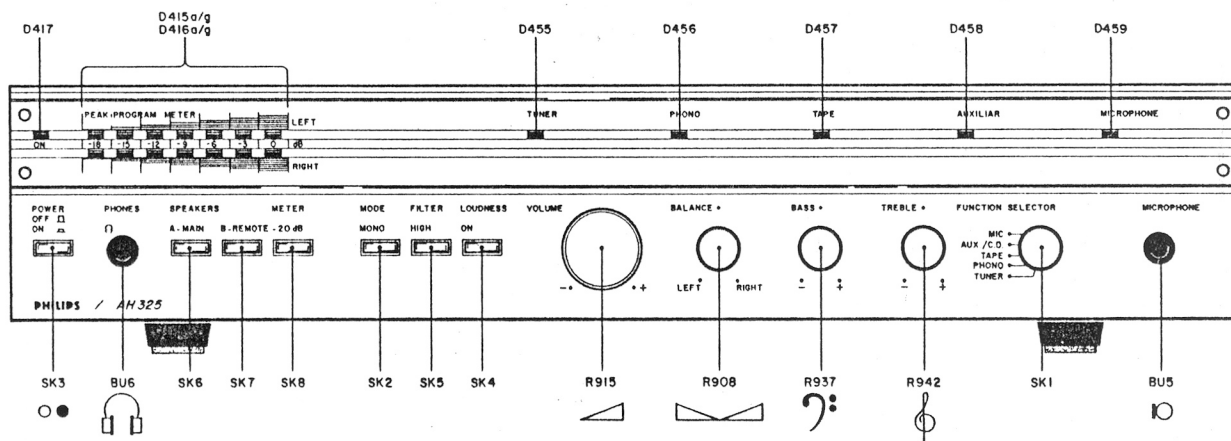


Service
Service
Service

Service Manual

Manual de Servicio
Manual de Servicio
Service Manual



ESBREL
RUA VITORIA N.º 381
FONE: 221-0683
AO PAULO - SP.

IAM



(P) (E) (GB)

Subject to modification
4806 725 17101
Printed in Brazil

PHILIPS

(P) Especificações Técnicas

Potência de saída	2 x 32W/8Ω DHT 1% (RMS).
Resposta de frequência	30 – 20.000Hz ± 3dB.
Impedância de carga	2 x 8Ω.
Relação Sinal/Ruído	≥ 60dB.
Sensibilidade das entradas	
MIC	5mV/3KΩ.
AUX	280mV/1MΩ.
PHONO	6mV/47KΩ.
TAPE	200mV/1MΩ.
Saídas	
Caixas acústicas	2 x 8Ω/4 x 4Ω.
Fones	8 – 600Ω.
AUX./TAPE	500mV/6KΩ.
Controles	
Balance	0 a –34dB por canal.
Treble	± 10dB/10KHz.
Bass	± 10dB/100Hz.
Loudness	+ 7dB/100Hz.
Hight filter	+ 7dB/10KHz.
	– 12dB/7KHz.
Caixas Acústicas	06 AH 425.
Alimentação	110/220V – 50/60Hz.
Dimensões (mm)	420 (↔) x 363 (↗) x 87 (↑)

(E) Especificaciones Tecnicas

Potencia de salida	2 x 32W/8Ω DHT 1% (RMS).
Respuesta de frecuencia	30 – 20.000Hz ± 3dB.
Impedancia de carga	2 x 8Ω.
Relación Sinal/Ruido	≥ 60dB.
Sensibilidad de las entradas	
MIC	5mV/3KΩ.
AUX	280mV/1MΩ.
PHONO	6mV/47KΩ.
TAPE	200mV/1MΩ.
Salidas	
Cajas acusticas	2 x 8Ω/4 x 4Ω.
Fones	8 – 600Ω.
AUX./TAPE	500mV/6KΩ.
Controles	
Balance	0 a –34dB por canal.
Treble	± 10dB/10KHz.
Bass	± 10dB/100Hz.
Loudness	+ 7dB/100Hz.
Hight filter	+ 7dB/10KHz.
	– 12dB/7KHz.
Cajas acusticas	06 AH 425.
Alimentación	110/220V – 50/60Hz.
Dimensiones (mm)	420 (↔) x 363 (↗) x 87 (↑)

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(GB) Technical Specifications

Output Power	2 x 32W/8Ω DHT 1% (RMS).
Frequency Response	30 – 20.000Hz ± 3dB.
Load Impedance	2 x 8Ω.
Signal/Noise	≥ 60dB.
Input Sensitives	
MIC	5mV/3KΩ.
AUX	280mV/1MΩ.
PHONO	6mV/47KΩ.
TAPE	200mV/1MΩ.
Outputs	
Loudspeakers	2 x 8Ω/4 x 4Ω.
Headphones	8 – 600Ω.
AUX./TAPE	500mV/6KΩ.
Controls	
Balance	0 to –34dB per channel.
Treble	± 10dB/10KHz.
Bass	± 10dB/100Hz.
Loudness	+ 7dB/100Hz.
Hight Filter	+ 7dB/10KHz.
	– 12dB/7KHz.
Loudspeaker Box	06 AH 425.
Voltage supllly	110/220V – 50/60Hz.
Dimension (mm)	420 (↔) x 363 (↗) x 87 (↑)

RMS).

(P) AJUSTES

Corrente de repouso dos transistores de saída.

- Desligar dissipador dos transistores de saída.
- Controle de volume no mínimo.
"CANAL L".
- Desligar o emissor de TS 499R e coletor de TS 430R.
- Desligar o coletor de TS 430L, e ligar em série um miliamperímetro DC.
- Através de R 960L ajuste a corrente para 20mA.
"CANAL R".
- Desligar o emissor de TS 499L e coletor de TS 430L.
- Desligar o coletor de TS 430R, e ligue em série um miliamperímetro DC.
- Através de R 960R, ajuste a corrente para 20mA.

ATENÇÃO: Ao ajustar um canal, o coletor de TS 430 e emissor de TS 499 do outro canal, deverão estar desconectados.

(E) AJUSTES

Corriente de repouso de los transistores de salida.

- Desligar dissipador de los transistores de salida.
- Controle de volumen en lo minimo.
"CANAL L".
- Desligar el emisor de TS 499R y colector de TS 430R.
- Desligar el colector de TS 430L, y ligar en serie un miliamperimetro DC.
- Através de R 960L ajuste la corriente para 20mA.
"CANAL R".
- Desligar el emisor de TS 499L y colector de TS 430R.
- Desligar el colector de TS 430R y ligar en serie um miliamperimetro DC.
- Através de R 960R, ajuste la corriente para 20mA.

ATENCIÓN: Al ajustar un canal, el colector de TS 430 y el emisor de TS 499 del otro canal, deberan estar desconectados.





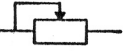
(GB) ADJUSTS

Repose current of the output transistors.

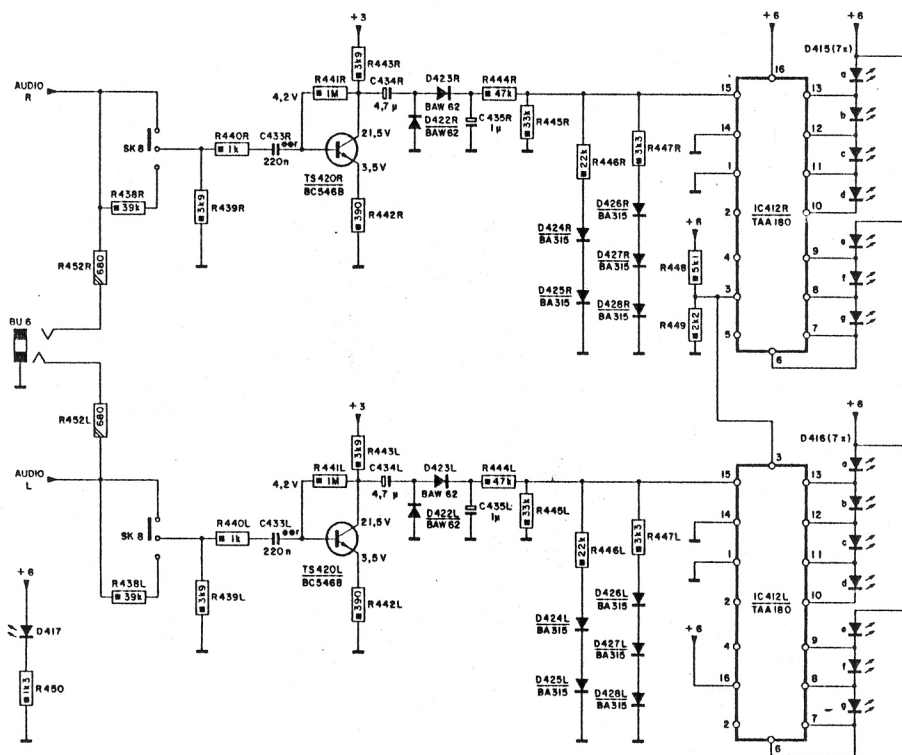
- Disconnect the heatsink plate of the output transistors.
- Volume control in the minimum position.
"CHANNEL L".
- Disconnect the emitter of TS 499R and collector of TS 430R.
- Disconnect the collector of TS 430L, and connect a milliamperemeter DC.
- Adjust the repose current in R 960L to 20mA.
"CHANNEL R".
- Disconnect the emitter of TS 499L and collector of TS 430R.
- Disconnect the collector of TS 430L and connect a milliamperemeter.
- Adjust the repose current in R 960L to 20mA.

ATTENTION: For adjust one channel, the collector of TS 430 and the emitter of TS 499 of the other channel must be disconnected.

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IC412	IAA 180	4806 209 87087	C433	Cer 4,7 nf x 1400V	4806 120 17152
			C434, 671	Elco 4,7 µf x 40V	4806 124 27237
			C435	Elco 1 µf x 63V	4806 124 27209
TS420	BC 548B	4806 130 47041	C601	Elco 2500 µf x 70V	4806 124 27254
TS429	BD 333	4806 130 47148	C607/747	Elco 1000 µf x 40V	4806 124 27255
TS430	BD 334	4806 130 47149	C608/741, 733/4	Elco 220 µf x 40V	4806 124 27236
TS481	BD 135	4806 130 47054	C670/94, 700	Elco 100 µf x 25V	4806 124 27217
TS487/8, 490/1/6	BC 549B	4806 130 47049	C695	Elco 2,2 µf x 63V	4806 124 27115
TS494	BC 548C	4806 130 47042	C710	Elco 15 µf x 25V	4806 124 27239
TS498	BC 546B	4806 130 47169	C723	Elco 10 µf x 40V	4806 124 27240
TS499	BC 556	4806 130 47170	C724/31	Elco 0,47 µf x 63V	4806 124 27241
TS500	BC 558B	4806 130 47050	C737	Elco 100 µf x 63V	4806 124 27256
			VARIOUS		
D415/7	LED CQV36(RED)	4806 130 37179	SK1	Function Selector	4806 273 87003
D455/9			SK2/4/5	Mode/Loudness/Filter	4806 276 27014
D422/3/531	BAW 62	4806 130 37005	SK3	Mains Switch	4806 276 17040
D424/5/6/7/8	BA 315	4806 130 37015	SK6/7/8	Speakers/AT - 20dB	4806 276 27012
D506/7/8/9	SK 3/02	4806 130 37101	SK9	Voltage Selector	4806 272 17030
D511/2/3/4	1N 4002	4806 130 37076	BU1/2/4	Phono/Aux/Tuner Socket	4806 267 37041
D517	BZX 79/C15V	4806 130 37044	BU3	Tape in/Tape Out Socket	4806 267 37027
R908	Pot Bal 20K LIN	4806 102 37052	BU5	Microphone Socket	4806 267 37044
R915	Pot Vol. 20K LOG	4806 102 37053	BU6	Headphone Socket	4806 267 37029
R937/42	Pot Bass/Treble 50K LIN	4806 102 37056	T411	Transformer	4806 146 47011
R960	Trimpot 1K	4806 100 17039	VL413	Fuse 1.6A (127V)	4806 253 27006
R964/5/6/7	Res 1E ½ W	4806 110 47022	VL414	Fuse 0.8A (240V)	4806 253 27015
R968	Res 10E ½ W	4806 110 47023	VL471	Fuse 4A	4806 253 27023
			SPEAKEARS SOCKET		4806 267 37037

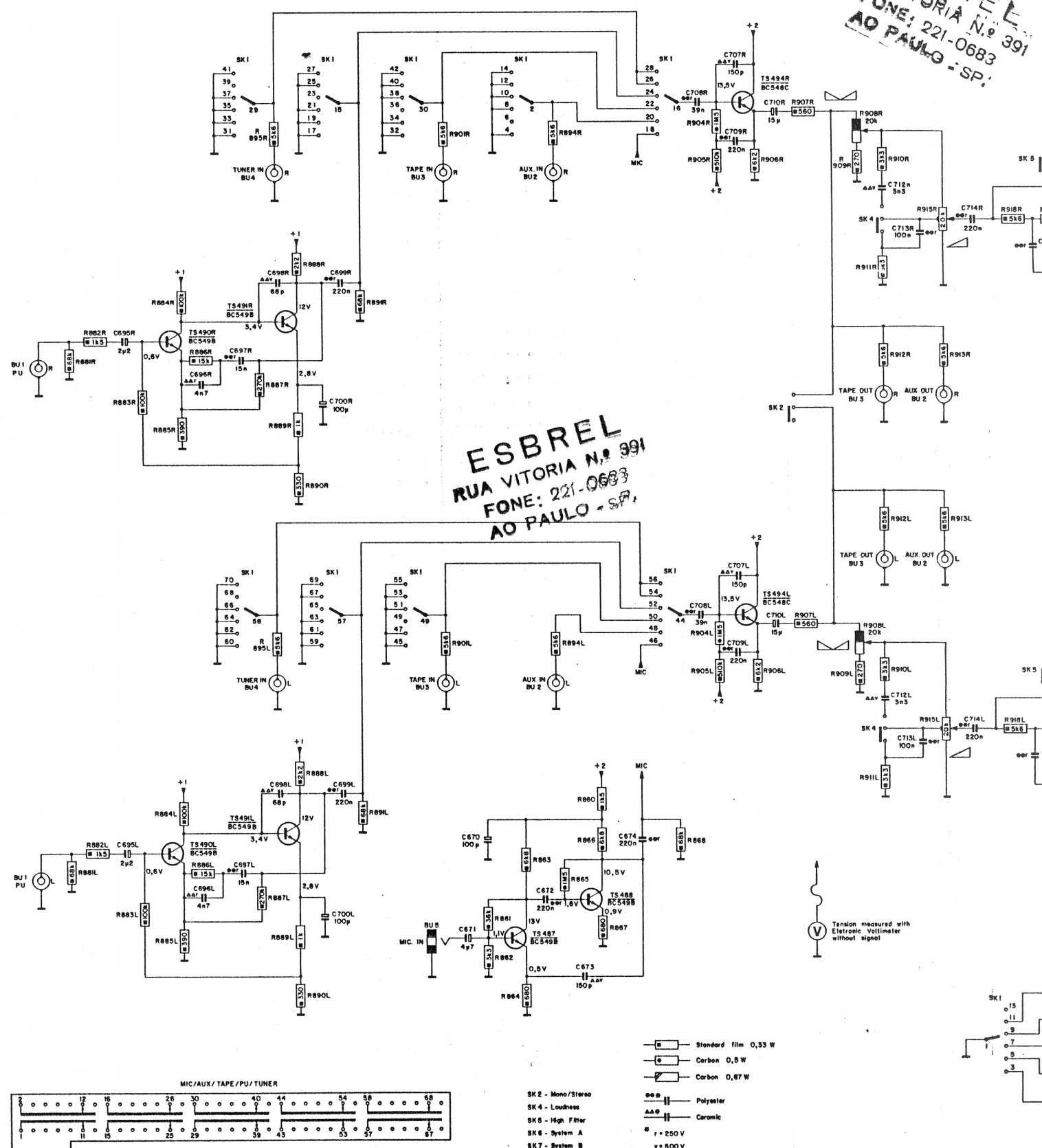
PEAK PROGRAM METER



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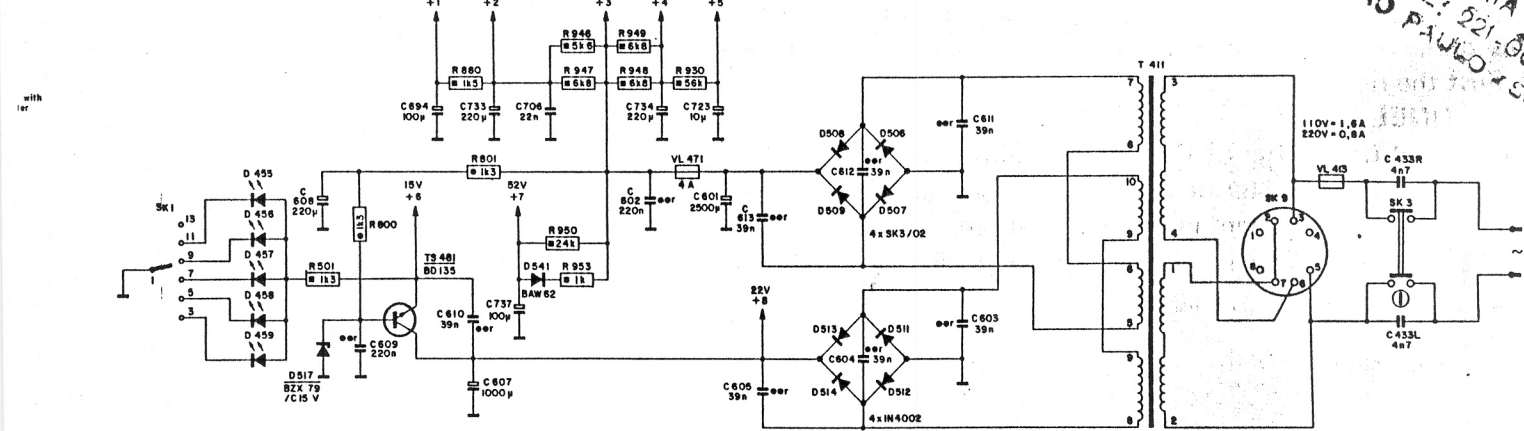
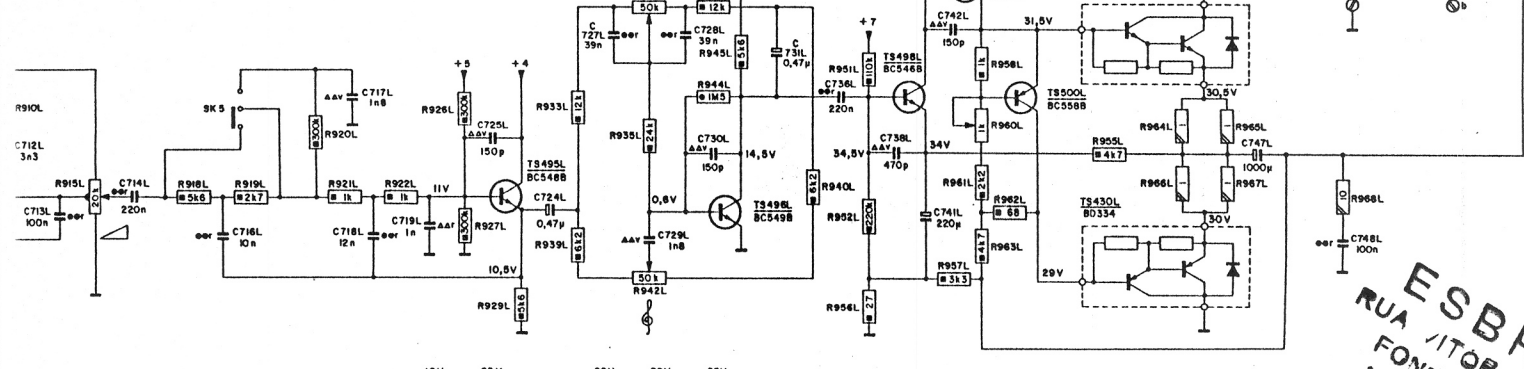
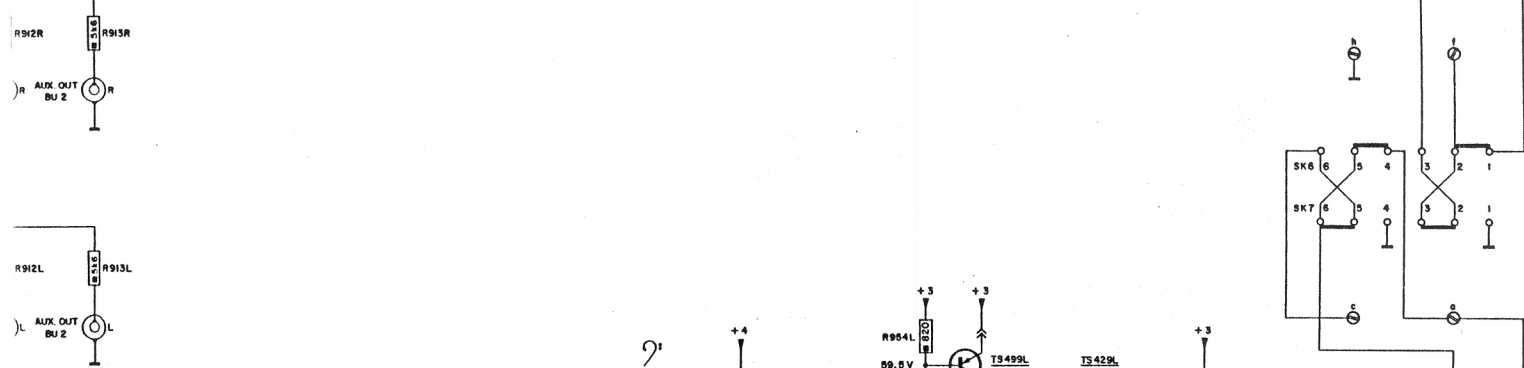
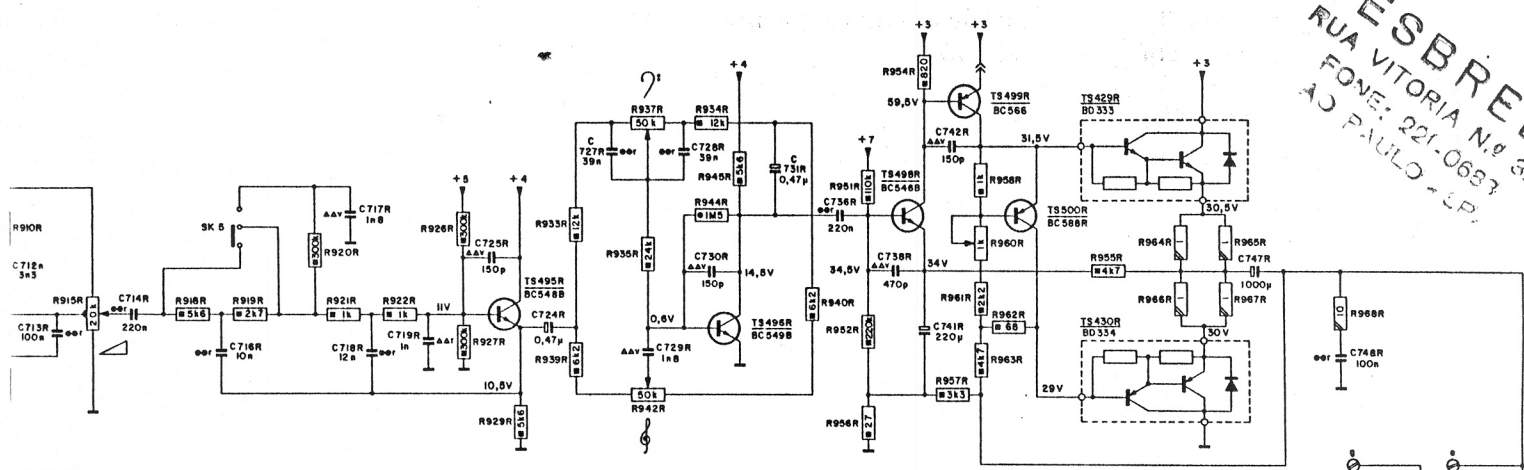
TS	490RL - 491RL										487 - 488										494RL										455-456-4									
D	696RL - 698RL - 699RL										670 - 672										708RL - 709RL										712RL									
C	695RL - 697RL - 700RL										671 - 674										709RL - 710RL										713RL - 714RL									
R	882RL - 884RL - 887RL - 888RL										861 - 863 - 860 - 867										904RL - 907RL - 908RL - 915RL																			
R	883RL - 886RL - 895RL - 898RL										862 - 865 - 864RL										868 - 909RL - 910RL																			
R	881RL - 885RL - 889RL - 890RL										901RL - 864 - 866										905RL - 906RL - 911RL - 912RL - 913RL - 918RL																			

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06AM-325

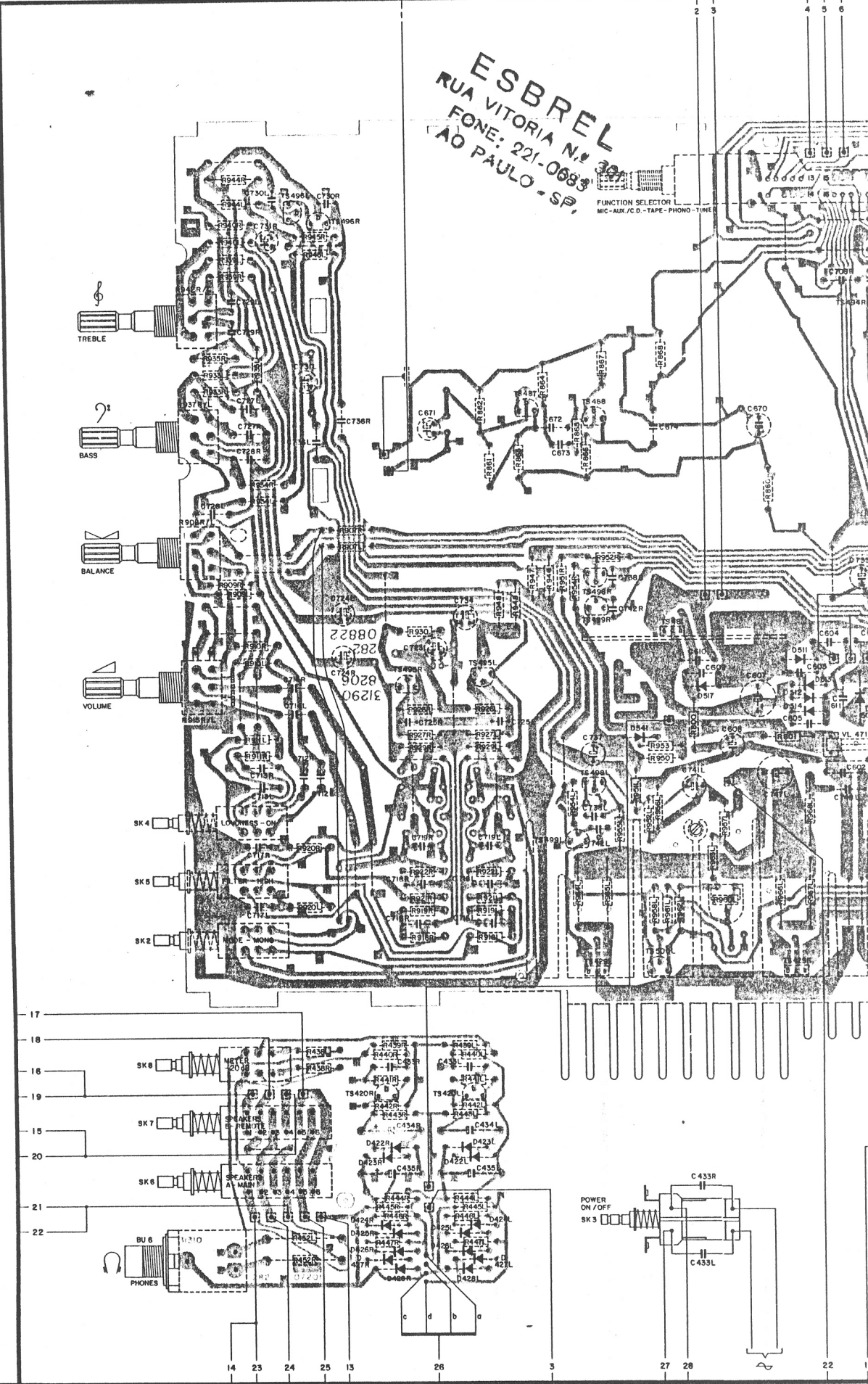
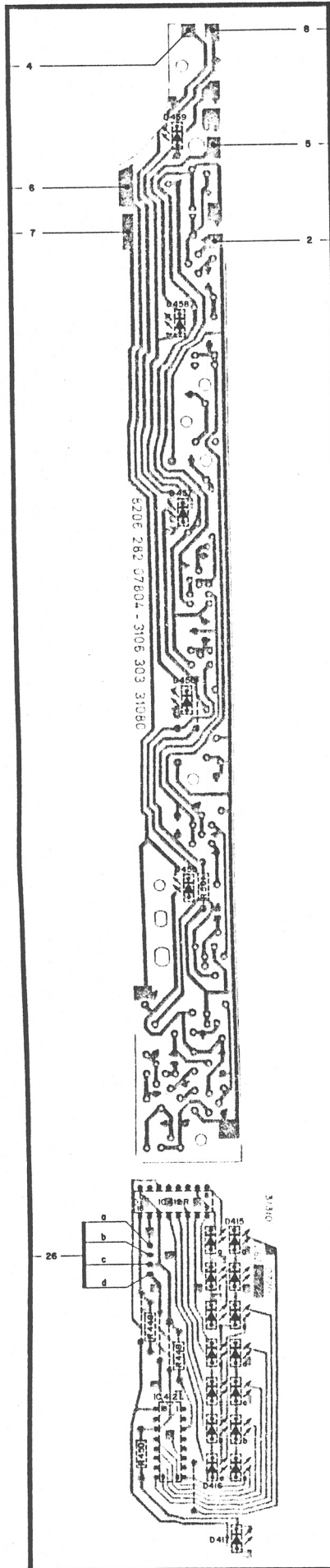
455-456-457-458-459		481	485RL	496RL	498RL	499RL	500RL-429RL-430RL
712RL	714RL	716RL	718RL-719RL-810-807-725RL-724RL	734-729RL-728RL-801-731RL-812-804-736RL-742RL-811	813-814-808-807	808-809-811-812	747RL-748RL
915RL	916RL	917RL	918RL-809-894-733-737-706	727RL-802-723-730RL-815-805-736RL	931RL	741RL-803	433RL
919RL	920RL	921RL	922RL-927RL	933RL-937RL-949-934RL	945RL	946RL-958RL	964RL
910RL	911RL	912RL	913RL-800	980-801-947-950-953-955RL	948RL	940RL-952RL-954RL	960RL-963RL
921RL	922RL	923RL	924RL	925RL-946	942RL-948-944RL-930	956RL	957RL-962RL
926RL	927RL	928RL	929RL	930RL	931RL	932RL	933RL-966RL-967RL



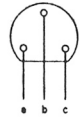
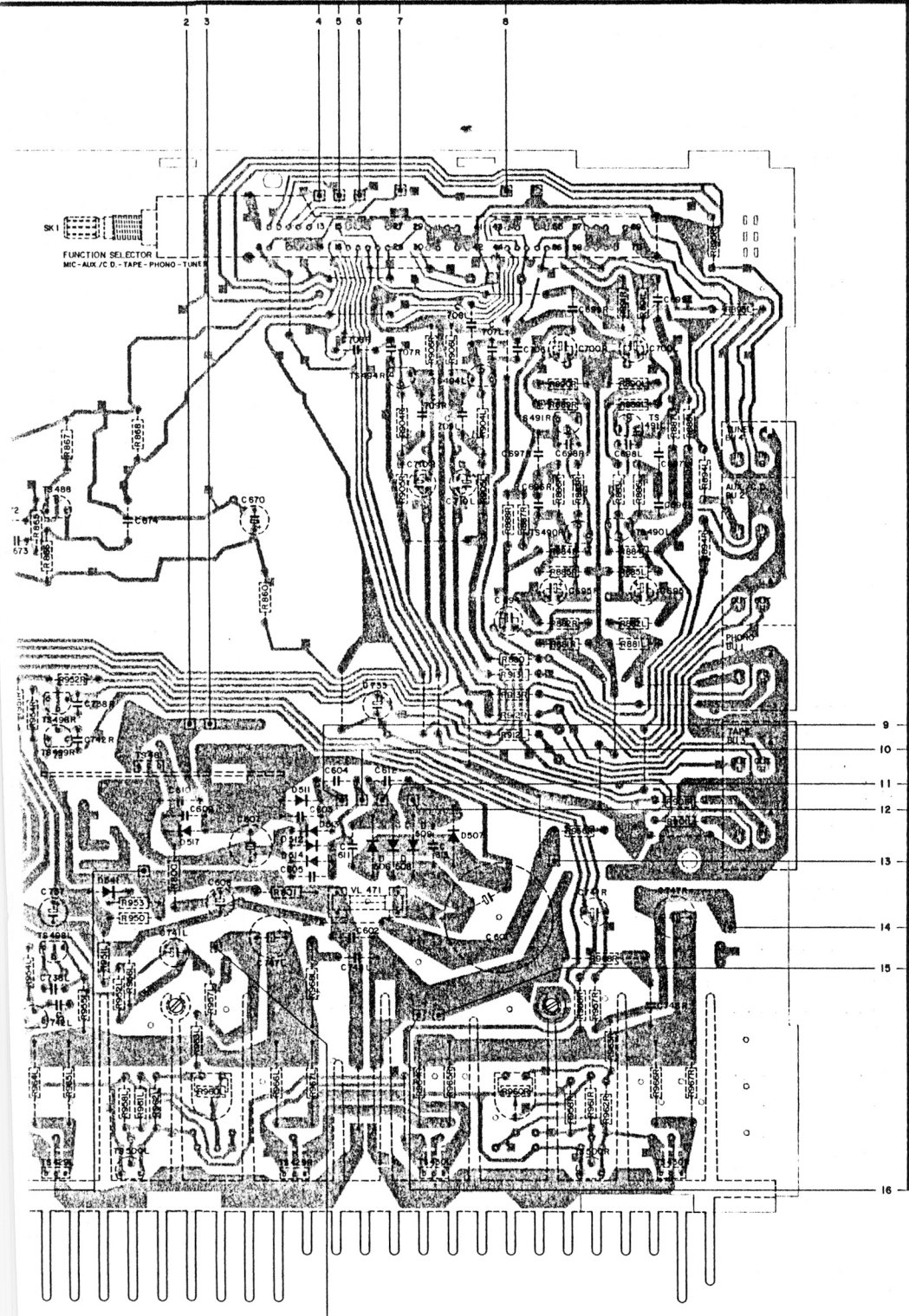
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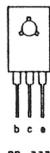
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D:	455 - 459 - 416 - 417 - 415	422R - 428R - 422L - 428L		514 - 511 - 513 - 505 -		
C:		728R - 727RL - 737R - 736L - 730R - 433R - 435R - 723 - 725R - 734 - 719L		673 - 737 - 738R - 433RL - 607 - 605 - 611 - 602 -		
C:		728L - 729RL - 713RL - 712R - 712L - 736R - 719R - 433L - 434L - 435L		672 - 738L - 742R - 741L - 609 - 670 - 603 - 748L - 733 -		
C:		730L - 717RL - 714RL - 731L - 724RL - 716R - 718R - 671 - 718L - 716L - 725L		742L - 674 - 610 - 608 - 747L - 604 - 708R - 610 -		
R:	501	915RL - 935R - 939RL - 934RL - 945R.L - 439R - 447R - 930 - 439L - 447L - 862 - 861 - 947 - 954L - 866 - 951L - 950 - 962L - 957L - 860 - 967L -				
R:	449	942RL - 940RL - 910RL - 438RL - 907R - 926R - 927R - 929R - 926L - 927L - 863 - 951R - 865 - 955L - 956L - 961L - 960L - 860 - 968L -				
R:	448	937RL - 944RL - 911RL - 920RL - 907L - 921R - 922R - 921L - 922L - 949 - 946 - 954R - 867 - 952R - 958L - 868 - 963L - 801 - 966L -				
R:	450	938RL - 933R - 909RL - 935L - 462RL - 919R - 918R - 918L - 919L - 929L - 948 - 864 - 964L - 965L - 962L - 963 - 800 - 966L -				



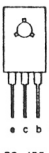
429L-488	498RL-499R	500L-481		429R	-	494R	-	430L-494L	-	49R-490R	-	500R	-	490L-491L-430R	
	541		517		514-511-513		506-508-509		507						
673-737	-	738R	-	433R L	-	607	-	605	-	611-602	-	707R-613	-	601-706	
672-738L	-	742R	-	741L-609	-	670	-	603-748L-733	-	710R-708L-710L	-	694-696R-698R-699R-700R	-	747R-748R	
	742L		674-610	-	608	-	747L	-	604-708R-612	-	709R	-	707L-697R	-	741R
	954L-866	-	951L-950-962L	-	957L	-	860	-	967L	-	906R-904L-912R L-881R-908R-961R-883L-881L-862L-966R-888L-895L				
951R-865	-	955L-956L-961L	-	960L	-	968L	-	964R	-	905L-913R L-882R-866R-883R-963R-899L-891L-887L-894R L					
946-954R-867-952R-958L-868	-	963L	-	801	-	904R	-	906L	-	880-887R-889R-890R-905R-962R-890L-886L-901R L-895R					
54-964L-965L-962L-963	-	800	-	966L	-	908R	-	965R	-	868R-960R-884R-885R-956R-957R-968R-891R-884L-885L-967R					



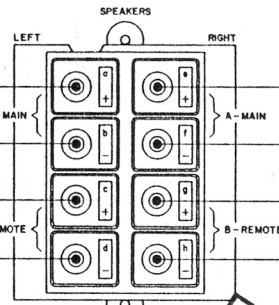
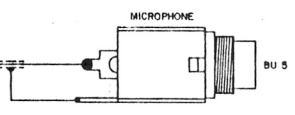
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- BC 548 B
- BC 548 C
- BC 549 B
- BC 558 B
- BC 556



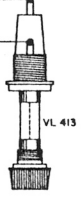
BD 333
BD 334



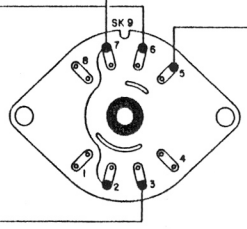
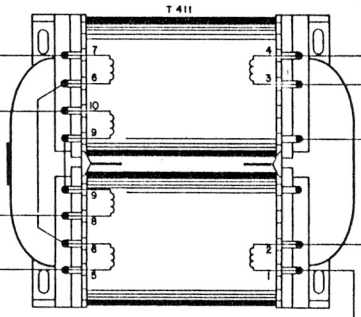
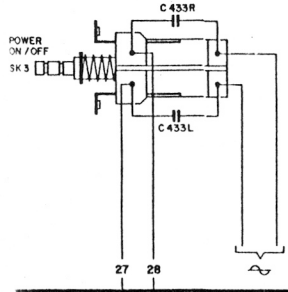
BD 135



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110V - 1,6A
220V - 0,8A



27 28 22 11 9 10 12 29 27 30 28

P

Conjunto Frente	4806 454 47028
Suporte LEDs "Peak Program Meter"	4806 404 67086
Guia das teclas	4806 532 57104
Suporte LEDs (Tuner, Phono, Tape, AUX, MIC)	4806 404 67091
Protetor do transformador	4806 325 87041
Cabo de Rede	4806 321 17018
Porta fusível	4806 256 37004
Conjunto caixa	4806 447 47001
Pé	4806 462 77065
Prolongador da chave seletora	4806 535 97111
Botão de volume	4806 413 37102
Botão (balance, bass, treble, selector)	4806 413 37103
Suporte da mola de teclas	4806 404 67075
Tecla	4806 410 47030
Mola para tecla	4806 492 57116
Placa ornamental	4806 454 47029
Trava (fixação placa ornamental)	4806 413 97013
Arruela fix. TS 429/430	4806 532 17102
Suporte TS 429/430	4806 267 37040
Parafuso fix. TS 429/430	4806 502 17139

E

Conjunto Frente	4806 454 47028
Suporte LEDs "Peak Program Meter"	4806 404 67086
Guia de las teclas	4806 532 57104
Suporte LEDs (Tuner, Phono, Tape, AUX, MIC)	4806 404 67091
Protector del transformador	4806 325 87041
Cordón de Alimentación	4806 321 17018
Porta fusible	4806 256 37004
Conjunto caja	4806 447 47001
Pata	4806 462 77065
Prolongador de la llave selectora	4806 535 97111
Botón de volume	4806 413 37102
Botón (balance, bass, treble, selector)	4806 413 37103
Suporte para resorte de las teclas	4806 404 67075
Tecla	4806 410 47030
Resorte para teclas	4806 492 57116
Placa ornamental	4806 454 47029
Traba (fijación placa ornamental)	4806 413 97013
Arandela fij. TS 429/430	4806 532 17102
Suporte TS 429/430	4806 267 37040
Tornillo fij. TS 429/430	4806 502 17139

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Front Cabinet Assy	4806 454 47028
Support for LEDs "Peak Program Meter"	4806 404 67086
Guide for push-button	4806 532 57104
Support for LEDs (Tuner, Phono, Tape, AUX, MIC)	4806 404 67091
Transformer protector	4806 325 87041
Mains flex	4806 321 17018
Fuse holder	4806 256 37004
Cabinet assy	4806 447 47001
Foot	4806 462 77065
Trailing of the selector switch	4806 535 97111
Volume button	4806 413 37102
Button (balance, bass, treble, selector)	4806 413 37103
Support for push-button spring	4806 404 67075
Push-button	4806 410 47030
Spring for push-button	4806 492 57116
Ornamental plate	4806 454 47029
Clamp (fixacion ornamental plate)	4806 413 97013
Washer fix. TS 429/430	4806 532 17102
Support TS 429/430	4806 267 37040
Screw fix. TS 429/430	4806 502 17139

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