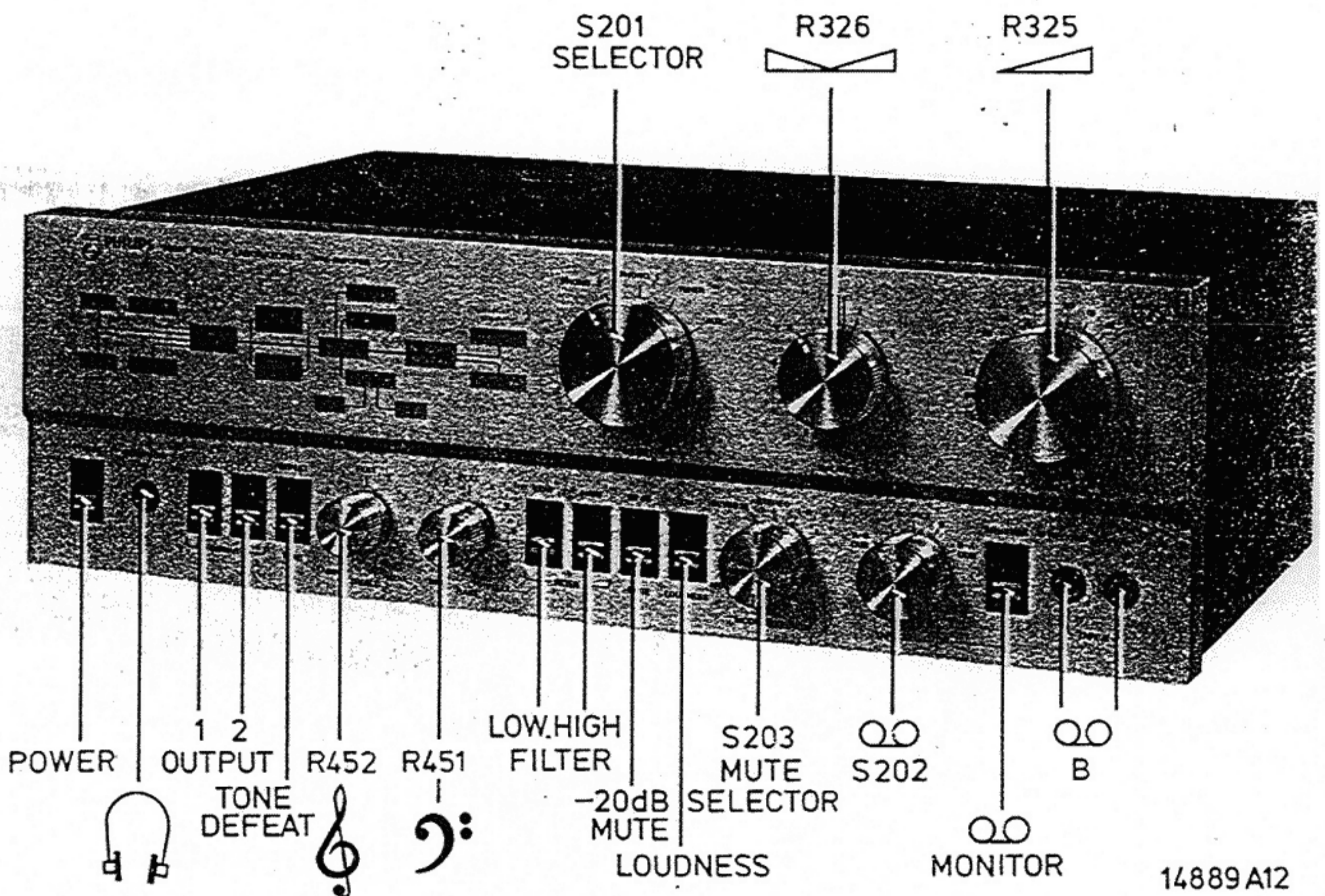


# Service Service Service

## PART 2

# Service Manual



14889A12

Fig. 1

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

Documentation Technique Service Dokumentation Documentazione di Servizio Huolto-Ohje Manual de Servicio Manual de



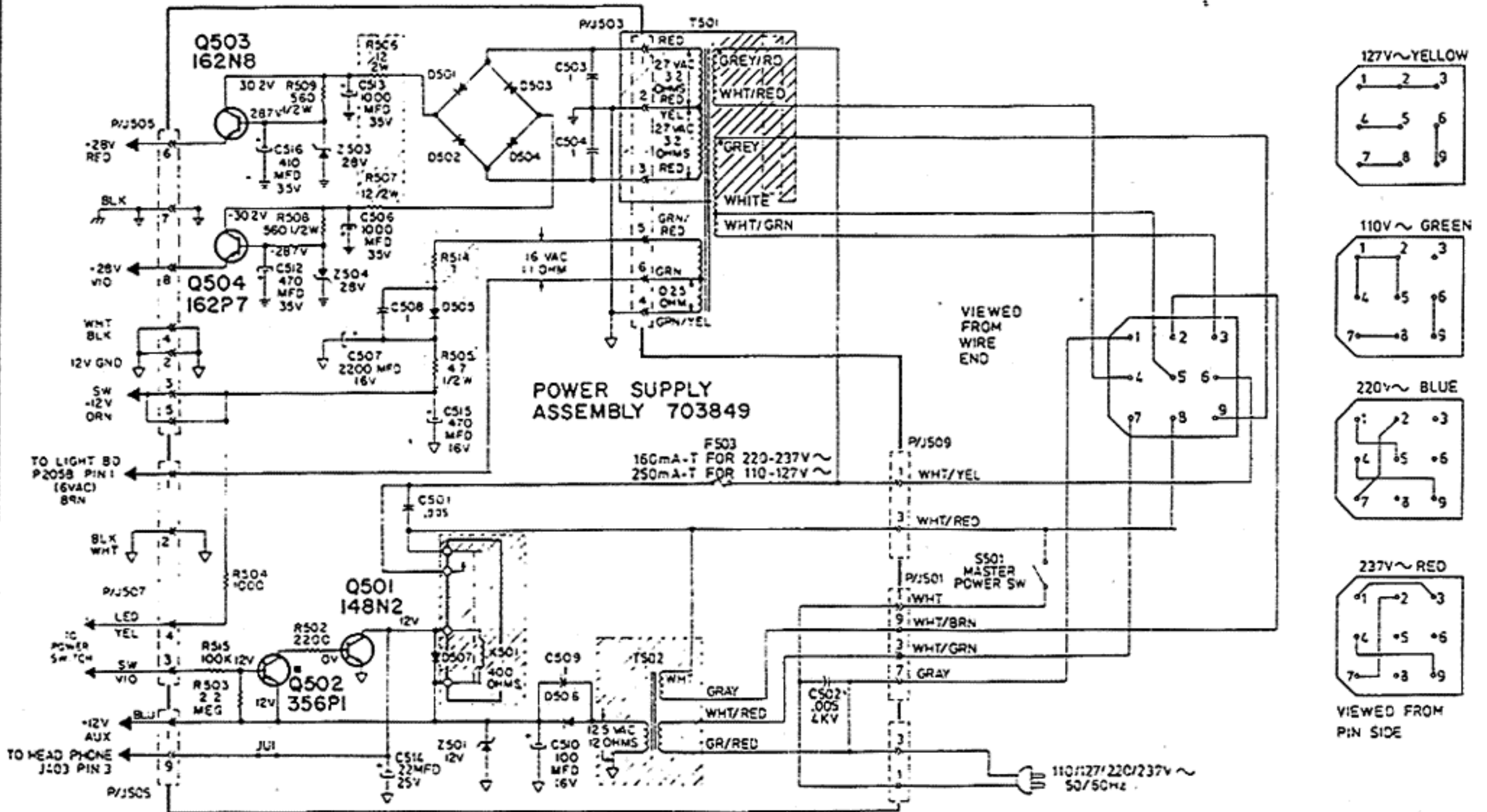
Subject to modification  
4822 725 12764  
Printed in The Netherlands

# PHILIPS

OBJET : MODIFICATIONS DANS L'ALIMENTATION

Au départ de la production, le câblage du primaire du transformateur d'alimentation T501, et le répartiteur de tension ont été modifiés ainsi que les éléments suivants :

- . F 503 passe à 160 mA code 4822 253 30011 pour un secteur de 220 à 237 V
- . F 503 passe à 250 mA code 4822 253 30013 pour un secteur de 110 à 127 V
- . C 501 passe de 10 nF à 5 nF code 5322 122 50001



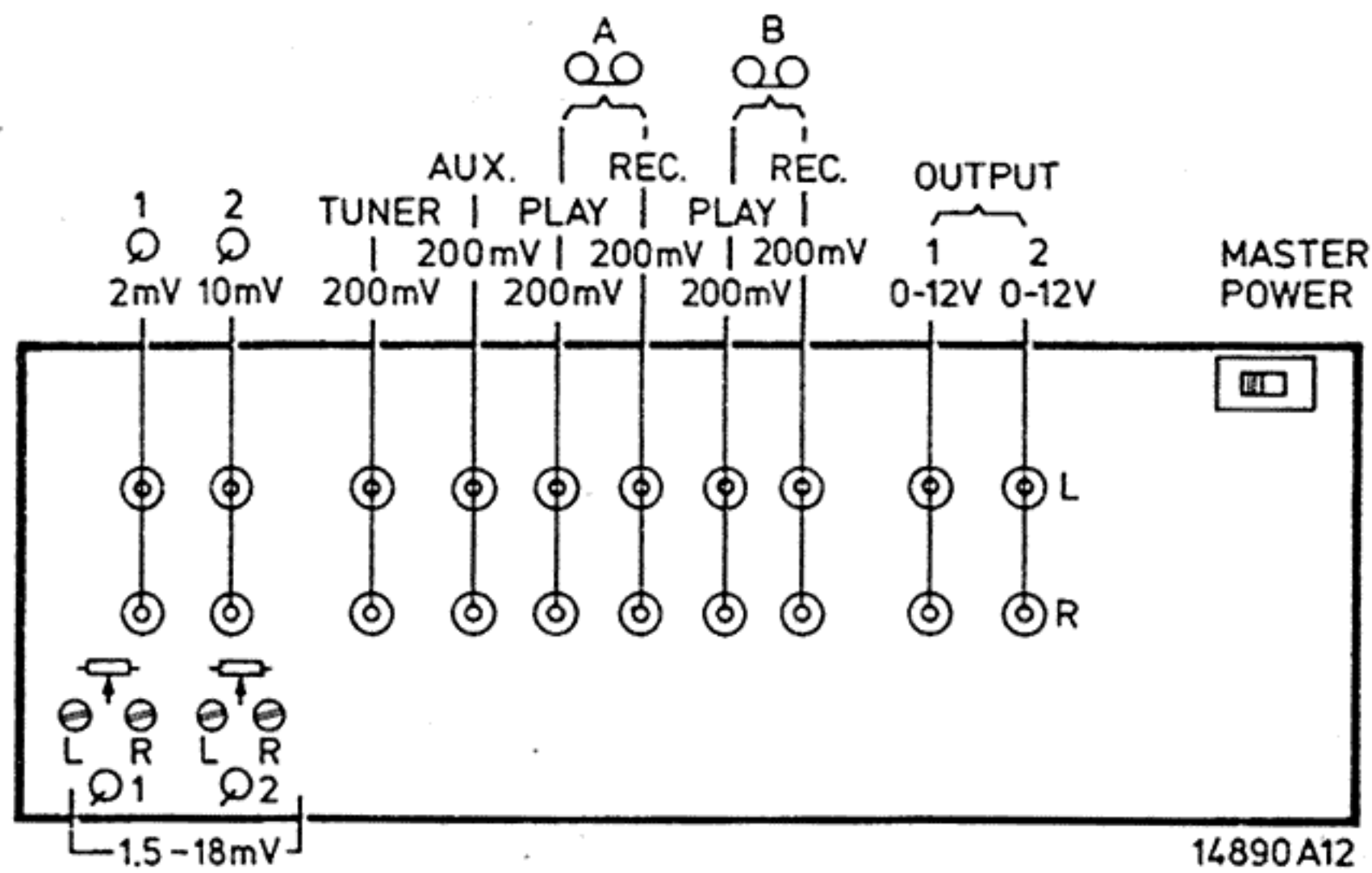


Fig. 2

TECHNICAL SPECIFICATIONS

Input Sensitivity		Crosstalk (Minimum)	
Phono 1	2mv (Adj 1.5-18mv)	Between Modes	75dB
Phono 2	10mv (Adj 1.5-18mv)		
Aux. Tuner, Tape Play	200mv	Output Level	
		Output 1,2 Rated	2 Volts
		Maximum	12 Volts
Impedance		Record Output A,B	200mv
Phono input 1,2	50K Ohms	Controls	
Aux, Tuner, Tape Play	100K Ohms	Bass (50 Hz)	±10dB (2dB detent)
Tape Record Out	1K Ohms	Treble (10 kHz)	±10dB (2dB detent)
Pre-amp Out	600 Ohms	Loudness Action (-30 dB)	
Total Harmonic Distortion	0.01% (2 V Output)	50 Hz	±10dB
Intermodulation Distortion	0.01% (2 V Output)	10 kHz	±4dB
Signal to Noise Ratio (Minimum)		Filters	
Phono (1.5mv input)	75dB	High Cut (10 kHz)	-9dB
Aux. Tuner, Tape	90dB	Low Cut (50 Hz)	-9dB
Phono Overload	750mv	Muting	-20dB
Frequency Response		Power Supply	120/240 V 50/60Hz
Phono 1,2	RIAA +0,-0.5dB	Power Consumption	22 watts
Aux, Tuner, Tape	10-45kHz, -1.0dB		
Separation (Minimum)			
Phono 1,2	55dB		
Aux, Tuner, Tape	55dB		

## CARACTERISTIQUES TECHNIQUES

Sensibilité d'entrée	
Phono 1	: 2 mV (Adj. 1,5-18 mV)
Phono 2	: 10 mV (Adj. 1,5-18 mV)
Aux. tuner (adaptateur), tape play (marche magnéto).	: 200 mV
Impédance	
Entrée phono 1,2	: 50 kΩ
Aux, tuner, tape play	: 100 kΩ
Sortie enregistrement	: 1 kΩ
Sortie préampli	: 600 Ω
Distorsion harmonique totale : 0,01 % (sortie 2 V)	
Distorsion d'intermodulation : 0,01 % (sortie 2 V)	
Rapport signal/bruit (min.)	
Phono (entrée 1,5 mV)	: 75 dB
Aux, tuner, tape	: 90 dB
Diaphonie phono	: 750 mV
Courbe de fréquence	
Phono 1,2	: RIAA +0, -0,5 dB
Aux tuner, tape	: 10-45 kHz. -1,0 dB
Séparation des canaux (min.)	
Phono 1,2	: 55 dB
Aux., tuner, tape	: 55 dB
Diaphonie (min.)	
Entre les fonctions	: 75 dB
Niveau de sortie	
Sortie 1,2 graduée	: 2 V
Sortie 1,2 maximum	: 12 V
Sortie enregistrement A,B	: 200 mV
Commandes	
Graves 50 Hz	: ± 10 dB (2 dB graduée)
Aigus 10 kHz	: ± 10 dB (2 dB graduée)
Correction physiologique	
-30 dB	
50 Hz	: ± 10 dB
10 kHz	: ± 4 dB
Filtres	
Haut 10 kHz	: -9 dB
Bas 50 Hz	: -9 dB
Silence	: -20 dB
Alimentation	: 120/240 V 50/60 Hz
Consommation	: 22 W

## IDENTIFICATION DU CHASSIS

A620  
Châssis de base  
séries

01  
Version châssis  
comprise dans  
les séries

AA  
Modification importante  
d'ordre électrique      Modification importante  
d'ordre mécanique

AA = production d'origine

B etc. codes de changement de production

Aux — Auxiliaire  
Balance — Réglage d'équilibrage  
Bass action — Fonctionnement des graves  
Chassis ground — Masse du châssis  
Darlington transistor — Transistor Darlington  
Deviation — Déviation  
Distorsion — Distorsion  
Frequency response — Courbe de fréquence  
Function selector module — Module de sélection de  
fonction  
Ground power supply - Masse de l'alimentation  
Headphone/pre-amp module — Ecouteur/module  
préampli  
Headphone/output amplifier module — Casque  
d'écoute/module de sortie amplificateur  
Hi-cut — Filtre haut  
Input connector module — Module connecteur d'entrée  
Jack — Prise  
Left channel — Canal gauche  
Light display module — Module d'affichage lumineux  
Lo-cut — Filtre bas  
Loudness — Puissance  
Low-high filter — Filtre bas-haut  
Master power switch — Commutateur principal de  
puissance  
Mode switch — Commutateur de mode  
Monitor switch — Commutateur moniteur  
Mute -20 dB — Commutateur de silence -20 dB  
Mute selector — Sélecteur de silence  
Noise component — Composante bruit  
Output — Sortie  
Output relay — Relais de sortie  
Phono — Tourne-disque  
Phono pre-amp module — Module préampli tourne-  
disque  
Power supply — Alimentation  
Reverse stereo — Stéréophonie inversée  
Right channel — Canal de droite  
Selector switch — Commutateur sélecteur  
Signal ground — Masse du signal  
Source — Source  
Tape monitor switch — Commutateur moniteur de bande  
Tape play — Reproduction  
Tape rec — Enregistrement  
Tape monitor and mode module — Moniteur bande et  
module demode  
Tone controle module — Module de commande de  
tonalité  
Tone defeat — Aplanissement tonalité  
Treble action — Fonctionnement des aigus  
Tuner — Adaptateur  
Viewed from pin side — Vue côté broches  
Volume and filter module — Module volume et filtre

CHASSIS IDENTIFICATION

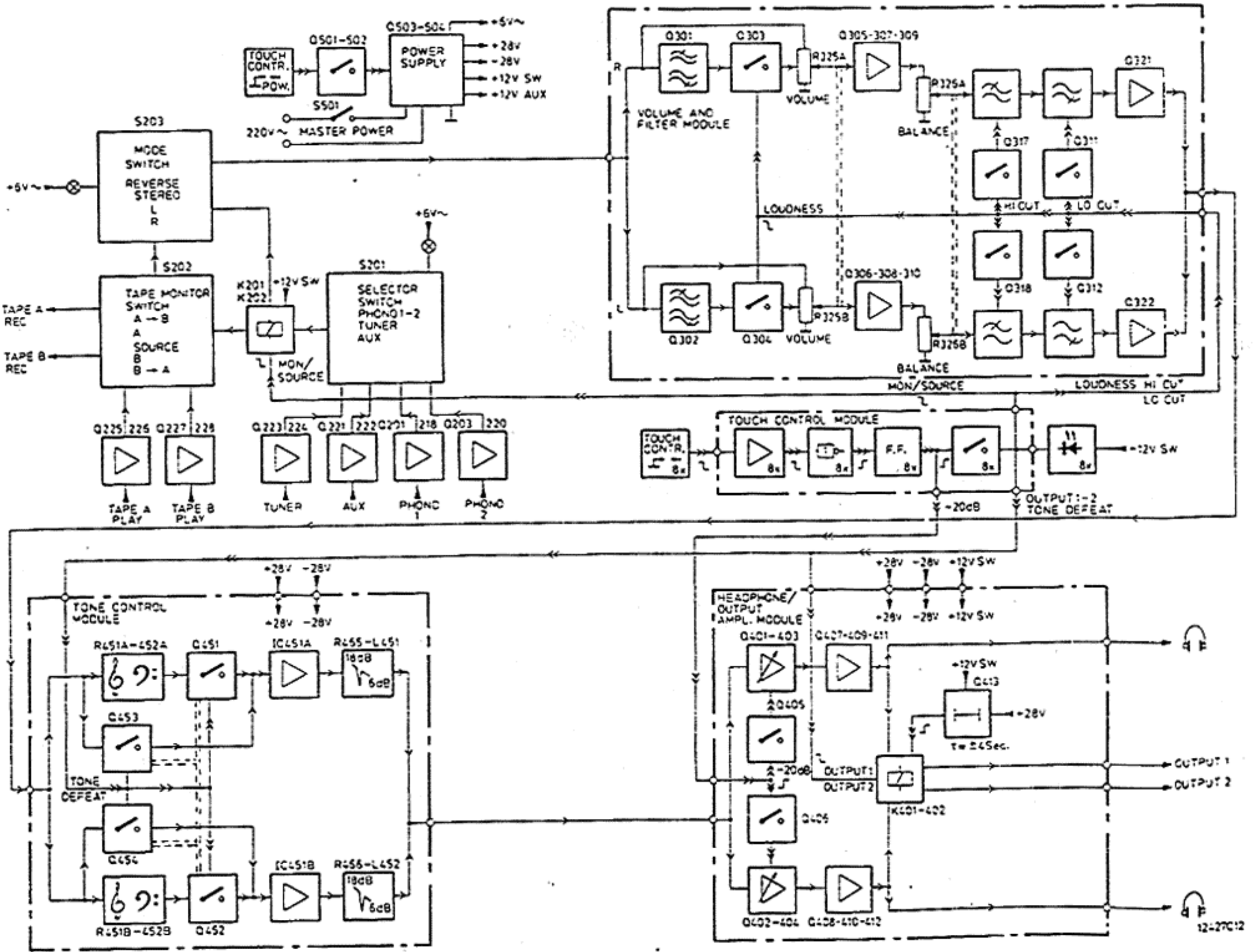
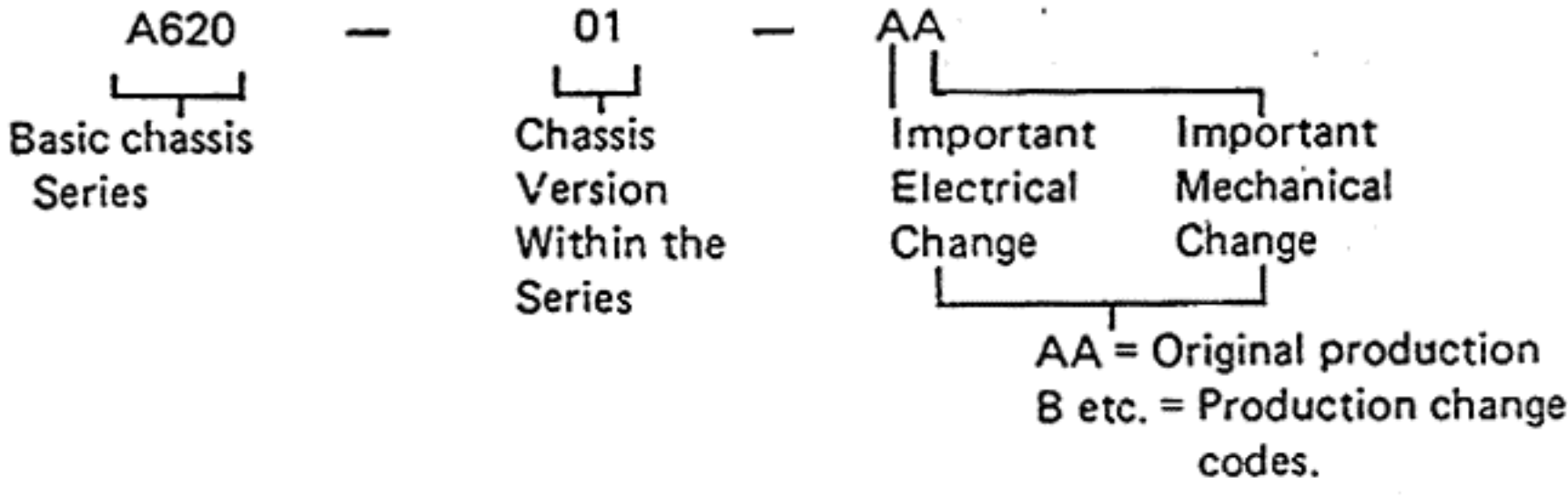


Fig. 3

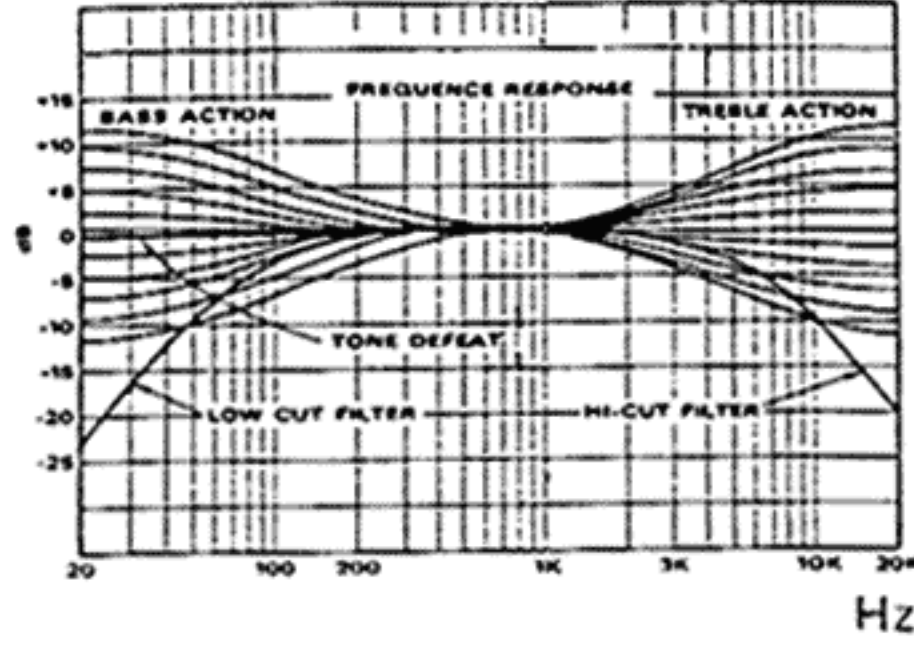
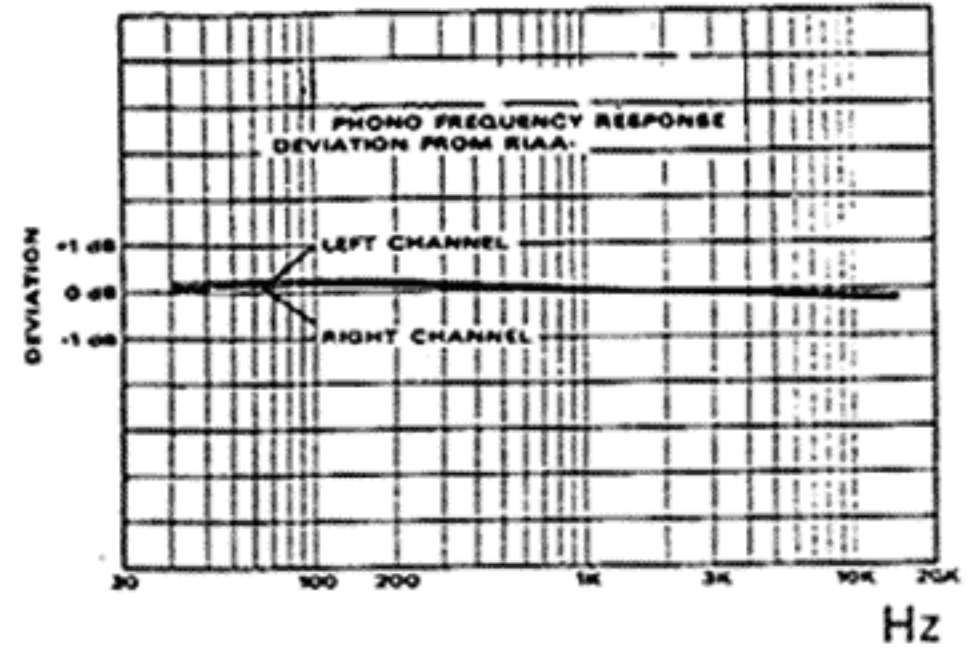
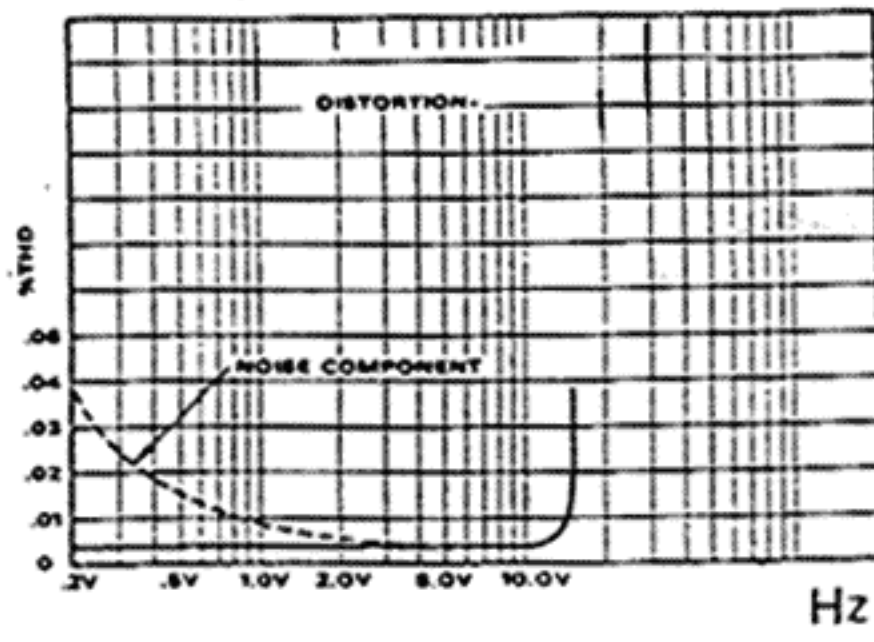
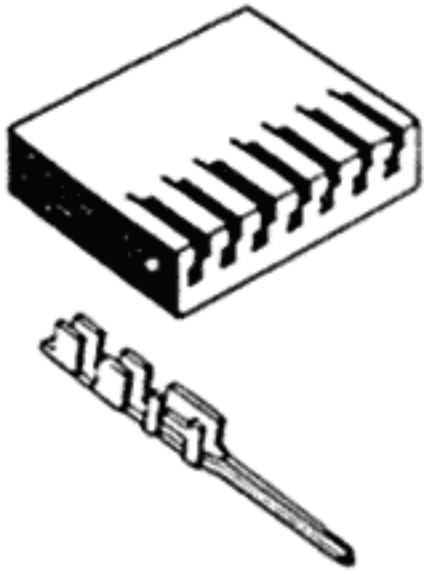
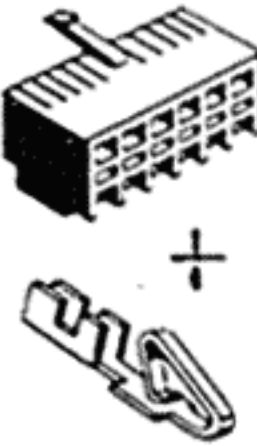
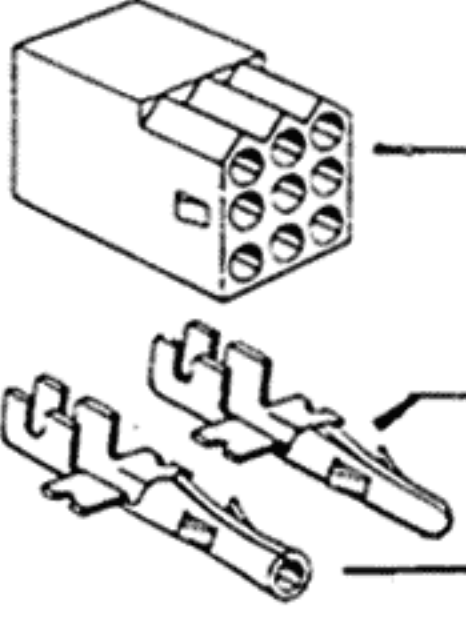
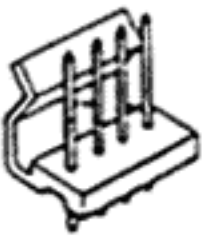




Fig. 4

	3 Pin 4822 267 40294 4 Pin 4822 267 40295 5 Pin 4822 267 40296  4822 268 10118
	3 Pin 4822 267 40317 4 Pin 4822 267 40297 5 Pin 4822 267 40298 6 Pin 4822 267 50248 9 Pin 4822 267 50249 10 Pin 4822 267 50264
	4822 267 50243 $\phi$ 2.2 mm 4822 268 10114 $\phi$ 3 mm 4822 268 10121 $\phi$ 2.2 mm 4822 268 20071 $\phi$ 3 mm 4822 268 20073
	2 Pin 4822 265 30152 4 Pin 4822 265 30136 9 Pin 4822 265 30153
	4822 268 10115
	8 Pin 4822 265 30155

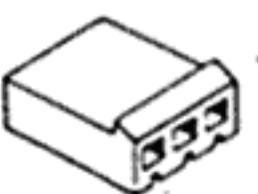
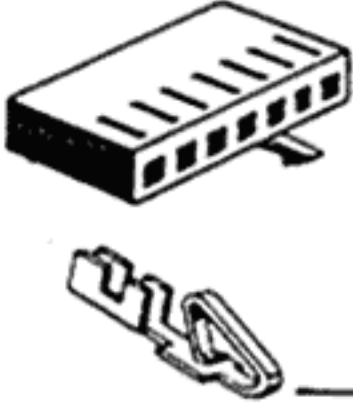
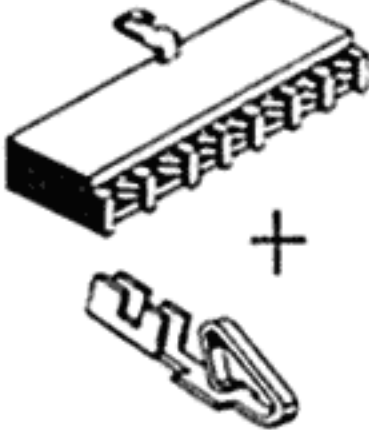
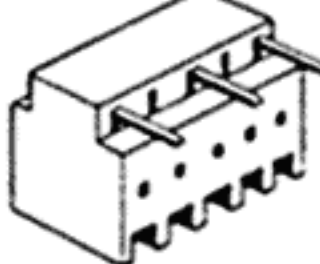
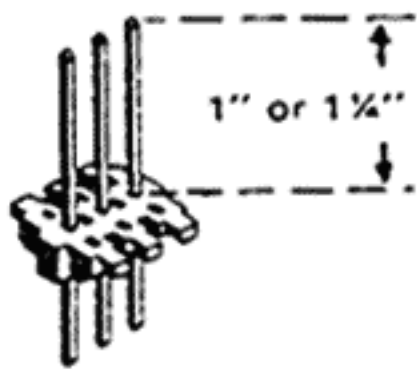

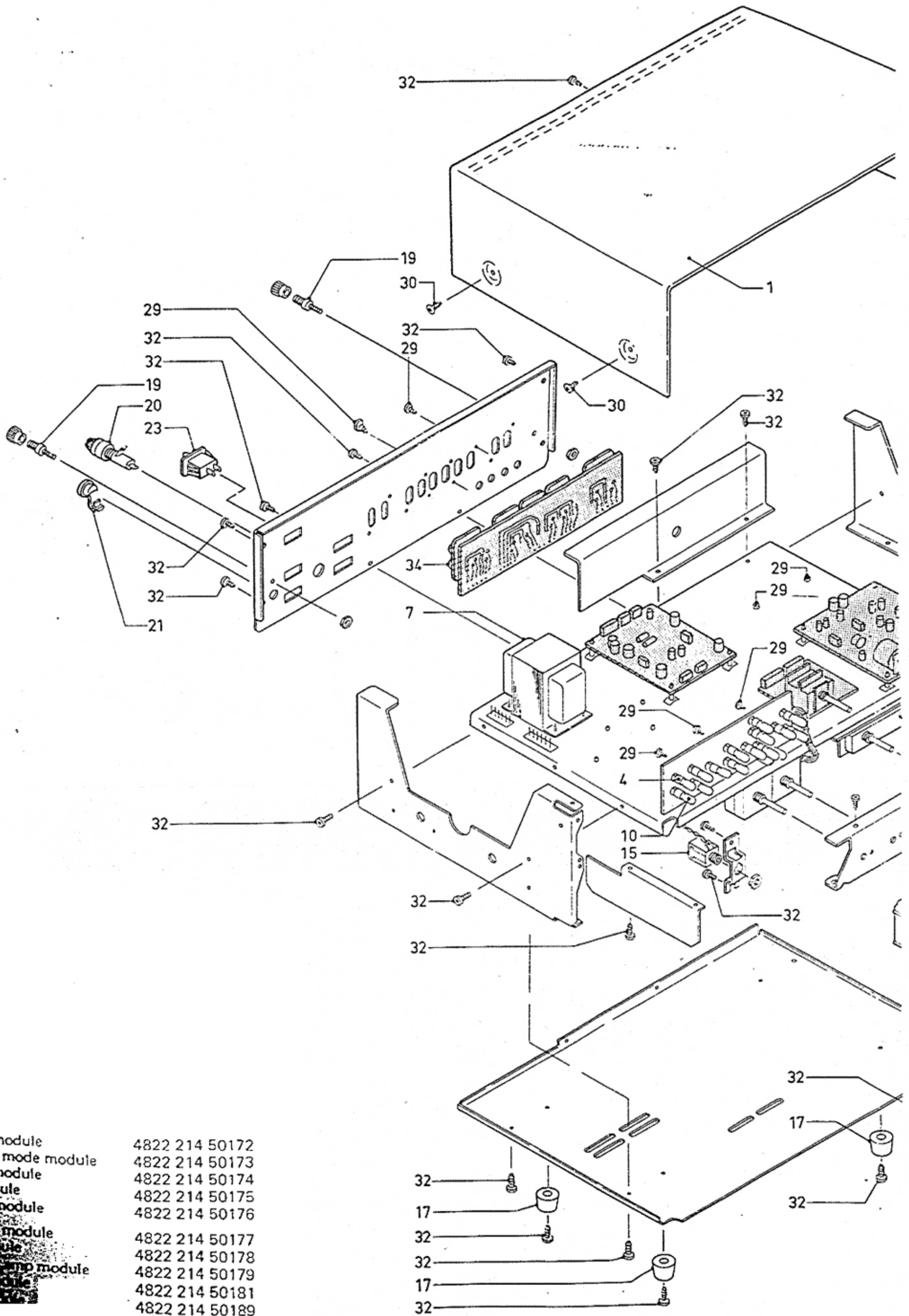
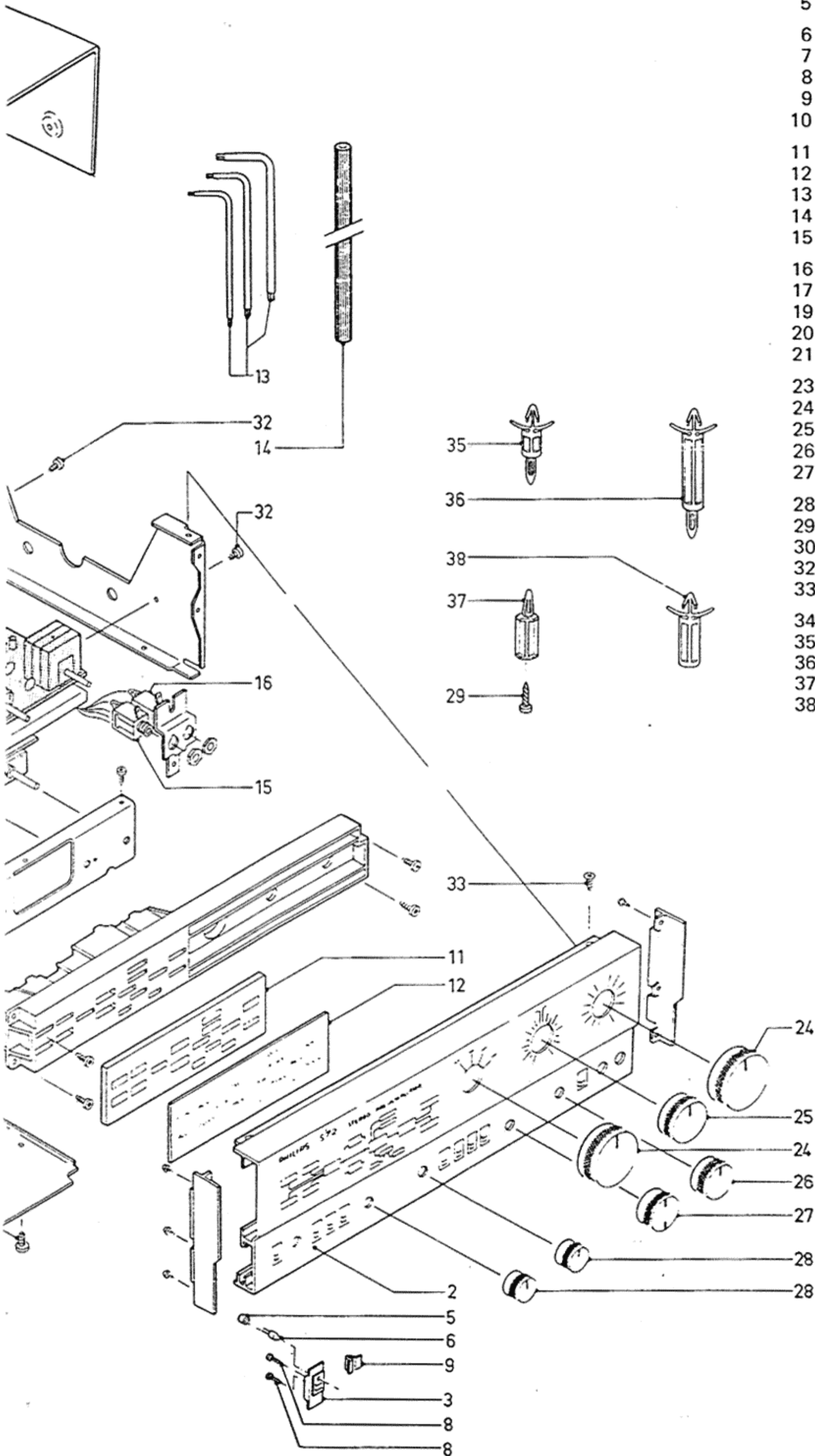
	2 Pin 4822 267 50269 4 Pin 4822 167 40271
	3 Pin 4822 267 40272 4 Pin 4822 267 40273 5 Pin 4822 267 40274 6 Pin 4822 267 50244 7 Pin 4822 267 50245 9 Pin 4822 267 50246  4822 268 10113
	3 Pin 4822 267 40291 4 Pin 4822 267 40292 5 Pin 4822 267 40293 6 Pin 4822 267 50247 7 Pin 4822 265 30154 8 Pin 4822 267 50263
	3 Pin 4822 267 40275 4 Pin 4822 267 40276 5 Pin 4822 267 40289
	3 Pin, 1" 4822 265 40137 3 Pin, 1 1/4" 4822 265 30141 4 Pin, 1" 4822 265 30138 5 Pin, 1" 4822 265 30139 5 Pin, 1 1/4" 4822 265 30142 6 Pin, 1" 4822 265 40128 6 Pin, 1 1/4" 4822 265 40136 7 Pin, 1" 4822 265 30156 8 Pin, 1/2" 4822 265 30151 8 Pin, 1" 4822 265 40135
	3/4" 4822 268 10116 5/8" 4822 268 10117

Fig. 5



tion selector module  
 be monitor and mode module  
 ut connector module  
 Hz display module  
 no pre-amp module  
 ame and filter module  
 e control module  
 amp module  
 ole

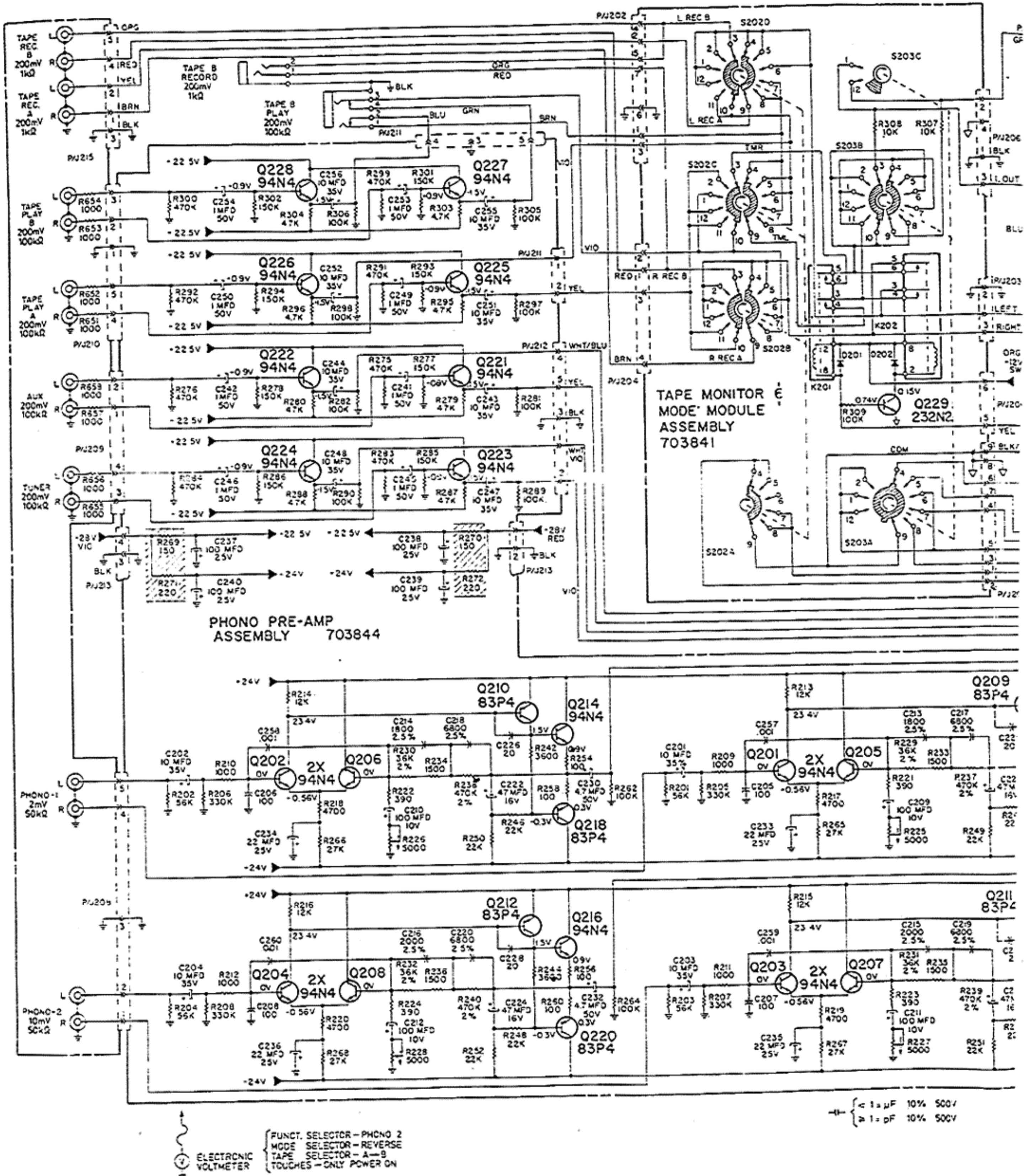
- 4822 214 50172
- 4822 214 50173
- 4822 214 50174
- 4822 214 50175
- 4822 214 50176
- 4822 214 50177
- 4822 214 50178
- 4822 214 50179
- 4822 214 50181
- 4822 214 50189



- 1 4822 426 90051
- 2 4822 459 50236
- 3 4822 276 10676
- 4 4822 255 20084
- 5 4822 256 90231
- 6 4822 130 30999
- 7 4822 146 40241
- 8 4822 502 11053
- 9 4822 404 20249
- 10 4822 134 40354
- 11 4822 459 50235
- 12 4822 454 10574
- 13 4822 395 50132
- 14 4822 395 90098
- 15 4822 267 30294
- 16 4822 267 30293
- 17 4822 462 71098
- 19 4822 267 30295
- 20 4822 256 40051
- 21 4822 325 50117
- 23 4822 277 10426
- 24 4822 413 50947
- 25 4822 413 50948
- 26 4822 413 40762
- 27 4822 413 50949
- 28 4822 413 30724
- 29 4822 502 30145
- 30 4822 500 10191
- 32 4822 502 30144
- 33 4822 502 30102
- 34 4822 268 20072
- 35 4822 535 91089
- 36 4822 535 91091
- 37 4822 535 91092
- 38 4822 535 91093

Fig. 6





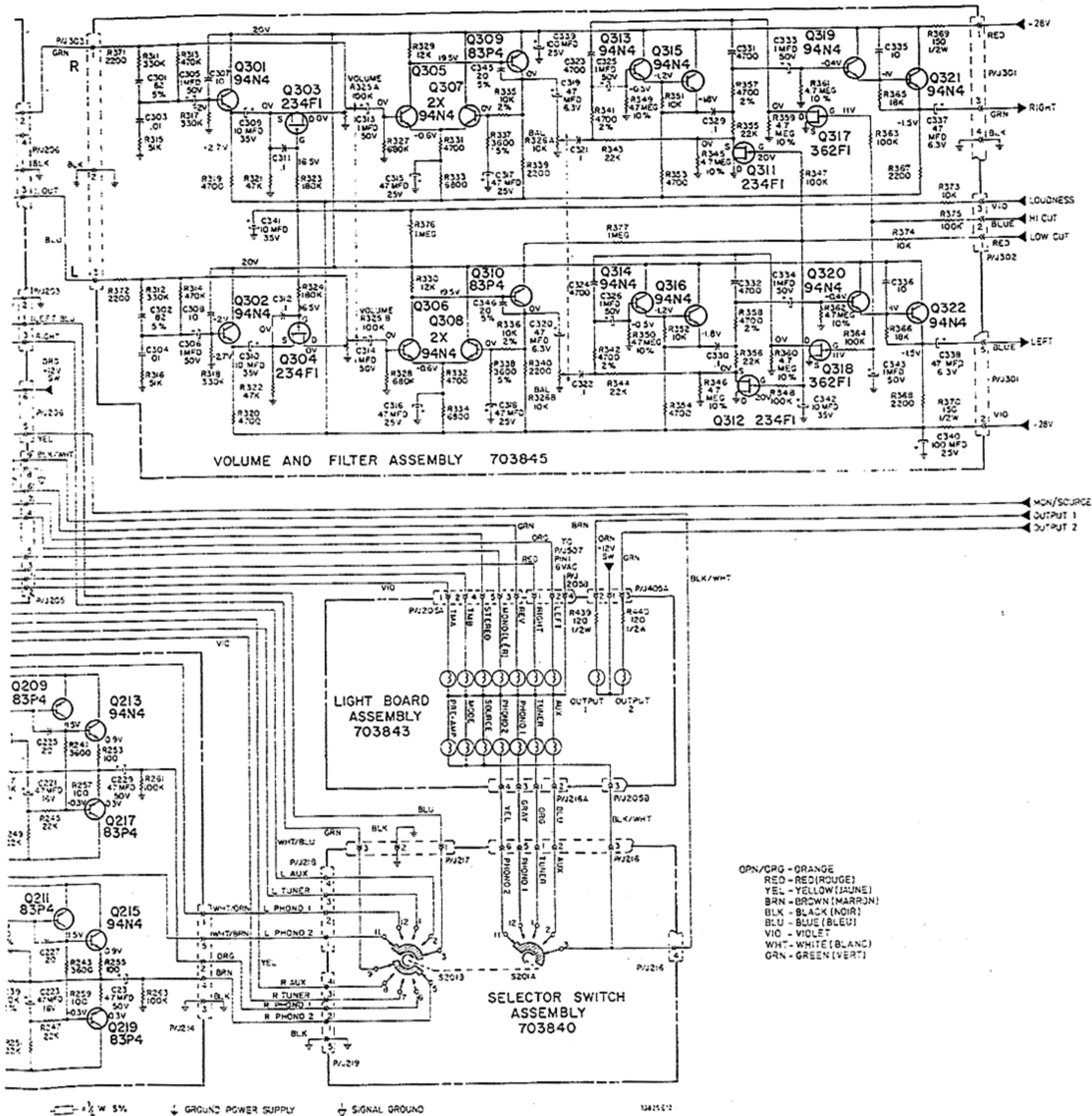
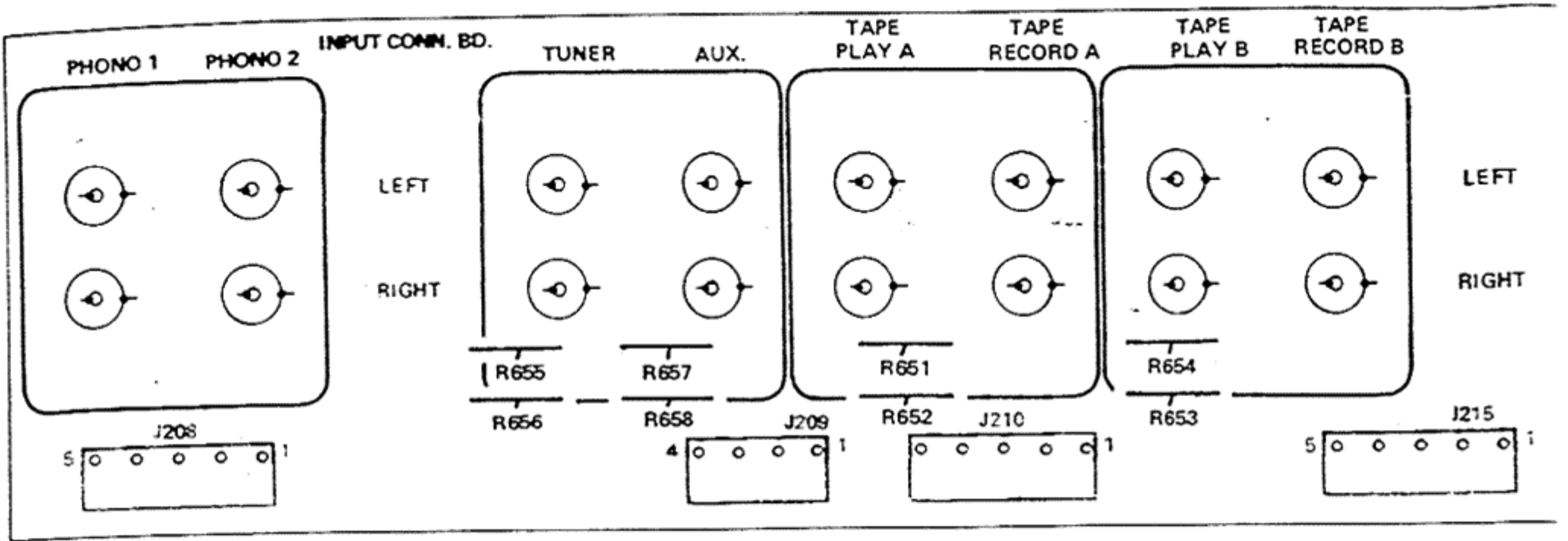


Fig. 7

AMPLIFIER OUTPUT ASSEMBLY



LIGHT BOARD ASSEMBLY

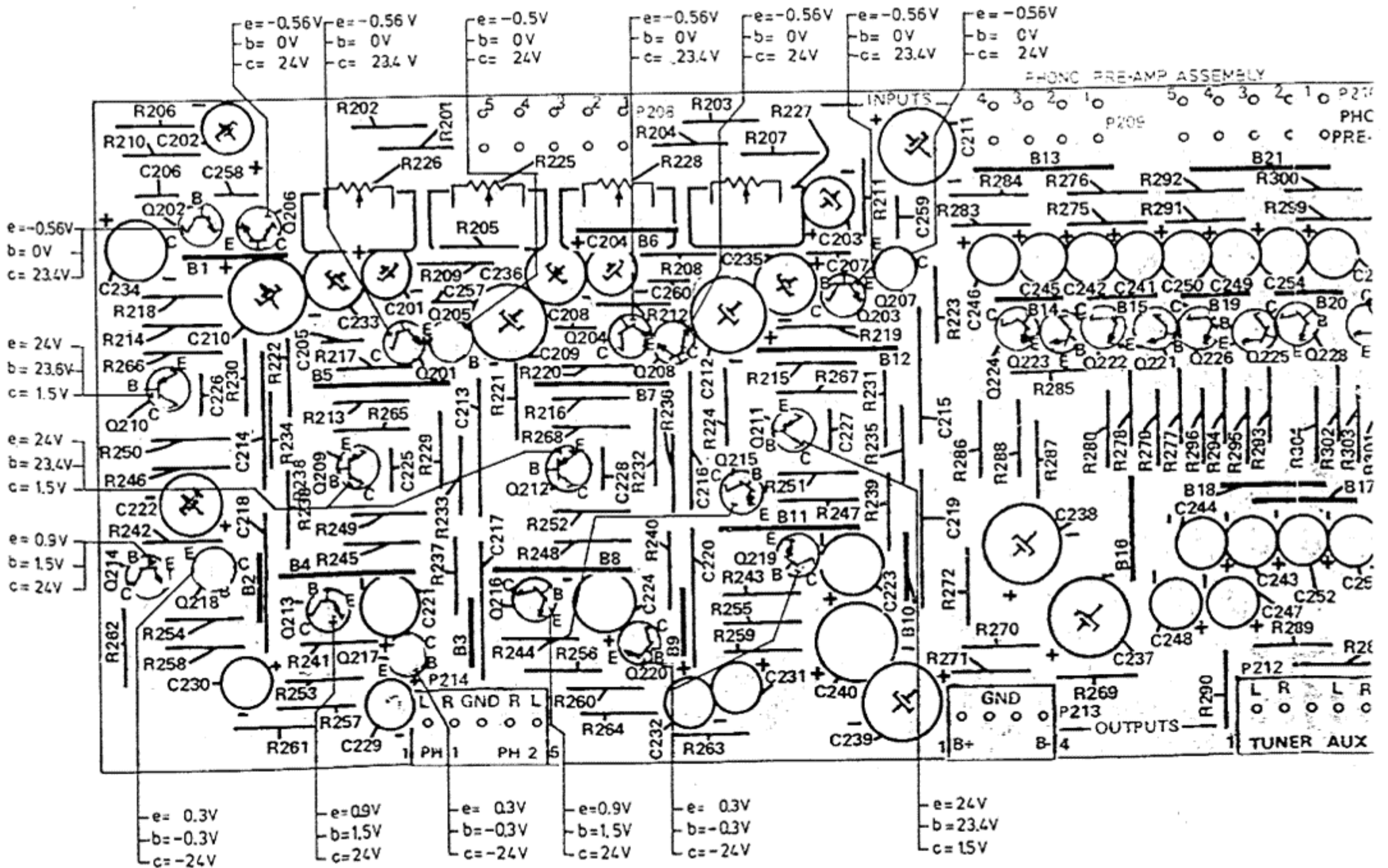
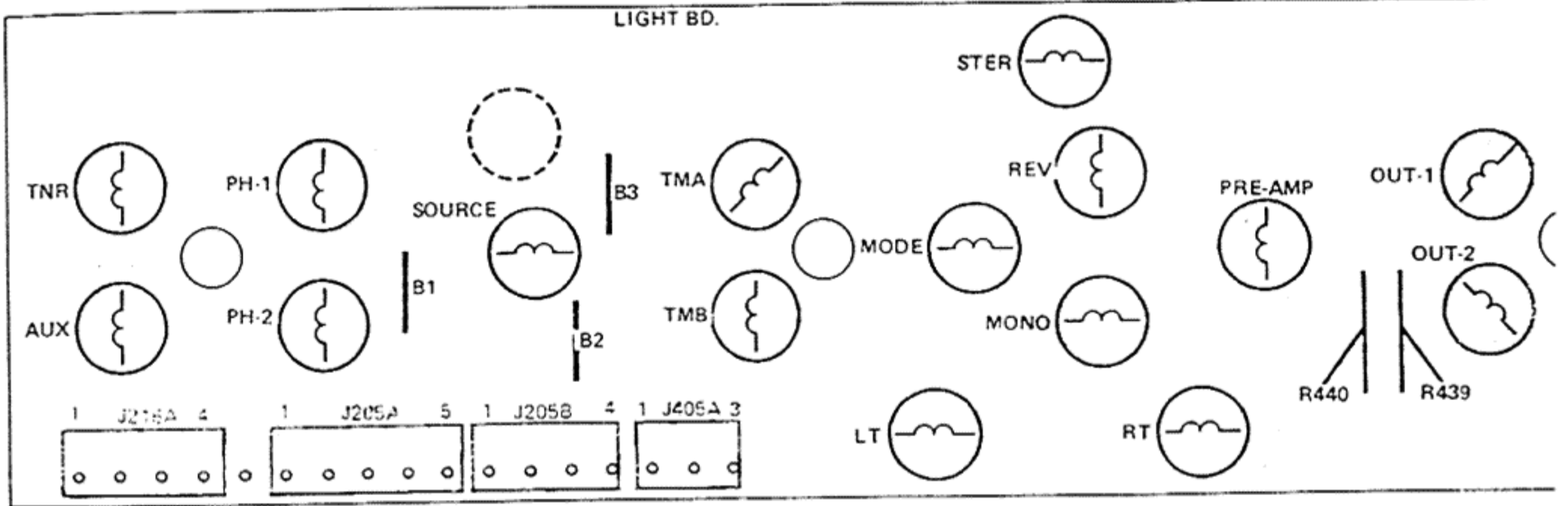
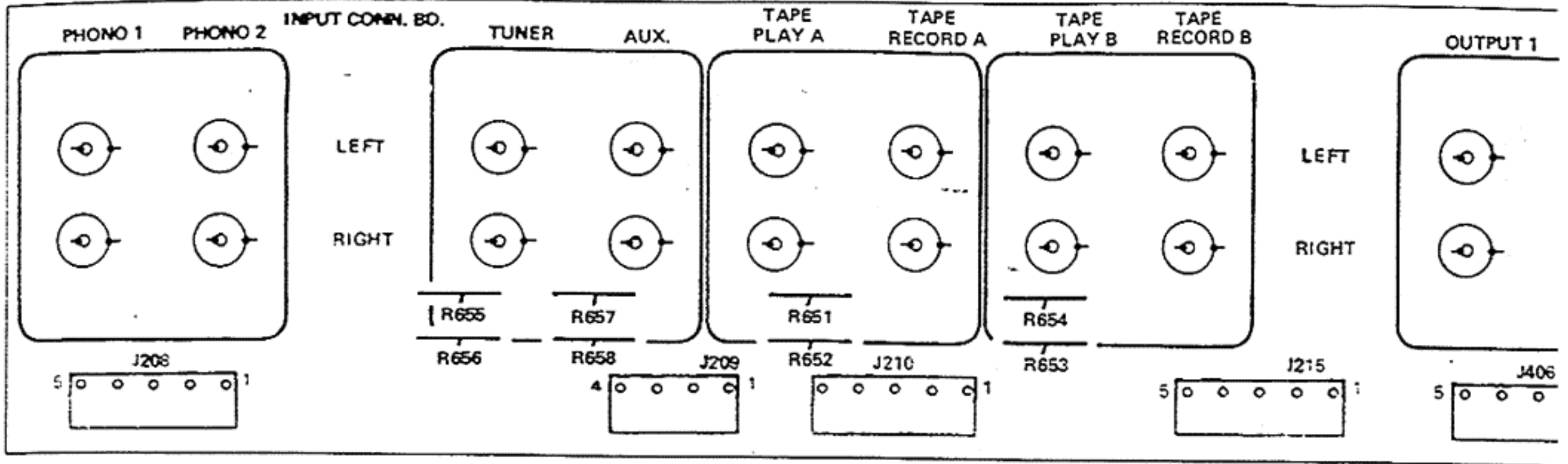


Fig.

INPUT/OUTPUT ASSEMBLY



LIGHT BOARD ASSEMBLY

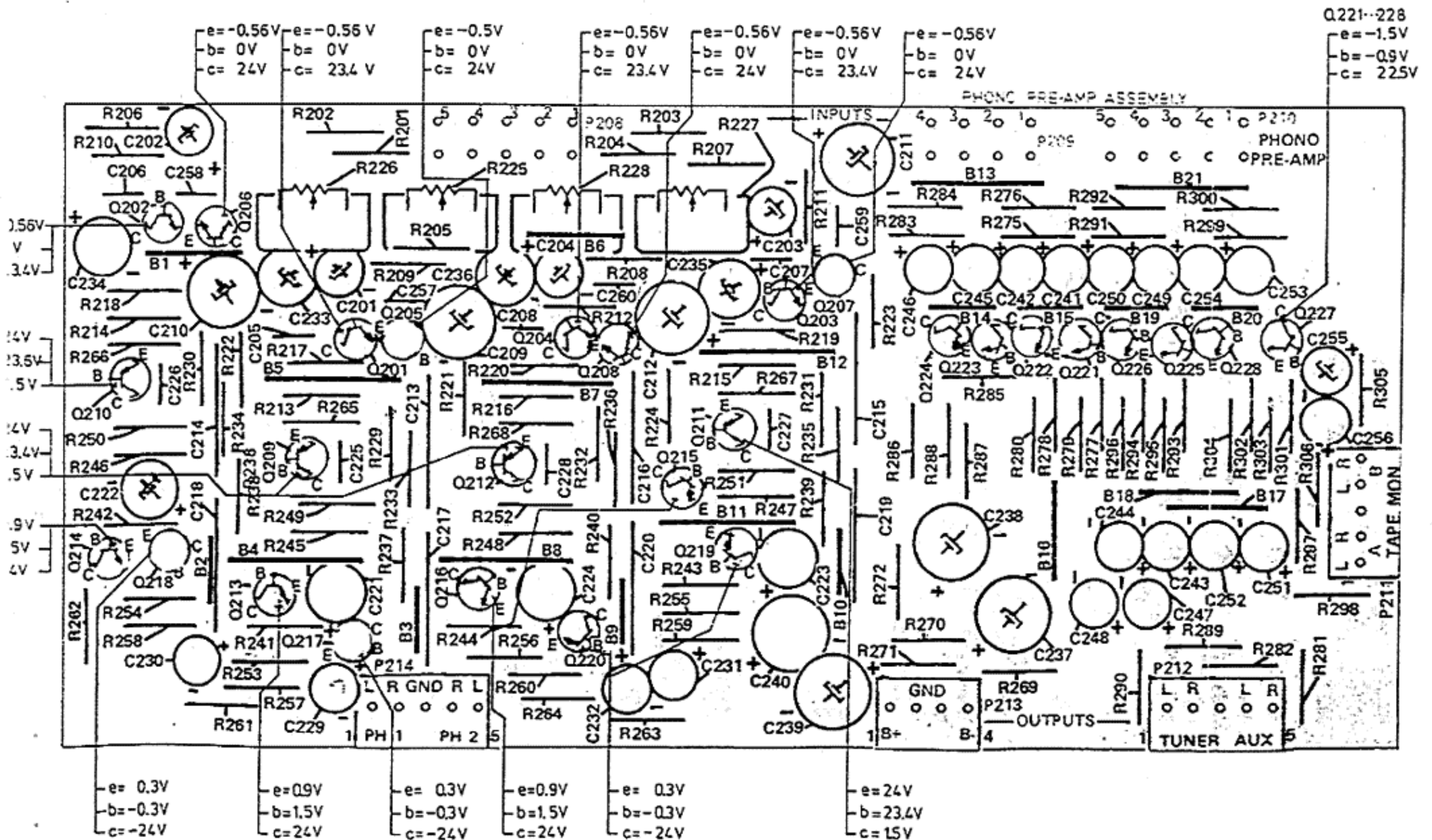
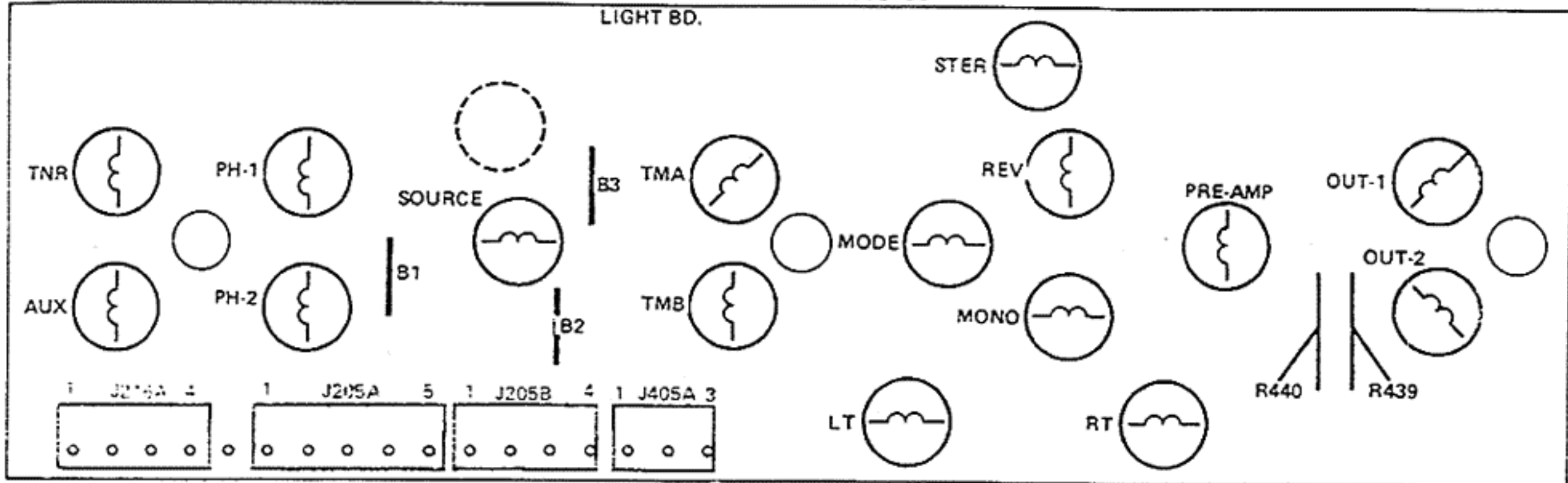
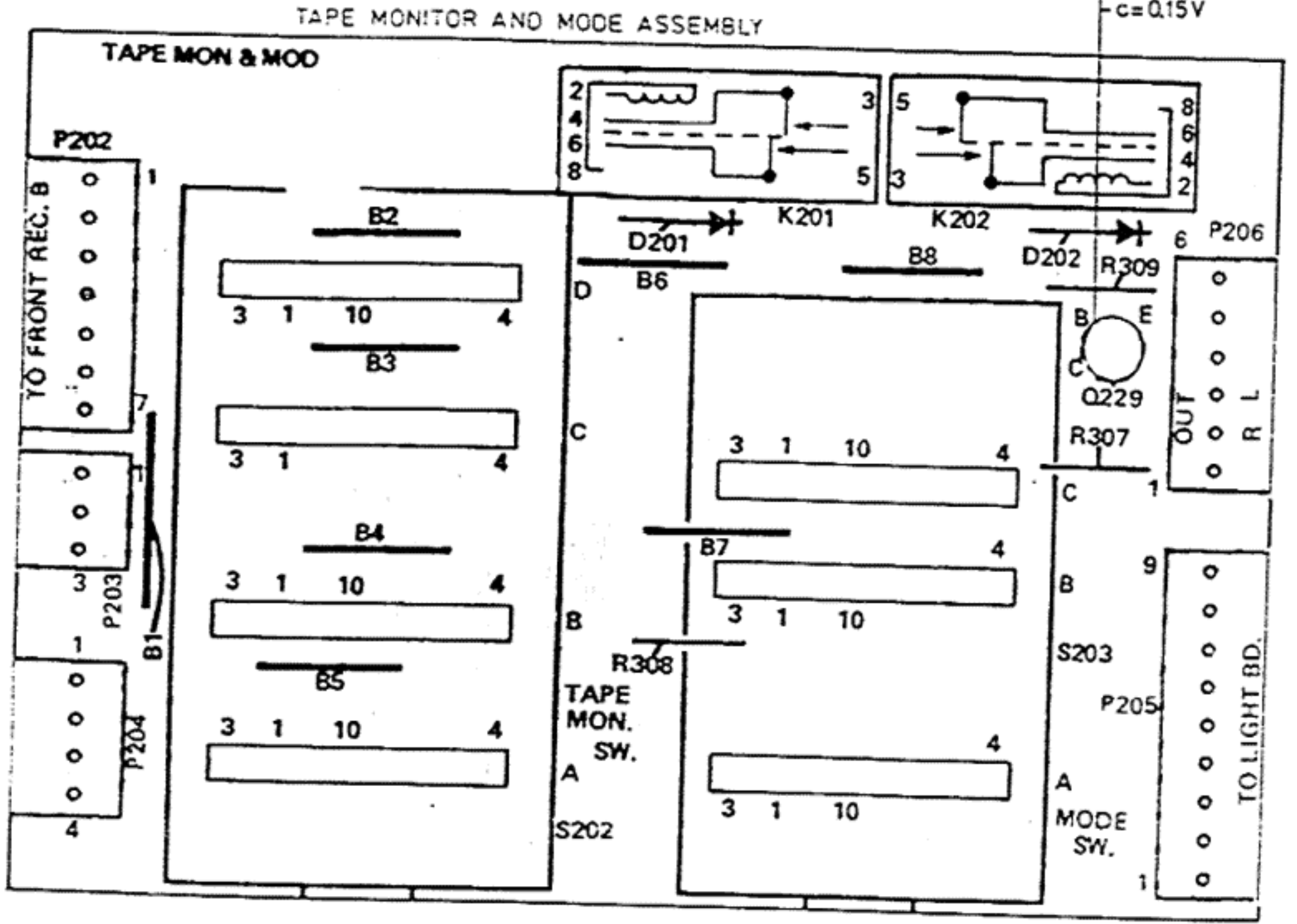
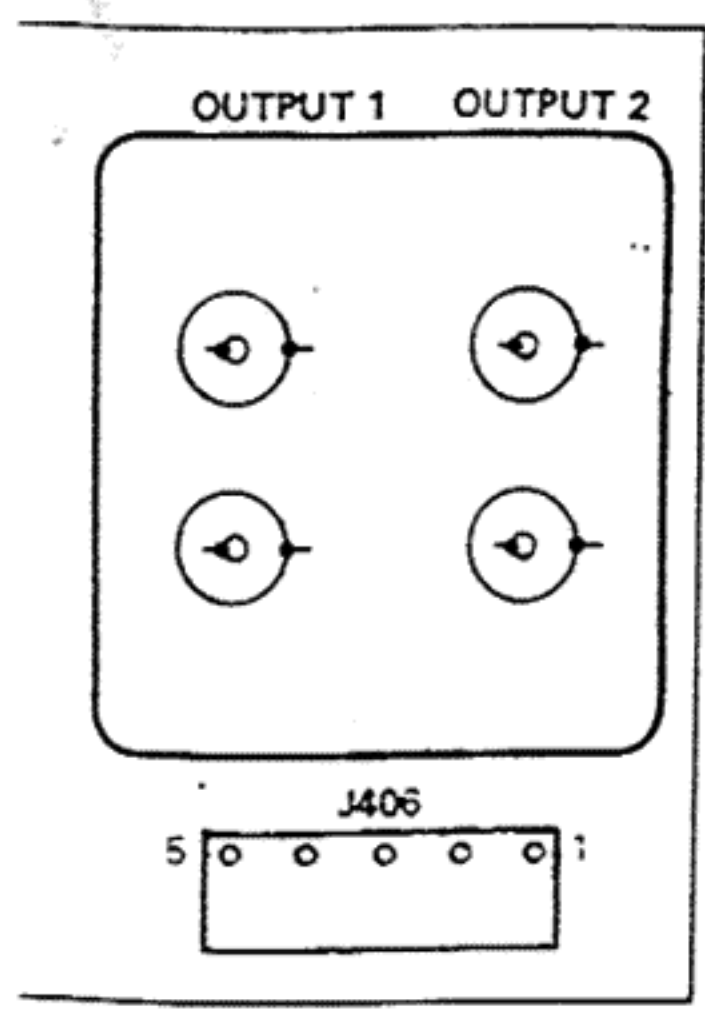
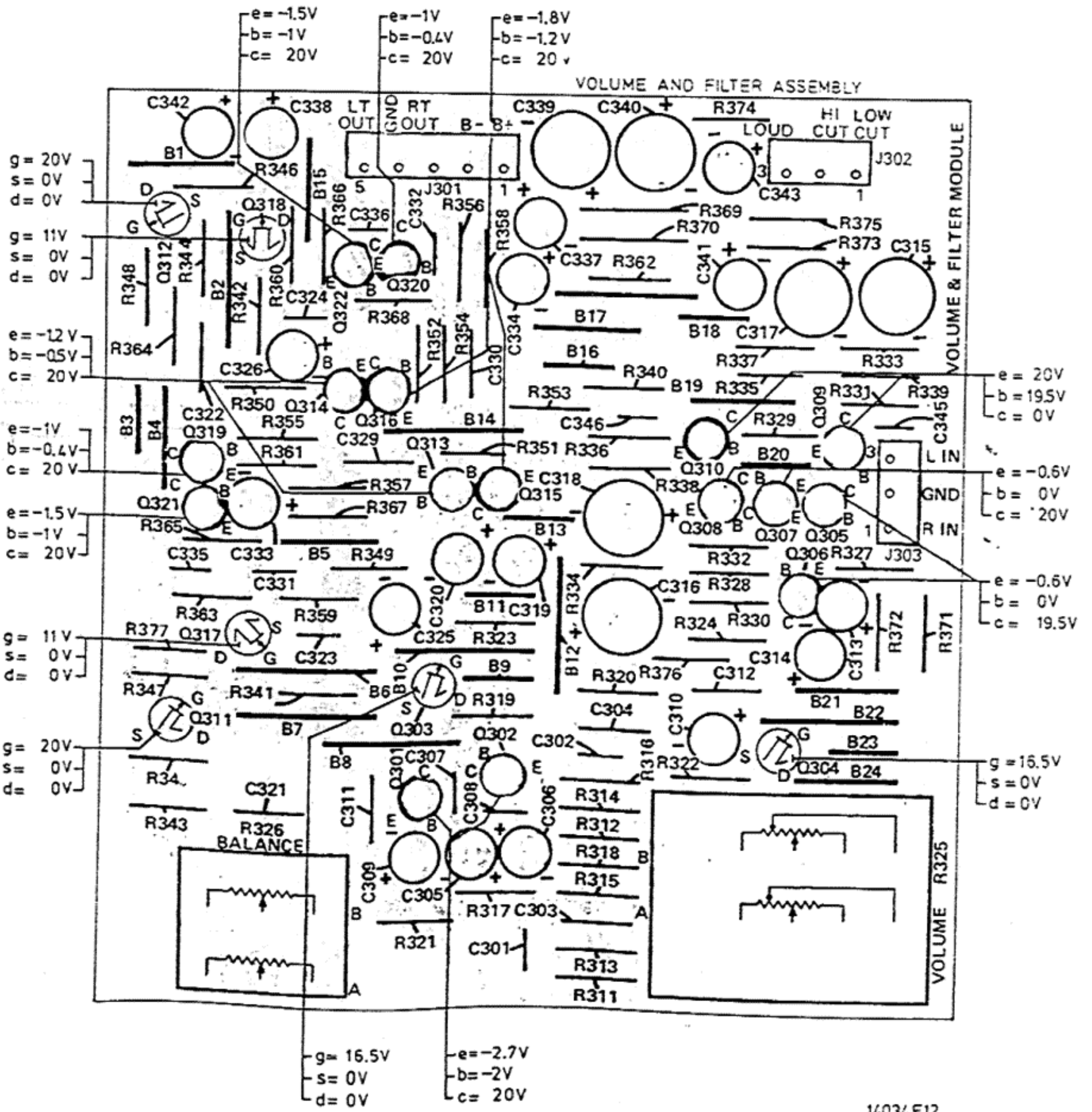
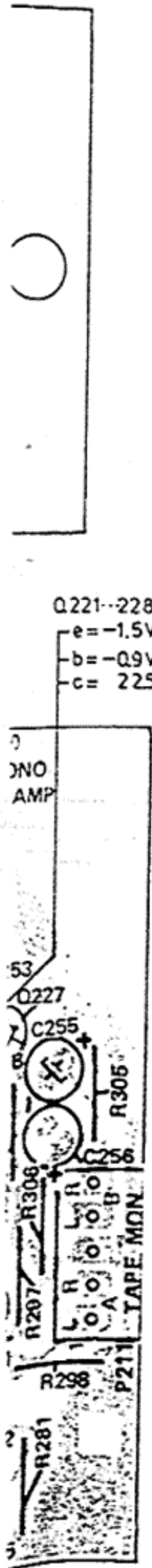


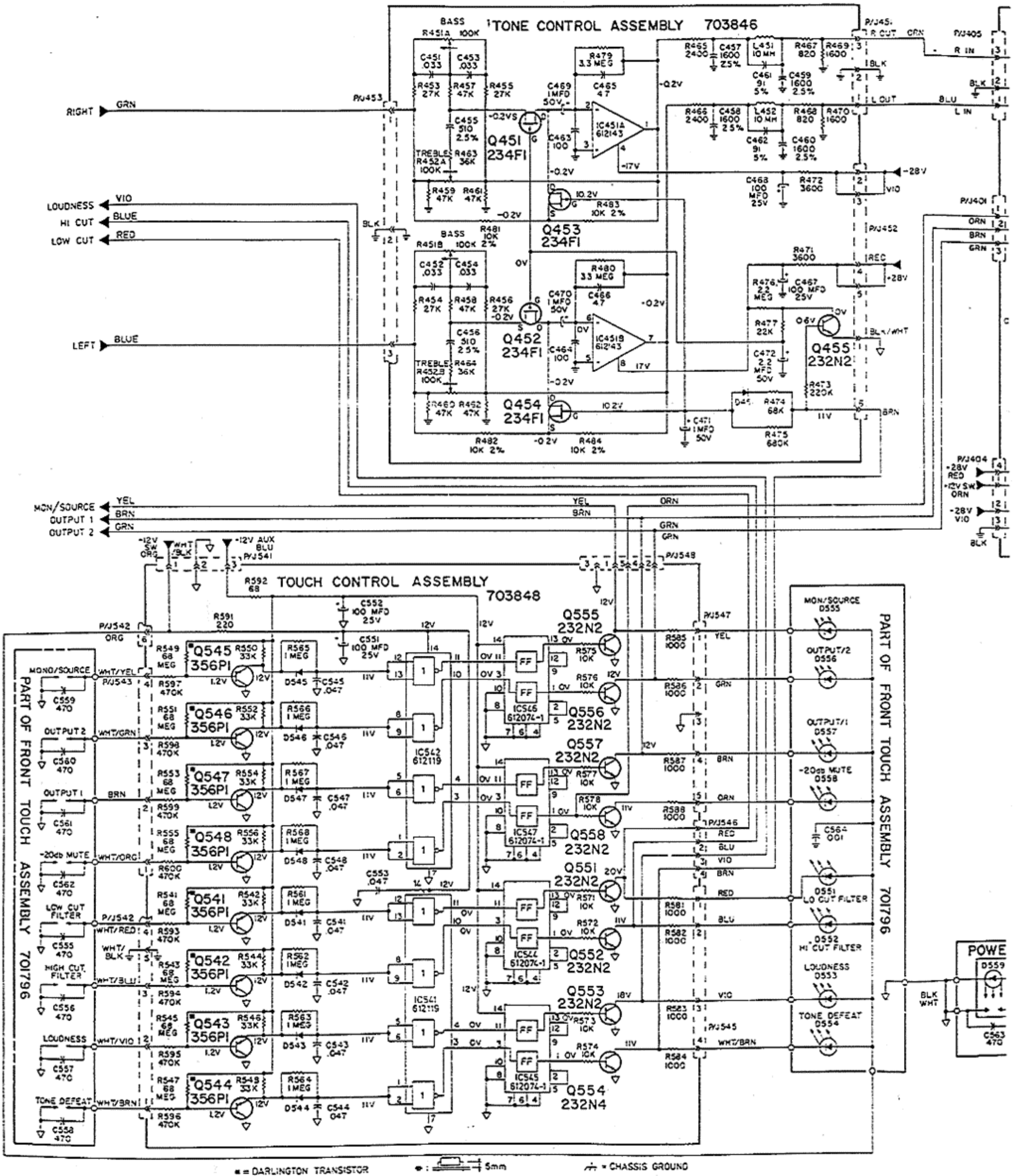
Fig. 8

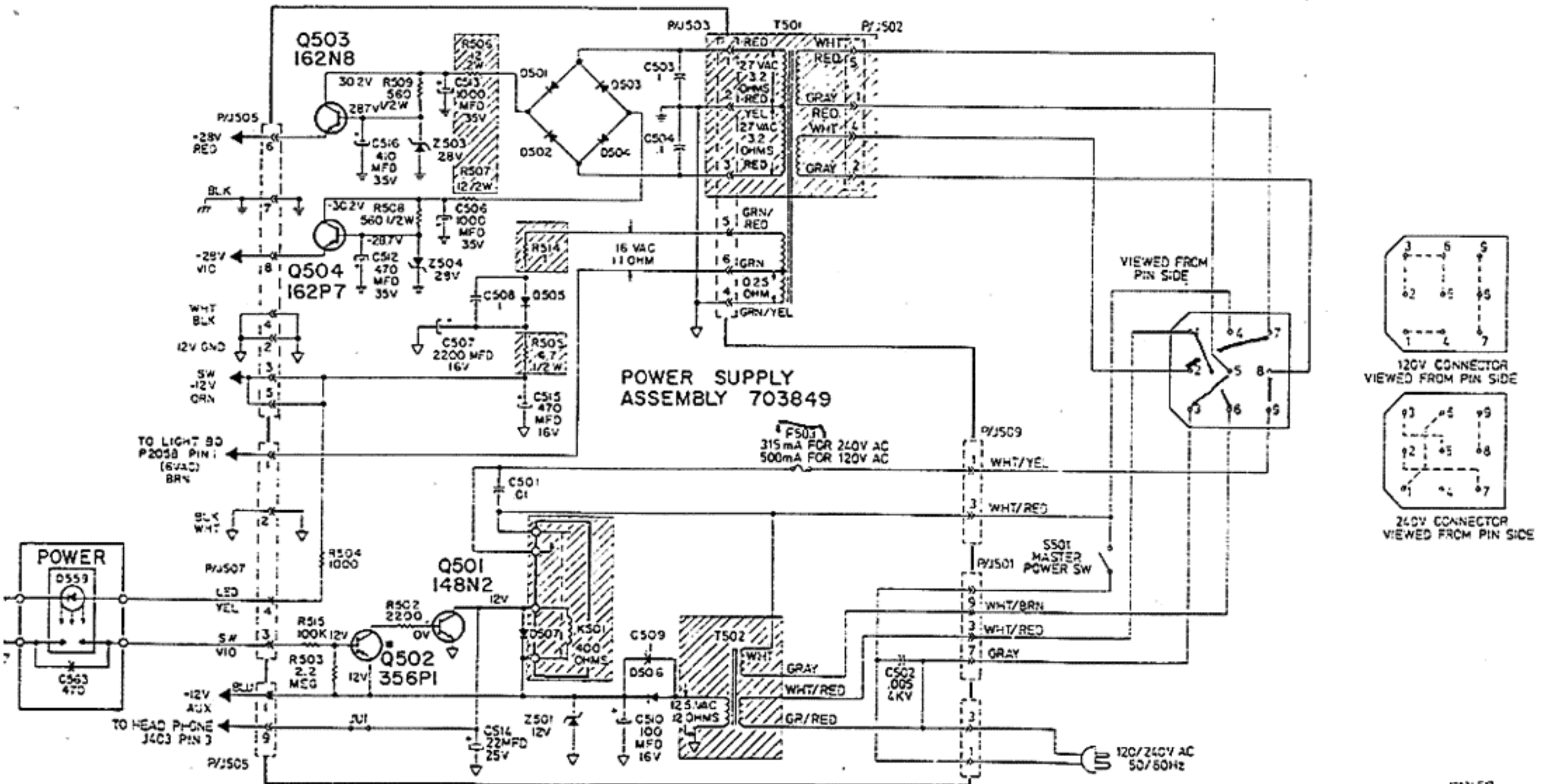
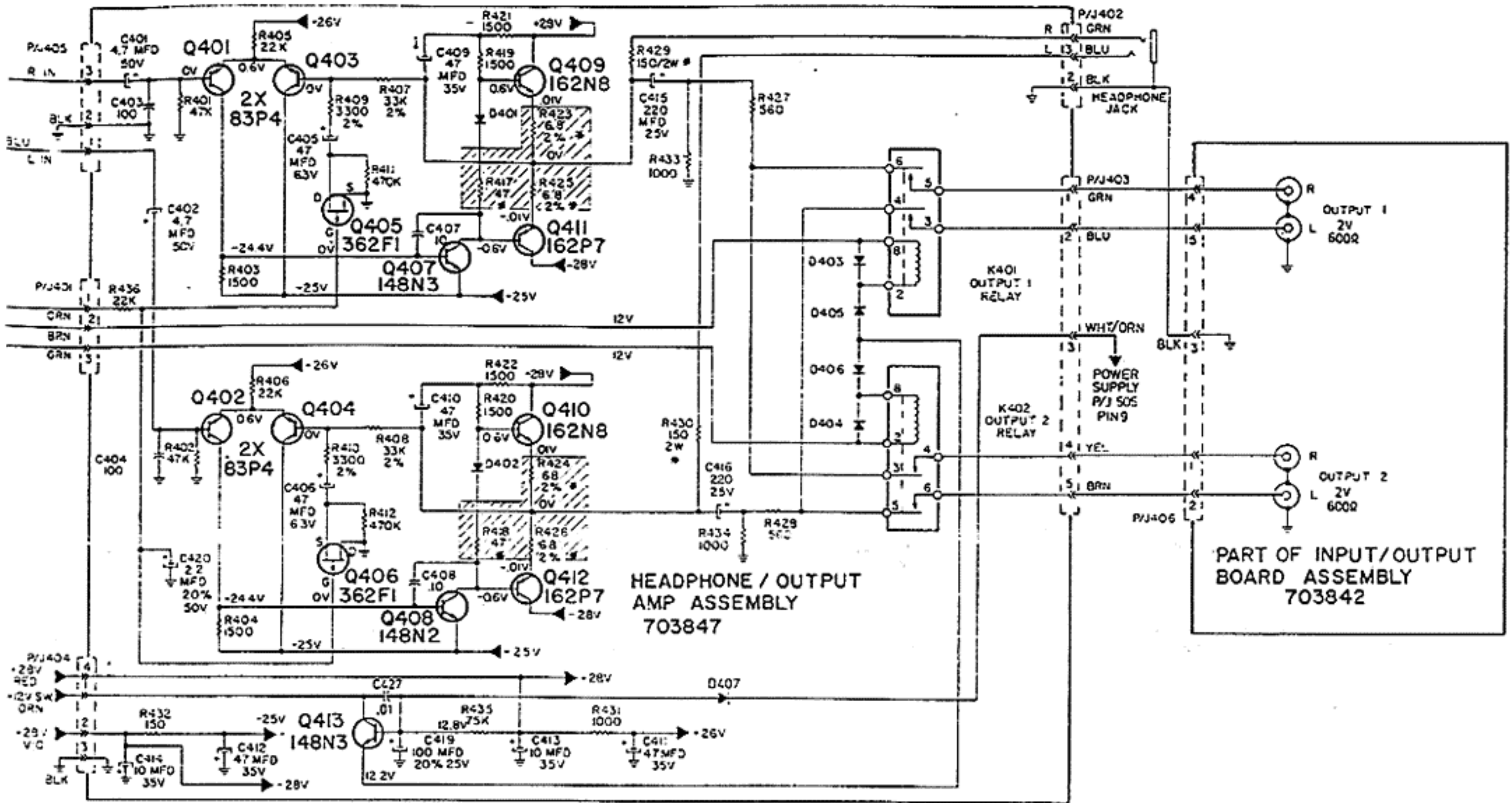


e=0V  
b=0.74V  
c=0.15V

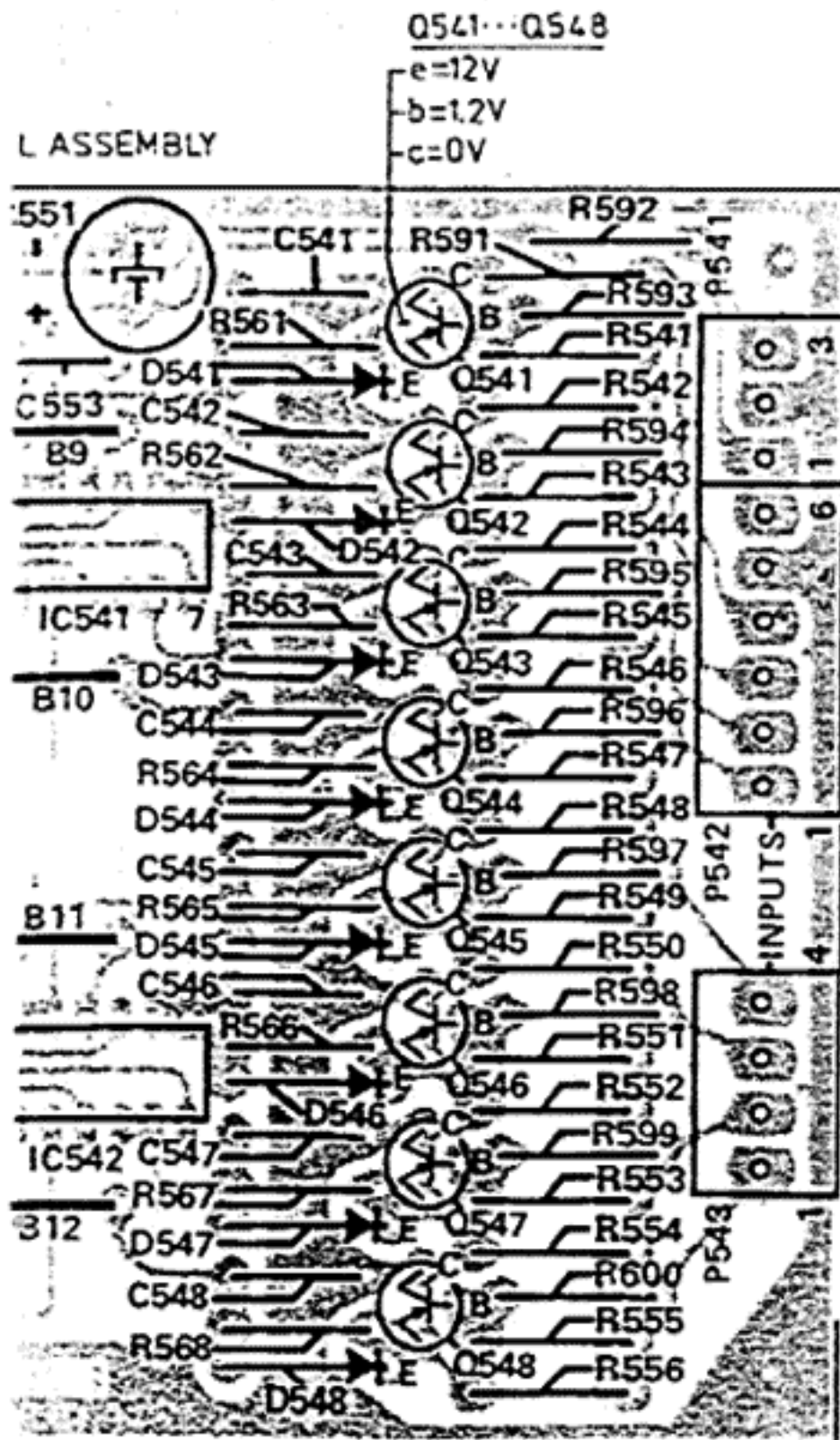
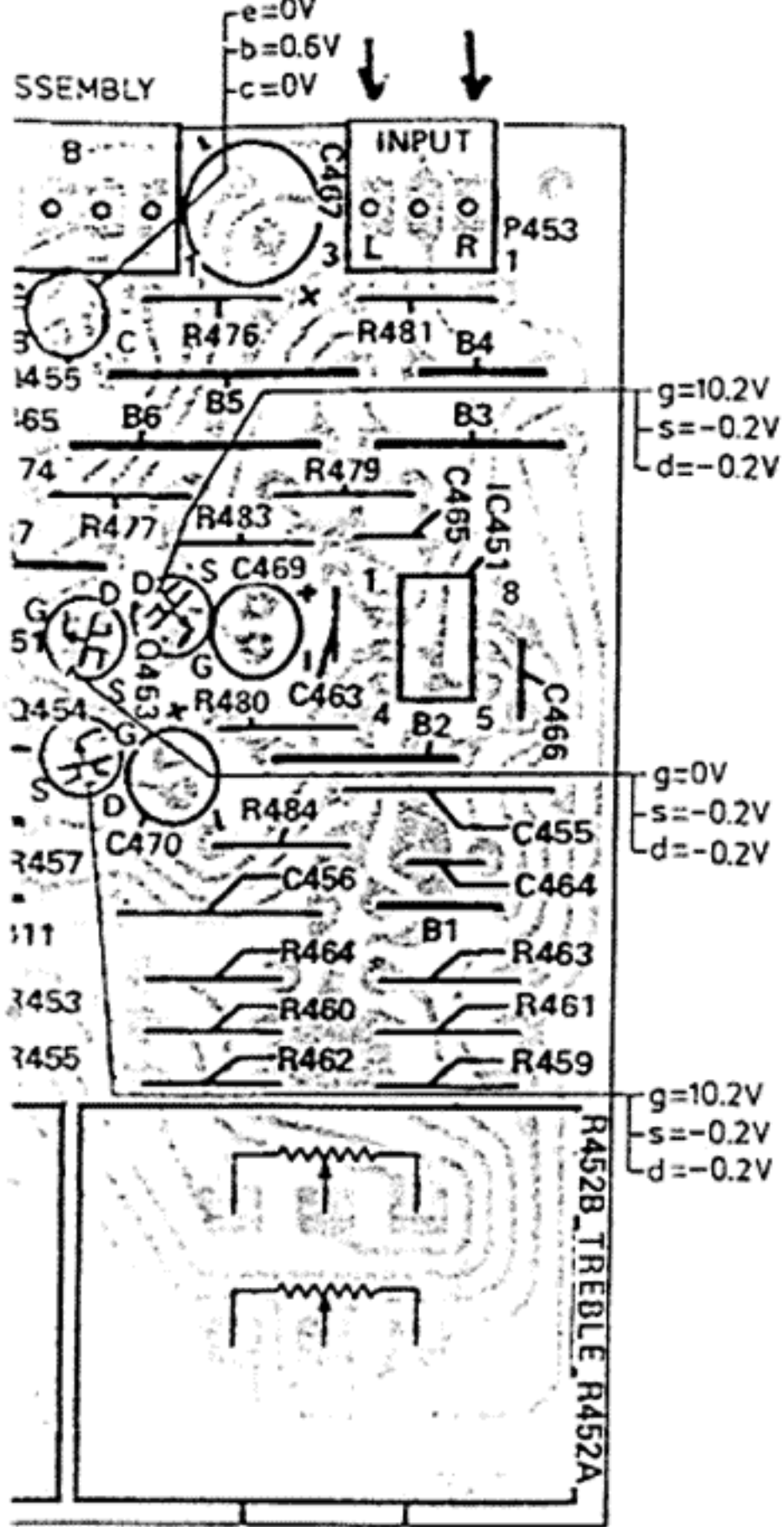
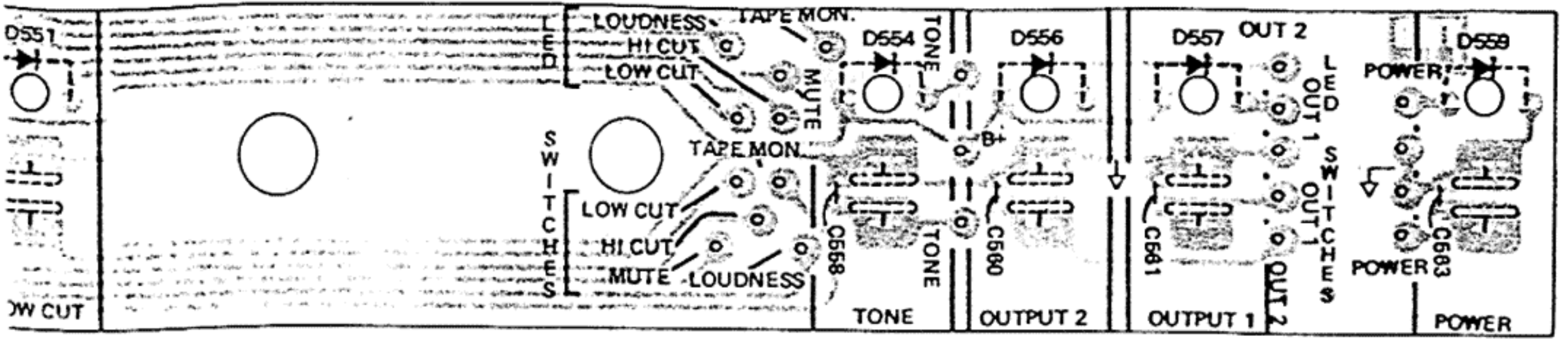


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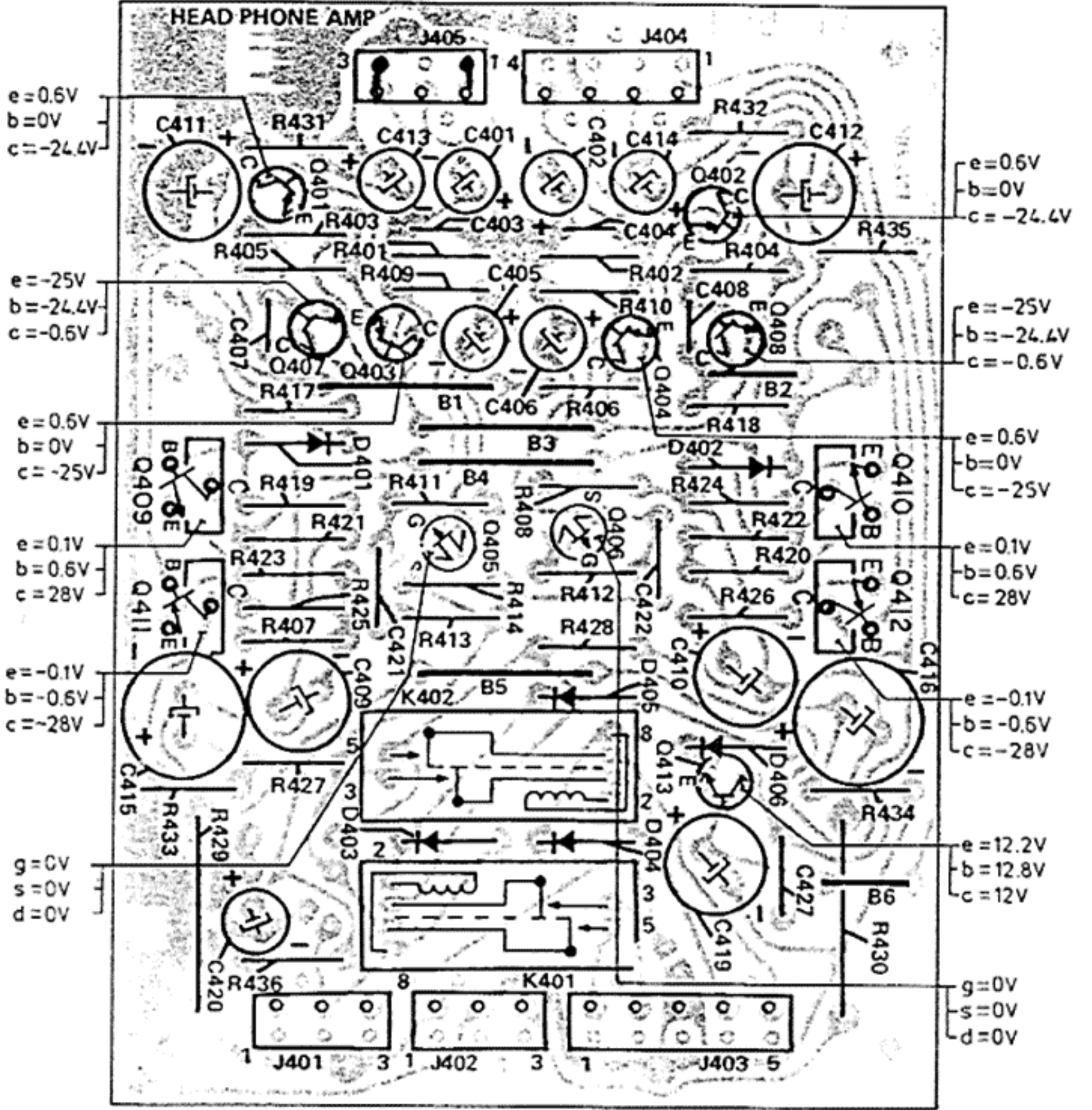




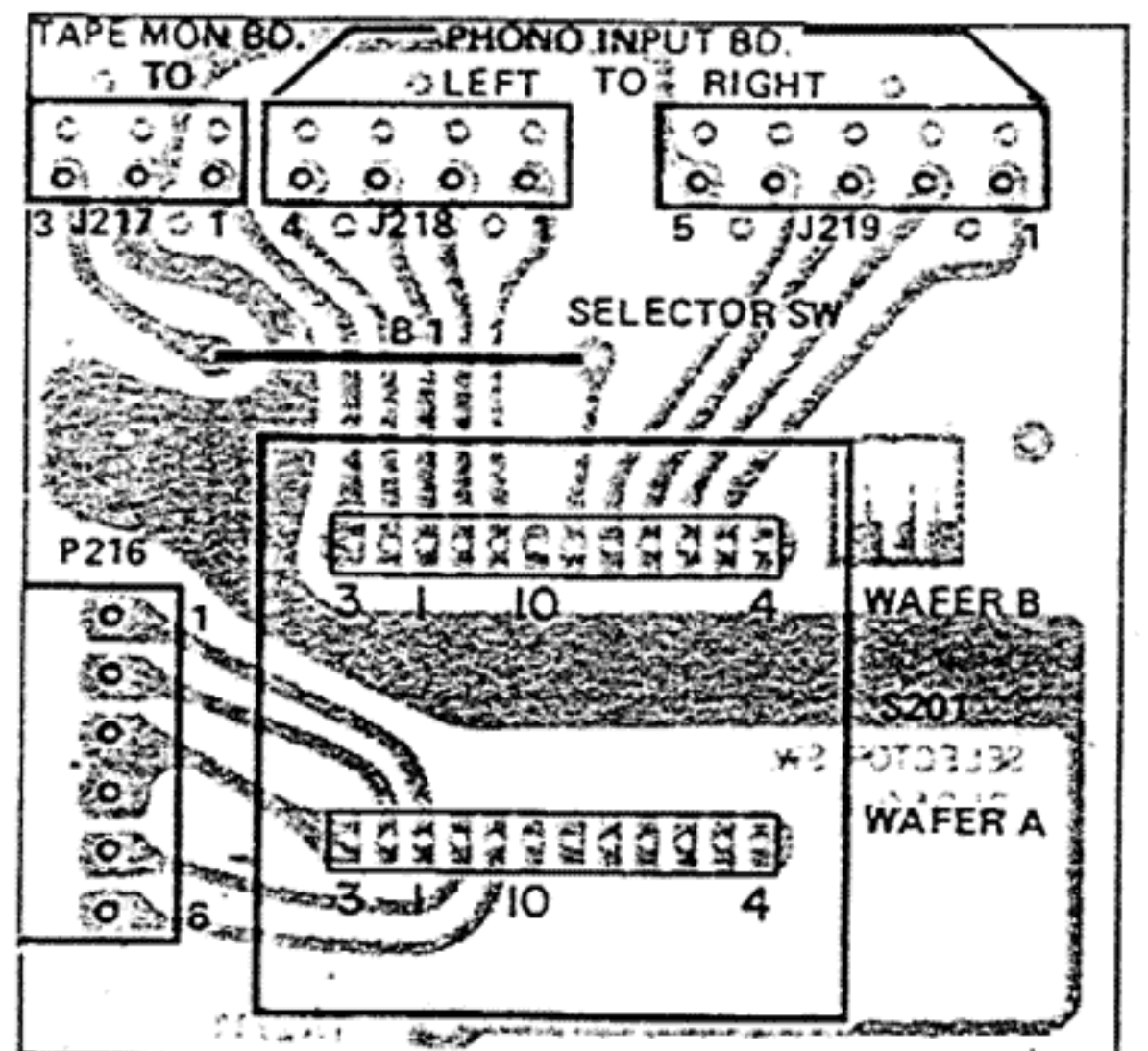
i ASSEMBLY



HEADPHONE AMP ASSEMBLY



SELECTOR SWITCH ASSEMBLY





HEADPHONE/PRE AMP

Q401...404	83P4	4822 130 41183
Q405-406	FET 362F1	4822 130 41192
Q407-408	148N3	4822 130 41186
Q409-410	162N8	4822 130 41188
Q411-412	162P7	4822 130 41187
Q413	148N2	4822 130 41185
D401...407		4822 130 30998
C401-402	4.7 $\mu$ F - 50 V	4822 134 20494
C405-406	47 $\mu$ F - 6.3 V	4822 124 20461
C409...412	47 $\mu$ F - 35 V	4822 124 20487
C413-414	10 $\mu$ F - 35 V	5322 124 24094
C415-416	220 $\mu$ F - 25 V	4822 124 20526
C419	100 $\mu$ F - 25 V	4822 124 20587
C420	2.2 $\mu$ F - 50 V	4822 124 20584
R409-419	3.3K-2% -1/4 W	5322 116 54005
R417-418	47 $\Omega$ -5% -1/4 W	4822 110 53072
R423...426	6.8 $\Omega$ -2% -1/4 W	4822 116 51172
R429-430	150 $\Omega$ -10% - 2 W	5322 116 54393
-Miscellaneous-		
K401-402		4822 280 20068

TOUCH CONTROL

-IC-		
IC541-542	RCA652	4822 209 80399
IC544...547	CD40138CN	4822 209 10002
Q541...548	356P1	4822 130 41191
Q551...558	232N2	4822 130 41101
D541...548		4822 130 30998
C551-552	100 $\mu$ F - 25 V	4822 124 20587

TAPE MONITOR AND MODE

Q229	232N2	4822 130 41101
D201-202		4822 130 30998
-Miscellaneous-		
K201-202		4822 280 20068
S202		4822 273 80176
S203		4822 273 80177

TONE CONTROL

-IC-		
IC451	RC4558P	4822 209 80401
Q451...454	FET 234F1	4822 130 41189
Q455	232N2	4822 130 41101
D451		4822 130 30995
L451-452	10 mH	4822 156 10439
C455-456	510 pF-2.5% -60 V	4822 121 50056
C457...460	1600 pF-2.5% -60 V	4822 121 50554
C465-466	4.7 pF-10% -500 V	4822 122 31189
C467-468	100 $\mu$ F - 25 V	4822 124 20587
C469...471	1 $\mu$ F - 50 V	4822 124 20583
C472	2.2 $\mu$ F - 50 V	4822 124 20584
R451a,b	100K	4822 102 90014
R452a,b		
R481...484	10K-2% -1/4 W	5322 116 54619

POWER SUPPLY

Q501	148N2	4822 130 41185
Q502	356P1	4822 130 41191
Q503	162N8	4822 130 41188
Q504	162P7	4822 130 41187
D501...507		4822 130 30997
Z501	Zener 12 V-1/2 W	5322 130 34197
Z503-504	Zener 28 V-1/2 W	4822 130 30996
C501-502	5 nF+80%-20% 4KV	5322 122 50001
C503-504		
C508-509	100 nF 20 % -200 V	4822 121 41161
C506-513	1000 $\mu$ F - 35 V	5322 124 24067
C507	2200 $\mu$ F - 16 V	5322 124 24084
C510	100 $\mu$ F - 16 V	4822 124 20488
C512-515-516	470 $\mu$ F - 35 V	4822 124 20533
C514	22 $\mu$ F - 25 V	4822 124 20476
R505	4.7 $\Omega$ -5% -1/2 W	4822 110 43045
R506-507	12 $\Omega$ -5% -2 W	4822 112 41056
R514	1 $\Omega$ -5% -1/4 W	4822 110 53027
-Miscellaneous-		
T502		4822 145 30205
K501		4822 280 60398

VOLUME AND FILTER

Q301-302		
305...308		
313...316	94N4	4822 130 41184
319...322		
Q303-304	FET 234F1	4822 130 41189
311-312		
Q309-310	83P4	4822 130 41183
Q317-318	FET 362F1	4822 130 41192
C305-306		
313-314		
325...334-343	1 $\mu$ F - 50 V	4822 124 20583
C309-310		
341-342	10 $\mu$ F - 35 V	5322 124 24094
C315...320	47 $\mu$ F - 25 V	4822 124 20477
C337-338	47 $\mu$ F - 6.3 V	4822 124 20461
C339-340	100 $\mu$ F - 25 V	4822 124 20587
R325a,b	100K	4822 102 90014
R326a,b	10K 20% -1/8 W	4822 102 30263
R335-336	10K 2% -1/4 W	5322 116 54619
R341-342		
357-358	4.7K 2% -1/4 W	5322 116 54008
R369-370	150 $\Omega$ 5% -1/2 W	4822 110 43085

PHONO PRE-AMP

Q201...208		
213...216	94N4	4822 130 41184
221...228		
Q209...212	83P4	4822 130 41183
217...220		

BASIC CHASSIS

T501		4822 146 40241
S501		4822 277 10426
D551...559	LED	4822 130 30999

FUNCTION SELECTOR

S201		4822 273 80175
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