



stage accompany

Model 816 Manual

Version 1.0



Stage Accompany

SA 816

Eight Channel
Power Supply

User Manual/
Service Manual
Version 1.0



stage accompany

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Training & Documentation

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Quick Introduction

stage accompany Release date: 15-05-91

1 Introduction

The Stage Accompany SA 816 is an eight channel variable power supply for the Performer PA system series.

Each Performer top cabinet contains a fan to increase the power handling capability of the high frequency compact driver. To reduce the noise produced by this fan, the speed is linearly controlled depending on the amount of power dissipated in the driver. In electrical terms, the fan voltage is controlled between approximately 6 and 13 volts.

Figure 1.1 illustrates the integration of one channel of the SA 816 in the performer system.

The unit is placed between the high frequency amplifier and the top cabinets. The SA 816 contains eight of these control units. Each of these units can drive two fans. Each unit has an automatic fuse, preventing for damage when its output is shortcircuited. The output voltages are indicated by eight leds on the front panel.

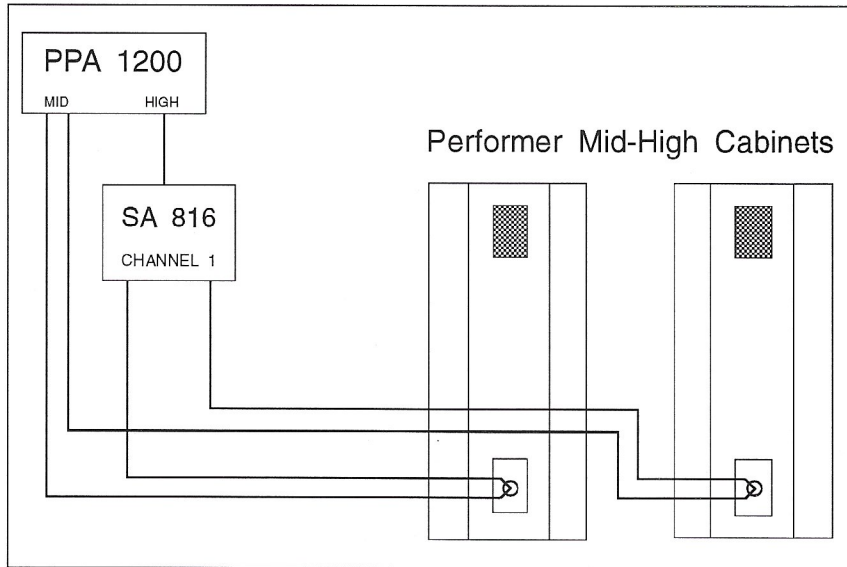


Figure 1.1 SA 816 connection scheme for one channel.



Connections

stage accompany Release date: 15-05-91

2 Connections

2.1 Mains power connection

The SA 816 is internally set for 220 V / 50 Hz unless stated otherwise at the rear of the unit. Always ensure that you use a correctly grounded mains supply.

Always replace the fuse by the same type and value (2 AT).

The SA 816 can either work on 200 - 240 volts or 100 - 120 volts. To change the mains voltage range, remove the cover of the unit. On the bottom, you will find 4 identical printed circuit board. Each of these boards have a jumper installed either on CN2 (see figure 2.1) for 220 volts or CN3 for 110 volts. Install these jumpers for the desired voltage range at your location.

Also the mains switch board contains a little jumper which must be set to the appropriate mains voltage (non critical, as it only serves the power on led). The appropriate voltage is also indicated at the back of the board so the procedure is fairly simple.

Do not forget to change the general fuse to 4 AT for 110 volts operation. Each PCB also contains a mains fuse which should be 630 mA for 220 V operation and 1.6 AT for 110 V operation.

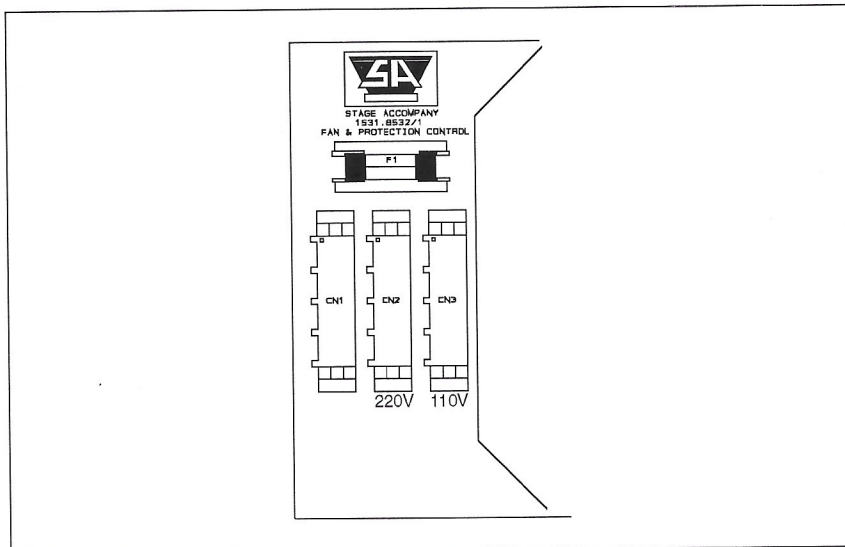


Figure 2.1 Location of the connectors and the fuse holder on the PCB.



Connections

stage accompany Release date: 15-05-91

2.2 Audio connections

The unit is equipped with 24 AMP M&L connectors (3 per channel) for interfacing with amplifiers and cabinets.

Each channel has a 4 pole AMP connector (female contacts) for connection to the high frequency amplifier. The contacts are wired as follows:

Pin 1 = audio signal "hot" or +

Pin 2 = audio signal "cold" or -

Pin 3 = "DDC hot" or DDC +

Pin 4 = "DDC cold" or DDC -

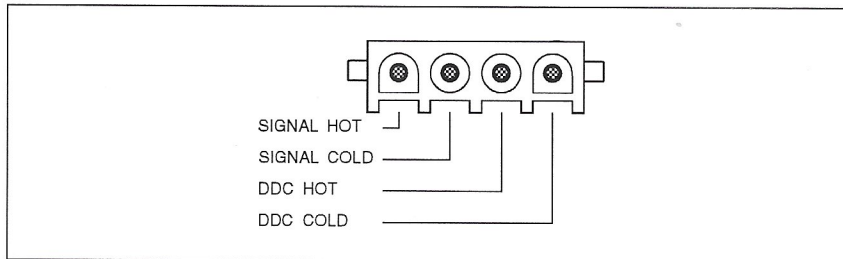


Figure 2.2 4 Pole female amp connector.

Use a minimum cable gauge of 2.5 mm for the audio signal and 0.75 mm for the DDC leads.

Internally, pin 1 is shortcircuited to pin 3 and pin 2 is shortcircuited to pin 4. This disables the DDC function and makes it possible to use the DDC wires for the fan power supply. For a detailed description of the DDC system, see the PPA 1200 manual.



Connections

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Each channel has two 4 pole AMP connectors (male contacts) for connection to the high frequency units of the performer system. The contacts are wired as follows:

- Pin 1 = audio signal "hot" or +
- Pin 2 = audio signal "cold" or -
- Pin 3 = DC fan supply +
- Pin 4 = DC fan supply -

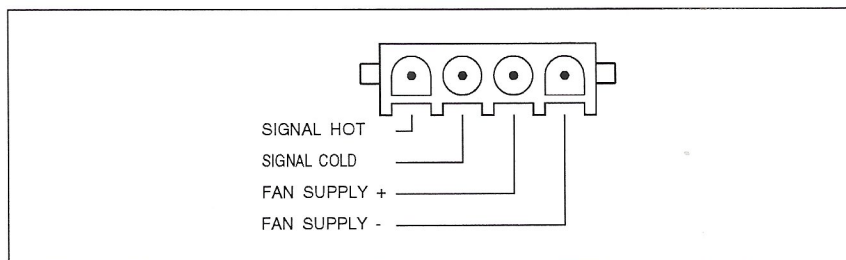


Figure 2.3 4 Pole male amp connector.

Use a minimum cable gauge of 2.5 mm for the audio signal and 0.75 mm for the fan power supply leads.



Operation

stage accompany Release date: 15-05-91

3 Operation

After connection to the amplifiers and cabinets, the unit can be connected to the mains power.

When turning the SA 816 on, all eight green leds on the front panel should be lit, indicating that the unit is working properly.

If one or more of the leds are not lit, turn the unit off and disconnect the output connections of the relevant channel(s). If the leds are on now, you probably have a shortcircuit in the wiring of the system.

Important notice: The outputs of the SA 816 are equipped with automatic fuses. If one of the fuses has tripped, it is necessary to turn the mains switch off for at least 15 seconds. The fuse needs this time to reset!

If the led of a particular channel is lit, but the connected high frequency unit(s) are not working, the fan power supply wires are probably interrupted somewhere.

Each Performer top cabinet only switches its Compact Driver on when a proper power supply voltage is detected.



Recommendations

stage accompany Release date: 15-05-91

4 Recommendations for Optimum Use

A faulty fuse must ALWAYS be replaced by a new one with the same value! A fuse of a different value can cause permanent damage to the unit. All internal fuses are of an automatic type, so they do not need to be replaced. Always disconnect the SA 816 from the power supply before operating on the fuse holder!

Repairs to the SA 816 should only be carried out by an authorised Stage Accompany dealer. Others should never dismantle the SA 816, because they risk damaging vital components: moreover, the guarantee becomes irrevocably invalidated.

**Specifications**stage accompany Release date: 15-05-91

5 Technical Specifications

Input:	0 - 100 V RMS, 10 Hz - 100 kHz
Input impedance:	40 kOhms
Output:	6 to 13 V DC per channel, dependent on each channels input voltage
Maximum output current:	1 A per channel
Mains supply voltage:	stated at rear of unit
Continuous power consumption:	standby: 120 W maximum output: 200 W
Housing:	19 inch rack mount, 2 HU high, 18 inches deep (without connectors)
Dimensions (h x w x d, mm):	88 x 482 x 462 (without connectors)



Schematic diagrams

stage accompany Release date: 15-05-91

6 Schematic diagrams

This chapter contains the schematic diagrams and PCB layouts of the SA 816.

Figure 6.1 shows a block diagram for 2 of the 8 channels of the SA 816.

The circuits are divided over three different boards: a connector board, a led board and a control board (4 control boards are present in the 816).

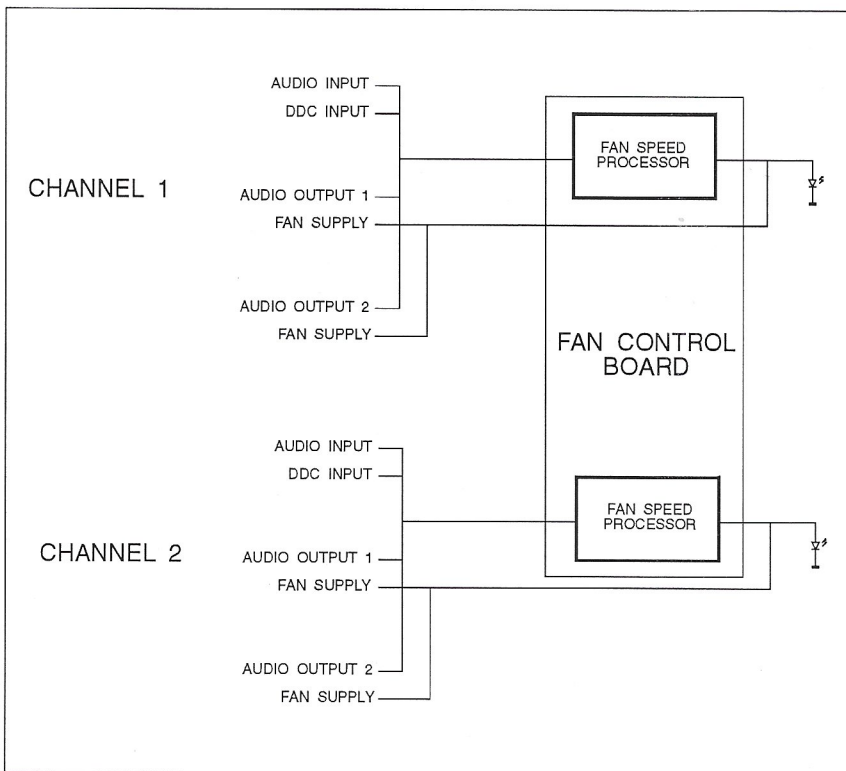


Figure 6.1 Block diagram for 2 of the 8 channels of the SA 816.

**Schematic diagrams**stage accompany Release date: 15-05-91

6.1 Connector and led board

Page 6-3 and 6-4 show the schematics and the board layout of the connector and led boards. Input and output connectors are of the AMP M&L type while connections to the control and led boards are made with a ribbon cable assembly.

Mounted to the front panel, the led board contains 8 leds for indication of the presence of supply voltage for each channel.

6.2 Control board

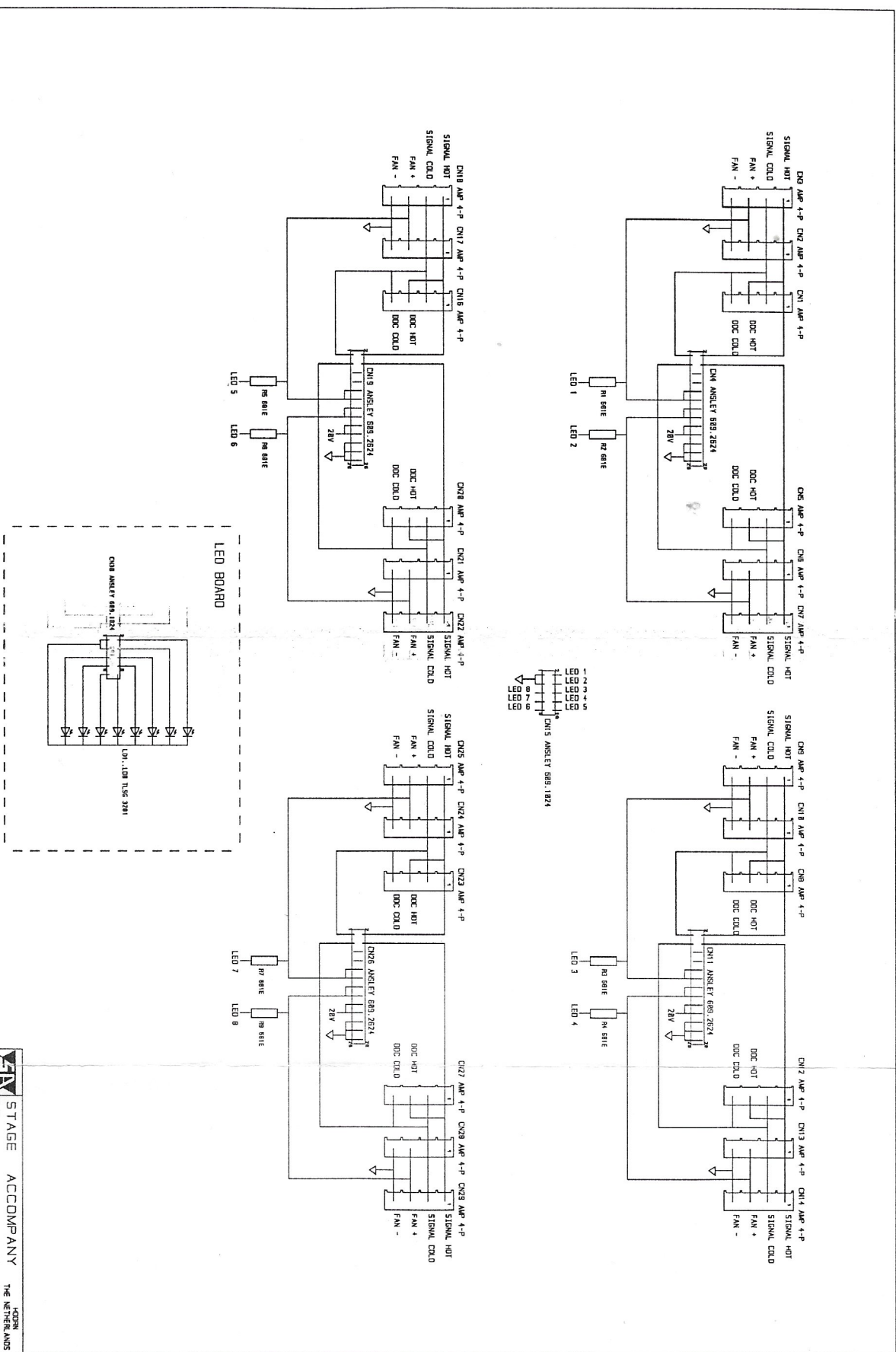
Page 6-5 and 6-6 show the schematic and board layout of the control board. Each SA 816 contains 4 of these identical boards.

The electronics contain a linear, symmetrical, regulated power supply of + and - 15 volts, that feed the operational amplifiers.

The loudspeaker signal is attenuated by IC2-a (IC4-a) and rectified by IC2-b (IC4-b).

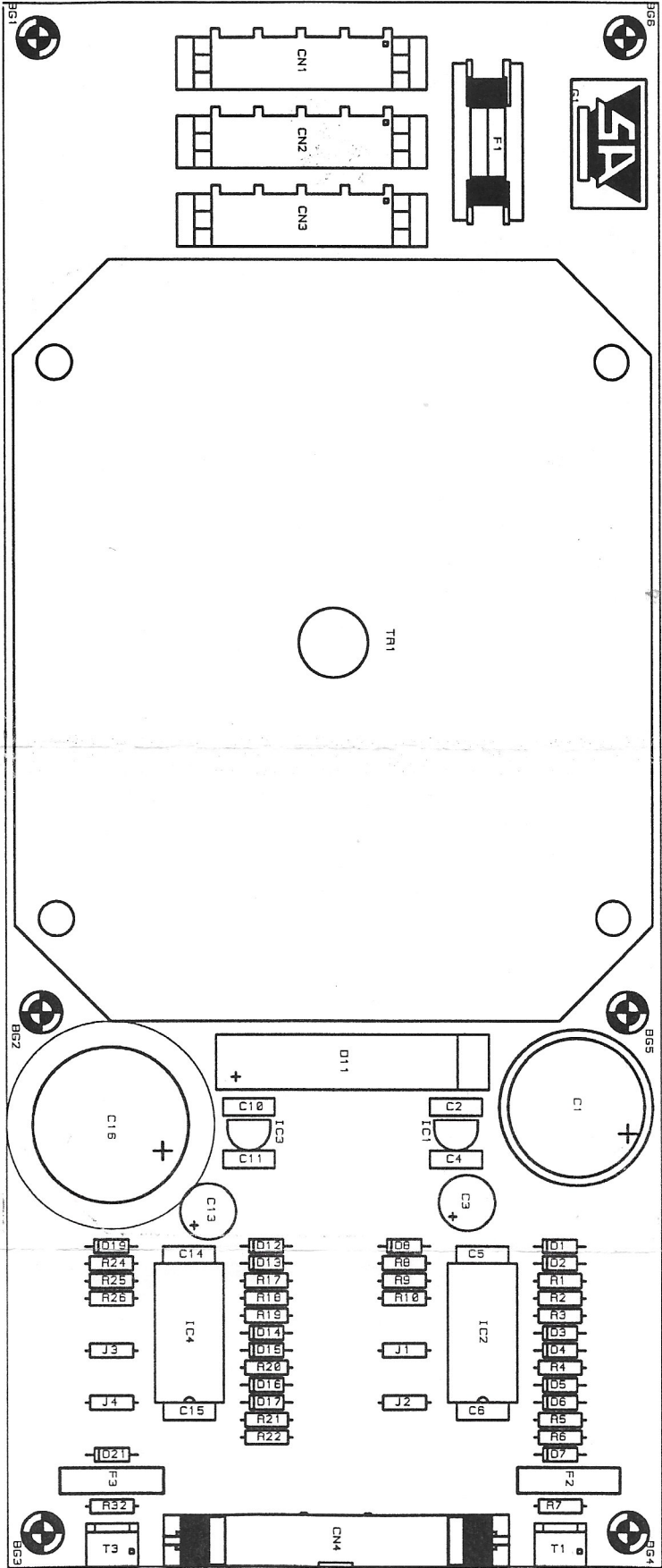
The linear control is effectuated by IC2-c (IC4-c) which also provides for a 6 volt "standby" voltage to keep the fans running at minimum speed. The output is buffered by T1 (T3) and fused by F2 (F3). F2 (F3) is an automatic fuse that can be resetted by removing the load.

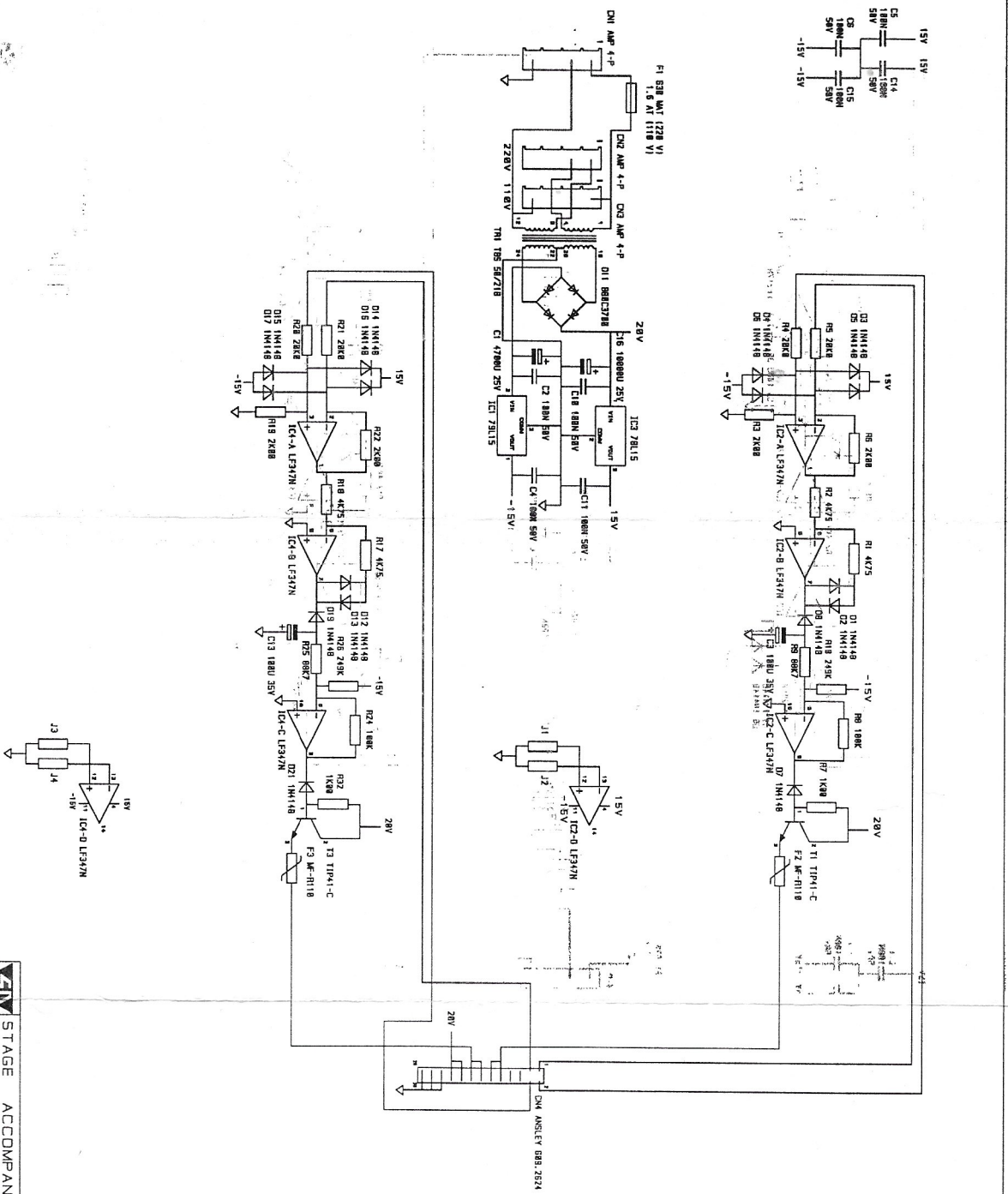
Schematic diagrams



STAGE ACCOMPANY		HOBBI	
PROJECT PERFORMER SERIES		THE NETHERLANDS	
DRAWING NO. PERM-13		DRAWING DATE	
CIRCUIT PROJECT FAN SUPPLY		DATE	
REVISIONS		DRAWN BY	
A3		DATE: 11-18-98	

Schematic diagrams





STAGE	ACCOMPANY
PROJECT PERFORMANCE SERIES	
DRAWING: 8119-1283 BACK CONTROL BOARD	
REV: 1	DATE: 08-11-88
REV: 2	DATE: 08-11-88
REV: 3	DATE: 08-11-88
REV: 4	DATE: 08-11-88
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Schematic diagrams

