed to all the outputs (Group busses and Mix) of the return.

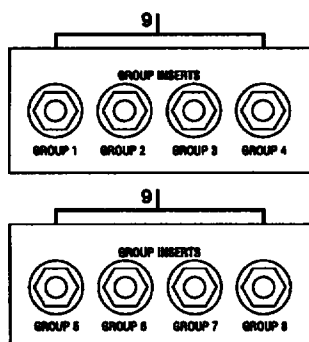
**6** The 60mm throw Alps **FADER** has a gain of +10dB at the top of its travel. It controls the level fed to the centre detented balance control which in turn feeds the routing switches. These give access to all group busses and the stereo mix bus.

### **Group outputs**

The group busses are fed to single ended low noise virtual earth summing amplifiers via 0.1" movable links to select the position of the particular module in the console. The summing amplifier outputs are at a nominal level of -2dBu, and feed the group faders via the insert. An internal switch selects the pair of inserts that the module feeds (1 & 2, 3 & 4).



## Insert Panels



## Routing

**8 & 9** The post fade signals can be routed individually as mono signals at unity gain to the stereo mix bus by the illuminated **MIX** switches. If the **STE** switch is depressed, the group signals are fed to the stereo mix as stereo signals, odd groups routing to left, even to right.

The post fade group signals are also buffered, electronically balanced and fed to the rear panel XLR connectors: the nominal level at these connectors is +4dBu.

**10** The pre fade group signals are accessed by individual illuminated **PFL** switches.

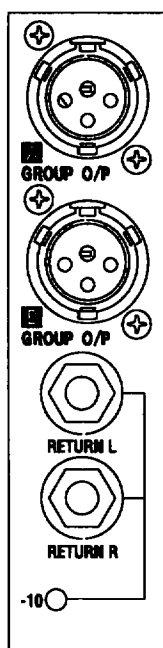
**11** The group **FADERS** are 100mm Alps types, with unity gain (0dB) at the top of their travel.

## Metering

**12** The 20 segment LED bargraph **METERS** normally read the group outputs and are jumper selectable for a peak or average response. Selecting the **RET** switch allows the stereo return signal to be metered.

The insert jacks are located in rear aperture panels.

The rear connector panel is integral to the module and houses the stereo return level switch and the 4 external interface connectors. The returns and group outputs have provision for optional EDAC multicore interfacing. The signals from the Line multicore parallel the return inputs.



## Rear Connector Panel

# Dual Matrix Module

## Module Input

**1 & 2** The module contains two functionally identical receive matrix sections designated A (upper) and B (lower). Each dual matrix output module allows the creation of two additional output mixes from the signals present at the group and mix outputs.

The MIX L and R signals enter the module via a 20 way ribbon cable that runs from the master rearconn via the masters to the group output modules. The group signals enter via a 10 way ribbon cable that connects to all group and matrix modules. All internal inputs are at a level of -2dBu, and all the matrix level controls have a gain of unity when fully clockwise. The matrix summing amplifiers have a gain of -6dB, which is made up after the fader, to optimise fader headroom.

The External Input is balanced. Its sensitivity is switchable between +4dBu and -10dBV. The switch is located on the rear panel and affects both external inputs. It has physical protection against accidental operation. Each input is summed into the matrix mix at fixed (unity re. the output) gain. The External inputs can be used for feeding sub-mixes directly into the matrix.

**3** The left and right stereo mix signals are summed into the matrix mix via the MIX L and R level controls.

**4** The eight **GROUP LEVEL** controls set the level of each group sent to the matrix mix.

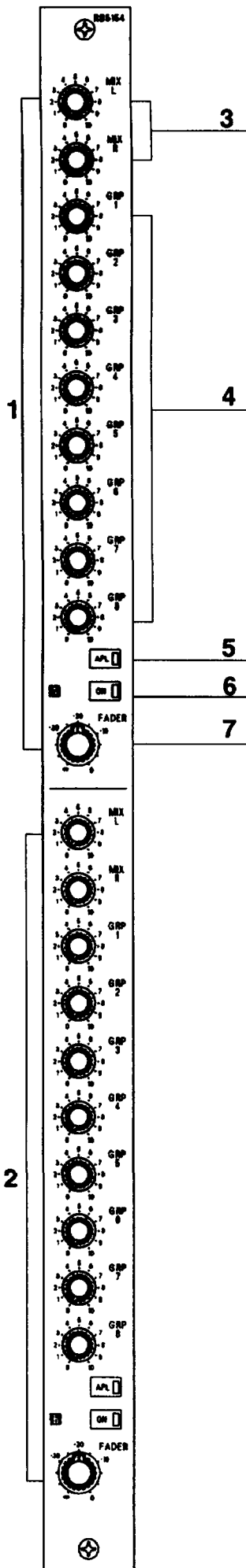
**5** The **AFL** switch allows each signal to be monitored.

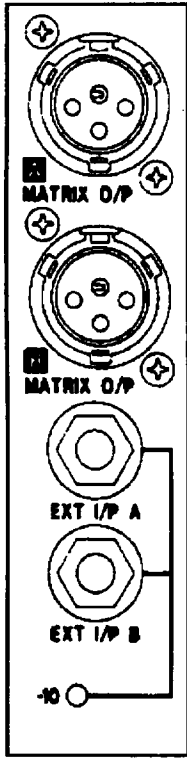
**6** The post fade signal is buffered and balanced before being output via the **ON** switch to the rear panel XLR sockets at a nominal level of +4dBu.

**7** The output level of each matrix mix is controlled by a rotary **FADER**, with a gain of 0dB when rotated fully CW.

The rear connector panel is integral to the module and houses the external interface connectors. The External Inputs have provision for optional EDAC multicore interfacing. The signal from the Line multicore can either parallel the external input or enter the module via the break contacts of the external input jack. When the line multicore option is not fitted, the break contacts are shorted together via a link.

Dual Matrix modules will normally be fitted on the far right-hand side of the frame.





**Rear Connector Panel**

# Master Module

## Auxiliaries

1 The **AUXILIARY SEND MASTER** level controls set the output level of the auxiliary send mixes: the output level can be conveniently monitored using the aux send AFL switches. Optimum noise performance will be obtained with the send controls on the input channels turned up far enough to give a peak output level (metered using the aux send AFL switch) of +16 with the output level control at unity gain (7 on the scale). The output level should then be turned down to suit the input level of the device the send is driving.

## Master Outputs

2 **INSERT** points are provided in the stereo mix signal path to enable the insertion of external processing devices in the signal path.

3 The master output **FADERS** control the level of the stereo mix output. In order to preserve headroom, they should normally be run in the top 10dB of their range. If the stereo output is feeding a device which requires a lower input level (e.g. a domestic tape recorder), the reference level of the output and 2-track return level should be changed using the internal switch: see page 8.9 for details.

A mono sum of the stereo mix signal, taken before the main faders, is available on the rear connector panel.

## Monitoring

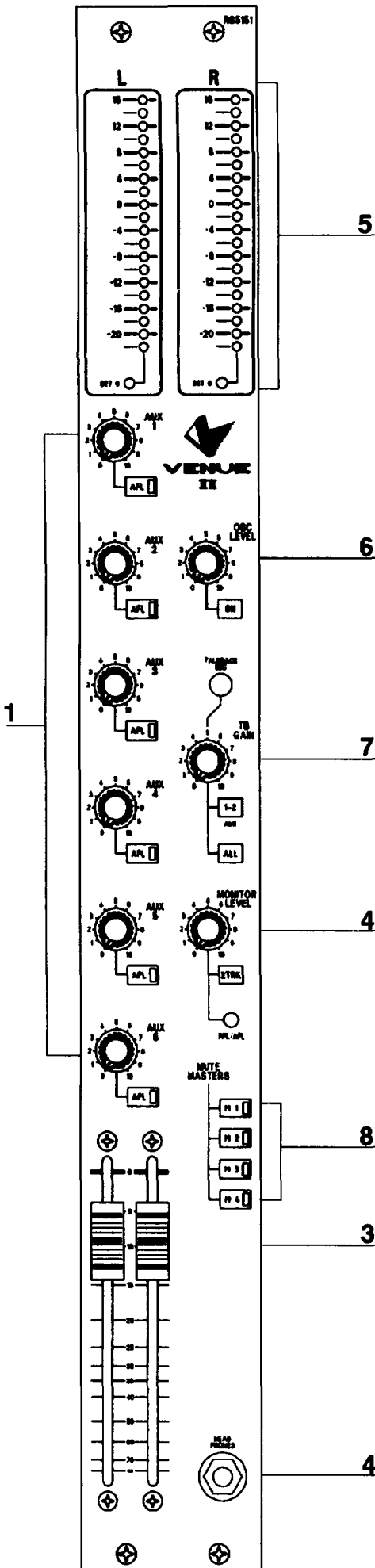
4 Provision is made to monitor the stereo mix output, the PFL signal and the 2 track return (see Ancillary Connector Panel). The **CR MON** jacks on this panel are available to drive an external power amplifier/loudspeakers, alternatively stereo **HEADPHONES** can be plugged into the front panel jack: this will mute the CR MON outputs. The level is set by the **MONITOR LEVEL** control. Selection of the **2TRK** switch routes the 2 track tape return inputs to the monitors. Selecting a **PFL** switch on any input will automatically switch the monitoring to the PFL signal, overriding the Mix/2 track selection.

## Output Meters

5 The stereo output **METERS** automatically follow the monitor selection of mix/2 track/PFL, though the meter reading is independent of the **MONITOR LEVEL**. The meter reading is relative to the operating level selected (see 3 above).

## Oscillator

6 A 1kHz **OSCILLATOR** is provided, which feeds a sine wave output of up to +16dBu to all groups, the stereo mix and aux buses, at a level set by the **OSC LEVEL** control. The oscillator is enabled by the **ON** switch, and is overridden by the selection of the talkback switch.



## Talkback

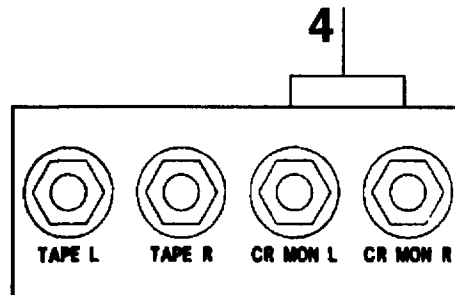
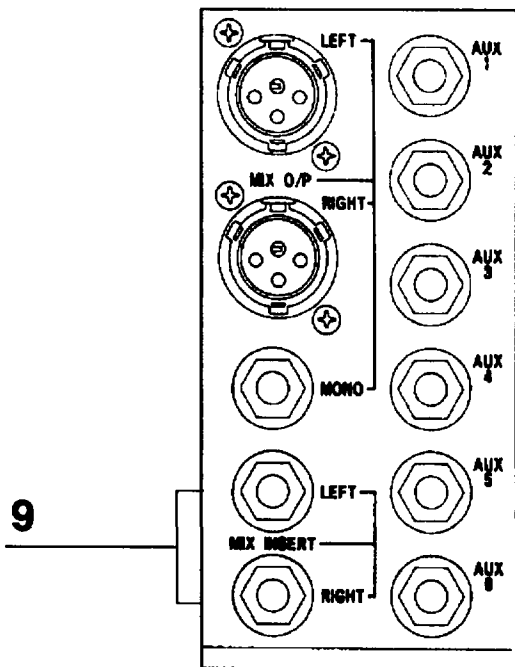
7 Talkback can be routed to either aux send 1 and 2 (1-2 switch), or to all buses (ALL switch). An integral mic is provided, flush mounted behind the front panel, with an associated gain control **TB GAIN**. In order to avoid acoustic feedback, the CR monitor outputs are attenuated ("Dimmed") by approximately 20dB when talkback to Aux 1-2 is selected, and muted when talkback to ALL is selected.

8 The **MUTING SYSTEM** allows the input channel status to be controlled by four Master Mute busses. Operation of any of the master buttons mutes any input channels selected to the corresponding mute buss.

Insert points are provided in the stereo mix path to enable the insertion of external processing devices in the signal path.

Rear Connector Panel

Ancillary Connector Panel







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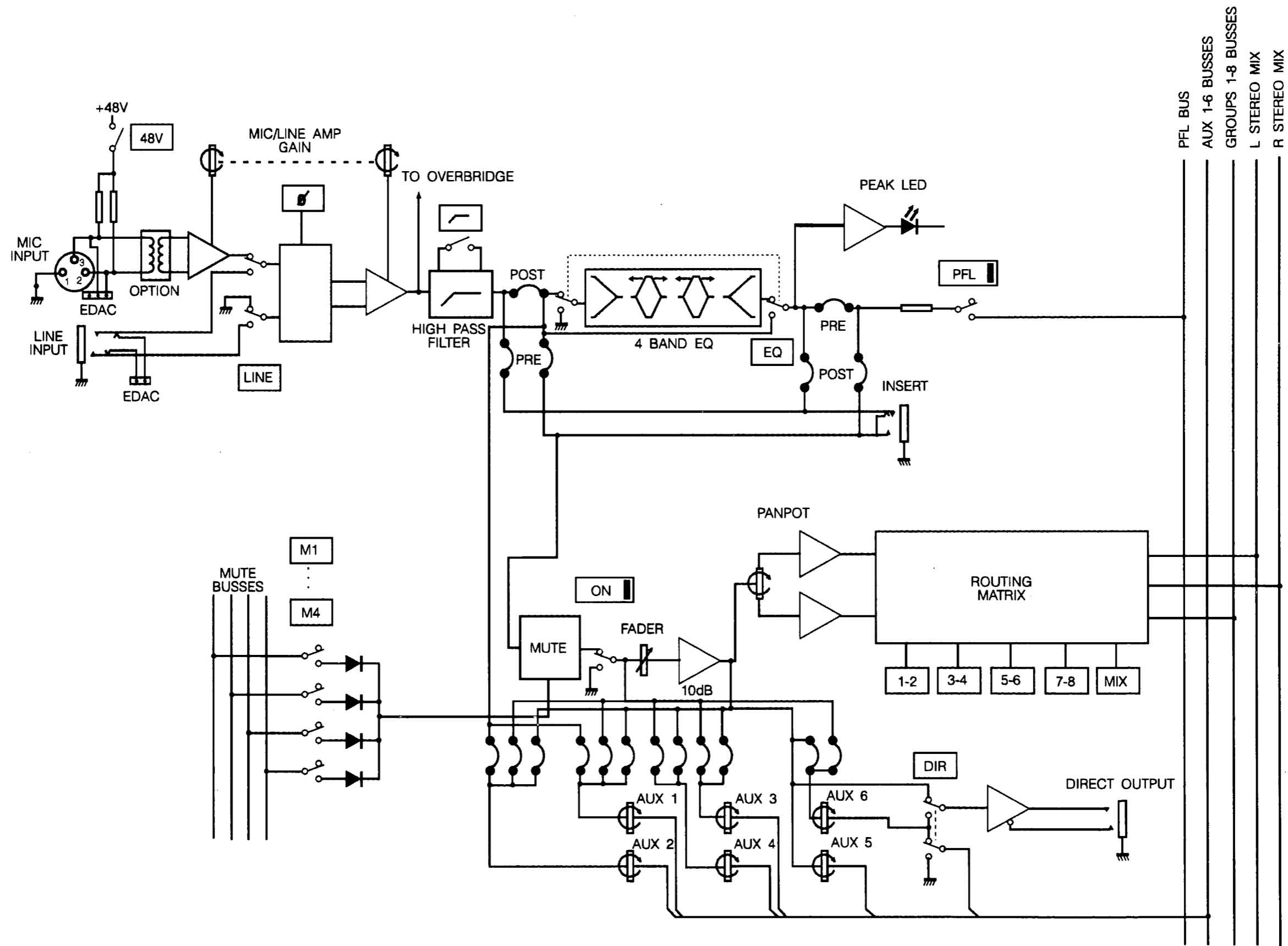
## 5. Module Block Diagrams

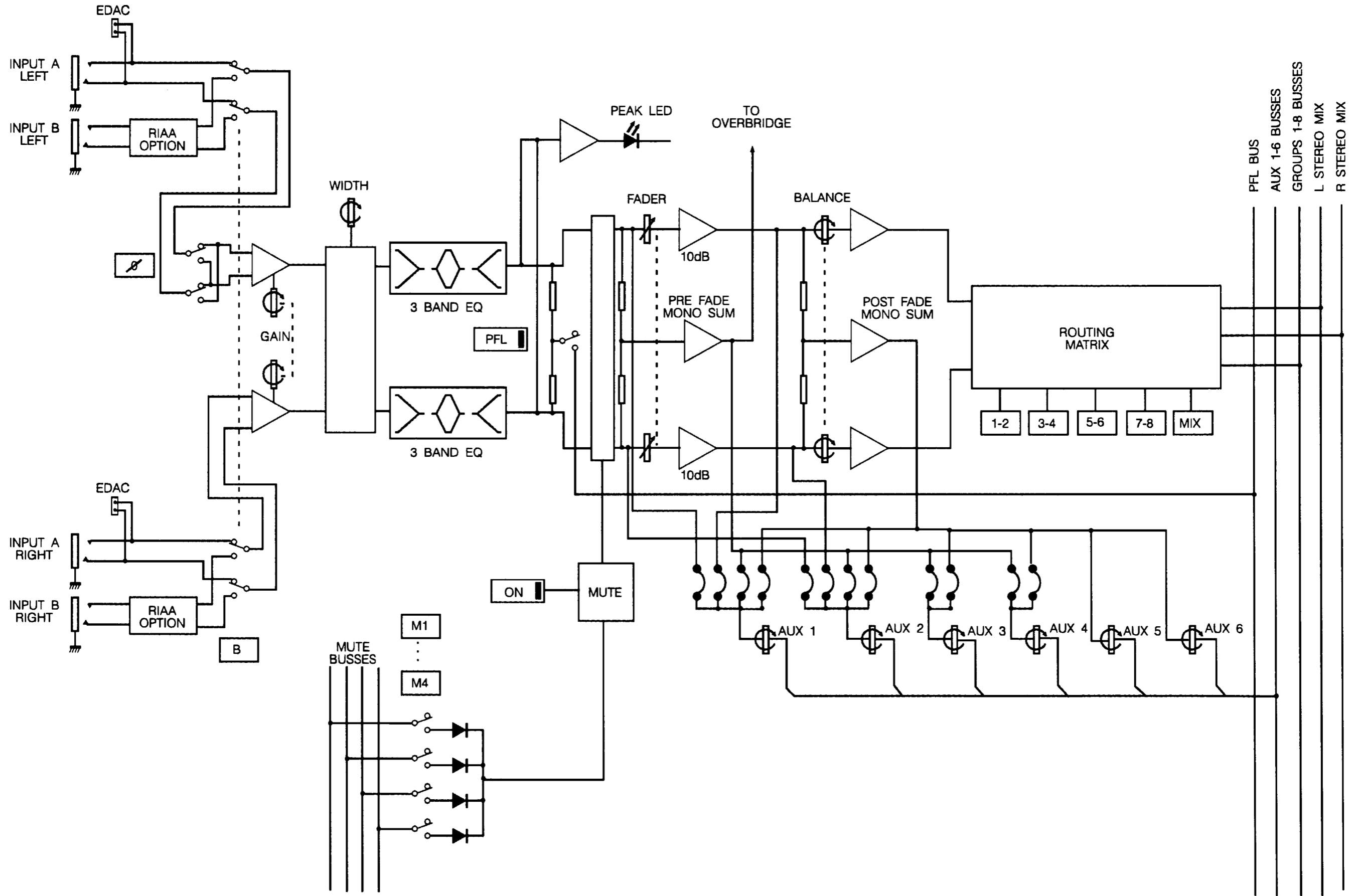
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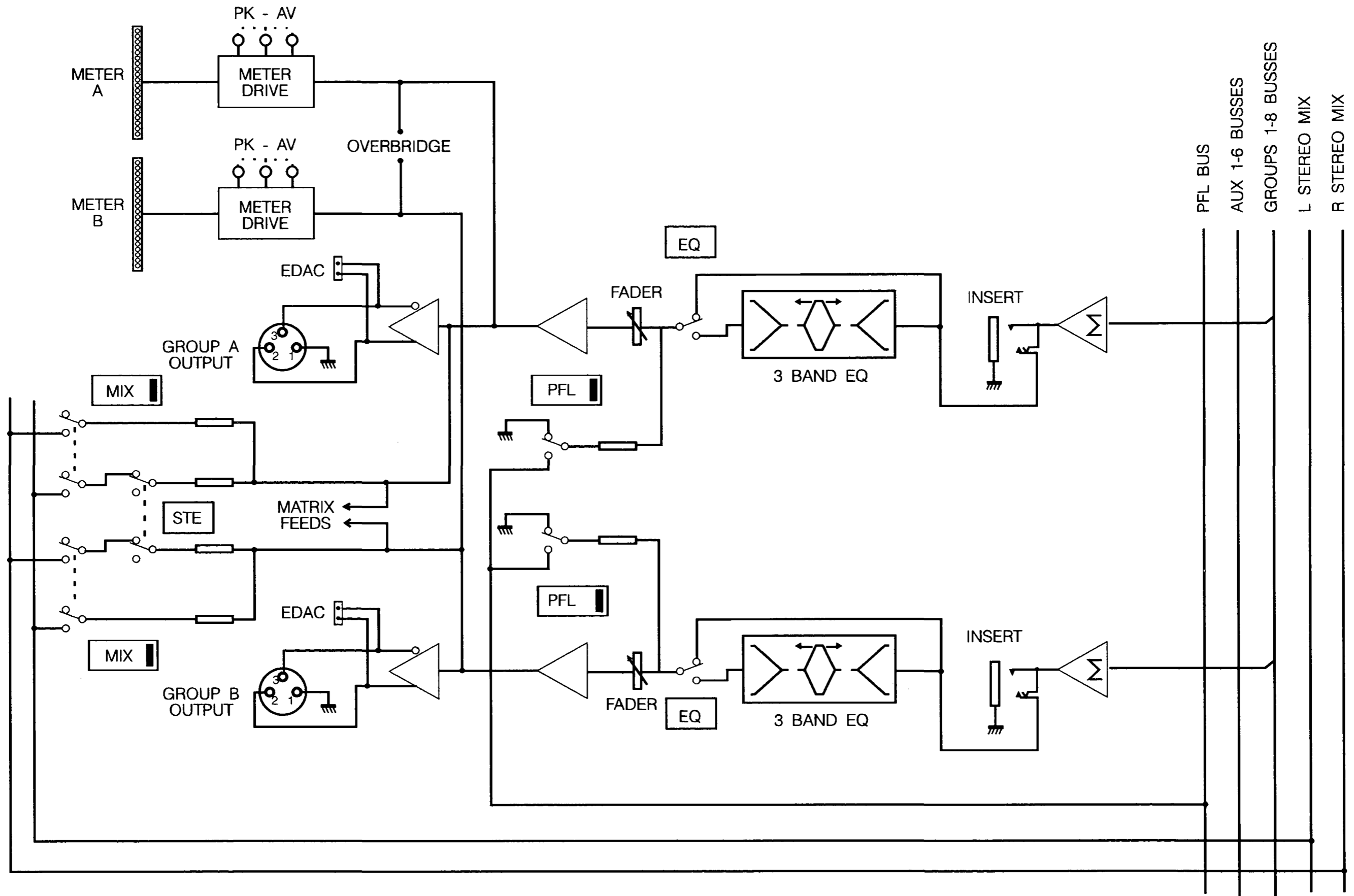
<i>Mono Input Module</i>	<i>5.2</i>
<i>Stereo Input Module</i>	<i>5.3</i>
<i>Dual Group/ EQ Module</i>	<i>5.4</i>
<i>Dual Group/Stereo Return Module</i>	<i>5.5</i>
<i>Dual Matrix Module</i>	<i>5.6</i>
<i>Master Module</i>	<i>5.7</i>
<i>Theatre Input Module</i>	<i>5.8</i>

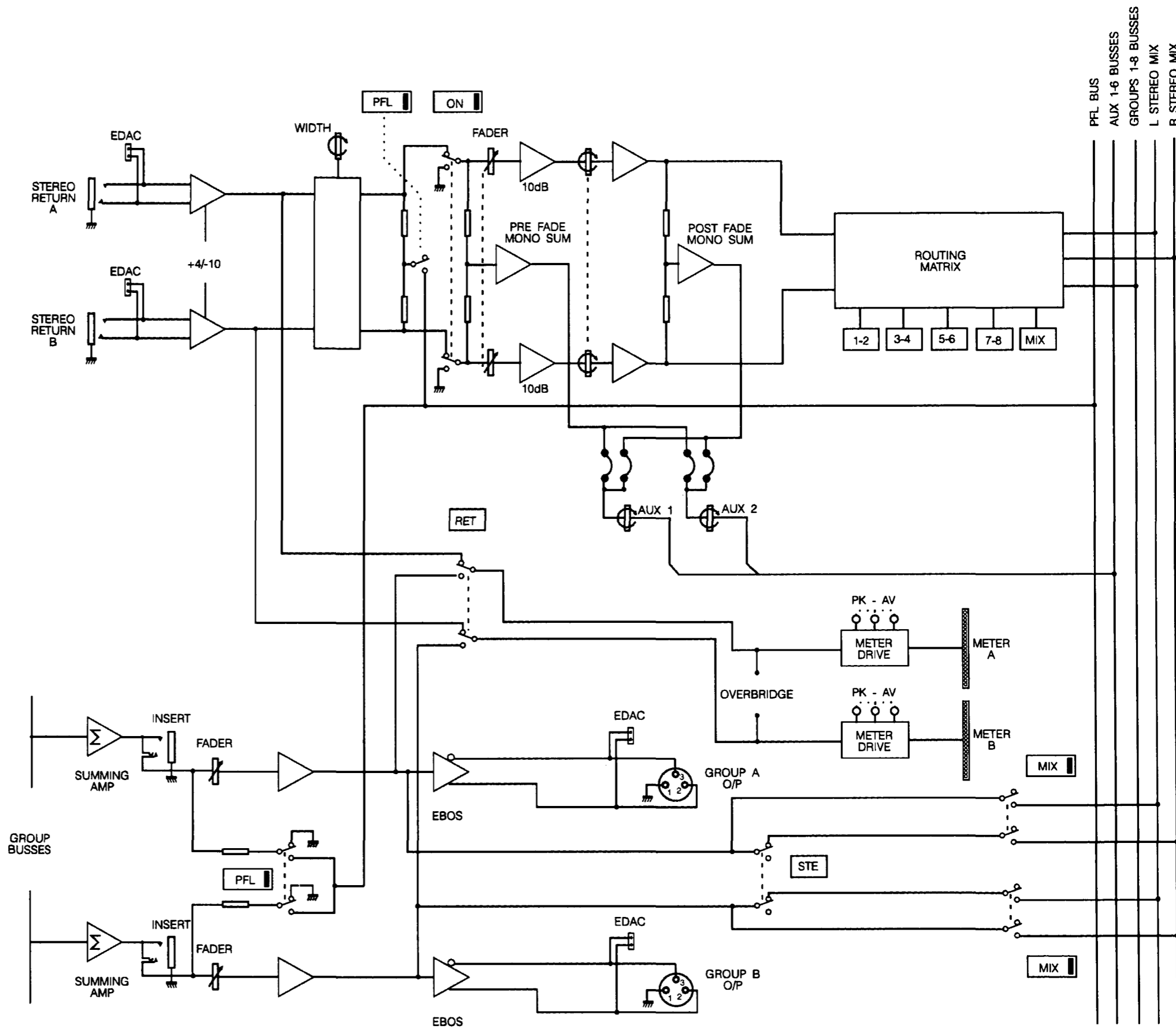
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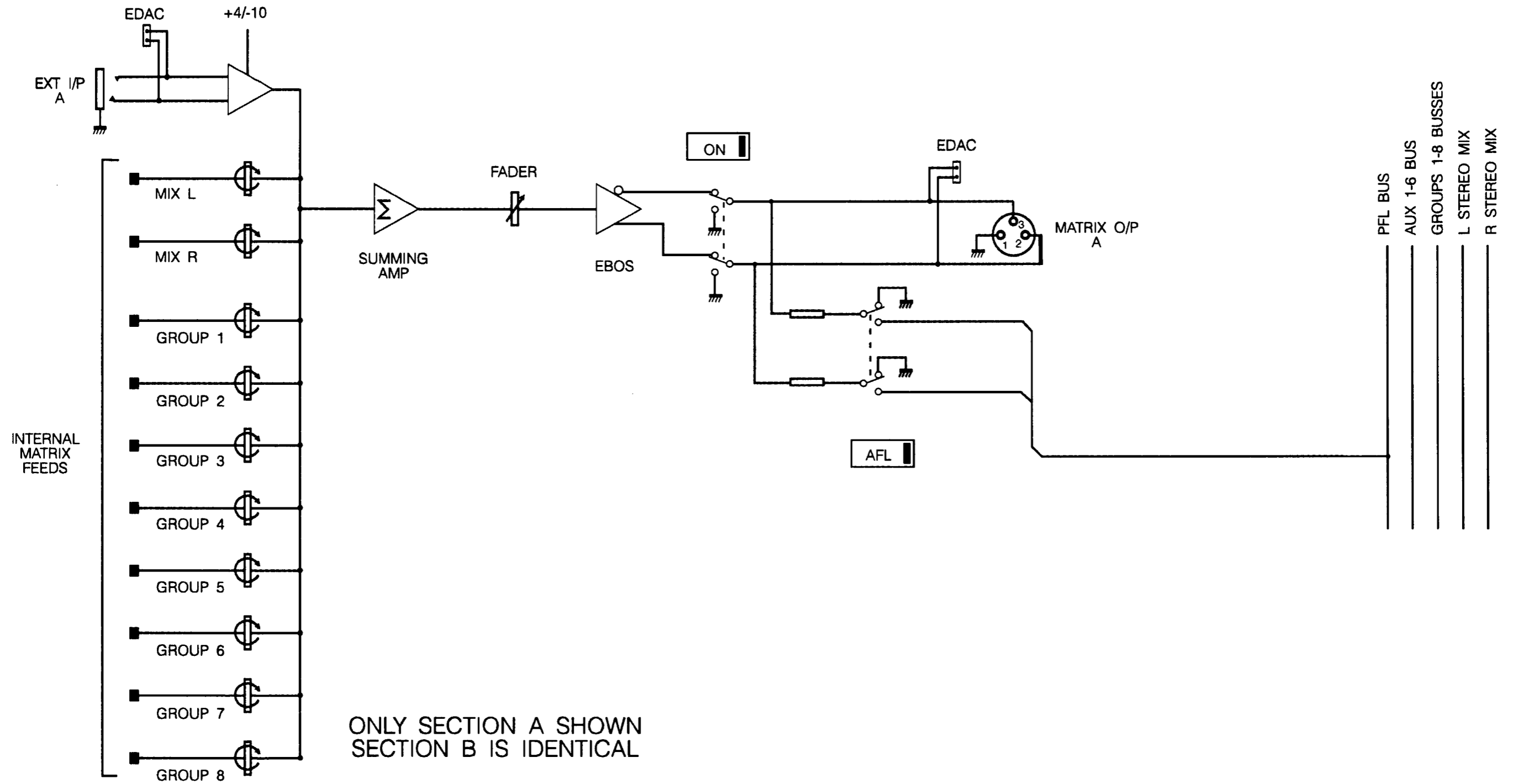


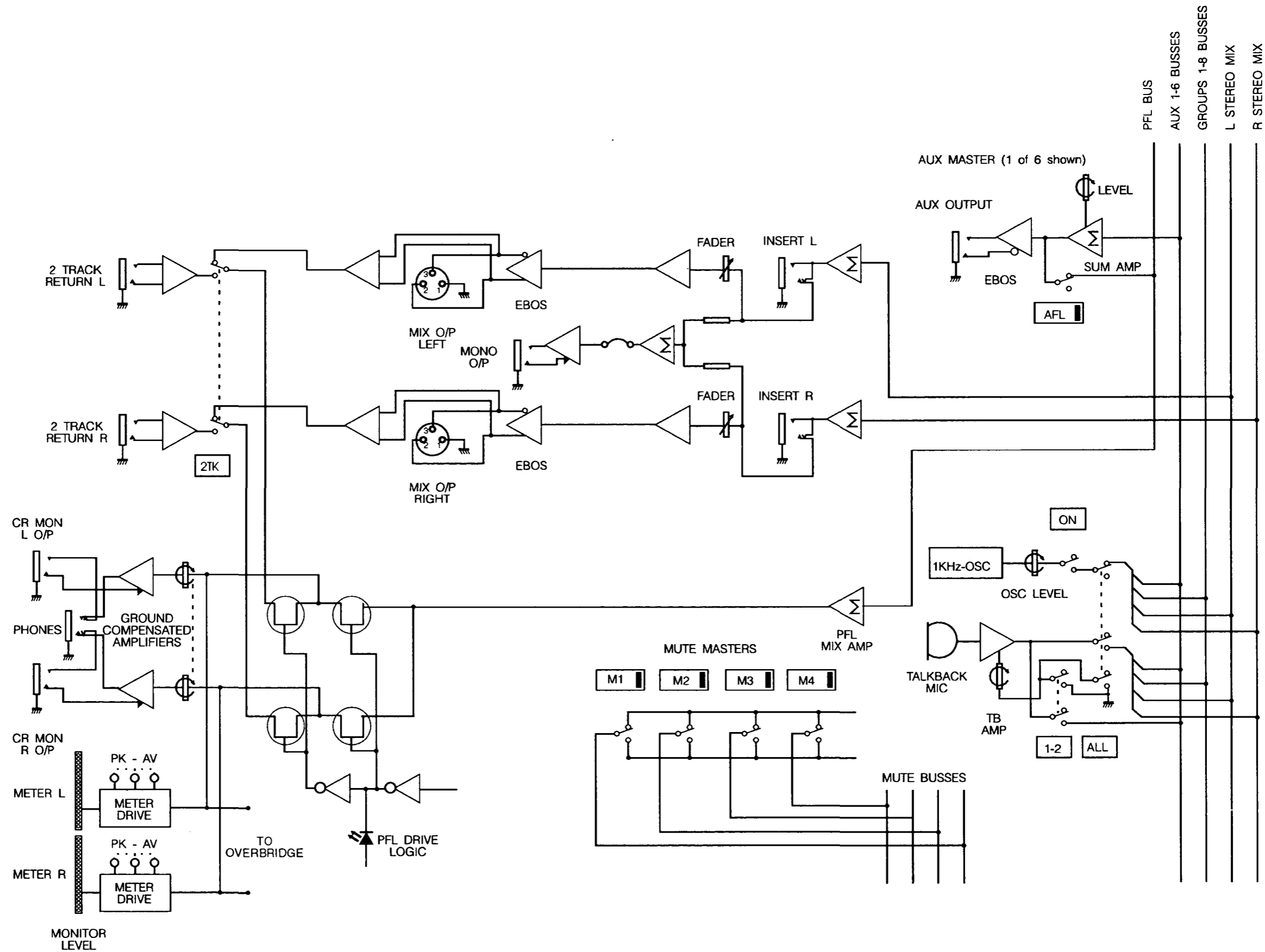




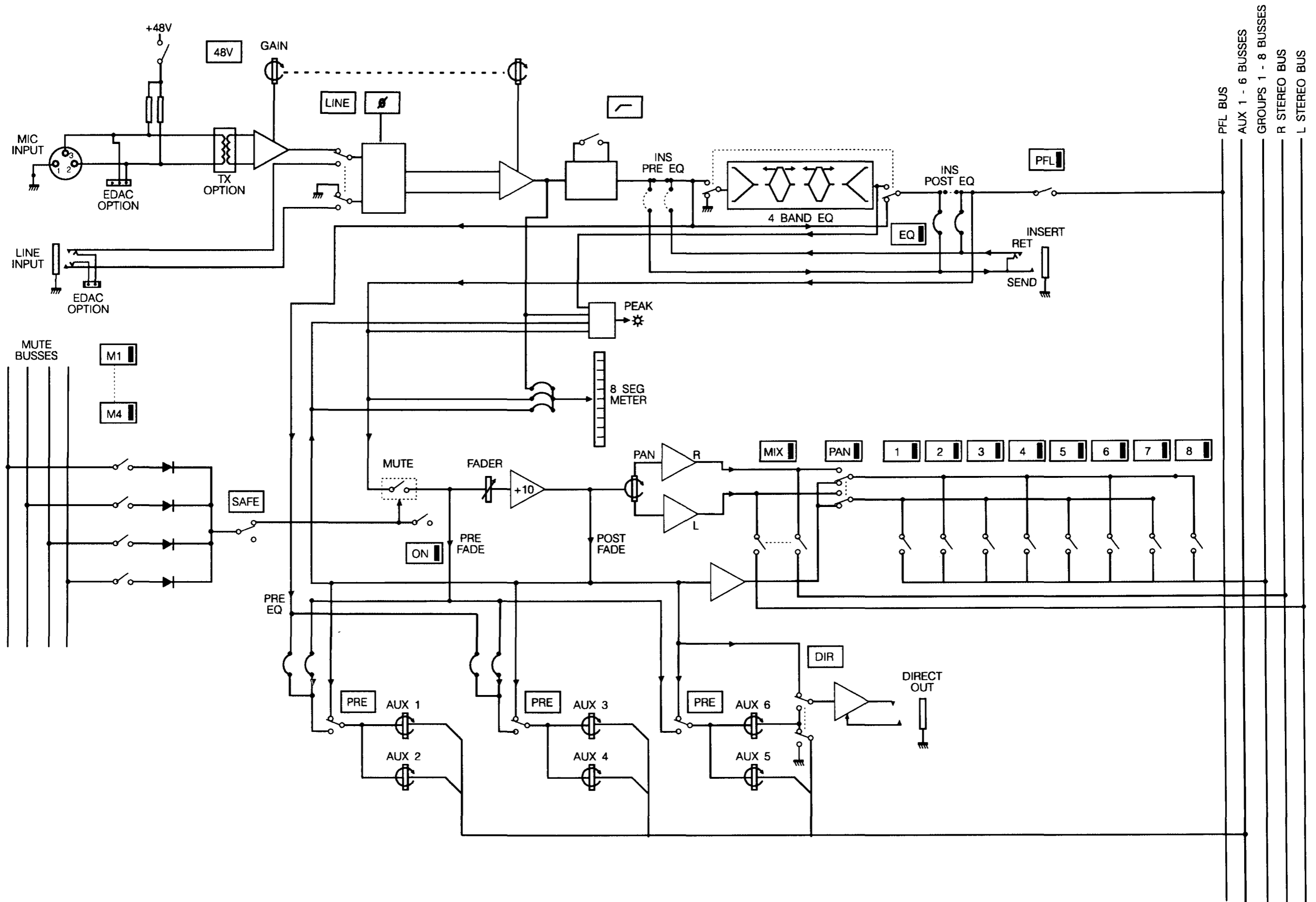












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## 6. Circuit Descriptions

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<i>Mono Input PCB SC2911</i>	<i>6.2</i>
<i>Stereo Input PCB SC2915</i>	<i>6.5</i>
<i>Theatre Input PCB SC3152</i>	<i>6.8</i>
<i>Dual Group/EQ PCB SC2913</i>	<i>6.11</i>
<i>Dual Group/Stereo Return PCB SC2914</i>	<i>6.13</i>
<i>Dual Matrix PCB SC2916</i>	<i>6.16</i>
<i>Master Module - LH PCB SC3064</i>	<i>6.17</i>
<i>Master Module - RH PCB SC2919</i>	<i>6.19</i>
<i>Meter Sub PCB SC2917</i>	<i>6.22</i>
<i>VU Overbridge VU Driver PCB SC2963</i>	<i>6.23</i>
<i>Littlite PCB SC3009</i>	<i>6.24</i>
<i>LED Meter PCB SC3095</i>	<i>6.25</i>
<i>Dual VU Driver SC3124</i>	<i>6.26</i>

# Mono Input PCB SC2911

## **Circuit Description**

The mono input accepts microphone and line level inputs. Phantom power (+48V) is provided to suit capacitor microphones; capacitors C1, C2 block the +48V DC in the usual way.

**The input amplifier** is divided into two stages: the microphone amplifier and the line level amplifier. Microphone signals pass through both stages; signals from the line input pass only through the second stage.

**The microphone amplifier** is a discrete, transformerless design built around 2SB737 transistors for low noise and high Common Mode Rejection Ratio (CMRR.) Transistors TR1 and TR2 form a differential pair, biasing provided by resistors R8, R13, R9, R12. The two collector signals are fed into a differential amp built around IC1-A (TL072.) Negative feedback for the inverting input is provided by R15. IC1-B acts as a unity-gain inverter to give negative feedback to the non-inverting input via R14.

The gain of this stage is controlled by VR1-A and R11, and is variable between 2dB and 50dB. Diodes D1 and D2 prevent the transistor's differential collector voltage exceeding 0.6V. Diodes D3, D4, D5, D6 protect the input amplifier from excessive transients, usually caused by the phantom power being turned on. D3 and D4 prevent the inputs of IC1-A from exceeding the negative rail, which could cause the output of the IC to "latch up" at one of the rails. D5 and D6 prevent excessive reverse biasing of the base-emitter junctions of TR1 and TR2.

**The line level amplifier** is built around IC2 (TL072.) This is a differential amplifier with gain controlled by VR1-B. S2 selects between microphone input and the output of the microphone amplifier. When the microphone input is selected, the line level amplifier acts as a single-ended inverting stage, with the non-inverting input tied to ground by S2-C. IC2-A acts as the inverter; VR1-B controls gain by varying the amount of feedback and is buffered by IC2-B.

The gain range is set by R23 and R24 to 20dB. This, combined with the gain of microphone amplifier, gives a gain range of +2dB to +70dB without the use of a pad. When the line input is selected, the input to the line level amplifier is taken from the LINE IN socket via R1 and R2, and IC2-A acts as a differential amplifier. Gain is set by VR1-B as before, but R24 is shorted to ground via S2-D, giving gain variable from -12dB to +18dB.

**The PHASE switch** operates by swapping the inputs to the line level amplifier IC2-A. The output of the line amplifier is used to feed the input meter via CN7 when the LED overbridge is fitted.

After the input stage, the signal is fed through a second order **high-pass filter** configured around IC3-A. Normally, S4 short circuits C12 and C13 giving a flat response: pressing the switch makes the filter active. The filter has a gain of 3dB, giving a nominal level at its output of -2dBu.

**The EQ section** has fixed second-order shelving HF and LF sections, and two mid-frequency sections that operate between 150Hz and 2.4kHz, and 600Hz and 10kHz respectively. The EQ in/out switch S5 switches the circuitry out of the signal path; when not selected, the input to the EQ is also cut.

**The HF section** is built around IC3-B. VR2 varies the amount of feedback to the inverting input of the op-amp to vary the gain; C32, C15 make the variation frequency dependent.

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**The High-Mid frequency section** is formed around IC4-A. R33 and R35 form an inverting amplifier stage. VR4 adds some positive (boost) or negative (cut) feedback to the non-inverting input via the bandpass filter formed by C17, VR3-A and R34, C18 and VR3-B and R32.

**The Low-Mid frequency section** is identically configured around IC4-B, VR6 and VR5. The larger values of C19 and C20 give a lower operating frequency.

**The LF section** is configured around IC8-A, and is similar to the mid-frequency sections, although the frequency is fixed. In addition, C33 reduces the signal across VR7 at mid and high frequencies, rolling off the signal fed to bandpass filter R24, C34, R41 and C21 and giving the second-order response.

Following the EQ section, the signal passes through the **insert jack**. R45 isolates the output from capacitive loads on the insert send to assure stability. The insert point may be moved pre-EQ by removing the wire links LK66, LK68, LK70 and soldering wire links in positions LK65, LK67 and LK69.

**The peak detector** is fed from the output of the EQ switch. It is built around transistors TR3 and TR4, npn type C2240BL. The signal is attenuated and DC shifted by R70, R71 and C27. When the peak positive value of the signal exceeds 5.6V TR3 is turned on. This turns off TR4, which allows current to flow through the peak LED, LED1, illuminating it. C28 holds TR4 off after TR3 has turned off, giving a peak hold action. When TR4 turns on, current flows through it, bypassing LED1, which goes off.

The three **light emitting diodes** on the module are connected in series, to minimise the current drawn from the supply rails. When not lit, they are shorted out either by mechanical switches (S8-A for the PFL indicator, S7-B for the ON indicator) or by transistors (TR4 for the PEAK indicator, TR5, when fitted, for the ON indicator.) Current through the chain is set at 6mA by R73 and R74. Note that if any of the LEDs should malfunction, none of the others will light.

**The mute block** allows the signal in the module to be turned on and off by control signals generated on the master module. When fitted, it is fed from the insert return (or EQ output if the insert has been moved pre-EQ), and precedes the ON switch, which allows the signal to be turned on or off from the module.

The mute block itself is based around IC7-A (TL072) configured as an inverting stage with unity gain set by input resistor R91 and feedback resistor R93. When the channel is not muted, FET TR6 is non-conducting (gate low), FET TR7 is conducting (gate at approximately 0V) and the circuit behaves as a normal inverting amplifier. IC7-B re-inverts the signal to give the correct polarity.

When the channel is muted, TR6 is turned on, grounding the signal from R91, while TR7 is off, disconnecting R91 from IC7-A. No signal then passes through IC7-A. TR6 and TR7 are controlled by TR8 and TR9 (type C2240BL npn.) When a mute active (approx -15V) signal from any of the mute busses reaches TR8 via the module MUTE switches S14 - S17, TR8 is turned on and pulls the gate of TR7 low, turning the FET off. TR9 is turned off via R105, and this reverse biases D7, and sets the gate voltage of TR6 to 0V via R99, turning it on. TR5 is also turned on, diverting current from the ON LED LED3 and extinguishing it. When the mute bus is not active (bus at -17V) TR8 is off, TR9 is on, and the states of the FETs are swapped. C38 and C39 ramp the control voltages, giving a controlled "fade" of about 10mS. TR8 and TR9 are powered from the mute connector, and the module will not function correctly if this is not plugged in.

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**The input fader** is a carbon track, audio taper type with 100mm travel. The post-fader amplifier is a standard non-inverting configuration built around **IC-5B**, one section of an NE5532, with 10dB of gain set by **R49 and R50**. The unity position of the fader is thus 10dB down from the top.

The fader is followed by the **panning circuitry**: the output of the pan buffers then feed the routing matrix. The **pan buffer** is an active design which gives vastly improved separation compared with passive pan circuits. The buffers have a gain of 1.5dB set by **R53, R54** (right side) and **R56, R57** (left side.) The law adjusting resistors, **R52 and R55**, which give a drop of 4.5dB at the centre of the travel of the PAN control **VR12**, are taken from the outputs of the buffers.

**The routing switches (S9 - S13)** switch the mix resistors **R58 - R53, R80 - R83** between the busses and ground. There is thus always signal present on one side of the resistors, and never any voltage on the other.

The Direct Out amplifier, IC5-A is configured as a "Ground Compensated" output stage. the op-amp has a gain of 6dB, set by R110 and R111; the input signal is attenuated by 6dB by R109 and R112, giving an overall gain of 0dB. The ring of the Direct Out jack is used as an input to sample the ground of connecting equipment; any noise present is added into the amplifier via R112 in such a way that the external equipment sees the output signal as clean with respect to its own ground. The Direct Out amplifier is normally fed from the fader amp; however, pressing the DIR switch, S6, changes to source to the Aux 6 send pot, VR14 via S6-A. When DIR is selected, R69, the Aux 6 summing resistor is grounded via S6-B to prevent crosstalk

**The Auxillary sends 1 to 6** are controlled by **VR8, VR9, VR10, VR11, VR13 and VR14** respectively. The source for sends 1, 2, 3, 4 and 6 may be selected by means of 0.1" jumpers, as follows:

**AUX 1:**

for pre-EQ signal, fit **J1**  
for post-EQ, pre-fade signal fit **J2**  
for post-fade signal, fit **J3**

**AUX 2:**

for pre-EQ signal, fit **J4**  
for post-EQ, pre-fade signal fit **J5**  
for post-fade signal, fit **J6**

**AUX 3:**

for post-EQ, pre-fade signal fit **J7**  
for post-fade signal, fit **J8**

**AUX 4:**

for post-EQ, pre-fade signal fit **J9**  
for post-fade signal, fit **J10**

**AUX 6:**

for post-EQ, pre-fade signal fit **J11**  
for post-fade signal fit **J12**

**AUX 5** is always sourced post-fader.

# Stereo Input PCB SC2915

## **Circuit Description**

The **Stereo Line Input** enables one of two stereo sources, input A or B, to be routed to mix, the group outputs and the auxiliaries. The circuit descriptions below are for the left hand channel of the input - circuit references for the right channel are shown in parentheses.

S1 selects either Input A or Input B as the source for the input amplifiers. The input B signal path passes through links J13 and J14 (J11, J12). These by-pass the position for the optional RIAA pre-amplifier sub-board, and are removed when this is fitted.

The line level amplifier is built around IC1 (IC2), a TL072. This is a differential amplifier with gain controlled by VR1-A (VR1-B). IC1-A (IC2-A) acts as a differential amplifier; VR1-A (VR1-B) controls gain by varying the amount of feedback through R3 (R103) and is buffered by IC1-B (IC2-B). The gain range is set by R5 (R105) giving gain variable from -12dB to +18dB.

When the mute system is used, R200 and R201 (R202, R203) are fitted instead of R1 and R2 (R101, R102). This inverts the signal through the input amplifier, width control and EQ section. Correct polarity is restored in the mute block. The PFL signal is also fed to the anti-phase PFL bus instead of the in-phase bus by fitting link J7 instead of J9.

The **PHASE switch** S2 operates on the left input only by swapping the inputs to the line level amplifier IC1-A.

The **WIDTH control** mixes the left and right hand channels of the input together in variable amounts, either in or out of phase. The signal from the right channel is fed to the left channel via R193 (from left to right via R194). IC9-A (IC9-B) is a non-inverting amplifier with a gain of +6dB, set by R192 and R191 in parallel with VR13-A (R197, R196, VR13-B), preceded by a 6dB attenuator formed by R190 and VR13-A (R195 and VR13-B.) The signal from the right (left) hand channel is fed to either the non-inverting (anti-clockwise) or inverting (clockwise) inputs of IC2-A (IC2-B) according to the position of VR13-A. This gives either 100% in-phase cross-feed between the channels (i.e. mono) or 50% anti-phase cross-feed ("wide stereo"). When VR13 is in its centre position, the cross feed signals are grounded via the centre taps of the pot, giving full stereo.

The **three-band EQ** is switched in and out of circuit by S3. When the EQ is switched out, its input is grounded by S3-A (S3-C), and no signal passes through it. The **High and Low Frequency** sections are based around IC3-A (IC3-B). This is configured as a unity gain inverting stage by R6 and R9 (R106, R109). The HF control VR2-A (VR2-B) by-passes the input or feedback resistor to give boost or cut. C2 (C12) reduces the affect of this at mid and low frequencies, giving a high frequency shelving action. The LF control VR5-A (VR5-B) applies positive (boost) or negative (cut) feedback to the non-inverting input via the filter network R7, R85, C3, (R107, R185, C13) to give an LF shelf response.

The **Mid Frequency section** is implemented around IC4-A (IC5-A), which is configured as an inverting stage by R11 and R12 (R111, R112). VR4-A (VR4-B) applies either positive or negative feedback to the non-inverting input of the op-amp, via a bandpass network, to give a peaking response. IC4-B (IC5-B) acts as a capacitance multiplier circuit to give a bandpass response sweepable with only one variable element, VR3-A (VR3-B).

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**The peak detector** is fed from the output of the EQ switch, and indicates when the peak level in either left or right channel exceeds +14dBu. It is built around transistors TR1, TR2 and TR3, npn type C2240BL. The signal is attenuated and DC shifted by R66, R68 and C21 (R67, R69, C22). When the peak positive value of the signal exceeds 5.6V, TR1 (TR2) is turned on. This turns off TR3, which allows current to flow through the peak LED, LED1, illuminating it. C23 holds TR3 off after TR1 (TR2) has turned off, giving a peak hold action. When TR3 turns on, current flows through it, by-passing LED1, which goes off.

The three light emitting diodes on the module are connected in series, to minimise the current drawn from the supply rails. When not lit, they are shorted out either by mechanical switches (S5-A for the PFL indicator, S6-D for the ON indicator) or by transistors (TR3 for the PEAK indicator, TR10, when fitted, for the ON indicator.) Current through the chain is set at 6mA by R71 and R72. Note that if any of the LEDs should malfunction, none of the others will light.

**The mute block** allows the signal in the module to be turned on and off by control signals generated on the master module. When fitted, it is fed from the insert return (or EQ output if the insert has been moved pre-EQ), and replaces the ON switch, which controls the signal via the mute block.

When not fitted, the circuitry is by-passed completely by J8 and J21 (J10, J22) and passes through the ON switch S6-A (S6-B) instead. The mute block itself is based around IC10-A (IC10-B), a TL072 configured as an inverting stage with unity gain set by input resistor R204 (R207) and feedback resistor R205 (R208). When the channel is not muted, FET TR4 (TR6) is non-conducting (gate low), FET TR5 (TR7) is conducting (gate at approximately 0V) and the circuit behaves as a normal inverting amplifier. The stage corrects the polarity-reversal in the input amplifier.

When the channel is muted, TR4 (TR6) is turned on, grounding the signal from R204 (R207), while TR5 (TR7) is off, disconnecting R204 (R207) from IC10-A (IC10-B). No signal then passes through IC10-A (IC10-B). TR4 and TR5 (TR6, TR7) are controlled by TR8 and TR9 (type C2240BL npn.)

When a mute active (approx -15V) signal from any of the mute busses reaches TR8 via the module MUTE switches S12 - S15, TR8 is turned on and pulls the gate of TR5 (TR7) low, turning the FET off. TR9 is turned off via R213, and this reverse biases D7, and sets the gate voltage of TR4 (TR6) to 0V via R219, turning it on. TR10 is also turned on, diverting current from the ON LED LED3 and extinguishing it.

When the mute bus is not active (bus at -17V) TR8 is off, TR9 is on, and the states of the FETs are swapped. C205 and C206 ramp the control voltages, giving a controlled "fade" of about 10ms. TR8 and TR9 are powered from the mute connector CN6, and the module will not function correctly if this is not plugged in.

**The fader** is a stereo carbon track, audio taper type with 100mm travel. The **post-fader amplifier** is a standard non-inverting configuration built around IC6-A (IC6-B), one section of an NE5532, with 14.5dB of gain set by R17 and R19 (R117, R119). With the 4.5dB loss in the pan pot, the unity position of the fader is 10dB down from the top.

The fader is followed by the panning circuitry: the output of the pan buffers then feed the routing matrix. The pan buffer is an active design which gives vastly improved separation compared with passive pan circuits. The buffers have a gain of 1.5dB set by R20, R22 (R120, R122) The law adjusting resistors, R21 and R121, which give a drop of 4.5dB at the centre of the travel of the PAN control VR10, are taken from the outputs of the buffers.

**The routing switches** (S7 - S11) switch the mix resistors R23, R24, R25, R80, R82 (R123, R124, R125, R81, R83) between the busses and ground. There is thus always signal present on one side of the resistors, and never any signal voltage on the other.

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**The Auxiliary sends 1 to 6 are controlled by VR6, VR7, VR8, VR9, VR11 and VR12 respectively. The source for sends 1, 2, 3 and 4 may be selected as pre- or post-fade stereo or mono sum signals by means of 0.1" jumpers, as follows:**

**AUX 1:**

for LEFT pre-fade signal, fit J3

for mono pre-fade signal, fit J2

for LEFT post-fade signal, fit J4

for mono post-fade signal, fit J1

**AUX 2:**

for RIGHT pre-fade signal, fit J15

for mono pre-fade signal, fit J6

for RIGHT post-fade signal, fit J16

for mono post-fade signal, fit J5

**AUX 3:**

for mono pre-fade signal, fit J18

for mono post-fade signal, fit J17

**AUX 4:**

for mono pre-fade signal, fit J20

for mono post-fade signal, fit J19

**AUX 5 and 6 are always sourced post-fader, mono.**

**The pre-fade mono sum is derived through R51, R50 by IC8-A, and re-inverted by IC8-B. This also provides the signal for the channel metering in the LED overbridge (if fitted) via CN12**

**The post-fade mono sum is derived through R55, R56 by IC8-C, and re-inverted by IC8-D.**



# Theatre Input Module SC3152

## **Circuit Description**

The mono input accepts microphone and line level inputs. Phantom power (+48V) is provided to suit capacitor microphones; capacitors C1,C2 block the +48V DC in the usual way.

The **Input Amplifier** is divided into two stages: the microphone amplifier and the line level amplifier. Microphone signals pass through both stages; signals from the line input pass only through the second stage.

The **Microphone Amplifier** is a discrete, transformerless design built around 2SB737 transistors for low noise and high Common Mode Rejection Ratio (CMRR). Transistors TR1 and TR2 form a differential pair, biasing provided by resistors R8,R9,R12,R13. The two collector signals are fed into a differential amp built around IC1-A. Negative feedback for the inverting input is provided by R15. IC1-B acts as a unity-gain inverter to give negative feedback to the non-inverting input via R14.

The gain of this stage is controlled by VR1-A and R11, and is variable between 2dB and 50dB. Diodes D1 and D2 prevent the transistors differential collector voltage exceeding 0.6V. Diodes D3,D4,D5,D6 protect the input amplifier from excessive transients, usually caused by the phantom power being turned on. D3 and D4 prevent the inputs of IC1-A from exceeding the negative rail, which could cause the output of the IC to "latch up" at one of the rails. D5 and D6 prevent excessive reverse biasing of the base-emitter junctions of TR1 and TR2.

The **Line Level** amplifier is built around IC2. This is a differential amplifier with gain controlled by VR1-B. SW1 selects between the line input and the output of the microphone amplifier. When the microphone input is selected, the line level amplifier acts as a single-ended inverting stage, with the non-inverting input tied to ground by SW1-B. IC2-A acts as the inverter; VR1-B controls gain by varying the amount of feedback and is buffered by IC2-B.

The gain range is set by R23,R24 to 20dB. This, combined with the gain of the microphone amplifier, gives a gain range of +2dB to +70dB without the use of a pad. When the line input is selected, the input to the line level amplifier is taken from the LINE IN socket via R1,R2 and IC2-A acts as a differential amplifier tied to ground by S1-B. Gain is set by VR1-B as before, but R24 is shorted to ground via SW1-B, giving gain variable from -12dB to +18dB.

The **PHASE** switch operates by swapping the inputs to the line level amplifier IC2-A.

After the input stage, the signal is fed through second order **High Pass Filter**, configured around IC3-A. Normally, SW2 (LH PCB) short circuits C12,C13, giving a flat response: pressing the switch makes the filter active. The filter has a gain of 3dB, giving a nominal level at its output of -2dBu.

The **EQ section** has a fixed second-order shelving HF and LF sections, and two mid-frequency sections that operate between 150Hz and 2.4KHz, and 600Hz and 10KHz respectively. The **EQ in/out** switch SW3 switches the circuitry out of the signal path; when not selected, the input to the EQ is also cut.

The **HF section** is built around IC3-B. VR1 (LH PCB) varies the amount of feedback to the inverting input of the op-amp to vary the gain; C15,C51 make the variation frequency dependent.

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The **HIGH-MID** frequency section is formed around **IC4-A**. **R33,R35** form an inverting amplifier stage. **VR2** (LH PCB) adds some positive (boost) or negative (cut) feedback to the non-inverting input via the band-pass filter formed by **C17,VR2-A** and **R34,C18** and **VR2-B,R32**.

The **LOW-MID** frequency section is identically configured around **IC4-B,VR3** (LH PCB),**VR3** (RH PCB). The larger values of **C19,C20** give a lower operating frequency.

The **LF** section is configured around **IC5-A**, and is similar to the mid-frequency sections, although the frequency is fixed. In addition, **C33** reduces the signal across **VR7** (LH PCB) at mid and high frequencies, rolling off the signal fed to the band-pass filter, **R42,C50,R41** and **C21** giving the second-order response.

Following the EQ section, the signal passes through the **INSERT** jack. **R143** isolates the output from capacitive loads on the insert send to assure stability. The insert point may be moved pre-EQ by removing links **LK1,4,6** and soldering wire links into positions **LK2,3,5**.

The **MUTE** block allows the signal in the module to be turned on and off by control signals, generated on the module by the **ON** switch **SW11**, or by control signals generated on the master module. The mute block itself is based around **IC6-A**, configured as an inverting stage with unity-gain set by **R49,R50**. When the channel is not muted, FET **TR3** is non-conducting (gate low), FET **TR4** is conducting (gate at approximately 0V) and the circuit behaves as a normal inverting amplifier. **IC5-B** maintains the correct phase through the circuit.

When the channel is muted, **TR3** is turned on, grounding the signal from **R49**, while **TR4** is off, disconnecting **R49** from **IC6-A**. No signal then passes through **IC6-A**. **TR3,TR4** are controlled by **TR6,TR7**. When a mute active (approx. -15V) signal from any of the mute busses, reaches **TR6** via the module **MUTE** switches (**SW13 - SW16**), **TR6** is turned on and pulls the gate of **TR4** low, turning the FET off. **TR7** is turned off via **R64**, and this reverse biases **D7**, and sets the gate voltage of **TR3** to 0V, turning it on. **TR11** is also turned on, diverting current from the **ON** LED **LD8**, and extinguishing it. When the mute bus is not active (bus at -17V) **TR6** is off, **TR7** is on, and the states of the FETs are swapped. **C28,C29** ramp the control voltages, giving a controlled "fade" of about 10mS. A **SAFE** switch **SW12** disconnects the mute switches from control of the mute block, allowing only the **ON** switch **SW11**, to control the mute block.

The **input fader** is a carbon track, audio taper type with 100mm travel. The post-fader amplifier is a standard non-inverting configuration, built around **IC12-B**, with 10dB gain set by **R130,R132**. The unity position of the fader is thus 10dB from the top.

The **post-fader amplifier** is followed by the panning circuitry. The pan buffer is an active design which gives vastly improved separation compared with passive pan circuits. The buffers have a gain of 1.5dB set by **R122,R124** (right side) and **R123,R125** (left side). The law adjusting resistors **R120,R121** give a drop of 4.5dB at the centre of the travel of the **PAN** control **VR10**.

The **PAN** control always feeds the **MIX** routing switch **SW6** (LH PCB), but only feeds the group routing switches when the **PAN** switch **SW5**, is pressed. When the groups are not fed from the pan buffers, they are sourced from the output of **IC6-B**. This is a non-inverting amplifier, with a gain of 1.5dB to maintain the same gain, whether or not the groups are fed from the pan control.

There are six **auxiliary sends** from the module. The level of the auxiliary send is controlled by a rotary pot **VR4 - VR9**. The auxiliaries are divided into pairs, 1,2 and 3,4 and 5,6. Each pair has a **PRE** switch, which selects the signal source to be pre-fader. There are jumpers for Auxes 1&2 and 3&4 that allow the pre-fade signal to be taken from either before or after the EQ or after the EQ and mute block.

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#### **Aux 1 and 2**

For pre-fade signal post-EQ and mute fit J4

For pre-fade signal pre-EQ, fit J5

#### **Aux 3 and 4**

For pre-fade signal post-EQ and mute fit J6

For pre-fade signal pre-EQ, fit J7

There is a **DIRECT** output, which is normally fed by the post fade signal, unless the **DIRECT** switch **SW4**, is pressed. Then the direct output is fed from the output of **AUX 6** control pot, whether it is pre or post fade. When the direct switch is pressed, the output of the aux pot is disconnected from the aux 6 bus.

The **DIRECT** output is configured as a ground compensated amplifier stage. The op-amp has a gain of +6dB, set by **R113,R114**, but the input is attenuated by 6dB, set by **R115,R116**, so there is no overall gain. The output signal is available on the tip connection of the output jack. The "cold" output is used as an input, rather than an output, and samples the ground of the external equipment. Any noise present on this ground is added to the output signal through **R116** in such a way, that the external equipment sees the output signal as clean with respect to its own ground.

There is an eight-segment **Meter** on the module. It has a peak response (quick to attack, slow to decay), and can be sourced from either the output of the input amplifier, pre the mute block or post-fader. This source is chosen by a jumper.

The meter uses a precision half-wave rectifier, built around **IC7-A** with **D13,D14**. The gain of the rectifier stage is set by **R67,R68,R69**. **R70** and **C33** store the peaks. The output of the rectifier is fed to one of the inputs of each of the comparators **IC9,IC10**, whilst the other input is fed from voltages generated by the resistor chain. With no input voltage, all comparators are turned off. As the signal increases, so does the DC voltage from the rectifier, and one by one, the comparators turn on. As each comparator turns on, the current from the source must flow through its associated LED.

There is a multi-point **peak detect** circuit, built around **IC8-A**. It monitors four points in the module circuit. The output of the input amplifier, the post EQ signal, the pre mute signal and the post fader signal. Each of these signals are fed to a pair of connected diodes, **D15** to **D19**, **D16** to **D20**, **D17** to **D21** and **D18** to **D22**. The cathodes of diodes **D15,16,17,18** are all connected to a voltage divider network. Whilst the anodes of **D19,20,21,22** are all connected to another voltage divider network. The two inputs to **IC8-A** are connected to two other points in the divider networks. The +ve input to the network connected to the anodes, the -ve to the network connected to the cathodes (ie. one in each divider). When the signal level at any of the four sense points, is lower than the set level on the dividers, the differential voltage on the input of **IC8-A** is small and positive, so the output of **IC8-A** is high, **D23** does not conduct, so **TR9** is switched on, and the peak LED **LD9** is not lit. The source is selected by a moveable jumper, as follows:

For metering from the input amplifier, fit **J1**

For metering from the insert return, fit **J2**

For metering from the post-fade signal, fit **J3**

# Dual Group/EQ PCB SC2913

## **Circuit Description**

The Dual Group with EQ PCB contains the circuitry for two identical group outputs, together with the meter circuitry for the even numbered group of the pair. The meter for the odd-numbered group is contained on a meter sub-pcb. The circuit descriptions below are for the odd numbered group - circuit references for the even numbered group are shown in parentheses.

The **summing amplifier** is a differential design that reduces summing bus noise and improved power supply rejection considerably compared to conventional designs. Two identical common base transistors, **TR1 and TR2 (TR3 and TR4)**, pnp type 2SB737, are used to provide the inverting and non inverting inputs for the summing amplifier **IC1-B (IC5- B)**, biased by resistors **R1, R2, R4, R5 (R38, R39, R40, R41.) C2 (C24)** block the DC present on the emitter of **TR1 (TR3)** to allow biasing of the transistors to be set independently of DC conditions on the summing busses. Negative feedback is provided by **IC1-A (IC5-A)**, a unity gain inverter through **R6 (R42)** which creates a virtual earth in the usual manner.

Overall gain of the amplifier is set at -1.5dB from a 10kOhm source by **R6 (R42)**. A small amount of AC negative feedback is provided by **C5 (C26)** to help stability. **C3 (C25)** helps to prevent the circuit oscillating at high frequency. The output of the summing amplifier is fed to the group insert jack **JSK1 (JSK2)**, at a nominal level of -2dBu

The **three-band EQ** is switched in and out of circuit by **S1 (S2)**. When the EQ is switched out, its input is grounded by **S1-A (S2-A)**, and no signal passes through it.

The **High and Low Frequency sections** are based around **IC2-A (IC6-A)**. This is configured as a unity gain inverting stage by **R12 and R16 (R47, R51)**. The HF control **VR1 (VR5)** bypasses the input or feedback resistor to give boost or cut. **C8 (C29)** reduces the affect of this at mid and low frequencies, giving a high frequency shelving action. The LF control **VR4 (VR6)** applies positive (boost) or negative (cut) feedback to the non- inverting input via the filter network **R14, R15, C9, C51 (R49, R50, C30, C52)** to give a LF shelf/peak hybrid response.

The **Mid Frequency section** is formed around **IC2-B (IC6-B)**. **R17 and R20 (R52, R55)** form an inverting amplifier stage. **VR3 (VR7)** adds some positive (boost) or negative (cut) feedback to the non-inverting input via the bandpass filter formed by **C11, VR4-A and R18, C12 and VR4-B and R19 (C32, VR8-A and R53, C33 and VR8-B and R54.)** As **VR4 (VR8)** is turned, the frequency of the bandpass changes, altering the frequency of the cut or boost.

The **group fader** is a carbon track, audio taper type with 100mm travel. The post fader buffer **IC3-A (IC3-B)** has unity gain, giving unity position at the top of the group fader. The output of the buffer is used to drive the meter circuit, the post-fade feed to the optional matrix module via **R23 (R60)**, the balanced output stage and the routing to mix. The nominal signal level at the output of the buffer is - 2dBu.

The **MIX switch S7 (S4)** switches the mix bus resistors **R36 and R37 (R73, R74)** between the busses and ground. There is thus always signal present at one end of the resistors, and never any signal voltage at the other.

The **STEREO switch S3** grounds **R37 (R74)** before it reaches the MIX switch, thus ensuring that the odd group routes only to MIX LEFT, and the even group only to MIX RIGHT when in STEREO mode.

**The EBOS (Electronically Balanced Output Stage)** simulates the properties of a floating transformer output, and gives two outputs - "hot" (in-phase) and "cold" (out-of-phase). When either is grounded, the level of the other increases by 6dB to give a constant level between the two outputs.

The EBOS is built around **IC4 (IC7)**, an NE5532. The amplifier is configured as an inverting amplifier, **IC4-A (IC7-A)** and a non-inverting amplifier, **IC4-B (IC7-B)**, each with 6dB of gain. However, negative feedback to each amplifier is provided from the output of the other, reducing the gain to unity for each amplifier. The difference between the two signals of opposite phase provides 6dB of gain, giving a nominal output level of +4dBu. When either output is shorted to ground, the additional feedback is removed, increasing the gain to 6dB, retaining a constant output level between the two outputs. The relative amplitude of the two outputs may be trimmed by adjusting **PR1 (PR2)** so that the two phases have identical amplitudes. This is performed during manufacture and will only require adjustment if the resistor packs **RN1 or RN2 (RN3 or RN4)** are replaced. Replacing **IC4 (IC7)** will not necessitate readjustment.

The four **light emitting diodes** in the illuminated switches on the module are connected in series, to minimise the current drawn from the supply rails. When not lit, they are shorted out by their associated switches. Current through the chain is set at 6mA by **R58**. Note that if any of the LEDs should malfunction, none of the others will light.

**The 20-segment LED bargraph** monitors the even group output. The meter uses a precision half-wave rectifier, built around **IC8-A** with **D1 and D2**. The signal to the rectifier is attenuated by **PR3** to allow calibration. The output of the rectifier is smoothed by **R86 and C47** to provide a DC voltage proportional to the average level of the signal, whilst **R85 and C46** store the peak level. Either of these may be selected by **J17**, and is then fed to one input of all the comparators (**IC9 - IC13**). The other input of each comparator is fed from voltages generated by resistor chain **R92 - R111**. Two current sources based on **TR5 and TR6** (pnp type A970GR) supply 8mA to the two LED chains **LD1 - LD10** and **LD11 - LD20**. With no input voltage, all the comparators are turned off. The outputs of the comparators are open collector npn transistors which sink current to the -17V rail when the comparator is off, and so **IC13-D** sinks all the current for one chain, and **IC11-B** the current for the other. As the input signal increases, so does the DC voltage from the rectifier and, one by one, the comparators turn on as the voltage on the non-inverting input (from the rectifier) exceeds that on the inverting input (supplied by the resistor ladder.) As each comparator turns on, the current from the source must flow through its associated LED and hence the ladder progressively illuminates.

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### **Meter Adjustment**

**PR1** may be accessed through the front panel of the module. The meter is factory calibrated for 0VU = +4dBu, and set to PEAK response, but may obviously be recalibrated as required. This calibration should not require adjustment once set unless any of the resistors in the resistor ladder or rectifier are changed. Changing the comparator or rectifier ICs should not affect the calibration.

# Dual Group/Stereo Return PCB SC2914

## **Circuit Description**

**The Dual Group with Stereo Return PCB** contains the circuitry for two identical group outputs and a stereo return, together with the meter circuitry for the even numbered group or right channel of the return. The meter for the odd-numbered group is contained on a meter sub-pcb. The circuit descriptions below are for the odd-numbered group and left hand channel of the return - circuit references for the even-numbered group and right channel are shown in parentheses.

**The summing amplifier** is a differential design that reduces summing bus noise and improves power supply rejection considerably compared to conventional designs. Two identical common base transistors, **TR1 and TR2 (TR3 and TR4)**, pnp type 2SB737, are used to provide the inverting and non-inverting inputs for the summing amplifier **IC7-B (IC8-B)**, biased by resistors **R61, R62, R63, R64 (R81, R82, R83, R84)**. **C21 (C41)** block the DC present on the emitter of **TR1 (TR3)** to allow biasing of the transistors to be set independently of DC conditions on the summing busses.

Negative feedback is provided by **IC7-A (IC8-A)**, a unity gain inverter, through **R65 (R85)** which creates a virtual earth in the usual manner. Overall gain of the amplifier is set at -1.5dB from a 10kOhm source by **R65 (R85)**. A small amount of AC negative feedback is provided by **C23 (C43)** to help stability. **C22 (C42)** helps to prevent the circuit oscillating at high frequency.

The output of the summing amplifier is fed to the **Group Insert**, at a nominal level of -2dBu and then to the group faders. The insert jacks are located on separate rear connector panels, and are connected to the group modules via one 10-way ribbon cable for two group modules. Which of the two sets of insert jacks on each rear connector panel the module uses is determined by **S13** - in for groups 1 and 2 or 5 and 6; out for groups 3 and 4 or 7 and 8. If the group insert panel is not used, then the insert may be linked across by fitting a 0.1" jumper on **J9 (J10)**.

**The group fader** is a carbon track, audio taper type with 100mm travel. **The post fader buffer IC9-A (IC9-B)** has unity gain, giving unity position at the top of the group fader. The output of the buffer is used to drive the meter circuit, the post-fade feed to the optional matrix module via **R23 (R60)**, the balanced output stage and the routing to mix. The nominal signal level at the output of the buffer is -2dBu.

**The MIX switch S15 (S10)** switches the mix bus resistors **R78 and R79 (R98, R99)** between the busses and ground. There is thus always signal present at one end of the resistors, and never any signal voltage at the other.

**The STEREO switch S9** grounds **R79 (R99)** before it reaches the MIX switch, thus ensuring that the odd group routes only to MIX LEFT, and the even group only to MIX RIGHT when in STEREO mode.

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**The EBOS (Electronically Balanced Output Stage)** simulates the properties of a floating transformer output, and gives two outputs - "hot" (in-phase) and "cold" (out-of-phase). When either is grounded, the level of the other increases by 6dB to give a constant level between the two outputs.

The EBOS is built around **IC10 (IC11)**, an NE5532. The amplifier is configured as an inverting amplifier, **IC10-A (IC11-A)** and a non-inverting amplifier, **IC10-B (IC11-B)**, each with 6dB of gain. However, negative feedback to each amplifier is provided from the output of the other, reducing the gain to unity for each amplifier. The difference between the two signals of opposite phase provides 6dB of gain, giving a nominal output level of +4dBu. When either output is shorted to ground, the additional feedback is removed, increasing the gain to 6dB, retaining a constant output level between the two phases. The relative amplitude of the two outputs may be trimmed by adjusting **PR2 (PR3)** so that the two phases have identical amplitudes. This is performed during manufacture and will only require adjustment if the resistor packs **RN1 or RN2 (RN3 or RN4)** are replaced. Replacing **IC10 (IC11)** will not necessitate readjustment.

The six **light emitting diodes** in the illuminated switches on the module are connected in series, to minimise the current drawn from the supply rails. When not lit, they are shorted out by their associated switches. Current through the chain is set at 6mA by **R80**. Note that if any of the LEDs should malfunction, none of the others will light.

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## **The Stereo Return**

**The stereo return section** of the circuit is independent of the group circuitry. **The line-level input amplifier IC1-B (IC1-A)** is a differential circuit; the amount of feedback through **R4 (R34)** and hence the gain is controlled by **S12-A (S12-B)**. In the "+4" position, feedback is sent through **R5 and R6 (R35, R36)** in parallel, and through **R4 (R34)** giving a gain of -6dB. In the "-10" position, **R5 and R6 (R35, R36)** attenuate the voltage to **R4 (R34)**, giving a higher gain of +5.8dB. With a nominal internal level of -2dBu, these correspond to input sensitivities of +4dBu and -10dBV.

**The WIDTH control** mixes the left and right hand channels of the return together in variable amounts, either in or out of phase. The signal from the right channel is fed to the left channel via **R37** (from left to right via **R7**). **IC2-A (IC2-B)** is a non-inverting amplifier with a gain of +6dB, set by **R10 and R9** in parallel with **VR1-A (R40, R39, VR1-B)**, preceded by a 6dB attenuator formed by **R8 and VR1-A (R38 and VR1-B)**. The signal from the right (left) hand channel is fed to either the non-inverting (anti-clockwise) or inverting (clockwise) inputs of **IC2-A (IC2-B)** according to the position of **VR1-A**. This gives either 100% in-phase cross-feed between the channels (i.e. mono) or 50% anti-phase cross-feed ("wide stereo"). When **VR1** is in its centre position, the cross feed signals are grounded via the centre taps of the pot, giving full stereo.

**The return fader** is a dual carbon track, audio taper type with 65mm travel. The post-fader amplifier is a standard non-inverting configuration built around **IC3-A (IC3-B)**, one section of an NE5532, with 10dB of gain set by **R13 and R14 (R43, R44)**. The unity position of the fader is thus 10dB down from the top.

**The fader** is followed by the panning circuitry: the output of the pan buffers then feed the routing matrix. The buffers have a gain of 6dB set by **R18, R19** (left side) and **R48, R49** (right side.) The law adjusting resistors, **R15 and R47**, give a drop of 4.5dB at the centre of the travel of the PAN control **VR4**. With the gain of +6dB in the pan buffers, and the gain of -1.5dB in the summing amplifiers, this gives unity gain with the pan control in the central position.

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**The routing switches (S4 - S8) switch the mix resistors (R20 - R24, R50 - R54) between the busses and ground. There is thus always signal present on one side of the resistors, and never any voltage on the other.**

**Auxiliary sends 1 and 2 are controlled by VR2 and VR3 respectively. The source for sends 1 and 2 may be selected by means of 0.1" jumpers, as follows:**

**AUX 1:**

for pre-fade signal, fit **J19**

for post-fade signal, fit **J20**

**AUX 2:**

for pre-fade signal, fit **J21**

for post-fade signal, fit **J22**

The auxiliary sends are mono sums of the stereo signal.

**The pre-fade signal is summed by IC6-A, and re-inverted by IC6-B.**

**The post-fade signal is summed by IC5-A, and re-inverted by IC5-B.**

**The 20-segment LED bargraph monitors the even group output; S1 switches both meters to read the stereo return signal. The meter uses a precision half-wave rectifier, built around IC12-A with D1 and D2. The signal to the rectifier is attenuated by PR1 to allow calibration. The output of the rectifier is smoothed by R106 and C56 to provide a DC voltage proportional to the average level of the signal, whilst R105 and C55 store the peak level. Either of these may be selected by J23, and is then fed to one input of all the comparators (IC13 - IC17). The other input of each comparator is fed from voltages generated by resistor chain R111 - R131.**

Two current sources based on TR5 and TR6 (pnp type A970GR) supply 8mA to the two LED chains LD1 - LD10 and LD11 - LD20. With no input voltage, all the comparators are turned off. The outputs of the comparators are open collector npn transistors which sink current to the -17V rail when the comparator is off, and so IC17-D sinks all the current for one chain, and IC15-B the current for the other. As the input signal increases, so does the DC voltage from the rectifier and, one by one, the comparators turn on as the voltage on the non-inverting input (from the rectifier) exceeds that on the inverting input (supplied by the resistor ladder.) As each comparator turns on, the current from the source must flow through its associated LED and hence the ladder progressively illuminates.

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### **Meter Adjustment**

**PR3 may be accessed through the front panel of the module. The meter is factory calibrated for 0VU = +4dBu, and set to PEAK response, but may obviously be recalibrated as required. This calibration should not require adjustment once set unless any of the resistors in the resistor ladder or rectifier are changed. Changing the comparator or rectifier ICs should not affect the calibration.**



## **Circuit Description**

The **Dual Matrix Module** contains two identical matrix sections, allowing discreet mixes of the Groups, Mix left and right, and one external signal to be produced. The circuit descriptions below are for the upper ("A") section - component references for the lower ("B") section are shown in parentheses.

The signals from the group modules are carried down a 16-way IDC ribbon cable to the matrix modules (CN1), while the Mix signals are carried down the 20-way ribbon cable which links the Master module to its rear connector panel (CN6).

The levels of the Group and Mix signals are controlled by VR1 - VR10 (VR12 - VR21), and are mixed to the matrix summing amplifier by R8 - R17 (R47 - R56.)

The **EXTERNAL INPUT** amplifier IC1-A (IC1-B) is a differential circuit; the amount of feedback through R4 (R43) and hence the gain is controlled by S1-A (S1-B). In the "+4" position, feedback is sent through R5 and R6 (R44, R45) in parallel, and through R4 (R43) giving a gain of -6dB. In the "-10" position, R5 and R6 (R44, R45) attenuate the voltage to R4 (R43), giving a higher gain of +5.8dB. With a nominal internal level of -2dBu, these correspond to input sensitivities of +4dBu and -10dBV. The signal from the External input is mixed to the summing amplifier by R7 (R46.)

The **summing amplifier** is based around IC2-A (IC4-A), an NE5532 low-noise bipolar operational amplifier. R19 (R58) provides DC feedback, and R18 (R57) provides AC feedback for the amplifier, giving a gain from a 22kOhm source of -6dB. This reduced gain improves head-room in the summing amplifier, and reduces the chance of clipping.

The output of the summing amplifier feeds the fader VR11 (VR22), a rotary logarithmic pot. The **post-fader amplifier** IC2-B (IC4-B) has a gain of +6dB, set by R21 and R22 (R60, R61) to make up the 6dB attenuation in the summing amplifier. This gives the fader unity gain when fully clockwise. The post-fader amp feeds the output balancing stage.

The **EBOS (Electronically Balanced Output Stage)** simulates the properties of a floating transformer output, and gives two outputs - "hot" (in-phase) and "cold" (out-of-phase). When either is grounded, the level of the other increases by 6dB to give a constant level between the two outputs.

The EBOS is built around IC3 (IC5), an NE5532. The amplifier is configured as an inverting amplifier, IC3-A (IC5-A) and a non-inverting amplifier, IC3-B (IC5-B), each with 6dB of gain. However, negative feedback to each amplifier is provided from the output of the other, reducing the gain to unity for each amplifier. The difference between the two signals of opposite phase provides 6dB of gain, giving a nominal output level of +4dBu. When either output is shorted to ground, the additional feedback is removed, increasing the gain to 6dB, retaining a constant output level between the two phases. The relative amplitude of the two outputs may be trimmed by adjusting PR1 (PR2) so that the two phases have identical amplitudes. This is performed during manufacture and will only require adjustment if resistors R23 - R30 (R62 - R69) are replaced. Replacing IC3 (IC5) will not necessitate readjustment.

The **matrix output** is switched on by S2 (S4). Both hot and cold phases of the output are disconnected from the EBOS and grounded when the matrix is turned off.

The four **light emitting diodes** in the illuminated switches on the module are connected in series, to minimise the current drawn from the supply rails. When not lit, they are shorted out by their associated switches. Current through the chain is set at 6mA by R74. Note that if any of the LEDs should malfunction, none of the others will light.

# Master Module LH PCB - SC3064

## **Circuit Description**

The Left Hand Master contains the six auxiliary master controls and the LED Bargraph Meter for the Mix Left signal.

The six auxiliary master controls are identical, each with summing amp and electronically balanced output amp. The circuit for Auxiliary Master 1 only is described.

The **summing amplifier** is a differential design that reduces summing bus noise and improves power supply rejection considerably compared to conventional designs. Two identical common base transistors, TR1 and TR2, pnp type 2SB737, are used to provide the inverting and non inverting inputs for the summing amplifier IC1- B, biased by resistors R1, R2, R4, R5. C2 blocks the DC present on the emitter of TR1 to allow biasing of the transistors to be set independently of DC conditions on the summing bus. Negative feedback is provided by IC1-A through R6, which creates a virtual earth on the bus. A small amount of AC negative feedback is provided by C5 to help stability.

A ground compensation bus runs the whole length of the console on the ribbon cable motherloom. On each input, the bus "samples" the local ground via a 10 ohm resistor, and provides a reference for the auxiliary summing amplifiers. This cancels out any differences in the grounds along the length of the console, and helps reduce summing amp noise by compensating for the combined effects of ground noise in all the inputs. This is particularly important for the auxiliaries since the auxiliary routing resistors are connected to the auxiliary buses at all times.

An additional feature of the auxiliary summing amps is the arrangement of the feedback. The feedback for the differential summing amp is taken from the output before the master level control using an IC inverter, in much the same way as for the Group Output, but the reference for the inverter, ie the non- inverting pin signal, is not ground but taken from the post level control buffer. In effect the feedback is determined by a differential stage comparing the output of the differential summing amp and a fraction of the output of the post master level control, the fraction determined by resistors R10 and R11. With the master level control at minimum the output of the buffer is zero and the feedback stage is effectively a unity gain inverter, since the non-inverting pin is tied to ground. As the master level control is turned up the output of the buffer increases and this signal is applied to the non-inverting pin of the feedback stage through a resistor divider. As this signal increases the gain of the differential feedback stage is reduced, and hence the overall gain of the summing amp is increased. The net result of this is that the gain of the summing amp is maximum (0dB) when the master level control is at maximum and is reduced as the master level control is turned down, to -6.8dB at minimum. This increases the headroom in the auxiliary summing amplifier at lower master levels.

The AFL (after fade listen) signal is fed to the PFL bus via R15. The signal is switched via S1-B. The EBOS (Electronically Balanced Output Stage) simulates the properties of a floating transformer output, and gives two outputs - "hot" (in-phase) and "cold" (out-of-phase). When either is grounded, the level of the other increases by 6dB to give a constant level between the two outputs. The EBOS is built around IC3, an NE5532. The amplifier is configured as an inverting amplifier, IC3-B and a non-inverting amplifier, IC3-A, each with 6dB of gain. However, negative feedback to each amplifier is provided from the output of the other, reducing the gain to unity for each amplifier.

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The difference between the two signals of opposite phase provides 6dB of gain, giving a nominal output level of +4dBu. When either output is shorted to ground, the additional feedback is removed, increasing the gain to 6dB, retaining a constant output level between the two outputs. The relative amplitude of the two outputs may be trimmed by adjusting PR1 so that the two phases have identical amplitudes. This is performed during manufacture and will only require adjustment if the resistors R16, R17, R18, R19, R20, R21, R22 or R23 are replaced. Replacing IC3 will not necessitate readjustment.

The light emitting diodes in the six illuminated switches on the module are connected in series, to minimise the current drawn from the supply rails. When not lit, they are shorted out by their associated switches. Current through the chain is set at 10mA by R210. Note that if any of the LEDs should malfunction, none of the others will light.

The meter monitors the Mix L signal, which is carried from the RH master PCB on the 20 way IDC loom, CN8.

The meter uses a precision half-wave rectifier, built around IC19 with D1 and D2. The signal to the rectifier is attenuated by PR7 to allow calibration. The output of the rectifier is smoothed by R181 and C122 to provide a DC voltage proportional to the average level of the signal, whilst R180 and C121 store the peak level. Either of these may be selected by J1, and is then fed to one input of all the comparators (IC20 - IC24). The other input of each comparator is fed from voltages generated by resistor chain R186 - R206. Two current sources based on TR13 and TR14 (pnp type A970GR) supply 8mA to the two LED chains LD1 - LD10 and LD11 - LD20. With no input voltage, all the comparators are turned off. The outputs of the comparators are open collector npn transistors which sink current to the -17V rail when the comparator is off, and so IC24-D sinks all the current for one chain, and IC22-B the current for the other. As the input signal increases, so does the DC voltage from the rectifier and, one by one, the comparators turn on as the voltage on the non-inverting input (from the rectifier) exceeds that on the inverting input (supplied by the resistor ladder.) As each comparator turns on, the current from the source must flow through its associated LED and hence the ladder progressively illuminates.

**Meter Adjustment:** PR7 may be accessed through the front panel of the module. The meter is factory calibrated for 0VU = +4dBu, and set to PEAK response, but may obviously be recalibrated as required. This calibration should not require adjustment once set unless any of the resistors in the resistor ladder or rectifier are changed. Changing the comparator or rectifier ICs should not affect the calibration.

## **Circuit Description**

The **Right Hand Master** contains the **Mix Master** circuitry, the **Control Room/Headphones** section, including the master solo controls, the **2-Track** return switching, the internal oscillator, the **Mono Mix** output, talkback facilities, **Mute Master** controls and the **Mix Right** meter.

The PCB also distributes power to the rest of the console via the IDC motherloom (CN1) and mute motherloom (CN4), and connects the internal audio ground of the console to the console chassis.

## **Mix and Mono Outputs**

The **summing amplifier** is a differential design that reduces summing bus noise and improved power supply rejection considerably compared to conventional designs. Two identical common base transistors, **TR1** and **TR2** (**TR3** and **TR4**), pnp type 2SB737, are used to provide the inverting and non inverting inputs for the summing amplifier **IC1-B** (**IC2- B**), biased by resistors **R1**, **R2**, **R6**, **R7** (**R101**, **R102**, **R106**, **R107**.) **C1** (**C101**) block the DC present on the emitter of **TR1** (**TR3**) to allow biasing of the transistors to be set independently of DC conditions on the summing busses. Negative feedback is provided by **IC1-A** (**IC2-A**), a unity gain inverter through **R4** (**R104**) which creates a virtual earth in the usual manner. Overall gain of the amplifier is set at -1.5dB from a 10kOhm source by **R4** (**R104**). A small amount of AC negative feedback is provided by **C4** (**C104**) to help stability. **C3** (**C103**) helps to prevent the circuit oscillating at high frequency. The output of the summing amplifier is fed to the mix insert jack **JSK1** (**JSK2**), at a nominal level of -2dBu

The **mix faders** are carbon track, audio taper types with 100mm travel. The post fader buffer **IC3-A** (**IC3-B**) has unity gain, giving unity position at the top of the group fader. The output of the buffer is used to drive the post-fade feed to the optional matrix modules via **R14** (**R114**) and the balanced output stage.

The nominal signal level at the output of the buffer is - 2dBu. When **S1** is in the "+4dBu" setting (out), this signal is passed directly to the output stage. When **S1** is in the "-10dBV" position (in), the signal is attenuated by 11.8dB by **R15** and **R16** (**R115**, **R116**) to give the correct output level.

The **EBOS (Electronically Balanced Output Stage)** simulates the properties of a floating transformer output, and gives two outputs - "hot" (in-phase) and "cold" (out-of-phase). When either is grounded, the level of the other increases by 6dB to give a constant level between the two outputs.

The EBOS is built around **IC4** (**IC5**), an NE5532. The amplifier is configured as an inverting amplifier, **IC4-A** (**IC5-A**) and a non-inverting amplifier, **IC4-B** (**IC5-B**), each with 6dB of gain. However, negative feedback to each amplifier is provided from the output of the other, reducing the gain to unity for each amplifier. The difference between the two signals of opposite phase provides 6dB of gain, giving a nominal output level of +4dBu. When either output is shorted to ground, the additional feedback is removed, increasing the gain to 6dB, retaining a constant output level between the two outputs. The relative amplitude of the two outputs may be trimmed by adjusting **PR1** (**PR2**) so that the two phases have identical amplitudes. This is performed during manufacture and will only require adjustment if the resistor packs **RIC1** or **RIC2** (**RIC3** or **RIC4**) are replaced. Replacing **IC4** (**IC5**) will not necessitate readjustment.

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The **mono output** is derived from the left and right pre-fader mix signals. The two signals are summed together by **R21, R121 and IC6-B**, configured as an inverting summing amplifier, with a gain from each side of -3dB. A mono fader may be wired before the output stage - this is normally by-passed by link **J1**. The output is buffered and re-inverted by **IC6-A**, half of an NE5532, with a gain of 6dB set by **R23 and R26**. **IC6-A** is configured as a "Ground Compensated" amplifier stage. The output signal ("hot") is available on the tip connection of **JSK3**. The ring connection ("cold") is used as an input, rather than an output, and samples the ground of the external equipment. Any noise present on this ground is added to the output signal at unity gain through **R24 and R28** in such a way that the external equipment sees the output signal as clean with respect to its own ground.

The **Mix signal** is monitored from the balanced outputs. The Mix monitor amplifier **IC7-A (IC7-B)** is a differential circuit; the amount of feedback through **R36 (R136)** and hence the gain is controlled by **S1-A (S1-B)**. In the "+4" position, feedback is sent through **R39 and R38 (R139, R138)** in parallel, and through **R36 (R136)** giving a gain of -6dB. In the "-10" position, **R38 and R39 (R138, R139)** attenuate the voltage to **R36 (R136)**, giving a higher gain of +5.8dB. With a nominal internal level of -2dBu, these correspond to input sensitivities of +4dBu and -10dBV.

Similarly, the 2-Track Return is debalanced by **IC19-A and IC19-B**, and the sensitivity switched between +4dBu and -10dBV by **S1-E and S1-F**. Monitor source selection is then carried out by switching between the outputs of the mix and 2-Track input amplifiers, by **S5-B (S5-A)**.

The **PFL switching** follows the monitor source select. This switching is achieved using J111 FETs switched by the PFL detector circuit, built around **IC10-B** and **TR13, TR14**.

With no solo switches pressed, the inverting pin of the PFL detector, **IC10-B**, is tied down to the negative rail by **R65** and thus the output of **IC10-B** sits "high" at 10 V. This keeps **TR13** in saturation which, in turn, holds **TR14** hard off. The collectors of **TR13 and TR14** provide the DC control signals to switch the PFL FETs. The collector of **TR13** is low, virtually at the negative rail, which through **D4** holds fetes **TR6 and TR8** off, ie very high source-drain impedance. The collector of **TR14** is high, therefore **D1 and D101** are reverse biased and the resistors **R40 and R140** apply the respective source voltages to the gates, biasing FETs **TR5 and TR7** into conduction, ie low source-drain impedance, with low distortion. This allows the Mix signal through to the Control Room section.

When a solo switch is pressed somewhere on the console, the PFL enable line is connected by the solo switch through a resistor to the positive rail. This forces the PFL detector **IC10-B** to change state. The output of **IC10-B** is clamped to -0.6 V by the feedback diode **D5**. This turns off **TR13**, whose collector voltage rises, turning **TR14** on and reversing the states of the two FET control voltages. Now, **TR5 and TR7** are turned off and **TR6 and TR8** are on. This changes the Control Room source signal to the PFL signal from the PFL sum amp **IC9**.

The **PFL sum amp** is a conventional IC inverter stage. Consequently, the output is out of phase and another similar stage is used to restore the phase of the PFL signal. This results in another virtual earth point at the inverting input of the second inverter stage which is out of phase with the PFL virtual earth bus. By including this anti-phase virtual earth on the motherloom, running next to the PFL bus, cross-talk between the PFL bus and the other virtual earth buses is reduced considerably.

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The selected monitor signal is fed via the monitor level pot and resistors **R42 and 142** to the output buffers configured around **IC8**. These buffers have discrete transistors forming their outputs in order to be able to drive 8 ohm headphones to a satisfactory level, as well as an external power amplifier. To avoid crosstalk due to the large currents that can flow when driving low impedance headphones, the power supplies for these circuits are separately decoupled with **C36 and C37**, and the ground is kept separate from the main module ground. **R42 and 142** together with **R90, R190, S3C, S3D, S4A, and S4B** serve to Dim (-20dB) or Cut the monitors when talkback to Aux 1&2 or Talkback to ALL are selected respectively. This helps avoid howlround.

**The talkback signal** comes from an electret condenser mic mounted under the front panel; the signal is amplified by **IC10A**, **VR2** controlling the gain. A 1 kHz oscillator is also provided, that can be routed to all mix buses via the ON switch. This function is overridden by the talkback ALL switch. The oscillator is implemented by **IC11**, and the level sent to the buses is set by **VR1**.

**The 20-segment LED bargraph** monitors the Right Channel of the selected monitor source (Mix, 2-Track return or PFL bus). The meter uses a precision half-wave rectifier, built around **IC12-A** with **D10 and D11**. The signal to the rectifier is attenuated by **PR3** to allow calibration. The output of the rectifier is smoothed by **R303 and C302** to provide a DC voltage proportional to the average level of the signal, whilst **R304 and C301** store the peak level. Either of these may be selected by **J2**, and is then fed to one input of all the comparators (**IC14 - IC18**). The other input of each comparator is fed from voltages generated by resistor chain **R309 - R329**. Two current sources based on **TR15 and TR16** (pnp type A970GR) supply 8mA to the two LED chains **LD1 - LD10** and **LD11 - LD20**.

With no input voltage, all the comparators are turned off. The outputs of the comparators are open collector npn transistors which sink current to the -17V rail when the comparator is off, and so **IC16-B** sinks all the current for one chain, and **IC18-D** the current for the other. As the input signal increases, so does the DC voltage from the rectifier and, one by one, the comparators turn on as the voltage on the non-inverting input (from the rectifier) exceeds that on the inverting input (supplied by the resistor ladder.) As each comparator turns on, the current from the source must flow through its associated LED and hence the ladder progressively illuminates.

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### **Meter Adjustment**

**PR3** may be accessed through the front panel of the module. The meter is factory calibrated for 0VU = +4dBu, and set to PEAK response, but may obviously be recalibrated as required. This calibration should not require adjustment once set unless any of the resistors in the resistor ladder or rectifier are changed. Changing the comparator or rectifier ICs should not affect the calibration.

## Meter Sub PCB SC2917

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### **Circuit Description**

The Meter Sub-PCB is used to provide metering for the odd numbered groups on the EQ and Stereo Return Output Modules. The audio input signal, +17V, -17V, audio and meter grounds are brought from the main PCB on a 5-way flexible conductor.

The 20-segment LED bargraph monitors the odd group outputs. The meter uses a precision half-wave rectifier, built around IC1-A with D1 and D2. The signal to the rectifier is attenuated by PR1 to allow calibration. The output of the rectifier is smoothed by R4 and C2 to provide a DC voltage proportional to the average level of the signal, whilst R3 and C1 store the peak level. Either of these may be selected by J1, and is then fed to one input of all the comparators (IC2 - IC6). The other input of each comparator is fed from voltages generated by resistor chain R7 - R27. Two current sources based on TR1 and TR2 (pnp type A970GR) supply 8mA to the two LED chains LD1 - LD10 and LD11 - LD20. With no input voltage, all the comparators are turned off. The outputs of the comparators are open collector npn transistors which sink current to the -17V rail when the comparator is off, and so IC4-C sinks all the current for one chain, and IC2-A the current for the other. As the input signal increases, so does the DC voltage from the rectifier and, one by one, the comparators turn on as the voltage on the non-inverting input (from the rectifier) exceeds that on the inverting input (supplied by the resistor ladder.) As each comparator turns on, the current from the source must flow through its associated LED and hence the ladder progressively illuminates.

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### **Meter Adjustment**

PR1 may be accessed through the front panel of the module. The meter is factory calibrated for 0VU = +4dBu, and set to PEAK response, but may obviously be recalibrated as required. This calibration should not require adjustment once set unless any of the resistors in the resistor ladder or rectifier are changed. Changing the comparator or rectifier ICs should not affect the calibration.

# VU Overbridge - VU Driver PCB SC2963

## ***Circuit Description***

The VU drive card contains the driver circuitry for one VU meter, together with the peak detection circuit, and a preset to allow accurate calibration of the meter. The LED peak indicator and illumination bulbs are also mounted directly on the under-side of the drive card.

**IC1-A** (TL071) is configured as a differential amplifier. The amount of negative feedback through **R4**, and hence the gain, is set by **PR1**. **J1** shorts the cold input of the drive card, to allow use with single ended sources. The meter is fed from the output of the op-amp via a series resistor **R6**.

The peak detector is also fed from the output of **IC1-A**. It is built around transistors **TR1** and **TR2**, npn type C2240BL. The signal is attenuated and DC shifted by **R7**, **R8** and **C4**. When the peak positive value of the signal exceeds 5.6V **TR1** is turned on. This turns off **TR2**, which allows current to flow through the peak LED, **LED1**, illuminating it. **C5** holds **TR2** off after **TR1** has turned off, giving a peak hold action. When **TR2** turns on, current flows through it, by-passing **LED1**, which goes off.

Meter illumination is provided by two bulbs connected in series across 24V. A 100ohm resistor limits the current at turn on, and acts as a fuse if both bulbs become short-circuit.



## Littlite PCB SC3009

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### ***Circuit Description***

The Littlite PCB is used to derive the +12V power for the Littlite BNC sockets from the +24V rail from the PSU, and also acts as a PSU distribution board for the +24V supply to the overbridge.

+24V is brought from the power supply SRC connector, together with ground from the console chassis stud, onto CN1. 33 ohm high-power resistors, heat sunked to the PCB mounting plate, are connected between points A1 and A1, and B1 and B2. When a lamp is plugged into CN4 or CN3 about 330mA flows through the resistors, dropping about 11V. The diodes D1 and D2 drop an additional volt, giving a lamp voltage of 12V at 330mA, suitable for a high intensity Littlite.

The wiring for the LED or VU overbridges, when fitted, picks up +24V from CN2.

# LED Meter PCB SC3095

## ***Circuit Description***

The LED Meter PCB is used in the LED overbridge to provide input channel metering. It is powered from +24V and ground, supplied via the 10-way ribbon bus connector, CN2. The audio input from the channel is connected via CN3. To allow op-amps to be used with a single supply, IC1-B generates an artificial rail at +8V (set by R10, R11).

The meter uses a precision half-wave rectifier, built around IC1-A with D1 and D2. The signal to the rectifier is attenuated by PR1 to allow calibration. The output of the rectifier is smoothed by C2 to provide a DC voltage proportional to the average level of the signal. PEAK or VU (average) response is selected by J1: in the PEAK setting, C2 is charged quickly via R3, and discharges slowly via R5 and R6-R9. With VU selected, C2 charges more slowly through R4, and discharges more quickly through R6-9.

The LEDs in the meter are connected in series as two chains between +24V and ground (LD1 - LD8 and LD9 - LD16). Two current sources based on TR1 and TR2 (pnp type A970GR) supply 7mA to the two LED chains.

The LEDs are controlled by the comparators IC2 - IC5. These are open collector output devices which sink current to ground when the comparator is off. When a comparator is on, it diverts current from the LED chain to ground, turning off all LEDs below it in the chain; thus the LED chain will only light as far as the lowest comparator which is on. The lowest comparator in each chain (IC3-D and IC5-D) turn off the current sources, so no power is used by the LEDs when no part of the chain is illuminated.

The output voltage of the rectifier is attenuated into four voltages at 10dB intervals by R6 - R9. Four reference voltages at 2.5db intervals are generated by R12 - R17. By comparing these voltages, the 16 thresholds for the LEDs are detected by the comparators.

## Dual VU Driver PCB SC3124

### ***Circuit Description***

The VU drive card contains the driver circuitry for the two VU meters in the LED overbridge. The board carries the meter illumination bulbs, and also acts as a power distribution board for the rest of the overbridge - power (+24v) and ground are brought up from the main console on CN5, and distributed to the LED meters by a ribbon bus connected to CN4.

Each meter is illuminated by two 12V bulbs (LMP1 and LMP2 for the right meter, LMP3 and LMP4 for the left meter) connected in series across 24V with a 100ohm resistor to limit current when the bulbs are cold.

The two drive sections are identical - only the right channel is described. Signal is brought onto the card via CN1, and is attenuated by R1 and PR1 to allow calibration. TR1 amplifies and buffers the signal to feed the meter via R5.

TR2 and TR3 form the peak detector. TR2 is normally held off (base high at +24V) by D1 and D2; as the signal level rises, the negative going peak of the signal from TR1 will turn TR2 on via D2. This will pull the base of TR3 high, and turn on LD1, the peak indicator. Peak hold action is provided by C4, which charges up when the base of TR2 falls; it is prevented from discharging the same way by the diode action of D2, giving a hold response.

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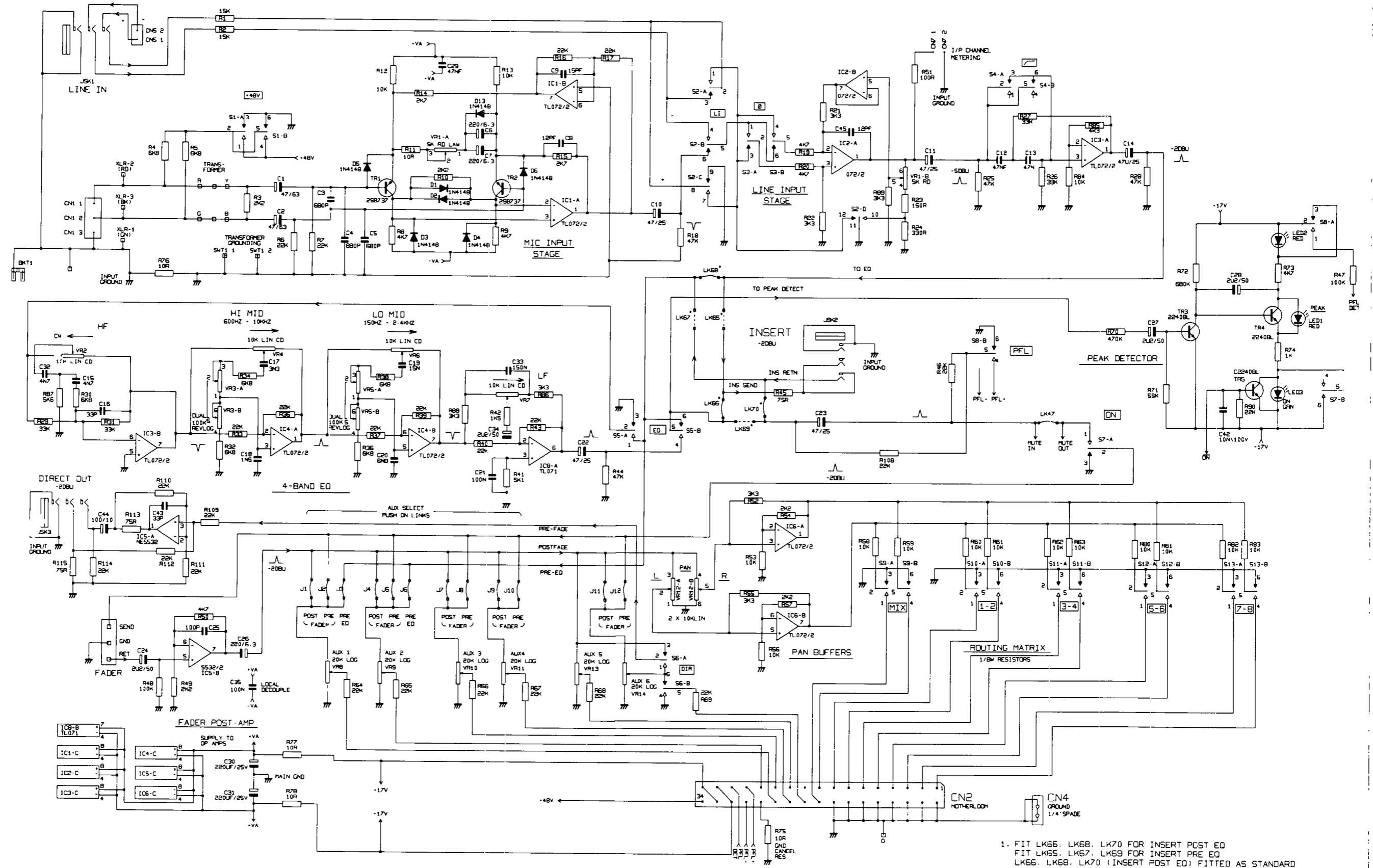
## 7. Circuit Diagrams

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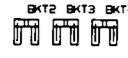
<i>Mono Input Module</i>	<i>ED3063</i>	<i>7.2</i>
<i>Stereo Input Module</i>	<i>ED2915</i>	<i>7.4</i>
<i>Theatre Input Module LH</i>	<i>ED3151</i>	<i>7.6</i>
<i>Theatre Input Module RH</i>	<i>ED3152</i>	<i>7.7</i>
<i>Dual Group/EQ Module</i>	<i>ED2913</i>	<i>7.10</i>
<i>Dual Group/Stereo Return Module</i>	<i>ED2914</i>	<i>7.12</i>
<i>Dual Matrix Module</i>	<i>ED2916</i>	<i>7.15</i>
<i>Meter/Switch PCB</i>	<i>ED2917</i>	<i>7.16</i>
<i>Group Insert PCB</i>	<i>ED2918</i>	<i>7.17</i>
<i>Master Module - RH PCB</i>	<i>ED2919</i>	<i>7.18</i>
<i>Master Module - LH PCB</i>	<i>ED3064</i>	<i>7.21</i>
<i>Master Rear Connector PCB</i>	<i>ED2835</i>	<i>7.24</i>
<i>VU Driver</i>	<i>ED2963</i>	<i>7.25</i>
<i>LED Meter</i>	<i>ED3095</i>	<i>7.26</i>
<i>VU Driver</i>	<i>ED3124</i>	<i>7.27</i>
<i>Littlite PCB</i>	<i>ED3009</i>	<i>7.28</i>

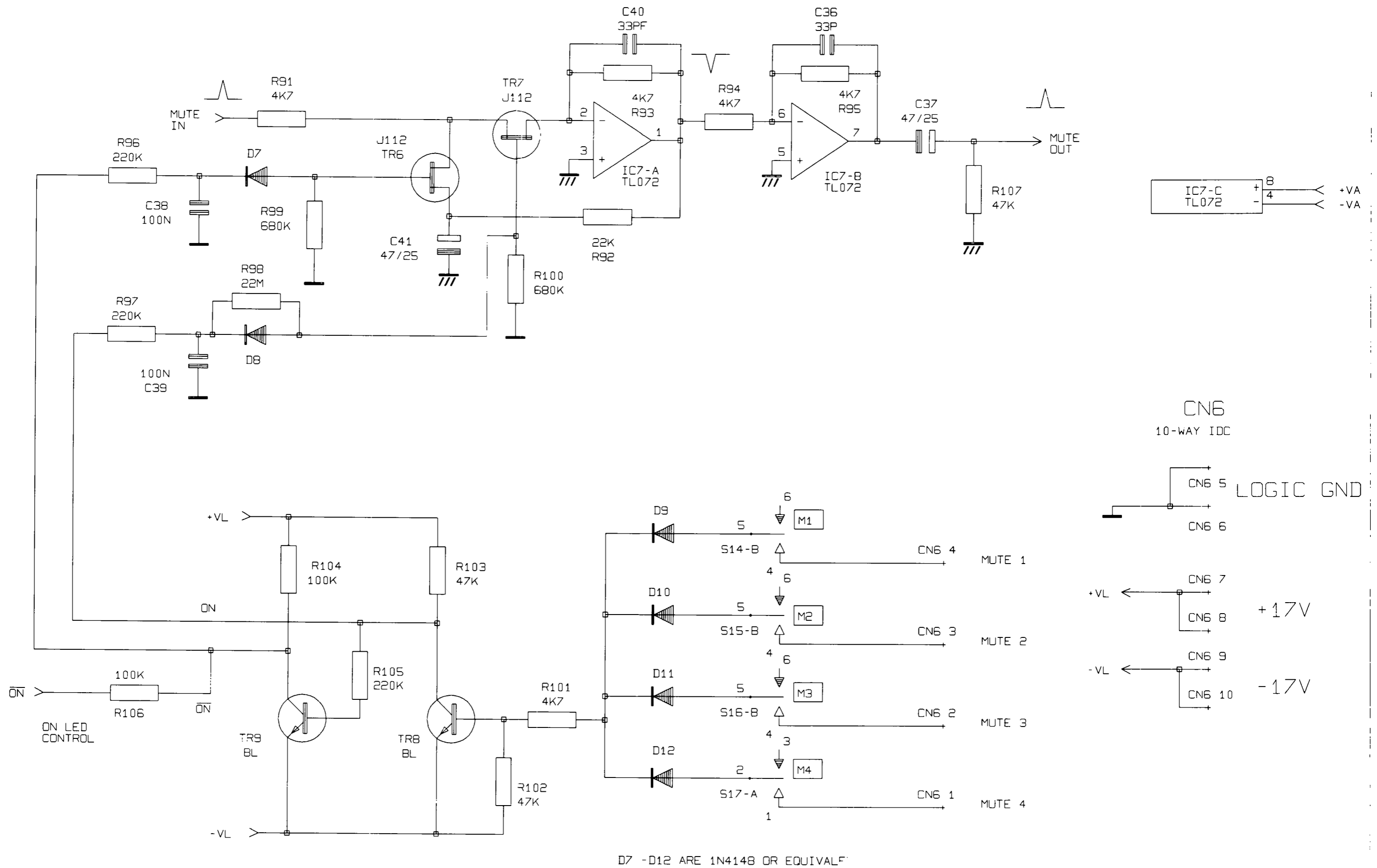
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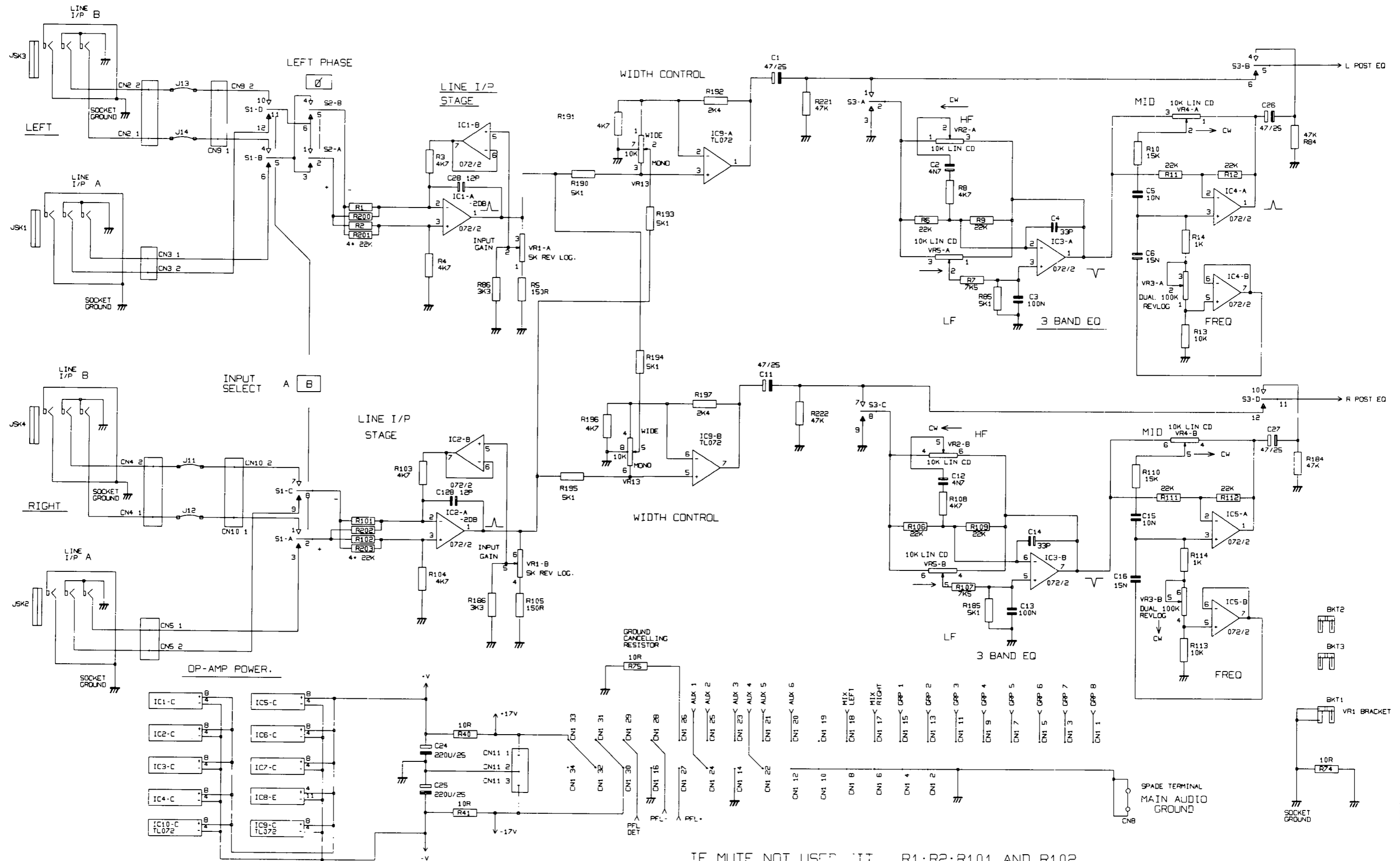


1. FIT LK66, LK68, LK70 FOR INSERT POST EQ  
FIT LK65, LK67, LK69 FOR INSERT PRE EQ  
LK66, LK68, LK70 (INSERT POST EQ) FITTED AS STANDARD
2. FIT LK46 WHEN MUTE SYSTEM NOT USED  
OMIT LK46, FIT TRS, R90 WHEN MUTE SYSTEM USED
3. J2, J5 FITTED AS STANDARD (AUX 1 & 2 PRE FADE)  
J7, J9 FITTED AS STANDARD (AUX 3 & 4 POST FADE)



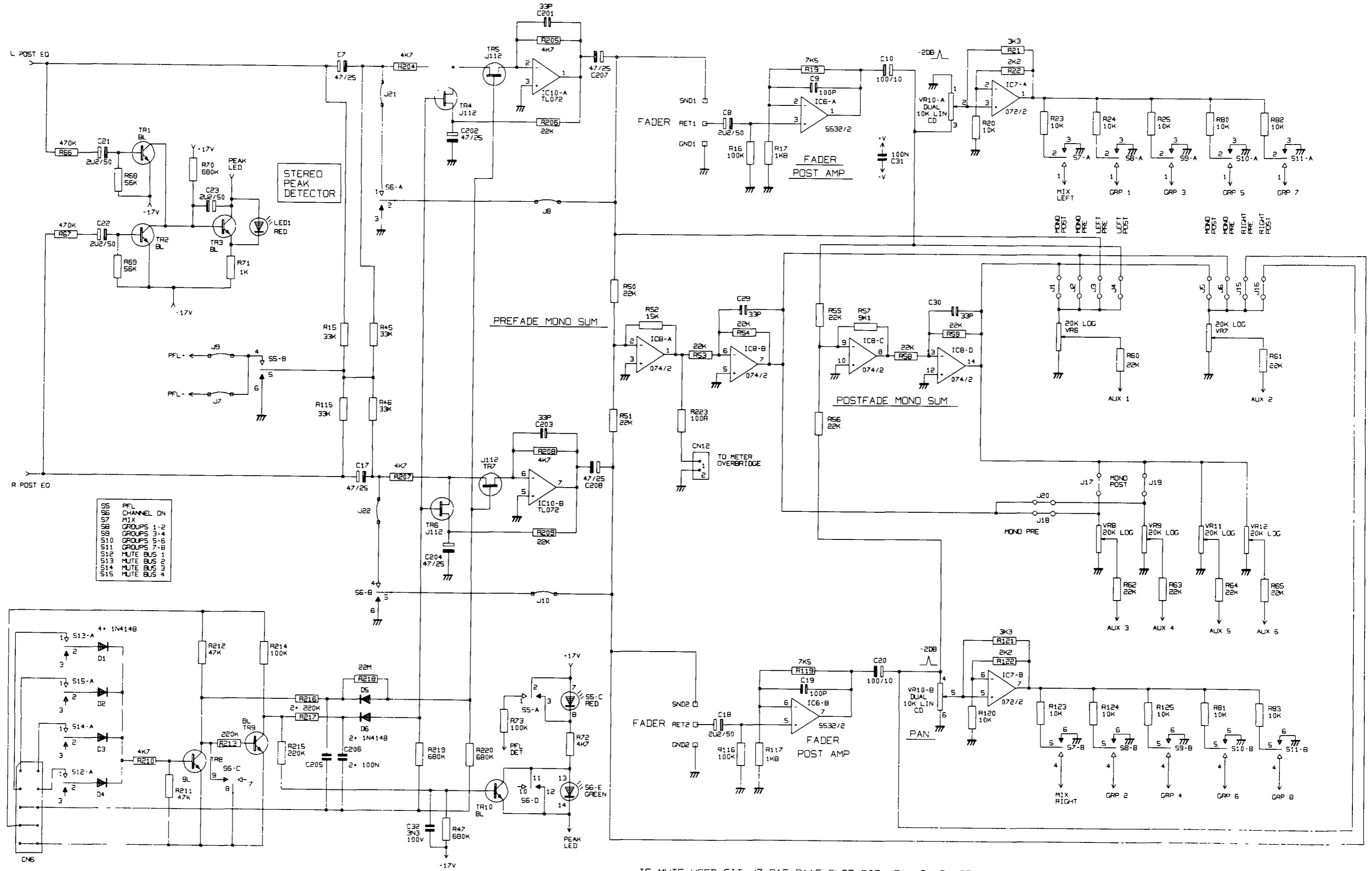


D7 -D12 ARE 1N4148 OR EQUIVALENT



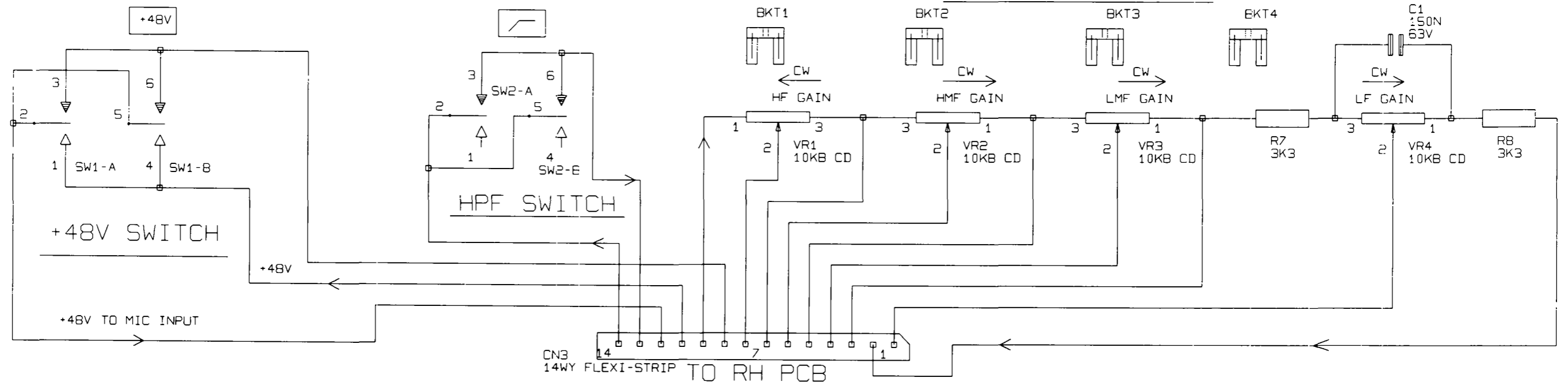
IF MUTE NOT USED FIT R1;R2;R101 AND R102  
ELSE FIT R101;R201;R202 AND R203



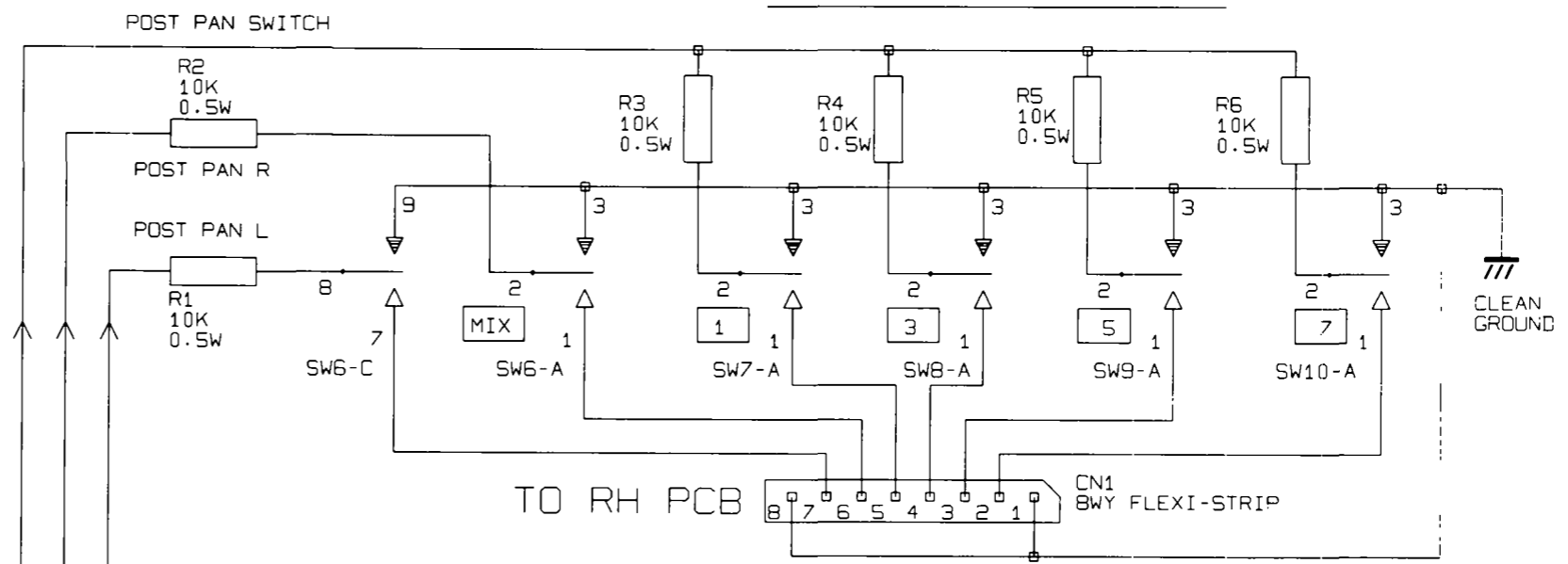


IF MUTE USED FIT J7;R15;R115 ELSE FIT J21;J8;J9;J22;J10;R45 AND R46

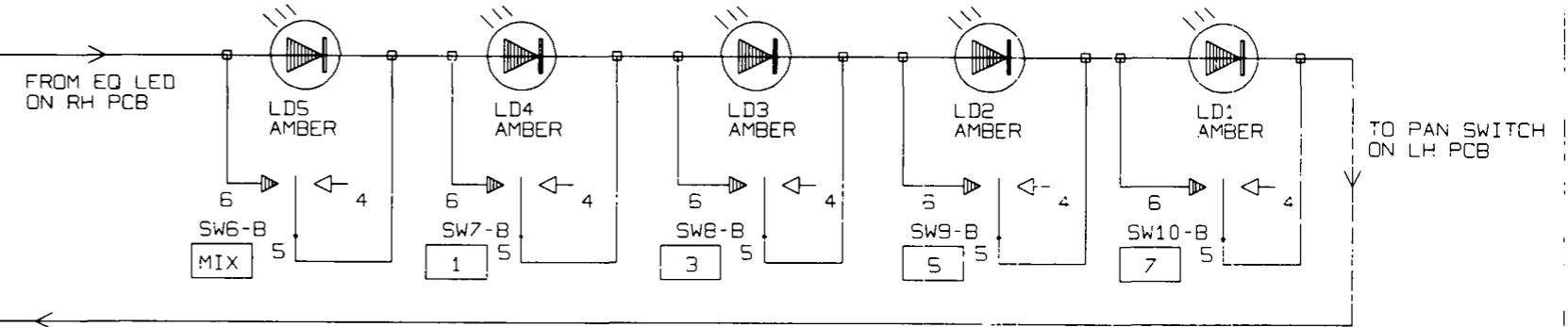
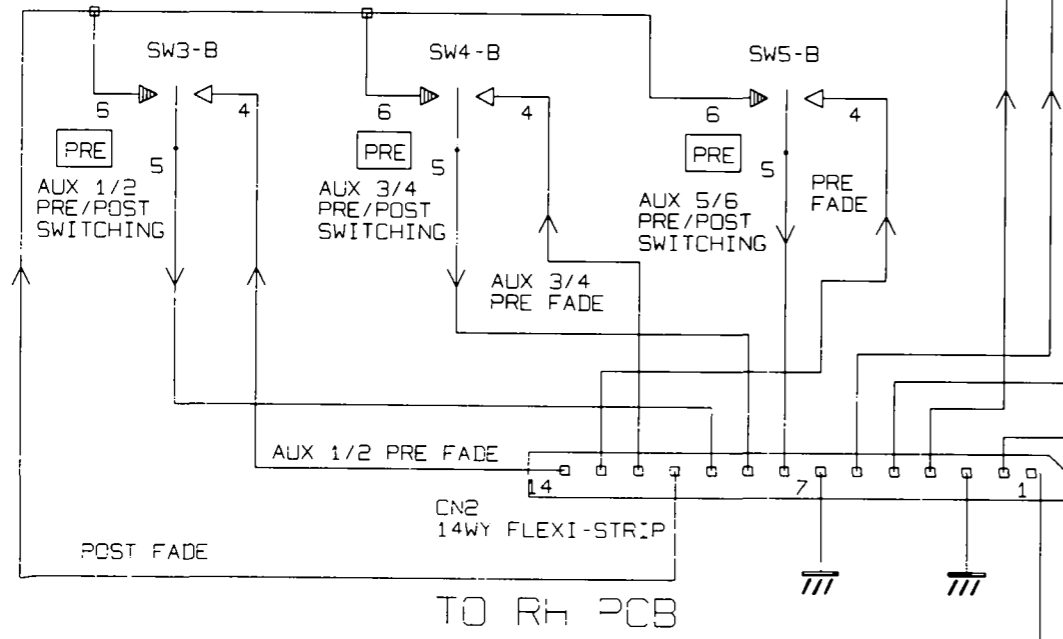
EQ GAIN CONTROLS

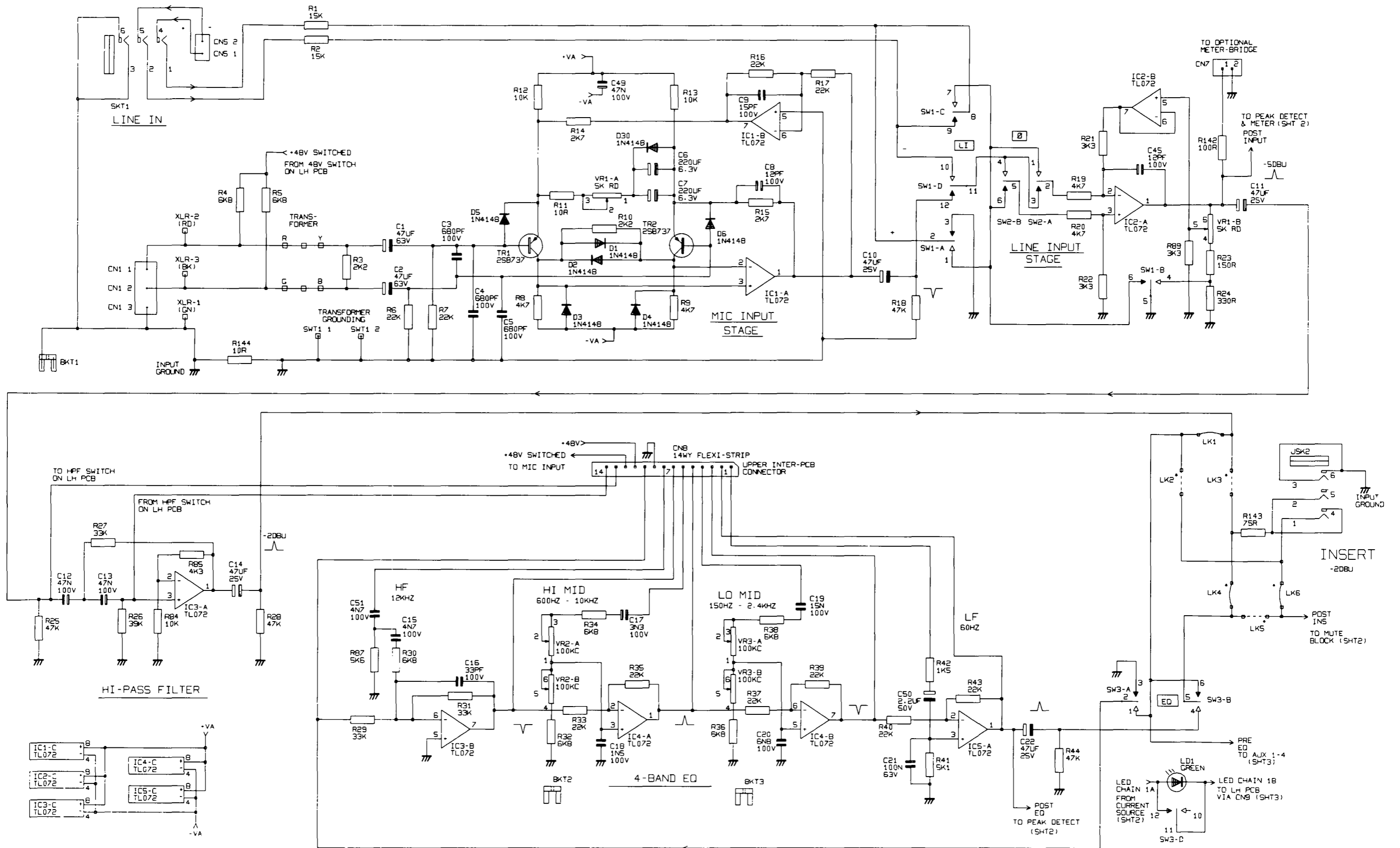


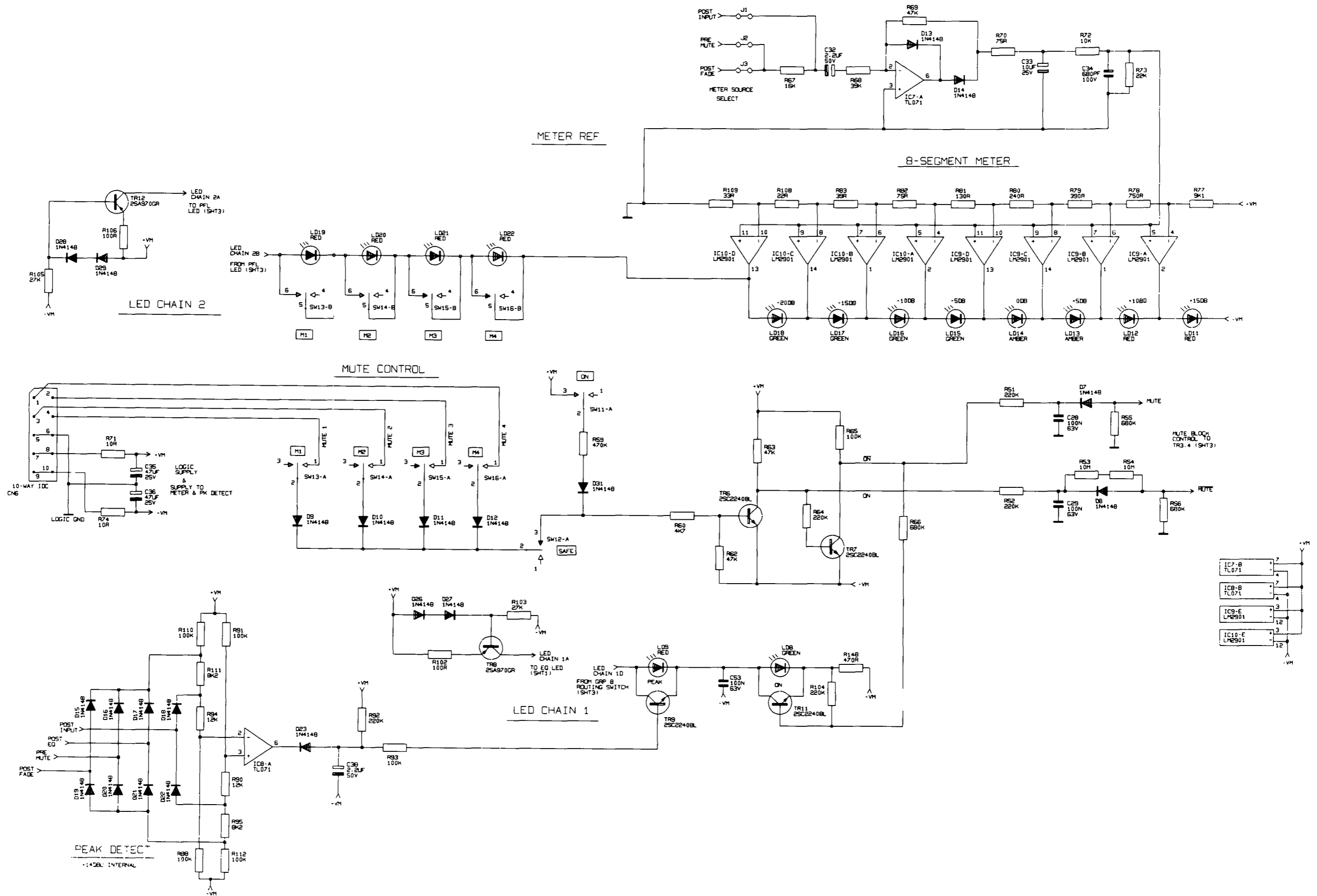
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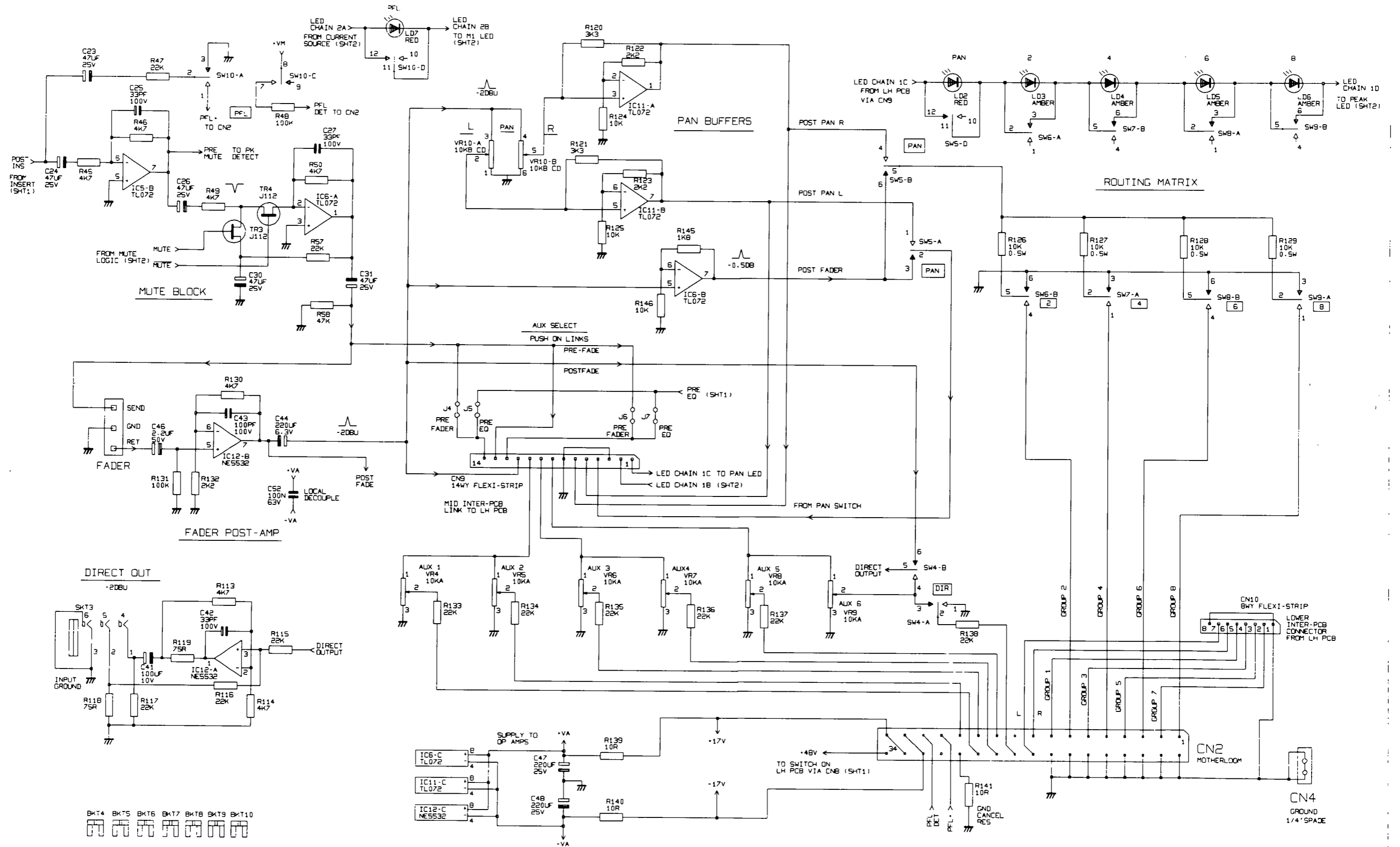


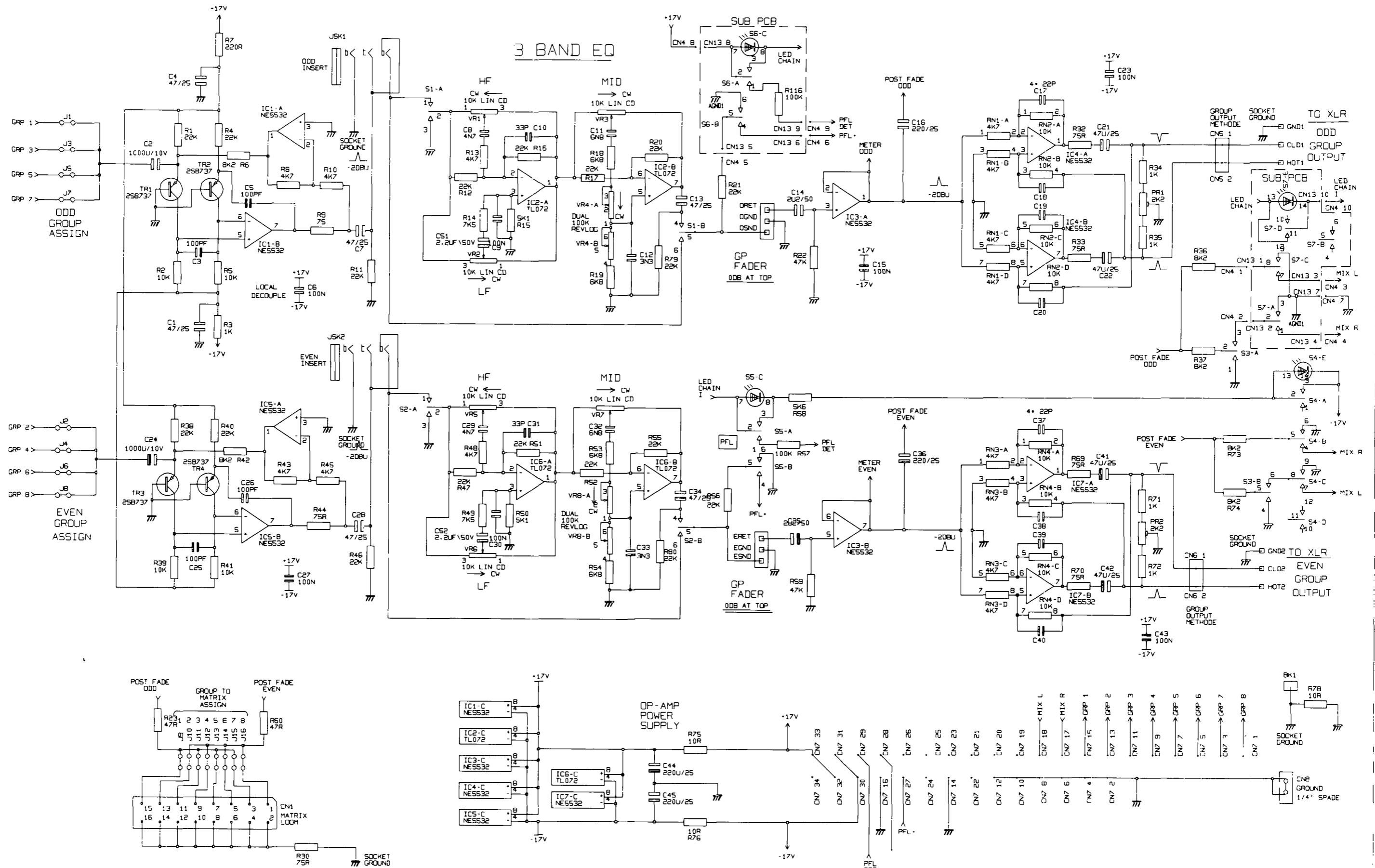
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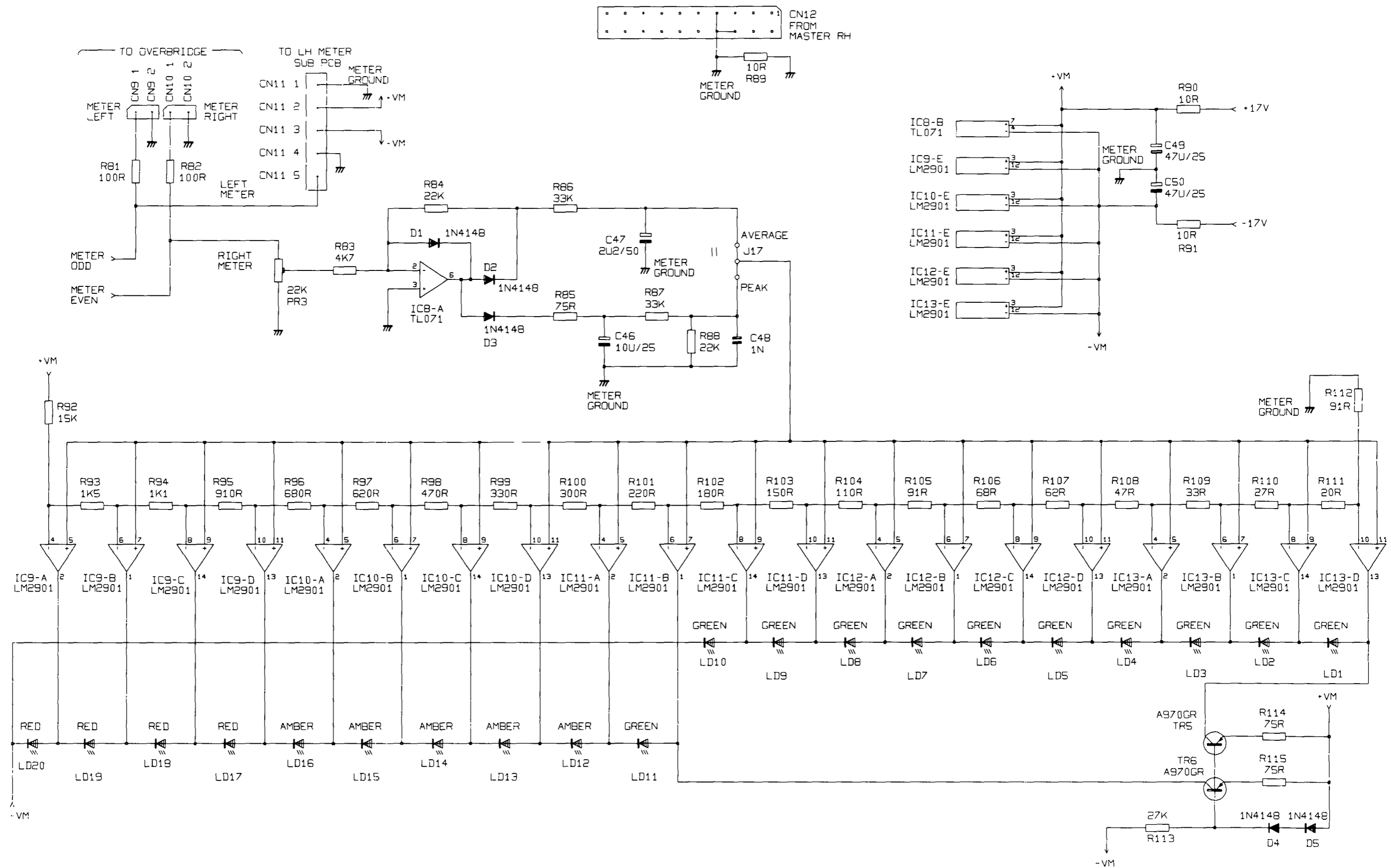


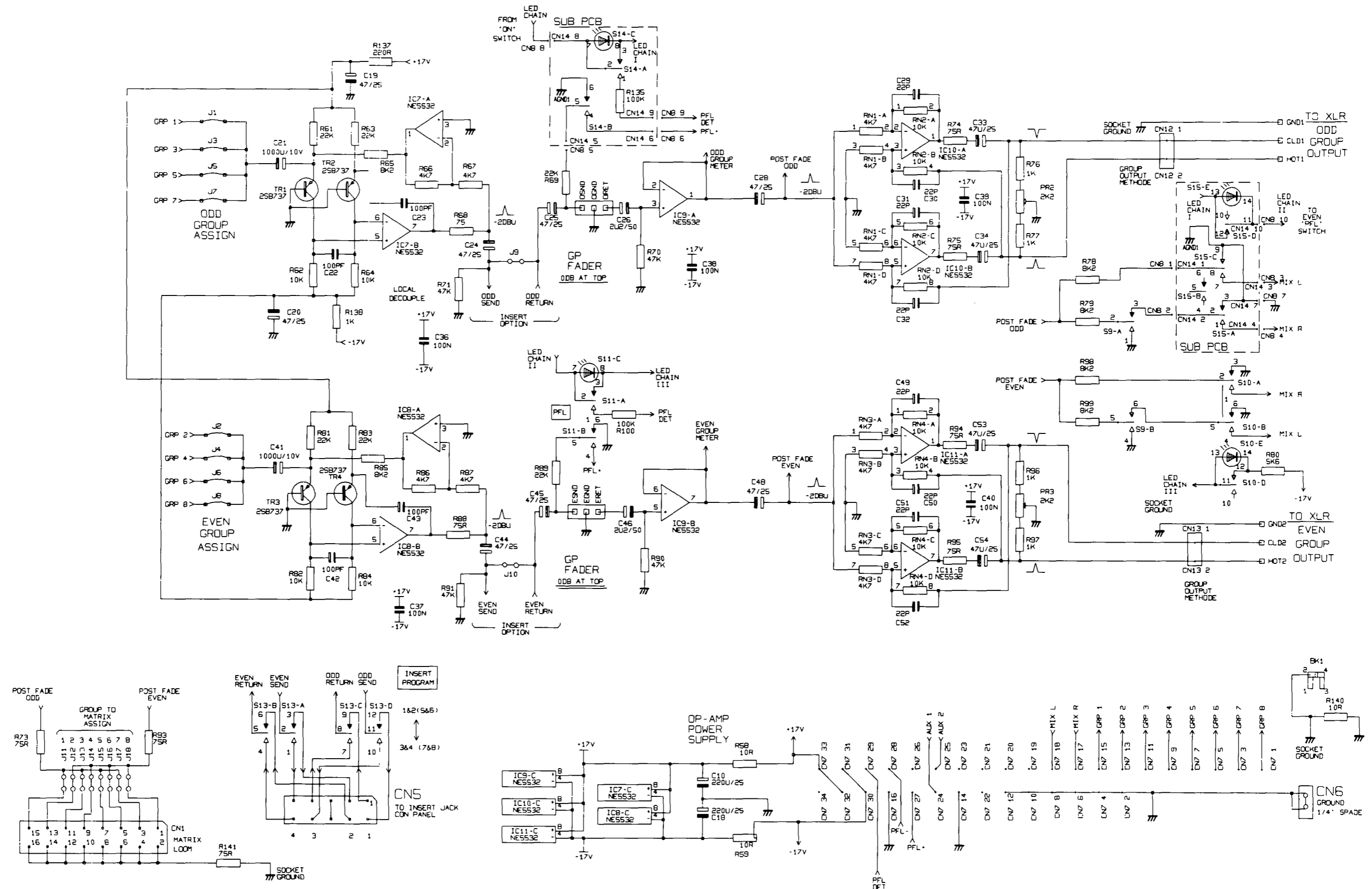






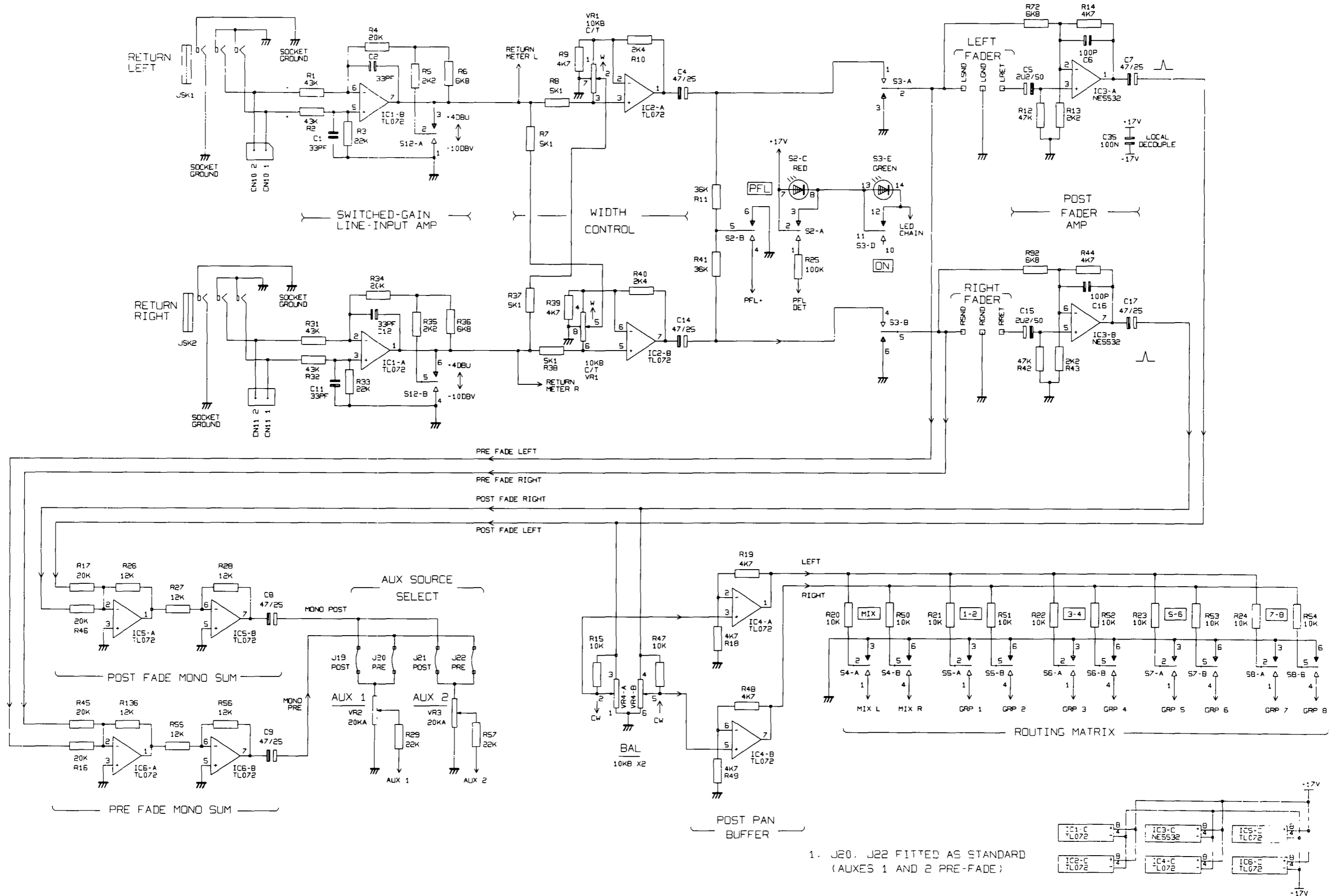


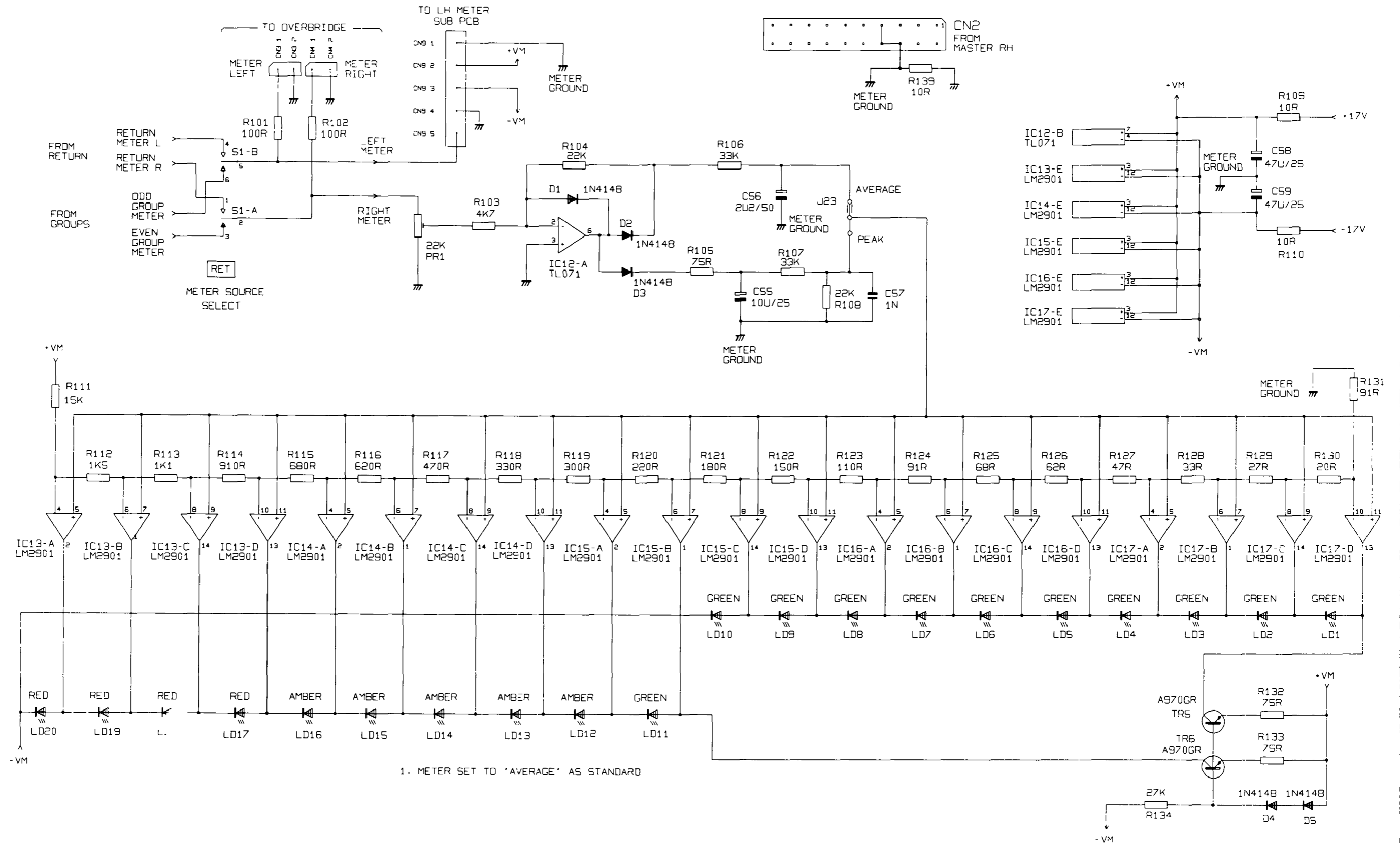


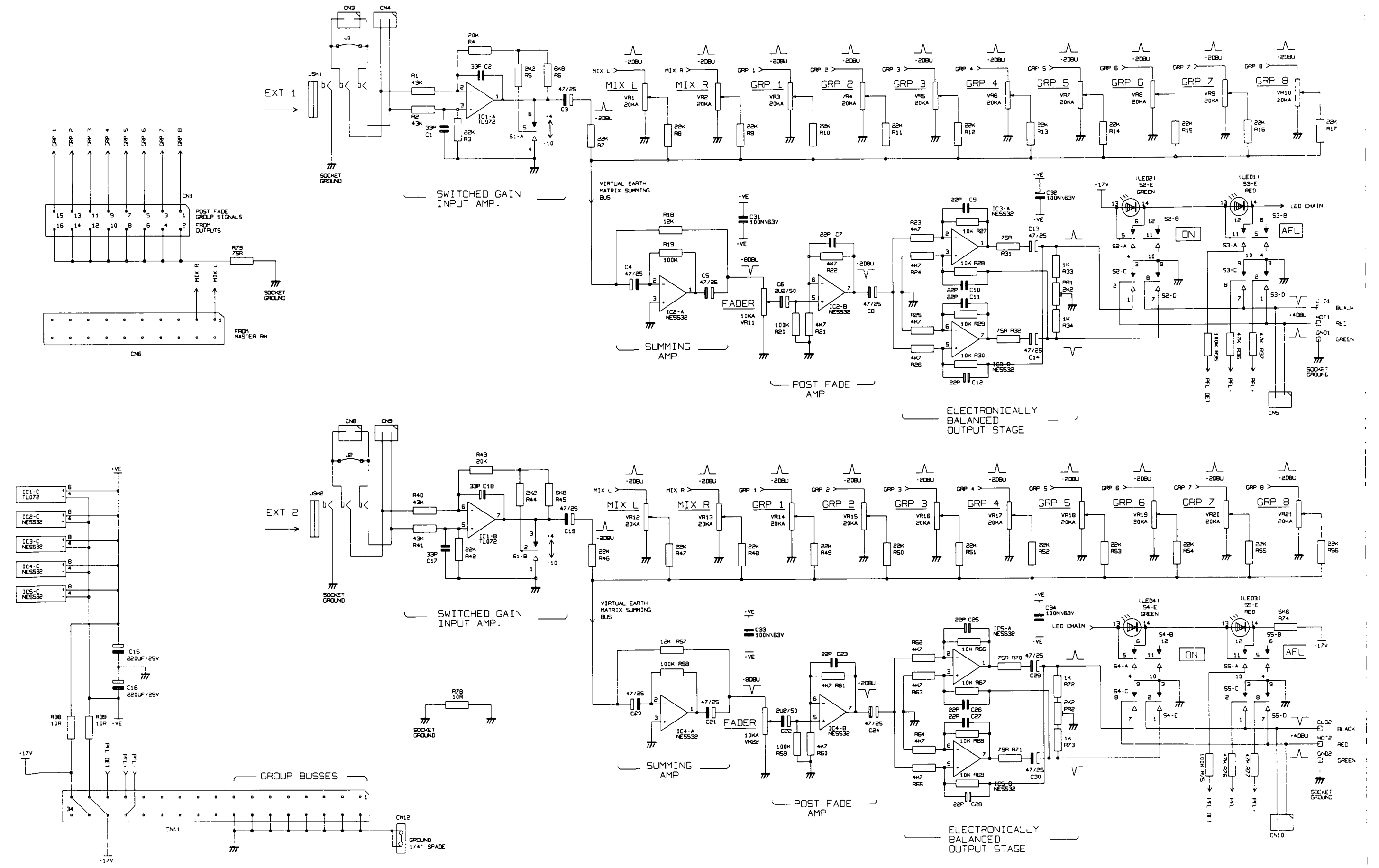


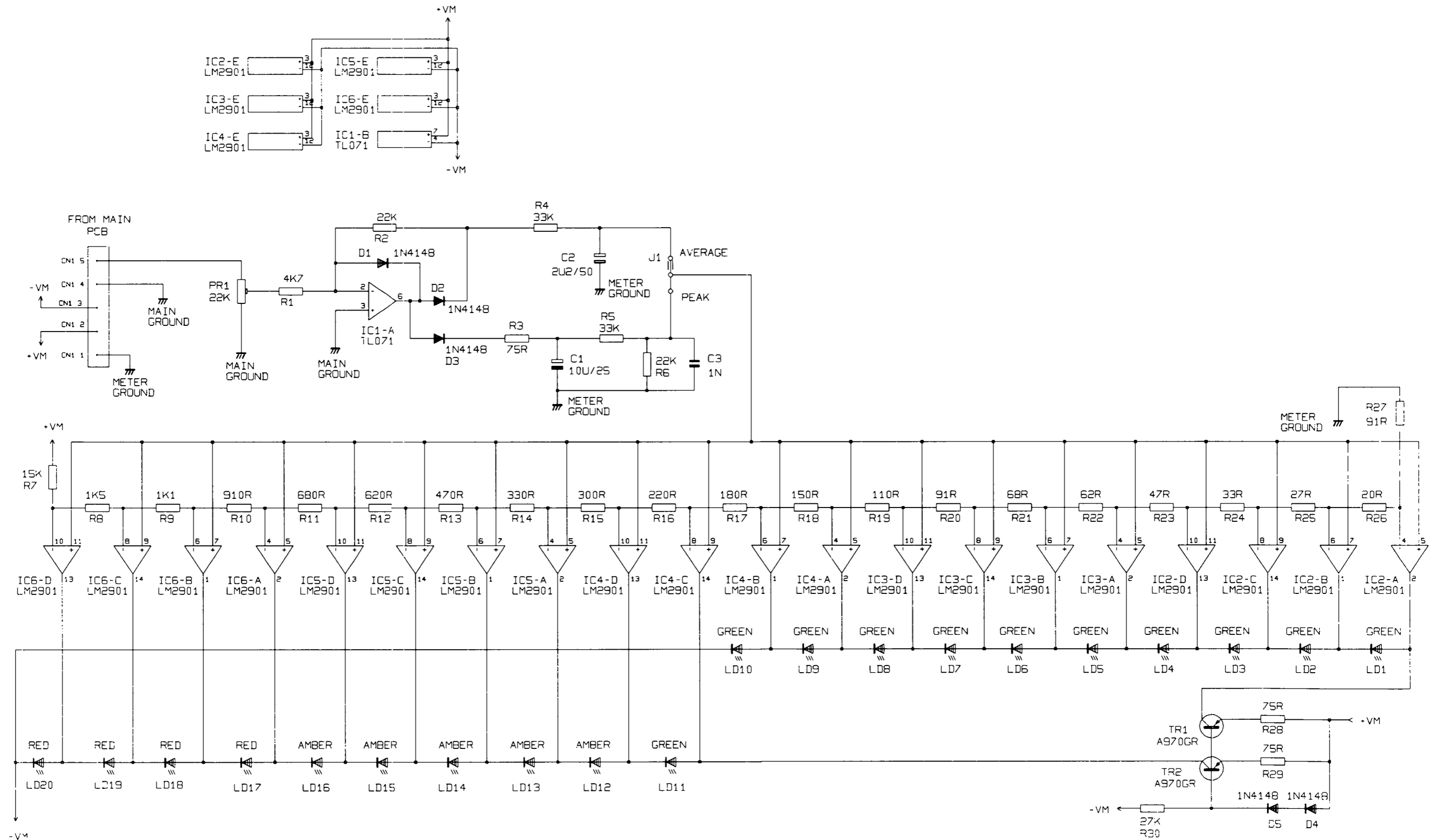
1. J9, J10 FITTED AS STANDARD  
REMOVE WHEN INSERT OPTION IS USED

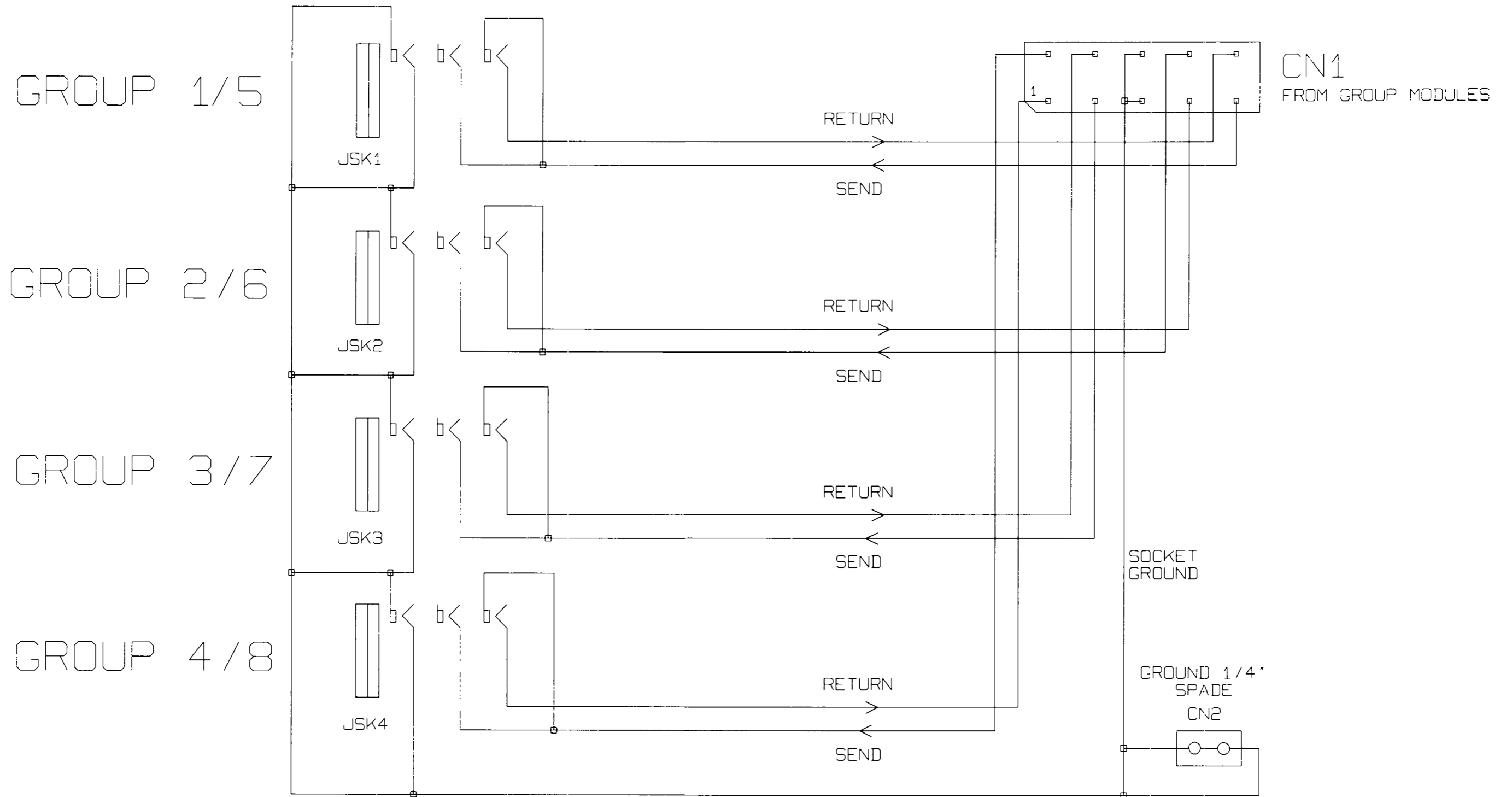


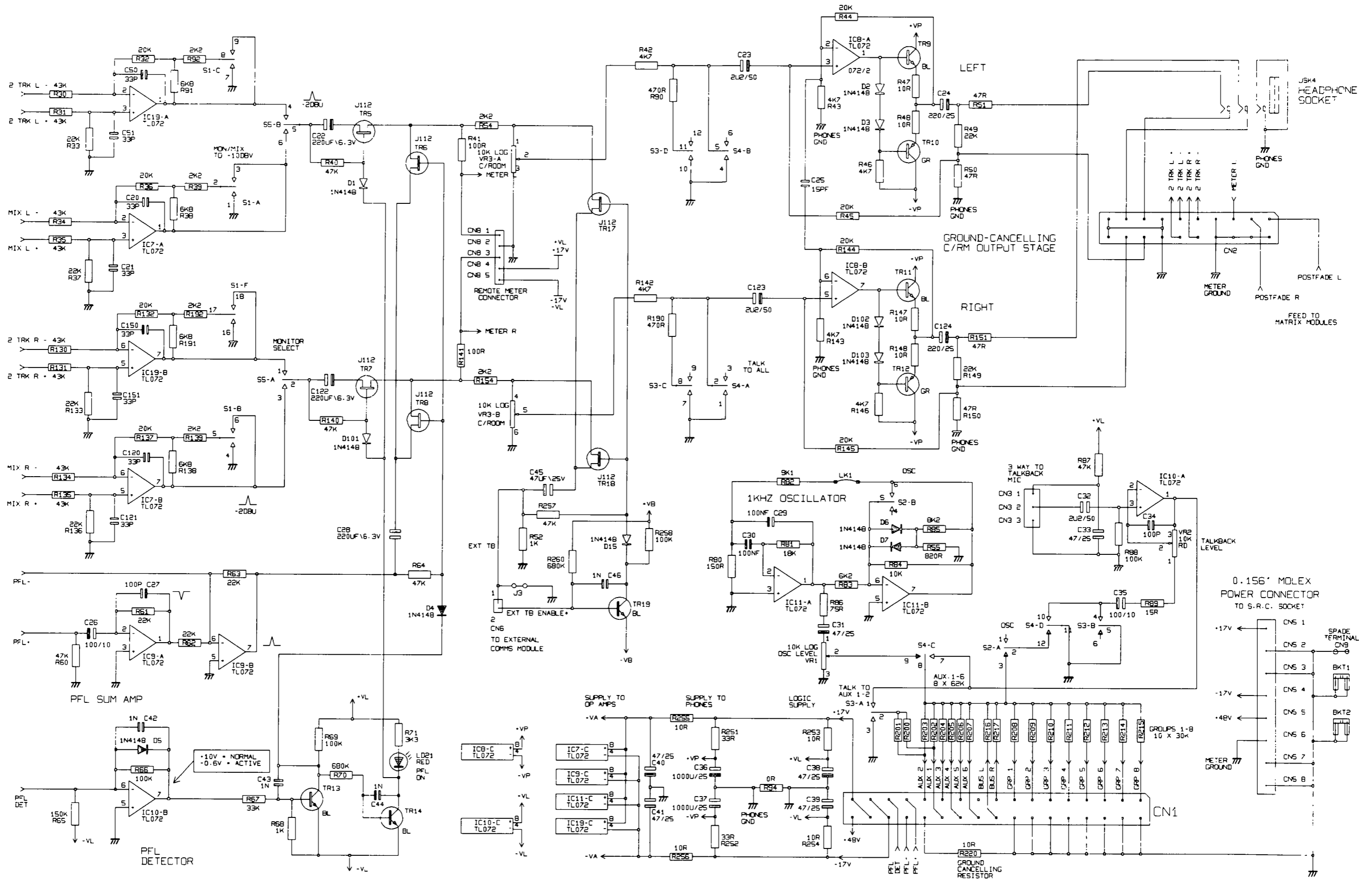


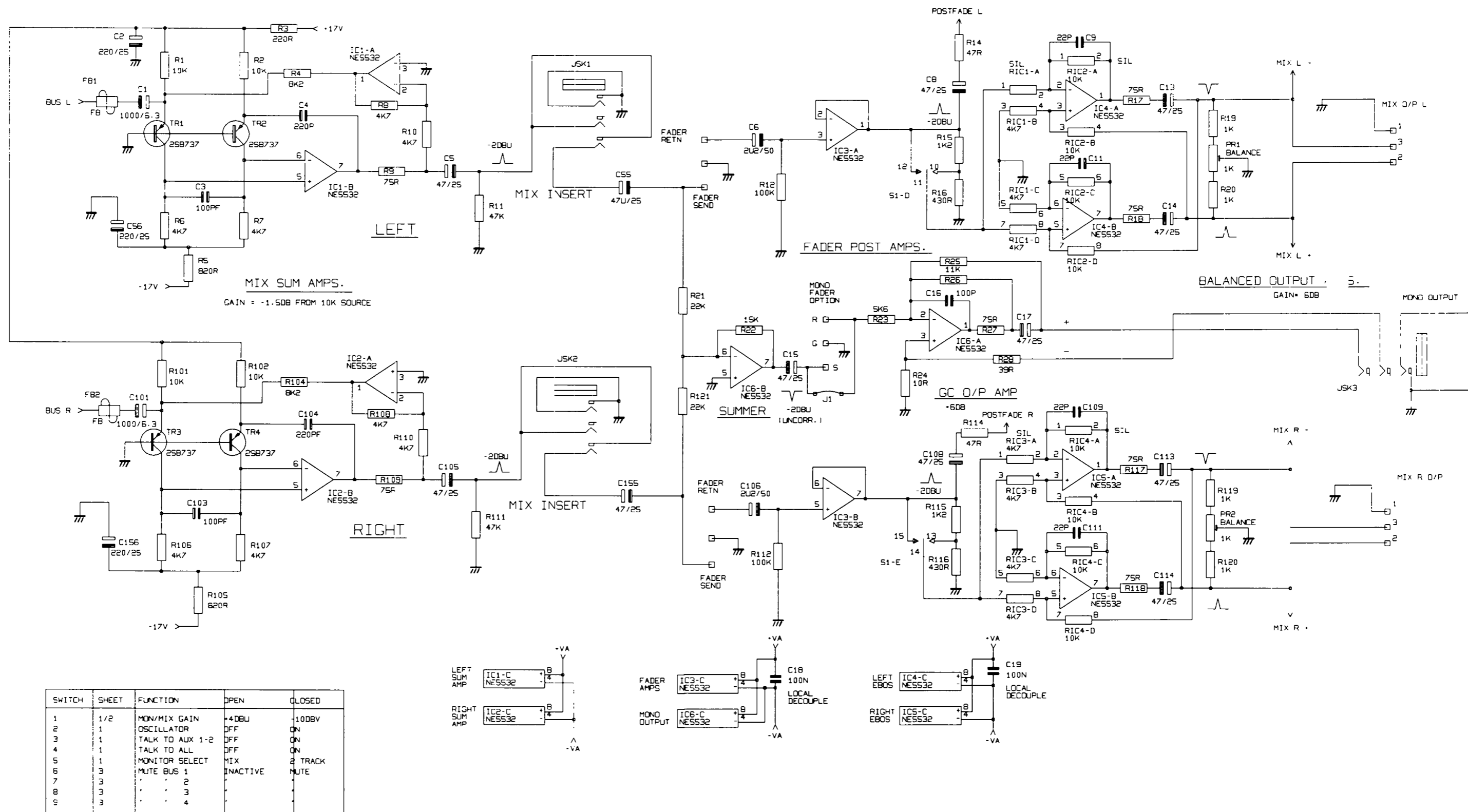


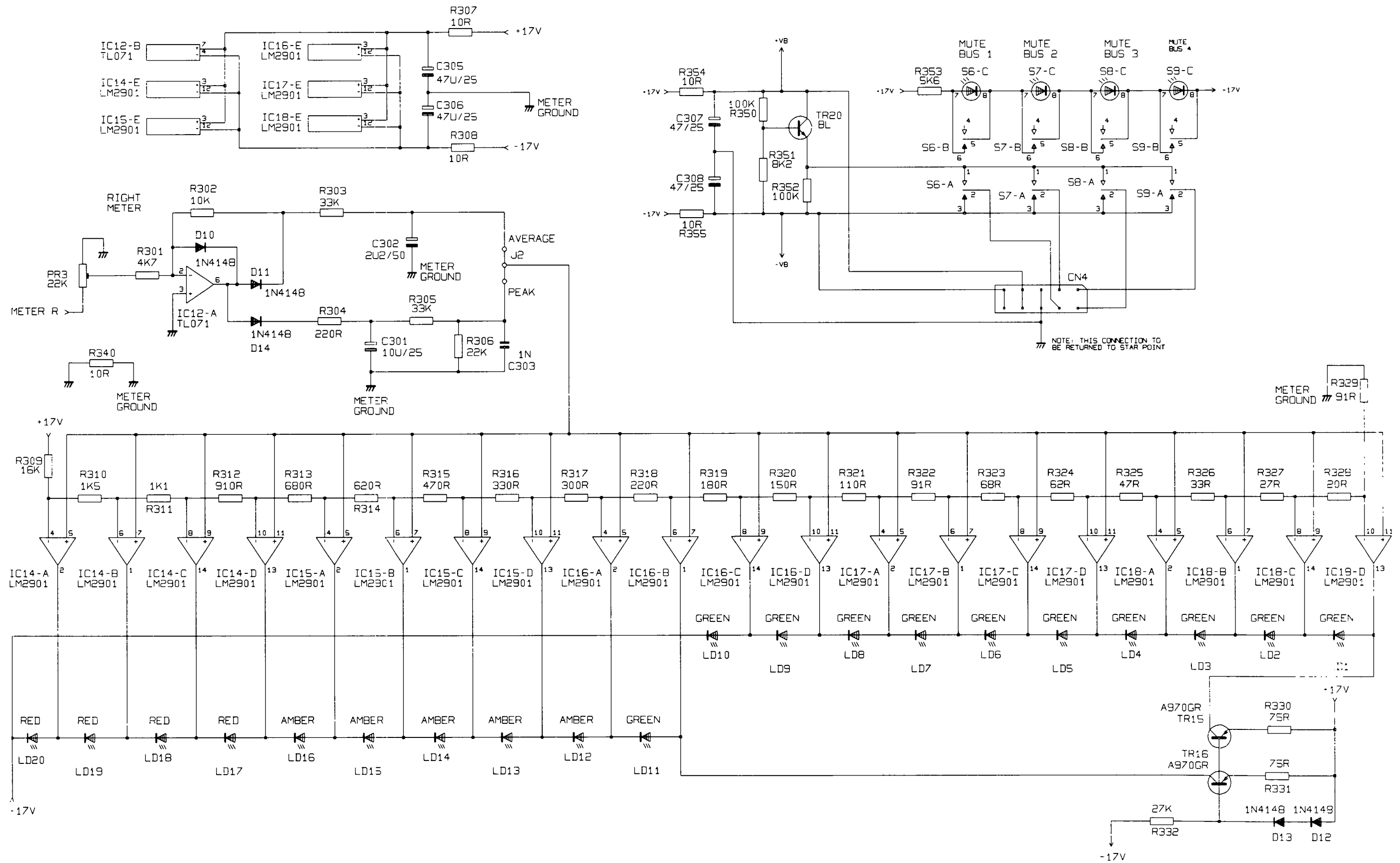




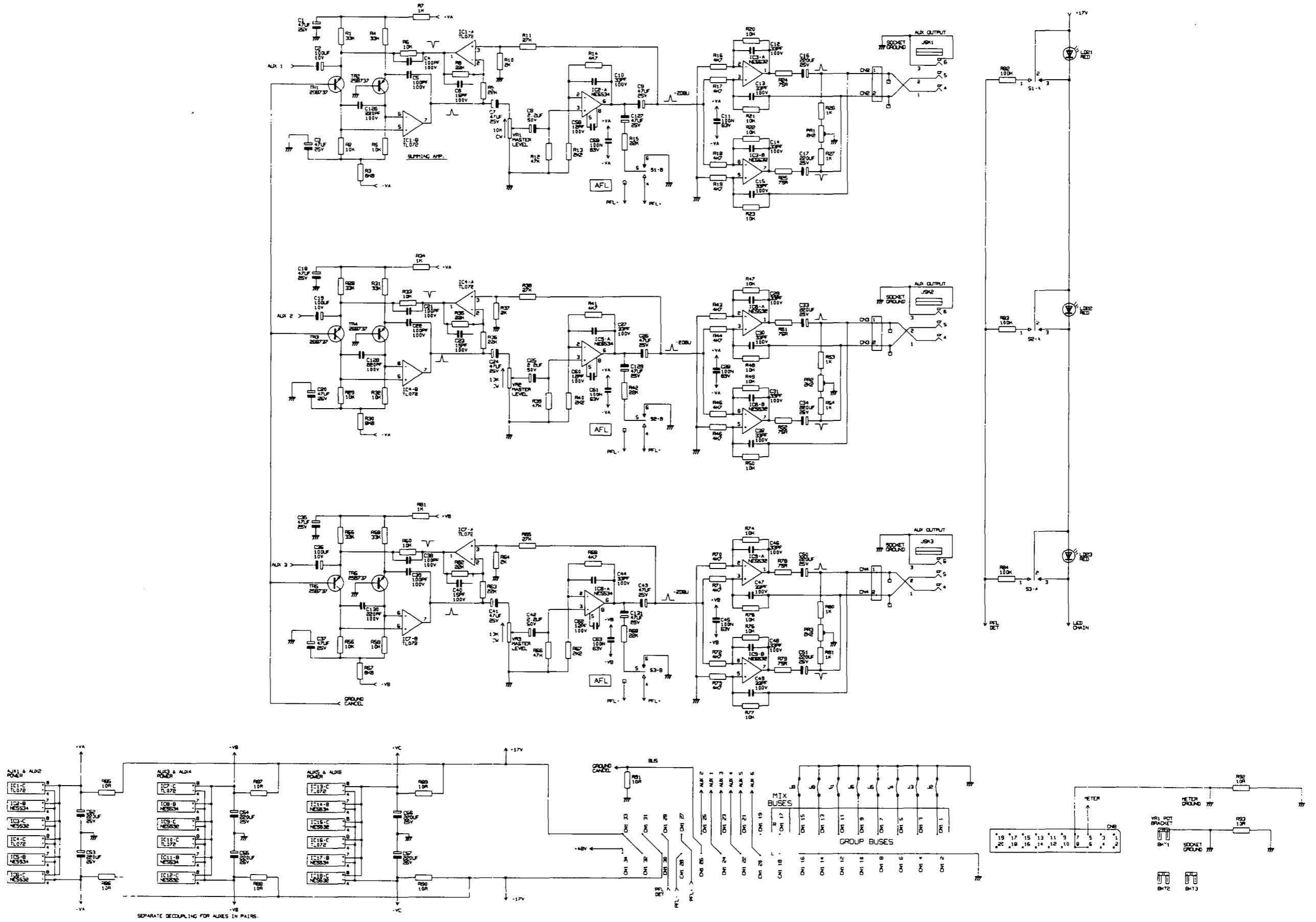


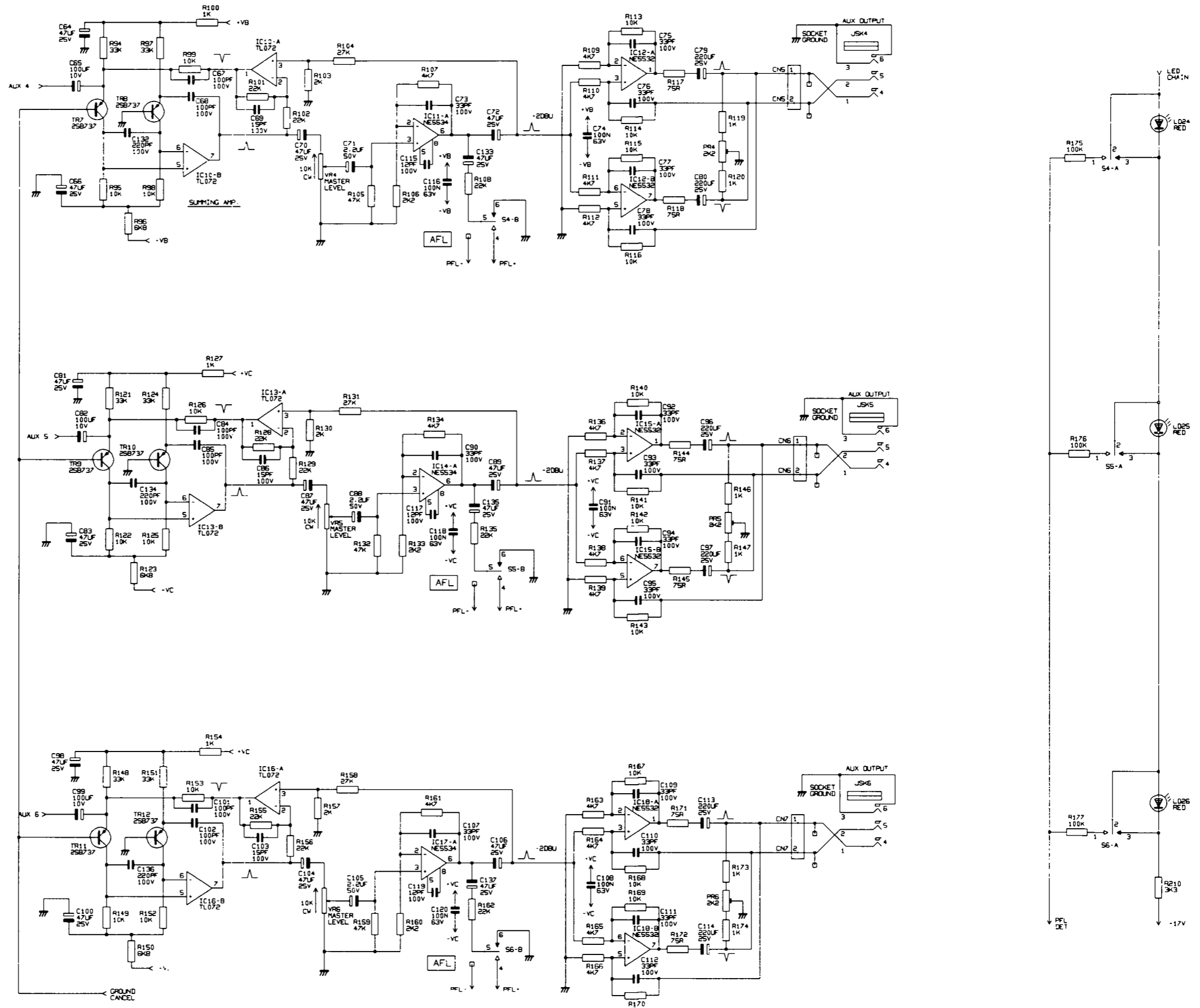


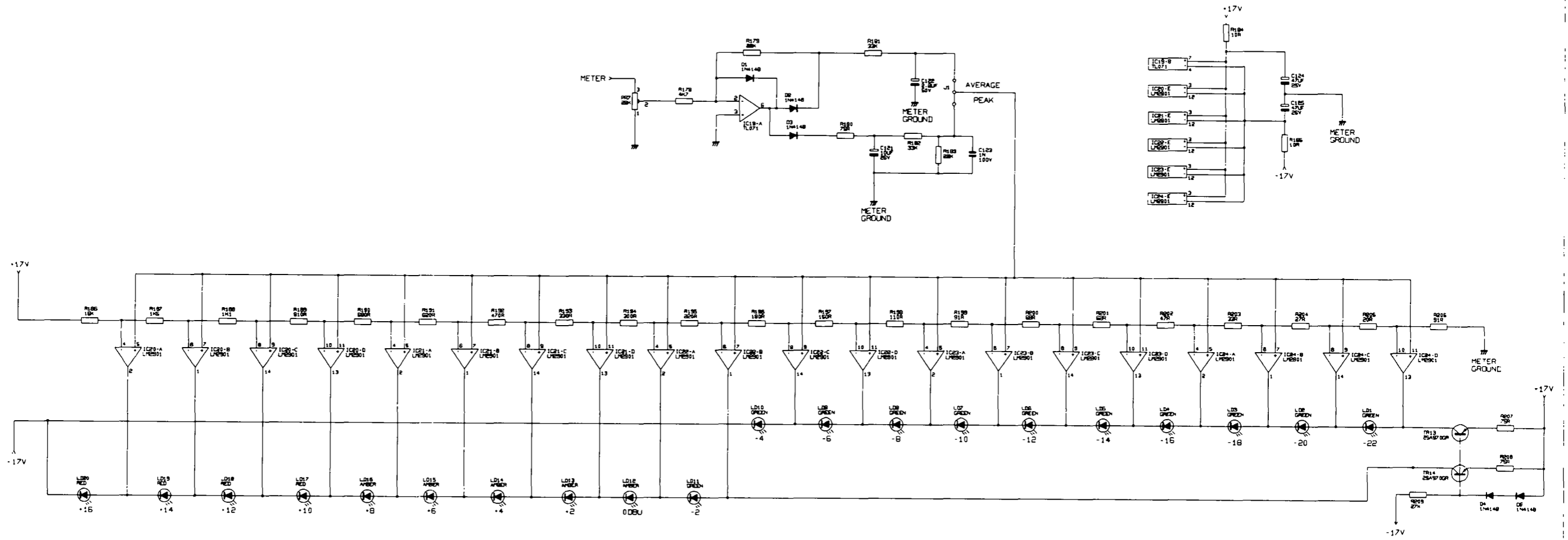


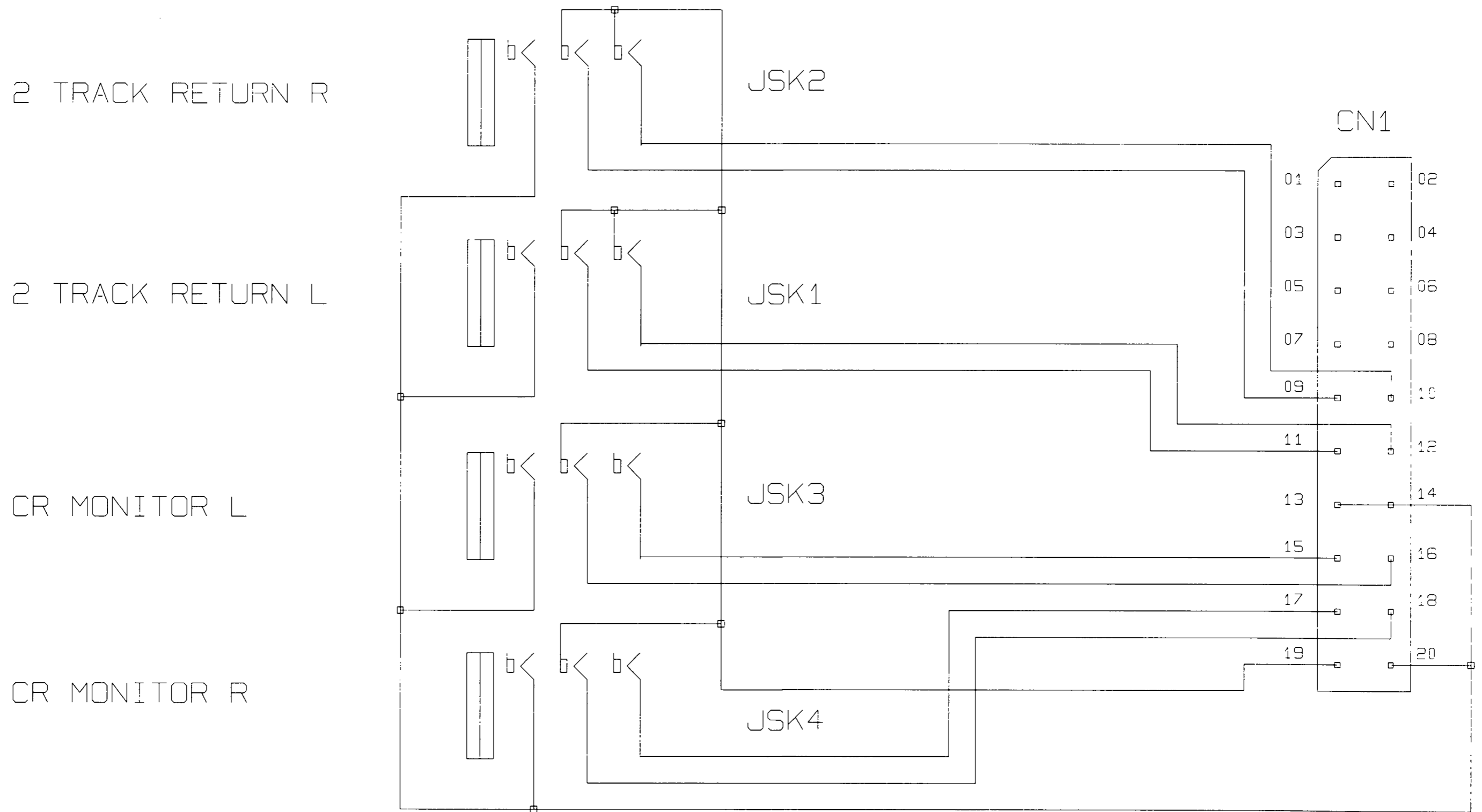


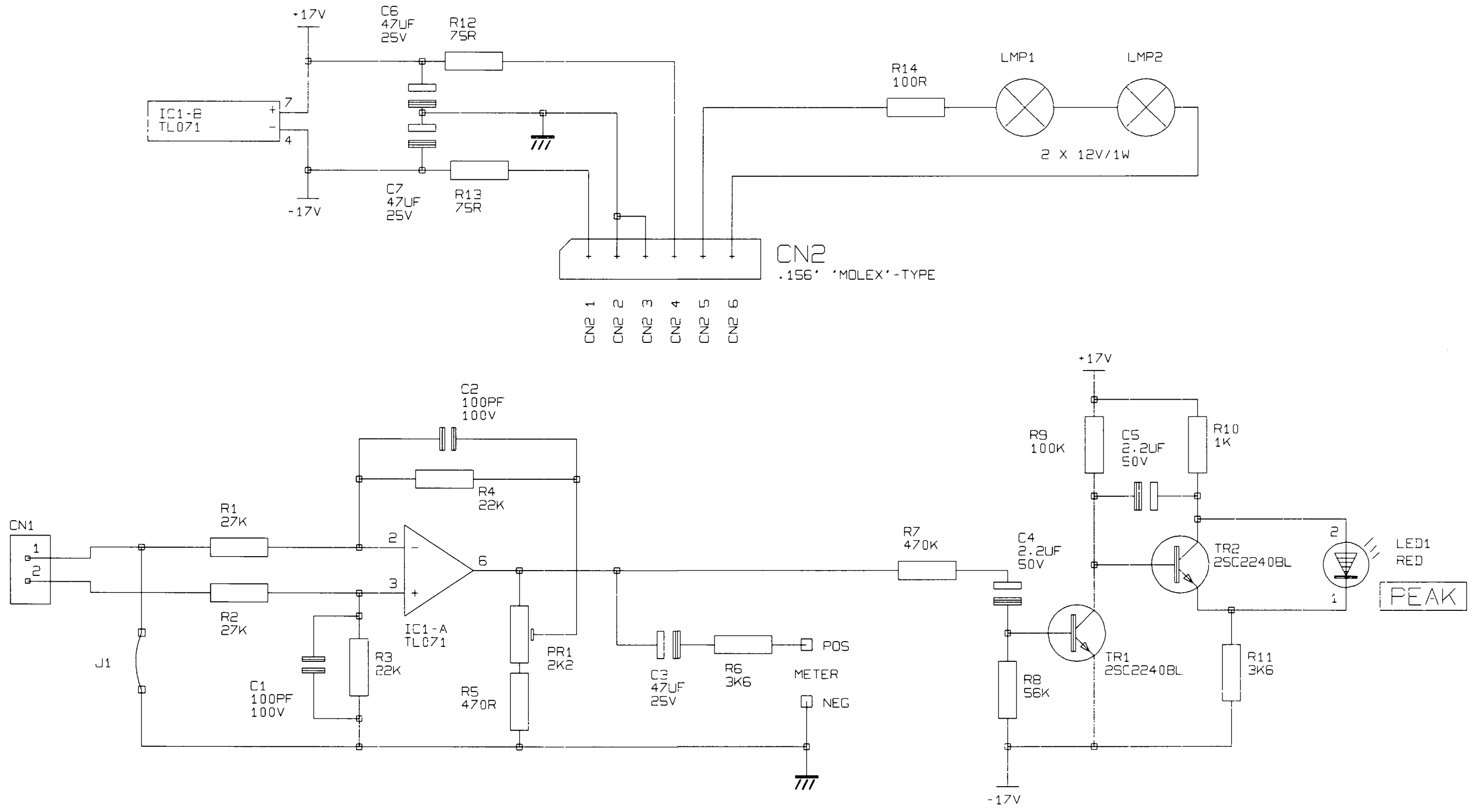


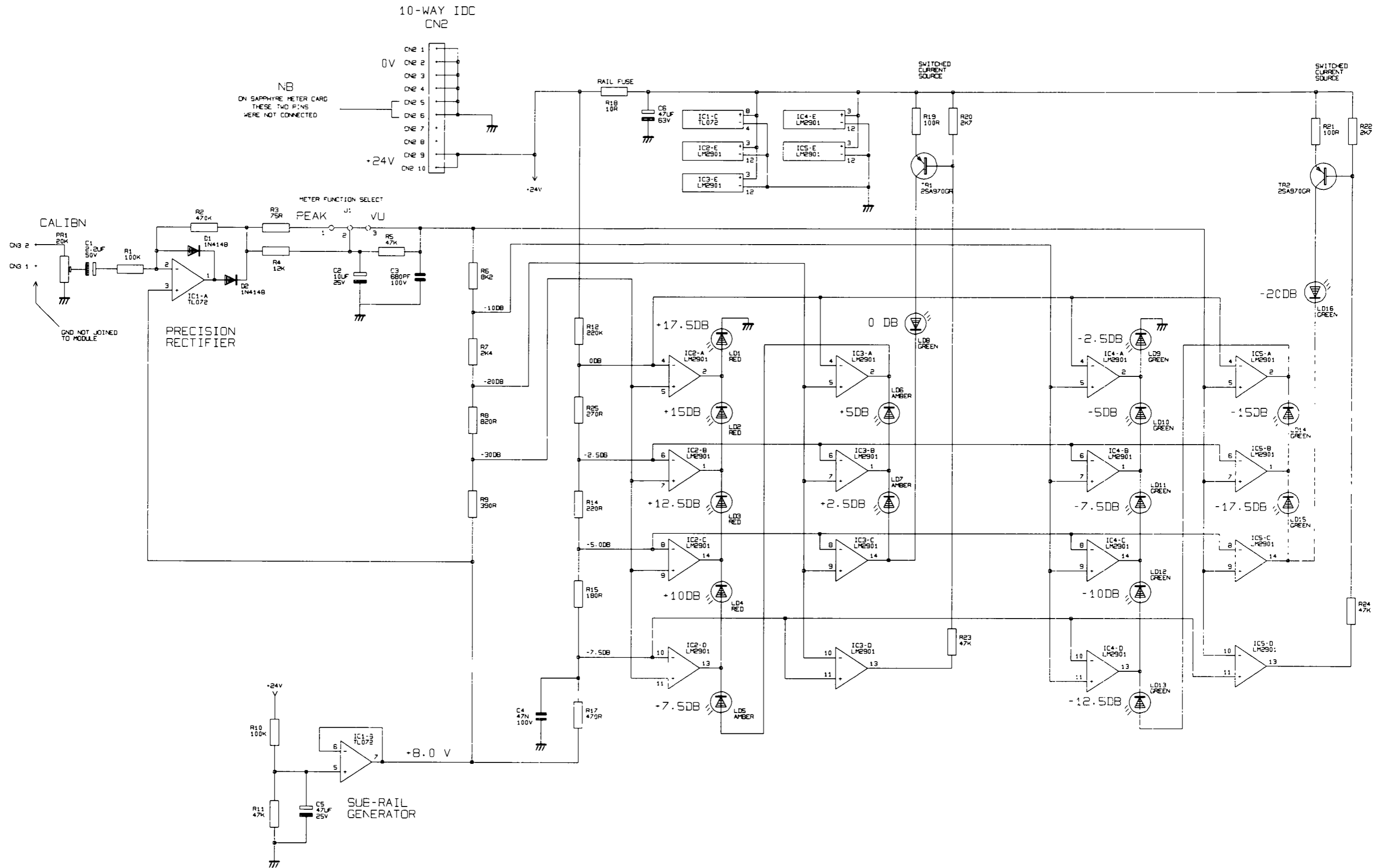


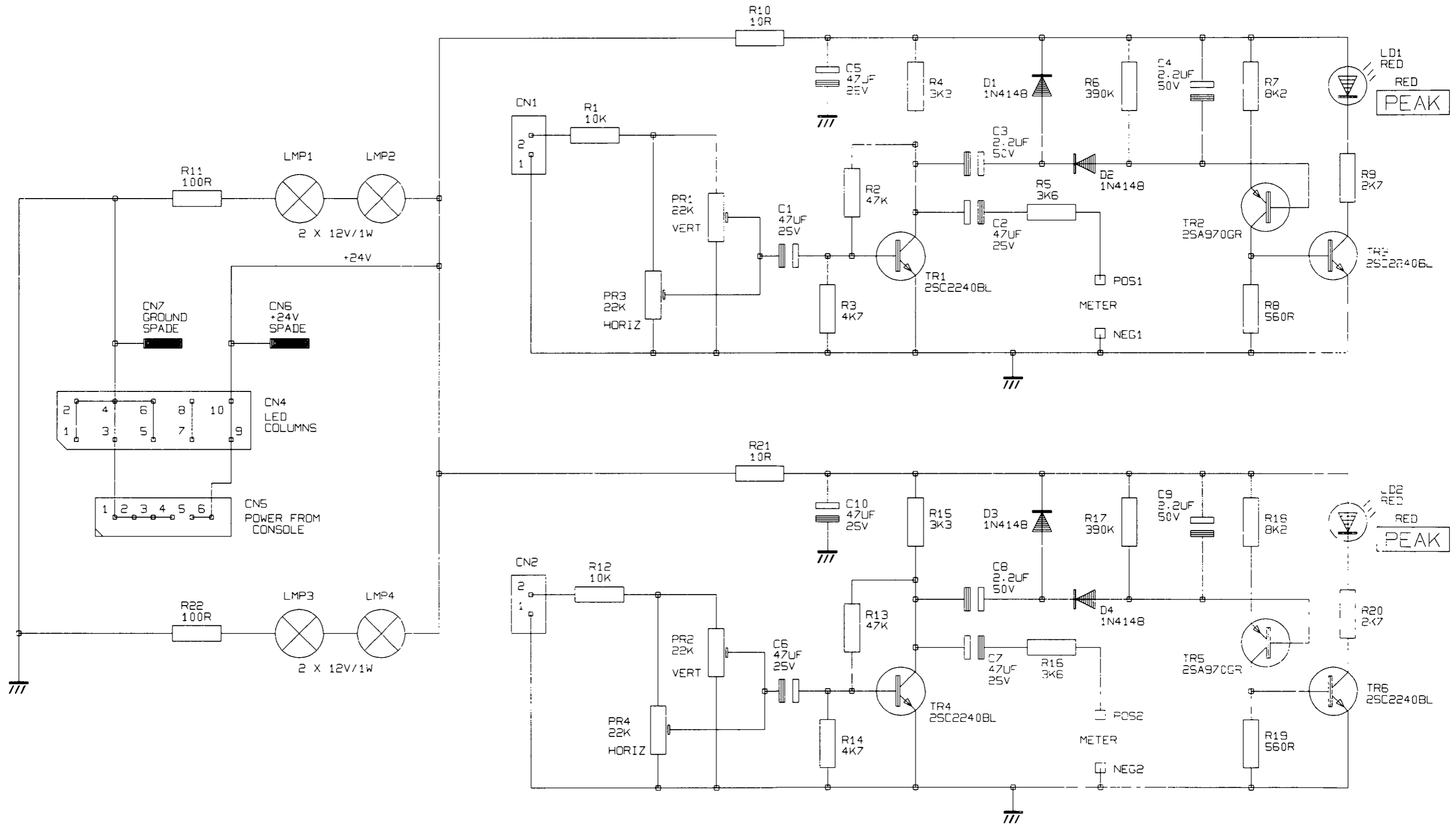


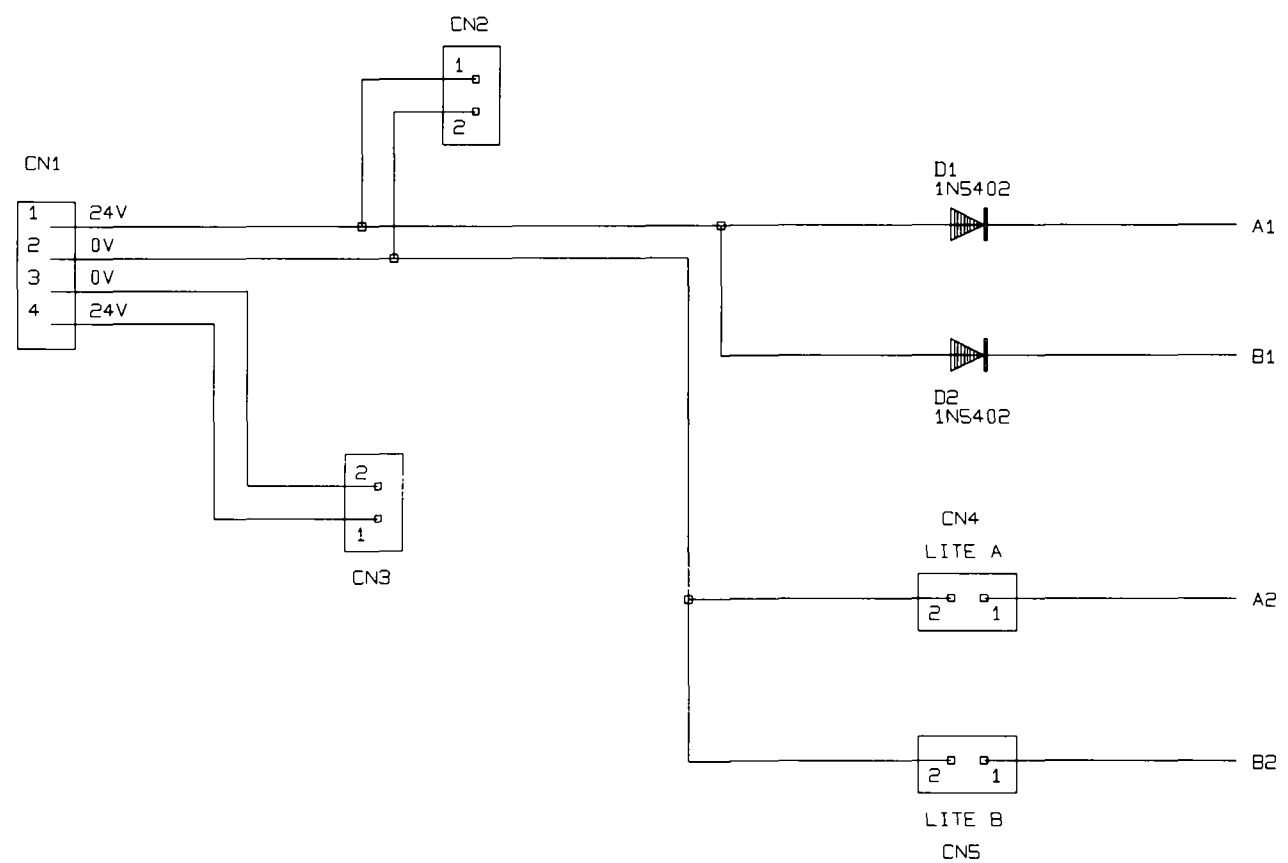














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## **8. Maintenance**

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*Fault Finding* 8.4

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*Removing Modules* 8.5

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*VU Overbridge Maintenance* 8.6

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*Jumper Settings* 8.12

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## Introduction

Every console that leaves Soundcraft undergoes a thorough testing at all stages of manufacture. These tests include individual testing of every function on all the PCB's, a thorough testing of all the functions of the completed mixer, a soak test of two hours before the final test (which consists of listening, measuring and mechanical function checks) prior to packaging and shipment. In this way we try to ensure that any faulty components show up long before the console leaves the company. Thus a long and trouble-free life can be expected.

Although all Soundcraft consoles have been designed with long-term reliability in mind, it is inevitable that occasional maintenance will be required. However, due to the amount of attention given to the problems of maintenance during the design stages of this console, and the modular construction, servicing tends to be extremely simple to carry out, with the minimum of test equipment needed to isolate and rectify faults.

With the exception of the electronically balanced microphone amplifier, and the hybrid discrete/op amp summing amps, all signal electronics are configured around high slew rate, low noise integrated circuits. The microphone amplifier is a proprietary design, utilising a discrete transistor, low noise cancelling front end.

The use of integrated circuits means that the majority of audio faults can be repaired by simply replacing the I.C., having first isolated the fault to a particular stage in the signal chain. The isolation can often be done without even having to remove the module from the console, by judicious use of insert points, and/or switching the module to various modes. As with all servicing, a good knowledge of signal flow is necessary for best results, and a time spent becoming thoroughly familiar with the console block diagrams will be very helpful.

---

## **Basic Principles**

Each module should be viewed as a number of signal blocks, through which the signal must flow. If the signal appears at the input to a block, but not at the output, then the fault clearly lies within that block. By dividing a module into individual sections, what may at first appear to be an extremely complicated piece of equipment can be simplified into a series of sequential stages. This is the basic first move in all types of fault finding, and usually requires no more than a certain amount of logical thought. Servicing a console is more a matter of clear thinking and having an understanding of what should be happening, than having a highly developed technical knowledge.

To illustrate the method of logical fault finding, let us assume that we have a non-functioning input module, in both microphone and line modes.

- The first step is to ensure that a fault really does exist! Check that the module is in the correct mode of operation, and that no jacks are inserted in the insert points which may be interrupting the signal flow. Check also that the expected input signal is actually present by plugging it into another module.
- If in doubt about the module operation, set up an adjacent module in exactly the same way, which will allow a direct comparison between a working and possible non-working module.
- Route the channel directly to MIX, so that the channel may be monitored in the normal way. Using an oscillator set it to approximately 1kHz and patch the oscillator signal into the channel Line Input. If all is well, an undistorted signal should now be heard. More likely, because of the fault, it won't.

Large sections of the module circuitry can be by-passed by monitoring the signal at the insert send, or by switching the EQ in or out.

If by-passing a section causes the signal to re-appear, then the fault is located in that section, and can be traced at component level, by removing the module from the console frame.

## Removing Modules

**Warning!** Always check that power has been removed from the console before attempting to release or remove modules from the frame.

First remove the top and bottom trim and ident strips to reveal the module screws. Remove the 3 module retaining screws, which will allow the module to be carefully withdrawn from the console.

The ribbon cable will now be exposed and may be detached from the module. Take care not to impose unnecessary strain on the cable or the connector during this process. There is enough spare cable between the modules to allow them to be laid on the surface of the adjacent modules.

With the module extended on the mother loom, access is now available to all parts of the module, and the signal may be traced through the various stages, using an oscilloscope, millivoltmeter, or even high impedance headphones.

Refer to the Module Block Diagram which shows the signal flow through the module and the Circuit Diagram. When a point is reached where the signal is not present, or is distorted, the suspected faulty components can be checked out and if necessary replaced. Integrated circuits, due to their internal complexity, are the most likely cause of problems, followed by mechanical components such as switches and faders, which are susceptible to physical contamination from oxidation, dust and liquids.

# VU Overbridge Maintenance

---

## General

Metering is provided by 10 moving coil VU meters, with integral peak detecting LEDs.

The drive electronics for the meters and peak LED indicators are located on individual drive cards mounted on the back of each meter. The peak LED and illumination bulbs are soldered directly to the drive cards.

The power and signal connections to the overbridge are brought from the main console by a multi-core wireform, connected the main frame via a 25-way D-type connector.

The voltages used are: +/- 17V audio supply, from the console master module; +24V illumination supply, taken from the Littlite PCB in the console. These are distributed to the drive cards in the overbridge on six way 0.156" pitch connectors on a daisy-chain loom.

The signals from the master module are single ended, while the signals from the group modules are brought up on twisted pair cables, consisting of the signal plus a ground for each group. The signals are connected to each drive card by a two-way 0.1" pitch connector, and are at a nominal level of -2dBu.

---

**Opening the Overbridge** Remove the plastic trim from the top of the overbridge (6). The top/back section of the overbridge is held in place by two screws (7) in the top of the overbridge, and five screws on the upper edge of the front panel (8). When these are removed, the top/rear section will hinge backwards to allow access to the meters.

---

## Meter Calibration

The meters are factory calibrated for 0VU = +4dBu at 1kHz. They should not need recalibration unless either the meter itself or a component in the drive card is replaced.

(Note: 0dBu = 0.775V RMS; +4dBu = 1.228V RMS.)

To re-calibrate any of the meters, it will be necessary to open the overbridge, as described above. The calibration presets are mounted on the top edge of the meter drive cards.

**Group Meters:** set the group faders to maximum. For stereo return outputs, ensure the meter source RET button is out. Turn on the console oscillator. Plug an AC voltmeter into the relevant Group Out XLR, and adjust the oscillator level to give a reading of exactly +4dBu; or 1.228V RMS, on the voltmeter. Using a small flat-blade screw driver, adjust the meter preset so that the VU meter reads 0VU.

**Mix Meters:** set the MIX faders to maximum. Ensure that the 2TRK button on the master module is not pressed, and that no PFL or AFL buttons are active. Turn on the console oscillator. Plug an AC voltmeter into the MIX LEFT OUT XLR, and adjust the oscillator level to give a reading of exactly +4dBu, or 1.228V RMS, on the voltmeter. Using a small flat-blade screw driver, adjust the meter preset so that the VU meter reads 0VU.

The MIX RIGHT meter is calibrated in a similar fashion.

---

## **Removing and Replacing Meters**

Open the overbridge cover as described above, and unplug the two-way and six-way connectors from the drive card. Using a small flat-blade screw driver, unscrew and remove the two screws holding the meter to the fascia. Slide the two plastic clips out from the bezel. The meter may now be pushed back slightly and slid up and free of the bezel.

The drive card is attached to the meter by the two M2 nuts on the back - when these are removed, the drive card may be detached from the meter.

When replacing the drive card, ensure that the peak indicator LED passes correctly through the aperture in the meter fascia.

---

## **Zeroing meters**

If the meter has been replaced, it may be necessary to adjust the "zeroing" i.e. the position of the needle with no signal present. This should be at the bottom of the scale.

There is a screw adjustment for this on the rear of the meter body, which may be turned using a small flat-blade screw driver. This is accessible when the drive card is fitted through a hole in the PCB.

---

## **Illumination**

The illumination for each meters is provided by two bulbs mounted on the solder side of the drive card. The two bulbs are driven in series from +24 volts through a 100ohm resistor. If either bulb, or the resistor, becomes open-circuit, neither will light.

To replace the bulbs, first remove the meter and drive card as described above. The bulbs are soldered to the rear of the drive card, and may be removed by desoldering from the PCB. The replacements are then soldered in.

If either bulb has become faulty, both bulbs should be replaced, in case the other bulb has been over stressed.

# LED Overbridge Maintenance

---

## General

Input metering is provided by LED bargraph meters. The LED meters are mounted on individual PCBs containing both the LEDs and associated driver circuitry. The meters are mounted on 4-way panels.

Mix left and right metering is provided by 2 moving coil VU meters, with integral peak detecting LEDs.

The drive electronics for the VU meters and peak LED indicators are located on a drive card mounted on the back of the meters. The peak LED and illumination bulbs are soldered directly to the drive card. Both meters are mounted on a single panel.

The power and signal connections to the overbridge are brought from the main console by a multi-core wireform, connected the main +frame via a 50-way D-type connector. The supply voltage used is +24V, taken from the Littlite PCB in the console. The power and ground are distributed to the drive cards in the overbridge on a 10-way IDC ribbon bus. All audio signals are single ended at a nominal level of -2dBu, and are connected to each drive card by a two-way 0.1" pitch connector.

---

**Opening the Overbridge** Remove the plastic trim from the top of the overbridge. The top/back section of the overbridge is held in place by two screws in the top of the overbridge, and screws on the upper edge of the front panels. When these are removed, the top/rear section will hinge backwards to allow access to the meters.

It is not necessary to remove the perspex window to re-calibrate the meters; further maintenance requires the meter and its panel to be removed. Unclip the lower plastic overbridge trim, remove the perspex, then remove the two screws from the lower edge of the relevant panel.

---

## VU Meter Calibration

VU meter calibration is carried out in the way described previously under "VU Overbridge."

---

## Removing and Replacing VU Meters

Open the overbridge cover as described above, and unplug the two-way, six-way and ribbon cable connectors from the drive card. Unfasten and remove the VU meter panel. The drive card is attached to each meter by the two M2 nuts on the back - when these are removed, the drive card may be detached from the meters. The meters are fastened to the panel by a sub-panel, attached by M3 screws to welded pillars; when these are removed, the sub-panel may be removed and the meters accessed.

When replacing the drive card, ensure that the peak indicator LED passes correctly through the aperture in the meter facia.

---

## Zeroing VU meters.

If the meter has been replaced, it may be necessary to adjust the "zeroing" i.e. the position of the needle with no signal present. This should be at the bottom of the scale.

There is a screw adjustment for this on the rear of the meter body, which may be turned using a small flat-blade screw driver. This is accessible when the drive card is fitted through a hole in the PCB.



---

## VU Illumination

The illumination for each meters is provided by two bulbs per meter mounted on the solder side of the drive card. The two bulbs are driven in series from +24 volts through a 100ohm resistor. If either bulb, or the resistor, becomes open-circuit, neither will light.

To replace the bulbs, first remove the meter and drive card as described above. The bulbs are soldered to the rear of the drive card, and may be removed by desoldering from the PCB. The replacements are then soldered in.

If either bulb has become faulty, both bulbs should be replaced, in case the other bulb has been over stressed.

---

## LED Bargraph Calibration

The input meters are factory calibrated for 0dB (first amber LED illuminated) = -2dBu at the channel insert send, with EQ flat. The meters should not need recalibration unless components are changed on the meter PCB.

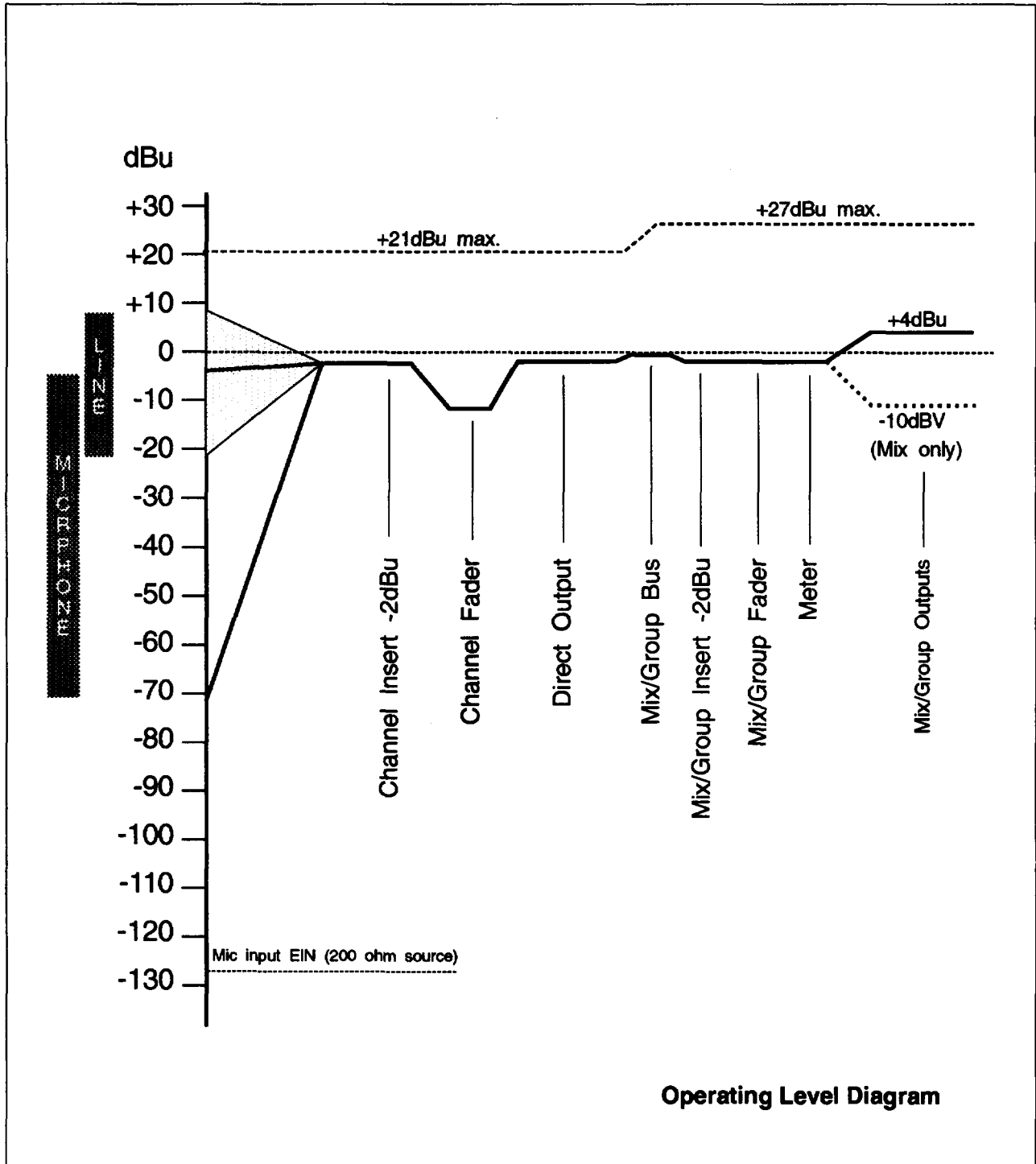
(Note: 0dBu = 0.775V RMS; -2dBu = 0.66V RMS.)

To recalibrate the meters, it is necessary to open the overbridge as described above. The calibration presets are mounted on the top of the meter cards.

Plug a 1kHz sinewave signal into the relevant channel line input jack (if no signal generator is available, use an XLR-to-jack lead to patch from a group output to channel line in, turn on the console console oscillator, set the group fader to maximum and the oscillator level to give '0' on the group meter.)

Plug an AC voltmeter into the channel insert point, reading between the sleeve and ring connections. Select LINE on the channel, and switch the FILTER and EQ out. Adjust the channel GAIN pot for -2dBu (0.66V RMS) on the voltmeter. Then, using a cross-head screwdriver, adjust the preset on the meter card so that the first amber led lights.

# Operating Levels



# Operating Levels Selection

---

## **Master Module**

The nominal level of the Mix Outputs and 2 Track Return inputs can be set to +4 dBu or -10 dBV by means of switch S1 towards the rear of the RH PCB.

Settings are as follows:

S1 IN = -10dBV  
S1 OUT = +4dBu

---

## **Dual Group/Stereo Return Module**

The nominal level of the Stereo Return can be set to +4dBu or -10dBV by means of switch S12 on the rear of the module. The switch is recessed through the fascia to prevent accidental operation and may be operated with a narrow screwdriver or match stick.

Settings are as follows:

S12 IN = -10dBV  
S12 OUT = +4dBu

---

## **Dual Matrix Module**

The nominal level of the External Inputs can be set to +4dBu or -10dBV by means of switch S1 on the rear of the module. The switch is recessed through the fascia to prevent accidental operation and may be operated with a narrow screwdriver or match stick.

Settings are as follows:

S1 IN = -10dBV  
S2 OUT = +4dBu

# Jumper Settings

---

## **Mono Input Module**

PCB Component Layout SC2911

- J1** Fit J1 to select AUX1 POST FADE
- J2** Fit J2 to select AUX1 PRE FADE
- J3** Fit J3 to select AUX1 PRE EQ
- J4** Fit J4 to select AUX2 POST FADE
- J5** Fit J5 to select AUX2 PRE FADE
- J6** Fit J6 to select AUX2 PRE EQ
- J7** Fit J7 to select AUX3 POST FADE
- J8** Fit J8 to select AUX3 PRE FADE
- J9** Fit J9 to select AUX4 POST FADE
- J10** Fit J10 to select AUX4 PRE FADE
- J11** Fit J11 to select AUX6 PRE FADE
- J12** Fit J12 to select AUX6 POST FADE
- LK65** Fit for insert pre-EQ
- LK66** Fit for insert post-EQ
- LK67** Fit for insert pre-EQ
- LK68** Fit for insert post-EQ
- LK69** Fit for insert pre-EQ
- LK70** Fit for insert post-EQ

---

## **Stereo Input Module**

PCB Component Layout SC2915

- J1** Fit J1 to select AUX1 to POST FADE MONO
- J2** Fit J2 to select AUX1 to PRE FADE MONO
- J3** Fit J3 to select AUX1 to PRE FADE LEFT
- J4** Fit J4 to select AUX1 to POST FADE LEFT
- J5** Fit J5 to select AUX2 to POST FADE MONO
- J6** Fit J6 to select AUX2 to PRE FADE MONO
- J7** Always fitted
- J8** Not fitted
- J9** Not fitted
- J10** Not fitted
- J11** Remove if RIAA option fitted
- J12** Remove if RIAA option fitted
- J13** Remove if RIAA option fitted
- J14** Remove if RIAA option fitted
- J15** Fit J15 to select AUX2 to PRE FADE RIGHT
- J16** Fit J16 to select AUX2 to POST FADE RIGHT
- J17** Fit J17 to select AUX3 to POST FADE MONO
- J18** Fit J18 to select AUX3 to PRE FADE MONO
- J19** Fit J19 to select AUX4 to POST FADE MONO
- J20** Fit J20 to select AUX4 to PRE FADE MONO
- J21** Not fitted
- J22** Not fitted

---

**Theatre Input Module**

PCB Component Layout SC3152

- J1** Fit for Post-Input meter source
- J2** Fit for Pre-Mute meter source
- J3** Fit for Post-Fade meter source
- J4** Fit for Aux 1/2 Pre-fade
- J5** Fit for Aux 1/2 Pre-EQ
- J6** Fit for Aux 3/4 Pre-fade
- J7** Fit for Aux 3/4 Pre-EQ
- LK1** Fit for insert Pre-EQ
- LK2** Fit for insert Post-EQ
- LK3** Fit for insert Post-EQ
- LK4** Fit for insert Pre-EQ
- LK5** Fit for insert Post-EQ
- LK6** Fit for insert Pre-EQ

---

**Dual Group/EQ Module**

PCB component layout CP2913

- J1** Fit J1 for A = Group 1
- J2** Fit J2 for B = Group 2
- J3** Fit J3 for A = Group 3
- J4** Fit J4 for B = Group 4
- J5** Fit J5 for A = Group 5
- J6** Fit J6 for B = Group 6
- J7** Fit J7 for A = Group 7
- J8** Fit J8 for B = Group 8
- J9** Assigns Post Fade A to Group 1 on Matrix
- J10** Assigns Post Fade B to Group 2 on Matrix
- J11** Assigns Post Fade A to Group 3 on Matrix
- J12** Assigns Post Fade B to Group 4 on Matrix
- J13** Assigns Post Fade A to Group 5 on Matrix
- J14** Assigns Post Fade B to Group 6 on Matrix
- J15** Assigns Post Fade A to Group 7 on Matrix
- J16** Assigns Post Fade B to Group 8 on Matrix
- J17** Selects between PEAK and AVERAGE meter response

---

**Dual Group/Stereo  
Return Module**

PCB Component layout CP2914

- J1** Fit J1 for A = Group 1
- J2** Fit J2 for B = Group 2
- J3** Fit J3 for A = Group 3
- J4** Fit J4 for B = Group 4
- J5** Fit J5 for A = Group 5
- J6** Fit J6 for B = Group 6
- J7** Fit J7 for A = Group 7
- J8** Fit J8 for B = Group 8
- J9** Fit J9 (10) when Inserts not fitted
- J10** Fit J9 (10) when Inserts not fitted
- J11** Assigns Post Fade A to Group 1 on Matrix

- 
- J12** Assigns Post Fade B to Group 2 on Matrix
  - J13** Assigns Post Fade A to Group 3 on Matrix
  - J14** Assigns Post Fade B to Group 4 on Matrix
  - J15** Assigns Post Fade A to Group 5 on Matrix
  - J16** Assigns Post Fade B to Group 6 on Matrix
  - J17** Assigns Post Fade A to Group 7 on Matrix
  - J18** Assigns Post Fade B to Group 8 on Matrix
  - J19** Fit J19 to select AUX1 to POST FADE
  - J20** Fit J20 to select AUX1 to PRE FADE
  - J21** Fit J21 to select AUX2 to POST FADE
  - J22** Fit J22 to select AUX2 to PRE FADE
  - J23** Selects between PEAK and AVERAGE meter response

Internal switch **S13** in the centre of the PCB selects to which Group Insert jacks a module is connected. It should be set OUT for Groups 1&2 or 5&6 and set IN for Groups 3&4 or 7&8.

---

### **Dual Matrix Module**

PCB Component layout CP2916

No internal jumpers.

---

### **Left Hand Master**

PCB Component layout CP2779

- J1** Selects between PEAK and AVERAGE meter response
- J2** Fit J2 when Group 7/8 are not fitted
- J3** Fit J3 when Group 7/8 are not fitted
- J4** Fit J4 when Group 5/6 are not fitted
- J5** Fit J5 when Group 5/6 are not fitted
- J6** Fit J6 when Group 3/4 are not fitted
- J7** Fit J7 when Group 3/4 are not fitted
- J8** Fit J8 when Group 1/2 are not fitted
- J9** Fit J9 when Group 1/2 are not fitted

---

### **Right Hand Master**

PCB Component layout CP2919

- J1** Fit J1 when Mono Fader option not fitted
- J2** Selects between PEAK and AVERAGE meter response

---

**VU Overbridge VU Driver** PCB Component layout CP2963  
J1 Fit when metering unbalanced signal

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**VU Overbridge LED Driver** PCB Component layout CP3095  
J1 Selects between peak and average meter response

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**LED Overbridge VU Driver** PCB Component layout CP3124  
No selectable jumpers

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**Littlite PCB** PCB Component layout CP3009  
No selectable jumpers



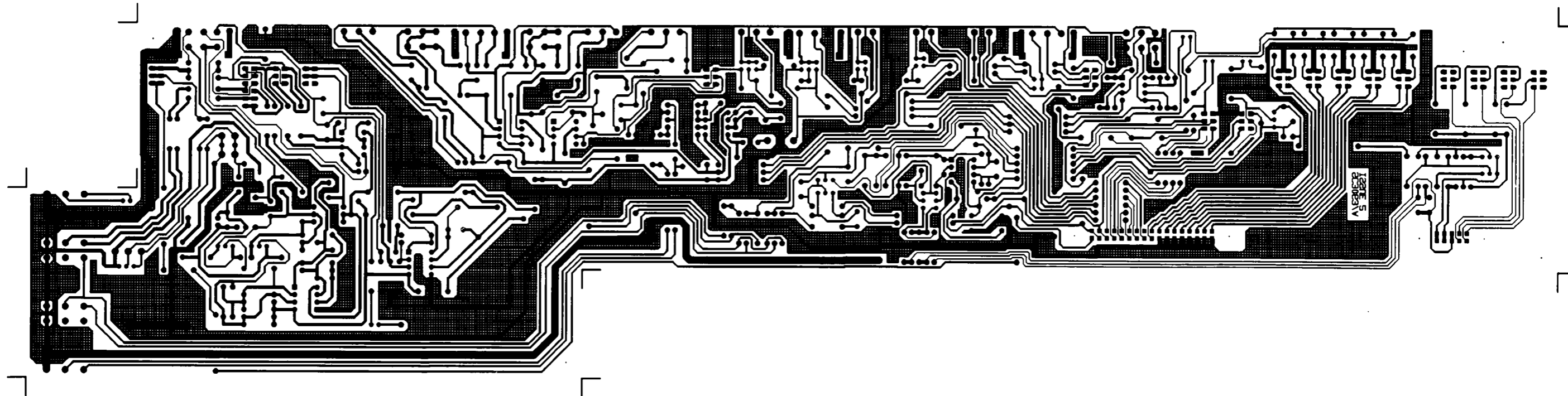
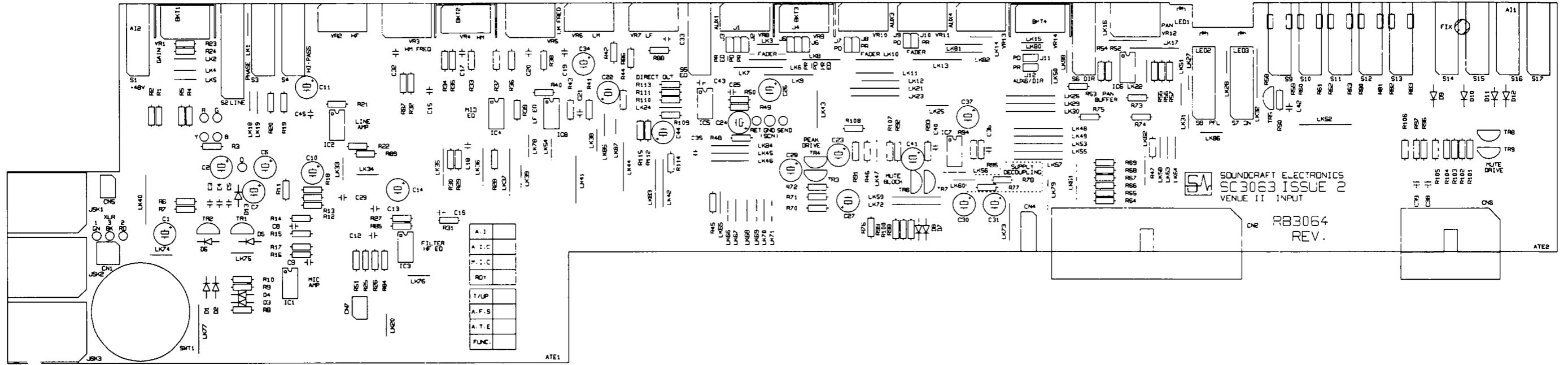


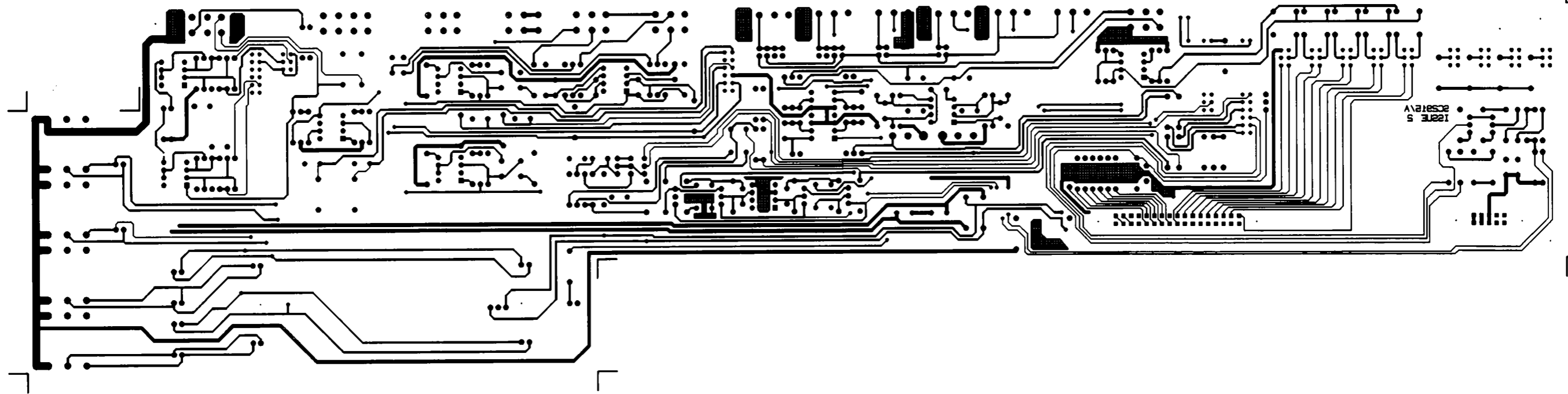
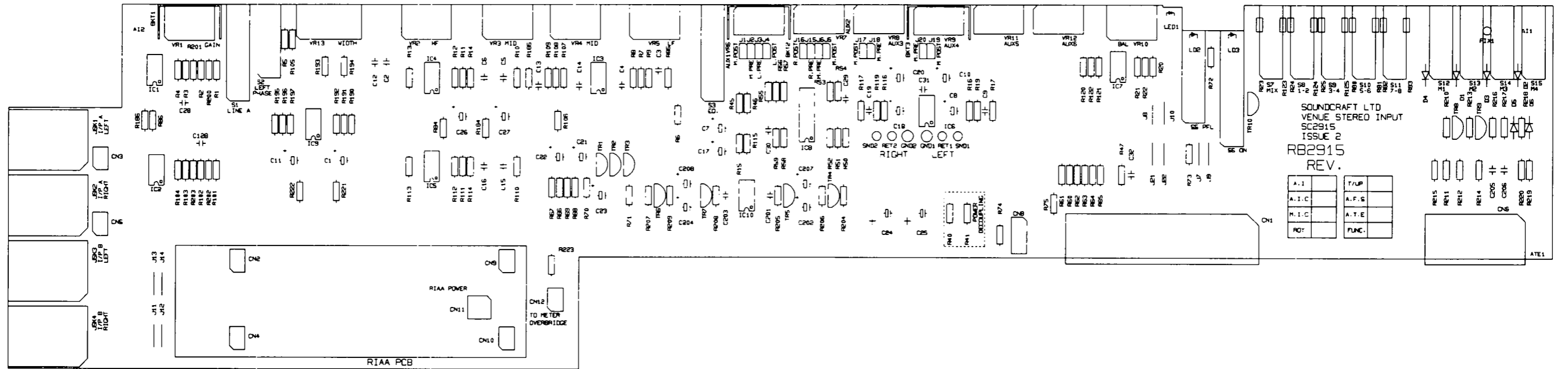
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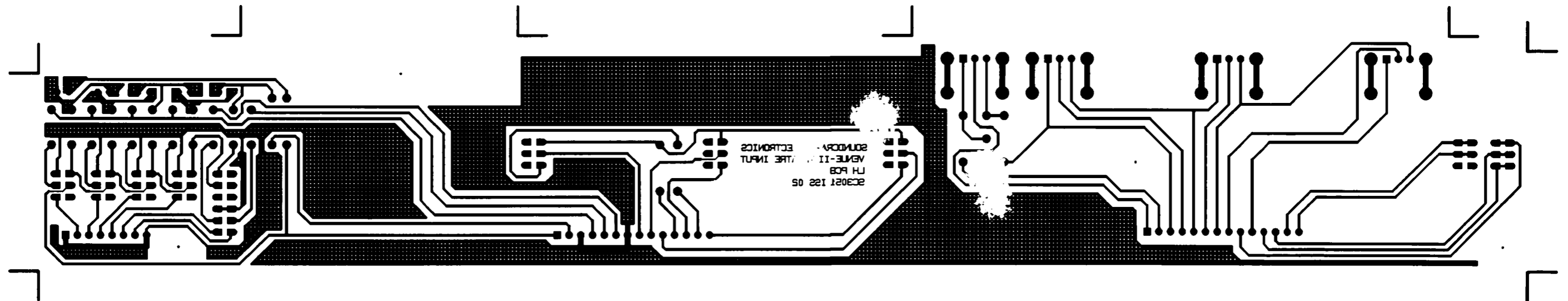
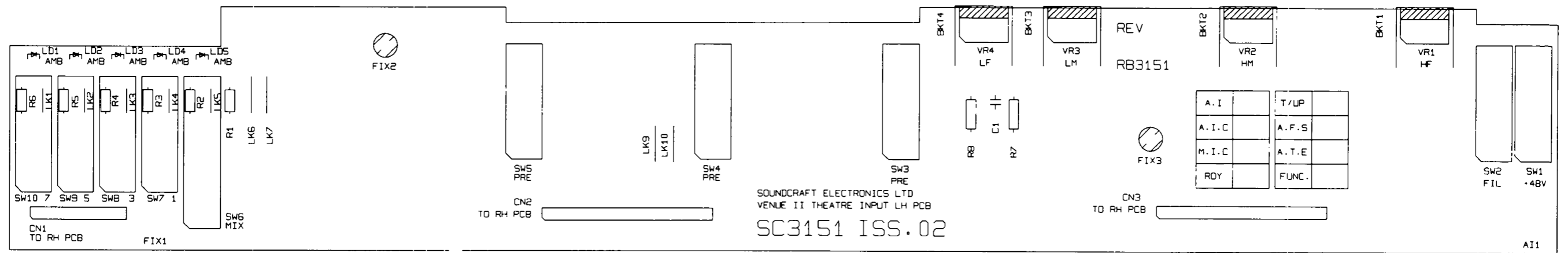
## 9. PCB Layouts

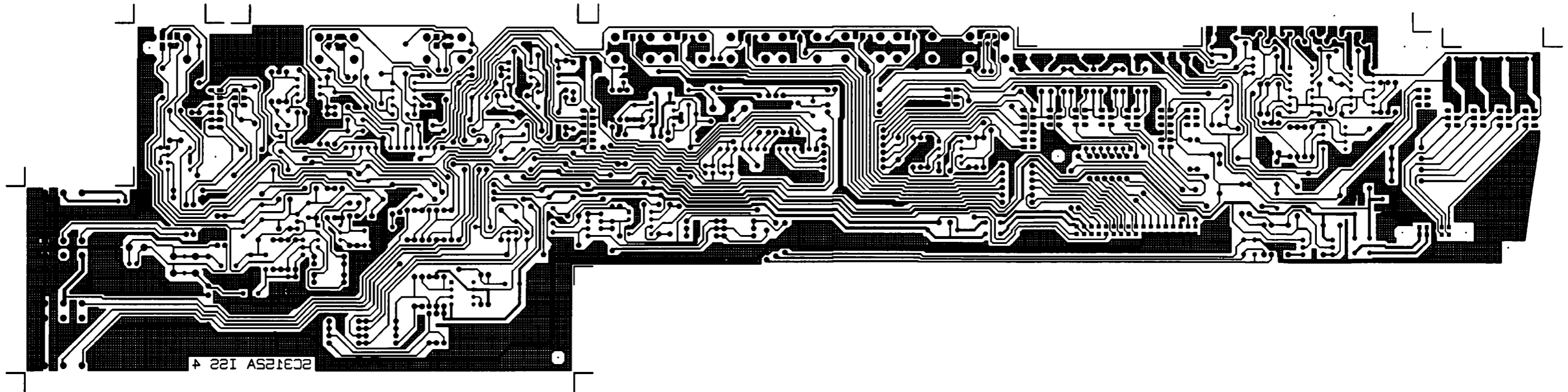
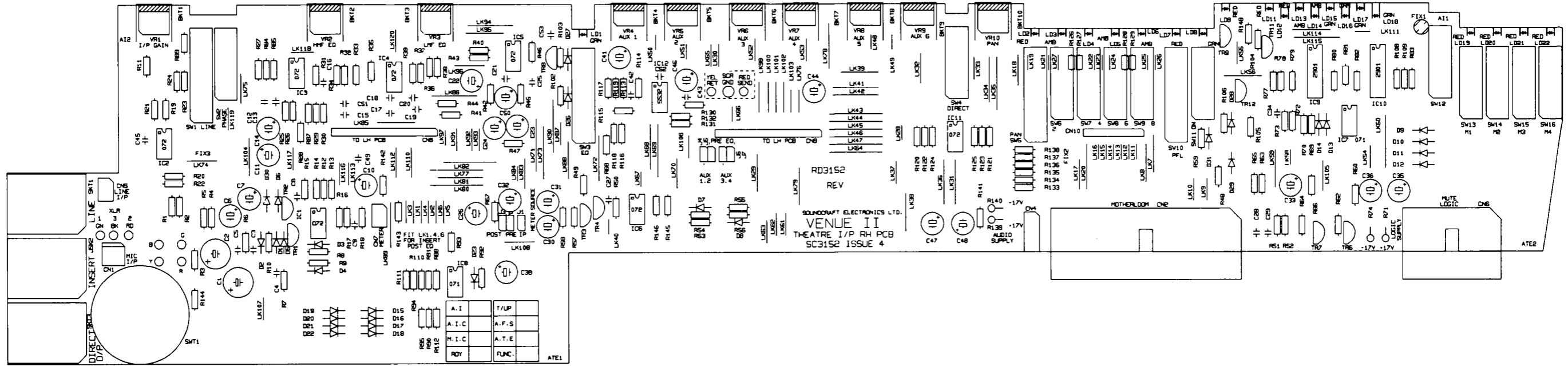
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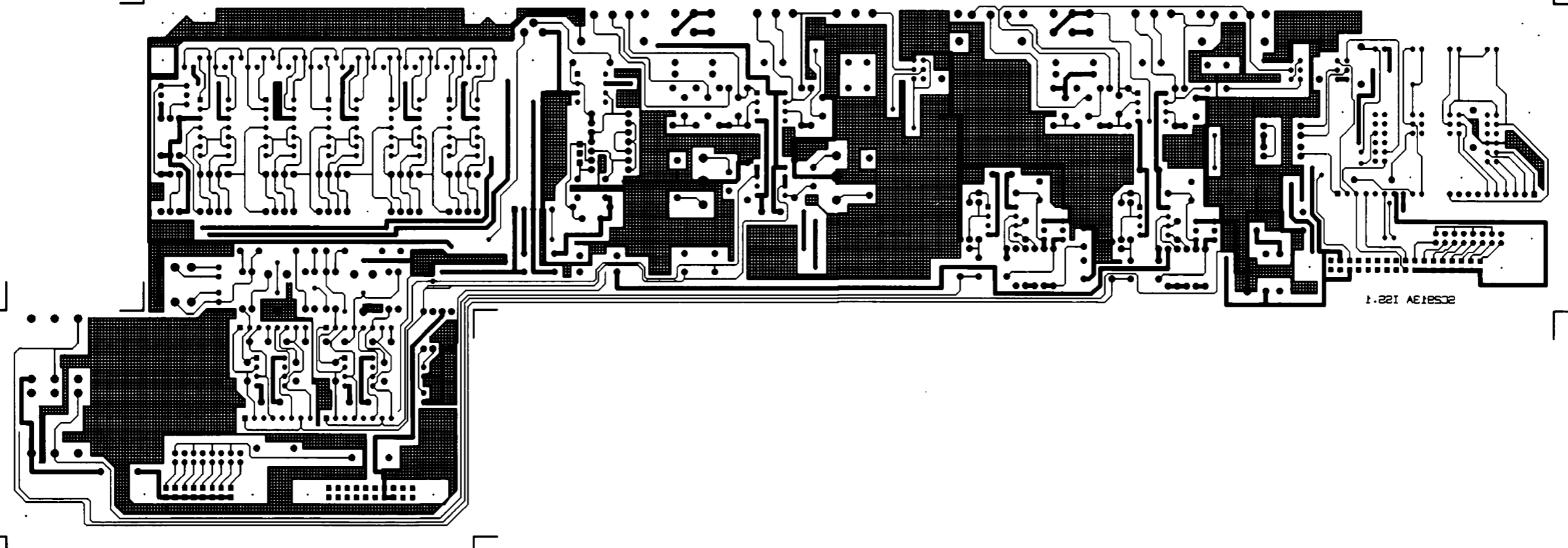
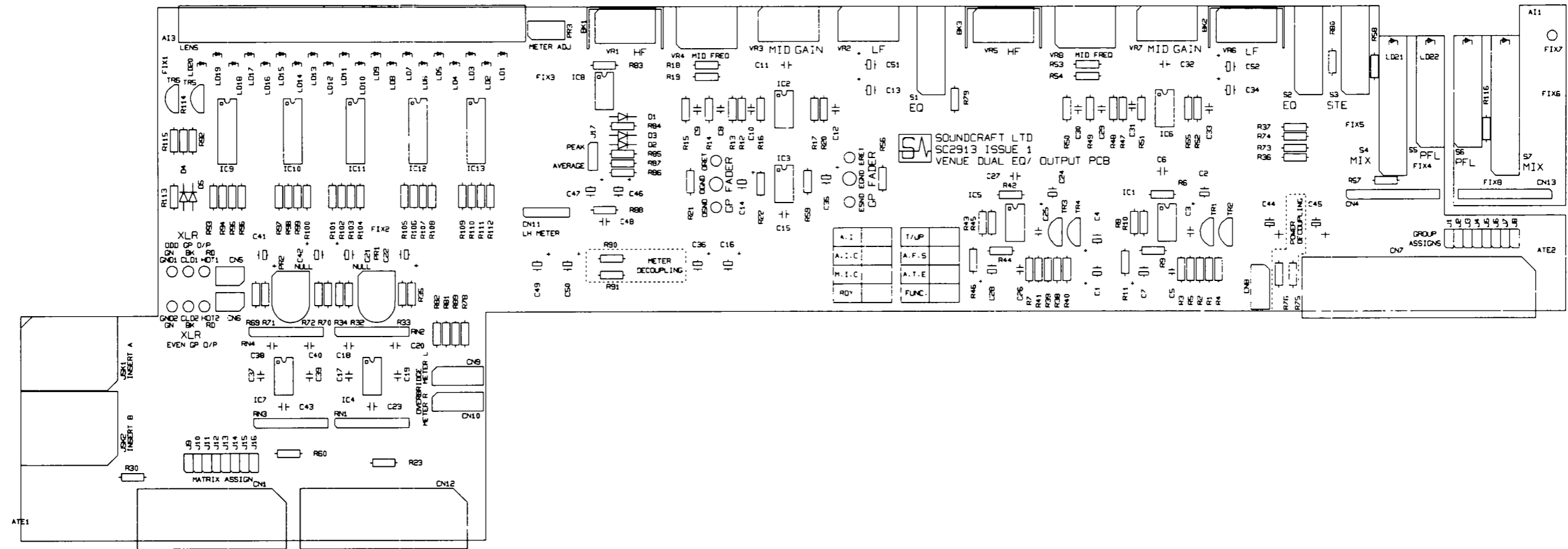
<i>Mono Input Module</i>	<i>SC3063</i>	<i>9.2</i>
<i>Stereo Input Module</i>	<i>SC2915</i>	<i>9.3</i>
<i>Theatre Input Module LH</i>	<i>SC3151</i>	<i>9.4</i>
<i>Theatre Input Module RH</i>	<i>SC3152</i>	<i>9.5</i>
<i>Dual Group/EQ Module</i>	<i>SC2913</i>	<i>9.6</i>
<i>Dual Group/Stereo Return Module</i>	<i>SC2914</i>	<i>9.7</i>
<i>Dual Matrix</i>	<i>SC2916</i>	<i>9.8</i>
<i>Meter/Switch PCB</i>	<i>SC2917</i>	<i>9.9</i>
<i>Group Insert PCB</i>	<i>SC2918</i>	<i>9.10</i>
<i>Master Module - RH PCB</i>	<i>SC2919</i>	<i>9.11</i>
<i>Master Module - LH PCB</i>	<i>SC3064</i>	<i>9.12</i>
<i>Master Rear Connector PCB</i>	<i>SC2835</i>	<i>9.13</i>
<i>VU Driver</i>	<i>SC2963</i>	<i>9.14</i>
<i>LED Meter</i>	<i>SC3095</i>	<i>9.15</i>
<i>VU Driver</i>	<i>SC3124</i>	<i>9.16</i>
<i>Littlite PCB</i>	<i>SC3009</i>	<i>9.17</i>



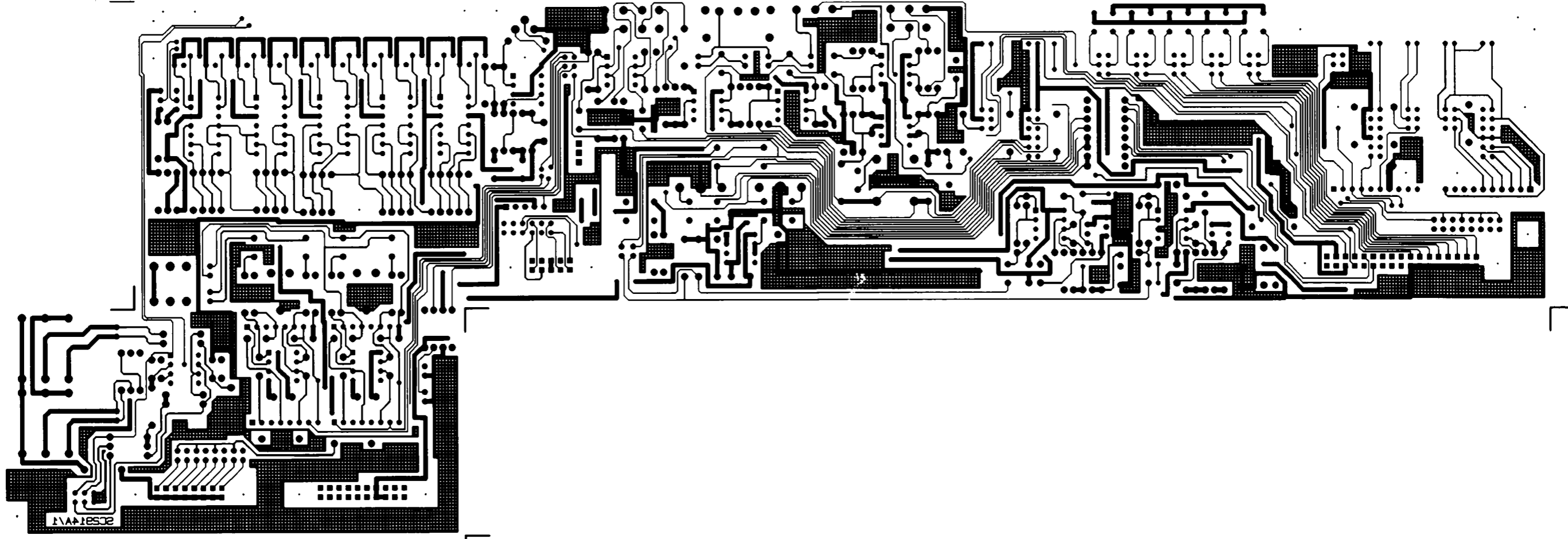
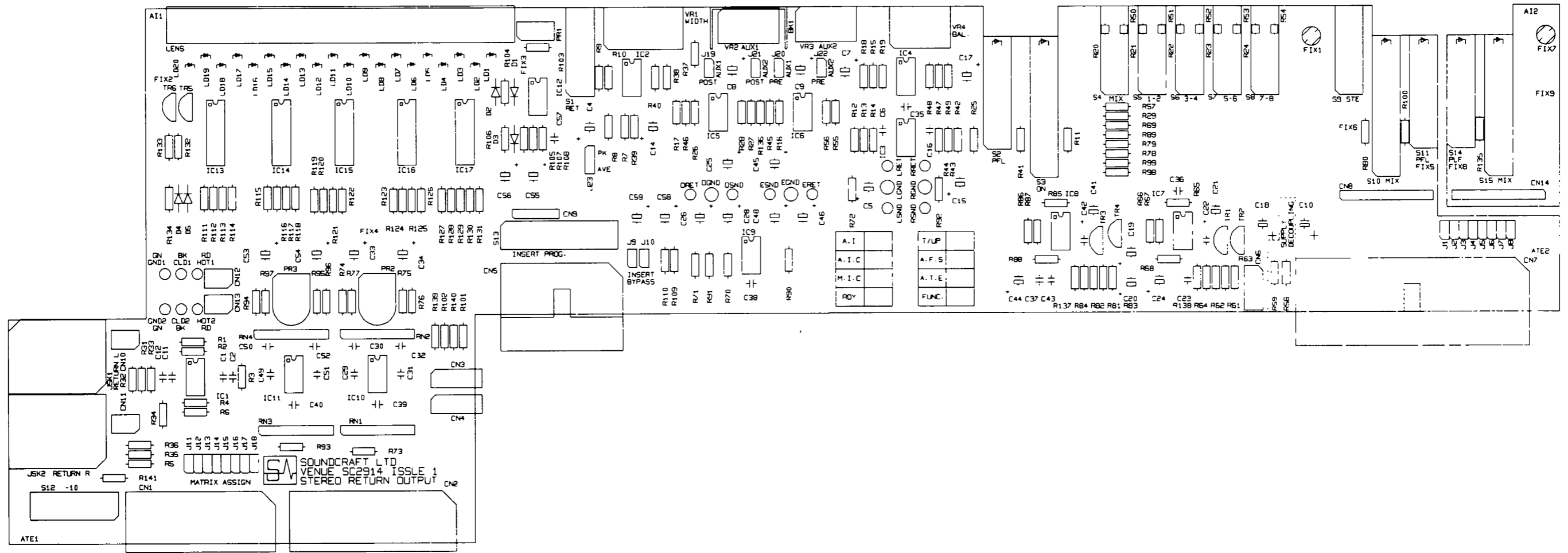


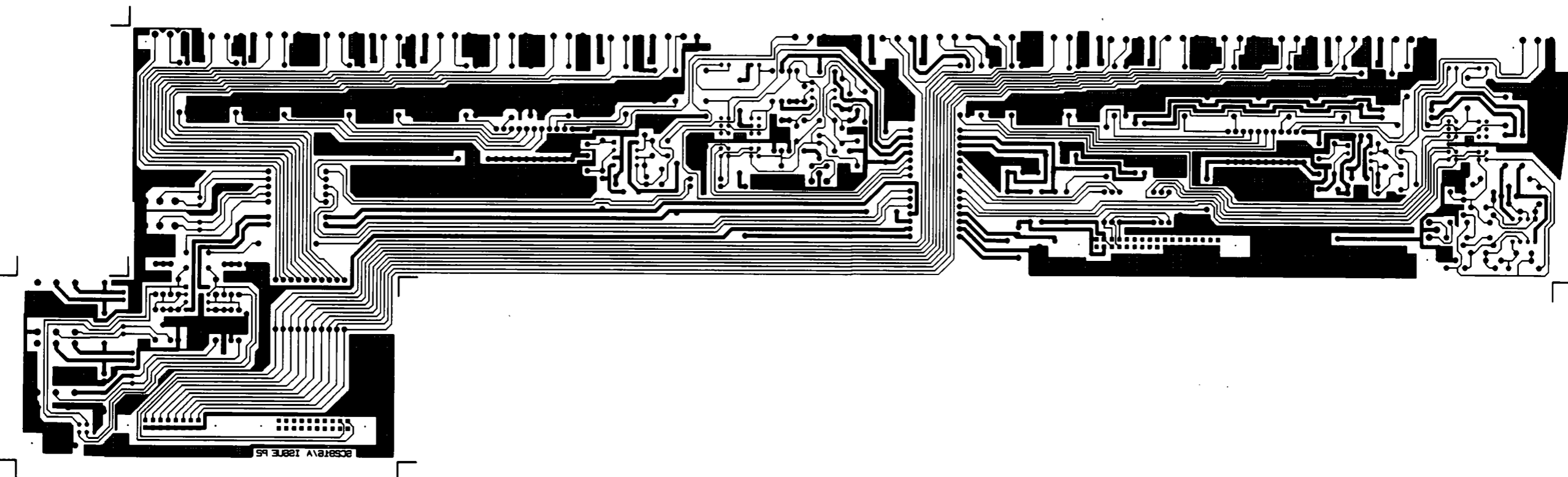
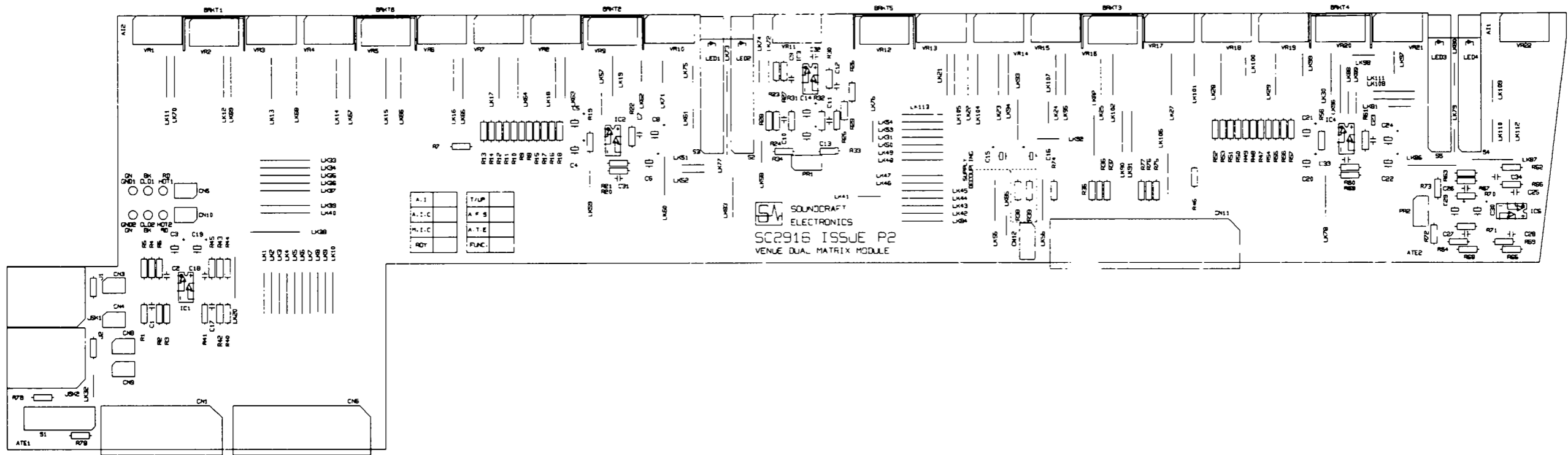




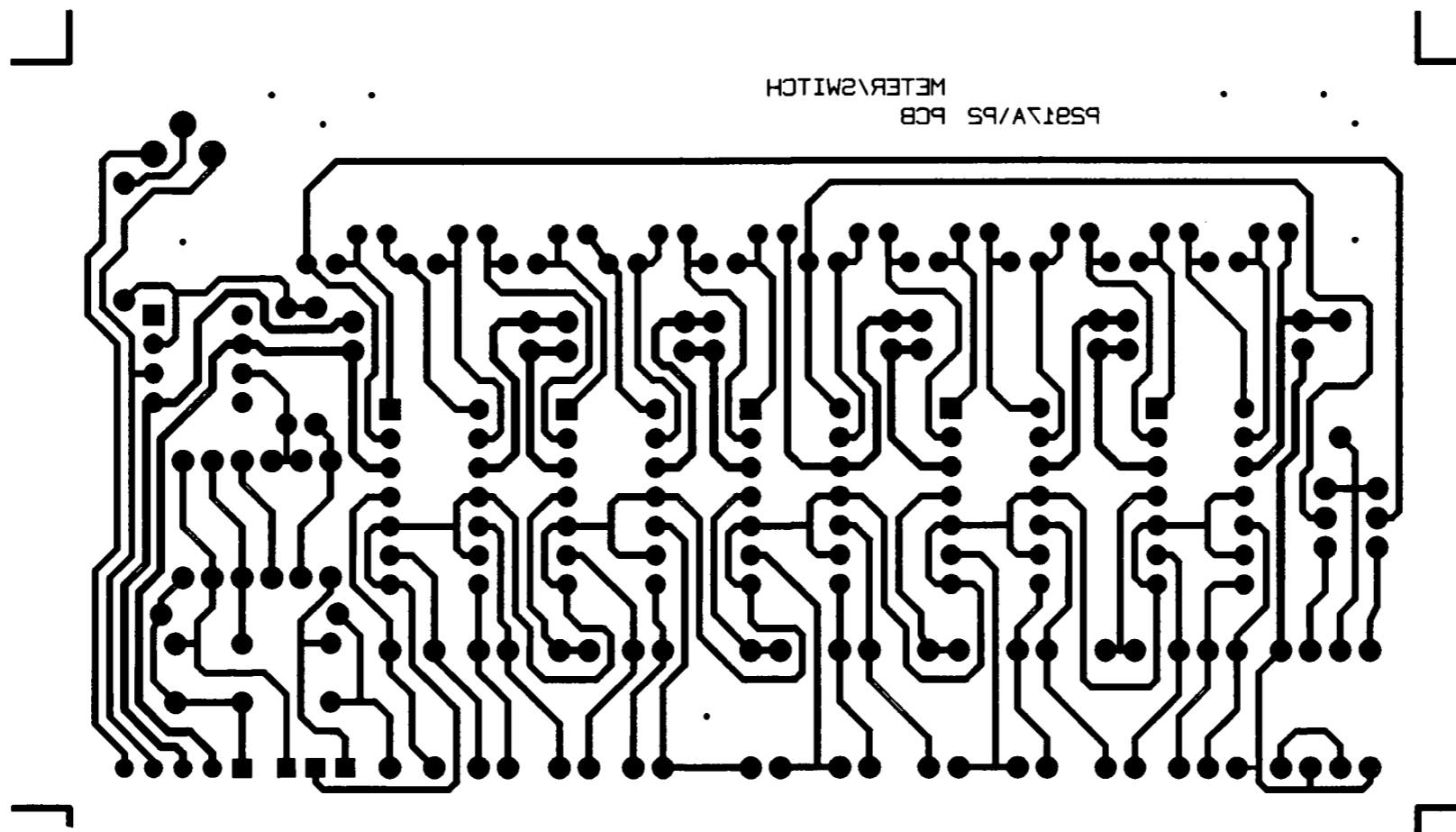
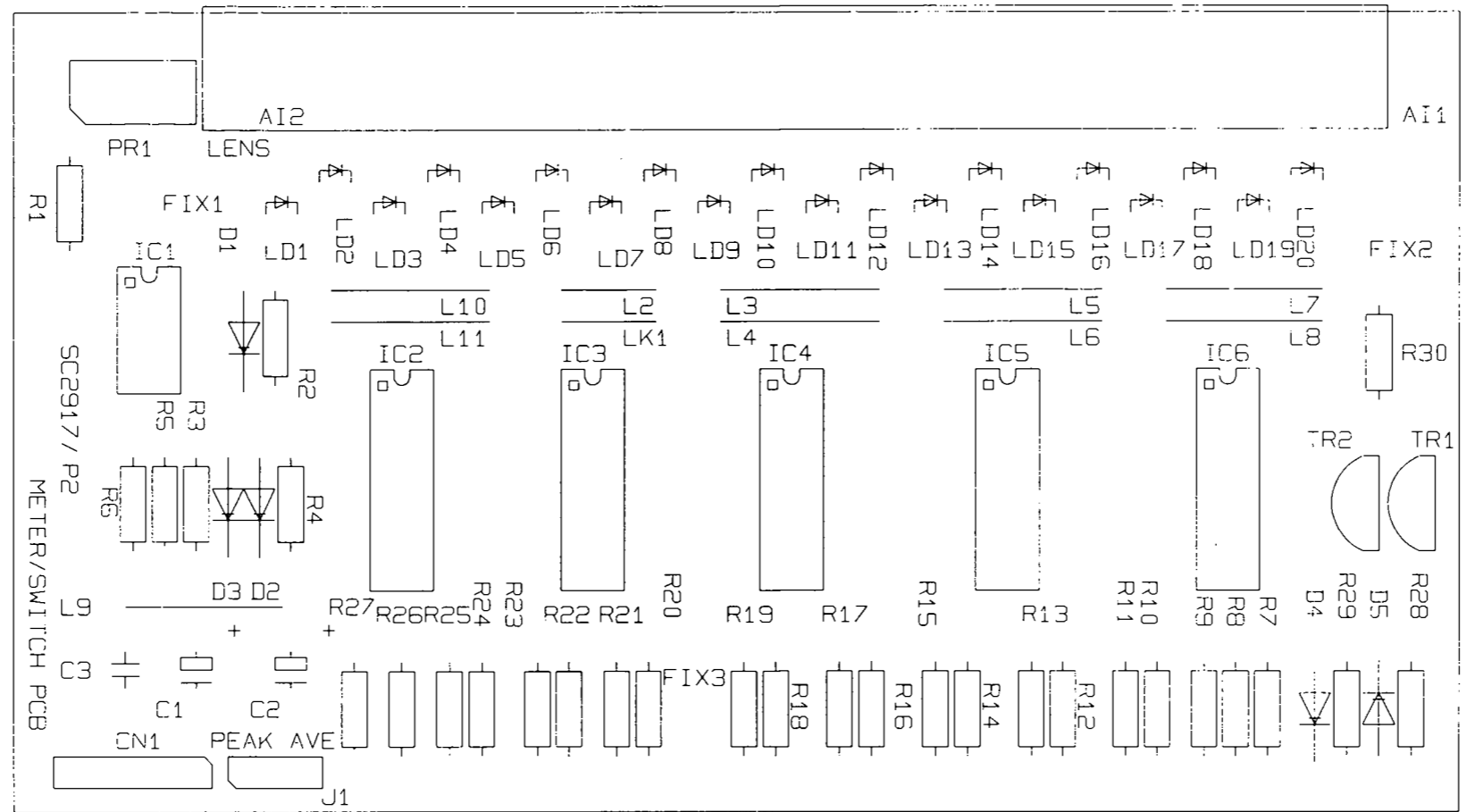


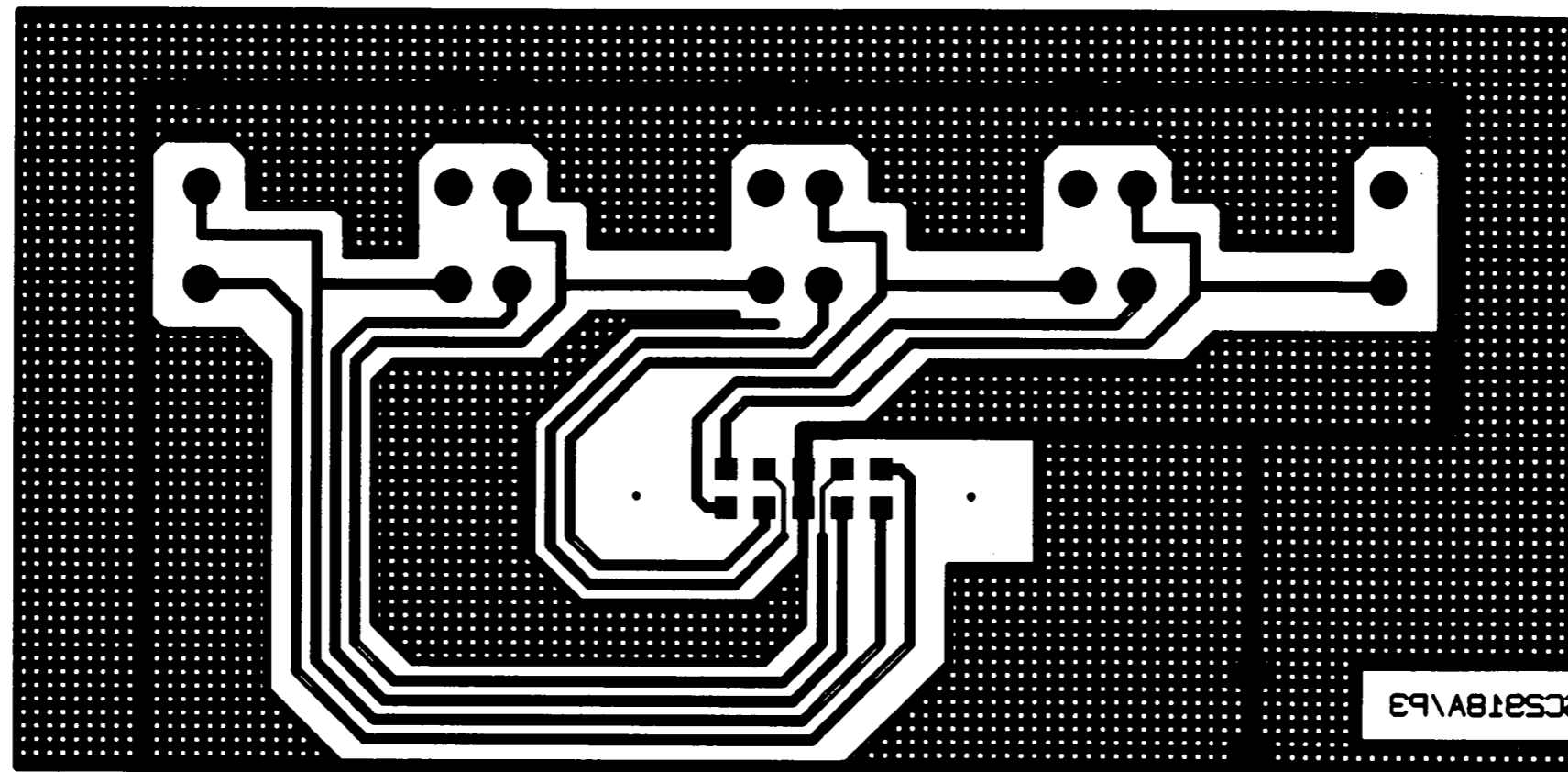
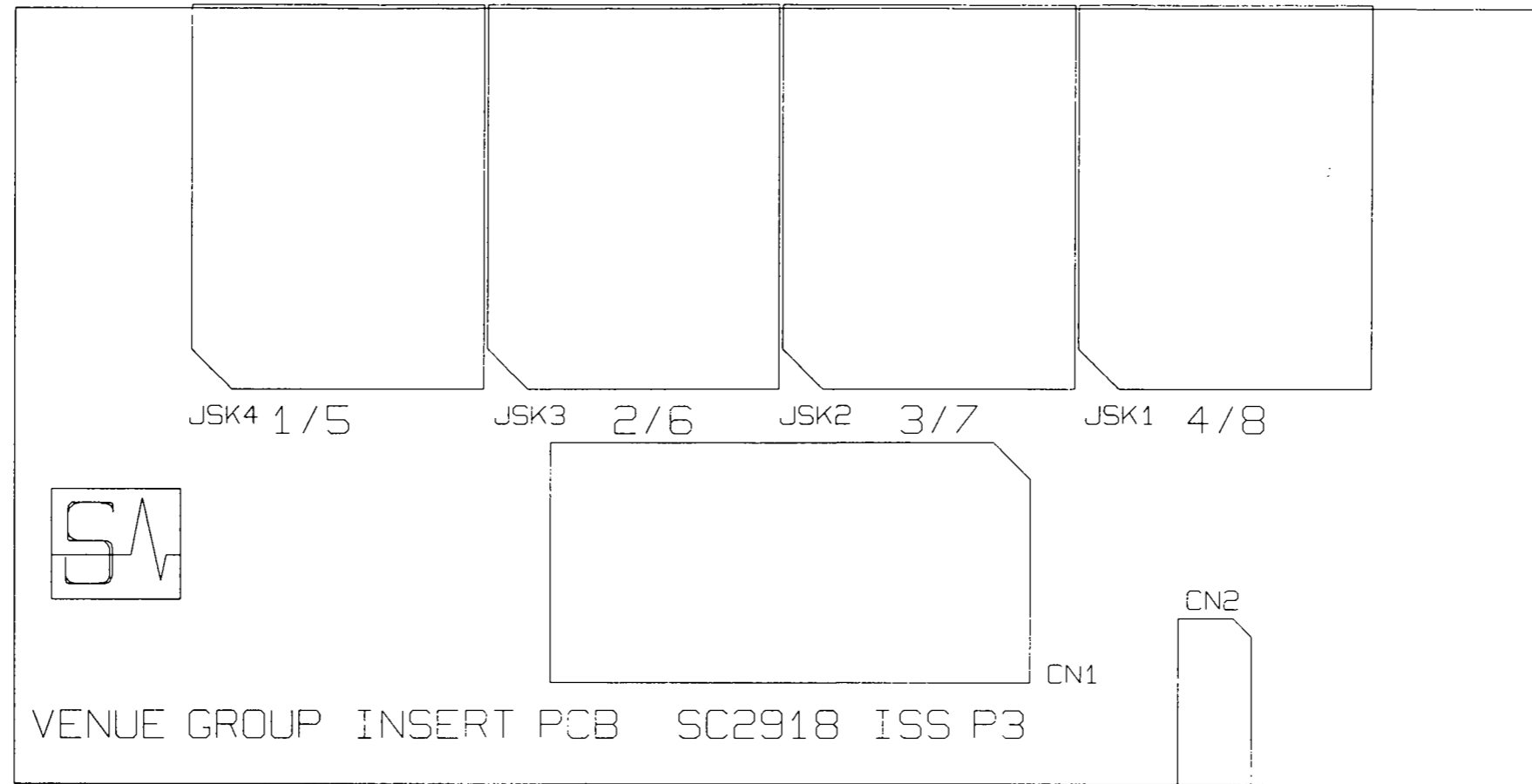
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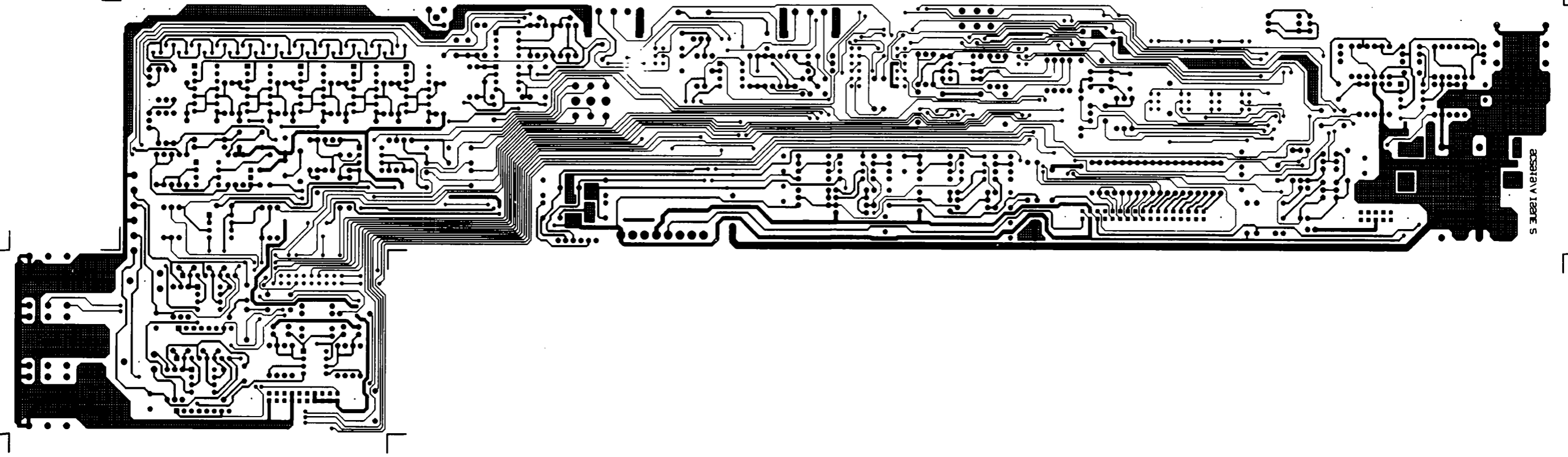
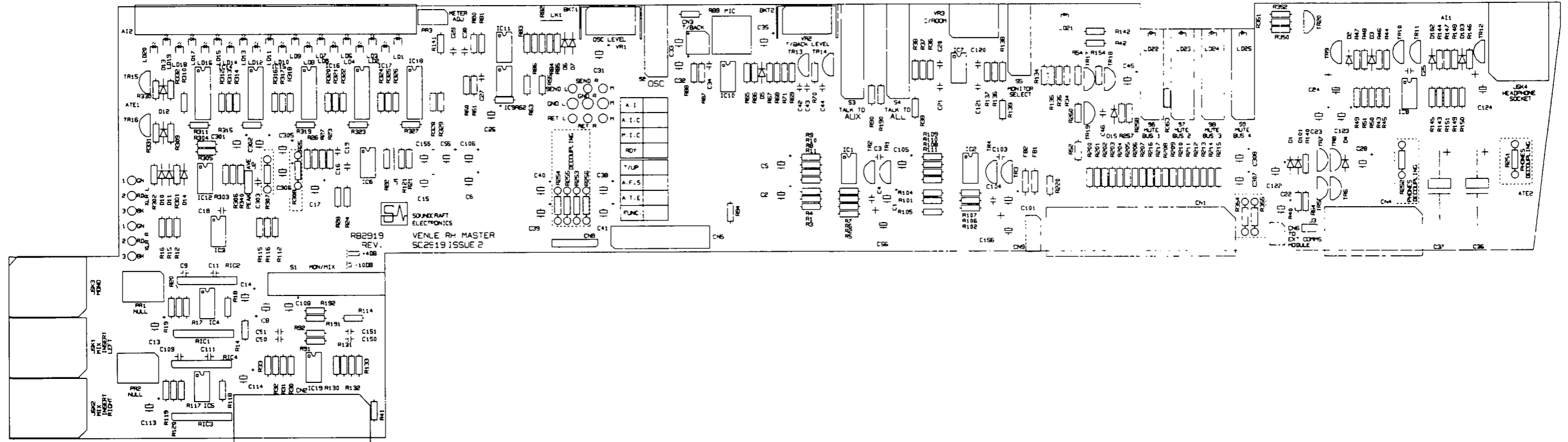


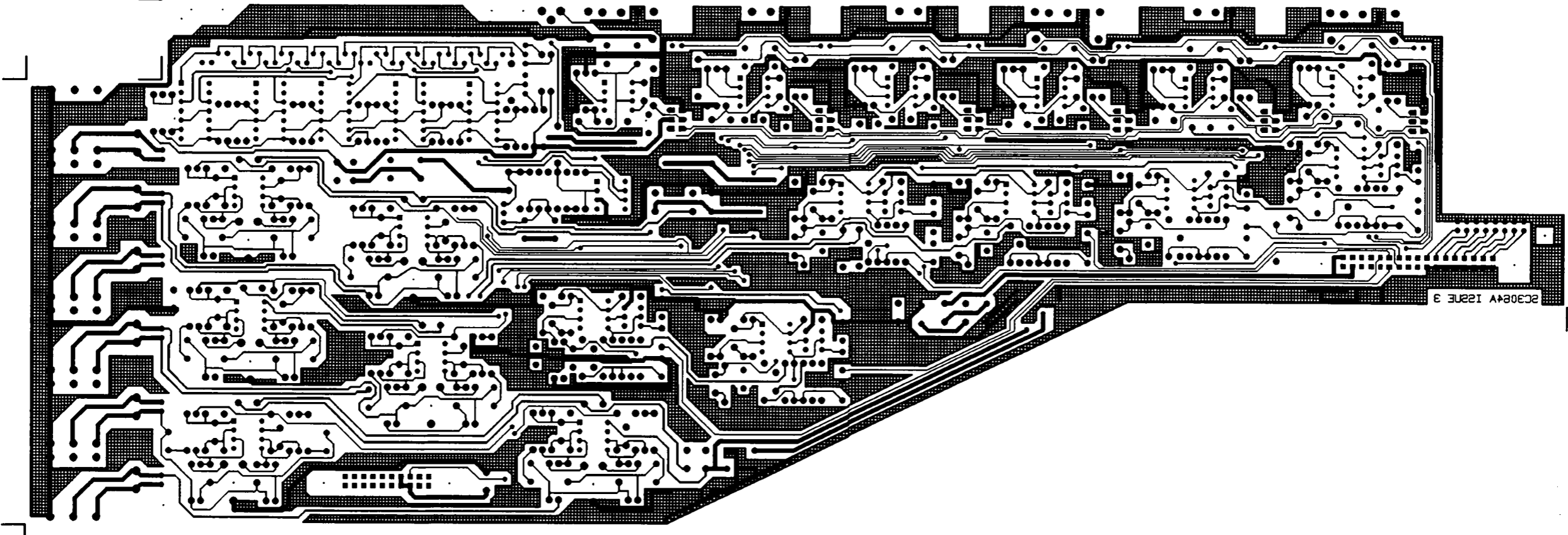
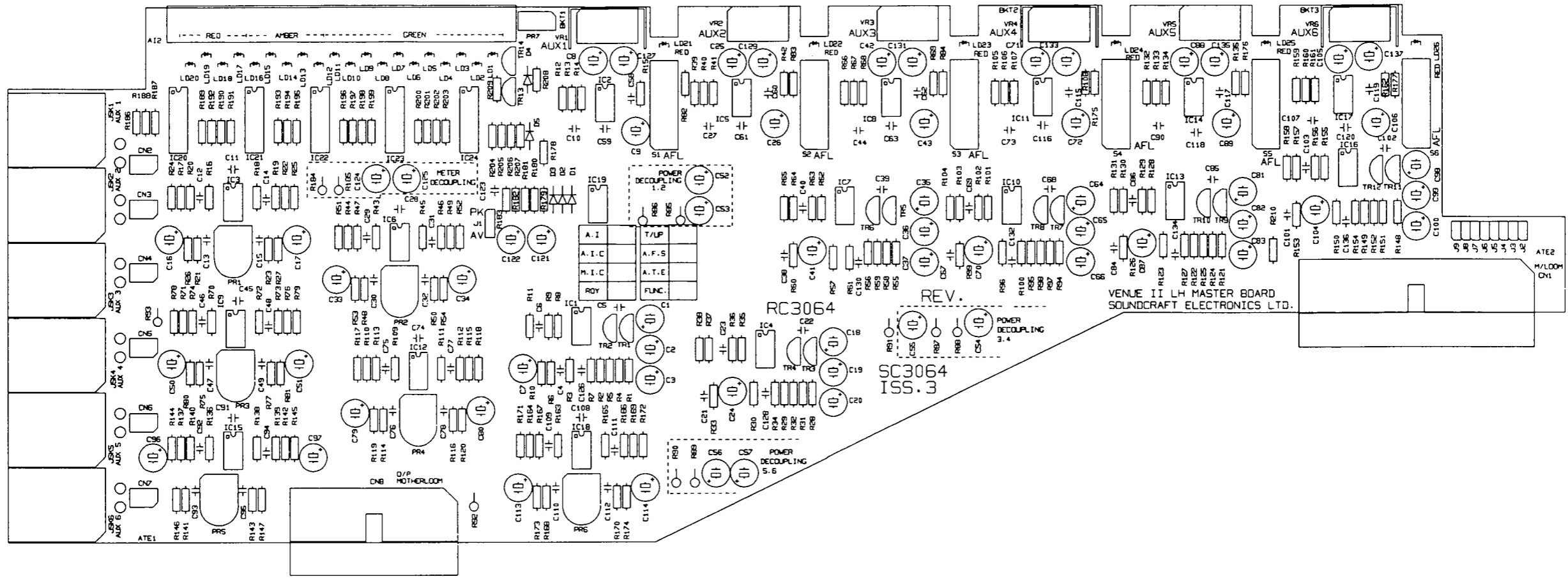


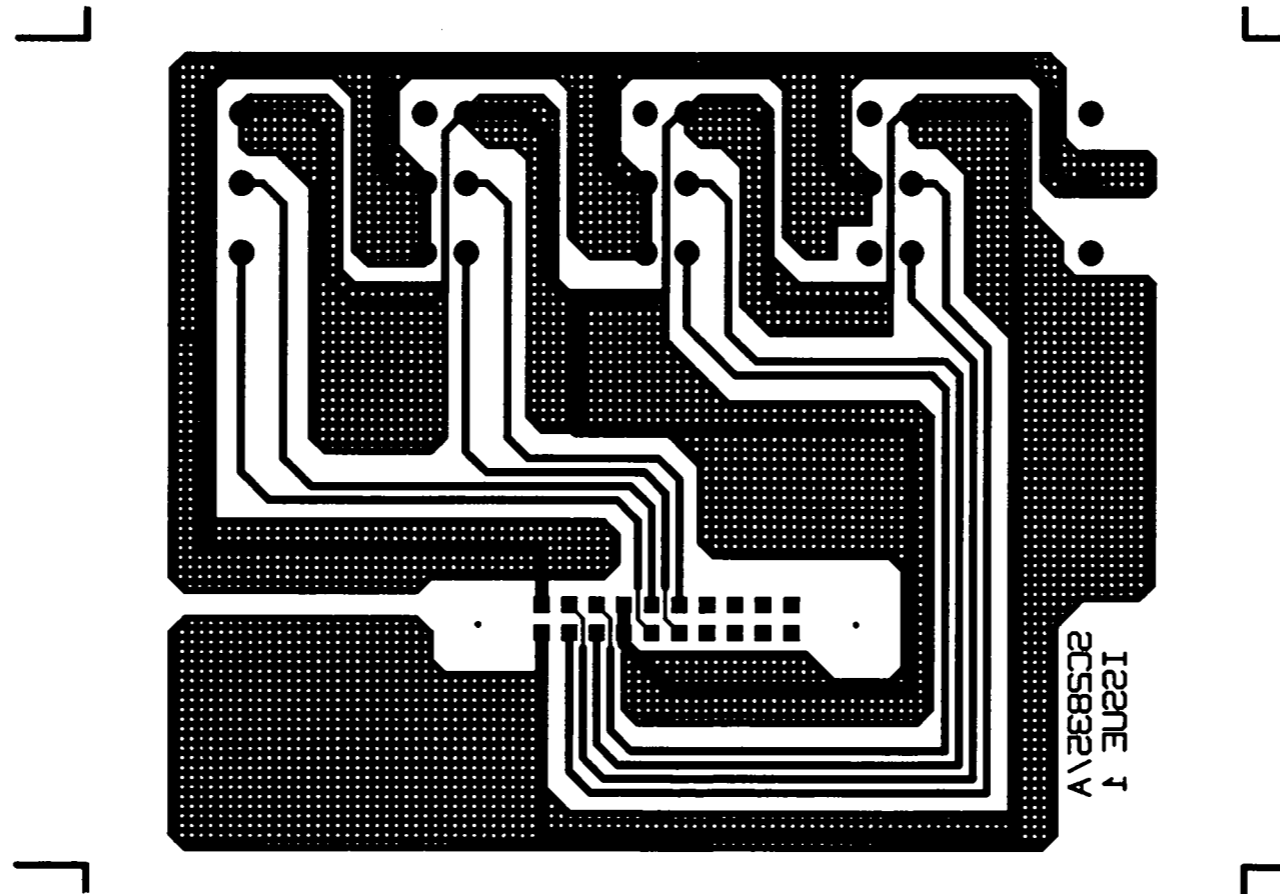
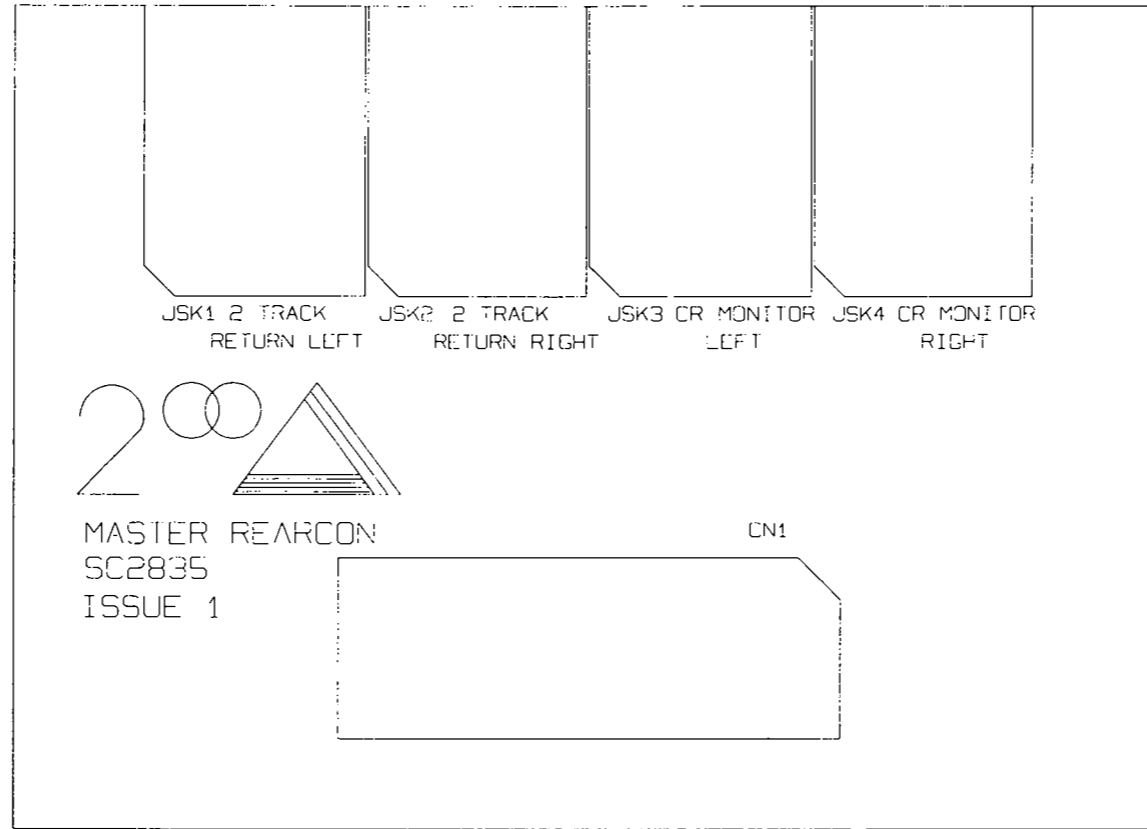


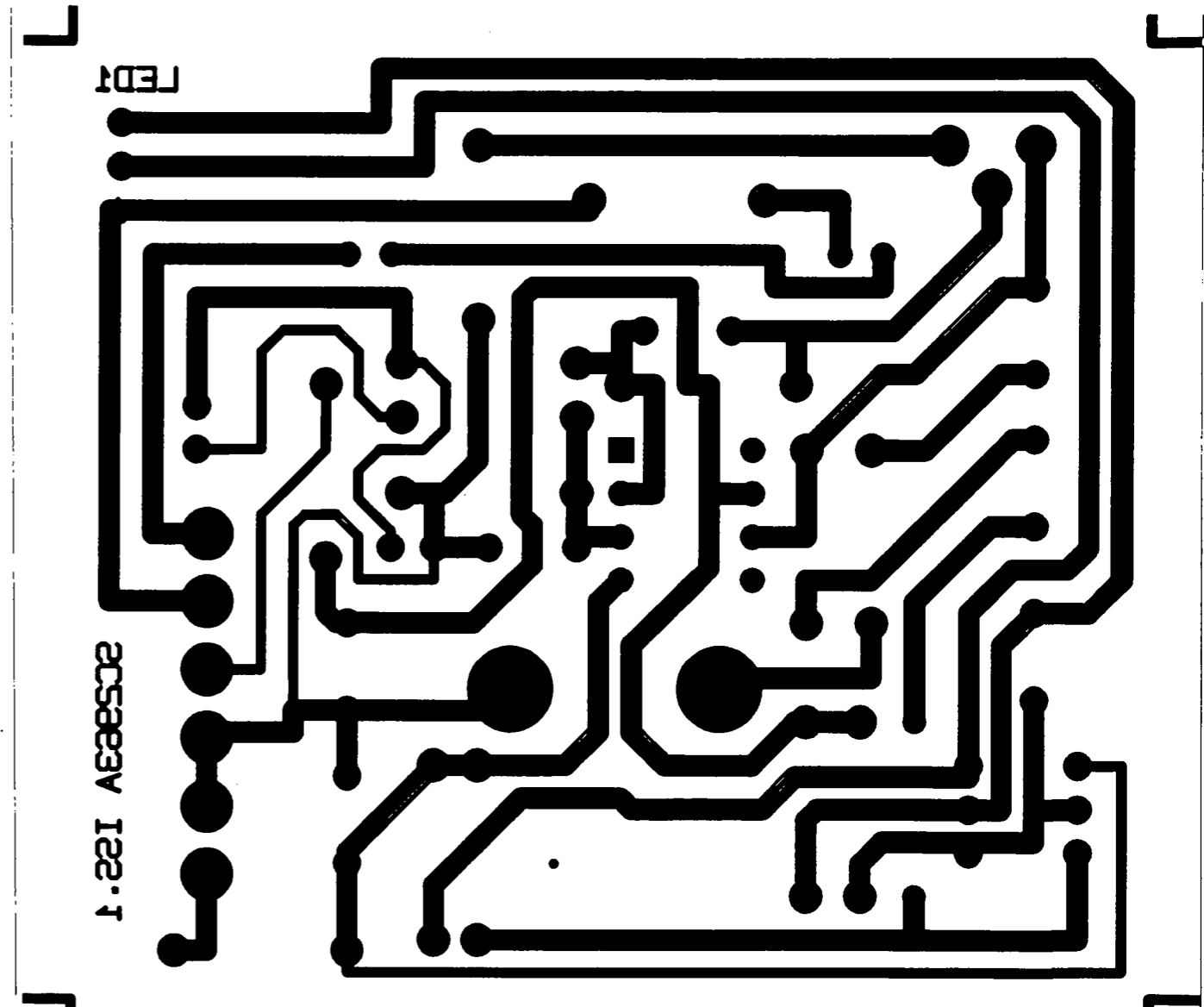
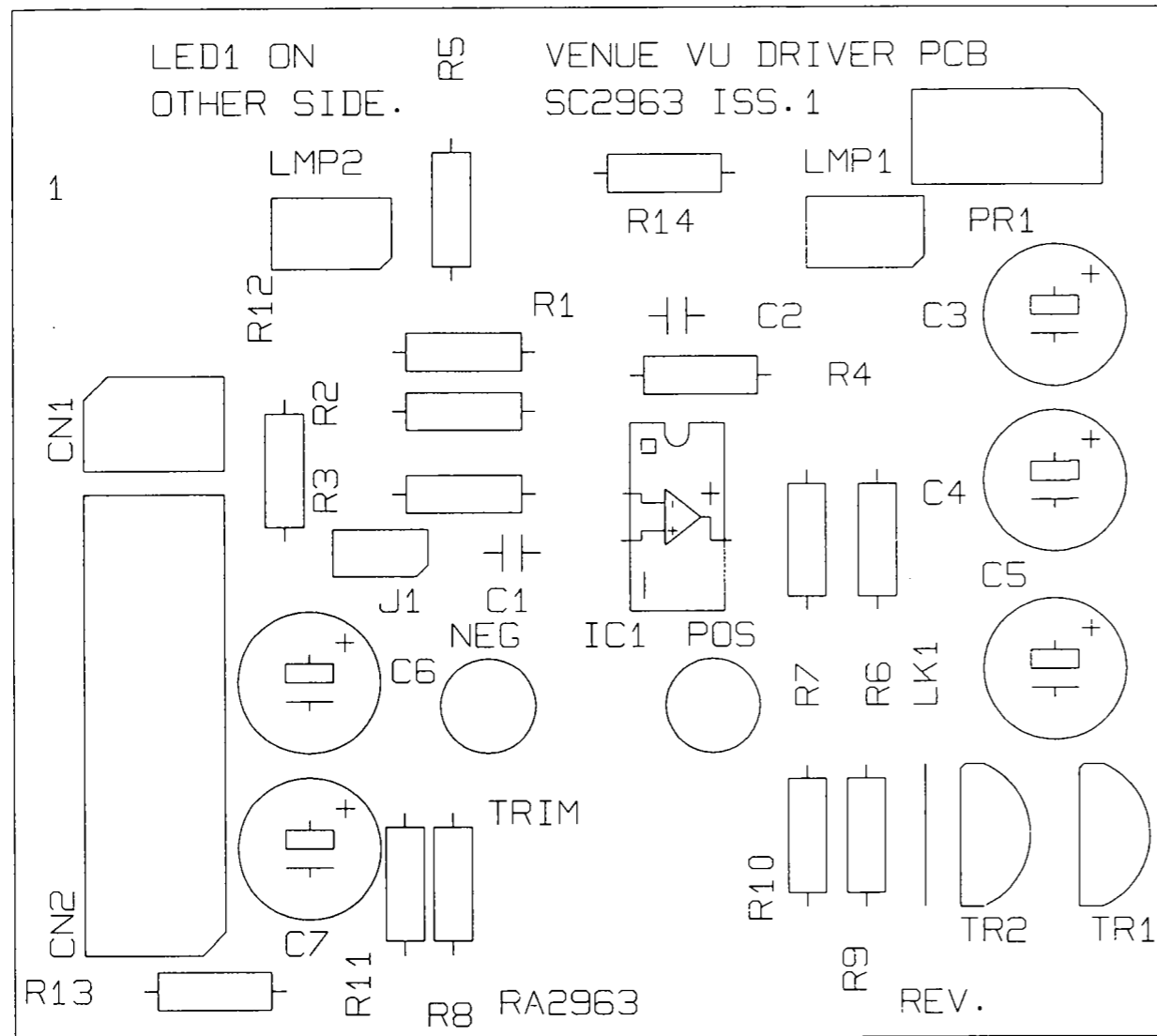


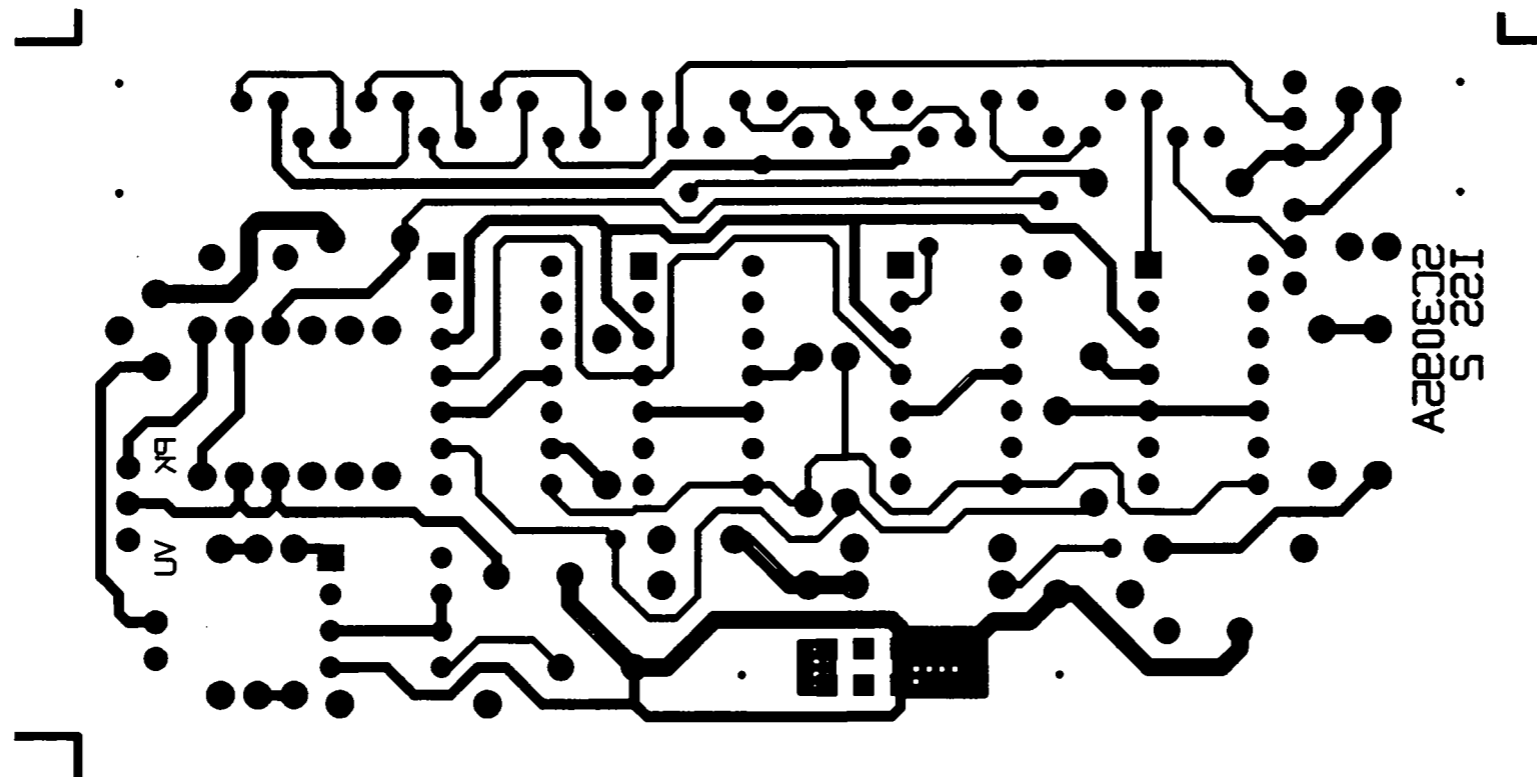
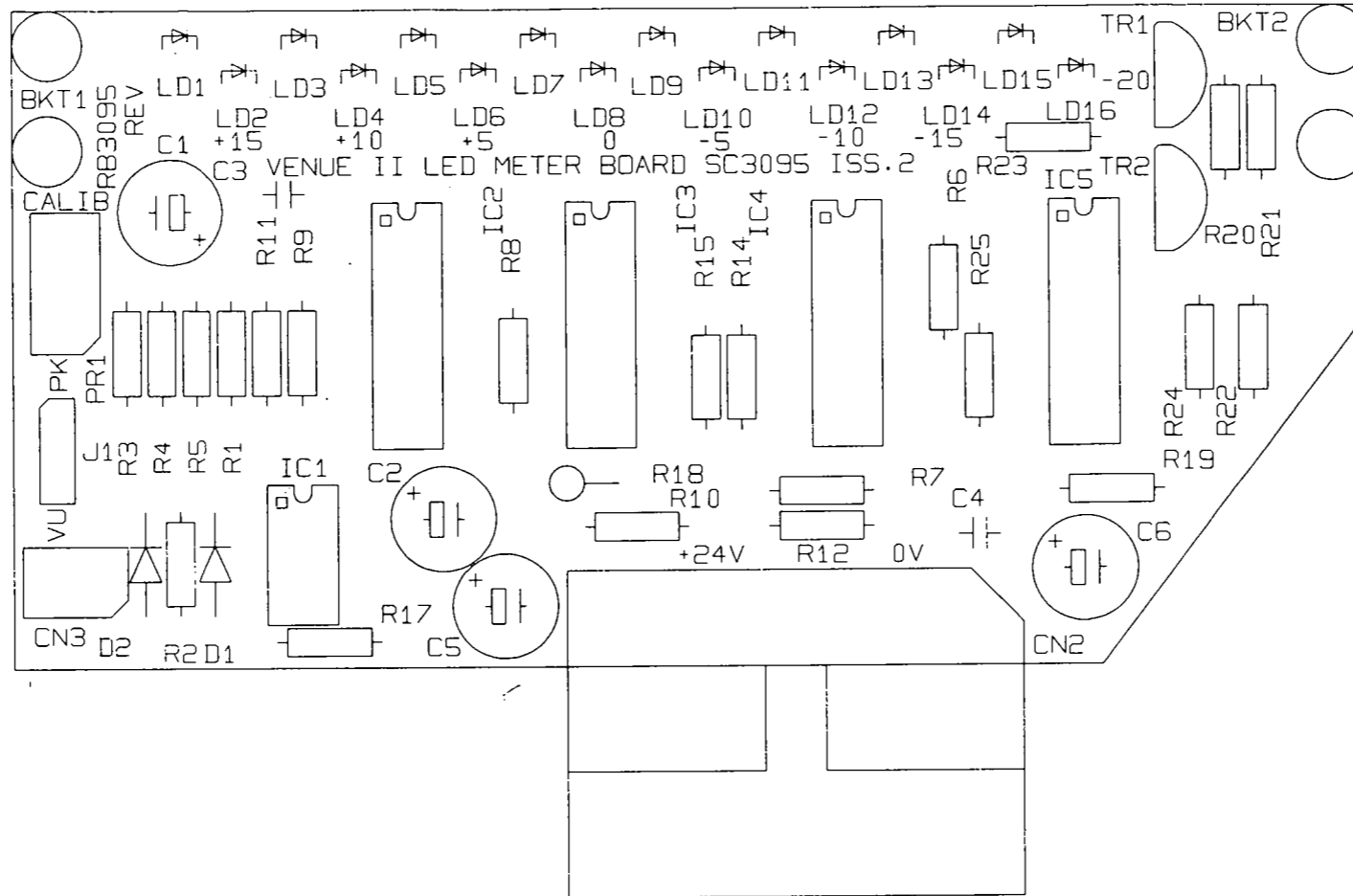


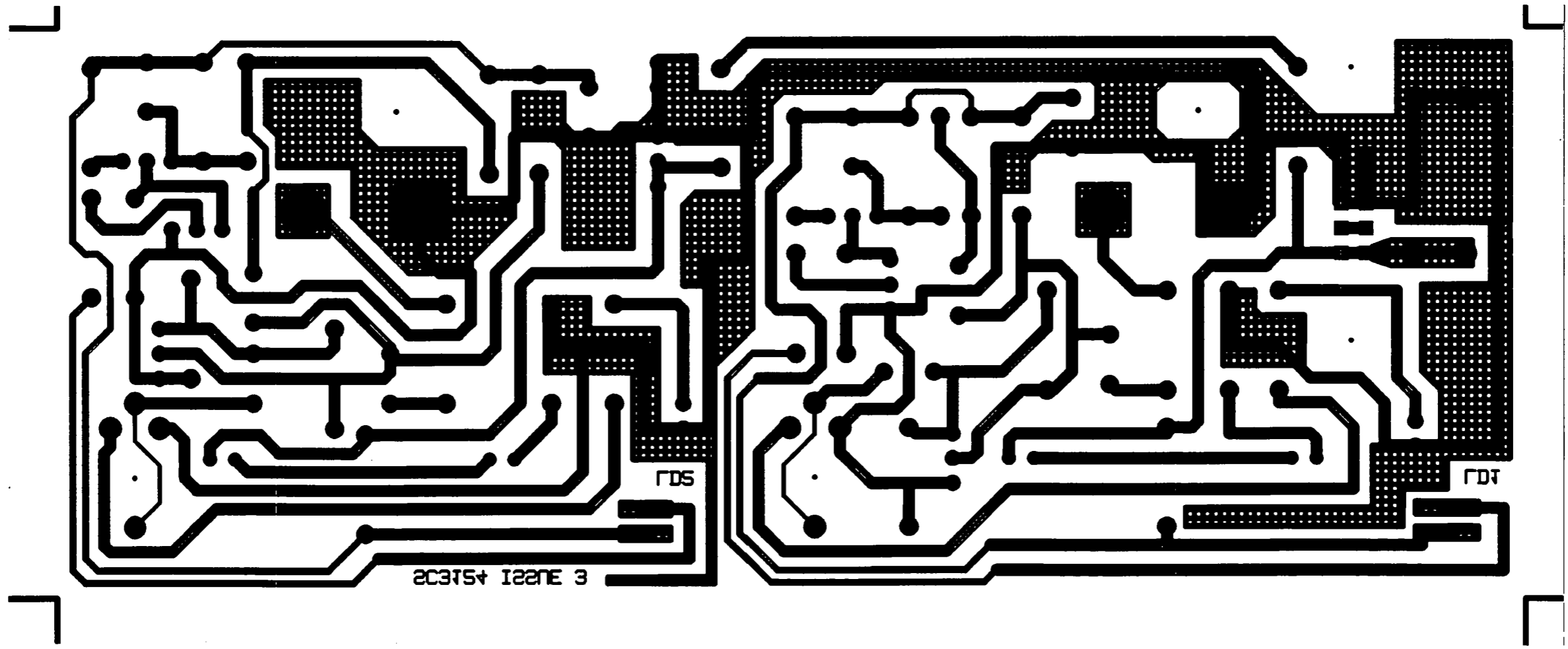
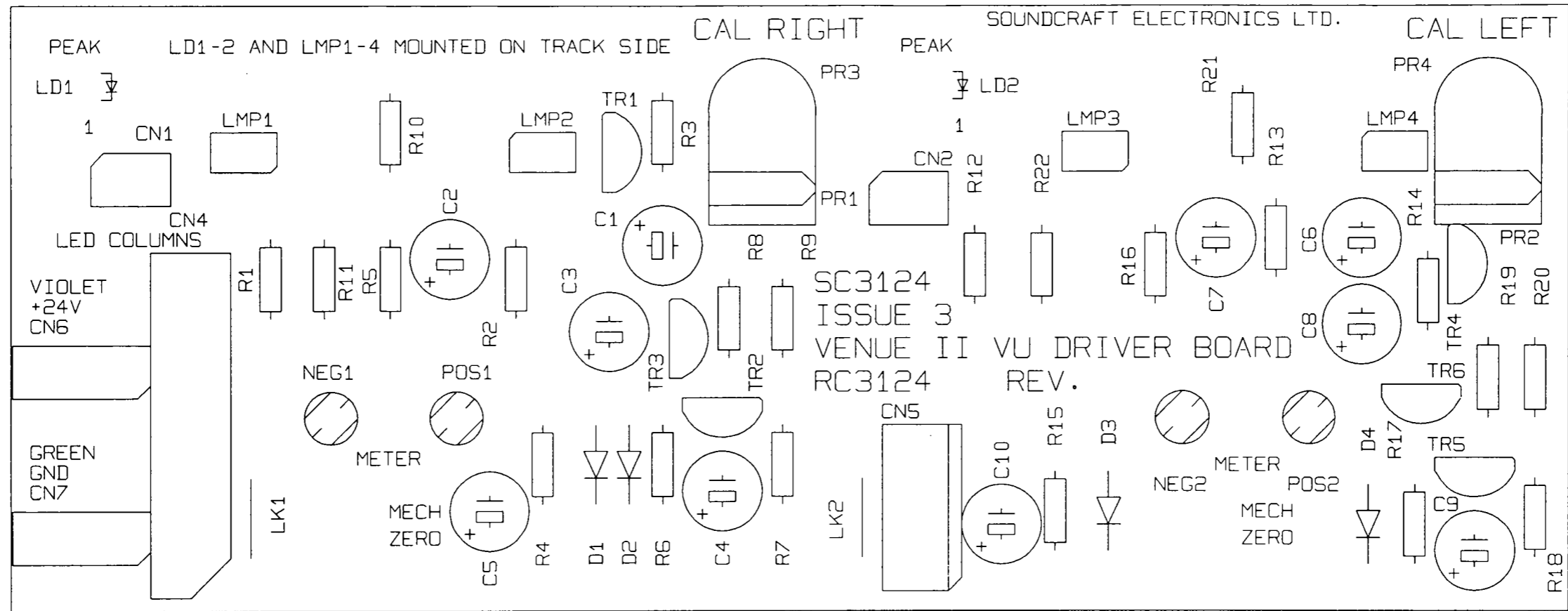




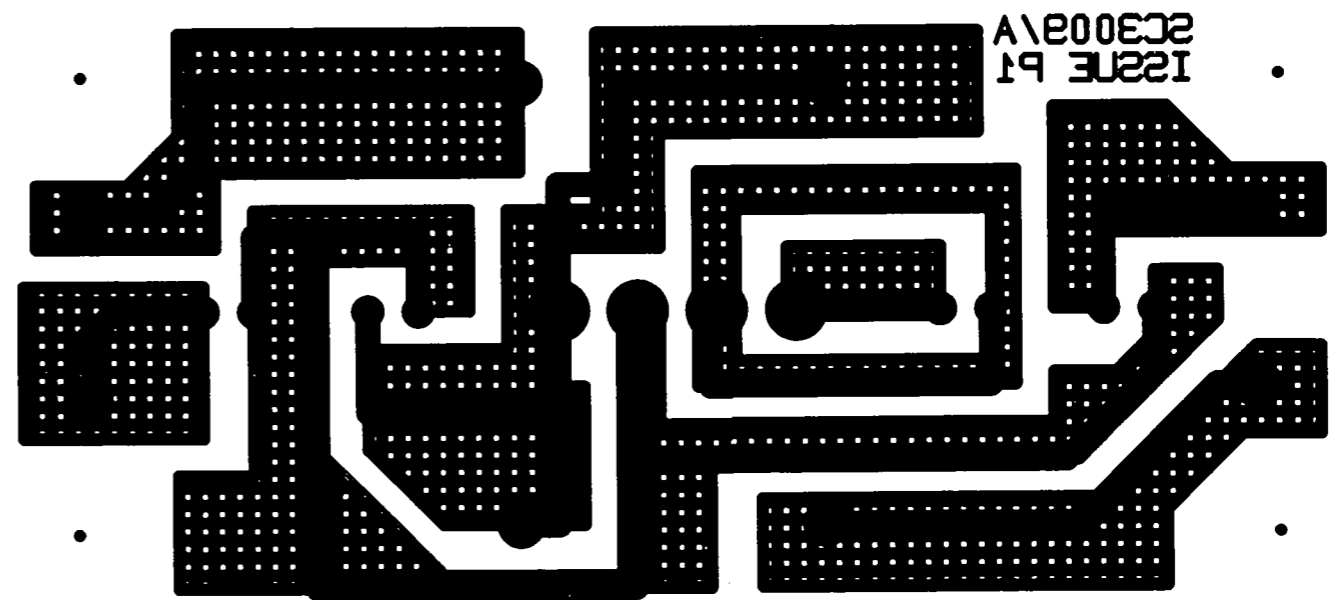
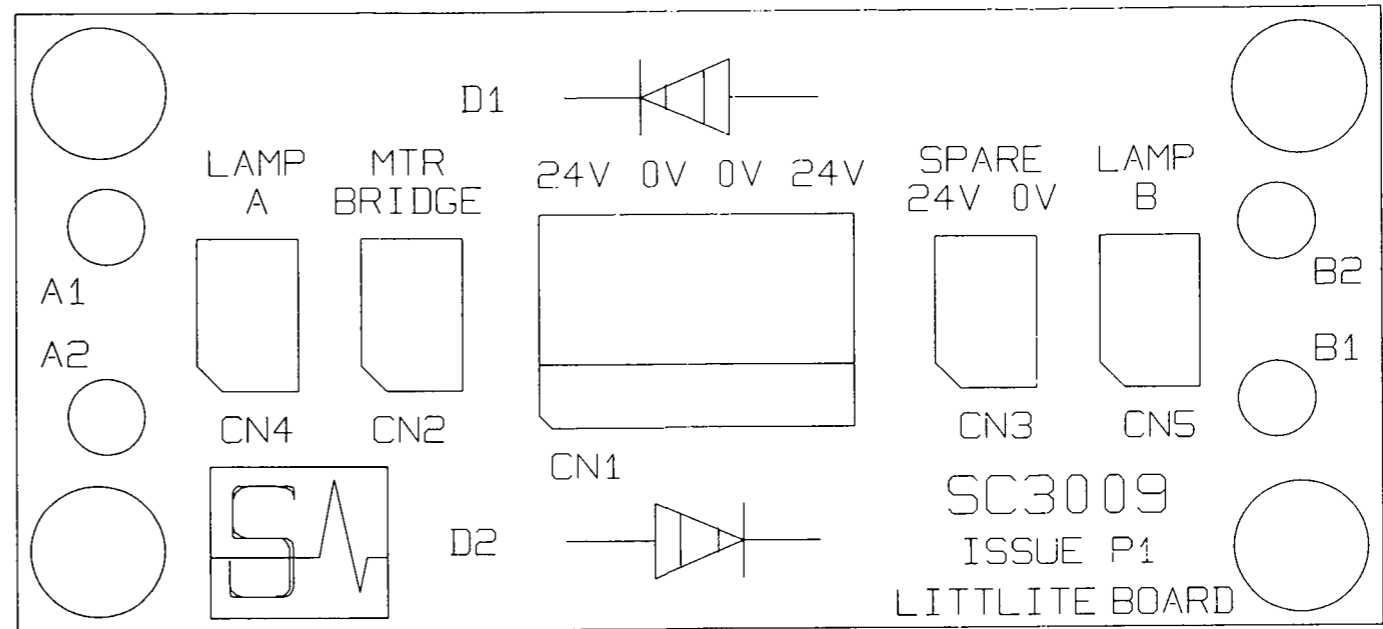












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## **10. Installation**

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*Mains Installation* 10.5

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*General Wiring Procedure* 10.6

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*Connections and Connectors*

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*Overbridge Option*

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*VU Overbridge Option* 10.34

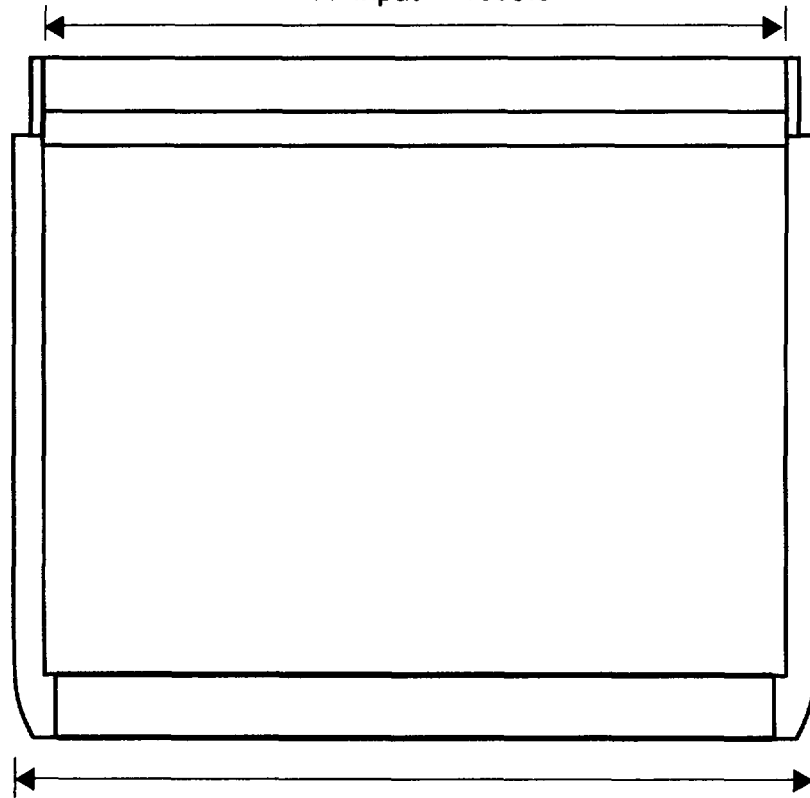
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*Overbridge Connector Pinouts* 10.38

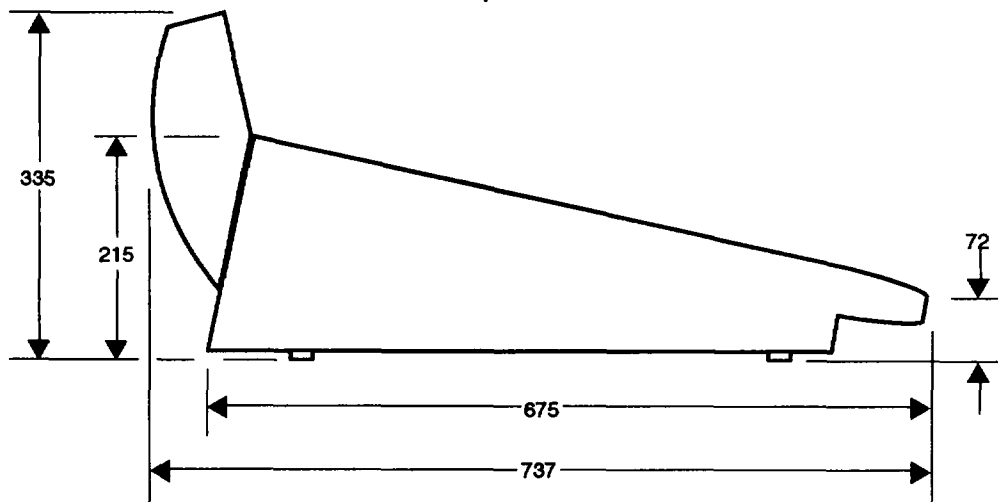
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# Dimensions

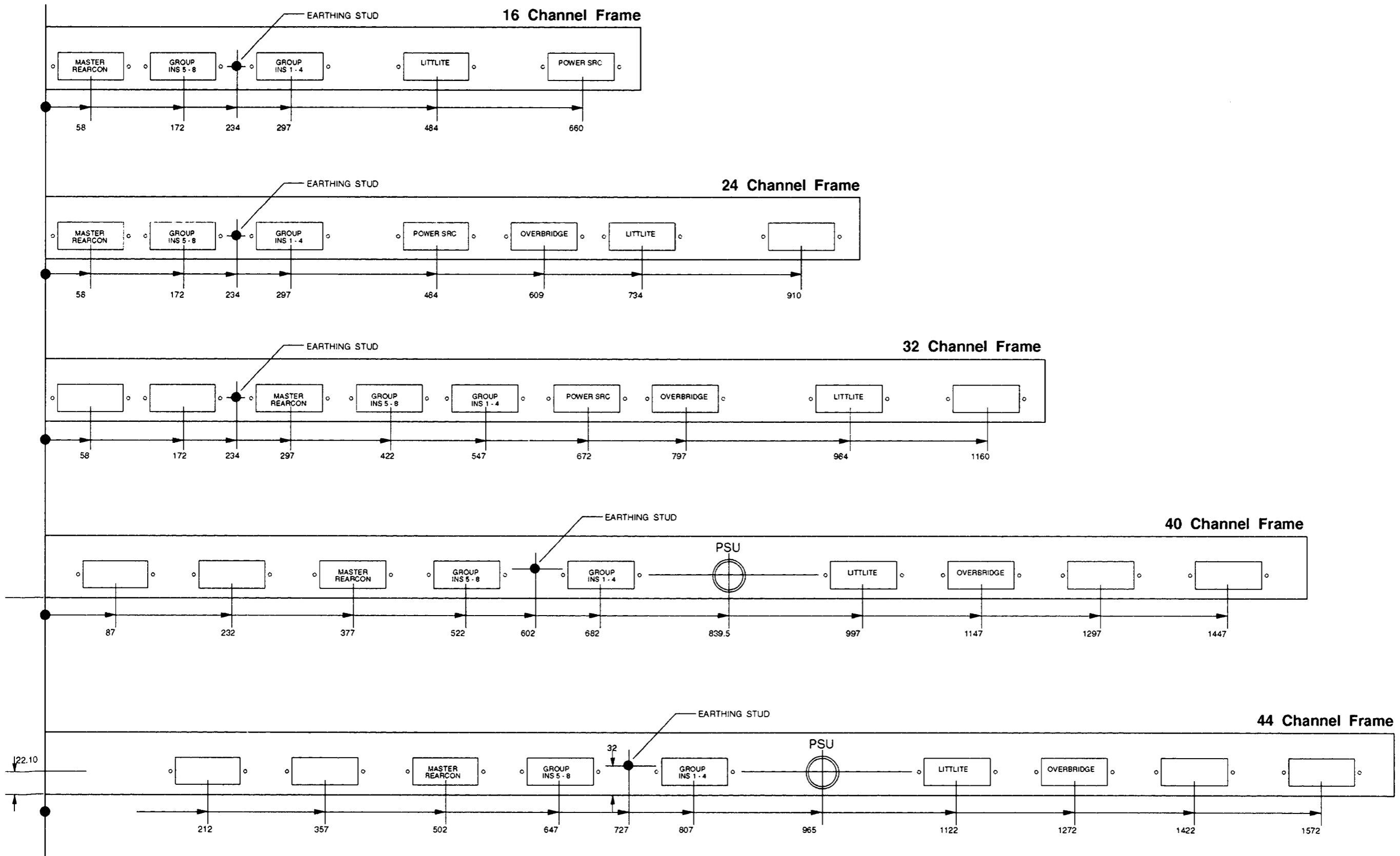
16 input - 722  
24 input - 972  
32 input - 1222  
40 input - 1534.5  
44 input - 1659.5



16 input - 798  
24 input - 1048  
32 input - 1298  
40 input - 1610.5  
44 input - 1735.5



All dimensions shown in millimetres (mm).



All dimensions are in millimetres  
Aperture size 81 x 33.5 Fixing holes 4 70 at 93mm. centres

**REAR CONNECTOR PANEL DIMENSIONS**

# Mains Installation

Before switching on the Venue II or Venue Theatre console, check that the mains voltage selector on the power supply unit is set to the correct mains voltage for your area and that the fuse is of the correct rating, and this is clearly marked on the power supply.

***Warning!*** Do not replace the fuse with any other type, as this could become a safety hazard and will void the warranty.

# General Wiring Procedure

To take full advantage of the excellent signal to noise ratio and low distortion of Soundcraft consoles care must be taken to ensure that incorrect installation and wiring does not degrade the performance of the desk. Hum, buzz, instability and Radio Frequency interference can usually be traced to earth loops and inferior earthing systems. In some areas, especially heavily industrial areas, the incoming mains earth will not be adequate and a separate technical earth for all the audio equipment must be supplied. However, check with your local electricity supply company to ensure that safety regulations are not infringed or negated.

The successful, hum free, installation of a system requires forethought, and the establishment of a set of ground rules, which must be consistently adhered to at all stages of installation.

---

## **Initial Wiring Considerations**

**A** For optimum performance, it is essential for the earthing system to be clean and noise free, as all signals are referenced to this earth. A central point should be decided on for the main earth point system, and all earths should be 'star fed' from this point. It is common electrical practice to 'daisy chain' the earths to all electrical outlets but this method is unsuitable for audio installations. The preferred method is to run an individual earth wire from each outlet, back to the system star point to provide a safety earth screen reference for each piece of equipment.

A separate earth wire should also be run from each equipment rack and area, to the star point. This may or may not be used depending on circumstances, but it is easier to install in the first place, than later when problems arise.

The location of the star point should be convenient, easily accessible place preferably at the rear of the console, or in the main equipment rack.

**B** Install separate 'clean' and 'dirty' mains outlets, wired individually back to the incoming mains distribution box. Use the 'clean' supply for all audio equipment and the 'dirty' supply for all lighting, vending machines etc. Never mix the two systems.

**C** If necessary, to provide sufficient isolation from mains borne interference, install an isolating transformer. This should be provided with a Faraday Shield which must be connected with earth.

**D** Never locate the incoming mains distribution box near audio equipment, especially tape recorders, which are very sensitive to electro-magnetic fields.

**E** Ensure that all equipment racks are connected to earth, via a separate wire back to the star point.

**F** Equipment which has unbalanced inputs and outputs may need to be isolated from the rack to prevent earth loops.

---

## **Audio Wiring**

Having provided all equipment with power and earthing connections, consideration must be given to the method of providing audio interconnection and adequate screening of those interconnections. This must be done in a logical sequence to avoid problems and assist in the localisation of problem equipment.

**A** Connect Control Room Monitor system to the console and check for any hum, buzz, or RFI. Only when you are satisfied with the quietness of the console and the monitor system should you proceed with the next step.

**B** Connect multitrack tape recorder, via the noise reduction system, if in use, and again check that the system is still clean.

**C** Connect stereo tape recorders, studio monitors, echo and foldback sends one at a time, checking and isolating any connection which degrades performance.

**D** Connect all peripheral devices.

**E** Connect all microphone lines.

By following this sequence much time and future trouble will be saved, and the result will be a quiet, stable system.

---

## **Shielding**

Audio equipment is supplied with a variety of input and output configurations, which must be taken into consideration when deciding where the screen connections should be made. There are three sources of unwanted signal being impressed on the screen, which are as follows:

**A** Extraneous electrostatic or electromagnetic fields.

**B** Noise and interference on the earth line.

**C** Capacitive coupling between the screen and signal wires.

To minimise the adverse affects of the unwanted coupling to the signal wires, it is important that the screen is connected at one end only, i.e. the screen must not carry any signal current. Any signal on the wires within the screen will be capacitively coupled to the screen. This current will ultimately be returned to the source of the signal, either directly, if the screen is connected at the signal source end, or indirectly via the earthing system, if the signal is connected at the signal destination end. The indirect connection will cause an increase in high frequency cross-talk, and should be avoided wherever possible.

Therefore, in general, always connect the shield only at the signal source end. In high RF areas, the screen can also be connected to earth via a 0.01 micro Farad capacitor. This will present a short circuit at RF frequencies, thus lowering the effective shield impedance to ground. However, at low audio frequencies the reactance of the capacitor will be sufficiently high not to cause an earth loop problem.

Combinations of unbalanced, balanced and electronically balanced, (differential), systems mean that there are nine interconnection permutations.

The optimum connection for the screen in each case is shown in Table 1 overleaf.

---

**Table 1**

	<b>Output</b>	<b>Input</b>	<b>Screen</b>
1	Unbalanced	Unbalanced	Source
2	Unbalanced	Balanced	Source
3	Unbalanced	Differential	Source
4	Balanced (Note 1)	Unbalanced	Destination
5	Balanced	Balanced	Source
6	Balanced (Note 2)	Differential	Destination
7	Differential (Note 3)	Unbalanced	Source
8	Differential	Balanced	Source
9	Differential	Differential	Source

**Notes on Table 1**

**1** The shield is connected to the destination earth point, which is opposite to normal practice, because the signal wires being shielded are reference to the input earth, not the output earth.

**2** If the output transformer is centre tapped to earth, the screen should be connected at the source.

**3** When an active differential output is operated in unbalanced mode, it is very important that the output current returns to earth via the shortest, least reactive route. Check for instability at the output.

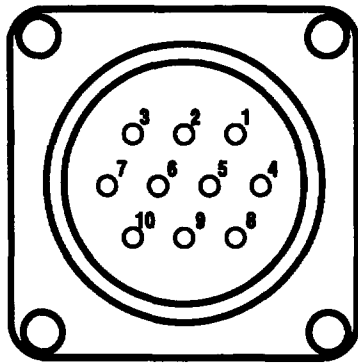
- 
- Points to Remember**
- In all cases, use good quality twin screened audio cable. Check for instability at the output.
  - Always connect both conductors at both ends, and ensure that the screen is only connected at one end.
  - Do not disconnect the mains earth from each piece of equipment. This is needed to provide both safety and screen returns to the system star point.
  - Equipment which has balanced inputs and outputs may need to be electrically isolated from the equipment rack and/or other equipment, to avoid earth loops.

It is important to remember that all equipment which is connected to the mains is a potential source of hum and interference and may radiate both electrostatic or electromagnetic radiation. In addition, the mains will also act as a carrier for many forms of RF interference generated by electric motors, air-conditioning units, thyristor light dimmers etc. Unless the earth system is clean, all attempts to improve hum noise levels will be futile. In extreme cases there will be no alternative but to provide a completely separate and independent 'technical earth' to replace the incoming 'noisy earth'. However, always consult your local electricity supply authority to ensure that safety regulations are not being infringed.



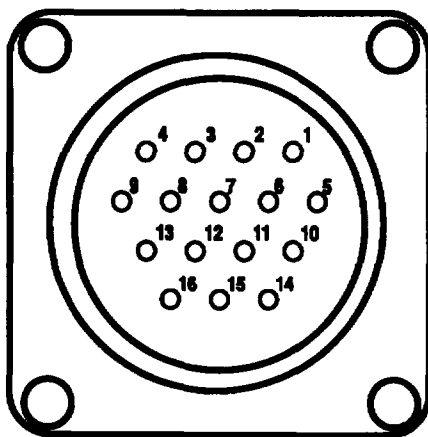
# Connections and Connectors

## PSU Connections



**10W SRC Connector  
viewed from rear of PSU**

PIN No.	Description
1	+17V Audio Supply
2	No connection
3	-17V Audio Supply A
4	Chassis Ground
5	17V 0V
6	0V (48V Supply)
7	0V (24V Supply)
8	+24V Supply
9	No connection
10	+48V Supply



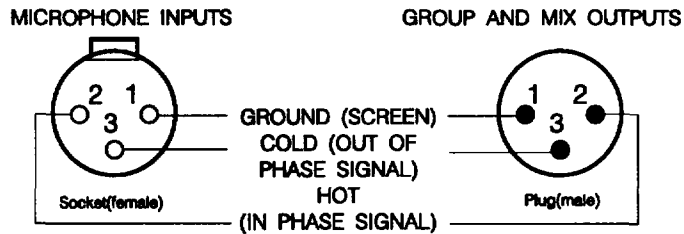
**16W SRC Connector  
Viewed from rear of PSU**

PIN No.	Description
1	+17 Volts
2	No connection
3	-17 Volts
4	+/-17 Volts(GND)
5	No connection
6	No connection
7	+24 Volts No. 2(GND)
8	+24 Volts No. 1
9	No connection
10	+48 Volts
11	+24 Volts No. 2
12	+24 Volts No. 1(GND)
13	+48 Volts(GND)
14	Chassis Earth
15	No connection
16	No connection

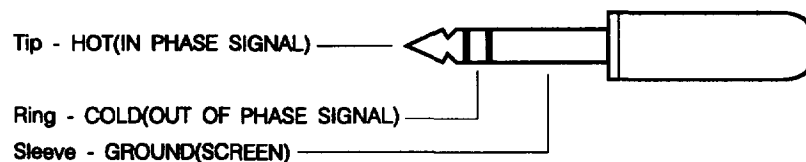
# Wiring Conventions

The Venue Console uses two different types of audio connector, 3 pin XLR (top diagram) and 1/4" three pole (A gauge or stereo) jacks. The latter are used in three different configurations, as shown below.

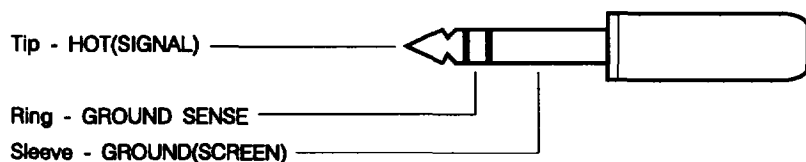
The rear frame of the console has standard apertures fitted with blanking panels. Your Soundcraft dealer can supply a variety of mounting plates to fit these, with EDAC(ELCO) multiway connectors, together with looms to link them to the modules.



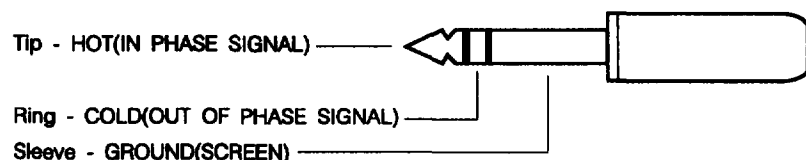
1/4" 'A' Gauge Stereo Jack Plug used as balanced input:  
line inputs and tape returns



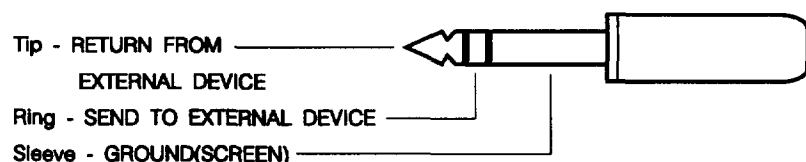
1/4" 'A' Gauge Stereo Jack Plug used as ground compensated output:  
direct outputs and control room monitor outputs



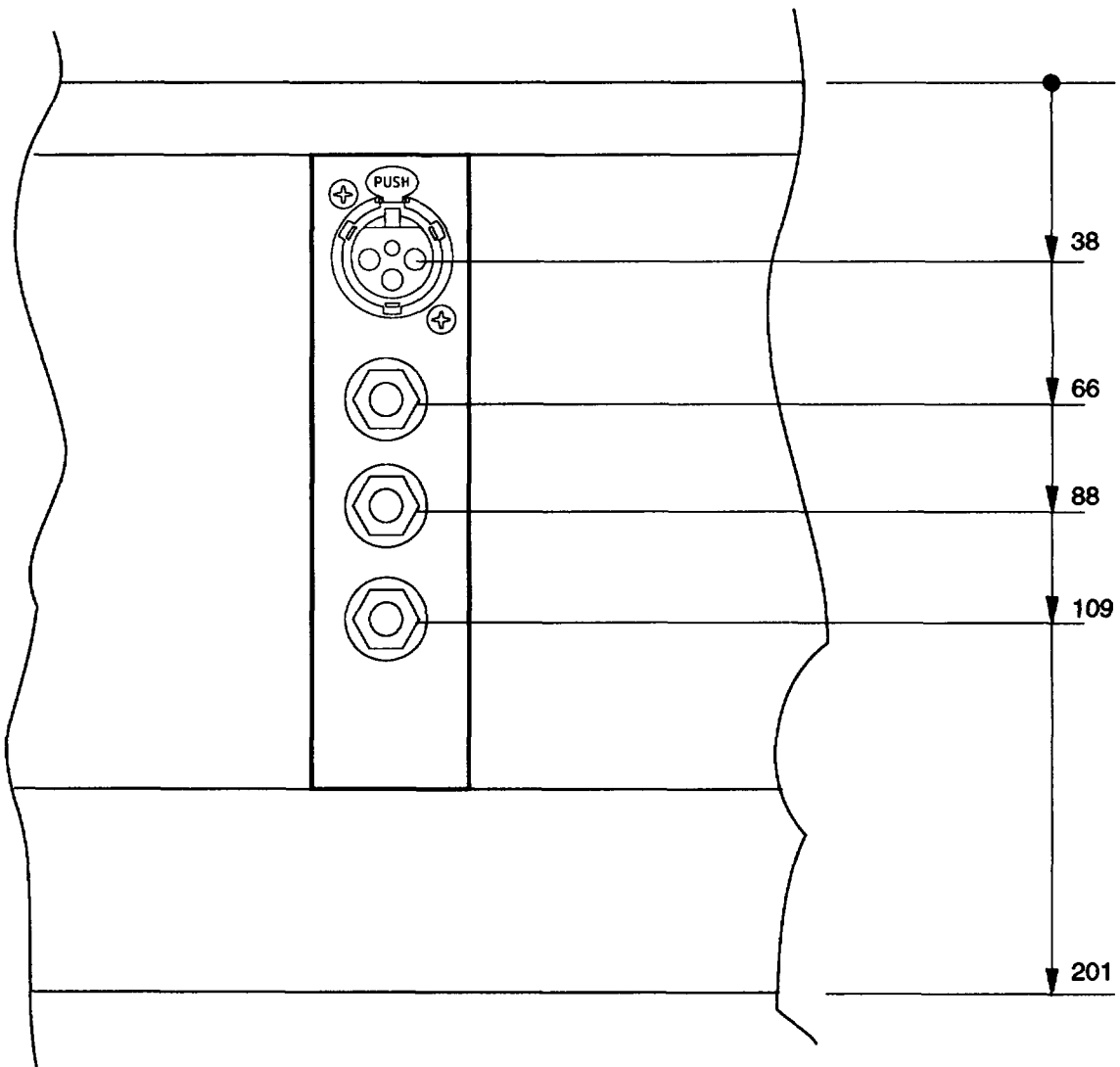
1/4" 'A' Gauge Stereo Jack Plug used as Balanced output:  
auxiliary send outputs



1/4" 'A' Gauge Stereo Jack Plug used as insert send/return



# Mono Input Module *Rear Connector Panel Layout*

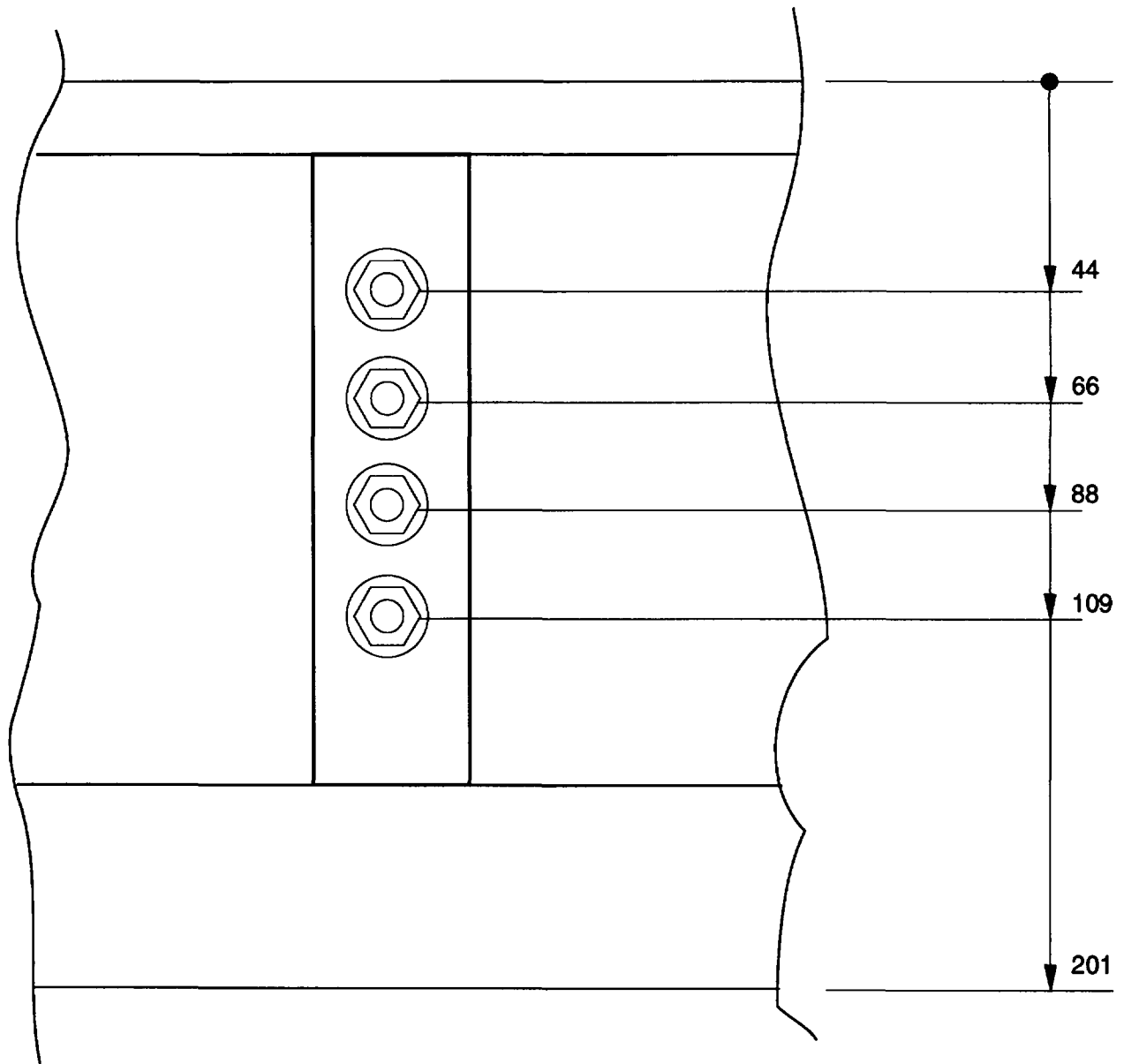


Rear Connector Panel

Mic Input Female 3 Pin XLR Balanced	Pin 1 Pin 2 Pin 3	Ground/Screen Hot(+ve) Cold(-ve)
Line Input 3 Pole 'A' Gauge Jack Socket Balanced	Tip Ring Sleeve	Hot(+ve) Cold(-ve) Ground/Screen
Insert 3 Pole 'A' Gauge Jack Socket Unbalanced	Tip Ring Sleeve	Insert Return Insert Send Ground/Screen
Direct Output 3 Pole 'A' Gauge Jack Socket Ground Compensated	Tip Ring Sleeve	Hot(+ve) Ground Sense Ground/Screen

All dimensions  
are in millimetres

# Stereo Input Module *Rear Connector Panel Layout*

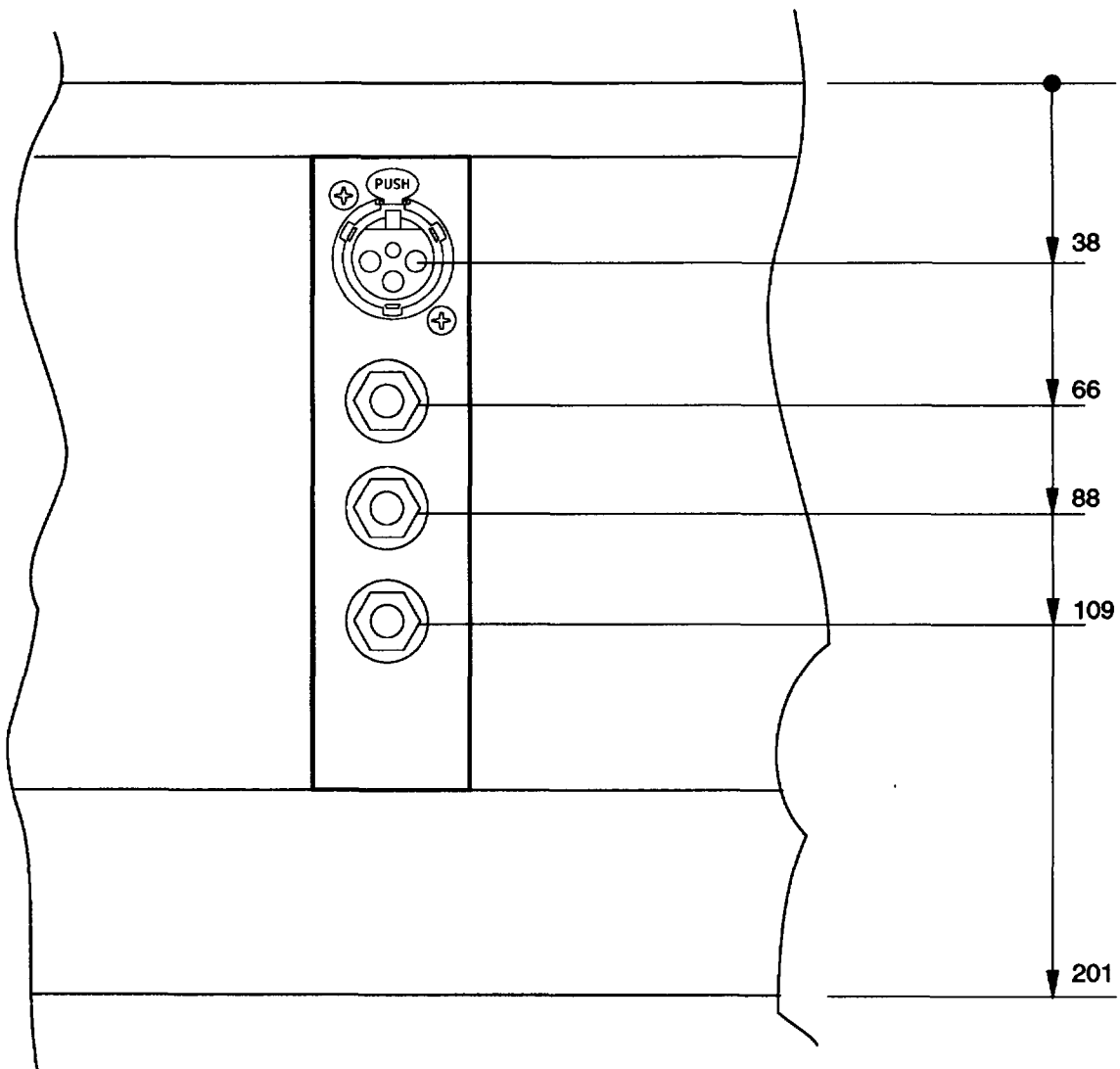


Rear Connector Panel

Line Inputs A & B, L & R		
3 Pole 'A' Gauge Jack Socket Balanced	Tip Ring Sleeve	Hot(+ve) Cold(-ve) Ground/Screen

All dimensions  
are in millimetres

# Theatre Input Module *Rear Connector Panel Layout*

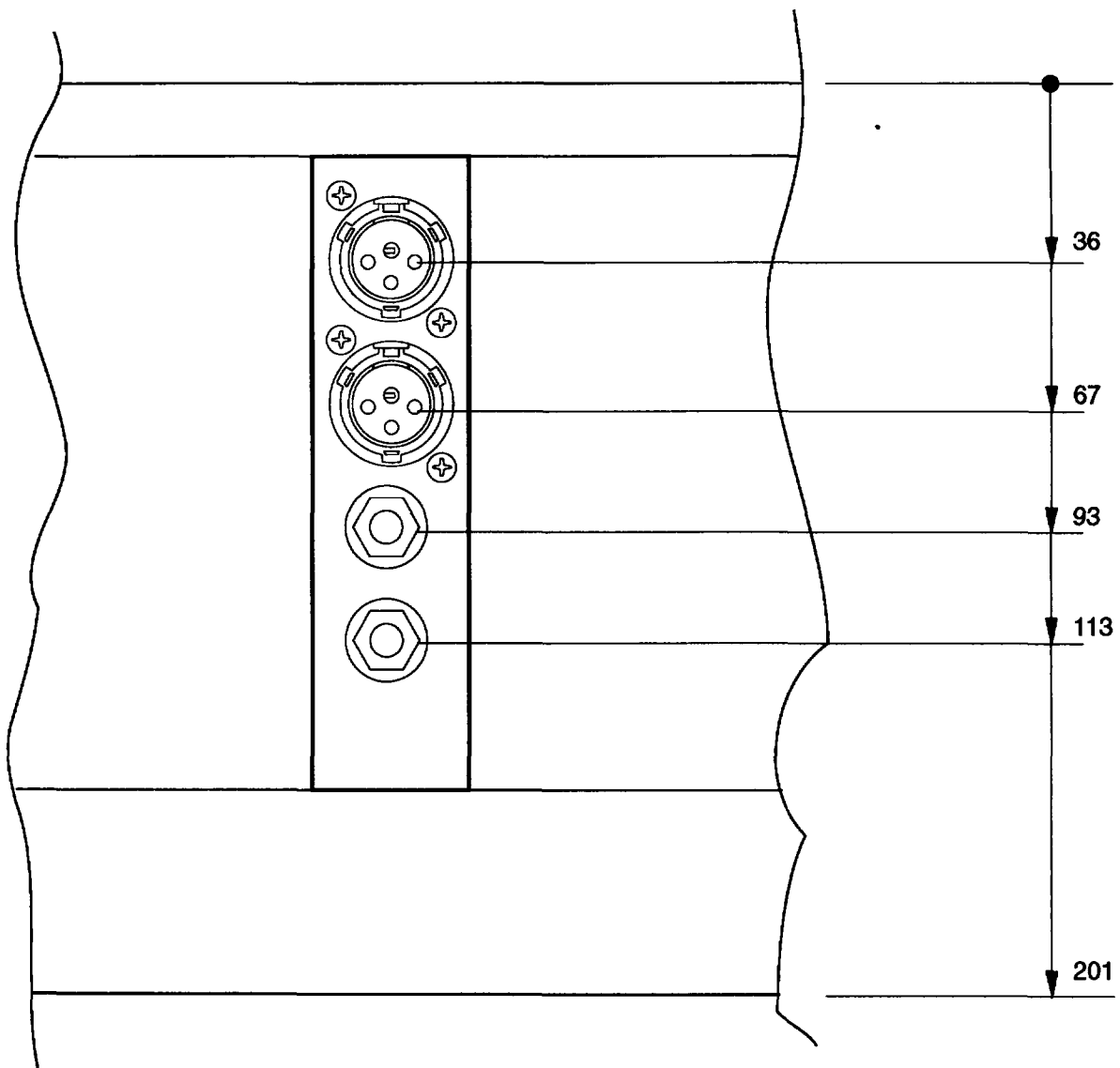


Rear Connector Panel

Mic Input Female 3 Pin XLR Balanced	Pin 1 Pin 2 Pin 3	Ground/Screen Hot(+ve) Cold(-ve)
Line Input 3 Pole 'A' Gauge Jack Socket Balanced	Tip Ring Sleeve	Hot(+ve) Cold(-ve) Ground/Screen
Insert 3 Pole 'A' Gauge Jack Socket Unbalanced	Tip Ring Sleeve	Insert Return Insert Send Ground/Screen
Direct Output 3 Pole 'A' Gauge Jack Socket Ground Compensated	Tip Ring Sleeve	Hot(+ve) Ground Sense Ground/Screen

All dimensions  
are in millimetres

## Dual Group/EQ Module *Rear Connector Panel Layout*

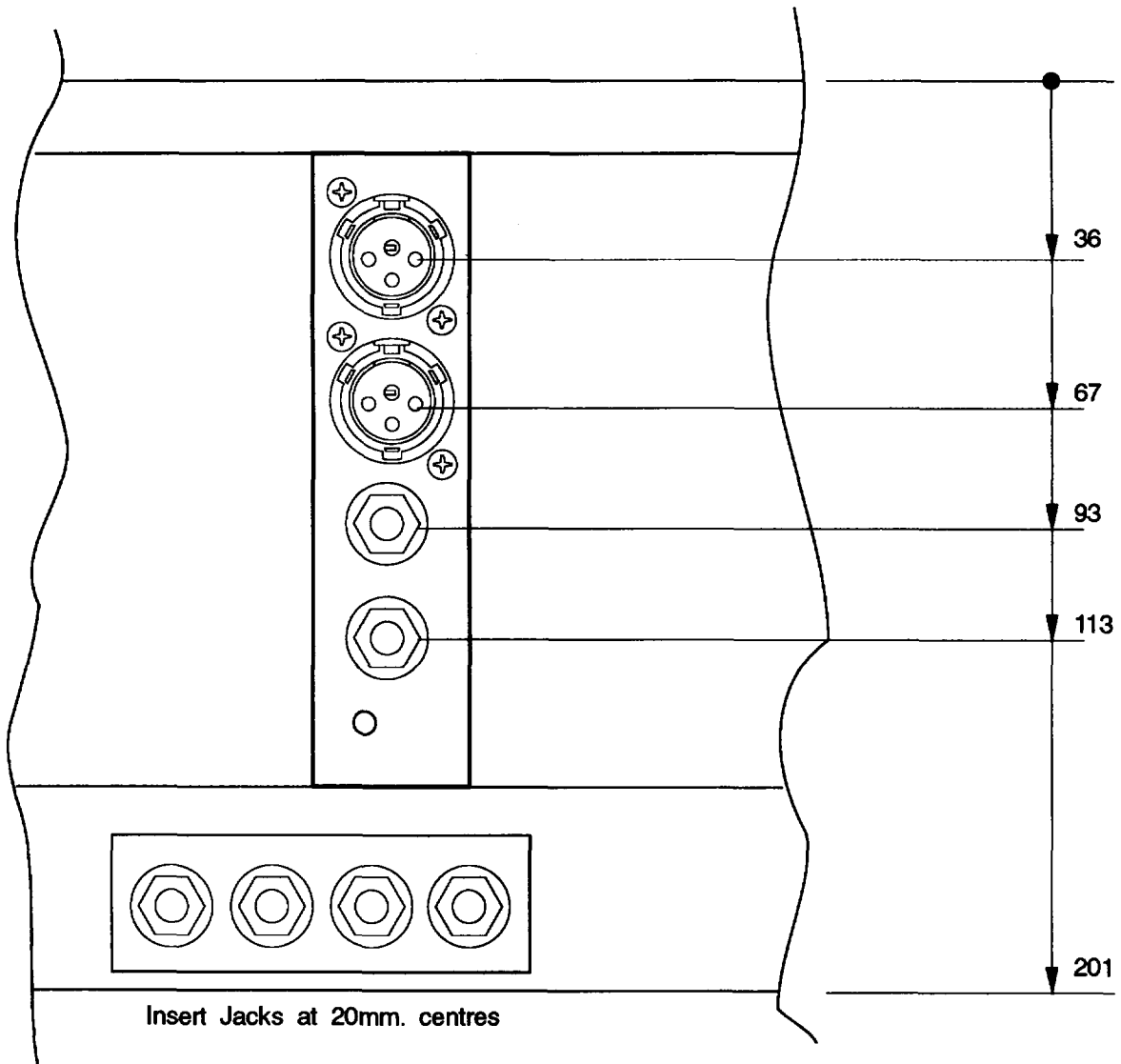


Rear Connector Panel

Group Output A Male 3 Pin XLR Balanced	Pin 1 Pin 2 Pin 3	Ground/Screen Hot(+ve) Cold(-ve)
Group Output B Male 3 Pin XLR Balanced	Pin 1 Pin 2 Pin 3	Ground/Screen Hot(+ve) Cold(-ve)
Insert A 3 Pole 'A' Gauge Jack Socket Unbalanced	Tip Ring Sleeve	Insert Return Insert Send Ground/Screen
Insert B 3 Pole 'A' Gauge Jack Socket Unbalanced	Tip Ring Sleeve	Insert Return Insert Send Ground/Screen

All dimensions  
are in millimetres

# Dual Grp/Stereo Return Module *Rear Connector Panel Layout*



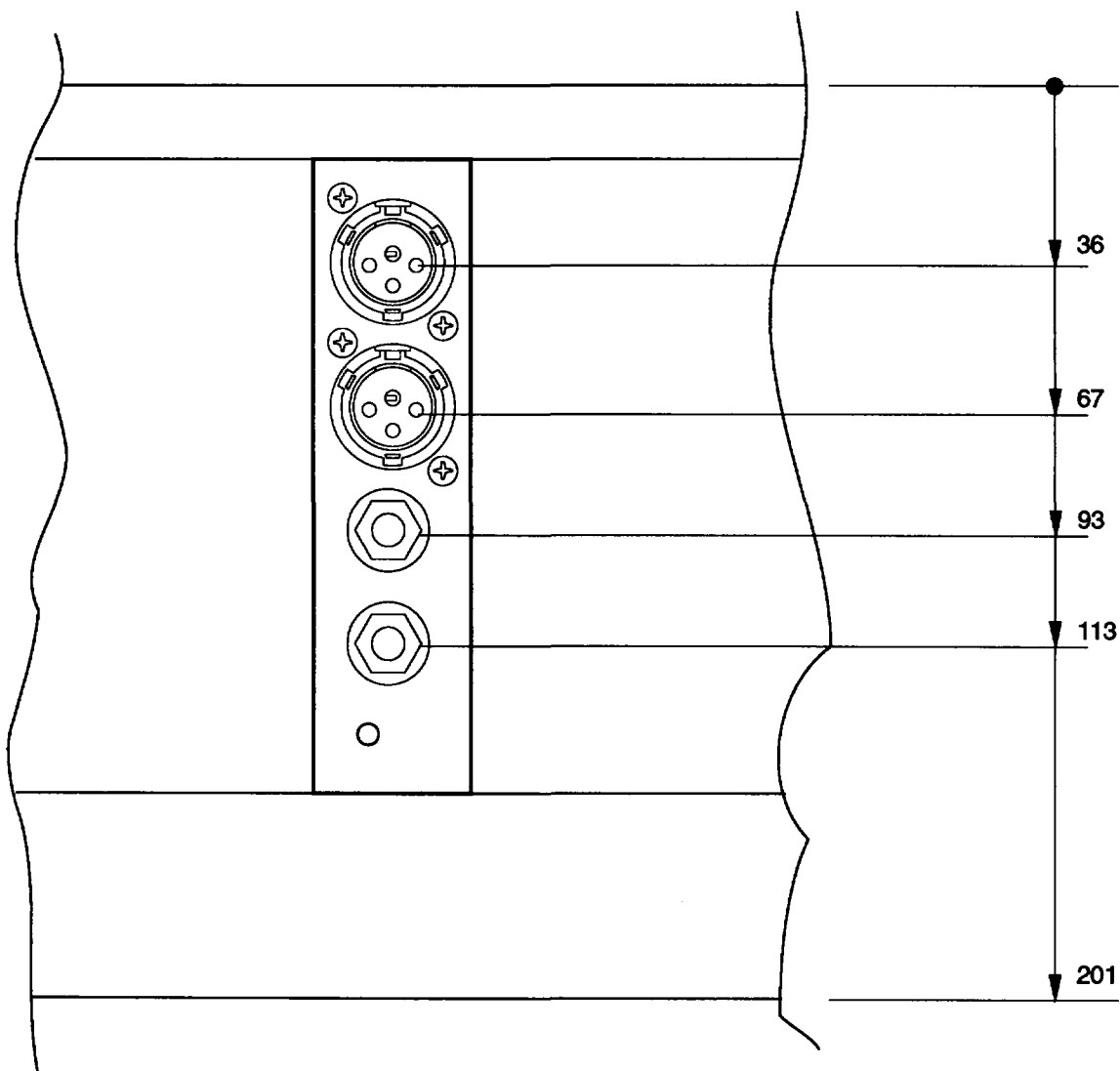
Insert Jacks at 20mm. centres

## Rear Connector Panel

Group Output A Male 3 Pin XLR Balanced	Pin 1 Pin 2 Pin 3	Ground/Screen Hot(+ve) Cold(-ve)
Group Output B Male 3 Pin XLR Balanced	Pin 1 Pin 2 Pin 3	Ground/Screen Hot(+ve) Cold(-ve)
Stereo Line Returns 3 Pole 'A' Gauge Jack Socket Balanced	Tip Ring Sleeve	Hot(+ve) Cold(-ve) Ground/Screen
Group Inserts 3 Pole 'A' Gauge Jack Socket Unbalanced	Tip Ring Sleeve	Insert Return Insert Send Ground/Screen

All dimensions  
are in millimetres

## Dual Matrix Module *Rear Connector Panel Layout*

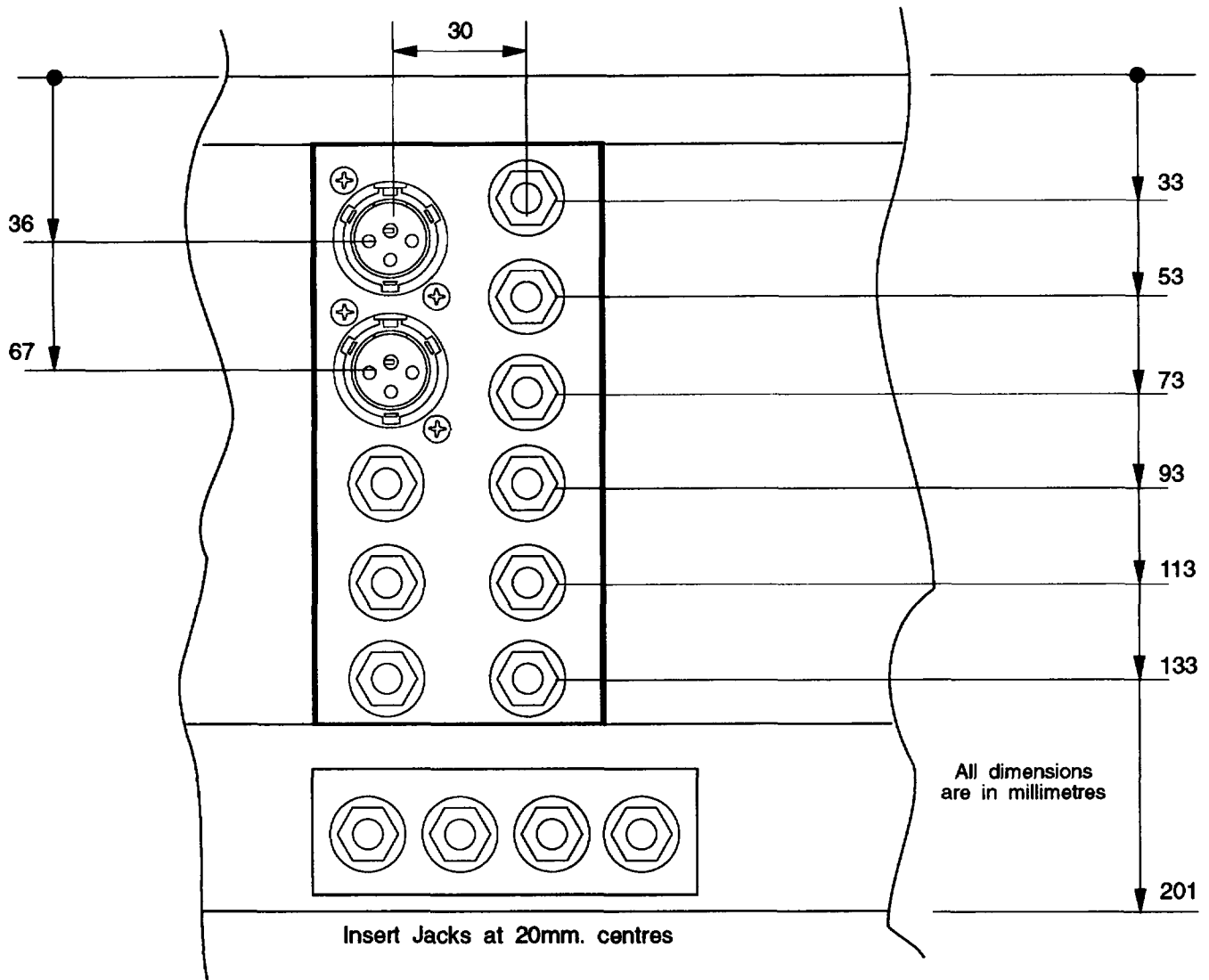


Rear Connector Panel

Matrix Output A Male 3 Pin XLR Balanced	Pin 1 Pin 2 Pin 3	Ground/Screen Hot(+ve) Cold(-ve)
Matrix Output B Male 3 Pin XLR Balanced	Pin 1 Pin 2 Pin 3	Ground/Screen Hot(+ve) Cold(-ve)
External Input A 3 Pole 'A' Gauge Jack Socket Balanced	Tip Ring Sleeve	Hot(+ve) Cold(-ve) Ground/Screen
External Input B 3 Pole 'A' Gauge Jack Socket Balanced	Tip Ring Sleeve	Hot(+ve) Cold(-ve) Ground/Screen

All dimensions  
are in millimetres





**Rear Connector Panel**

**Ancillary Connector Panel**

Mix Output L & R Male 3 Pin XLR Balanced	Pin 1 Pin 2 Pin 3	Ground/Screen Hot(+ve) Cold(-ve)	Left & Right Control Room Monitor Outputs 3 Pole 'A' Gauge Jack Sockets Ground Compensated	Tip Ring Sleeve	Hot(+ve) Ground Sense Ground/Screen
Mono Output 3 Pole 'A' Gauge Jack Socket Ground Compensated	Tip Ring Sleeve	Hot(+ve) Ground Sense Ground/Screen	2 Track Tape Returns 3 Pole 'A' Gauge Jack Sockets Balanced	Tip Ring Sleeve	Hot(+ve) Cold(-ve) Ground/Screen
Aux Outputs 1-6 3 Pole 'A' Gauge Jack Socket Balanced	Tip Ring Sleeve	Hot(+ve) Cold(-ve) Ground/Screen			
Mix Inserts 3 Pole 'A' Gauge Jack Socket Unbalanced	Tip Ring Sleeve	Insert Return Insert Send Ground/Screen			

# Connectors

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<b>Mono Input SC2911</b>	<b>JSK1</b>	Line Input
	<b>JSK2</b>	Insert
	<b>JSK3</b>	Direct Output
	<b>CN1</b>	Mic Input
	<b>CN2</b>	Motherloom
	<b>CN3</b>	Not Used
	<b>CN4</b>	0.25" spade terminal - ground
	<b>CN5</b>	Future option
<b>CN6</b>	Mute loom	
<b>CN7</b>	To Meterbridge	

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<b>Stereo Input SC2915</b>	<b>JSK1</b>	Input A Left
	<b>JSK2</b>	Input A Right
	<b>JSK3</b>	Input B Left
	<b>JSK4</b>	Input B Right
	<b>CN1</b>	Motherloom
	<b>CN2</b>	RIAA Input Left (option)
	<b>CN3</b>	Input A Left (EDAC option)
	<b>CN4</b>	RIAA Input Right (option)
	<b>CN5</b>	Input A Right (EDAC option)
	<b>CN6</b>	Mute Loom
	<b>CN7</b>	Not Used
	<b>CN8</b>	0.25" spade terminal - ground
<b>CN9</b>	RIAA Left Output (option)	
<b>CN10</b>	RIAA Right Output (option)	
<b>CN11</b>	RIAA Power connector (option)	
<b>CN12</b>	To Meterbridge	

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<b>Theatre Input SC3152</b>	<b>SKT1</b>	Line Input
	<b>JSK2</b>	Insert
	<b>SKT3</b>	Direct Output
	<b>JSK4</b>	Input B Right
	<b>CN1</b>	Mic Input
	<b>CN2</b>	Motherloom
	<b>CN3</b>	
	<b>CN4</b>	0.25" spade terminal - ground
	<b>CN5</b>	Line input normalling (option)
	<b>CN6</b>	Mute loom
<b>CN7</b>	To meter bridge (option)	
<b>CN8</b>	Upper inter-pcb connector	
<b>CN9</b>	Mid inter-pcb connector	
<b>CN10</b>	Lower inter-pcb connector	

---

**Dual Group/EQ SC2913**

<b>JSK1</b>	Insert A
<b>JSK2</b>	Insert B
<b>CN1</b>	Group Assign
<b>CN2</b>	Not used
<b>CN3</b>	Not used
<b>CN4</b>	Switch PCB
<b>CN5</b>	Group Output A (option)
<b>CN6</b>	Group Output B (option)
<b>CN7</b>	Motherloom
<b>CN8</b>	0.25" spade terminal - ground
<b>CN9</b>	Meter A (overbridge option)
<b>CN10</b>	Meter B (overbridge option)
<b>CN11</b>	Meter A
<b>CN12</b>	Master Loom
<b>CN13</b>	Switch PCB

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**Dual Group/Stereo Return SC2914**

<b>JSK1</b>	Return Left
<b>JSK2</b>	Return Right
<b>CN1</b>	Group Assign
<b>CN2</b>	Master Loom
<b>CN3</b>	Meter A (overbridge option)
<b>CN4</b>	Meter B (overbridge option)
<b>CN5</b>	Group Inserts
<b>CN6</b>	0.25" spade terminal - ground
<b>CN7</b>	Motherloom
<b>CN8</b>	Switch PCB
<b>CN9</b>	Meter A
<b>CN10</b>	Return Left (EDAC option)
<b>CN11</b>	Return Right (EDAC option)
<b>CN12</b>	Group Output A (option)
<b>CN13</b>	Group Output B (option)
<b>CN14</b>	Switch PCB

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**Dual Matrix SC2916**

<b>JSK1</b>	External Input A
<b>JSK2</b>	External Input B
<b>CN1</b>	Post Fade Group Signals
<b>CN2</b>	Not used
<b>CN3</b>	Future Option
<b>CN4</b>	External Input A (EDAC option)
<b>CN5</b>	Matrix Output A (option)
<b>CN6</b>	Master Loom
<b>CN7</b>	Not used
<b>CN8</b>	Future Option
<b>CN9</b>	External Input B (EDAC option)
<b>CN10</b>	Matrix Output B (option)
<b>CN11</b>	Motherloom
<b>CN12</b>	0.25" spade terminal - ground

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**Left Hand Master SC2779**

<b>JSK1</b>	AUX1 Output
<b>JSK2</b>	AUX2 Output
<b>JSK3</b>	AUX3 Output
<b>JSK4</b>	AUX4 Output
<b>JSK5</b>	AUX5 Output
<b>JSK6</b>	AUX6 Output
<b>CN1</b>	Motherloom
<b>CN2</b>	AUX1 Output (option)
<b>CN3</b>	AUX2 Output (option)
<b>CN4</b>	AUX3 Output (option)
<b>CN5</b>	AUX4 Output (option)
<b>CN6</b>	AUX5 Output (option)
<b>CN7</b>	AUX6 Output (option)
<b>CN8</b>	Ancillary Connector Panel

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**Right Hand Master SC2919**

<b>JSK1</b>	Mix Insert Left
<b>JSK2</b>	Mix Insert Right
<b>JSK3</b>	Mono Output
<b>CN1</b>	Motherloom
<b>CN2</b>	Master Loom
<b>CN3</b>	Talkback Mic
<b>CN4</b>	Mute Loom (option)
<b>CN5</b>	Power Connector
<b>CN6</b>	External Talkback (option)
<b>CN7</b>	Not used
<b>CN8</b>	Meter Output (option)
<b>CN9</b>	0.25" spade terminal - ground

Connector Title: **Motherloom**

Connector Type **34-Way IDC Ribbon**

Module and connector ref.		Mono	Stereo	Theatre	Grp/EQ	Grp/Ret.	Matrix	Master
Pin	Function	CN2	CN1	CN2	CN7	CN7	CN11	CN11
1	Group 8 Bus	●	●	●	●	●	X	●
2	Ground	●	●	●	●	●	●	●
3	Group 7 Bus	●	●	●	●	●	X	●
4	Ground	●	●	●	●	●	●	●
5	Group 6 Bus	●	●	●	●	●	X	●
6	Ground	●	●	●	●	●	●	●
7	Group 5 Bus	●	●	●	●	●	X	●
8	Ground	●	●	●	●	●	●	●
9	Group 4 Bus	●	●	●	●	●	X	●
10	Ground	●	●	●	●	●	●	●
11	Group 3 Bus	●	●	●	●	●	X	●
12	Ground	●	●	●	●	●	●	●
13	Group 2 Bus	●	●	●	●	●	X	●
14	Ground	●	●	●	●	●	●	●
15	Group 1 Bus	●	●	●	●	●	X	●
16	Ground	●	●	●	●	●	●	●
17	Mix Right Bus	●	●	●	●	●	X	●
18	Mix Left Bus	●	●	●	●	●	X	●
19	Not used	●	●	X	X	X	X	●
20	Aux 6 Bus	●	●	●	X	X	X	●
21	Aux 5 Bus	●	●	●	X	X	X	●
22	Aux 4 Bus	●	●	●	X	X	X	●
23	Aux 3 Bus	●	●	●	X	X	X	●
24	Aux 1 Bus	●	●	●	X	●	X	●
25	Aux 2 Bus	●	●	●	X	●	X	●
26	Ground Cancel Bus	●	●	●	X	X	X	●
27	PFL +	●	●	●	●	●	●	●
28	PFL -	●	●	●	●	●	●	●
29	PFL Detect	●	●	●	●	●	●	●
30	-17V	●	●	●	●	●	●	●
31	-17V	●	●	●	●	●	●	●
32	+17V	●	●	●	●	●	●	●
33	+17V	●	●	●	●	●	●	●
34	+48V	●	X	●	X	X	X	●

● = connected

X = no connection on this module

## Connector Lists

Connector Title: **Right Hand Master Loom**

Connector Type **20-Way IDC Ribbon**

Module and connector ref.		Mono	Stereo	Theatre	Grp/EQ	Grp/Ret.	Matrix	Master
Pin	Function				CN12	CN2	CN6	CN2
1	Mix Left Postfade				X	X	●	●
2	meter ground				X	X	X	●
3	Mix Right Postfade				X	X	●	●
4	Meter ground				X	X	X	●
5	Meter Left				X	X	X	●
6	Meter ground	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE	●	●	X	●
7	Meter ground				●	●	X	●
8	Meter ground				●	●	X	●
9	2 Track Right -				X	X	X	●
10	2 Trach Right +	X	X	X	●			
11	2 Track Left -	X	X	X	●			
12	2 Track Left +	X	X	X	●			
13	Ground	X	X	X	●			
14	Ground	X	X	X	●			
15	Mix Left Output	X	X	X	●			
16	Mix Left Output (G/C)	X	X	X	●			
17	Mix Right Output	X	X	X	●			
18	Mix Right Output (G/C)	X	X	X	●			
19	Ground	X	X	X	●			
20	Ground	X	X	X	●			

● = connected      X = not connected on this module

Connector Title: **Matrix Loom**

Connector Type **16-Way IDC Ribbon**

Module and connector ref.		Mono	Stereo	Grp/EQ	Grp/Ret.	Matrix	Master			
Pin	Function			CN1	CN1	CN1				
1	Group 8 to Matrix			●	●	●				
2	Ground via 75R			●	●	●				
3	Group 7 to Matrix			●	●	●				
4	Ground via 75R			●	●	●				
5	Group 6 to Matrix			●	●	●				
6	Ground via 75R	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE	●	●	●	NO CONNECTION TO THIS MODULE			
7	Group 5 to Matrix			●	●	●				
8	Ground via 75R			●	●	●				
9	Group 4 to Matrix			●	●	●				
10	Ground via 75R			●	●	●				
11	Group 3 to Matrix			●	●	●				
12	Ground via 75R			●	●	●				
13	Group 2 to Matrix			●	●	●				
14	Ground via 75R			●	●	●				
15	Group 1 to Matrix			●	●	●				
16	Ground via 75R			●	●	●				

● = connected      ✕ = not connected on this module

# Connector Lists

Connector Title: **Loom to Optional Insert Jacks**

Connector Type **10-Way IDC Ribbon**

Module and connector ref.		Mono	Stereo	Theatre	Grp/EQ	Grp/Ret.	Matrix	Master
Pin	Function					<b>CN5</b>		
1	Group 1(5) Insert Return	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE	●	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE
2	Group 1(5) Insert Send					●		
3	Group 2(6) Insert Send					●		
4	Group 2(6) Insert Return					●		
5	Connector Ground					●		
6	Connector Ground					●		
7	Group 3(7) Insert Return					●		
8	Group 3(7) Insert Send					●		
9	Group 4(8) Insert Send					●		
10	Group 4(8) Insert Return					●		

● = connected      ✕ = not connected on this module



Connector Title: **Loom to Optional Insert Jacks**

Connector Type **10-Way IDC Ribbon**

Module and connector ref.		Mono	Stereo	Theatre	Grp/EQ	Grp/Ret.	Matrix	Master
Pin	Function					CN5		
1	Group 1(5) Insert Return	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE	●	NO CONNECTION TO THIS MODULE	NO CONNECTION TO THIS MODULE
2	Group 1(5) Insert Send					●		
3	Group 2(6) Insert Send					●		
4	Group 2(6) Insert Return					●		
5	Connector Ground					●		
6	Connector Ground					●		
7	Group 3(7) Insert Return					●		
8	Group 3(7) Insert Send					●		
9	Group 4(8) Insert Send					●		
10	Group 4(8) Insert Return					●		

● = connected      ✕ = not connected on this module

# Connector Pinouts

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<b>Mono Input SC2911</b>	<b>CN1</b>	Mic Input (option) 1 +ve 2 -ve 3 Ground
	<b>CN2</b>	Motherloom
	<b>CN3</b>	Not Used
	<b>CN4</b>	0.25" spade terminal - ground
	<b>CN5</b>	Future option
	<b>CN6</b>	Mute loom 1 Mute 4 2 Mute 3 3 Mute 2 4 Mute 1 5 Ground 6 Ground 7 Mute +17V 8 Mute +17V 9 Mute -17V 10 Mute -17V
	<b>CN7</b>	Meterbridge 1 Signal 2 Ground
	<b>Fader</b>	Send - Red Return - Yellow Ground - Screen

---

<b>Stereo Input SC2915</b>	<b>CN1</b>	Motherloom
	<b>CN2</b>	RIAA Input Left (option) 1 +ve RIAA input 2 -ve RIAA input
	<b>CN3</b>	Input A Left (EDAC option) 1 Hot (+ve) 2 Cold (-ve)
	<b>CN4</b>	RIAA Input Right (option) 1 +ve RIAA input 2 -ve RIAA input
	<b>CN5</b>	Input A Right (EDAC option) 1 Hot (+ve) 2 Cold (-ve)

<b>CN6</b>	<b>Mute Loom</b>
	1 Mute 4
	2 Mute 3
	3 Mute 2
	4 Mute 1
	5 Ground
	6 Ground
	7 Mute +17V
	8 Mute +17V
	9 Mute -17V
1	0 Mute -17V
<b>CN7</b>	<b>Not Used</b>
<b>CN8</b>	<b>0.25" spade terminal - ground</b>
<b>CN9</b>	<b>RIAA Left Output (option)</b>
	1 +ve RIAA equalised output
	2 -ve RIAA equalised output
<b>CN10</b>	<b>RIAA Right Output (option)</b>
	1 +ve RIAA equalised output
	2 -ve RIAA equalised output
<b>CN11</b>	<b>RIAA Power connector (option)</b>
	1 +17V
	2 Ground
	3 -17V
<b>CN12</b>	<b>Meterbridge</b>
	1 Signal
	2 Ground
<b>Faders</b>	<b>Send - Red</b>
	<b>Return - Yellow</b>
	<b>Ground - Screen</b>

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*Theatre Input SC3152*

<b>CN1</b>	<b>Mic Input (option)</b>
	1 +ve
	2 -ve
	3 Ground
<b>CN2</b>	<b>Motherloom</b>
<b>CN3</b>	<b>Not Used</b>
<b>CN4</b>	<b>0.25" spade terminal - ground</b>
<b>CN5</b>	<b>Future option</b>
<b>CN6</b>	<b>Mute loom</b>
	1 Mute 4
	2 Mute 3
	3 Mute 2
	4 Mute 1
	5 Ground
	6 Ground
	7 Mute +17V
	8 Mute +17V
	9 Mute -17V
	10 Mute -17V
<b>CN7</b>	<b>Meter Bridge (option)</b>
	1 Meter Signal
	2 Ground

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**CN8-10** Inter-PCB connectors  
**Fader** Send - Red  
Return - Yellow  
Ground - Screen

---

**Dual Group/EQ SC2913**

**CN1** Group Feed to Matrix  
1 Group 8  
2 GND  
3 Group 7  
4 GND  
5 Group 6  
6 GND  
7 Group 5  
8 GND  
9 Group 4  
10 GND  
11 Group 3  
12 GND  
13 Group 2  
14 GND  
15 Group 1  
16 GND

**CN2** Not used  
**CN3** Not used  
**CN4** Switch PCB  
**CN5** Group Output A (option)  
1 Cold (-ve)  
2 Hot (+ve)

**CN6** Group Output B (option)  
1 Cold (-ve)  
2 Hot (+ve)

**CN7** Motherloom  
**CN8** 0.25" spade terminal - ground  
**CN9** Meter A (overbridge option)  
1 Meter Signal  
2 GND

**CN10** Meter B (overbridge option)  
1 Meter Signal  
2 GND

**CN11** Meter A  
1 Meter Ground  
2 Meter +V  
3 Meter -V  
4 GND  
5 Meter Signal

**CN12** Master Loom

---

<b>CN13</b>	Switch PCB
<b>Faders</b>	Send - Red
	Return - Yellow
	Ground - Screen

---

### ***Dual Group/Stereo Return SC2914***

<b>CN1</b>	Group Feed to Matrix
	1 Group 8
	2 GND
	3 Group 7
	4 GND
	5 Group 6
	6 GND
	7 Group 5
	8 GND
	9 Group 4
	10 GND
	11 Group 3
	12 GND
	13 Group 2
	14 GND
	15 Group 1
	16 GND
<b>CN2</b>	Master Loom
<b>CN3</b>	Meter A (overbridge option)
	1 Signal
	2 GND
<b>CN4</b>	Meter B (overbridge option)
	1 Signal
	2 GND
<b>CN5</b>	Group Inserts
<b>CN6</b>	0.25" spade terminal - ground
<b>CN7</b>	Motherloom
<b>CN8</b>	Switch PCB
<b>CN9</b>	Meter A
	1 Meter Ground
	2 Meter +V
	3 Meter -V
	4 GND
	5 Meter Signal
<b>CN10</b>	Return Left (EDAC option)
	1 Hot (+ve)
	2 Cold (-ve)
<b>CN11</b>	Return Right (EDAC option)
	1 Hot (+ve)
	2 Cold (-ve)
<b>CN12</b>	Group Output A (option)
	1 Cold (-ve)

---

		2 Hot (+ve)
<b>CN13</b>	<b>Group Output B (option)</b>	1 Cold (-ve)
		2 Hot (+ve)
<b>CN14</b>	<b>Switch PCB</b>	
<b>Faders</b>	<b>Send - Red</b>	
	<b>Return - Yellow</b>	
	<b>Ground - Screen</b>	

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<b>Dual Matrix SC2916</b>	<b>CN1</b>	<b>Post Fade Group Signals</b>
		1 Group 8
		2 GND
		3 Group 7
		4 GND
		5 Group 6
		6 GND
		7 Group 5
		8 GND
		9 Group 4
		10 GND
		11 Group 3
		12 GND
		13 Group 2
		14 GND
		15 Group 1
		16 GND
	<b>CN2</b>	Not used
	<b>CN3</b>	Future Option
	<b>CN4</b>	<b>External Input A (EDAC option)</b>
		1 Hot (+ve)
		2 Cold (-ve)
	<b>CN5</b>	<b>Matrix Output A (option)</b>
		1 Hot (+ve)
		2 Cold (-ve)
	<b>CN6</b>	Master Loom
	<b>CN7</b>	Not used
	<b>CN8</b>	Future Option
	<b>CN9</b>	<b>External Input B (EDAC option)</b>
		1 Hot (+ve)
		2 Cold (-ve)
	<b>CN10</b>	<b>Matrix Output B (option)</b>
		1 Hot (+ve)
		2 Cold (-ve)
	<b>CN11</b>	Motherloom
	<b>CN12</b>	0.25" spade terminal - ground

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**Left Hand Master SC2779**

CN1	Motherloom
CN2	AUX1 Output (option) 1 Hot 2 Cold
CN3	AUX2 Output (option) 1 Hot 2 Cold
CN4	AUX3 Output (option) 1 Hot 2 Cold
CN5	AUX4 Output (option) 1 Hot 2 Cold
CN6	AUX5 Output (option) 1 Hot 2 Cold
CN7	AUX6 Output (option) 1 Hot 2 Cold
CN8	Ancillary Connector Panel

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**Right Hand Master SC2919**

CN1	Motherloom
CN2	Master Loom
CN3	Talkback Mic 1 Power 2 Signal 3 Ground
CN4	Mute Loom 1 Mute 4 2 Mute 3 3 Mute 2 4 Mute 1 5 Ground 6 Ground 7 Mute +17V 8 Mute +17V 9 Mute -17V 10 Mute -17V
CN5	Power Connector 1 +17V 2 Ground 3 Ground 4 -17V 5 +48V 6 Meter Ground 7 Not used (cropped) 8 Phones ground

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<b>CN6</b>	External Talkback (future option)
<b>CN7</b>	Not used
<b>CN8</b>	Meter Output (option)
	1 Left signal
	2 Ground
	3 Right signal
	4 +17V
	5 -17V
<b>CN9</b>	0.25" spade terminal - ground
<b>Faders</b>	2 x mono faders for left and right mix
	or 1 x mono fader for mono output and 1 x stereo
	fader for mix left and right.
	Send - Red                    L=Left
	GND - Yellow                R=Right
	RET - Screen                M=Mono



# Overbridge Option

## ***LED Overbridge Option (Venue II)***

The Venue II overbridge provides 16-segment LED metering for input channels, and VU metering for Mix/PFL signals. It is available for the 24, 32 and 40 input consoles only. Mono channels are metered immediately after the input preamplifier, while stereo channels are metered as a mono sum immediately pre-fade.

All 24, 32 and 40 channel consoles are pre-wired for retrofitting the LED overbridge.

All meters are factory calibrated for 0VU = +4dBu at 1kHz. The Mix VU meters each have an integral peak LED, which illuminates when the level at the mix output exceeds +14.5dBu. The LED indicator has a fast attack/slow decay characteristic to give a clear indication even of short peaks. To allow easy viewing of the meters under low-light conditions, the meter scales are back-lit by bulbs inside the overbridge.

The overbridge may be removed from the console for transport, and is detachable from the console frame. This requires the removal of a few bolts, and the disconnection of a D-type connector.

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## **Retrofit Instructions (see diagrams on page 10.37)**

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### ***Preparing the Console***

1. Before fitting the overbridge and console wiring, switch off the power supply unit (PSU), and disconnect it by unscrewing the SRC lead from the rear of the console.
2. Remove the ident strips from the front and back of the console. The grey plastic ident strip surround (1) is clipped onto the console frame, and may be removed by carefully pulling one end to unclip it. Remove the retaining clips (2) from the upper ident strip position.

### ***Attaching the Overbridge***

1. The overbridge is attached to the frame by M4 bolts (3) - two panel mount at either end of the console on the rear (a total of four), and five (24 channel), six (32 channel) or seven (40 channel) countersunk on the top of the console (4).
2. Once the overbridge body has been bolted to the frame, the replacement upper ident strip supplied (5) should be pressed into place to cover the screws on the upper surface of the console.
3. Plug the cable from the overbridge into the D-type connector on the rear of the console, and tighten up the retaining jackscrews.
4. Re-connect the PSU to the console, and switch it on.

Check that the Mix meters on the overbridge are all illuminated and, by slating the internal oscillator to the groups and mix, check that the meters function correctly.

---

## ***VU Overbridge Option (Venue II & Venue Theatre)***

The VENUE VU overbridge provides metering of the groups and mix/PFL signal, providing higher resolution around the 0VU point than the internal LED bar-graph meters.

The meters are factory calibrated for 0VU = +4dBu at 1kHz. Each meter has an integral peak LED, which illuminates when the level at the group or mix output exceeds +14.5dBu. The LED indicator has a fast attack/slow decay characteristic to give a clear indication even of short peaks.

To allow easy viewing of the meters under low-light conditions, the meter scales are back-lit by bulbs inside the overbridge.

The overbridge may be removed from the console for transport, and is detachable from the main console, requiring only the removal of a few bolts, and the disconnection of a D-type connector.

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## **VU Overbridge Retro-fit Instructions**

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### ***Removing the Existing Overbridge Wiring***

24, 32, 40 and 44 channel VENUE II consoles are pre-wired for an optional input LED bargraph overbridge. This wiring must be removed before the wiring for the VU overbridge can be installed. VENUE Theatre consoles are not pre-wired.

1. Before removing the LED overbridge wiring, switch off the power supply unit (PSU), and disconnect it by unscrewing the SRC lead from the rear of the console.
2. Remove the ident strips from the front and back of the console. The grey plastic ident strip surround is clipped onto the console frame and may be removed by carefully pulling one end to unclip it.
3. Remove the input, group and master modules from the frame. The modules are held into the frame by screws - two un-painted No.6 1/2" screws on the upper module facia and a black No.6 1/2" screw on the lower edge of the rear-connector panel.

Once the screws are removed, the inputs are removed by tilting up the front end of the module and unplugging the two ribbon cable motherlooms and the ground reinforcement wire connected to every eighth input via a 1/4" spade terminal. The module may then be removed by pulling it forward and upwards out of the frame and (on VENUE II only) unplugging the 2-way 0.1" meter signal connector from the upper part of the PCB.

The outputs are removed in a similar fashion. However, there will also be some ribbon cable connections to the rear end of the modules - one cable for EQ outputs, two for Stereo Return Outputs. If the Matrix option is fitted, there will be an additional ribbon. Once the outputs have been pulled clear of the frame, these should be unplugged.

The master module is removed in a similar fashion - in addition to the ribbon cable connectors, there is also an 8-way 0.156"-pitch connector from the SRC panel and, on VENUE II, a 6-way 0.1" from the existing overbridge 50-way D-type connector.

4. Once the modules have been removed, the ground connections to the console chassis should be disconnected. The chassis connection point will be either a nut insert or a welded stud on the base of the console.
5. Venue II only: unplug the 2-way 0.1" connector from CN2 of the LITTLITE PCB (the small PCB mounted in one of the console rear aperture slots.) Remove the 50-way D-type connector, together with its panel and associated wiring. The panel is fixed to the frame with two 8mm M3.5 black screws.

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### **Installing the VU Overbridge Internal Console Wiring**

1. Fit the 25-way D-type connector panel in place of the 50-way connector panel, using 8mm M3.5 black screws and washers. On Venue Theatre, use the vacant rear aperture position adjacent to the LITTLITE PCB - refer to page (10.3) for details. Plug the 2-way 0.1" connector terminating the violet cable from the D-type into CN2 on the LITTLITE distribution PCB.
2. The ground wires from the new D-type and SRC should be connected to the console chassis ground, together with the ground wires from the group insert panels (if fitted). **The green/yellow striped wire from the SRC panel should be closest to the chassis, with the other ground connections above it.**
3. Replace the input modules - the modules should be inserted into the frame and then the motherlooms and ground wires reconnected before the module is lowered completely into place.
4. Replace the group modules. The motherloom, insert looms and output motherlooms are reconnected to their original positions. The connections to the overbridge are made on two 2-pin 0.1" connectors per group module and are labelled with the group number.

On EQ outputs, these are connected as follows:

Group 1:	Group 1/2 module <b>CN9</b>
Group 2:	Group 1/2 module <b>CN10</b>
Group 3:	Group 3/4 module <b>CN9</b>
Group 4:	Group 3/4 module <b>CN10</b>
Group 5:	Group 5/6 module <b>CN9</b>
Group 6:	Group 5/6 module <b>CN10</b>
Group 7:	Group 7/8 module <b>CN9</b>
Group 8:	Group 7/8 module <b>CN10</b>

On Stereo Return Outputs, these are connected as follows:

Group 1:	Group 1/2 module <b>CN3</b>
Group 2:	Group 1/2 module <b>CN4</b>
Group 3:	Group 3/4 module <b>CN3</b>
Group 4:	Group 3/4 module <b>CN4</b>
Group 5:	Group 5/6 module <b>CN3</b>
Group 6:	Group 5/6 module <b>CN4</b>
Group 7:	Group 7/8 module <b>CN3</b>
Group 8:	Group 7/8 module <b>CN4</b>

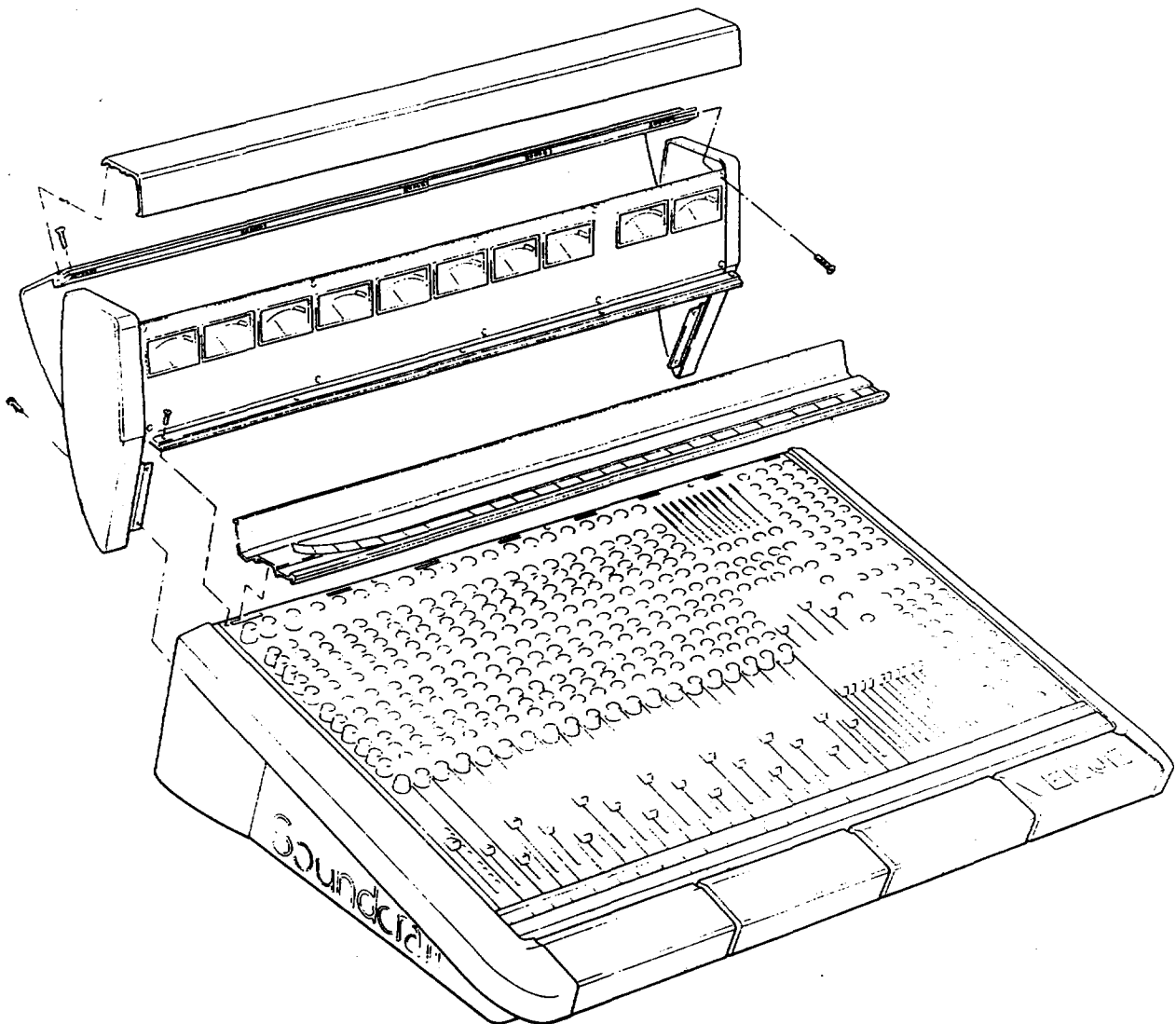
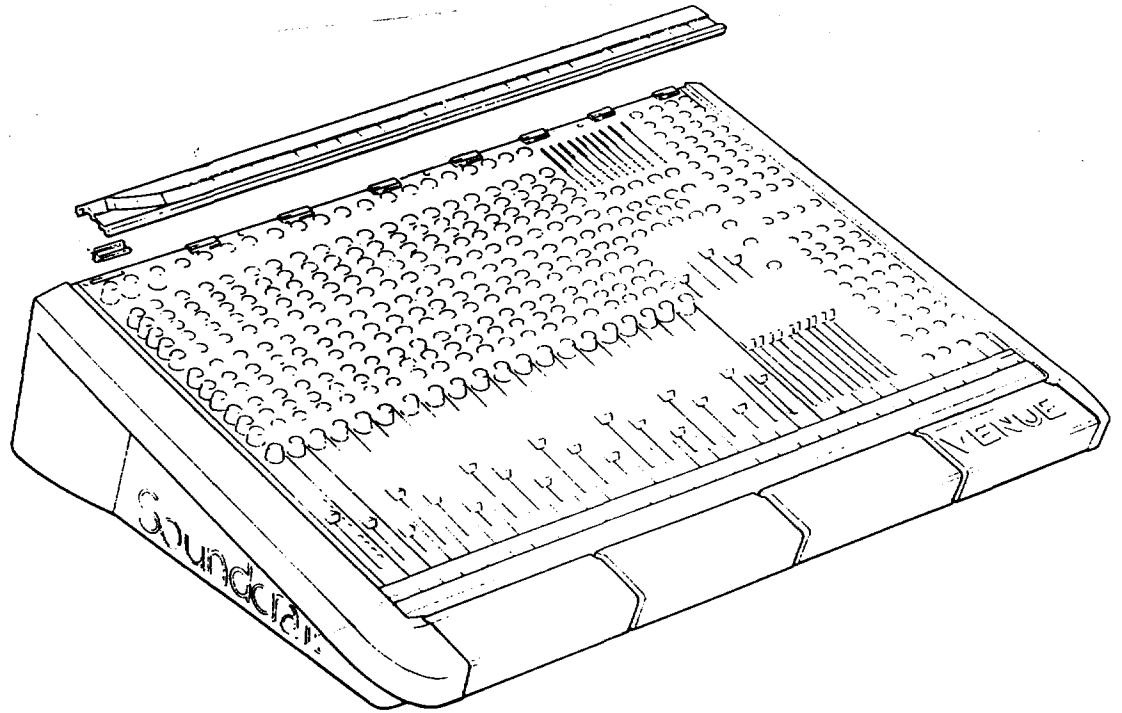
- 
5. Replace the master module. The motherlooms and ground wires are reconnected to their original positions. The 8-way 0.156" connector from the SRC wireform plugs into CN5, while the 6-way 0.1" connector from the 25-way D-type plugs into CN8
  6. Replace the screws in the top and rear of the modules.
  7. Replace lower scribble strip on the frame and clip it into the fasteners.

### ***Attaching the Overbridge***

1. The overbridge is attached to the frame by M4 bolts - two panel mount at either end of the console on the rear (a total of four), and five (24 channel), six (32 channel) or seven (40 and 44 channel) countersunk on the top of the console.
2. Once the overbridge body has been bolted to the frame, the replacement upper ident strip supplied should be pressed into place to cover the screws on the upper surface of the console.
3. Plug the cable from the overbridge into the D-type connector on the rear of the console and tighten up the retaining jackscrews.
4. Re-connect the PSU to the console and switch it on. Check that the meters on the overbridge are all illuminated and, by slating the internal oscillator to the groups and mix, check that the meters function correctly.

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**Fitting the Overbridge Option**



# Overbridge Connector Pinouts

## **LED Overbridge Connector - 50 Way D-Type**

<b>Pin No</b>	<b>Signal</b>
1	Input 1
2	Input 4
3	Input 7
4	Input 10
5	Input 13
6	Input 16
7	Input 19
8	Input 22
9	Input 25
10	Input 28
11	Input 31
12	Input 34
13	Input 37
14	Input 40
15	Mix Left
16	Mix Right
17	N/C
18	Input 2
19	Input 5
20	Input 8
21	Input 11
22	Input 14
23	Input 17
24	Input 20
25	Input 23
26	Input 26
27	Input 29
28	Input 32
29	Input 35
30	Input 38
31	Ground
32	+24V
33	N/C
34	Input 3
35	Input 6
36	Input 9
37	Input 12
38	Input 15
39	Input 18
40	Input 21

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41	Input 24
42	Input 27
43	Input 30
44	Input 33
45	Input 36
46	Input 39
47	Ground
48	N/C
49	N/C
50	N/C

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**VU Overbridge Connector - 25 Way D-Type**

Pin No	Signal
1	Group 1 (Signal)
2	Group 1 (Ground)
3	Group 3 (Signal)
4	Group 3 (Ground)
5	Group 5 (Signal)
6	Group 5 (Ground)
7	Group 7 (Signal)
8	Group 7 (Ground)
9	Mix Left (Signal)
10	Mix Right (Signal)
11	N/C
12	+24V
13	Ground
14	Group 2 (Signal)
15	Group 2 (Ground)
16	Group 4 (Signal)
17	Group 4 (Ground)
18	Group 6 (Signal)
19	Group 6 (Ground)
20	Group 8 (Signal)
21	Group 8 (Ground)
22	+17V
23	Ground
24	N/C
25	-17V





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## 11. Spare Parts

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<i>Mono Input PCB Assembly RB3063</i>	<i>11.2</i>
<i>Stereo Input PCB Assembly RA2915</i>	<i>11.6</i>
<i>Theatre Input LH PCB RB3151</i>	<i>11.10</i>
<i>Theatre Input RH PCB RD3152</i>	<i>11.11</i>
<i>Dual Group/EQ PCB Assembly RA2913</i>	<i>11.16</i>
<i>Dual Group/Stereo Return PCB Assembly RA2914</i>	<i>11.20</i>
<i>Dual Matrix PCB Assembly RP1426</i>	<i>11.25</i>
<i>Master RH PCB Assembly RB2919</i>	<i>11.28</i>
<i>Master LH PCB Assembly RC3064</i>	<i>11.35</i>
<i>Master Rear Con. PCB Assembly RA2835</i>	<i>11.43</i>
<i>VU Meter Drive PCB Assembly RA2963</i>	<i>11.43</i>
<i>LED Meter PCB Assembly RB3095</i>	<i>11.43</i>
<i>VU Driver PCB Assembly RC3124</i>	<i>11.45</i>
<i>Meter/Switch PCB Assembly RP1425</i>	<i>11.46</i>
<i>Group Insert PCB Assembly RP1569</i>	<i>11.47</i>

# Spare Parts

## Mono Input

Mono Input PCB Assembly . . . . . RB3063		
IDENT . . . . .	DESCRIPTION . . . . .	PART No.
C1	VERT ELEC 0.2" 47UF 63V	CE0402
C2	VERT ELEC 0.2" 47UF 63V	CE0402
C3	C/C 0.2" TAPED 100V 680PF(N68)	CA0009
C4	C/C 0.2" TAPED 100V 680PF(N68)	CA0009
C5	C/C 0.2" TAPED 100V 680PF(N68)	CA0009
C6	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C7	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C8	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C9	C/CAP 0.2" PRFRM TPD 100V 15PF	CA0003
C10	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C11	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C12	POLY-CAP 5MM 5% 100V 47N	CC0248
C13	POLY-CAP 5MM 5% 100V 47N	CC0248
C14	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C15	POLY-CAP 5MM 5% 100V 4N7	CC0242
C16	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C17	POLY-CAP 5MM 5% 100V 3N3	CC0241
C18	MICRO-BOX 5MM 5% 100V 1N5	CC0239
C19	POLY-CAP 5MM 5% 100V 15N	CC0245
C20	POLY-CAP 5MM 5% 100V 6N8	CC0243
C21	POLY-CAP 5MM 5% 63V 100N	CC0252
C22	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C23	PHILLIPS 47MF 25V CAP	CE0438
C24	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C25	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C26	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C27	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C28	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C29	POLY-CAP 5MM 5% 100V 47N	CC0248
C30	VERT ELEC 220 MF 25V	CE0422
C31	VERT ELEC 220 MF 25V	CE0422
C32	POLY-CAP 5MM 5% 100V 4N7	CC0242
C33	POLY-CAP 5MM 5% 63V 150N	CC0261
C34	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C35	POLY-CAP 5MM 5% 63V 100N	CC0252
C36	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C37	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C38	POLY-CAP 5MM 5% 63V 100N	CC0252
C39	POLY-CAP 5MM 5% 63V 100N	CC0252
C40	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C41	PHILLIPS 47MF 25V CAP	CE0438
C42	POLY-CAP 5MM 5% 100V 10N	CC0244
C43	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C44	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C45	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
CN2	G80 IDC 34WY R/A LTCHD HDR	FA0044
CN4	1/4" PC MNTG BLADE HORIZ	FF0555
CN6	G80 IDC 10WY R/A LTCHD HDR	FA0058
CN6	N04X3/8 PAN POZI SLF TAP Z/CLR	NA0242
CN7	MTHD .1" 2WY VERT LCKNG ML HDR	FF0641
D1	DIODE 1N4148	BA0001
D2	DIODE 1N4148	BA0001

D3	DIODE 1N4148	BA0001
D4	DIODE 1N4148	BA0001
D5	DIODE 1N4148	BA0001
D6	DIODE 1N4148	BA0001
D7	DIODE 1N4148	BA0001
D8	DIODE 1N4148	BA0001
D9	DIODE 1N4148	BA0001
D10	DIODE 1N4148	BA0001
D11	DIODE 1N4148	BA0001
D12	DIODE 1N4148	BA0001
D13	DIODE 1N4148	BA0001
IC1	DUAL OP AMP IC TL072CP @	BE0413
IC2	DUAL OP AMP IC TL072CP @	BE0413
IC3	DUAL OP AMP IC TL072CP @	BE0413
IC4	DUAL OP AMP IC TL072CP @	BE0413
IC5	DUAL OP AMP IC NE5532	BE0428
IC6	DUAL OP AMP IC TL072CP @	BE0413
IC7	DUAL OP AMP IC TL072CP @	BE0413
IC8	SGL OP AMP IC TL071CP @	BE0404
J1	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J2	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J3	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J4	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J5	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J6	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J7	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J8	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J9	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J10	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J11	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J12	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
JSK1	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK2	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK3	JACK SKT STR PC MNT FERRULE 5P	FH0741
LED1	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LED2	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LED3	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
MD5537	P.B. POTENTIOMETER MTG BRKT	PZ2271
R1	MF 0.25W RES 2% 15K	AD0477
R2	MF 0.25W RES 2% 15K	AD0477
R3	MF 0.25W RES 2% 2K2	AD0457
R4	MF 0.25W RES 2% 6K8	AD0469
R5	MF 0.25W RES 2% 6K8	AD0469
R6	MF 0.25W RES 2% 22K	AD0481
R7	MF 0.25W RES 2% 22K	AD0481
R8	MF 0.25W RES 2% 4K7	AD0465
R9	MF 0.25W RES 2% 4K7	AD0465
R10	MF 0.25W RES 2% 2K2	AD0457
R11	MF 0.25W RES 2% 10R	AD0401
R12	MF 0.25W RES 2% 10K	AD0473
R13	MF 0.25W RES 2% 10K	AD0473
R14	MF 0.25W RES 2% 2K7	AD0459
R15	MF 0.25W RES 2% 2K7	AD0459
R16	MF 0.25W RES 2% 22K	AD0481
R17	MF 0.25W RES 2% 22K	AD0481
R18	MF 0.25W RES 2% 47K	AD0489
R19	MF 0.25W RES 2% 4K7	AD0465
R20	MF 0.25W RES 2% 4K7	AD0465
R21	MF 0.25W RES 2% 3K3	AD0461

R22	MF 0.25W RES 2% 3K3	AD0461
R23	MF 0.25W RES 2% 150R	AD0429
R24	MF 0.25W RES 2% 330R	AD0437
R25	MF 0.25W RES 2% 47K	AD0489
R26	MF 0.25W RES 2% 39K	AD0487
R27	MF 0.25W RES 2% 33K	AD0485
R28	MF 0.25W RES 2% 47K	AD0489
R29	MF 0.25W RES 2% 33K	AD0485
R30	MF 0.25W RES 2% 6K8	AD0469
R31	MF 0.25W RES 2% 33K	AD0485
R32	MF 0.25W RES 2% 6K8	AD0469
R33	MF 0.25W RES 2% 22K	AD0481
R34	MF 0.25W RES 2% 6K8	AD0469
R35	MF 0.25W RES 2% 22K	AD0481
R36	MF 0.25W RES 2% 6K8	AD0469
R37	MF 0.25W RES 2% 22K	AD0481
R38	MF 0.25W RES 2% 6K8	AD0469
R39	MF 0.25W RES 2% 22K	AD0481
R40	MF 0.25W RES 2% 22K	AD0481
R41	MF 0.25W RES 2% 5K1	AD0466
R42	MF 0.25W RES 2% 1K5	AD0453
R43	MF 0.25W RES 2% 22K	AD0481
R44	MF 0.25W RES 2% 47K	AD0489
R45	MF 0.25W RES 2% 75R	AD0422
R47	MF 0.25W RES 2% 100K	AD0497
R48	MF 0.25W RES 2% 100K	AD0497
R49	MF 0.25W RES 2% 2K2	AD0457
R50	MF 0.25W RES 2% 4K7	AD0465
R51	MF 0.25W RES 2% 100R	AD0425
R52	MF 0.25W RES 2% 3K3	AD0461
R53	MF 0.25W RES 2% 10K	AD0473
R54	MF 0.25W RES 2% 2K2	AD0457
R55	MF 0.25W RES 2% 3K3	AD0461
R56	MF 0.25W RES 2% 10K	AD0473
R57	MF 0.25W RES 2% 2K2	AD0457
R58	MINI-RES MF 1/8W 2% 10K	AR1673
R59	MINI-RES MF 1/8W 2% 10K	AR1673
R60	MINI-RES MF 1/8W 2% 10K	AR1673
R61	MINI-RES MF 1/8W 2% 10K	AR1673
R62	MINI-RES MF 1/8W 2% 10K	AR1673
R63	MINI-RES MF 1/8W 2% 10K	AR1673
R64	MF 0.25W RES 2% 22K	AD0481
R65	MF 0.25W RES 2% 22K	AD0481
R66	MF 0.25W RES 2% 22K	AD0481
R67	MF 0.25W RES 2% 22K	AD0481
R68	MF 0.25W RES 2% 22K	AD0481
R69	MF 0.25W RES 2% 22K	AD0481
R70	MF 0.25W RES 2% 470K	AD0513
R71	MF 0.25W RES 2% 56K	AD0491
R72	MF 0.25W RES 2% 680K	AD0517
R73	MF 0.25W RES 2% 4K7	AD0465
R74	MF 0.25W RES 2% 1K	AD0449
R75	MF 0.25W RES 2% 10R	AD0401
R76	MF 0.25W RES 2% 10R	AD0401
R77	MF 0.25W RES 2% 10R	AD0401
R78	MF 0.25W RES 2% 10R	AD0401
R80	MINI-RES MF 1/8W 2% 10K	AR1673
R81	MINI-RES MF 1/8W 2% 10K	AR1673

R82	MINI-RES MF 1/8W 2% 10K	AR1673
R83	MINI-RES MF 1/8W 2% 10K	AR1673
R84	MF 0.25W RES 2% 10K	AD0473
R85	MF 0.25W RES 2% 4K3	AD0464
R86	MF 0.25W RES 2% 3K3	AD0461
R87	MF 0.25W RES 2% 5K6	AD0467
R88	MF 0.25W RES 2% 3K3	AD0461
R89	MF 0.25W RES 2% 3K3	AD0461
R90	MF 0.25W RES 2% 100K	AD0497
R91	MF 0.25W RES 2% 4K7	AD0465
R92	MF 0.25W RES 2% 22K	AD0481
R93	MF 0.25W RES 2% 4K7	AD0465
R94	MF 0.25W RES 2% 4K7	AD0465
R95	MF 0.25W RES 2% 4K7	AD0465
R96	MF 0.25W RES 2% 220K	AD0505
R97	MF 0.25W RES 2% 220K	AD0505
R98	RES 5% 22M .025W	AC0345
R99	MF 0.25W RES 2% 680K	AD0517
R100	MF 0.25W RES 2% 680K	AD0517
R101	MF 0.25W RES 2% 4K7	AD0465
R102	MF 0.25W RES 2% 47K	AD0489
R103	MF 0.25W RES 2% 47K	AD0489
R104	MF 0.25W RES 2% 100K	AD0497
R105	MF 0.25W RES 2% 220K	AD0505
R106	MF 0.25W RES 2% 680K	AD0517
R107	MF 0.25W RES 2% 47K	AD0489
R108	MF 0.25W RES 2% 22K	AD0481
R109	MF 0.25W RES 2% 22K	AD0481
R110	MF 0.25W RES 2% 22K	AD0481
R111	MF 0.25W RES 2% 22K	AD0481
R112	MF 0.25W RES 2% 22K	AD0481
R113	MF 0.25W RES 2% 75R	AD0422
R114	MF 0.25W RES 2% 22K	AD0481
R115	MF 0.25W RES 2% 75R	AD0422
S1	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S2	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S3	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S4	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S5	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S6	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S7	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S8	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S9	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S10	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S11	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S12	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S13	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S14	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S15	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S16	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S17	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SC3063	VENUE2 I/P PCB	GB3063
TR1	PNP TRANS 2SB737 LOW RBB	BD0346
TR2	PNP TRANS 2SB737 LOW RBB	BD0346
TR3	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR4	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR5	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR6	FET SWITCH J112 (TAPED) @	BD0322
TR7	FET SWITCH J112 (TAPED) @	BD0322

TR8	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR9	NPN TRANS 2SC2240BL(TAPED)	BD0302
VR1	ALPS 16MM 5K RD REV-LOGX2 POT	DM1109
VR2	ALPS 16MM C/D 10KB LIN	DM1102
VR3	ALPS 16MM 100KC REV.SEMILOG X2	DM1106
VR4	ALPS 16MM C/D 10KB LIN	DM1102
VR5	ALPS 16MM 100KC REV.SEMILOG X2	DM1106
VR6	ALPS 16MM C/D 10KB LIN	DM1102
VR7	ALPS 16MM C/D 10KB LIN	DM1102
VR8	ALPS 16MM 20KA LOG	DM1123
VR9	ALPS 16MM 20KA LOG	DM1123
VR10	ALPS 16MM 20KA LOG	DM1123
VR11	ALPS 16MM 20KA LOG	DM1123
VR12	ALPS 16MM C/D 10KB LIN X 2	DM1101
VR13	ALPS 16MM 20KA LOG	DM1123
VR14	ALPS 16MM 20KA LOG	DM1123

### Stereo Input

IDENT	DESCRIPTION	PART No.
	Stereo Input PCB Assembly	RA2915
C1	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C2	POLY-CAP 5MM 5% 100V 4N7	CC0242
C3	POLY-CAP 5MM 5% 63V 100N	CC0252
C4	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C5	POLY-CAP 5MM 5% 100V 10N	CC0244
C6	POLY-CAP 5MM 5% 100V 15N	CC0245
C7	PHILLIPS 47MF 25V CAP	CE0438
C8	VERT ELEC 0.2"TPD 2.2MF 50V	CE0416
C9	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C10	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C11	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C12	POLY-CAP 5MM 5% 100V 4N7	CC0242
C13	POLY-CAP 5MM 5% 63V 100N	CC0252
C14	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C15	POLY-CAP 5MM 5% 100V 10N	CC0244
C16	POLY-CAP 5MM 5% 100V 15N	CC0245
C17	PHILLIPS 47MF 25V CAP	CE0438
C18	VERT ELEC 0.2"TPD 2.2MF 50V	CE0416
C19	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C20	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C21	VERT ELEC 0.2"TPD 2.2MF 50V	CE0416
C22	VERT ELEC 0.2"TPD 2.2MF 50V	CE0416
C23	VERT ELEC 0.2"TPD 2.2MF 50V	CE0416
C24	VERT ELEC 220 MF 25V	CE0422
C25	VERT ELEC 220 MF 25V	CE0422
C26	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C27	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C28	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C29	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C30	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C31	POLY-CAP 5MM 5% 63V 100N	CC0252
C32	POLY-CAP 5MM 5% 100V 3N3	CC0241
C128	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C201	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C202	PHILLIPS 47MF 25V CAP	CE0438
C203	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005

C204	PHILLIPS 47MF 25V CAP	CE0438
C205	POLY-CAP 5MM 5% 63V 100N	CC0252
C206	POLY-CAP 5MM 5% 63V 100N	CC0252
C207	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C208	VERT ELEC 0.2' TPD 47MF 25V	CE0401
CN1	G80 IDC 34WY R/A LTCHD HDR	FA0044
CN1	N04X3/8 PAN POZI SLF TAP Z/CLR	NA0242
CN6	G80 IDC 10WY R/A LTCHD HDR	FA0058
CN6	N04X3/8 PAN POZI SLF TAP Z/CLR	NA0242
CN8	1/4" PC MNTG BLADE HORIZ	FF0555
CN12	MTHD .1" 2WY VERT LCKNG ML HDR	FF0641
D1	DIODE 1N4148	BA0001
D2	DIODE 1N4148	BA0001
D3	DIODE 1N4148	BA0001
D4	DIODE 1N4148	BA0001
D5	DIODE 1N4148	BA0001
D6	DIODE 1N4148	BA0001
IC1	8WY DIL IC SOCKET	FF0718
IC1	DUAL OP AMP IC TL072CP @	BE0413
IC2	8WY DIL IC SOCKET	FF0718
IC2	DUAL OP AMP IC TL072CP @	BE0413
IC3	8WY DIL IC SOCKET	FF0718
IC3	DUAL OP AMP IC TL072CP @	BE0413
IC4	8WY DIL IC SOCKET	FF0718
IC4	DUAL OP AMP IC TL072CP @	BE0413
IC5	8WY DIL IC SOCKET	FF0718
IC5	DUAL OP AMP IC TL072CP @	BE0413
IC6	8WY DIL IC SOCKET	FF0718
IC6	DUAL OP AMP IC NE5532	BE0428
IC7	8WY DIL IC SOCKET	FF0718
IC7	DUAL OP AMP IC TL072CP @	BE0413
IC8	14WY DIL IC SOCKET	FF0719
IC8	QUAD OP AMP IC TL074	BE0403
IC9	8WY DIL IC SOCKET	FF0718
IC9	DUAL OP AMP IC TL072CP @	BE0413
IC10	8WY DIL IC SOCKET	FF0718
IC10	DUAL OP AMP IC TL072CP @	BE0413
J1	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J2	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J3	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J4	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J5	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J6	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J7	ZERO OHM RESISTOR (METAL SLUG)	AZ2222
J11	ZERO OHM RESISTOR (METAL SLUG)	AZ2222
J12	ZERO OHM RESISTOR (METAL SLUG)	AZ2222
J13	ZERO OHM RESISTOR (METAL SLUG)	AZ2222
J14	ZERO OHM RESISTOR (METAL SLUG)	AZ2222
J15	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J16	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J17	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J18	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J19	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J20	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
JSK1	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK2	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK3	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK4	JACK SKT STR PC MNT FERRULE 5P	FH0741

LD1	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD2	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD3	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
MD5537	P.B. POTENTIOMETER MTG BRKT	PZ2271
R3	MF 0.25W RES 2% 4K7	AD0465
R4	MF 0.25W RES 2% 4K7	AD0465
R5	MF 0.25W RES 2% 150R	AD0429
R6	MF 0.25W RES 2% 22K	AD0481
R7	MF 0.25W RES 2% 7K5	AD0470
R8	MF 0.25W RES 2% 4K7	AD0465
R9	MF 0.25W RES 2% 22K	AD0481
R10	MF 0.25W RES 2% 15K	AD0477
R11	MF 0.25W RES 2% 22K	AD0481
R12	MF 0.25W RES 2% 22K	AD0481
R13	MF 0.25W RES 2% 10K	AD0473
R14	MF 0.25W RES 2% 1K	AD0449
R15	MF 0.25W RES 2% 33K	AD0485
R16	MF 0.25W RES 2% 100K	AD0497
R17	MF 0.25W RES 2% 1K8	AD0455
R19	MF 0.25W RES 2% 7K5	AD0470
R20	MF 0.25W RES 2% 10K	AD0473
R21	MF 0.25W RES 2% 3K3	AD0461
R22	MF 0.25W RES 2% 2K2	AD0457
R23	MINI-RES MF 1/8W 2% 10K	AR1673
R24	MINI-RES MF 1/8W 2% 10K	AR1673
R25	MINI-RES MF 1/8W 2% 10K	AR1673
R40	MF 0.25W RES 2% 10R	AD0401
R41	MF 0.25W RES 2% 10R	AD0401
R47	MF 0.25W RES 2% 680K	AD0517
R50	MF 0.25W RES 2% 22K	AD0481
R51	MF 0.25W RES 2% 22K	AD0481
R52	MF 0.25W RES 2% 15K	AD0477
R53	MF 0.25W RES 2% 22K	AD0481
R54	MF 0.25W RES 2% 22K	AD0481
R55	MF 0.25W RES 2% 22K	AD0481
R56	MF 0.25W RES 2% 22K	AD0481
R57	MF 0.25W RES 2% 9K1	AD0472
R58	MF 0.25W RES 2% 22K	AD0481
R59	MF 0.25W RES 2% 22K	AD0481
R60	MF 0.25W RES 2% 22K	AD0481
R61	MF 0.25W RES 2% 22K	AD0481
R62	MF 0.25W RES 2% 22K	AD0481
R63	MF 0.25W RES 2% 22K	AD0481
R64	MF 0.25W RES 2% 22K	AD0481
R65	MF 0.25W RES 2% 22K	AD0481
R66	MF 0.25W RES 2% 470K	AD0513
R67	MF 0.25W RES 2% 470K	AD0513
R68	MF 0.25W RES 2% 56K	AD0491
R69	MF 0.25W RES 2% 56K	AD0491
R70	MF 0.25W RES 2% 680K	AD0517
R71	MF 0.25W RES 2% 1K	AD0449
R72	MF 0.25W RES 2% 4K7	AD0465
R73	MF 0.25W RES 2% 100K	AD0497
R74	MF 0.25W RES 2% 10R	AD0401
R75	MF 0.25W RES 2% 10R	AD0401
R80	MINI-RES MF 1/8W 2% 10K	AR1673
R81	MINI-RES MF 1/8W 2% 10K	AR1673
R82	MINI-RES MF 1/8W 2% 10K	AR1673



R83	MINI-RES MF 1/8W 2% 10K	AR1673
R84	MF 0.25W RES 2% 47K	AD0489
R85	MF 0.25W RES 2% 5K1	AD0466
R86	MF 0.25W RES 2% 3K3	AD0461
R103	MF 0.25W RES 2% 4K7	AD0465
R104	MF 0.25W RES 2% 4K7	AD0465
R105	MF 0.25W RES 2% 150R	AD0429
R106	MF 0.25W RES 2% 22K	AD0481
R107	MF 0.25W RES 2% 7K5	AD0470
R108	MF 0.25W RES 2% 4K7	AD0465
R109	MF 0.25W RES 2% 22K	AD0481
R110	MF 0.25W RES 2% 15K	AD0477
R111	MF 0.25W RES 2% 22K	AD0481
R112	MF 0.25W RES 2% 22K	AD0481
R113	MF 0.25W RES 2% 10K	AD0473
R114	MF 0.25W RES 2% 1K	AD0449
R115	MF 0.25W RES 2% 33K	AD0485
R116	MF 0.25W RES 2% 100K	AD0497
R117	MF 0.25W RES 2% 1K8	AD0455
R119	MF 0.25W RES 2% 7K5	AD0470
R120	MF 0.25W RES 2% 10K	AD0473
R121	MF 0.25W RES 2% 3K3	AD0461
R122	MF 0.25W RES 2% 2K2	AD0457
R123	MINI-RES MF 1/8W 2% 10K	AR1673
R124	MINI-RES MF 1/8W 2% 10K	AR1673
R125	MINI-RES MF 1/8W 2% 10K	AR1673
R184	MF 0.25W RES 2% 47K	AD0489
R185	MF 0.25W RES 2% 5K1	AD0466
R186	MF 0.25W RES 2% 3K3	AD0461
R190	MF 0.25W RES 2% 5K1	AD0466
R191	MF 0.25W RES 2% 4K7	AD0465
R192	MF 0.25W RES 2% 2K4	AD0458
R193	MF 0.25W RES 2% 5K1	AD0466
R194	MF 0.25W RES 2% 5K1	AD0466
R195	MF 0.25W RES 2% 5K1	AD0466
R196	MF 0.25W RES 2% 4K7	AD0465
R197	MF 0.25W RES 2% 2K4	AD0458
R200	MF 0.25W RES 2% 22K	AD0481
R201	MF 0.25W RES 2% 22K	AD0481
R202	MF 0.25W RES 2% 22K	AD0481
R203	MF 0.25W RES 2% 22K	AD0481
R204	MF 0.25W RES 2% 4K7	AD0465
R205	MF 0.25W RES 2% 4K7	AD0465
R206	MF 0.25W RES 2% 22K	AD0481
R207	MF 0.25W RES 2% 4K7	AD0465
R208	MF 0.25W RES 2% 4K7	AD0465
R209	MF 0.25W RES 2% 22K	AD0481
R210	MF 0.25W RES 2% 4K7	AD0465
R211	MF 0.25W RES 2% 47K	AD0489
R212	MF 0.25W RES 2% 47K	AD0489
R213	MF 0.25W RES 2% 680K	AD0517
R214	MF 0.25W RES 2% 100K	AD0497
R215	MF 0.25W RES 2% 220K	AD0505
R216	MF 0.25W RES 2% 220K	AD0505
R217	MF 0.25W RES 2% 220K	AD0505
R218	RES 5% 22M .025W	AC0345
R219	MF 0.25W RES 2% 680K	AD0517
R220	MF 0.25W RES 2% 680K	AD0517

R221	MF 0.25W RES 2% 47K	AD0489
R222	MF 0.25W RES 2% 47K	AD0489
R223	MF 0.25W RES 2% 100R	AD0425
S1	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S2	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S3	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S5	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S6	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S7	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S8	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S9	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S10	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S11	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S12	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S13	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S14	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S15	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SC2915	VENUE STER I/P PCB	GB2915
TR1	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR2	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR3	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR4	FET SWITCH J112 (TAPED) @	BD0322
TR5	FET SWITCH J112 (TAPED) @	BD0322
TR6	FET SWITCH J112 (TAPED) @	BD0322
TR7	FET SWITCH J112 (TAPED) @	BD0322
TR8	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR9	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR10	NPN TRANS 2SC2240BL(TAPED)	BD0302
VR1	ALPS 16MM 5K RD REV-LOGX2 POT	DM1109
VR2	ALPS 16MM C/D 10KB LIN X 2	DM1101
VR3	ALPS 16MM 100KC REV.SEMILOG X2	DM1106
VR4	ALPS 16MM C/D 10KB LIN X 2	DM1101
VR5	ALPS 16MM C/D 10KB LIN X 2	DM1101
VR6	ALPS 16MM 20KA LOG	DM1123
VR7	ALPS 16MM 20KA LOG	DM1123
VR8	ALPS 16MM 20KA LOG	DM1123
VR9	ALPS 16MM 20KA LOG	DM1123
VR10	ALPS 16MM C/D 10KB LIN X 2	DM1101
VR11	ALPS 16MM 20KA LOG	DM1123
VR12	ALPS 16MM 20KA LOG	DM1123
VR13	ALPS 16MM 10KBX2CD CT POT	DM1126

### Theatre Input LH PCB

Theatre Input LH PCB Assembly	RB3151	
<b>IDENT</b>	<b>DESCRIPTION</b>	<b>PART No.</b>
C1	POLY-CAP 5MM 5% 63V 150N	CC0261
LD1	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD2	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD3	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD4	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD5	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
MD5772	9MM POT BRKT W/PIPS	PZ2290
R1	MINI-RES MF 1/8W 2% 10K	AR1673
R2	MINI-RES MF 1/8W 2% 10K	AR1673
R3	MINI-RES MF 1/8W 2% 10K	AR1673

R4	MINI-RES MF 1/8W 2% 10K	AR1673
R5	MINI-RES MF 1/8W 2% 10K	AR1673
R6	MINI-RES MF 1/8W 2% 10K	AR1673
R7	MF 0.25W RES 2% 3K3	AD0461
R8	MF 0.25W RES 2% 3K3	AD0461
SC3151	VENUE2 THTRE I/P LH PCB	GB3151
SW1	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW2	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW3	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW4	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW5	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW6	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
SW7	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW8	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW9	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW10	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
VR1	ALPS 9MM(SB) 10K LIN CD	DM1142
VR2	ALPS 9MM(SB) 10K LIN CD	DM1142
VR3	ALPS 9MM(SB) 10K LIN CD	DM1142
VR4	ALPS 9MM(SB) 10K LIN CD	DM1142

**Theatre Input RH PCB**

Theatre Input RH PCB Assembly	RD3152
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IDENT	DESCRIPTION	PART No.
C1	VERT ELEC 0.2' 47UF 63V	CE0402
C2	VERT ELEC 0.2' 47UF 63V	CE0402
C3	C/C 0.2" TAPED 100V 680PF(N68)	CA0009
C4	C/C 0.2" TAPED 100V 680PF(N68)	CA0009
C5	C/C 0.2" TAPED 100V 680PF(N68)	CA0009
C6	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C7	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C8	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C9	C/CAP 0.2" PRFRM TPD 100V 15PF	CA0003
C10	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C11	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C12	POLY-CAP 5MM 5% 100V 47N	CC0248
C13	POLY-CAP 5MM 5% 100V 47N	CC0248
C14	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C15	POLY-CAP 5MM 5% 100V 4N7	CC0242
C16	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C17	POLY-CAP 5MM 5% 100V 3N3	CC0241
C18	MICRO-BOX 5MM 5% 100V 1N5	CC0239
C19	POLY-CAP 5MM 5% 100V 15N	CC0245
C20	POLY-CAP 5MM 5% 100V 6N8	CC0243
C21	POLY-CAP 5MM 5% 63V 100N	CC0252
C22	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C23	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C24	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C25	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C26	PHILLIPS 47MF 25V CAP	CE0438
C27	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C28	POLY-CAP 5MM 5% 63V 100N	CC0252
C29	POLY-CAP 5MM 5% 63V 100N	CC0252
C30	PHILLIPS 47MF 25V CAP	CE0438
C31	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C32	VERT ELEC 0.2' TPD 2.2MF 50V	CE0416
C33	VERT ELEC 0.2' TPD L-L 10MF 25V	CE0417
C34	C/C 0.2" TAPED 100V 680PF(N68)	CA0009

C35	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C36	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C38	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C41	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C42	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C43	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C44	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C45	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C46	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C47	VERT ELEC 220 MF 25V	CE0422
C48	VERT ELEC 220 MF 25V	CE0422
C49	POLY-CAP 5MM 5% 100V 47N	CC0248
C50	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C51	POLY-CAP 5MM 5% 100V 4N7	CC0242
C52	POLY-CAP 5MM 5% 63V 100N	CC0252
C53	POLY-CAP 5MM 5% 63V 100N	CC0252
CN2	G80 IDC 34WY R/A LTCHD HDR	FA0044
CN4	1/4" PC MNTG BLADE HORIZ	FF0555
CN6	G80 IDC 10WY R/A LTCHD HDR	FA0058
CN8	SPIRIT STUDIO 14WY FLEXI-STRIP	LC0233
CN9	SPIRIT STUDIO 14WY FLEXI-STRIP	LC0233
CN10	8WY 2" FLEXI-STRIP	LC0239
D1	DIODE 1N4148	BA0001
IC1	DUAL OP AMP IC TL072CP @	BE0413
IC2	DUAL OP AMP IC TL072CP @	BE0413
IC3	DUAL OP AMP IC TL072CP @	BE0413
IC4	DUAL OP AMP IC TL072CP @	BE0413
IC5	DUAL OP AMP IC TL072CP @	BE0413
IC6	DUAL OP AMP IC TL072CP @	BE0413
IC7	SGL OP AMP IC TL071CP @	BE0404
IC8	SGL OP AMP IC TL071CP @	BE0404
IC9	QUAD COMPARATOR IC LCM2901	BE0410
IC10	QUAD COMPARATOR IC LCM2901	BE0410
IC11	DUAL OP AMP IC TL072CP @	BE0413
IC12	DUAL OP AMP IC NE5532	BE0428
J1	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J2	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J3	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J4	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J5	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J6	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J7	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
JSK2	JACK SKT STR PC MNT FERRULE 5P	FH0741
LD1	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD2	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD3	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD4	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD5	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD6	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD7	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD8	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD9	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD11	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD12	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD13	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD15	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD17	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD19	T1 3MM S.BRT LED RED PRF.SHORT	JA0060

LD20	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD21	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD22	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LED14	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LED16	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
MD5772	9MM POT BRKT W/PIPS	PZ2290
MD6099	9MM POT BRKT W/PIPS(12.5 BODY)	PZ2289
R1	MF 0.25W RES 2% 15K	AD0477
R2	MF 0.25W RES 2% 15K	AD0477
R3	MF 0.25W RES 2% 2K2	AD0457
R4	MF 0.25W RES 2% 6K8	AD0469
R5	MF 0.25W RES 2% 6K8	AD0469
R6	MF 0.25W RES 2% 22K	AD0481
R7	MF 0.25W RES 2% 22K	AD0481
R8	MF 0.25W RES 2% 4K7	AD0465
R9	MF 0.25W RES 2% 4K7	AD0465
R10	MF 0.25W RES 2% 2K2	AD0457
R11	MF 0.25W RES 2% 10R	AD0401
R12	MF 0.25W RES 2% 10K	AD0473
R13	MF 0.25W RES 2% 10K	AD0473
R14	MF 0.25W RES 2% 2K7	AD0459
R15	MF 0.25W RES 2% 2K7	AD0459
R16	MF 0.25W RES 2% 22K	AD0481
R17	MF 0.25W RES 2% 22K	AD0481
R18	MF 0.25W RES 2% 47K	AD0489
R19	MF 0.25W RES 2% 4K7	AD0465
R20	MF 0.25W RES 2% 4K7	AD0465
R21	MF 0.25W RES 2% 3K3	AD0461
R22	MF 0.25W RES 2% 3K3	AD0461
R23	MF 0.25W RES 2% 150R	AD0429
R24	MF 0.25W RES 2% 330R	AD0437
R25	MF 0.25W RES 2% 47K	AD0489
R26	MF 0.25W RES 2% 39K	AD0487
R27	MF 0.25W RES 2% 33K	AD0485
R28	MF 0.25W RES 2% 47K	AD0489
R29	MF 0.25W RES 2% 33K	AD0485
R30	MF 0.25W RES 2% 6K8	AD0469
R31	MF 0.25W RES 2% 33K	AD0485
R32	MF 0.25W RES 2% 6K8	AD0469
R33	MF 0.25W RES 2% 22K	AD0481
R34	MF 0.25W RES 2% 6K8	AD0469
R35	MF 0.25W RES 2% 22K	AD0481
R36	MF 0.25W RES 2% 6K8	AD0469
R37	MF 0.25W RES 2% 22K	AD0481
R38	MF 0.25W RES 2% 6K8	AD0469
R39	MF 0.25W RES 2% 22K	AD0481
R40	MF 0.25W RES 2% 22K	AD0481
R41	MF 0.25W RES 2% 5K1	AD0466
R42	MF 0.25W RES 2% 1K5	AD0453
R43	MF 0.25W RES 2% 22K	AD0481
R44	MF 0.25W RES 2% 47K	AD0489
R45	MF 0.25W RES 2% 4K7	AD0465
R46	MF 0.25W RES 2% 4K7	AD0465
R47	MF 0.25W RES 2% 22K	AD0481
R48	MF 0.25W RES 2% 100K	AD0497
R49	MF 0.25W RES 2% 4K7	AD0465
R50	MF 0.25W RES 2% 4K7	AD0465
R51	MF 0.25W RES 2% 220K	AD0505

R52	MF 0.25W RES 2% 220K	AD0505
R53	CF 0.25W RES 5% 10M BL	AC0341
R54	CF 0.25W RES 5% 10M BL	AC0341
R55	MF 0.25W RES 2% 680K	AD0517
R56	MF 0.25W RES 2% 680K	AD0517
R57	MF 0.25W RES 2% 22K	AD0481
R58	MF 0.25W RES 2% 47K	AD0489
R59	MF 0.25W RES 2% 470K	AD0513
R60	MF 0.25W RES 2% 4K7	AD0465
R62	MF 0.25W RES 2% 47K	AD0489
R63	MF 0.25W RES 2% 47K	AD0489
R64	MF 0.25W RES 2% 220K	AD0505
R65	MF 0.25W RES 2% 100K	AD0497
R66	MF 0.25W RES 2% 680K	AD0517
R67	MF 0.25W RES 2% 16K	AD0478
R68	MF 0.25W RES 2% 39K	AD0487
R69	MF 0.25W RES 2% 47K	AD0489
R70	MF 0.25W RES 2% 75R	AD0422
R71	RES MF 10R 2% 0.25W RADIAL	AV0001
R72	MF 0.25W RES 2% 10K	AD0473
R73	MF 0.25W RES 2% 22K	AD0481
R74	RES MF 10R 2% 0.25W RADIAL	AV0001
R77	MF 0.25W RES 2% 9K1	AD0472
R78	MF 0.25W RES 2% 750R	AD0446
R79	MF 0.25W RES 2% 390R	AD0439
R80	MF 0.25W RES 2% 240R	AD0434
R81	MF 0.25W RES 2% 130R	AD0428
R82	MF 0.25W RES 2% 75R	AD0422
R83	MF 0.25W RES 2% 39R	AD0415
R84	MF 0.25W RES 2% 10K	AD0473
R85	MF 0.25W RES 2% 4K3	AD0464
R87	MF 0.25W RES 2% 5K6	AD0467
R88	MF 0.25W RES 2% 100K	AD0497
R89	MF 0.25W RES 2% 3K3	AD0461
R90	MF 0.25W RES 2% 12K	AD0475
R91	MF 0.25W RES 2% 100K	AD0497
R92	MF 0.25W RES 2% 220K	AD0505
R93	MF 0.25W RES 2% 100K	AD0497
R94	MF 0.25W RES 2% 12K	AD0475
R95	MF 0.25W RES 2% 8K2	AD0471
R102	MF 0.25W RES 2% 100R	AD0425
R103	MF 0.25W RES 2% 27K	AD0483
R104	MF 0.25W RES 2% 220K	AD0505
R105	MF 0.25W RES 2% 27K	AD0483
R106	MF 0.25W RES 2% 100R	AD0425
R108	MF 0.25W RES 2% 22R	AD0409
R109	MF 0.25W RES 2% 33R	AD0413
R110	MF 0.25W RES 2% 100K	AD0497
R111	MF 0.25W RES 2% 8K2	AD0471
R112	MF 0.25W RES 2% 100K	AD0497
R113	MF 0.25W RES 2% 4K7	AD0465
R114	MF 0.25W RES 2% 4K7	AD0465
R115	MF 0.25W RES 2% 22K	AD0481
R116	MF 0.25W RES 2% 22K	AD0481
R117	MF 0.25W RES 2% 22K	AD0481
R118	MF 0.25W RES 2% 75R	AD0422
R119	MF 0.25W RES 2% 75R	AD0422
R120	MF 0.25W RES 2% 3K3	AD0461

R121	MF 0.25W RES 2% 3K3	AD0461
R122	MF 0.25W RES 2% 2K2	AD0457
R123	MF 0.25W RES 2% 2K2	AD0457
R124	MF 0.25W RES 2% 10K	AD0473
R125	MF 0.25W RES 2% 10K	AD0473
R126	MINI-RES MF 1/8W 2% 10K	AR1673
R127	MINI-RES MF 1/8W 2% 10K	AR1673
R128	MINI-RES MF 1/8W 2% 10K	AR1673
R129	MINI-RES MF 1/8W 2% 10K	AR1673
R130	MF 0.25W RES 2% 4K7	AD0465
R131	MF 0.25W RES 2% 100K	AD0497
R132	MF 0.25W RES 2% 2K2	AD0457
R133	MF 0.25W RES 2% 22K	AD0481
R134	MF 0.25W RES 2% 22K	AD0481
R135	MF 0.25W RES 2% 22K	AD0481
R136	MF 0.25W RES 2% 22K	AD0481
R137	MF 0.25W RES 2% 22K	AD0481
R138	MF 0.25W RES 2% 22K	AD0481
R139	RES MF 10R 2% 0.25W RADIAL	AV0001
R140	RES MF 10R 2% 0.25W RADIAL	AV0001
R141	MF 0.25W RES 2% 10R	AD0401
R143	MF 0.25W RES 2% 75R	AD0422
R144	MF 0.25W RES 2% 10R	AD0401
R145	MF 0.25W RES 2% 1K8	AD0455
R146	MF 0.25W RES 2% 10K	AD0473
R148	MF 0.25W RES 2% 470R	AD0441
SC3152	VENUE2 THTRE I/P RH PCB	GD3152
SW1	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
SW2	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW3	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
SW4	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW5	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
SW6	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW7	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW8	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW9	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW10	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
SW11	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW12	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW13	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW14	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW15	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SW16	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
TR1	PNP TRANS 2SB737 LOW RBB	BD0346
TR2	PNP TRANS 2SB737 LOW RBB	BD0346
TR3	FET SWITCH J112 (TAPED) Ⓢ	BD0322
TR4	FET SWITCH J112 (TAPED) Ⓢ	BD0322
TR6	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR7	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR8	PNP TRANS 2SA970GR (TAPED)	BD0301
TR9	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR11	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR12	PNP TRANS 2SA970GR (TAPED)	BD0301
VR1	ALPS 9MM (SB/L) 2X5K RD	DM1165
VR2	ALPS 9MM(SB) 2X100K RLG C	DM1154
VR3	ALPS 9MM(SB) 2X100K RLG C	DM1154
VR4	ALPS 9MM(SB) 10K LOG A	DM1144
VR5	ALPS 9MM(SB) 10K LOG A	DM1144

VR6	ALPS 9MM(SB) 10K LOG A	DM1144
VR7	ALPS 9MM(SB) 10K LOG A	DM1144
VR8	ALPS 9MM(SB) 10K LOG A	DM1144
VR9	ALPS 9MM(SB) 10K LOG A	DM1144
VR10	ALPS 9MM (SB/L) 2X10K LIN CD	DM1164
XLR1	7/0.2 TRIPLE TWST BLK/GRN/RED	LA0053
XLR2	7/0.2 TRIPLE TWST BLK/GRN/RED	LA0053

**Dual Group/EQ**

IDENT	DESCRIPTION	PART No.
	Dual Group/EQ PCB Assembly	RA2913
	7/0.2 TRIPLE TWST BLK/GRN/RED	LA0053
	HEAVY DUTY TWN 7/0.2 SCRND CBL	LB0114
C1	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C2	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C3	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C4	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C5	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C6	POLY-CAP 5MM 5% 63V 100N	CC0252
C7	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C8	POLY-CAP 5MM 5% 100V 4N7	CC0242
C9	POLY-CAP 5MM 5% 63V 100N	CC0252
C10	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C11	POLY-CAP 5MM 5% 100V 6N8	CC0243
C12	POLY-CAP 5MM 5% 100V 3N3	CC0241
C13	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C14	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C15	POLY-CAP 5MM 5% 63V 100N	CC0252
C16	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C17	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C18	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C19	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C20	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C21	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C22	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C23	POLY-CAP 5MM 5% 63V 100N	CC0252
C24	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C25	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C26	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C27	POLY-CAP 5MM 5% 63V 100N	CC0252
C28	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C29	POLY-CAP 5MM 5% 100V 4N7	CC0242
C30	POLY-CAP 5MM 5% 63V 100N	CC0252
C31	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C32	POLY-CAP 5MM 5% 100V 6N8	CC0243
C33	POLY-CAP 5MM 5% 100V 3N3	CC0241
C34	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C35	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C36	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C37	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C38	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C39	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C40	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C41	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C42	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C43	POLY-CAP 5MM 5% 63V 100N	CC0252
C44	VERT ELEC 220 MF 25V	CE0422



C45	VERT ELEC 220 MF 25V	CE0422
C46	VERT ELEC 0.2"TPD L-L 10MF 25V	CE0417
C47	VERT ELEC 0.2"TPD 2.2MF 50V	CE0416
C48	POLY-CAP 5MM 5% 100V 1N	CC0238
C49	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C50	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C51	VERT ELEC 0.2"TPD 2.2MF 50V	CE0416
C52	VERT ELEC 0.2"TPD 2.2MF 50V	CE0416
CN1	G80 1DC 16WY R/A LTCH ML HDR	FA0073
CN4	10WY FLEXI-STRIP	LC0230
CN7	G80 IDC 34WY R/A LTCHD HDR	FA0044
CN9	MTHD.1'2WY R/A LCKG ML HDR S12	FF0648
CN10	MTHD.1'2WY R/A LCKG ML HDR S12	FF0648
CN12	G80 IDC 20WY R/A LTCHD HDR	FA0060
D1	DIODE 1N4148	BA0001
D2	DIODE 1N4148	BA0001
D3	DIODE 1N4148	BA0001
D4	DIODE 1N4148	BA0001
D5	DIODE 1N4148	BA0001
IC1	8WY DIL IC SOCKET	FF0718
IC1	DUAL OP AMP IC NE5532	BE0428
IC2	8WY DIL IC SOCKET	FF0718
IC2	DUAL OP AMP IC TL072CP @	BE0413
IC3	8WY DIL IC SOCKET	FF0718
IC3	DUAL OP AMP IC NE5532	BE0428
IC4	8WY DIL IC SOCKET	FF0718
IC4	DUAL OP AMP IC NE5532	BE0428
IC5	8WY DIL IC SOCKET	FF0718
IC5	DUAL OP AMP IC NE5532	BE0428
IC6	8WY DIL IC SOCKET	FF0718
IC6	DUAL OP AMP IC TL072CP @	BE0413
IC7	8WY DIL IC SOCKET	FF0718
IC7	DUAL OP AMP IC NE5532	BE0428
IC8	8WY DIL IC SOCKET	FF0718
IC8	SGL OP AMP IC TL071CP @	BE0404
IC9	14WY DIL IC SOCKET	FF0719
IC9	QUAD COMPARATOR IC LCM2901	BE0410
IC10	14WY DIL IC SOCKET	FF0719
IC10	QUAD COMPARATOR IC LCM2901	BE0410
IC11	14WY DIL IC SOCKET	FF0719
IC11	QUAD COMPARATOR IC LCM2901	BE0410
IC12	14WY DIL IC SOCKET	FF0719
IC12	QUAD COMPARATOR IC LCM2901	BE0410
IC13	14WY DIL IC SOCKET	FF0719
IC13	QUAD COMPARATOR IC LCM2901	BE0410
J1	.1' 16WY D.I.L. HDR	FF0693
J17	.1' 3WY SIL HDR(GLD)2.54MM PIN	FF0637
JSK1	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK2	JACK SKT STR PC MNT FERRULE 5P	FH0741
LD2	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD4	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD6	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD8	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD10	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD12	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD13	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD14	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD15	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062

LD16	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD18	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD20	T1 3MM S.BRT LED RED PRF.LONG	JA0061
MD5537	P.B. POTENTIOMETER MTG BRKT	PZ2271
PR1	CERMET TRIMMER HORIZ 90H 2K2	DE0401
PR2	CERMET TRIMMER HORIZ 90H 2K2	DE0401
PR3	TRIMMER VERT 3306W- 20K	DE0430
R1	MF 0.25W RES 2% 22K	AD0481
R2	MF 0.25W RES 2% 10K	AD0473
R3	MF 0.25W RES 2% 1K	AD0449
R4	MF 0.25W RES 2% 22K	AD0481
R5	MF 0.25W RES 2% 10K	AD0473
R6	MF 0.25W RES 2% 8K2	AD0471
R7	MF 0.25W RES 2% 220R	AD0433
R8	MF 0.25W RES 2% 4K7	AD0465
R9	MF 0.25W RES 2% 75R	AD0422
R10	MF 0.25W RES 2% 4K7	AD0465
R11	MF 0.25W RES 2% 22K	AD0481
R12	MF 0.25W RES 2% 22K	AD0481
R13	MF 0.25W RES 2% 4K7	AD0465
R14	MF 0.25W RES 2% 7K5	AD0470
R15	MF 0.25W RES 2% 5K1	AD0466
R16	MF 0.25W RES 2% 22K	AD0481
R17	MF 0.25W RES 2% 22K	AD0481
R18	MF 0.25W RES 2% 6K8	AD0469
R19	MF 0.25W RES 2% 6K8	AD0469
R20	MF 0.25W RES 2% 22K	AD0481
R21	MF 0.25W RES 2% 22K	AD0481
R22	MF 0.25W RES 2% 47K	AD0489
R23	MF 0.25W RES 2% 47R	AD0417
R30	MF 0.25W RES 2% 75R	AD0422
R32	MF 0.25W RES 2% 75R	AD0422
R33	MF 0.25W RES 2% 75R	AD0422
R34	MF 0.25W RES 2% 1K	AD0449
R35	MF 0.25W RES 2% 1K	AD0449
R36	MF 0.25W RES 2% 8K2	AD0471
R37	MF 0.25W RES 2% 8K2	AD0471
R38	MF 0.25W RES 2% 22K	AD0481
R39	MF 0.25W RES 2% 10K	AD0473
R40	MF 0.25W RES 2% 22K	AD0481
R41	MF 0.25W RES 2% 10K	AD0473
R42	MF 0.25W RES 2% 8K2	AD0471
R43	MF 0.25W RES 2% 4K7	AD0465
R44	MF 0.25W RES 2% 75R	AD0422
R45	MF 0.25W RES 2% 4K7	AD0465
R46	MF 0.25W RES 2% 22K	AD0481
R47	MF 0.25W RES 2% 22K	AD0481
R48	MF 0.25W RES 2% 4K7	AD0465
R49	MF 0.25W RES 2% 7K5	AD0470
R50	MF 0.25W RES 2% 5K1	AD0466
R51	MF 0.25W RES 2% 22K	AD0481
R52	MF 0.25W RES 2% 22K	AD0481
R53	MF 0.25W RES 2% 6K8	AD0469
R54	MF 0.25W RES 2% 6K8	AD0469
R55	MF 0.25W RES 2% 22K	AD0481
R56	MF 0.25W RES 2% 22K	AD0481
R57	MF 0.25W RES 2% 100K	AD0497
R58	MF 0.25W RES 2% 5K6	AD0467

R59	MF 0.25W RES 2% 47K	AD0489
R60	MF 0.25W RES 2% 47R	AD0417
R69	MF 0.25W RES 2% 75R	AD0422
R70	MF 0.25W RES 2% 75R	AD0422
R71	MF 0.25W RES 2% 1K	AD0449
R72	MF 0.25W RES 2% 1K	AD0449
R73	MF 0.25W RES 2% 8K2	AD0471
R74	MF 0.25W RES 2% 8K2	AD0471
R75	MF 0.25W RES 2% 10R	AD0401
R76	MF 0.25W RES 2% 10R	AD0401
R78	MF 0.25W RES 2% 10R	AD0401
R79	MF 0.25W RES 2% 22K	AD0481
R80	MF 0.25W RES 2% 22K	AD0481
R81	MF 0.25W RES 2% 100R	AD0425
R82	MF 0.25W RES 2% 100R	AD0425
R83	MF 0.25W RES 2% 4K7	AD0465
R84	MF 0.25W RES 2% 22K	AD0481
R85	MF 0.25W RES 2% 75R	AD0422
R86	MF 0.25W RES 2% 33K	AD0485
R87	MF 0.25W RES 2% 33K	AD0485
R88	MF 0.25W RES 2% 22K	AD0481
R89	MF 0.25W RES 2% 10R	AD0401
R90	MF 0.25W RES 2% 10R	AD0401
R91	MF 0.25W RES 2% 10R	AD0401
R92	MF 0.25W RES 2% 15K	AD0477
R93	MF 0.25W RES 2% 1K5	AD0453
R94	MF 0.25W RES 2% 1K1	AD0450
R95	MF 0.25W RES 2% 910R	AD0448
R96	MF 0.25W RES 2% 680R	AD0445
R97	MF 0.25W RES 2% 620R	AD0444
R98	MF 0.25W RES 2% 470R	AD0441
R99	MF 0.25W RES 2% 330R	AD0437
R100	MF 0.25W RES 2% 300R	AD0436
R101	MF 0.25W RES 2% 220R	AD0433
R102	MF 0.25W RES 2% 180R	AD0431
R103	MF 0.25W RES 2% 150R	AD0429
R104	MF 0.25W RES 2% 110R	AD0426
R105	MF 0.25W RES 2% 91R	AD0424
R106	MF 0.25W RES 2% 68R	AD0421
R107	MF 0.25W RES 2% 62R	AD0420
R108	MF 0.25W RES 2% 47R	AD0417
R109	MF 0.25W RES 2% 33R	AD0413
R110	MF 0.25W RES 2% 27R	AD0411
R111	MF 0.25W RES 2% 20R	AD0408
R112	MF 0.25W RES 2% 91R	AD0424
R113	MF 0.25W RES 2% 27K	AD0483
R114	MF 0.25W RES 2% 75R	AD0422
R115	MF 0.25W RES 2% 75R	AD0422
R116	MF 0.25W RES 2% 100K	AD0497
RN1	8P S.I.L. 4 X 4K7 RES NETWORK	AZ2204
RN2	8P S.I.L. 4 X 10K RES NETWORK	AZ2215
RN3	8P S.I.L. 4 X 4K7 RES NETWORK	AZ2204
RN4	8P S.I.L. 4 X 10K RES NETWORK	AZ2215
S1	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S2	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S3	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S4	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S5	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529

S6	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S6	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
S7	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S7	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
SC2913	VENUE DUAL EQ O/P PCB	GA2913
TR1	PNP TRANS 2SB737 LOW RBB	BD0346
TR2	PNP TRANS 2SB737 LOW RBB	BD0346
TR3	PNP TRANS 2SB737 LOW RBB	BD0346
TR4	PNP TRANS 2SB737 LOW RBB	BD0346
TR5	PNP TRANS 2SA970GR (TAPED)	BD0301
TR6	PNP TRANS 2SA970GR (TAPED)	BD0301
VR1	ALPS 16MM C/D 10KB LIN	DM1102
VR2	ALPS 16MM C/D 10KB LIN	DM1102
VR3	ALPS 16MM C/D 10KB LIN	DM1102
VR4	ALPS 16MM 100KC REV.SEMIOLOG X2	DM1106
VR5	ALPS 16MM C/D 10KB LIN	DM1102
VR6	ALPS 16MM C/D 10KB LIN	DM1102
VR7	ALPS 16MM C/D 10KB LIN	DM1102
VR8	ALPS 16MM 100KC REV.SEMIOLOG X2	DM1106
	LED ARRAY HOUSING	JZ2210

**Dual Group/Stereo Ret.** . . . . . Dual Group/Stereo Return PCB Assembly . . . . . RA2914

IDENT	DESCRIPTION	PART No.
	GREY SGL SCREEN CBL	LB0107
C1	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C2	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C4	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C5	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C6	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C7	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C8	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C9	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C10	VERT ELEC 220 MF 25V	CE0422
C11	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C12	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C14	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C15	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C16	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C17	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C18	VERT ELEC 220 MF 25V	CE0422
C19	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C20	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C21	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C22	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C23	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C24	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C25	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C26	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C28	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C29	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C30	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C31	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C32	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C33	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C34	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C35	POLY-CAP 5MM 5% 63V 100N	CC0252

C36	POLY-CAP 5MM 5% 63V 100N	CC0252
C37	POLY-CAP 5MM 5% 63V 100N	CC0252
C38	POLY-CAP 5MM 5% 63V 100N	CC0252
C39	POLY-CAP 5MM 5% 63V 100N	CC0252
C40	POLY-CAP 5MM 5% 63V 100N	CC0252
C41	VERT ELEC 220MF 6.3V 6 X 11MM	CE0423
C42	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C43	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C44	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C45	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C46	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C48	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C49	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C50	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C51	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C52	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C53	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C54	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C55	VERT ELEC 0.2" TPD L-L 10MF 25V	CE0417
C56	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C57	POLY-CAP 5MM 5% 100V 1N	CC0238
C58	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C59	VERT ELEC 0.2" TPD 47MF 25V	CE0401
CN1	G80 IDC 16WY R/A LTCH ML HDR	FA0073
CN2	G80 IDC 20WY R/A LTCHD HDR	FA0060
CN3	MTHD.1"2WY R/A LCKG ML HDR S12	FF0648
CN4	MTHD.1"2WY R/A LCKG ML HDR S12	FF0648
CN5	G80 IDC 10WY R/A LTCHD HDR	FA0058
CN7	G80 IDC 34WY R/A LTCHD HDR	FA0044
CN8	10WY FLEXI-STRIP	LC0230
D1	DIODE 1N4148	BA0001
D2	DIODE 1N4148	BA0001
D3	DIODE 1N4148	BA0001
D4	DIODE 1N4148	BA0001
D5	DIODE 1N4148	BA0001
IC1	8WY DIL IC SOCKET	FF0718
IC1	DUAL OP AMP IC TL072CP @	BE0413
IC2	8WY DIL IC SOCKET	FF0718
IC2	DUAL OP AMP IC TL072CP @	BE0413
IC3	8WY DIL IC SOCKET	FF0718
IC3	DUAL OP AMP IC NE5532	BE0428
IC4	8WY DIL IC SOCKET	FF0718
IC4	DUAL OP AMP IC TL072CP @	BE0413
IC5	8WY DIL IC SOCKET	FF0718
IC5	DUAL OP AMP IC TL072CP @	BE0413
IC6	8WY DIL IC SOCKET	FF0718
IC6	DUAL OP AMP IC TL072CP @	BE0413
IC7	8WY DIL IC SOCKET	FF0718
IC7	DUAL OP AMP IC NE5532	BE0428
IC8	8WY DIL IC SOCKET	FF0718
IC8	DUAL OP AMP IC NE5532	BE0428
IC9	8WY DIL IC SOCKET	FF0718
IC9	DUAL OP AMP IC NE5532	BE0428
IC10	8WY DIL IC SOCKET	FF0718
IC10	DUAL OP AMP IC NE5532	BE0428
IC11	8WY DIL IC SOCKET	FF0718
IC11	DUAL OP AMP IC NE5532	BE0428
IC12	8WY DIL IC SOCKET	FF0718

IC12	SGL OP AMP IC TL071CP @	BE0404
IC13	14WY DIL IC SOCKET	FF0719
IC13	QUAD COMPARATOR IC LCM2901	BE0410
IC14	14WY DIL IC SOCKET	FF0719
IC14	QUAD COMPARATOR IC LCM2901	BE0410
IC15	14WY DIL IC SOCKET	FF0719
IC15	QUAD COMPARATOR IC LCM2901	BE0410
IC16	14WY DIL IC SOCKET	FF0719
IC16	QUAD COMPARATOR IC LCM2901	BE0410
IC17	14WY DIL IC SOCKET	FF0719
IC17	QUAD COMPARATOR IC LCM2901	BE0410
J1	.1" 16WY D.I.L. HDR	FF0693
J9	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J10	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J19	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J20	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J21	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J22	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
J23	.1" 3WY SIL HDR(GLD)2.54MM PIN	FF0637
JSK1	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK2	JACK SKT STR PC MNT FERRULE 5P	FH0741
LD1	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD2	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD3	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD4	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD5	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD6	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD7	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD8	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD9	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD10	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD11	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD12	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD13	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD14	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD15	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD16	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD17	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD18	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD19	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD20	T1 3MM S.BRT LED RED PRF.LONG	JA0061
MD5537	P.B. POTENTIOMETER MTG BRKT	PZ2271
PR1	TRIMMER VERT 3306W- 20K	DE0430
PR2	CERMET TRIMMER HORIZ 90H 2K2	DE0401
PR3	CERMET TRIMMER HORIZ 90H 2K2	DE0401
R1	MF 0.25W RES 2% 43K	AD0488
R2	MF 0.25W RES 2% 43K	AD0488
R3	MF 0.25W RES 2% 22K	AD0481
R4	MF 0.25W RES 2% 20K	AD0480
R5	MF 0.25W RES 2% 2K2	AD0457
R6	MF 0.25W RES 2% 6K8	AD0469
R7	MF 0.25W RES 2% 5K1	AD0466
R8	MF 0.25W RES 2% 5K1	AD0466
R9	MF 0.25W RES 2% 4K7	AD0465
R10	MF 0.25W RES 2% 2K4	AD0458
R11	MF 0.25W RES 2% 36K	AD0486
R12	MF 0.25W RES 2% 47K	AD0489
R13	MF 0.25W RES 2% 2K2	AD0457

R14	MF 0.25W RES 2% 4K7	AD0465
R15	MF 0.25W RES 2% 10K	AD0473
R16	MF 0.25W RES 2% 20K	AD0480
R17	MF 0.25W RES 2% 20K	AD0480
R18	MF 0.25W RES 2% 4K7	AD0465
R19	MF 0.25W RES 2% 4K7	AD0465
R20	MINI-RES MF 1/8W 2% 10K	AR1673
R21	MINI-RES MF 1/8W 2% 10K	AR1673
R22	MINI-RES MF 1/8W 2% 10K	AR1673
R23	MINI-RES MF 1/8W 2% 10K	AR1673
R24	MINI-RES MF 1/8W 2% 10K	AR1673
R25	MF 0.25W RES 2% 100K	AD0497
R26	MF 0.25W RES 2% 12K	AD0475
R27	MF 0.25W RES 2% 12K	AD0475
R28	MF 0.25W RES 2% 12K	AD0475
R29	MF 0.25W RES 2% 22K	AD0481
R31	MF 0.25W RES 2% 43K	AD0488
R32	MF 0.25W RES 2% 43K	AD0488
R33	MF 0.25W RES 2% 22K	AD0481
R34	MF 0.25W RES 2% 20K	AD0480
R35	MF 0.25W RES 2% 2K2	AD0457
R36	MF 0.25W RES 2% 6K8	AD0469
R37	MF 0.25W RES 2% 5K1	AD0466
R38	MF 0.25W RES 2% 5K1	AD0466
R39	MF 0.25W RES 2% 4K7	AD0465
R40	MF 0.25W RES 2% 2K4	AD0458
R41	MF 0.25W RES 2% 36K	AD0486
R42	MF 0.25W RES 2% 47K	AD0489
R43	MF 0.25W RES 2% 2K2	AD0457
R44	MF 0.25W RES 2% 4K7	AD0465
R45	MF 0.25W RES 2% 20K	AD0480
R46	MF 0.25W RES 2% 20K	AD0480
R47	MF 0.25W RES 2% 10K	AD0473
R48	MF 0.25W RES 2% 4K7	AD0465
R49	MF 0.25W RES 2% 4K7	AD0465
R50	MINI-RES MF 1/8W 2% 10K	AR1673
R51	MINI-RES MF 1/8W 2% 10K	AR1673
R52	MINI-RES MF 1/8W 2% 10K	AR1673
R53	MINI-RES MF 1/8W 2% 10K	AR1673
R54	MINI-RES MF 1/8W 2% 10K	AR1673
R55	MF 0.25W RES 2% 12K	AD0475
R56	MF 0.25W RES 2% 12K	AD0475
R57	MF 0.25W RES 2% 22K	AD0481
R58	MF 0.25W RES 2% 10R	AD0401
R59	MF 0.25W RES 2% 10R	AD0401
R61	MF 0.25W RES 2% 22K	AD0481
R62	MF 0.25W RES 2% 10K	AD0473
R63	MF 0.25W RES 2% 22K	AD0481
R64	MF 0.25W RES 2% 10K	AD0473
R65	MF 0.25W RES 2% 8K2	AD0471
R66	MF 0.25W RES 2% 4K7	AD0465
R67	MF 0.25W RES 2% 4K7	AD0465
R68	MF 0.25W RES 2% 75R	AD0422
R69	MF 0.25W RES 2% 22K	AD0481
R70	MF 0.25W RES 2% 47K	AD0489
R71	MF 0.25W RES 2% 47K	AD0489
R72	CF 0.25W RES 5% 6M8	AC0346
R73	MF 0.25W RES 2% 75R	AD0422

R74	MF 0.25W RES 2% 75R	AD0422
R75	MF 0.25W RES 2% 75R	AD0422
R76	MF 0.25W RES 2% 1K	AD0449
R77	MF 0.25W RES 2% 1K	AD0449
R78	MF 0.25W RES 2% 8K2	AD0471
R79	MF 0.25W RES 2% 8K2	AD0471
R80	MF 0.25W RES 2% 5K6	AD0467
R81	MF 0.25W RES 2% 22K	AD0481
R82	MF 0.25W RES 2% 10K	AD0473
R83	MF 0.25W RES 2% 22K	AD0481
R84	MF 0.25W RES 2% 10K	AD0473
R85	MF 0.25W RES 2% 8K2	AD0471
R86	MF 0.25W RES 2% 4K7	AD0465
R87	MF 0.25W RES 2% 4K7	AD0465
R88	MF 0.25W RES 2% 75R	AD0422
R89	MF 0.25W RES 2% 22K	AD0481
R90	MF 0.25W RES 2% 47K	AD0489
R91	MF 0.25W RES 2% 47K	AD0489
R92	CF 0.25W RES 5% 6M8	AC0346
R93	MF 0.25W RES 2% 75R	AD0422
R94	MF 0.25W RES 2% 75R	AD0422
R95	MF 0.25W RES 2% 75R	AD0422
R96	MF 0.25W RES 2% 1K	AD0449
R97	MF 0.25W RES 2% 1K	AD0449
R98	MF 0.25W RES 2% 8K2	AD0471
R99	MF 0.25W RES 2% 8K2	AD0471
R100	MF 0.25W RES 2% 100K	AD0497
R101	MF 0.25W RES 2% 100R	AD0425
R102	MF 0.25W RES 2% 100R	AD0425
R103	MF 0.25W RES 2% 4K7	AD0465
R104	MF 0.25W RES 2% 22K	AD0481
R105	MF 0.25W RES 2% 75R	AD0422
R106	MF 0.25W RES 2% 33K	AD0485
R107	MF 0.25W RES 2% 33K	AD0485
R108	MF 0.25W RES 2% 22K	AD0481
R109	MF 0.25W RES 2% 10R	AD0401
R110	MF 0.25W RES 2% 10R	AD0401
R111	MF 0.25W RES 2% 15K	AD0477
R112	MF 0.25W RES 2% 1K5	AD0453
R113	MF 0.25W RES 2% 1K1	AD0450
R114	MF 0.25W RES 2% 910R	AD0448
R115	MF 0.25W RES 2% 680R	AD0445
R116	MF 0.25W RES 2% 620R	AD0444
R117	MF 0.25W RES 2% 470R	AD0441
R118	MF 0.25W RES 2% 330R	AD0437
R119	MF 0.25W RES 2% 300R	AD0436
R120	MF 0.25W RES 2% 220R	AD0433
R121	MF 0.25W RES 2% 180R	AD0431
R122	MF 0.25W RES 2% 150R	AD0429
R123	MF 0.25W RES 2% 110R	AD0426
R124	MF 0.25W RES 2% 91R	AD0424
R125	MF 0.25W RES 2% 68R	AD0421
R126	MF 0.25W RES 2% 62R	AD0420
R127	MF 0.25W RES 2% 47R	AD0417
R128	MF 0.25W RES 2% 33R	AD0413
R129	MF 0.25W RES 2% 27R	AD0411
R130	MF 0.25W RES 2% 20R	AD0408
R131	MF 0.25W RES 2% 91R	AD0424



R132	MF 0.25W RES 2% 75R	AD0422
R133	MF 0.25W RES 2% 75R	AD0422
R134	MF 0.25W RES 2% 27K	AD0483
R135	MF 0.25W RES 2% 100K	AD0497
R136	MF 0.25W RES 2% 12K	AD0475
R137	MF 0.25W RES 2% 220R	AD0433
R138	MF 0.25W RES 2% 1K	AD0449
R139	MF 0.25W RES 2% 10R	AD0401
R140	MF 0.25W RES 2% 10R	AD0401
R141	MF 0.25W RES 2% 75R	AD0422
RN1	8P S.I.L. 4 X 4K7 RES NETWORK	AZ2204
RN2	8P S.I.L. 4 X 10K RES NETWORK	AZ2215
RN3	8P S.I.L. 4 X 4K7 RES NETWORK	AZ2204
RN4	8P S.I.L. 4 X 10K RES NETWORK	AZ2215
S1	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S2	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S3	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S4	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S5	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S6	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S7	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S8	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S9	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S10	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S11	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S12	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S13	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S14	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S15	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
SC2914	VENUE STER RET O/P PCB	GA2914
TR1	PNP TRANS 2SB737 LOW RBB	BD0346
TR2	PNP TRANS 2SB737 LOW RBB	BD0346
TR3	PNP TRANS 2SB737 LOW RBB	BD0346
TR4	PNP TRANS 2SB737 LOW RBB	BD0346
TR5	PNP TRANS 2SA970GR (TAPED)	BD0301
TR6	PNP TRANS 2SA970GR (TAPED)	BD0301
VR1	ALPS 16MM 10KBX2CD CT POT	DM1126
VR2	ALPS 16MM 20KA LOG	DM1123
VR3	ALPS 16MM 20KA LOG	DM1123
VR4	ALPS 16MM C/D 10KB LIN X 2	DM1101

### Dual Matrix

IDENT	DESCRIPTION	PART No.
	Dual Matrix PCB Assembly	RP1426
C1	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C2	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C3	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C4	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C5	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C6	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C8	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C13	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C14	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C15	VERT ELEC 220 MF 25V	CE0422
C16	VERT ELEC 220 MF 25V	CE0422
C17	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005

C18	C/CAP 0.2' PRFRM TPD 100V 33PF	CA0005
C19	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C20	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C21	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C22	VERT ELEC 0.2' TPD 2.2MF 50V	CE0416
C24	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C25	C/CAP 0.2' PRFRM TPD 100V 22PF	CA0004
C28	C/CAP 0.2' PRFRM TPD 100V 22PF	CA0004
C29	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C30	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C31	POLY-CAP 5MM 5% 63V 100N	CC0252
C32	POLY-CAP 5MM 5% 63V 100N	CC0252
C33	POLY-CAP 5MM 5% 63V 100N	CC0252
C34	POLY-CAP 5MM 5% 63V 100N	CC0252
CN1	G80 IDC 16WY R/A LTCH ML HDR	FA0073
CN6	G80 IDC 20WY R/A LTCHD HDR	FA0060
CN11	G80 IDC 34WY R/A LTCHD HDR	FA0044
CN12	1/4' PC MNTG BLADE HORIZ	FF0555
IC1	DUAL OP AMP IC TL072CP	BE0413
IC2	DUAL OP AMP IC NE5532	BE0428
IC3	DUAL OP AMP IC NE5532	BE0428
IC4	DUAL OP AMP IC NE5532	BE0428
IC5	DUAL OP AMP IC NE5532	BE0428
JSK1	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK2	JACK SKT STR PC MNT FERRULE 5P	FH0741
LED1	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LED2	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LED3	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LED4	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
MD5537	P.B. POTENTIOMETER MTG BRKT	PZ2271
PR1	CERMET TRIMMER VERT 2K2	DE0417
PR2	CERMET TRIMMER VERT 2K2	DE0417
R1	MF 0.25W RES 2% 43K	AD0488
R2	MF 0.25W RES 2% 43K	AD0488
R3	MF 0.25W RES 2% 22K	AD0481
R4	MF 0.25W RES 2% 20K	AD0480
R5	MF 0.25W RES 2% 2K2	AD0457
R6	MF 0.25W RES 2% 6K8	AD0469
R7	MF 0.25W RES 2% 22K	AD0481
R8	MF 0.25W RES 2% 22K	AD0481
R9	MF 0.25W RES 2% 22K	AD0481
R10	MF 0.25W RES 2% 22K	AD0481
R11	MF 0.25W RES 2% 22K	AD0481
R12	MF 0.25W RES 2% 22K	AD0481
R13	MF 0.25W RES 2% 22K	AD0481
R14	MF 0.25W RES 2% 22K	AD0481
R15	MF 0.25W RES 2% 22K	AD0481
R16	MF 0.25W RES 2% 22K	AD0481
R17	MF 0.25W RES 2% 22K	AD0481
R18	MF 0.25W RES 2% 12K	AD0475
R19	MF 0.25W RES 2% 100K	AD0497
R20	MF 0.25W RES 2% 100K	AD0497
R21	MF 0.25W RES 2% 4K7	AD0465
R22	MF 0.25W RES 2% 4K7	AD0465
R23	MF 0.25W RES 2% 4K7	AD0465
R24	MF 0.25W RES 2% 4K7	AD0465
R25	MF 0.25W RES 2% 4K7	AD0465
R26	MF 0.25W RES 2% 4K7	AD0465

R27	MF 0.25W RES 2% 10K	AD0473
R28	MF 0.25W RES 2% 10K	AD0473
R29	MF 0.25W RES 2% 10K	AD0473
R30	MF 0.25W RES 2% 10K	AD0473
R31	MF 0.25W RES 2% 75R	AD0422
R32	MF 0.25W RES 2% 75R	AD0422
R33	MF 0.25W RES 2% 1K	AD0449
R34	MF 0.25W RES 2% 1K	AD0449
R35	MF 0.25W RES 2% 100K	AD0497
R36	MF 0.25W RES 2% 47K	AD0489
R37	MF 0.25W RES 2% 47K	AD0489
R40	MF 0.25W RES 2% 43K	AD0488
R41	MF 0.25W RES 2% 43K	AD0488
R42	MF 0.25W RES 2% 22K	AD0481
R43	MF 0.25W RES 2% 20K	AD0480
R44	MF 0.25W RES 2% 2K2	AD0457
R45	MF 0.25W RES 2% 6K8	AD0469
R46	MF 0.25W RES 2% 22K	AD0481
R47	MF 0.25W RES 2% 22K	AD0481
R48	MF 0.25W RES 2% 22K	AD0481
R49	MF 0.25W RES 2% 22K	AD0481
R50	MF 0.25W RES 2% 22K	AD0481
R51	MF 0.25W RES 2% 22K	AD0481
R52	MF 0.25W RES 2% 22K	AD0481
R53	MF 0.25W RES 2% 22K	AD0481
R54	MF 0.25W RES 2% 22K	AD0481
R55	MF 0.25W RES 2% 22K	AD0481
R56	MF 0.25W RES 2% 22K	AD0481
R57	MF 0.25W RES 2% 12K	AD0475
R58	MF 0.25W RES 2% 100K	AD0497
R59	MF 0.25W RES 2% 100K	AD0497
R60	MF 0.25W RES 2% 4K7	AD0465
R61	MF 0.25W RES 2% 4K7	AD0465
R62	MF 0.25W RES 2% 4K7	AD0465
R63	MF 0.25W RES 2% 4K7	AD0465
R64	MF 0.25W RES 2% 4K7	AD0465
R65	MF 0.25W RES 2% 4K7	AD0465
R66	MF 0.25W RES 2% 10K	AD0473
R67	MF 0.25W RES 2% 10K	AD0473
R68	MF 0.25W RES 2% 10K	AD0473
R69	MF 0.25W RES 2% 10K	AD0473
R70	MF 0.25W RES 2% 75R	AD0422
R71	MF 0.25W RES 2% 75R	AD0422
R72	MF 0.25W RES 2% 1K	AD0449
R73	MF 0.25W RES 2% 1K	AD0449
R74	MF 0.25W RES 2% 5K6	AD0467
R75	MF 0.25W RES 2% 100K	AD0497
R76	MF 0.25W RES 2% 47K	AD0489
R77	MF 0.25W RES 2% 47K	AD0489
R78	MF 0.25W RES 2% 10R	AD0401
R79	MF 0.25W RES 2% 75R	AD0422
S1	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S2	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S3	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S4	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S5	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
SC2916	VENUE DUAL MATRIX PCB	GP1426
VR1	ALPS 16MM 20KA LOG	DM1123

VR2	ALPS 16MM 20KA LOG	DM1123
VR3	ALPS 16MM 20KA LOG	DM1123
VR4	ALPS 16MM 20KA LOG	DM1123
VR5	ALPS 16MM 20KA LOG	DM1123
VR6	ALPS 16MM 20KA LOG	DM1123
VR7	ALPS 16MM 20KA LOG	DM1123
VR8	ALPS 16MM 20KA LOG	DM1123
VR9	ALPS 16MM 20KA LOG	DM1123
VR10	ALPS 16MM 20KA LOG	DM1123
VR11	ALPS 16MM 10KA LOG	DM1103
VR12	ALPS 16MM 20KA LOG	DM1123
VR13	ALPS 16MM 20KA LOG	DM1123
VR14	ALPS 16MM 20KA LOG	DM1123
VR15	ALPS 16MM 20KA LOG	DM1123
VR16	ALPS 16MM 20KA LOG	DM1123
VR17	ALPS 16MM 20KA LOG	DM1123
VR18	ALPS 16MM 20KA LOG	DM1123
VR19	ALPS 16MM 20KA LOG	DM1123
VR20	ALPS 16MM 20KA LOG	DM1123
VR21	ALPS 16MM 20KA LOG	DM1123
VR22	ALPS 16MM 10KA LOG	DM1103
	ZERO OHM RESISTOR (METAL SLUG)	AZ2222

**Master RH PCB**

	Master RH PCB Assembly	RB2919
<b>IDENT</b>	<b>DESCRIPTION</b>	<b>PART No.</b>
	70.2 TRIPLE TWST BLK/GRN/RED	LA0053
C1	VERT ELEC 1000MF 6.3V	CE0433
C2	VERT ELEC 220 MF 25V	CE0422
C3	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C4	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C5	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C6	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C8	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C9	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C11	C/CAP 0.2" PRFRM TPD 100V 22PF	CA0004
C13	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C14	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C15	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C16	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C17	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C18	POLY-CAP 5MM 5% 63V 100N	CC0252
C19	POLY-CAP 5MM 5% 63V 100N	CC0252
C20	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C21	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C22	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C23	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C24	VERT ELEC 220 MF 25V	CE0422
C25	C/CAP 0.2" PRFRM TPD 100V 15PF	CA0003
C26	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C27	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C28	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C29	POLY-CAP 5MM 5% 63V 100N	CC0252
C30	POLY-CAP 5MM 5% 63V 100N	CC0252
C31	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C32	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416

C33	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C34	C/C 0.2'TAPED 100V 100PF(N10)	CA0006
C35	VERT ELEC 0.2' TPD 100MF 10V	CE0403
C36	AXIAL ELEC 1000MFD 25V	CD0325
C37	AXIAL ELEC 1000MFD 25V	CD0325
C38	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C39	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C40	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C41	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C42	POLY-CAP 5MM 5% 100V 1N	CC0238
C43	POLY-CAP 5MM 5% 100V 1N	CC0238
C44	POLY-CAP 5MM 5% 100V 1N	CC0238
C45	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C46	POLY-CAP 5MM 5% 100V 1N	CC0238
C50	C/CAP 0.2' PRFRM TPD 100V 33PF	CA0005
C51	C/CAP 0.2' PRFRM TPD 100V 33PF	CA0005
C55	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C56	VERT ELEC 220 MF 25V	CE0422
C101	VERT ELEC 1000MF 6.3V	CE0433
C103	C/C 0.2'TAPED 100V 100PF(N10)	CA0006
C104	C/C 0.2'TAPED 100V 100PF(N10)	CA0006
C105	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C106	VERT ELEC 0.2'TPD 2.2MF 50V	CE0416
C108	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C109	C/CAP 0.2' PRFRM TPD 100V 22PF	CA0004
C111	C/CAP 0.2' PRFRM TPD 100V 22PF	CA0004
C113	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C114	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C120	C/CAP 0.2' PRFRM TPD 100V 33PF	CA0005
C121	C/CAP 0.2' PRFRM TPD 100V 33PF	CA0005
C122	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C123	VERT ELEC 0.2'TPD 2.2MF 50V	CE0416
C124	VERT ELEC 220 MF 25V	CE0422
C150	C/CAP 0.2' PRFRM TPD 100V 33PF	CA0005
C151	C/CAP 0.2' PRFRM TPD 100V 33PF	CA0005
C155	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C156	VERT ELEC 220 MF 25V	CE0422
C301	VERT ELEC 0.2'TPD L-L 10MF 25V	CE0417
C302	VERT ELEC 0.2'TPD 2.2MF 50V	CE0416
C303	POLY-CAP 5MM 5% 100V 1N	CC0238
C305	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C306	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C307	VERT ELEC 0.2' TPD 47MF 25V	CE0401
C308	VERT ELEC 0.2' TPD 47MF 25V	CE0401
CN1	G80 IDC 34WY R/A LTCHD HDR	FA0044
CN1	N04X3/8 PAN POZI SLF TAP Z/CLR	NA0242
CN2	G80 IDC 20WY R/A LTCHD HDR	FA0060
CN2	N04X3/8 PAN POZI SLF TAP Z/CLR	NA0242
CN3	MTHD 3WY .1' ML LCKG PLRSD HDR	FF0627
CN4	G80 IDC 10WY R/A LTCHD HDR	FA0058
CN4	N04X3/8 PAN POZI SLF TAP Z/CLR	NA0242
CN5	AMP.156'8WY R/A ML LCKNG	FF0739
CN6	MTHD.1'2WY R/A LCKG ML HDR S12	FF0648
CN8	MTHD 0.1' 6WY R/A ML LCKNG S12	FF0674
CN9	1/4" PC MNTG BLADE HORIZ	FF0555
D1	DIODE 1N4148	BA0001
D2	DIODE 1N4148	BA0001
D3	DIODE 1N4148	BA0001

D4	DIODE 1N4148	BA0001
D5	DIODE 1N4148	BA0001
D6	DIODE 1N4148	BA0001
D7	DIODE 1N4148	BA0001
D10	DIODE 1N4148	BA0001
D11	DIODE 1N4148	BA0001
D12	DIODE 1N4148	BA0001
D13	DIODE 1N4148	BA0001
D14	DIODE 1N4148	BA0001
D15	DIODE 1N4148	BA0001
D101	DIODE 1N4148	BA0001
D102	DIODE 1N4148	BA0001
D103	DIODE 1N4148	BA0001
FB1	.22UH TAPED INDUCTOR	HZ2206
FB2	.22UH TAPED INDUCTOR	HZ2206
IC1	8WY DIL IC SOCKET	FF0718
IC1	DUAL OP AMP IC TL072CP @	BE0413
IC2	8WY DIL IC SOCKET	FF0718
IC2	DUAL OP AMP IC TL072CP @	BE0413
IC3	8WY DIL IC SOCKET	FF0718
IC3	DUAL OP AMP IC NE5532	BE0428
IC4	8WY DIL IC SOCKET	FF0718
IC4	DUAL OP AMP IC NE5532	BE0428
IC5	8WY DIL IC SOCKET	FF0718
IC5	DUAL OP AMP IC NE5532	BE0428
IC6	8WY DIL IC SOCKET	FF0718
IC6	DUAL OP AMP IC NE5532	BE0428
IC7	8WY DIL IC SOCKET	FF0718
IC7	DUAL OP AMP IC TL072CP @	BE0413
IC8	8WY DIL IC SOCKET	FF0718
IC8	DUAL OP AMP IC TL072CP @	BE0413
IC9	8WY DIL IC SOCKET	FF0718
IC9	DUAL OP AMP IC TL072CP @	BE0413
IC10	8WY DIL IC SOCKET	FF0718
IC10	DUAL OP AMP IC TL072CP @	BE0413
IC11	8WY DIL IC SOCKET	FF0718
IC11	DUAL OP AMP IC TL072CP @	BE0413
IC12	8WY DIL IC SOCKET	FF0718
IC12	SGL OP AMP IC TL071CP @	BE0404
IC14	14WY DIL IC SOCKET	FF0719
IC14	QUAD COMPARATOR IC LCM2901	BE0410
IC15	14WY DIL IC SOCKET	FF0719
IC15	QUAD COMPARATOR IC LCM2901	BE0410
IC16	14WY DIL IC SOCKET	FF0719
IC16	QUAD COMPARATOR IC LCM2901	BE0410
IC17	14WY DIL IC SOCKET	FF0719
IC17	QUAD COMPARATOR IC LCM2901	BE0410
IC18	14WY DIL IC SOCKET	FF0719
IC18	QUAD COMPARATOR IC LCM2901	BE0410
IC19	DUAL OP AMP IC TL072CP @	BE0413
J1	ZERO OHM RESISTOR (METAL SLUG)	AZ2222
J2	.1" 3WY SIL HDR(GLD)2.54MM PIN	FF0637
J3	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
JSK1	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK2	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK3	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK4	JACK SKT STR PC MNT FERRULE 5P	FH0741
LD1	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058

LD2	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD3	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD4	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD5	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD6	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD7	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD8	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD9	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD10	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD11	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD12	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD13	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD14	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD15	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD16	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD17	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD18	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD19	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD20	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD21	TOSHIBA LED RED TLR144	JA0003
MD5537	P.B. POTENTIOMETER MTG BRKT	PZ2271
PR1	CERMET TRIMMER HORIZ 1K	DE0425
PR2	CERMET TRIMMER HORIZ 1K	DE0425
PR3	CERMET TRIMMER VERT 90V 22K	DE0404
R1	MF 0.25W RES 2% 10K	AD0473
R2	MF 0.25W RES 2% 10K	AD0473
R3	MF 0.25W RES 2% 220R	AD0433
R4	MF 0.25W RES 2% 8K2	AD0471
R5	MF 0.25W RES 2% 820R	AD0447
R6	MF 0.25W RES 2% 4K7	AD0465
R7	MF 0.25W RES 2% 4K7	AD0465
R8	MF 0.25W RES 2% 4K7	AD0465
R9	MF 0.25W RES 2% 75R	AD0422
R10	MF 0.25W RES 2% 4K7	AD0465
R11	MF 0.25W RES 2% 47K	AD0489
R12	MF 0.25W RES 2% 100K	AD0497
R14	MF 0.25W RES 2% 75R	AD0422
R15	MF 0.25W RES 2% 1K2	AD0451
R16	MF 0.25W RES 2% 430R	AD0440
R17	MF 0.25W RES 2% 75R	AD0422
R18	MF 0.25W RES 2% 75R	AD0422
R19	MF 0.25W RES 2% 1K	AD0449
R20	MF 0.25W RES 2% 1K	AD0449
R21	MF 0.25W RES 2% 22K	AD0481
R22	MF 0.25W RES 2% 15K	AD0477
R23	MF 0.25W RES 2% 5K6	AD0467
R24	MF 0.25W RES 2% 10R	AD0401
R26	MF 0.25W RES 2% 11K	AD0474
R27	MF 0.25W RES 2% 75R	AD0422
R28	MF 0.25W RES 2% 39R	AD0415
R30	MF 0.25W RES 2% 43K	AD0488
R31	MF 0.25W RES 2% 43K	AD0488
R32	MF 0.25W RES 2% 20K	AD0480
R33	MF 0.25W RES 2% 22K	AD0481
R34	MF 0.25W RES 2% 43K	AD0488
R35	MF 0.25W RES 2% 43K	AD0488
R36	MF 0.25W RES 2% 20K	AD0480
R37	MF 0.25W RES 2% 22K	AD0481

R38	MF 0.25W RES 2% 6K8	AD0469
R39	MF 0.25W RES 2% 2K2	AD0457
R40	MF 0.25W RES 2% 47K	AD0489
R41	MF 0.25W RES 2% 100R	AD0425
R42	MF 0.25W RES 2% 4K7	AD0465
R43	MF 0.25W RES 2% 4K7	AD0465
R44	MF 0.25W RES 2% 20K	AD0480
R45	MF 0.25W RES 2% 20K	AD0480
R46	MF 0.25W RES 2% 4K7	AD0465
R47	MF 0.25W RES 2% 10R	AD0401
R48	MF 0.25W RES 2% 10R	AD0401
R49	MF 0.25W RES 2% 22K	AD0481
R50	MF 0.25W RES 2% 47R	AD0417
R51	MF 0.25W RES 2% 47R	AD0417
R52	MF 0.25W RES 2% 1K	AD0449
R54	MF 0.25W RES 2% 2K2	AD0457
R55	MF 0.25W RES 2% 820R	AD0447
R60	MF 0.25W RES 2% 47K	AD0489
R61	MF 0.25W RES 2% 22K	AD0481
R62	MF 0.25W RES 2% 22K	AD0481
R63	MF 0.25W RES 2% 22K	AD0481
R64	MF 0.25W RES 2% 47K	AD0489
R65	MF 0.25W RES 2% 150K	AD0501
R66	MF 0.25W RES 2% 100K	AD0497
R67	MF 0.25W RES 2% 33K	AD0485
R68	MF 0.25W RES 2% 820R	AD0447
R69	MF 0.25W RES 2% 100K	AD0497
R70	MF 0.25W RES 2% 680K	AD0517
R71	MF 0.25W RES 2% 3K3	AD0461
R80	MF 0.25W RES 2% 150R	AD0429
R81	MF 0.25W RES 2% 18K	AD0479
R82	MF 0.25W RES 2% 9K1	AD0472
R83	MF 0.25W RES 2% 6K2	AD0468
R84	MF 0.25W RES 2% 10K	AD0473
R85	MF 0.25W RES 2% 8K2	AD0471
R86	MF 0.25W RES 2% 75R	AD0422
R87	MF 0.25W RES 2% 47K	AD0489
R88	MF 0.25W RES 2% 100K	AD0497
R89	MF 0.25W RES 2% 15R	AD0405
R90	MF 0.25W RES 2% 470R	AD0441
R91	MF 0.25W RES 2% 6K8	AD0469
R92	MF 0.25W RES 2% 2K2	AD0457
R101	MF 0.25W RES 2% 10K	AD0473
R102	MF 0.25W RES 2% 10K	AD0473
R104	MF 0.25W RES 2% 8K2	AD0471
R105	MF 0.25W RES 2% 820R	AD0447
R106	MF 0.25W RES 2% 4K7	AD0465
R107	MF 0.25W RES 2% 4K7	AD0465
R108	MF 0.25W RES 2% 4K7	AD0465
R109	MF 0.25W RES 2% 75R	AD0422
R110	MF 0.25W RES 2% 4K7	AD0465
R111	MF 0.25W RES 2% 47K	AD0489
R112	MF 0.25W RES 2% 100K	AD0497
R114	MF 0.25W RES 2% 75R	AD0422
R115	MF 0.25W RES 2% 1K2	AD0451
R116	MF 0.25W RES 2% 430R	AD0440
R117	MF 0.25W RES 2% 75R	AD0422
R118	MF 0.25W RES 2% 75R	AD0422



R119	MF 0.25W RES 2% 1K	AD0449
R120	MF 0.25W RES 2% 1K	AD0449
R121	MF 0.25W RES 2% 22K	AD0481
R130	MF 0.25W RES 2% 43K	AD0488
R131	MF 0.25W RES 2% 43K	AD0488
R132	MF 0.25W RES 2% 20K	AD0480
R133	MF 0.25W RES 2% 22K	AD0481
R134	MF 0.25W RES 2% 43K	AD0488
R135	MF 0.25W RES 2% 43K	AD0488
R136	MF 0.25W RES 2% 22K	AD0481
R137	MF 0.25W RES 2% 20K	AD0480
R138	MF 0.25W RES 2% 6K8	AD0469
R139	MF 0.25W RES 2% 2K2	AD0457
R140	MF 0.25W RES 2% 47K	AD0489
R141	MF 0.25W RES 2% 100R	AD0425
R142	MF 0.25W RES 2% 4K7	AD0465
R143	MF 0.25W RES 2% 4K7	AD0465
R144	MF 0.25W RES 2% 20K	AD0480
R145	MF 0.25W RES 2% 20K	AD0480
R146	MF 0.25W RES 2% 4K7	AD0465
R147	MF 0.25W RES 2% 10R	AD0401
R148	MF 0.25W RES 2% 10R	AD0401
R149	MF 0.25W RES 2% 22K	AD0481
R150	MF 0.25W RES 2% 47R	AD0417
R151	MF 0.25W RES 2% 47R	AD0417
R154	MF 0.25W RES 2% 2K2	AD0457
R190	MF 0.25W RES 2% 470R	AD0441
R191	MF 0.25W RES 2% 6K8	AD0469
R192	MF 0.25W RES 2% 2K2	AD0457
R200	MF 0.25W RES 2% 62K	AD0492
R201	MF 0.25W RES 2% 62K	AD0492
R202	MF 0.25W RES 2% 62K	AD0492
R203	MF 0.25W RES 2% 62K	AD0492
R204	MF 0.25W RES 2% 62K	AD0492
R205	MF 0.25W RES 2% 62K	AD0492
R206	MF 0.25W RES 2% 62K	AD0492
R207	MF 0.25W RES 2% 62K	AD0492
R208	MF 0.25W RES 2% 30K	AD0484
R209	MF 0.25W RES 2% 30K	AD0484
R210	MF 0.25W RES 2% 30K	AD0484
R211	MF 0.25W RES 2% 30K	AD0484
R212	MF 0.25W RES 2% 30K	AD0484
R213	MF 0.25W RES 2% 30K	AD0484
R214	MF 0.25W RES 2% 30K	AD0484
R215	MF 0.25W RES 2% 30K	AD0484
R216	MF 0.25W RES 2% 30K	AD0484
R217	MF 0.25W RES 2% 30K	AD0484
R220	MF 0.25W RES 2% 10R	AD0401
R251	MF 0.25W RES 2% 33R	AD0413
R252	MF 0.25W RES 2% 33R	AD0413
R253	MF 0.25W RES 2% 10R	AD0401
R254	MF 0.25W RES 2% 10R	AD0401
R255	MF 0.25W RES 2% 10R	AD0401
R256	MF 0.25W RES 2% 10R	AD0401
R257	MF 0.25W RES 2% 47K	AD0489
R258	MF 0.25W RES 2% 100K	AD0497
R260	MF 0.25W RES 2% 100K	AD0497
R301	MF 0.25W RES 2% 4K7	AD0465

R302	MF 0.25W RES 2% 22K	AD0481
R303	MF 0.25W RES 2% 33K	AD0485
R304	MF 0.25W RES 2% 220R	AD0433
R305	MF 0.25W RES 2% 33K	AD0485
R306	MF 0.25W RES 2% 22K	AD0481
R307	MF 0.25W RES 2% 10R	AD0401
R308	MF 0.25W RES 2% 10R	AD0401
R309	MF 0.25W RES 2% 16K	AD0478
R310	MF 0.25W RES 2% 1K5	AD0453
R311	MF 0.25W RES 2% 1K1	AD0450
R312	MF 0.25W RES 2% 910R	AD0448
R313	MF 0.25W RES 2% 680R	AD0445
R314	MF 0.25W RES 2% 620R	AD0444
R315	MF 0.25W RES 2% 470R	AD0441
R316	MF 0.25W RES 2% 330R	AD0437
R317	MF 0.25W RES 2% 300R	AD0436
R318	MF 0.25W RES 2% 220R	AD0433
R319	MF 0.25W RES 2% 180R	AD0431
R320	MF 0.25W RES 2% 150R	AD0429
R321	MF 0.25W RES 2% 110R	AD0426
R322	MF 0.25W RES 2% 91R	AD0424
R323	MF 0.25W RES 2% 68R	AD0421
R324	MF 0.25W RES 2% 62R	AD0420
R325	MF 0.25W RES 2% 47R	AD0417
R326	MF 0.25W RES 2% 33R	AD0413
R327	MF 0.25W RES 2% 27R	AD0411
R328	MF 0.25W RES 2% 20R	AD0408
R329	MF 0.25W RES 2% 91R	AD0424
R330	MF 0.25W RES 2% 75R	AD0422
R331	MF 0.25W RES 2% 75R	AD0422
R332	MF 0.25W RES 2% 27K	AD0483
R340	MF 0.25W RES 2% 10R	AD0401
R350	MF 0.25W RES 2% 100K	AD0497
R351	MF 0.25W RES 2% 8K2	AD0471
R352	MF 0.25W RES 2% 100K	AD0497
R353	MF 0.25W RES 2% 5K6	AD0467
RIC1	8P S.I.L. 4 X 4K7 RES NETWORK	AZ2204
RIC2	8P S.I.L. 4 X 10K RES NETWORK	AZ2215
RIC3	8P S.I.L. 4 X 4K7 RES NETWORK	AZ2204
RIC4	8P S.I.L. 4 X 10K RES NETWORK	AZ2215
S1	ALPS SUJ 6POLE PSH SWT (LTCHG)	DF0531
S2	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S3	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S4	ALPS SUJ 4POLE PSH SWT (LTCHG)	DF0530
S5	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S6	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S7	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S8	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S9	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SC2919	VENUE RH MASTER PCB	GB2919
TR1	PNP TRANS 2SB737 LOW RBB	BD0346
TR2	PNP TRANS 2SB737 LOW RBB	BD0346
TR3	PNP TRANS 2SB737 LOW RBB	BD0346
TR4	PNP TRANS 2SB737 LOW RBB	BD0346
TR5	FET SWITCH J112 (TAPED) @	BD0322
TR6	FET SWITCH J112 (TAPED) @	BD0322
TR7	FET SWITCH J112 (TAPED) @	BD0322
TR8	FET SWITCH J112 (TAPED) @	BD0322

TR9	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR10	PNP TRANS 2SA970GR (TAPED)	BD0301
TR11	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR12	PNP TRANS 2SA970GR (TAPED)	BD0301
TR13	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR14	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR15	PNP TRANS 2SA970GR (TAPED)	BD0301
TR16	PNP TRANS 2SA970GR (TAPED)	BD0301
TR17	FET SWITCH J112 (TAPED) @	BD0322
TR18	FET SWITCH J112 (TAPED) @	BD0322
TR19	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR20	NPN TRANS 2SC2240BL(TAPED)	BD0302
VR1	ALPS 16MM 10KA LOG	DM1103
VR2	ALPS 16MM 10KRD REV-LOG	DM1104
VR3	ALPS 16MM 10KA LOG X 2	DM1105
	A800 MIC BRKT RICH0 V1002	PK0957
	LED ARRAY HOUSING	JZ2210

**Master LH PCB**

	Master LH PCB Assembly	RC3064
<b>IDENT</b>	<b>DESCRIPTION</b>	<b>PART No.</b>
C1	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C2	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C3	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C4	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C5	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C6	C/CAP 0.2" PRFRM TPD 100V 15PF	CA0003
C7	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C8	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C9	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C10	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C11	POLY-CAP 5MM 5% 63V 100N	CC0252
C12	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C13	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C14	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C15	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C16	VERT ELEC 220 MF 25V	CE0422
C17	VERT ELEC 220 MF 25V	CE0422
C18	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C19	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C20	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C21	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C22	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C23	C/CAP 0.2" PRFRM TPD 100V 15PF	CA0003
C24	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C25	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C26	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C27	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C28	POLY-CAP 5MM 5% 63V 100N	CC0252
C29	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C30	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C31	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C32	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C33	VERT ELEC 220 MF 25V	CE0422
C34	VERT ELEC 220 MF 25V	CE0422
C35	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C36	VERT ELEC 0.2" TPD 100MF 10V	CE0403

C37	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C38	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C39	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C40	C/CAP 0.2" PRFRM TPD 100V 15PF	CA0003
C41	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C42	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C43	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C44	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C45	POLY-CAP 5MM 5% 63V 100N	CC0252
C46	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C47	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C48	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C49	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C50	VERT ELEC 220 MF 25V	CE0422
C51	VERT ELEC 220 MF 25V	CE0422
C52	VERT ELEC 220 MF 25V	CE0422
C53	VERT ELEC 220 MF 25V	CE0422
C54	VERT ELEC 220 MF 25V	CE0422
C55	VERT ELEC 220 MF 25V	CE0422
C56	VERT ELEC 220 MF 25V	CE0422
C57	VERT ELEC 220 MF 25V	CE0422
C58	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C59	POLY-CAP 5MM 5% 63V 100N	CC0252
C60	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C61	POLY-CAP 5MM 5% 63V 100N	CC0252
C62	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C63	POLY-CAP 5MM 5% 63V 100N	CC0252
C64	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C65	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C66	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C67	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C68	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C69	C/CAP 0.2" PRFRM TPD 100V 15PF	CA0003
C70	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C71	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C72	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C73	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C74	POLY-CAP 5MM 5% 63V 100N	CC0252
C75	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C76	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C77	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C78	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C79	VERT ELEC 220 MF 25V	CE0422
C80	VERT ELEC 220 MF 25V	CE0422
C81	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C82	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C83	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C84	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C85	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C86	C/CAP 0.2" PRFRM TPD 100V 15PF	CA0003
C87	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C88	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C89	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C90	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C91	POLY-CAP 5MM 5% 63V 100N	CC0252
C92	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C93	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C94	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005

C95	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C96	VERT ELEC 220 MF 25V	CE0422
C97	VERT ELEC 220 MF 25V	CE0422
C98	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C99	VERT ELEC 0.2" TPD 100MF 10V	CE0403
C100	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C101	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C102	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C103	C/CAP 0.2" PRFRM TPD 100V 15PF	CA0003
C104	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C105	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C106	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C107	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C108	POLY-CAP 5MM 5% 63V 100N	CC0252
C109	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C110	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C111	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C112	C/CAP 0.2" PRFRM TPD 100V 33PF	CA0005
C113	VERT ELEC 220 MF 25V	CE0422
C114	VERT ELEC 220 MF 25V	CE0422
C115	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C116	POLY-CAP 5MM 5% 63V 100N	CC0252
C117	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C118	POLY-CAP 5MM 5% 63V 100N	CC0252
C119	C/CAP 0.2" PRFRM TPD 100V 12PF	CA0002
C120	POLY-CAP 5MM 5% 63V 100N	CC0252
C121	VERT ELEC 0.2" TPD L-L 10MF 25V	CE0417
C122	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C123	POLY-CAP 5MM 5% 100V 1N	CC0238
C124	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C125	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C126	C/C 0.2" TAPED 100V 220PF(N22)	CA0007
C127	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C128	C/C 0.2" TAPED 100V 220PF(N22)	CA0007
C129	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C130	C/C 0.2" TAPED 100V 220PF(N22)	CA0007
C131	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C132	C/C 0.2" TAPED 100V 220PF(N22)	CA0007
C133	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C134	C/C 0.2" TAPED 100V 220PF(N22)	CA0007
C135	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C136	C/C 0.2" TAPED 100V 220PF(N22)	CA0007
C137	VERT ELEC 0.2" TPD 47MF 25V	CE0401
CN1	G80 IDC 34WY R/A LTCHD HDR	FA0044
CN8	G80 IDC 20WY R/A LTCHD HDR	FA0060
D1	DIODE 1N4148	BA0001
D2	DIODE 1N4148	BA0001
D3	DIODE 1N4148	BA0001
D4	DIODE 1N4148	BA0001
D5	DIODE 1N4148	BA0001
IC1	8WY DIL IC SOCKET	FF0718
IC1	DUAL OP AMP IC TL072CP @	BE0413
IC2	SGL OP AMP IC TDA1034/NE5534	BE0407
IC3	DUAL OP AMP IC NE5532	BE0428
IC4	DUAL OP AMP IC TL072CP @	BE0413
IC5	SGL OP AMP IC TDA1034/NE5534	BE0407
IC6	DUAL OP AMP IC NE5532	BE0428
IC7	DUAL OP AMP IC TL072CP @	BE0413

IC8	SGL OP AMP IC TDA1034/NE5534	BE0407
IC9	DUAL OP AMP IC NE5532	BE0428
IC10	DUAL OP AMP IC TL072CP @	BE0413
IC11	SGL OP AMP IC TDA1034/NE5534	BE0407
IC12	DUAL OP AMP IC NE5532	BE0428
IC13	DUAL OP AMP IC TL072CP @	BE0413
IC14	SGL OP AMP IC TDA1034/NE5534	BE0407
IC15	DUAL OP AMP IC NE5532	BE0428
IC16	DUAL OP AMP IC TL072CP @	BE0413
IC17	SGL OP AMP IC TDA1034/NE5534	BE0407
IC18	DUAL OP AMP IC NE5532	BE0428
IC19	SGL OP AMP IC TL071CP @	BE0404
IC20	14WY DIL IC SOCKET	FF0719
IC20	QUAD COMPARATOR IC LCM2901	BE0410
IC21	QUAD COMPARATOR IC LCM2901	BE0410
IC22	QUAD COMPARATOR IC LCM2901	BE0410
IC23	QUAD COMPARATOR IC LCM2901	BE0410
IC24	QUAD COMPARATOR IC LCM2901	BE0410
J1	.1" 3WY SIL HDR(GLD)2.54MM PIN	FF0637
J2	.1" 16WY D.I.L. HDR	FF0693
JSK1	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK2	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK3	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK4	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK5	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK6	JACK SKT STR PC MNT FERRULE 5P	FH0741
LD1	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD2	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD3	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD4	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD5	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD6	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD7	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD8	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD9	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD10	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD11	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD12	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD13	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD14	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD15	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD16	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD17	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD18	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD19	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD20	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD21	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD22	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD23	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD24	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD25	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD26	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
MD5537	P.B. POTENTIOMETER MTG BRKT	PZ2271
PR1	CERMET TRIMMER HORIZ 90H 2K2	DE0401
PR2	CERMET TRIMMER HORIZ 90H 2K2	DE0401
PR3	CERMET TRIMMER HORIZ 90H 2K2	DE0401
PR4	CERMET TRIMMER HORIZ 90H 2K2	DE0401
PR5	CERMET TRIMMER HORIZ 90H 2K2	DE0401

PR6	CERMET TRIMMER HORIZ 90H 2K2	DE0401
PR7	CERMET TRIMMER VERT 90V 22K	DE0404
R1	MF 0.25W RES 2% 33K	AD0485
R2	MF 0.25W RES 2% 10K	AD0473
R3	MF 0.25W RES 2% 6K8	AD0469
R4	MF 0.25W RES 2% 33K	AD0485
R5	MF 0.25W RES 2% 10K	AD0473
R6	MF 0.25W RES 2% 10K	AD0473
R7	MF 0.25W RES 2% 1K	AD0449
R8	MF 0.25W RES 2% 22K	AD0481
R9	MF 0.25W RES 2% 22K	AD0481
R10	MF 0.25W RES 2% 2K	AD0456
R11	MF 0.25W RES 2% 27K	AD0483
R12	MF 0.25W RES 2% 47K	AD0489
R13	MF 0.25W RES 2% 2K2	AD0457
R14	MF 0.25W RES 2% 4K7	AD0465
R15	MF 0.25W RES 2% 22K	AD0481
R16	MF 0.25W RES 2% 4K7	AD0465
R17	MF 0.25W RES 2% 4K7	AD0465
R18	MF 0.25W RES 2% 4K7	AD0465
R19	MF 0.25W RES 2% 4K7	AD0465
R20	MF 0.25W RES 2% 10K	AD0473
R21	MF 0.25W RES 2% 10K	AD0473
R22	MF 0.25W RES 2% 10K	AD0473
R23	MF 0.25W RES 2% 10K	AD0473
R24	MF 0.25W RES 2% 75R	AD0422
R25	MF 0.25W RES 2% 75R	AD0422
R26	MF 0.25W RES 2% 1K	AD0449
R27	MF 0.25W RES 2% 1K	AD0449
R28	MF 0.25W RES 2% 33K	AD0485
R29	MF 0.25W RES 2% 10K	AD0473
R30	MF 0.25W RES 2% 6K8	AD0469
R31	MF 0.25W RES 2% 33K	AD0485
R32	MF 0.25W RES 2% 10K	AD0473
R33	MF 0.25W RES 2% 10K	AD0473
R34	MF 0.25W RES 2% 1K	AD0449
R35	MF 0.25W RES 2% 22K	AD0481
R36	MF 0.25W RES 2% 22K	AD0481
R37	MF 0.25W RES 2% 2K	AD0456
R38	MF 0.25W RES 2% 27K	AD0483
R39	MF 0.25W RES 2% 47K	AD0489
R40	MF 0.25W RES 2% 2K2	AD0457
R41	MF 0.25W RES 2% 4K7	AD0465
R42	MF 0.25W RES 2% 22K	AD0481
R43	MF 0.25W RES 2% 4K7	AD0465
R44	MF 0.25W RES 2% 4K7	AD0465
R45	MF 0.25W RES 2% 4K7	AD0465
R46	MF 0.25W RES 2% 4K7	AD0465
R47	MF 0.25W RES 2% 10K	AD0473
R48	MF 0.25W RES 2% 10K	AD0473
R49	MF 0.25W RES 2% 10K	AD0473
R50	MF 0.25W RES 2% 10K	AD0473
R51	MF 0.25W RES 2% 75R	AD0422
R52	MF 0.25W RES 2% 75R	AD0422
R53	MF 0.25W RES 2% 1K	AD0449
R54	MF 0.25W RES 2% 1K	AD0449
R55	MF 0.25W RES 2% 33K	AD0485
R56	MF 0.25W RES 2% 10K	AD0473

R57	MF 0.25W RES 2% 6K8	AD0469
R58	MF 0.25W RES 2% 33K	AD0485
R59	MF 0.25W RES 2% 10K	AD0473
R60	MF 0.25W RES 2% 10K	AD0473
R61	MF 0.25W RES 2% 1K	AD0449
R62	MF 0.25W RES 2% 22K	AD0481
R63	MF 0.25W RES 2% 22K	AD0481
R64	MF 0.25W RES 2% 2K	AD0456
R65	MF 0.25W RES 2% 27K	AD0483
R66	MF 0.25W RES 2% 47K	AD0489
R67	MF 0.25W RES 2% 2K2	AD0457
R68	MF 0.25W RES 2% 4K7	AD0465
R69	MF 0.25W RES 2% 22K	AD0481
R70	MF 0.25W RES 2% 4K7	AD0465
R71	MF 0.25W RES 2% 4K7	AD0465
R72	MF 0.25W RES 2% 4K7	AD0465
R73	MF 0.25W RES 2% 4K7	AD0465
R74	MF 0.25W RES 2% 10K	AD0473
R75	MF 0.25W RES 2% 10K	AD0473
R76	MF 0.25W RES 2% 10K	AD0473
R77	MF 0.25W RES 2% 10K	AD0473
R78	MF 0.25W RES 2% 75R	AD0422
R79	MF 0.25W RES 2% 75R	AD0422
R80	MF 0.25W RES 2% 1K	AD0449
R81	MF 0.25W RES 2% 1K	AD0449
R82	MF 0.25W RES 2% 100K	AD0497
R83	MF 0.25W RES 2% 100K	AD0497
R84	MF 0.25W RES 2% 100K	AD0497
R85	RES MF 10R 2% 0.25W RADIAL	AV0001
R86	RES MF 10R 2% 0.25W RADIAL	AV0001
R87	RES MF 10R 2% 0.25W RADIAL	AV0001
R88	RES MF 10R 2% 0.25W RADIAL	AV0001
R89	RES MF 10R 2% 0.25W RADIAL	AV0001
R90	RES MF 10R 2% 0.25W RADIAL	AV0001
R91	RES MF 10R 2% 0.25W RADIAL	AV0001
R92	RES MF 10R 2% 0.25W RADIAL	AV0001
R93	RES MF 10R 2% 0.25W RADIAL	AV0001
R94	MF 0.25W RES 2% 33K	AD0485
R95	MF 0.25W RES 2% 10K	AD0473
R96	MF 0.25W RES 2% 6K8	AD0469
R97	MF 0.25W RES 2% 33K	AD0485
R98	MF 0.25W RES 2% 10K	AD0473
R99	MF 0.25W RES 2% 10K	AD0473
R100	MF 0.25W RES 2% 1K	AD0449
R101	MF 0.25W RES 2% 22K	AD0481
R102	MF 0.25W RES 2% 22K	AD0481
R103	MF 0.25W RES 2% 2K	AD0456
R104	MF 0.25W RES 2% 27K	AD0483
R105	MF 0.25W RES 2% 47K	AD0489
R106	MF 0.25W RES 2% 2K2	AD0457
R107	MF 0.25W RES 2% 4K7	AD0465
R108	MF 0.25W RES 2% 22K	AD0481
R109	MF 0.25W RES 2% 4K7	AD0465
R110	MF 0.25W RES 2% 4K7	AD0465
R111	MF 0.25W RES 2% 4K7	AD0465
R112	MF 0.25W RES 2% 4K7	AD0465
R113	MF 0.25W RES 2% 10K	AD0473
R114	MF 0.25W RES 2% 10K	AD0473



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R115	MF 0.25W RES 2% 10K	AD0473
R116	MF 0.25W RES 2% 10K	AD0473
R117	MF 0.25W RES 2% 75R	AD0422
R118	MF 0.25W RES 2% 75R	AD0422
R119	MF 0.25W RES 2% 1K	AD0449
R120	MF 0.25W RES 2% 1K	AD0449
R121	MF 0.25W RES 2% 33K	AD0485
R122	MF 0.25W RES 2% 10K	AD0473
R123	MF 0.25W RES 2% 6K8	AD0469
R124	MF 0.25W RES 2% 33K	AD0485
R125	MF 0.25W RES 2% 10K	AD0473
R126	MF 0.25W RES 2% 10K	AD0473
R127	MF 0.25W RES 2% 1K	AD0449
R128	MF 0.25W RES 2% 22K	AD0481
R129	MF 0.25W RES 2% 22K	AD0481
R130	MF 0.25W RES 2% 2K	AD0456
R131	MF 0.25W RES 2% 27K	AD0483
R132	MF 0.25W RES 2% 47K	AD0489
R133	MF 0.25W RES 2% 2K2	AD0457
R134	MF 0.25W RES 2% 4K7	AD0465
R135	MF 0.25W RES 2% 22K	AD0481
R136	MF 0.25W RES 2% 4K7	AD0465
R137	MF 0.25W RES 2% 4K7	AD0465
R138	MF 0.25W RES 2% 4K7	AD0465
R139	MF 0.25W RES 2% 4K7	AD0465
R140	MF 0.25W RES 2% 10K	AD0473
R141	MF 0.25W RES 2% 10K	AD0473
R142	MF 0.25W RES 2% 10K	AD0473
R143	MF 0.25W RES 2% 10K	AD0473
R144	MF 0.25W RES 2% 75R	AD0422
R145	MF 0.25W RES 2% 75R	AD0422
R146	MF 0.25W RES 2% 1K	AD0449
R147	MF 0.25W RES 2% 1K	AD0449
R148	MF 0.25W RES 2% 33K	AD0485
R149	MF 0.25W RES 2% 10K	AD0473
R150	MF 0.25W RES 2% 6K8	AD0469
R151	MF 0.25W RES 2% 33K	AD0485
R152	MF 0.25W RES 2% 10K	AD0473
R154	MF 0.25W RES 2% 1K	AD0449
R155	MF 0.25W RES 2% 22K	AD0481
R156	MF 0.25W RES 2% 22K	AD0481
R157	MF 0.25W RES 2% 2K	AD0456
R158	MF 0.25W RES 2% 27K	AD0483
R159	MF 0.25W RES 2% 47K	AD0489
R160	MF 0.25W RES 2% 2K2	AD0457
R161	MF 0.25W RES 2% 4K7	AD0465
R162	MF 0.25W RES 2% 22K	AD0481
R163	MF 0.25W RES 2% 4K7	AD0465
R164	MF 0.25W RES 2% 4K7	AD0465
R165	MF 0.25W RES 2% 4K7	AD0465
R166	MF 0.25W RES 2% 4K7	AD0465
R171	MF 0.25W RES 2% 75R	AD0422
R172	MF 0.25W RES 2% 75R	AD0422
R173	MF 0.25W RES 2% 1K	AD0449
R174	MF 0.25W RES 2% 1K	AD0449
R175	MF 0.25W RES 2% 100K	AD0497
R176	MF 0.25W RES 2% 100K	AD0497
R177	MF 0.25W RES 2% 100K	AD0497

R178	MF 0.25W RES 2% 4K7	AD0465
R179	MF 0.25W RES 2% 22K	AD0481
R180	MF 0.25W RES 2% 75R	AD0422
R181	MF 0.25W RES 2% 33K	AD0485
R182	MF 0.25W RES 2% 33K	AD0485
R183	MF 0.25W RES 2% 22K	AD0481
R184	RES MF 10R 2% 0.25W RADIAL	AV0001
R185	RES MF 10R 2% 0.25W RADIAL	AV0001
R186	MF 0.25W RES 2% 16K	AD0478
R187	MF 0.25W RES 2% 1K5	AD0453
R188	MF 0.25W RES 2% 1K1	AD0450
R189	MF 0.25W RES 2% 910R	AD0448
R190	MF 0.25W RES 2% 680R	AD0445
R191	MF 0.25W RES 2% 620R	AD0444
R192	MF 0.25W RES 2% 470R	AD0441
R193	MF 0.25W RES 2% 330R	AD0437
R194	MF 0.25W RES 2% 300R	AD0436
R195	MF 0.25W RES 2% 220R	AD0433
R196	MF 0.25W RES 2% 180R	AD0431
R197	MF 0.25W RES 2% 150R	AD0429
R198	MF 0.25W RES 2% 110R	AD0426
R199	MF 0.25W RES 2% 91R	AD0424
R200	MF 0.25W RES 2% 68R	AD0421
R201	MF 0.25W RES 2% 62R	AD0420
R202	MF 0.25W RES 2% 47R	AD0417
R203	MF 0.25W RES 2% 33R	AD0413
R204	MF 0.25W RES 2% 27R	AD0411
R205	MF 0.25W RES 2% 20R	AD0408
R206	MF 0.25W RES 2% 91R	AD0424
R207	MF 0.25W RES 2% 75R	AD0422
R208	MF 0.25W RES 2% 75R	AD0422
R209	MF 0.25W RES 2% 27K	AD0483
R210	MF 0.25W RES 2% 3K3	AD0461
S1	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S2	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S3	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S4	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S5	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
S6	ALPS SUJ 2POLE PSH SWT (LTCHG)	DF0529
SC3064	VENUE2 LH MASTER PCB	GC3064
TR1	PNP TRANS 2SB737 LOW RBB	BD0346
TR2	PNP TRANS 2SB737 LOW RBB	BD0346
TR3	PNP TRANS 2SB737 LOW RBB	BD0346
TR4	PNP TRANS 2SB737 LOW RBB	BD0346
TR5	PNP TRANS 2SB737 LOW RBB	BD0346
TR6	PNP TRANS 2SB737 LOW RBB	BD0346
TR7	PNP TRANS 2SB737 LOW RBB	BD0346
TR8	PNP TRANS 2SB737 LOW RBB	BD0346
TR9	PNP TRANS 2SB737 LOW RBB	BD0346
TR10	PNP TRANS 2SB737 LOW RBB	BD0346
TR11	PNP TRANS 2SB737 LOW RBB	BD0346
TR12	PNP TRANS 2SB737 LOW RBB	BD0346
TR13	PNP TRANS 2SA970GR (TAPED)	BD0301
TR14	PNP TRANS 2SA970GR (TAPED)	BD0301
VR1	ALPS 16MM 10KA LOG	DM1103
VR2	ALPS 16MM 10KA LOG	DM1103
VR3	ALPS 16MM 10KA LOG	DM1103
VR4	ALPS 16MM 10KA LOG	DM1103

VR5	ALPS 16MM 10KA LOG	DM1103
VR6	ALPS 16MM 10KA LOG	DM1103

### Master Rear Con.

	Master Rear Con PCB Assembly	RA2835
<b>IDENT</b>	<b>DESCRIPTION</b>	<b>PART No.</b>
SC2835	DELTA MASTER RR CON PCB	GA2835
	G80 IDC 20WY R/A LTCHD HDR	FA0060
	JACK SKT STR PC MNT FERRULE 5P	FH0741
	N04X3/8 PAN POZI SLF TAP Z/CLR	NA0242

### VU Meter Drive

	VU Meter Drive PCB Assembly	RA2963
<b>IDENT</b>	<b>DESCRIPTION</b>	<b>PART No.</b>
C1	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C2	C/C 0.2" TAPED 100V 100PF(N10)	CA0006
C3	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C4	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C5	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C6	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C7	VERT ELEC 0.2" TPD 47MF 25V	CE0401
CN1	MTHD .1" 2WY VERT LCKNG ML HDR	FF0641
CN2	MTHD.156" 6WY VERT ML HDR GOLD	FF0697
IC1	SGL OP AMP IC TL071CP @	BE0404
J1	HONDA .1" 2WY SIL HDR (GOLD)	FF0613
LMP1	T 1.5/5MM	JB0129
LMP2	T 1.5/5MM	JB0129
PR1	CERMET TRIMMER VERT 2K2	DE0417
R1	MF 0.25W RES 2% 27K	AD0483
R2	MF 0.25W RES 2% 27K	AD0483
R3	MF 0.25W RES 2% 22K	AD0481
R4	MF 0.25W RES 2% 22K	AD0481
R5	MF 0.25W RES 2% 470R	AD0441
R6	MF 0.25W RES 2% 3K6	AD0462
R7	MF 0.25W RES 2% 470K	AD0513
R8	MF 0.25W RES 2% 56K	AD0491
R9	MF 0.25W RES 2% 100K	AD0497
R10	MF 0.25W RES 2% 1K	AD0449
R11	MF 0.25W RES 2% 3K6	AD0462
R12	MF 0.25W RES 2% 75R	AD0422
R13	MF 0.25W RES 2% 75R	AD0422
R14	MF 0.25W RES 2% 100R	AD0425
SC2963	VENUE VU MTR DRV PCB	GA2963
TR1	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR2	NPN TRANS 2SC2240BL(TAPED)	BD0302

### LED Meter

	LED Meter PCB Assembly	RB3095
<b>IDENT</b>	<b>DESCRIPTION</b>	<b>PART No.</b>
C1	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C2	VERT ELEC 0.2" TPD L-L 10MF 25V	CE0417
C3	C/C 0.2" TAPED 100V 680PF(N68)	CA0009

C4	POLY-CAP 5MM 5% 100V 47N	CC0248
C5	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C6	VERT ELEC 0.2" 47UF 63V	CE0402
CN2	G80 IDC 10WY R/A LTCHD HDR	FA0058
CN3	MTHD .1" 2WY VERT LCKNG ML HDR	FF0641
D1	DIODE 1N4148	BA0001
D2	DIODE 1N4148	BA0001
IC1	DUAL OP AMP IC TL072CP	BE0413
IC2	QUAD COMPARATOR IC LCM2901	BE0410
IC3	QUAD COMPARATOR IC LCM2901	BE0410
IC4	QUAD COMPARATOR IC LCM2901	BE0410
IC5	QUAD COMPARATOR IC LCM2901	BE0410
J1	.1" 3WY SIL HDR(GLD)2.54MM PIN	FF0637
LD1	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD2	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD3	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD4	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD5	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD6	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD7	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD8	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD9	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD10	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD11	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD12	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD13	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD14	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD15	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD16	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
PR1	TRIMMER VERT 3306W- 20K	DE0430
R1	MF 0.25W RES 2% 100K	AD0497
R2	MF 0.25W RES 2% 470K	AD0513
R3	MF 0.25W RES 2% 75R	AD0422
R4	MF 0.25W RES 2% 12K	AD0475
R5	MF 0.25W RES 2% 47K	AD0489
R6	MF 0.25W RES 2% 8K2	AD0471
R7	MF 0.25W RES 2% 2K4	AD0458
R8	MF 0.25W RES 2% 820R	AD0447
R9	MF 0.25W RES 2% 390R	AD0439
R10	MF 0.25W RES 2% 100K	AD0497
R11	MF 0.25W RES 2% 47K	AD0489
R12	MF 0.25W RES 2% 220K	AD0505
R14	MF 0.25W RES 2% 220R	AD0433
R15	MF 0.25W RES 2% 180R	AD0431
R17	MF 0.25W RES 2% 470R	AD0441
R18	RES MF 10R 2% 0.25W RADIAL	AV0001
R19	MF 0.25W RES 2% 100R	AD0425
R20	MF 0.25W RES 2% 2K7	AD0459
R21	MF 0.25W RES 2% 100R	AD0425
R22	MF 0.25W RES 2% 2K7	AD0459
R23	MF 0.25W RES 2% 47K	AD0489
R24	MF 0.25W RES 2% 47K	AD0489
R25	MF 0.25W RES 2% 270R	AD0435
SC3095	VENUE2 LED MTR PCB	GB3095
TR1	PNP TRANS 2SA970GR (TAPED)	BD0301
TR2	PNP TRANS 2SA970GR (TAPED)	BD0301

## VU Driver

IDENT	DESCRIPTION	PART No.
	VU Driver PCB Assembly	RC3124
C1	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C2	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C3	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C4	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C5	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C6	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C7	VERT ELEC 0.2" TPD 47MF 25V	CE0401
C8	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C9	VERT ELEC 0.2" TPD 2.2MF 50V	CE0416
C10	VERT ELEC 0.2" TPD 47MF 25V	CE0401
CN1	MTHD .1" 2WY VERT LCKNG ML HDR	FF0641
CN2	MTHD .1" 2WY VERT LCKNG ML HDR	FF0641
CN4	G80 IDC 10WY VERT LTCH ML HDR	FA0088
CN4	NO.4X1/4" PAN POZI BLK S/T	NA0068
CN6	1/4" PC MNTG BLADE HORIZ	FF0555
CN7	1/4" PC MNTG BLADE HORIZ	FF0555
D1	DIODE 1N4148	BA0001
D2	DIODE 1N4148	BA0001
D3	DIODE 1N4148	BA0001
D4	DIODE 1N4148	BA0001
LK1	ZERO OHM RESISTOR (METAL SLUG)	AZ2222
LK2	ZERO OHM RESISTOR (METAL SLUG)	AZ2222
LMP1	T 1.5/5MM	JB0129
LMP2	T 1.5/5MM	JB0129
LMP3	T 1.5/5MM	JB0129
LMP4	T 1.5/5MM	JB0129
PR1	CERMET TRIMMER HORIZ 90H 22K	DE0403
PR2	CERMET TRIMMER HORIZ 90H 22K	DE0403
R1	MF 0.25W RES 2% 10K	AD0473
R2	MF 0.25W RES 2% 47K	AD0489
R3	MF 0.25W RES 2% 4K7	AD0465
R4	MF 0.25W RES 2% 3K3	AD0461
R5	MF 0.25W RES 2% 3K6	AD0462
R6	MF 0.25W RES 2% 390K	AD0511
R7	MF 0.25W RES 2% 8K2	AD0471
R8	MF 0.25W RES 2% 560R	AD0443
R9	MF 0.25W RES 2% 2K7	AD0459
R10	MF 0.25W RES 2% 10R	AD0401
R11	MF 0.25W RES 2% 100R	AD0425
R12	MF 0.25W RES 2% 10K	AD0473
R13	MF 0.25W RES 2% 47K	AD0489
R14	MF 0.25W RES 2% 4K7	AD0465
R15	MF 0.25W RES 2% 3K3	AD0461
R16	MF 0.25W RES 2% 3K6	AD0462
R17	MF 0.25W RES 2% 390K	AD0511
R18	MF 0.25W RES 2% 8K2	AD0471
R19	MF 0.25W RES 2% 560R	AD0443
R20	MF 0.25W RES 2% 2K7	AD0459
R21	MF 0.25W RES 2% 10R	AD0401
R22	MF 0.25W RES 2% 100R	AD0425
SC3124	VENUE2 VU DRIVER PCB	GC3124
TR1	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR2	PNP TRANS 2SA970GR (TAPED)	BD0301

TR3	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR4	NPN TRANS 2SC2240BL(TAPED)	BD0302
TR5	PNP TRANS 2SA970GR (TAPED)	BD0301
TR6	NPN TRANS 2SC2240BL(TAPED)	BD0302

**Meter Switch PCB**

	Meter Switch PCB Assembly	RP1425
<b>IDENT</b>	<b>DESCRIPTION</b>	<b>PART No.</b>
C1	VERT ELEC 0.2"TPD L-L 10MF 25V	CE0417
C2	VERT ELEC 0.2"TPD 2.2MF 50V	CE0416
C3	POLY-CAP 5MM 5% 100V 1N	CC0238
CN1	5WY FLEXI-STRIP	LC0229
D1	DIODE 1N4148	BA0001
D2	DIODE 1N4148	BA0001
D3	DIODE 1N4148	BA0001
D4	DIODE 1N4148	BA0001
D5	DIODE 1N4148	BA0001
IC1	SGL OP AMP IC TL071CP @	BE0404
IC2	QUAD COMPARATOR IC LCM2901	BE0410
IC3	QUAD COMPARATOR IC LCM2901	BE0410
IC4	QUAD COMPARATOR IC LCM2901	BE0410
IC5	QUAD COMPARATOR IC LCM2901	BE0410
IC6	QUAD COMPARATOR IC LCM2901	BE0410
J1	.1" 3WY SIL HDR(GLD)2.54MM PIN	FF0637
LD1	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD2	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD3	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD4	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD5	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD6	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD7	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD8	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD9	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD10	T1 3MM S.BRT LED GRN PRF.SHORT	JA0058
LD11	T1 3MM S.BRT LED GRN PRF.LONG	JA0059
LD12	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD13	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD14	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD15	T1 3MM S.BRT LED AMB PRF.LONG	JA0063
LD16	T1 3MM S.BRT LED AMB PRF.SHORT	JA0062
LD17	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD18	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
LD19	T1 3MM S.BRT LED RED PRF.LONG	JA0061
LD20	T1 3MM S.BRT LED RED PRF.SHORT	JA0060
PR1	TRIMMER VERT 3306W- 20K	DE0430
R1	MF 0.25W RES 2% 4K7	AD0465
R2	MF 0.25W RES 2% 22K	AD0481
R3	MF 0.25W RES 2% 75R	AD0422
R4	MF 0.25W RES 2% 33K	AD0485
R5	MF 0.25W RES 2% 33K	AD0485
R6	MF 0.25W RES 2% 22K	AD0481
R7	MF 0.25W RES 2% 15K	AD0477
R8	MF 0.25W RES 2% 1K5	AD0453
R9	MF 0.25W RES 2% 1K1	AD0450
R10	MF 0.25W RES 2% 910R	AD0448
R11	MF 0.25W RES 2% 680R	AD0445

R12	MF 0.25W RES 2% 620R	AD0444
R13	MF 0.25W RES 2% 470R	AD0441
R14	MF 0.25W RES 2% 330R	AD0437
R15	MF 0.25W RES 2% 300R	AD0436
R16	MF 0.25W RES 2% 220R	AD0433
R17	MF 0.25W RES 2% 180R	AD0431
R18	MF 0.25W RES 2% 150R	AD0429
R19	MF 0.25W RES 2% 110R	AD0426
R20	MF 0.25W RES 2% 91R	AD0424
R21	MF 0.25W RES 2% 68R	AD0421
R22	MF 0.25W RES 2% 62R	AD0420
R23	MF 0.25W RES 2% 47R	AD0417
R24	MF 0.25W RES 2% 33R	AD0413
R25	MF 0.25W RES 2% 27R	AD0411
R26	MF 0.25W RES 2% 20R	AD0408
R27	MF 0.25W RES 2% 91R	AD0424
R28	MF 0.25W RES 2% 75R	AD0422
R29	MF 0.25W RES 2% 75R	AD0422
R30	MF 0.25W RES 2% 27K	AD0483
SC2917	VENUE MTR/SWT PCB ASSY	GP1425
TR1	PNP TRANS 2SA970GR (TAPED)	BD0301
TR2	PNP TRANS 2SA970GR (TAPED)	BD0301

**Group Insert PCB**

Group Insert PCB Assembly	RP1569	
<b>IDENT</b>	<b>DESCRIPTION</b>	<b>PART No.</b>
CN1	G80 IDC 10WY R/A LTCHD HDR	FA0058
CN1	N04X3/8 PAN POZI SLF TAP Z/CLR	NA0242
JSK1	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK2	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK3	JACK SKT STR PC MNT FERRULE 5P	FH0741
JSK4	JACK SKT STR PC MNT FERRULE 5P	FH0741
SC2918	VENUE GRP INSERT PCB	GP1569
	1/4" PC MNTG BLADE HORIZ	FF0555





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## 12. Exploded Views

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<i>Complete Console Assembly</i>	<i>12.3</i>
<i>Mono Input Module Assembly</i>	<i>12.7</i>
<i>Dual Group/EQ Module Assembly</i>	<i>12.11</i>
<i>Dual Group/ Stereo Return Module Assembly</i>	<i>12.15</i>
<i>Dual Matrix Module Assembly</i>	<i>12.19</i>
<i>Master Module Assembly</i>	<i>12.23</i>

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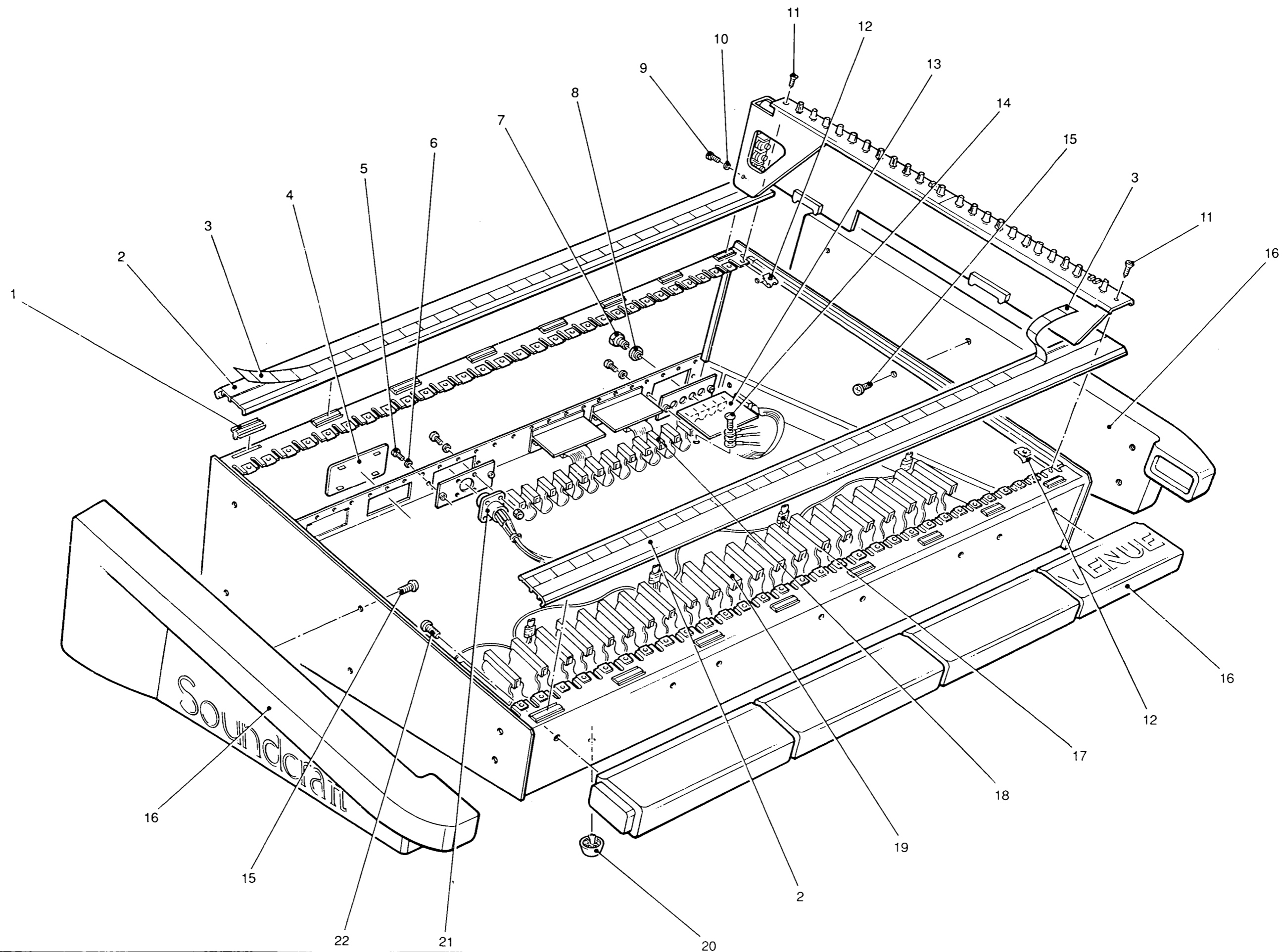


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## **12.1 Complete Console**

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### **Console Frame Exploded View**

<u>Ref.</u>	<u>Description</u>	<u>Part No.</u>
1	RETAINING CLIP	. . . . PP 2828
2	TRIM EXTRUSION	
	16 channel frame	. . . . PP 2825
	24 channel frame	. . . . PP 2826
	32 channel frame	. . . . PP 2827
	40 channel frame PP 3328	
3	IDENT. STRIP	
	4 O/P/MAST/4 MTX TOP & BTM IDENT	. . . . PP 3259
	1-24 TOP & BTM IDENT	. . . . PP 3257
	25-40 TOP & BTM IDENT	. . . . PP 3258
4	VENUE MOULDED BLANKING	. . . . PP 2809
5	M3.5 x 8MM PAN POZI BLK SCREW	. . . . NA 0087
6	M3.5 BLACK NYLON WASHER	. . . . NC 0232
7/8	VENUE JACK SPACER	. . . . ND 0349
9	NO6 x 1/2" PAN POZI TYPE B BLACK	. . . . NA 0255
10	M3.5 BLACK NYLON WASHER	. . . . NC 0232
11	NO6 x 1/2" CSK POZI TYPE B CLEAR	. . . . NA 0256
12	BARBED SPIRE CLIP	. . . . NZ 2251
13	VENUE MASTER REAR CON ASSY	. . . . RS 9444
14,15	M4 x 8MM PAN POZI SCR ZINC	. . . . NA 0225
16	ARMREST/SIDECHEEK KIT	
	16 channel frame	. . . . PP 3272
	24 channel frame	. . . . PP 3273
	32 channel frame	. . . . PP 3274
	40 channel frame	
	ARMREST EXTENSION	. . . . PM 1292
	W/O LOGO	
17	GROUND LINK WIREFORM	
	16 channel frame	. . . . RV 2155
	24 channel frame	. . . . RV 2156
	32 channel frame	. . . . RV 2157
	40 channel frame	. . . . PV 0496
18	O/P Mother Loom	. . . . RV2147
19	VENUE MOTHER LOOM	
	16 channel frame	. . . . PV 0478
	24 channel frame	. . . . PV 0479
	32 channel frame	. . . . PV 0480
	40 channel frame	. . . . PV 0481
	VENUE MUTE MOTHER LOOM	
	16 channel frame	. . . . PV 0482
	24 channel frame	. . . . PV 0483
	32 channel frame	. . . . PV 0484
	40 channel frame	. . . . PV 0485
20	RICHO SCREW ON PLASTIC FEET	. . . . ZZ 2541
21	VENUE 10WY SRC WFM	. . . . PV 0493
22	M6 x 50 MM PAN POZI CLEAR	. . . . NA 0257

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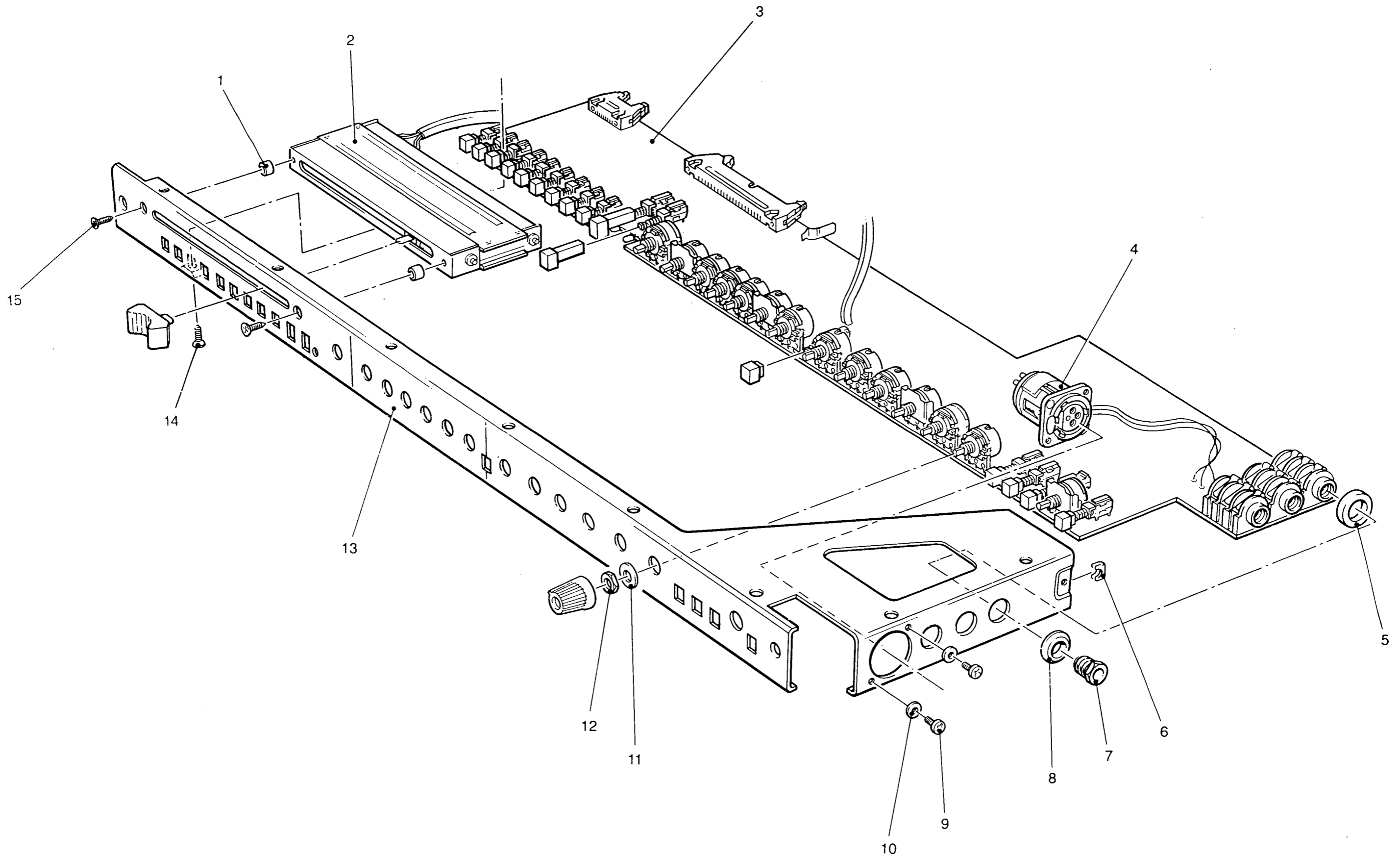
## **12.2 Mono Input Module**

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### **Mono Input with Mute Module Assembly**

<u>Ref.</u>	<u>Description</u>	<u>Part No.</u>
	COMPLETE MODULE	
	VENUE MONO I/P W/MUTE MODULE ASSY . . .	PS 9339
	VENUE MONO I/P W/O MUTE MODULE ASSY . . .	PS 9340
	VENUE STEREO I/P W/MUTE MODULE ASSY . . .	PS 9341
	VENUE STEREO I/P W/O MUTE MODULE ASSY . . .	PS 9342
<b>1</b>	VENUE FADER SPACER . . . . .	ND 0348
<b>2</b>	ALPS 10K 100MM MONO FADER . . . . .	DD 0321
<b>3</b>	PCB ASSEMBLY:	
	(PCB assemblies are available only as part of full module assembly)	
	VENUE MONO I/P WITH MUTE PCB ASSY . . .	PS 9339
	VENUE MONO I/P W/O MUTE PCB ASSY . . .	PS 9340
	VENUE STEREO I/P WITH MUTE PCB ASSY . . .	PS 9341
	VENUE STEREO I/P W/O MUTE PCB ASSY . . .	PS 9342
<b>4</b>	NTRK 3WY FML S LDR TML TRD FLG . . . . .	FK 0948
<b>5</b>	VENUE JACK SPACER . . . . .	ND 0349
<b>6</b>	NO6 SPRE CPTV NT SNJ/1895/17/4 . . . . .	NZ 2250
<b>7/8</b>	JACK SKT STR PC MNT FERRULE 5P . . . . .	FH 0741
<b>9</b>	M3 X 6MM PAN POZI BLK SCREW . . . . .	NA 0084
<b>10</b>	M3 BLACK NYLON WASHER . . . . .	NC 0231
<b>11</b>	NYLATRON POT WASHER BLACK . . . . .	NC 0254
<b>12</b>	M7 POT NUT BLACK CHAMFERED . . . . .	NB 0131
<b>13</b>	MODULE FASCIA:	
	VENUE MONO I/P WITH MUTE MOD FSC . . . . .	PP 3121
	VENUE MONO I/P W/O MUTE MOD FSC . . . . .	PP 3122
<b>14</b>	NO. 4 X 1/4" PAN POZI BLK S/T . . . . .	NA 0068
<b>15</b>	M3 X 8MM CSK POZI SCREW BLACK . . . . .	NA 0210





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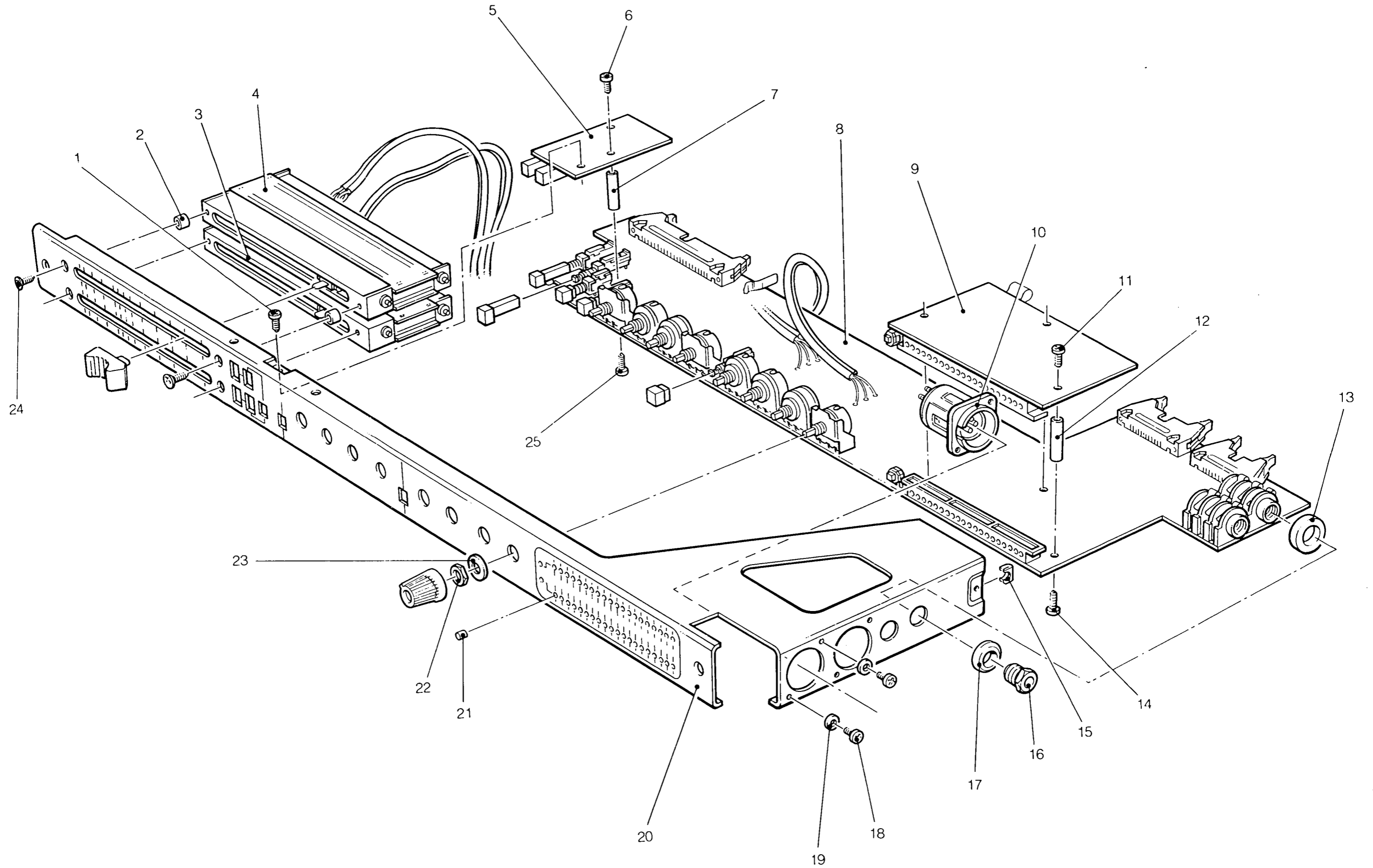
## **12.3 Dual Group/EQ Module**

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### **Dual Group/EQ Module Assembly**

1	NO.4 X 1/4" PAN POZI BLK S/T	.....	NA 0068
2	VENUE FADER SPACER	.....	ND 0348
3	ALPS 10K 100MM MONO FADER	.....	DD 0321
4	ALPS 10K 100MM MONO FADER	.....	DD 0321
5	PCB Sub Assembly:	.....	PS9343
	(PCB assemblies are available only as part of full module assembly)		
6	M3 X 5MM CSK POZI SCREW BLK	.....	NA 0113
7	M3X.5X19.05 SPACER	.....	ND 0358
8	PCB ASSEMBLY:		
9	VENUE MTR PCB ASSY	.....	RP 1425
10	NTRK 3WY ML SLDR TML THRD FLG	.....	FK 0949
11	M3 X 5MM CSK POZI SCREW BLK	.....	NA 0113
12	M3 X 5 X 19.05 SPACER	.....	ND 0358
13	VENUE JACK SPACER	.....	ND 0349
14	M3 X 4MM PAN POZI SCW ZNC & PASS	.....	NA 0118
15	NO6 SPRE CPTV NT SNJ/1895/17/4	.....	NZ 2250
16/17	JACK SKT STR PC MNT FERRULE 5P	.....	FH 0741
18	M3 X 6MM PAN POZI BLK SCREW	.....	NA 0084
19	M3 BLACK NYLON WASHER	.....	NC 0231
20	VENUE DUAL EQ/GRP O/P MOD FSC	.....	PP 3254
21	LED ARRAY LENSE	.....	JZ 2211
22	M7 POT NUT BLACK CHAMFERED	.....	NB 0131
23	NYLATRON POT WASHER BLACK	.....	NC 0254
24	M3 X 8MM CSK POZI SCREW BLACK	.....	NA 0210

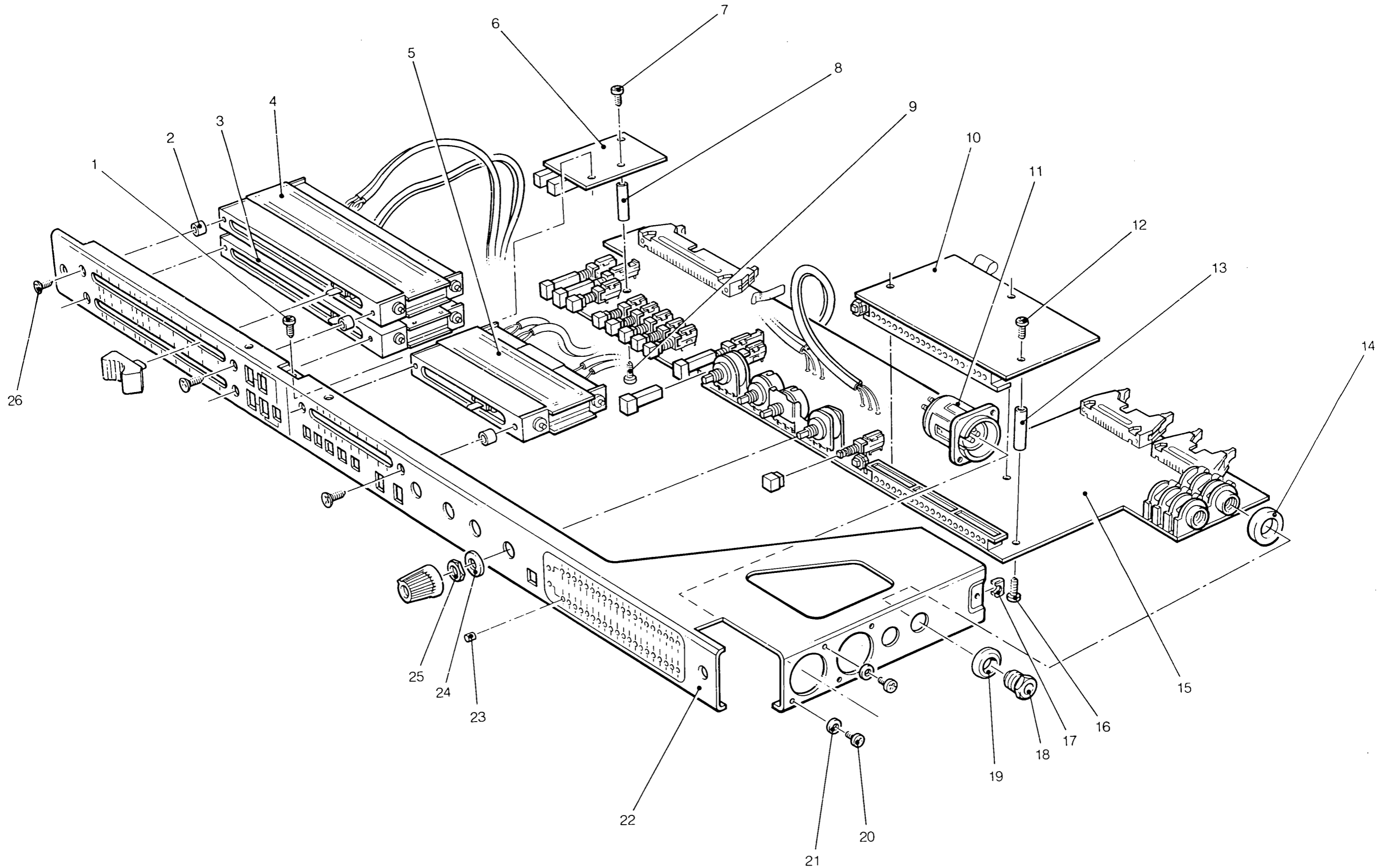


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## **12.4 Dual Group/Stereo Return Module**

### **Dual Group/Stereo Return Module Assembly**

<u>Ref.</u>	<u>Description</u>	<u>Part No.</u>
1	NO.4 X 1/4" PAN POZI BLK S/T	..... NA 0068
2	VENUE FADER SPACER	..... ND 0348
3	ALPS 10K 100MM MONO FADER	..... DD 0321
4	ALPS 10K 100MM MONO FADER	..... DD 0321
5	ALPS 60MM STEREO FADER 10KA	..... DD 0342
6	PCB Sub Assembly:	..... PS 9344
	(PCB assemblies are available only as part of full module assembly)	
	VENUE DUAL GRP/STEREO RETURN MODULE ASSY	
7	M3 X 5MM CSK POZI SCREW BLK	..... NA 0113
8	M3X.5X19.05 SPACER	..... ND 0358
9	M3 X 4MM PAN POZI SCW ZNC & PASS	..... NA 0118
10	VENUE MTR PCB ASSY	..... RP 1425
11	NTRK 3WY ML SLDR TML THRD FLG	..... FK 0949
12	M3 X 5MM CSK POZI SCREW BLK	..... NA 0113
13	M3X.5X19.05 SPACER	..... ND 0358
14	VENUE JACK SPACER ND 0349	
15	PCB ASSEMBLY:	
16	M3 X 4MM PAN POZI BLK SCREW	..... NA 0118
17	NO6 SPRE CPTV NT SNJ/1895/17/4	..... NZ 2250
18/19	JACK SKT STR PC MNT FERRULE SP	..... FH 0741
20	M3 X 6MM PAN POZI BLK SCREW	..... NA 0084
21	M3 BLACK NYLON WASHER	..... NC 0231
22	VENUE STR/RET/DUAL O/P MD FSC	..... PP 3236
23	LED ARRAY LENSE	..... JZ 2211
24	NYLATRON POT WASHER BLACK	..... NC 0254
25	M7 POT NUT BLACK CHAMFERED	..... NB 0131
26	M3 X 8MM CSK POZI SCREW BLACK	..... NA 0210



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## **12.5 Dual Matrix Module**

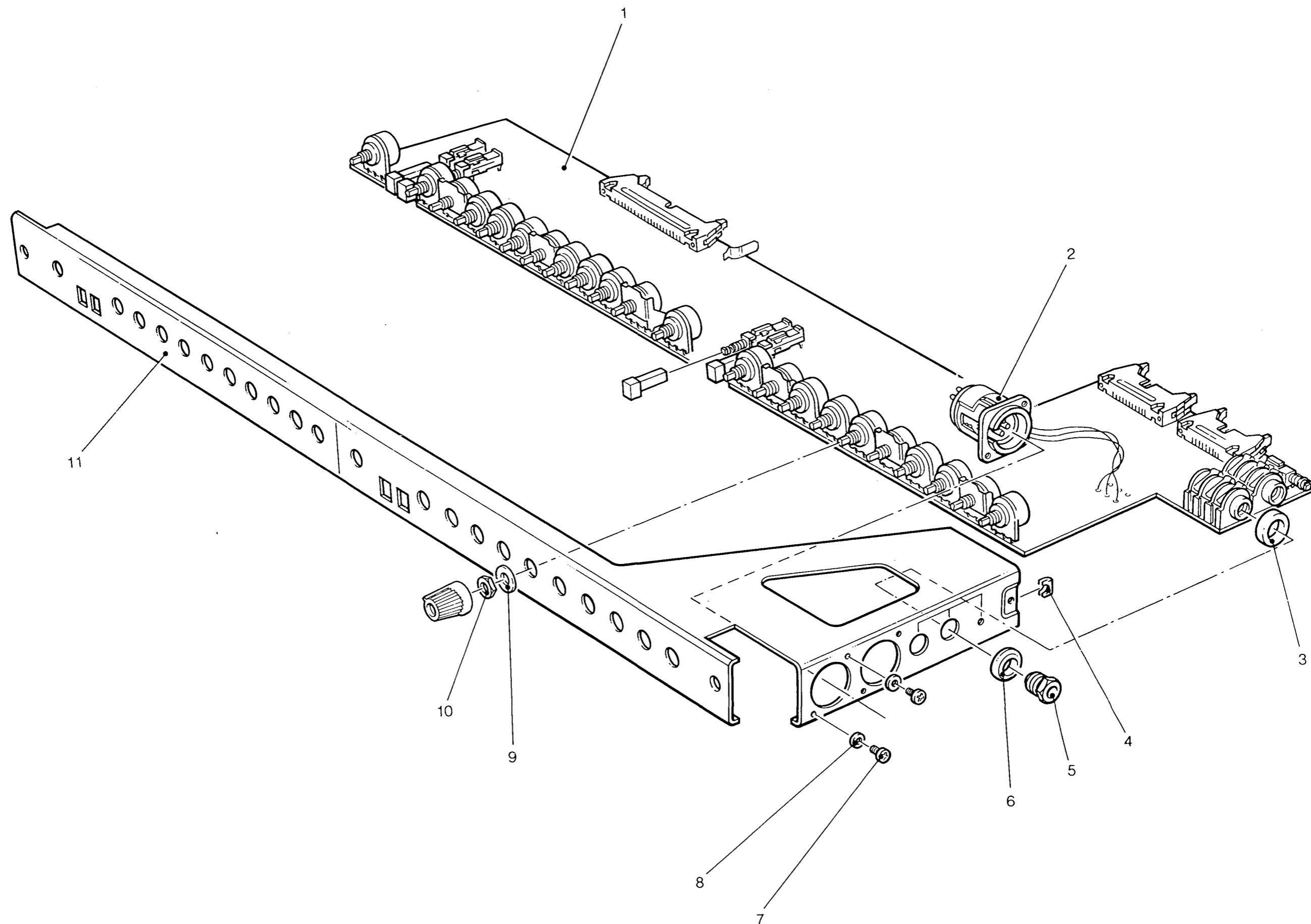
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### **Dual Matrix Module Assembly**

<u>Ref.</u>	<u>Description</u>	<u>Part No.</u>
1	PCB ASSEMBLY (PCB assemblies are available only as part of full module assy)	
	VENUE DUAL MATRIX MODULE ASSY . . . .	PS 9345
2	NTRK 3WY ML SLDR TML THRD FLG . . . .	FK 0949
3	VENUE JACK SPACER . . . .	ND 0349
4	NO6 SPRE CCPTV NT SNJ/1895/17/4 . . . .	NZ 2250
5/6	JACK SKT STR PC MNT FERRULE 5P . . . .	FH 0741
7	M3 X 6MM PAN POZI BLK SCREW . . . .	NA 0084
8	M3 BLACK NYLON WASHER . . . .	NC 0231
9	NYLATRON POT WASHER BLACK . . . .	NC 0254
10	M7 POT NUT BLACK CHAMFERED . . . .	NB 0131
11	VENUE DUAL MATRIX O/P MOD FSC . . . .	PP 3127





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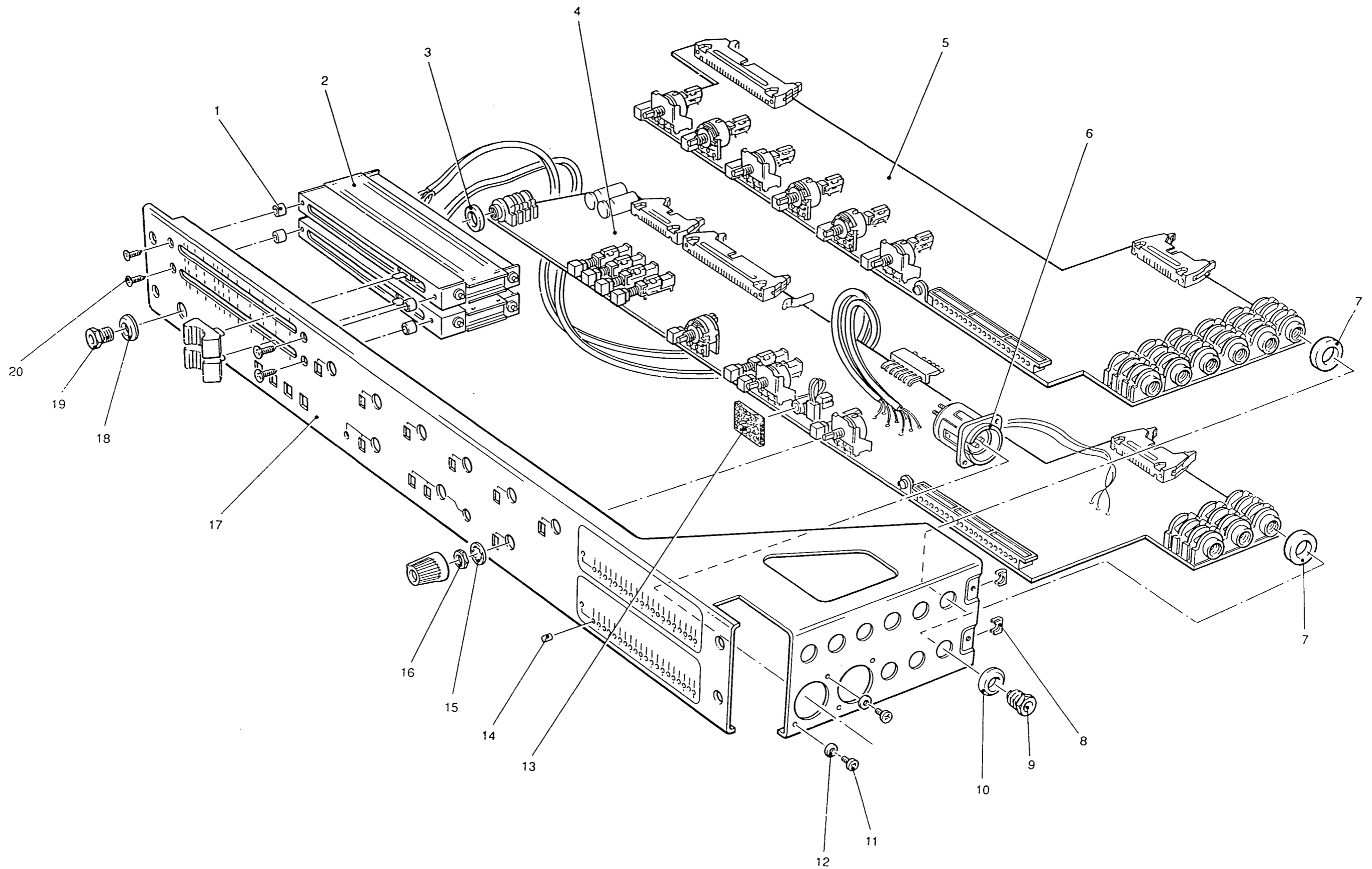
## **12.6 Master Module**

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### **Master with Mute Module Assembly**

<u>Ref.</u>	<u>Description</u>	<u>Part No.</u>
1	VENUE FADER SPACER	. . . . ND 0348
2	ALPS 10K 100MM MONO FADER	. . . . DD 0321
3	VENUE JACK SPACER	. . . . ND 0349
4/5	PCB ASSEMBLY (PCB assemblies are available only as part of full module assemblies)	
	VENUE MASTER MODULE WITH MUTE ASSY	PS 9337
	VENUE MASTER MODULE W/O MUTE ASSY	PS 9338
6	NTRK 3WY ML SLDR TML THRD FLG	. . . . FK 0949
7	VENUE JACK SPACER	. . . . ND 0349
8	NO6 SPRE CPTV NT SNJ/1895/17/4	. . . . NZ 2250
9/10	JACK SKT STR PC MNT FERRULE 5P	. . . . FH 0741
11	M3 X 6MM PAN POZI BLK SCREW	. . . . NA 0084
12	M3 BLACK NYLON WASHER	. . . . NC 0231
13	DECLON FOAM 25MM SQ	. . . . ZZ 2207
14	LED ARRAY LENSE	. . . . JZ 2211
15	NYLATRON POT WASHER BLACK	. . . . NC 0254
16	M7 POT NUT BLACK CHAMFERED	. . . . NB 0131
17	MODULE FASCIA: VENUE MASTER WITH MUTE MOD FSC	. . . . PP 3241
	VENUE MASTER W/O MUTE MOD FSC	. . . . PP 3240
18/19	JACK SKT STR PC MNT FERRULE 5P	. . . . FH 0741
20	M3 X 8MM CSK POZI SCREW BLACK	. . . . NA 0210



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## **13. Appendices**

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