

COPLAND

Integrated Amplifier

CTA402 Schematics

COPLAND

Research & Development

CTA402 Bias Instructions.

The bias adjustment on CTA402 is simpler than on the CTA401 because it has separate trim potentiometers for each output valve.

Place voltmeter probes over the 10 ohms resistor R132, adjust the trimmer VR101 just below it until you read 400mV.

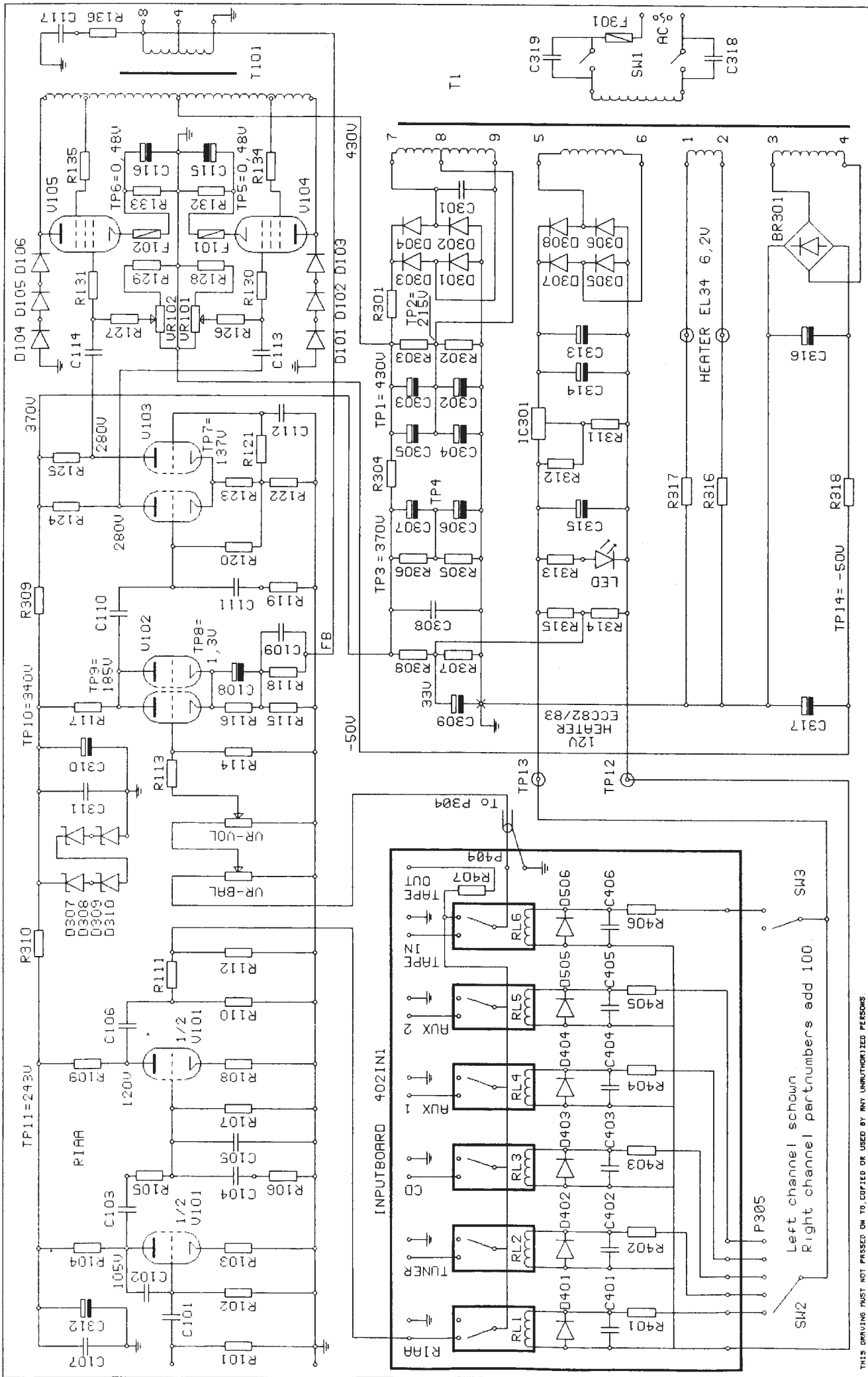
Do the same with :

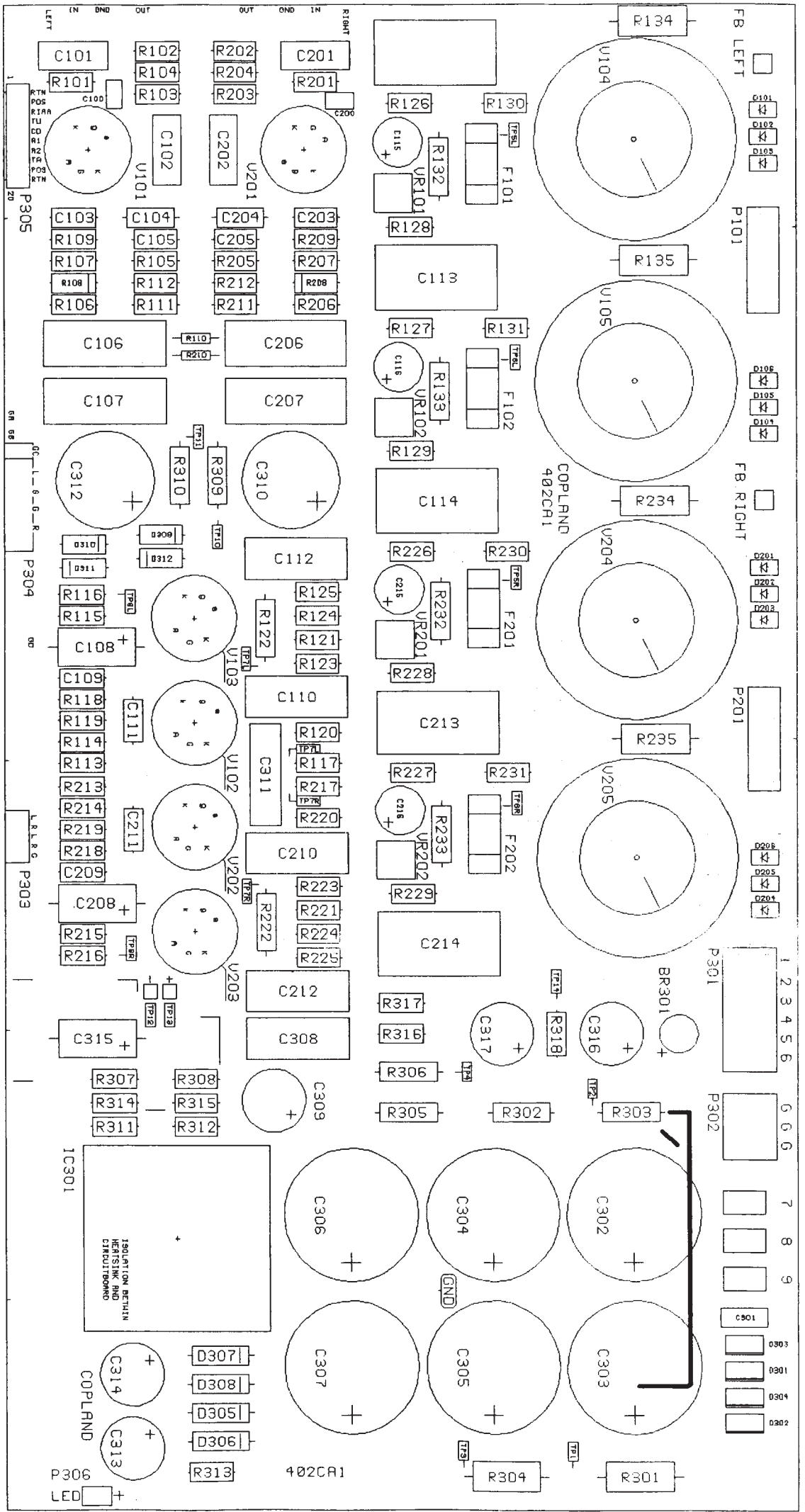
R133 / VR102

R232 / VR201

R233 / VR202

One end of the 10 ohms resistors goes to ground the other goes to the fuse just over it. So you can also fix the negative probe to the ground terminal and measure the same voltage on the test points : TP5L, TP6L, TP5R, TP6R.





PARTSLIST

COPLAND

CTA402

File :P402CA1

Date : 25/11-1998

Ref.nr :	Value	Size/case	Type no.	Manufacturer	Supplier	Art.nr.	P.
R101. R201	47K5	0,8W	MBE	Beyschlag			
R102. R202	1M						
R103. R203	1K2						
R104. R204	1K						
R105. R205	150K						
R106. R206	1M						
R107. R207	100K						
R108. R208	1N4148		DIODE				
R109. R209	100K						
R110. R210	1M		MRS25				
R111. R211	475						
R112. R212	NC						
R113. R213	1K						
R114. R214	220K						
R115. R215	100						
R116. R216	1K						
R117. R217	150K						
R118. R218	5K76						
R119. R219	12K1						
R120. R220	1M						
R121. R221	1M						
R122. R222	22K	3W	PR03		PHILIPS		
R123. R223	1K						
R124. R224	27K4						
R125. R225	28K7						
R126. R226	178K						
R127. R227	178K						
R128. R228	18K2						
R129. R229	18K2						

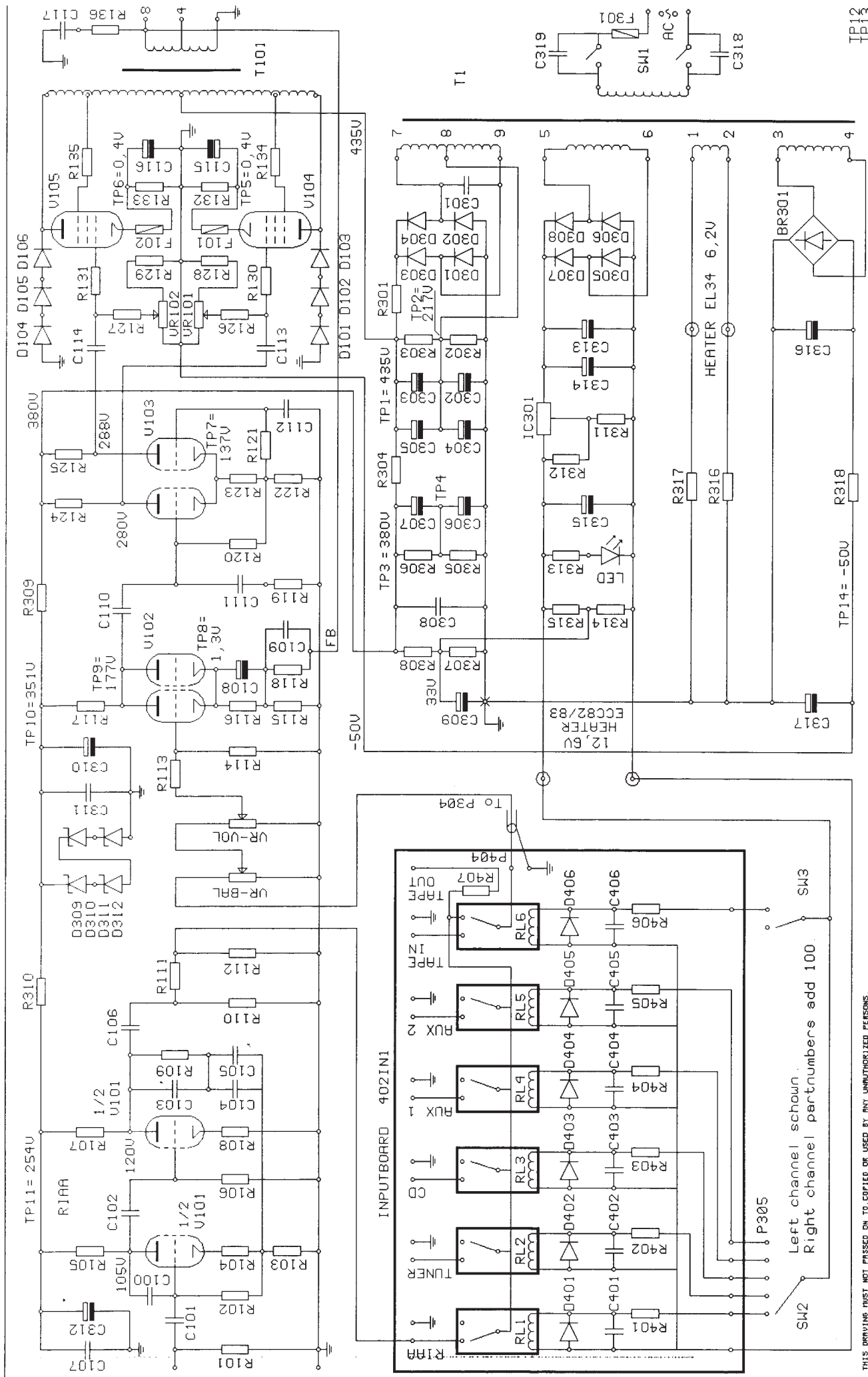
Ref.nr :	Value	Size/case	Type no.	Manufacturer	Supplier	Art.nr.	P.
R130. R230	3K92						
R131. R231	3K92						
R132. R232	10						
R133. R233	10						
134. R234	220	3W	PR03	PHILIPS			
R135. R235	220	3W	PR03	PHILIPS			
R136. R236	NC						
R301	6R8	5W	208-8	VITROHM	ELFA	60-462-39	
R302	NC						
R303	NC						
R304	2K7	5W	208-8	VITROHM	ELFA	60-465-44	
R305	150K	3W	PR03	PHILIPS			
R306	150K	3W	PR03	PHILIPS			
R307	47K5						
R308	475K						
R309	4K7	2W	PR02	PHILIPS			
R310	27K	3W	PR03	PHILIPS			
R311	1K						
R312	110						
R313	536						
R314	150						
R315	150						
R316	150						
R317	150						
R318	1K						
VR101. VR201	10K	TRIMPOT	3386P	Bourns			
VR102. VR202	10K	TRIMPOT	3386P	Bourns			

Ref.nr :	Value	Size/case	Type no.	Manufacturer	Supplier	Art.nr.	P.
C100. C200	NC						
C101. C201	0,1uF/250V	RM15	MKP				
C102. C202	0,047/400V	RM15	MKP				
C103. C203	750pF/630V		427	PHILIPS			
C104. C204	2n2/630V		427	PHILIPS			
C105. C205	220pF/630V		427	PHILIPS			
C106. C206	1uF/400V	RM27,5	MKP				
C107. C207	330nF/630V	RM27,5					
C108. C208	220uF/16V	Axial	031	PHILIPS			
C109. C209	220pF/630V		427	PHILIPS			
C110. C210	470nF/400V	RM22,5	MKP				
C111. C211	220pF/630V		427	PHILIPS			
C112. C212	470nF/400	RM22,5	MKP				
C113. C213	1uF/630V	RM22,5/27,5	MKP				
C114. C214	1uF/630V	RM22,5/27,5	MKP				
C115. C215	100uF/50V			PHILIPS			
C116. C216	100uF/50V			PHILIPS			
C117. C217	NC						
C301	1nF/3000V	RM10					
C302	470uF/385V						
C303	470uF/385V						
C304	470uF/385V						
C305	470uF/385V						
C306	470uF/385V						
C307	470uF/385V						
C308	0,1uF/630V	RM22,5					
C309	220uF/100V						
C310	100uF/450V						

Ref.nr :	Value	Size/case	Type no.	Manufacturer	Supplier	Art.nr.	P.
C311	0,1uF/630V	RM22,5					
C312	100uF/450V						
C313	3300uF/25V						
C314	3300uF/25V						
C315	220uF/40V	Axial	031	PHILIPS			
C316	220uF/100V						
C317	220uF/100V						
D101.D102.D103						1N4007	
D104.D105.D106						1N4007	
D301						BY329-1000	
D302						BY329-1000	
D303						BY329-1000	
D304						BY329-1000	
D305						1N5404	
D306						1N5404	
D307						1N5404	
D308						1N5404	
D309	100V/1,3W	ZENER					
D310	100V/1,3W	ZENER					
D311	100V/1,3W	ZENER					
D312	100V/1,3W	ZENER					
BR301		BRIDGE				B80C1500	
LED		5mm GREEN					

Ref.nr :	Value	Size/case	Type no.	Manufacturer	Supplier	Art.nr.	P.
IC301	Regulator	TO3	LM350K				
V101. V201	E83CC	VALVE					
V102. V202	E83CC	VALVE					
V103. V203	E82CC	VALVE					
V104. V204	EL34	VALVE		Svetlandia			
V105. V205	EL34	VALVE		Svetlandia			
TS 1	6 stk. Tubesocket	9pin noval					
TS 2	4 stk. Tubesocket	8pin ocktal					
HS 1	HEATSINK	for IC301	KG46-25,4-TO3	Austerlitz			
P101 P201	PIN HEADER	TOP ENTRY	5 WAYS	WEIDMULLER	FARNELL	889-854	
P101A. P201A	FREE PLUG		5 WAYS	WEIDMULLER	FARNELL	963-057	
P301	TERMINAL	6 pol					
P302	TERMINAL	3 pol					
P303	PIN HEADER	5+5 PIN GOLD		HARWIN			
P304							
P305	PIN HEADER	10+10PIN GOLD		HARWIN			
P306	PIN HEADER	2 PIN GOLD		HARWIN			
SW1	On/off switch	250V .AC. 2/64 A	AR		J.D.Friederichsen		
C318. C319	22nf		356	PHILIPS			
E1	Earth connector		T 51	FUTTERS			
ST R	Speaker connect.	RED	TP/6S	CLIFF			
ST B	Speaker connect	BLACK	TP/6S	CLIFF			
ACP	Power inlet			SCHUTTER			

Ref.nr :	Value	Size/case	Type no.	Manufacturer	Supplier	Art.nr.	P.
F101.102.							
F201.202							
F301	T3,15A T6,3A	At 230V At 115V					
TR1	Powertrafo		402				
TR2	Outputtrafo		6K6B				
VOL14	Circuit board			ELCON	ELCON		
VR-BAL	100K	Balance pot.	RK18 100KMN	ALPS			
VR-VOL	100K	Volume pot	100K AX2	ALPS			
PCL	PIN HEADER	5+5PIN GOLD		HARWIN			
RM101	Circuit board				ELCON		
402in1	Circuit board				ELCON		
RL1-2-3-4-5-6	Relay 12V /	960 ohm					
R401 R402 R403	10 ohm		MBE	Beyschlag			
R404 R405 R406	10 ohm		MBE	Beyschlag			
R407. R507	22K1	0,8W	MBE	Beyschlag			
C401 C402 C403	330nF		MKS4	WIMA			
C404 C405 C406	330nF		MKS4	WIMA			
D401 D402 D403	1N4007						
D405 D406.D407	1N4007						
P401	PIN HEADER	10+10PIN GOLD		HARWIN			



TP11= 254V
 TP10=351V
 TP9= 177V
 TP8= 1,30V
 TP7= 137V
 TP6=0,4V
 TP5=0,4V
 TP4
 TP3= 380V
 TP2= 217V
 TP1= 435V
 TP14= -50V