



AUDIO PRODUCTS LTD.

MANUFACTURERS OF THE QED RANGE OF ACCESSORIES

~~ARMOUR~~

HOME ELECTRONICS

UNITS 7 & 8
STORTFORD HALL INDUSTRIAL PARK
DUNMOW ROAD
BISHOPS STORTFORD
HERTS, CM3 5GZ

)) TEL: +44 (0)1483 747474

)) FAX: +44 (0)1483 545600

Service Dept Div
01483 545613

SERVICE SHEET FOR

A240 SERIES II



A MEMBER OF THE QED GROUP OF COMPANIES

DIRECTORS: R.A. ABRAHAM (MANAGING) A.W.R. PEARCE I.P. VINE

CAPACITORS

VALUE	TYPE	NUMBER
10R	1/2 W CFR	R94, 95
470R	1/2 W CFR	R96, 97
1K	PRESET	PR1, 2

VALUE	TYPE	NUMBER
1uF	63V ELECT.	C1, 2, 5, 6
1000uF	35V ELECT.	C3, 4, 10
4700	40V PCB CAN	C7, 8

100nF	POLYESTER PLATE	C9, 40, 42
-------	-----------------	------------

33uF	BIPOLAR	C11, 13
------	---------	---------

150pF	CERAMIC PLATE	C12, 14
-------	---------------	---------

47uF	25V ELECT.	C15, 16
------	------------	---------

22uF	35V ELECT.	C28
------	------------	-----

47uF	40V ELECT.	C30, 31, 3MOD
------	------------	---------------

22pF	CERAMIC PLATE	C39, 43
------	---------------	---------

SEMICONDUCTORS

TYPE	NUMBER
------	--------

1N4148	04, 5, 7, 8
--------	-------------

1N4001	01
--------	----

24V ZENER (BZX79C24)	ID1, 2
----------------------	--------

BCS46B	13, 4, 5, 7, 12, 9, 14, 19, 17, 20, 21
--------	--

BCS46B SELECTED	1A, 3, 10, 11, 12
-----------------	-------------------

BCV39B	16, 8, 13, 16, 22
--------	-------------------

BC107	11, 19
-------	--------

BC107	110, 11
-------	---------

A240CD/SA.

23rd February 1988.

MAIN - PCB - COMPONENTS.

<u>QTY</u>	<u>RESISTORS</u>	<u>POSITIONS.</u>
8	OR47 WIREWOUNDS	R86-89 R56-59
2	10R $\frac{1}{2}$ W CFR	R94,95.
2	470R 1 W CFR	R96,97
1	3K3 $\frac{1}{2}$ W CFR	R29
2	18K $\frac{1}{2}$ W CFR	R32,33
4	10R 1% MFR	R52,53,82,83
4	47R 1% MFR	R37,38,68,69
8	68R 1% MFR	R48,49,78,79,42,44,73,7
13	100R 1% MFR	R54,55,84,85,45,47. 74,76,19,20,21,23,99
1	270R 1% MFR	R30
6	680R 1% MFR	R50, 51,80,81,43,72.
8	1K 1% MFR	R34,64,12,16,22,98,100,
2	1K5 1% MFR	R39,70
2	2K0 1% MFR	R41,71
6	4K7 1% MFR	R11,5,6,7,8 R15 (and R1 4 IF FITTED).
4	9K1 1% MFR	R35,36,66,67
2	10K 1% MFR	(R2,3 IF FITTED)
2	15K 1% MFR	R24,25
2	22K 1% MFR	R10,14
2	33K 1% MFR	R17,18
2	47K 1% MFR	R46,77
5	100K 1% MFR	R31,9,13,26,27

QTY	CAPACITORS	POSITIONS.
2	CAN'S 4,700 UF 40V P.C.B.	C7,8.
3	1,000 μ F 35V ELECT	C3,4,10
2	47 μ F 25V ELECT	C15,16
2	33 μ F BIPOLAR	C11,13
1	22 μ F 35V ELECT	C28
2	47 μ F 35V ELECT	C30,31
4	1 μ F 63V ELECT	C1,2,5,6.
3	100NF. POLYESTER PLATE	C9,41,42
2	150PF CERMIC PLATE	C12,14
2	22PF CERMIC PLATE	C45,39
4	IN4148	D4,5,7,8,
1	IN4001	D1
2	24V ZENERS (B2x79c 24V)	ZD1,ZD2
11	Bc 546 B	T3,4,5,7,12,9,14,15,17,20,21
6	Bc 546b SELECTED SPOTTED	1a,1b,1c,1d,11,12.
5	Bc 556 B	16,8,13,16,22.
2	BD 139	T11,19
2	BD 140	T10,18
2	PRESET 1K	PR1,PR2
1	RELAY ORMON. G2E (24V)	RLA 1
	BRIDGE RECTIFIER (K13104).	
QTY	MISCELLANEOUS	POSITION.
1	50K AX2 ALPS VOLUME POT	VR1
1	MAINS SWITCH	M/SW.
1	FUSEHOLDER	
1	7 WAY P.C.B. SOCKET	

CONTINUED.....

<u>QTY</u>	<u>MISCELLANEOUS</u>	<u>POSITION.</u>
1	5 WAY P.C.B. SOCKET	
1	3 WAY P.C.B. SOCKET	
5	QUAD BANK SOCKETS PHONO	
3	SPEAKER SOCKET	
1	HEADPHONE SOCKET	
2	SMALL TIE WRAPS.	
4PKS	VEROPINS SINGLE SIDED (RS 433-624)	
1	18 S.W.G. WIRE (RS 355-057)	
2	22 S.W.G. (RS 353-079)	
2PKS	1mm SLEEVING (RS 399-417)	
2	ALPS 4POLE 6 WAY ROTARY SWITCHES	SW1, SW2
1	TAG LABEL	
1 REEL	2mm SLEEVING (RS 399.445)	
1 TUBE	HEATSINK COMPOUND (RS 554-311)	
2	CABLE CLIPS	
2	M3 x 10mm SCREWS	
2	NYLON INSULATING WASHERS	
1 REEL	1/1.13mm WIRE SINGLE (RS 358-933)	
1	P.C.B.	
1	HEATSINK COMPLETE.	

14/5/90

A240 SERIES II RUN OUT SHEET

RESISTORS

VALUE	TYPE	NUMBER
4K7	1% METAL FILM	R1,4,5,6,7,8,11,15
10K	1% METAL FILM	R2,3
100K	1% METAL FILM	R9,12,26,27,31
1K	1% METAL FILM	R101,12,16,22,34, 64,98,100
33K	1% METAL FILM	R17,18
100R	1% METAL FILM	R19,20,21,23,45, 47,54,55,74,76, 84,85,99
15K	1% METAL FILM	R24,25
3K3	1/2 W CFR	R29
270R	1% METAL FILM	R30
18K	1/2 W CFR	R32,33
9K1	1% METAL FILM	R33,36,66,67
47R	1% METAL FILM	R37,38,68,69
1K5	1% METAL FILM	R39,70
2K	1% METAL FILM	R41,71
68R	1% METAL FILM	R42,44,48,49,73,75,78, 79
47K	1% METAL FILM	R46,77
10R	1% METAL FILM	R52,53,82,83
0R47	WIREWOUND	R56,57,58,59,96,97, 98,99
22K	1% METAL FILM	R14,19
000R	1% METAL FILM	R43,50,51,90,91

BRIDGE RECTIFIER (K13104)

MISCELLANEOUS

ITEM

POSITION

50K ALPS VOLUME POT AX2

VR1

MAINS SWITCH

M/3M

FUSEHOLDER

RLA1

RELAY (ORMON G2E 24V)

7 WAY PCB SOCKET

5 WAY PCB SOCKET

3 WAY PCB SOCKET

QUAD BANK PHONO SOCKETS

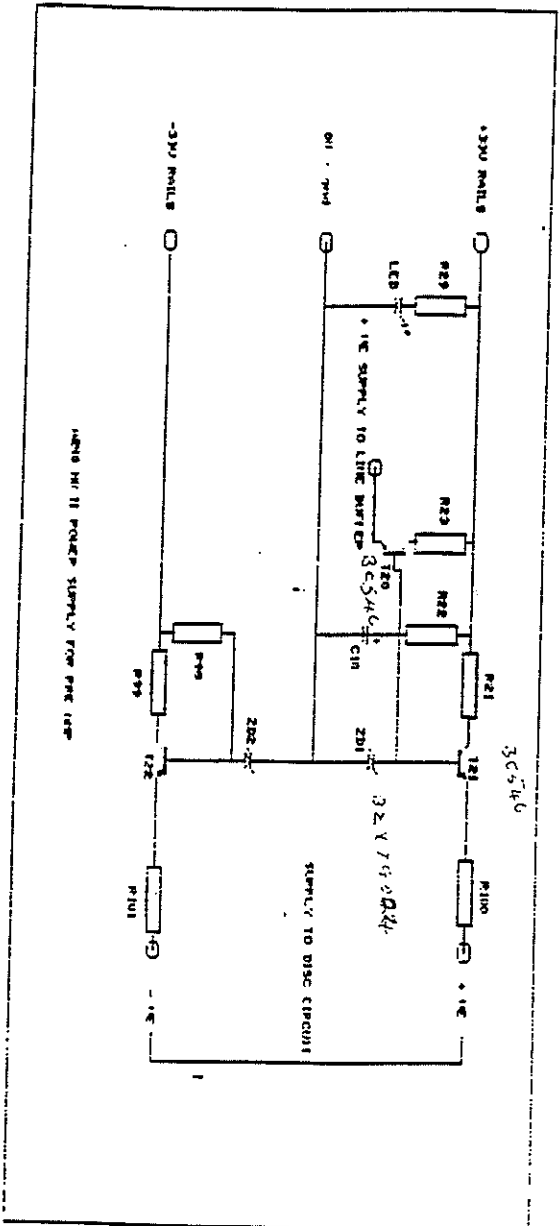
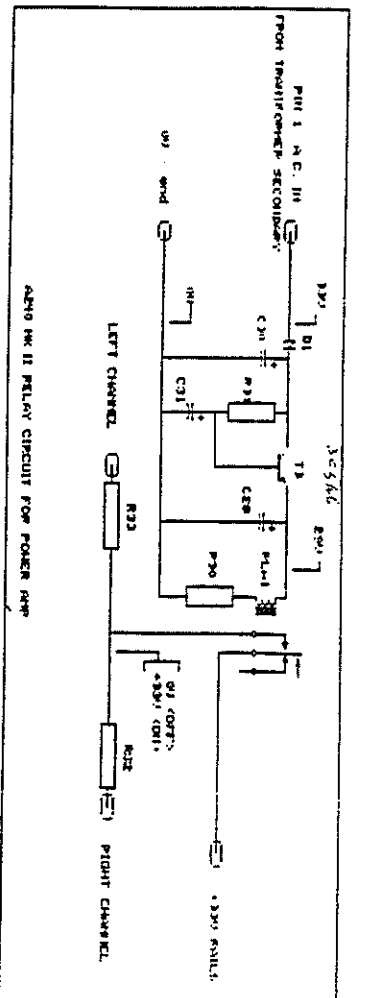
SPEAKER SOCKETS

4 POLE 5 WAY ROTARY SWITCHES (ALPS)

SW1, 2

NYLON INSULATING WASHERS

HEATSINK



U.S. District Court
District of Columbia

23rd February 1988.

MAIN - PCB - COMPONENTS.

A240CD/SA.

POSITIONS.

R86-89 R56-59

R94, 95.

R96, 97

R29

R32, 33

R52, 53, 82, 83

R37, 38, 68, 69

R48, 49, 78, 79, 42, 44, 73,

R54, 55, 84, 85, 45, 47.

74, 76, 19, 20, 21, 23, 99

OR47 WIREWOUNDS

10R $\frac{2}{1}$ W CFR

470R 1 W CFR

3K3 $\frac{2}{1}$ W CFR

18K $\frac{2}{1}$ W CFR

10R 1% MFR

47R 1% MFR

68R 1% MFR

100R 1% MFR

QTY

8

2

2

1

2

4

4

8

13

1

6

8

2

2

6

4

2

2

2

2

5

MFR

MFR

MFR

MFR

MFR

MFR

MFR

MFR

MFR

MFR

MFR

MFR

MFR

(R2, 3 IF FITTED)

R35, 36, 66, 67

4 IF FITTED).

R11, 5, 6, 7, 8 R15 (and R1

R41, 71

R39, 70

R34, 64, 12, 16, 22, 98, 100,

R50, 51, 80, 81, 43, 72.

R30

R24, 25

R10, 14

R17, 18

R46, 77

R31, 9, 13, 26, 27

BRIDGE RECTIFIER (K13104)

MISCELLANEOUS

ITEM POSITION

50K ALPS VOLUME POT AX2

VR1

MAINS SWITCH

M/3W

FUSEHOLDER

RELAY (ORMON 62E 24V)

RLA1

7 WAY PCB SOCKET

5 WAY PCB SOCKET

3 WAY PCB SOCKET

QUAD 8ANK PHONO SOCKETS

SPEAKER SOCKETS

4 POLE 5 WAY ROTARY SWITCHES (ALPS)

SW1,2

NYLON INSULATING WASHERS

HEATSINK

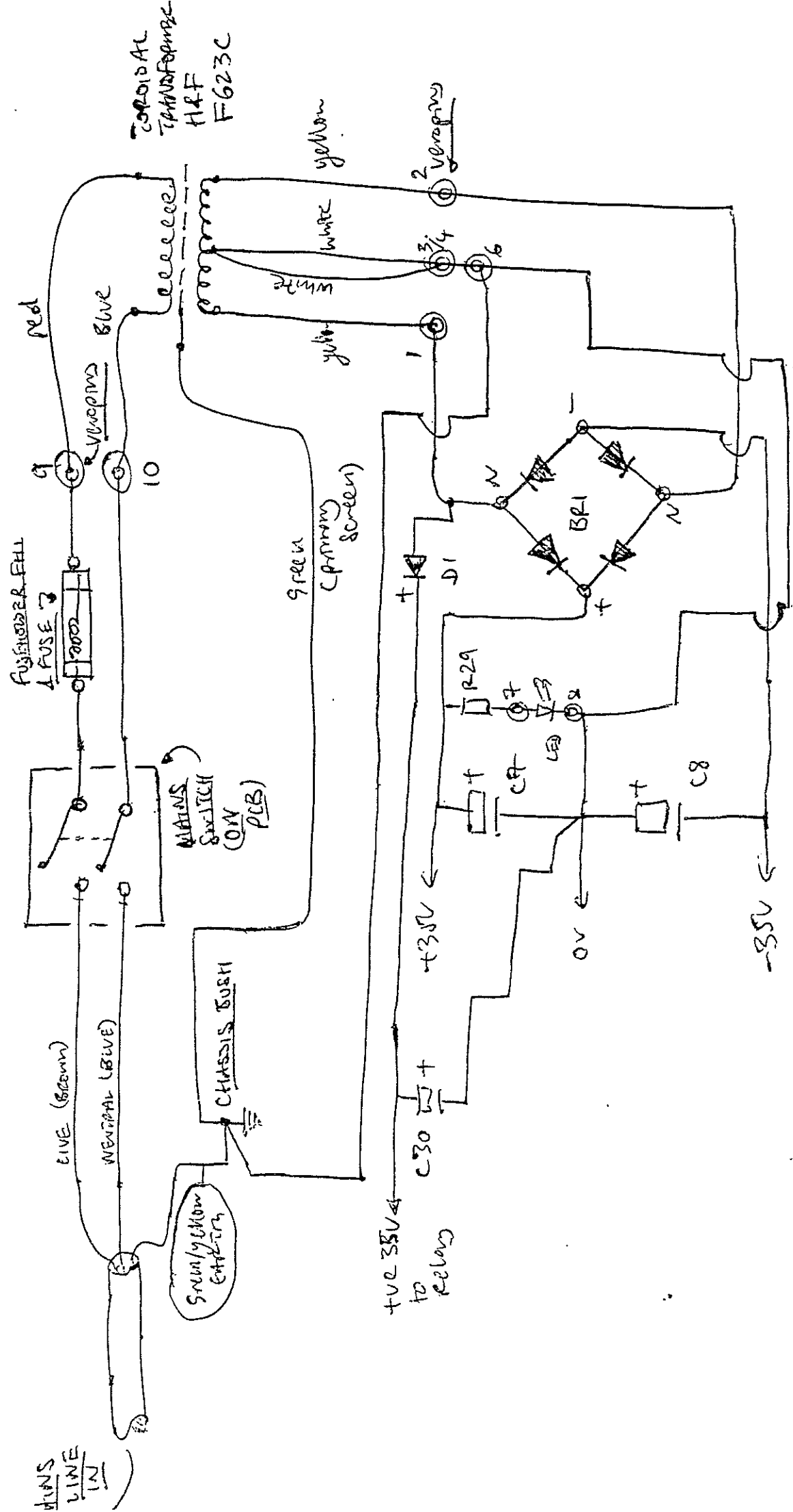
NOTES ON AMPLIFIER TESTING AND REPAIRING

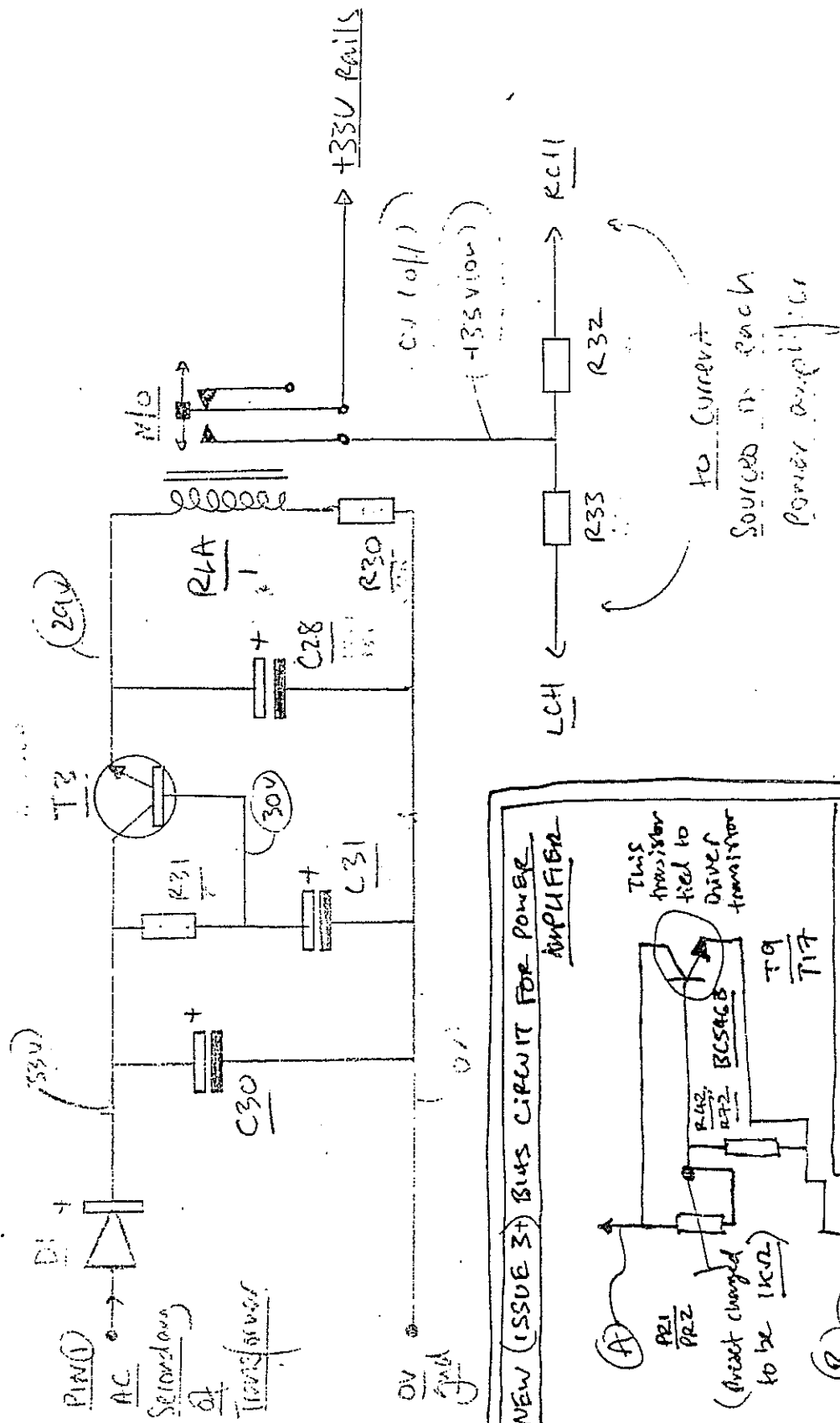
1. A240CD has standard disc board fitted
A240SA has S.A. pack board fitted

2. When testing amplifier using an external supply it is necessary to connect that supply via the transformer secondary pins (1 and 2) and ground pin (3) with the transformer disconnected otherwise the turn on relay will not operate.

3. Bias setting for the A240 amplifier :
 - a/ Connect a current-limited supply as above.
 - b/ Warm amplifier to normal temperature.
 - c/ Check for low dc offset at outputs.
 - d/ Adjust presets to give about 15mV dc across output resistors - ie between emitters of both output transistors.

QED Pro Series II Amplifier - PSU circuit.





NEW (ISSUE 3) BUILT CIRCUIT FOR POWER AMPLIFIER

This transistor tied to driver transistor

(Direct charged to be 1K2)

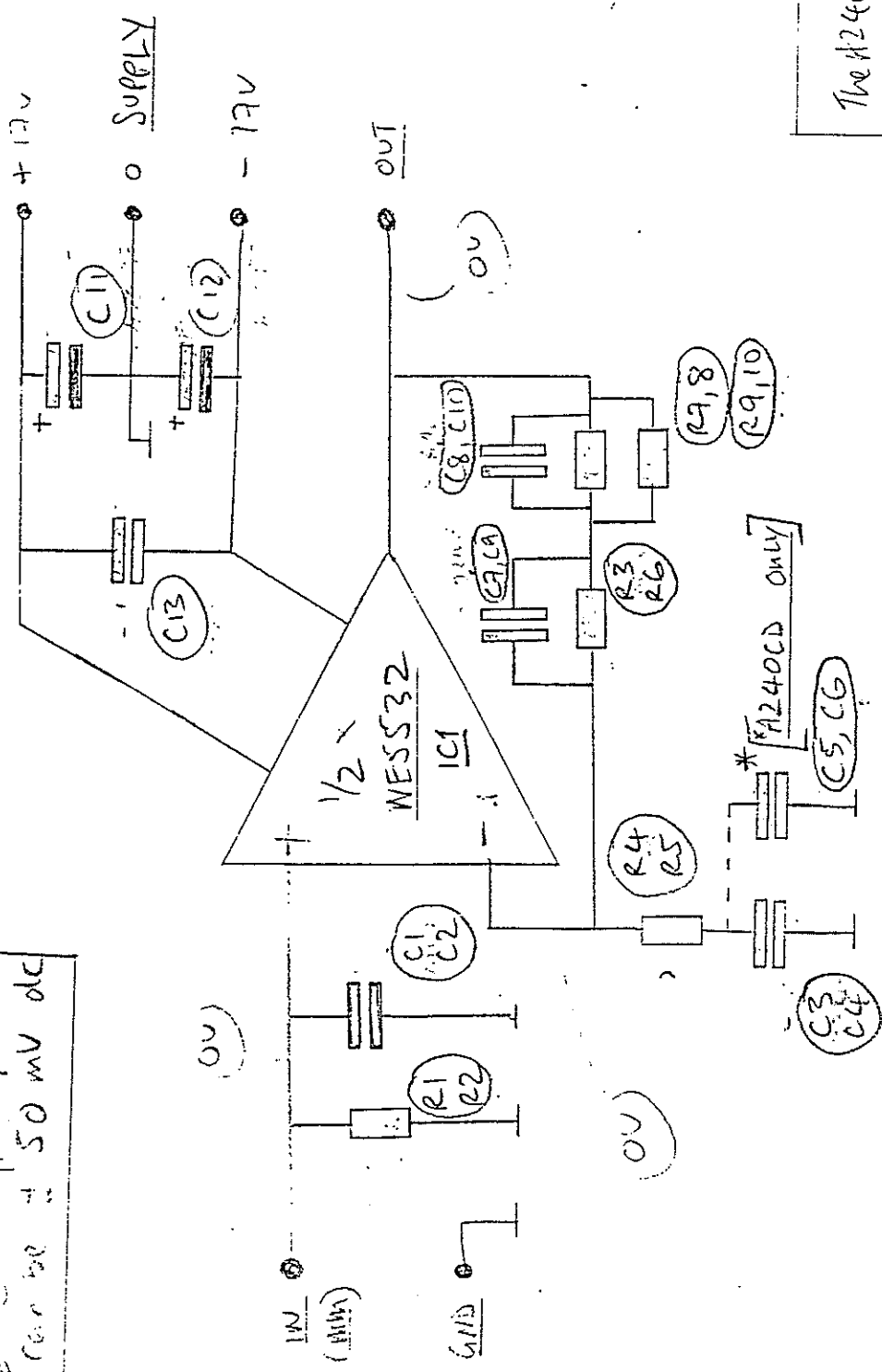
refer to drawing: 006 (kmp)

ISSUE	DESCRIPTION	APPD DATE

TITLE	DRAWN		TRACED	CHECKED	APPROVED	DATE
	Relay circuit				com	
for power - amp						
DRAWING No. H230/40-004						

DO NOT SCALE

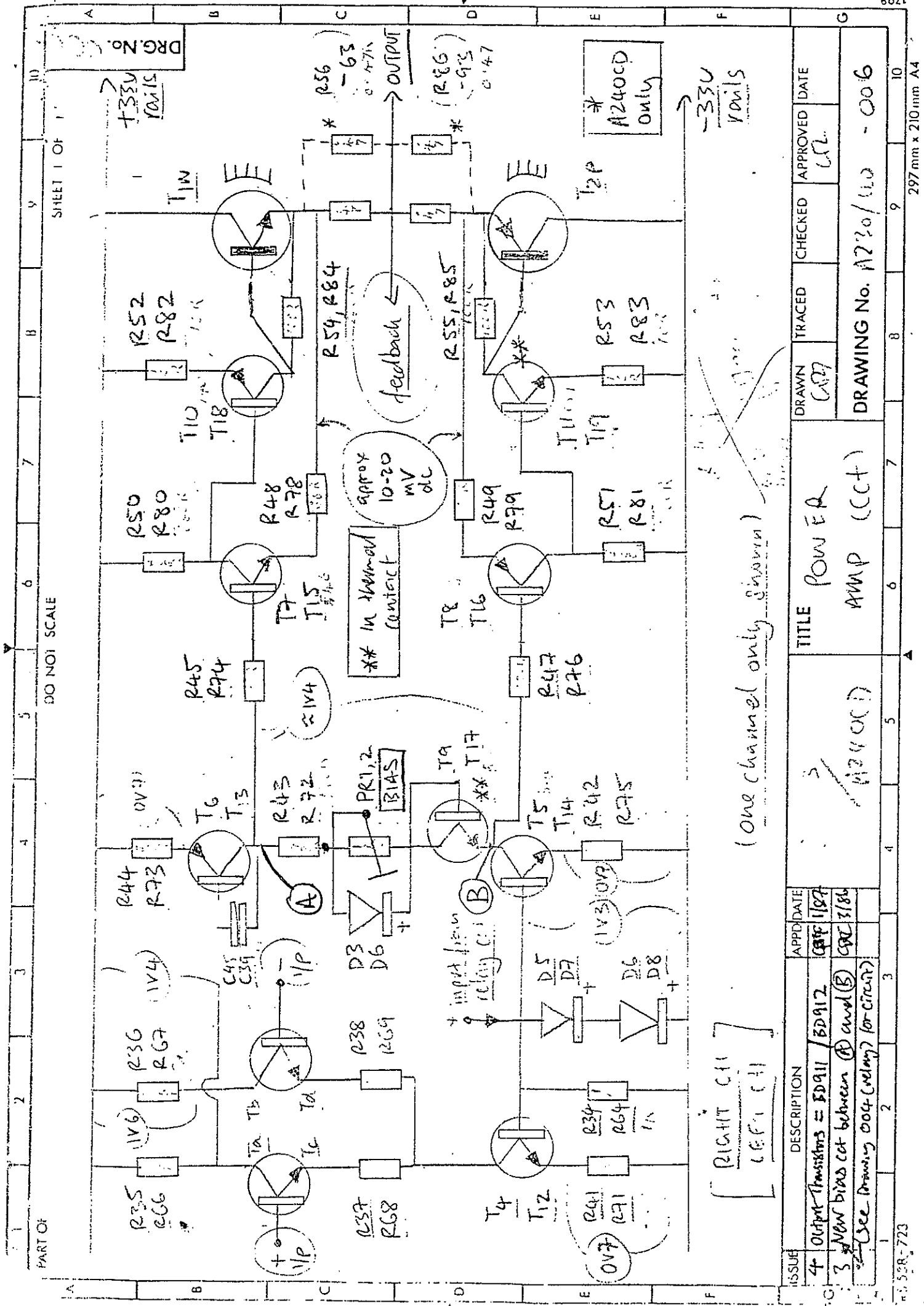
NOTE: (0V) dc offset points
can be ± 50 mV d.c



The A240CD Has this
circuit on a separate
plug-in module.

(One channel only shown)

ISSUE		DESCRIPTION		APPLY DATE		TITLE		DRAWN		TRACED		CHECKED		APPROVED		DATE	
							std DISC	C/M								11/3/86	
							INPUT STAGE										

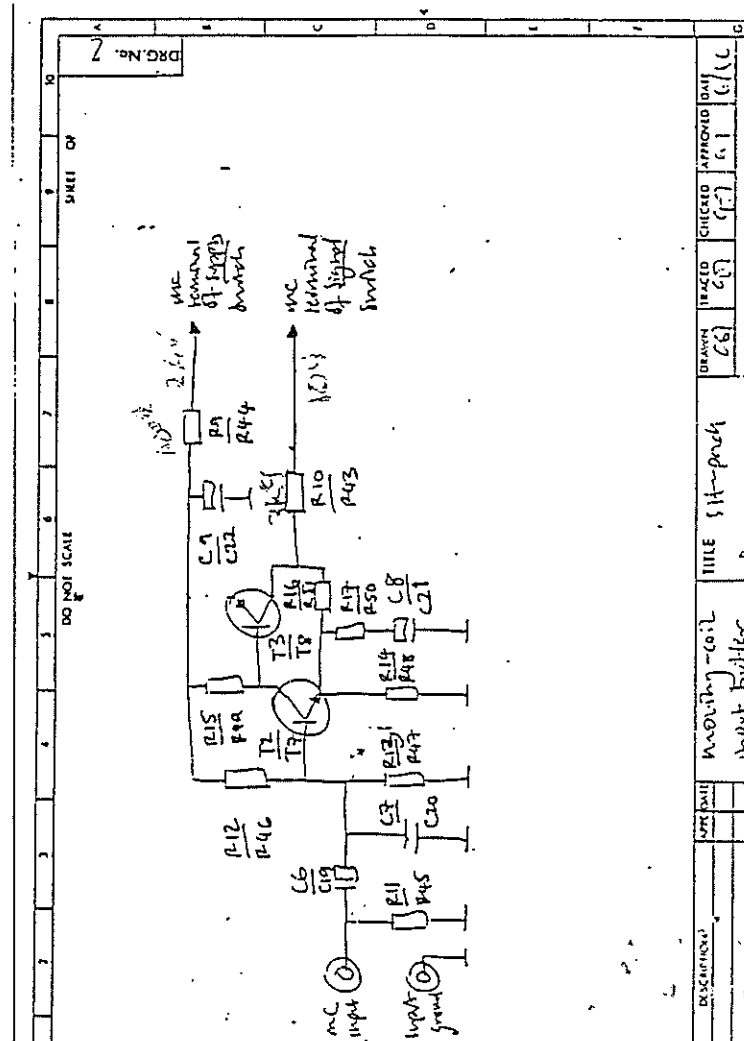
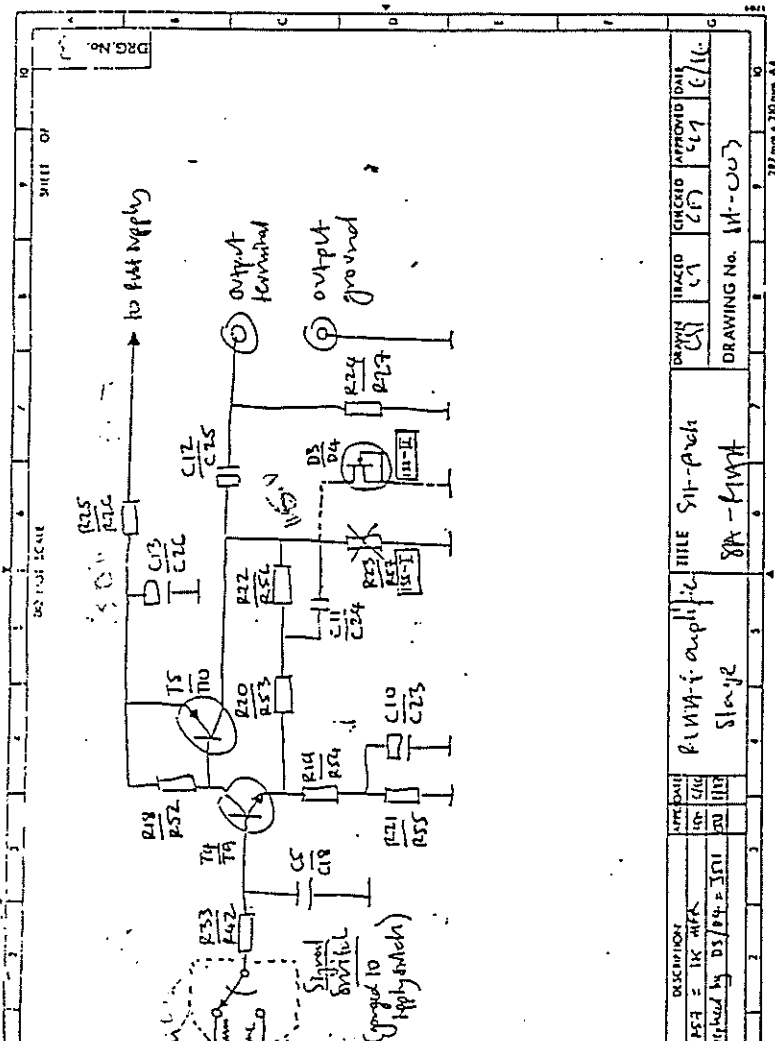
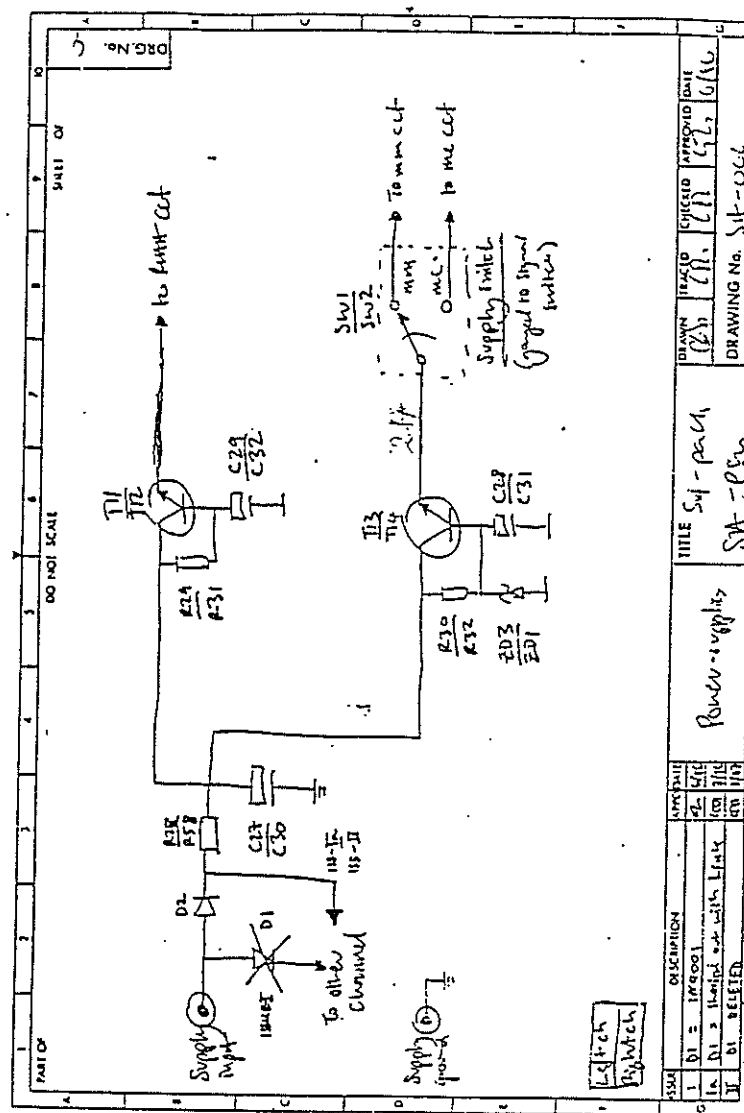
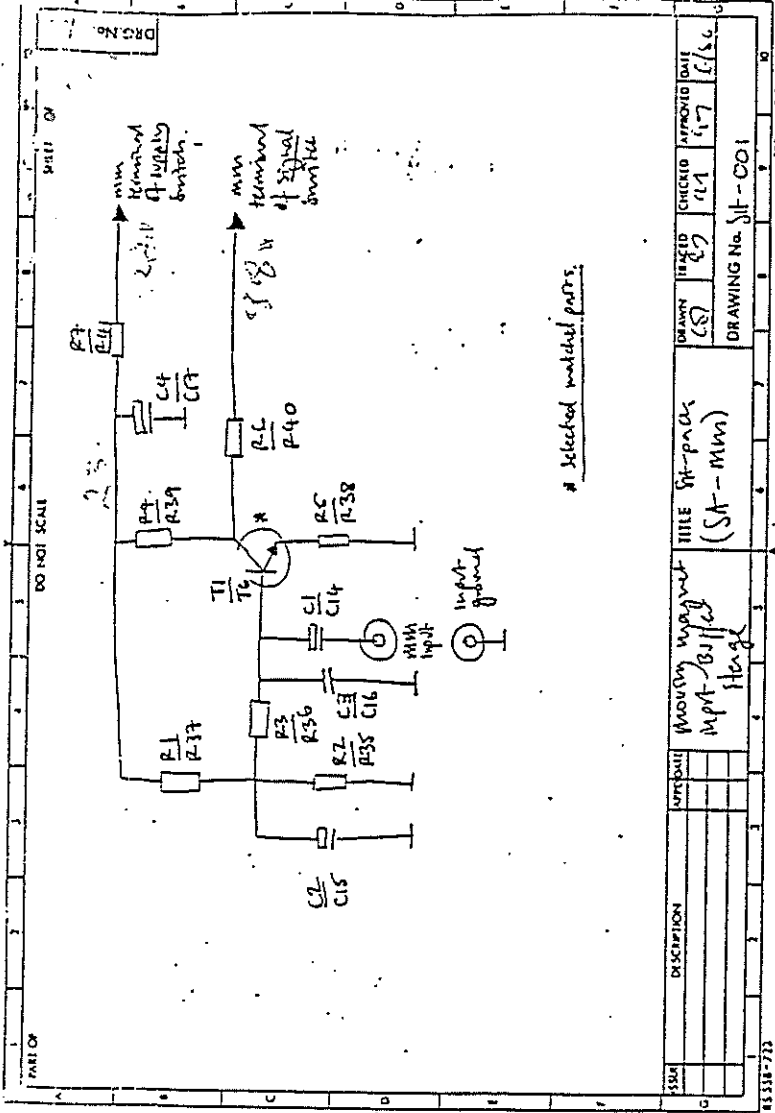


ISSUE	DESCRIPTION	APPROVED	DATE	DRAWN	TRACED	CHECKED	APPROVED	DATE
4	Output Transistors = BD911 / BD912	CEP	1/87	CEP				
3	New bias set between (A) and (B)	CEP	3/86					
2	See drawing 004 (relay) for circuit							
1								

DRAWING No. A230/110 - 006

(One channel only shown)

[RIGHT CH
LEFT CH]

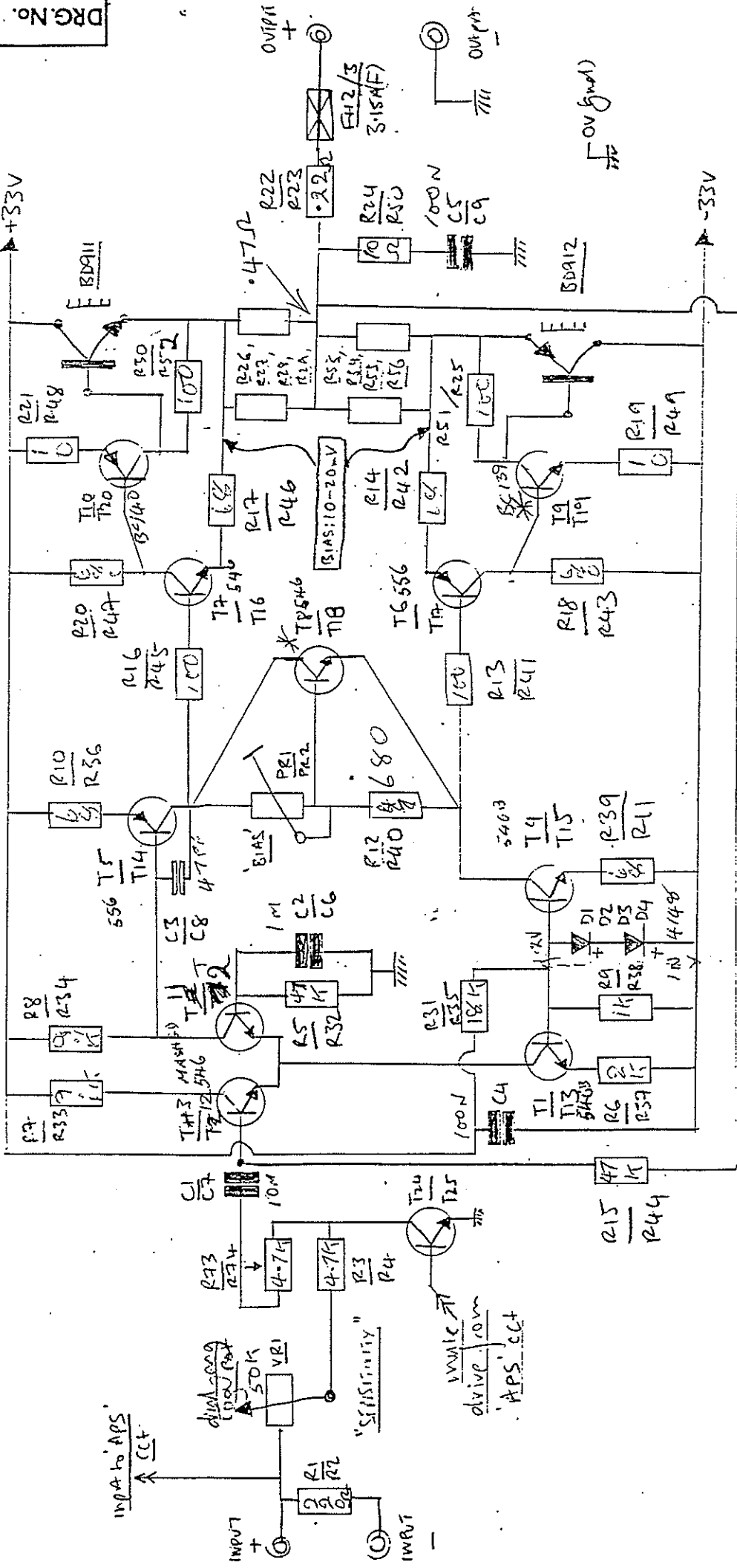


11/21. 7710. 1274 2507

PART OF

DO NOT SCALE

SHEET OF



C411.
C412.

ISSUE	DESCRIPTION	APPROVE	TITLE	WIDIMATE	DRAWN	TRACED	CHECKED	APPROVED	DATE
1			AMPLIFIER STAGE (over channel)	CCT.	CAF				
2									
3									
4									
5									
6									
7									
8									
9									
10									

DRAWING No. WIDIMATE CCT-I