

ADDITIONAL

PIONEER

Service Manual

AM/FM STEREO RECEIVER

SX-590

HG, HGW4

NOTES:

- Although the basic circuit of model SX-590/HG, HGW4 is the same as the SX-580/KU, there are a few minor changes in design.
- For detailed instructions on adjustments, circuit descriptions, exploded views, etc., please refer to the SX-580/KU service manual (ART-288).

Type	Voltage	Remarks
HGW4	200V and 240V (Switchable)	Europe or Oceania model
HG	220V and 240V (Switchable)	United Kingdom model

CONTRAST OF MISCELLANEOUS PARTS

P.C. BOARD ASSEMBLIES

Symbol	Description	Part No.		
		SX-580/KU	SX-590/HGW4	SX-590/HG
	Tuner and AF assembly	GWM-113	GWM-116	GWM-116
	Headphone assembly	GWX-179	GWX-179	GWX-179
	De-emphasis assembly	GWX-180	.....	.....
	Front end	GWB-101	GWB-102	GWB-102
	Terminal assembly	GWX-181	GWX-184	GWX-184
	Fuse assembly	GWX-178	GWX-185	GWX-185
	LED assembly	GWX-177	GWX-177	GWX-177

SWITCHES

Symbol	Description	Part No.		
		SX-580/KU	SX-590/HGW4	SX-590/HG
S8	Push switch (POWER)	ASG-503	ASG-504	ASG-504
S9	Plug in selector	.....	AKX-057	AKX-057

CAPACITORS

Symbol	Description	Part No.		
		SX-580/KU	SX-590/HGW4	SX-590/HG
C1	Ceramic 0.01/250V	ACG-001	ACG-001	ACG-001
C2	Ceramic 0.01/125V	ACG-003	.....	.....

FUSES

Symbol	Description	Part No.		
		SX-580/KU	SX-590/HGW4	SX-590/HG
FU1	Fuse 3A	AEK-101	.....	.....
	Fuse 1.6A	.....	AEK-405	AEK-405
FU2	Fuse 1.5A	AEK-104	.....	.....
	Fuse 1.6A	.....	AEK-405	AEK-405
FU3	Fuse 4A	AEK-100	AEK-400	AEK-400
FU4	Fuse 4A	AEK-100	AEK-400	AEK-400
FU5	Fuse 1A	.....	AEK-402	AEK-402
FU6	Fuse 1A	.....	AEK-402	AEK-402

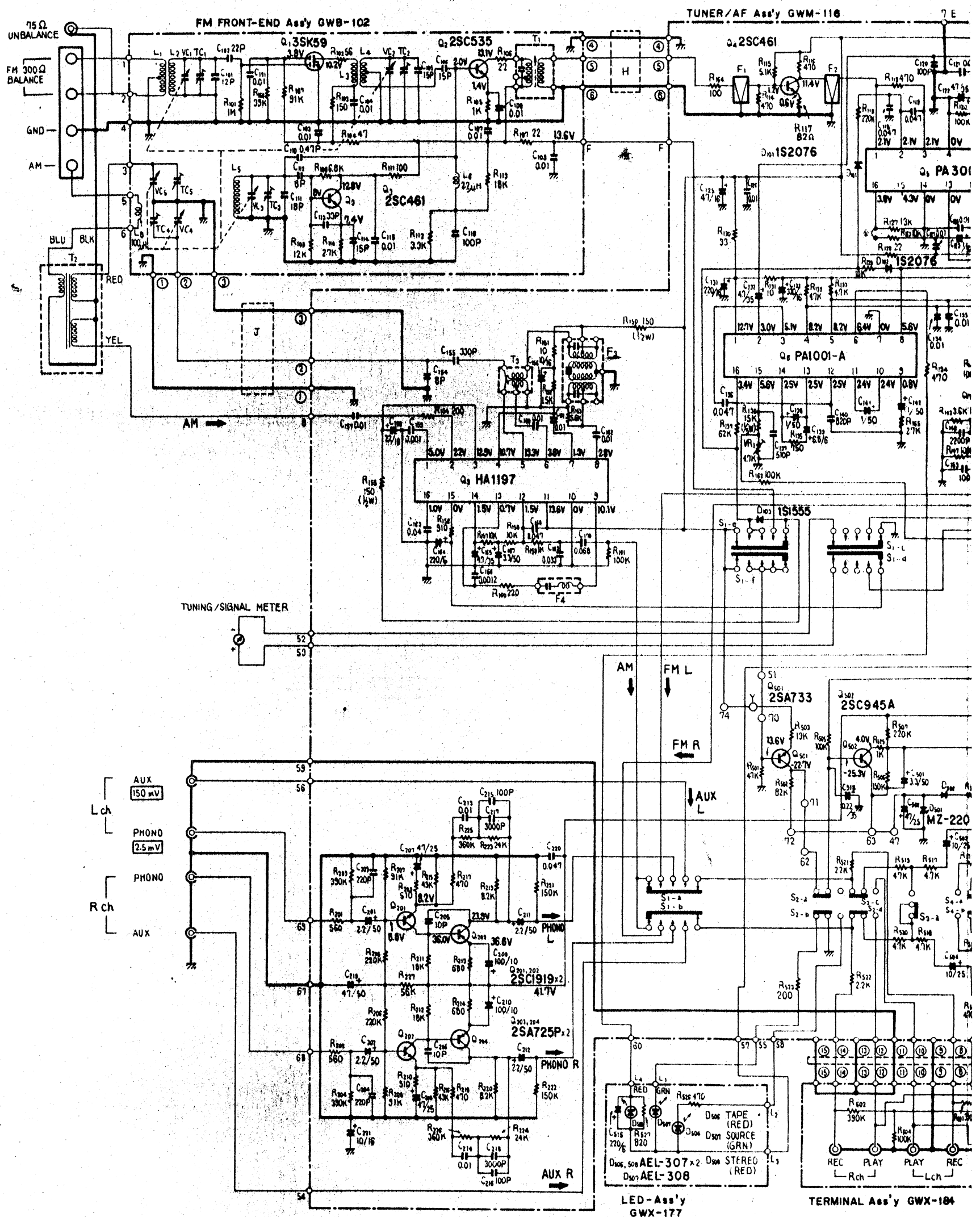
OTHERS

Symbol	Description	Part No.		
		SX-580/KU	SX-590/HGW4	SX-590/HG
T1	Power transformer	ATT-510	ATT-523	ATT-523
	AC socket (AC OUTLET)	AKP-004	.....	.....
	Recessed plug	.....	AKP-008	AKP-008
	Fuse holder 1P	.....	K91-008	K91-008
	Coaxial connector	.....	AKP-016	AKP-016
	AC power cord	ADG-022	.....	.....
	Front panel assembly	ANB-595	ANB-599	ANB-599
	Dial panel	AAG-158	AAG-160	AAG-160
	Wooden cover assembly	AMM-071	.....	.....
	Top plate	.....	ANE-202	ANE-202
	Side board (L)	.....	AMS-029	AMS-031
	Side board (R)	.....	AMS-030	AMS-032
	Cover (for C1)	AEC-294	AEC-099	AEC-099
	Cover (for C2)	AEC-279	.....	.....

PACKING AND FURNISHED PARTS

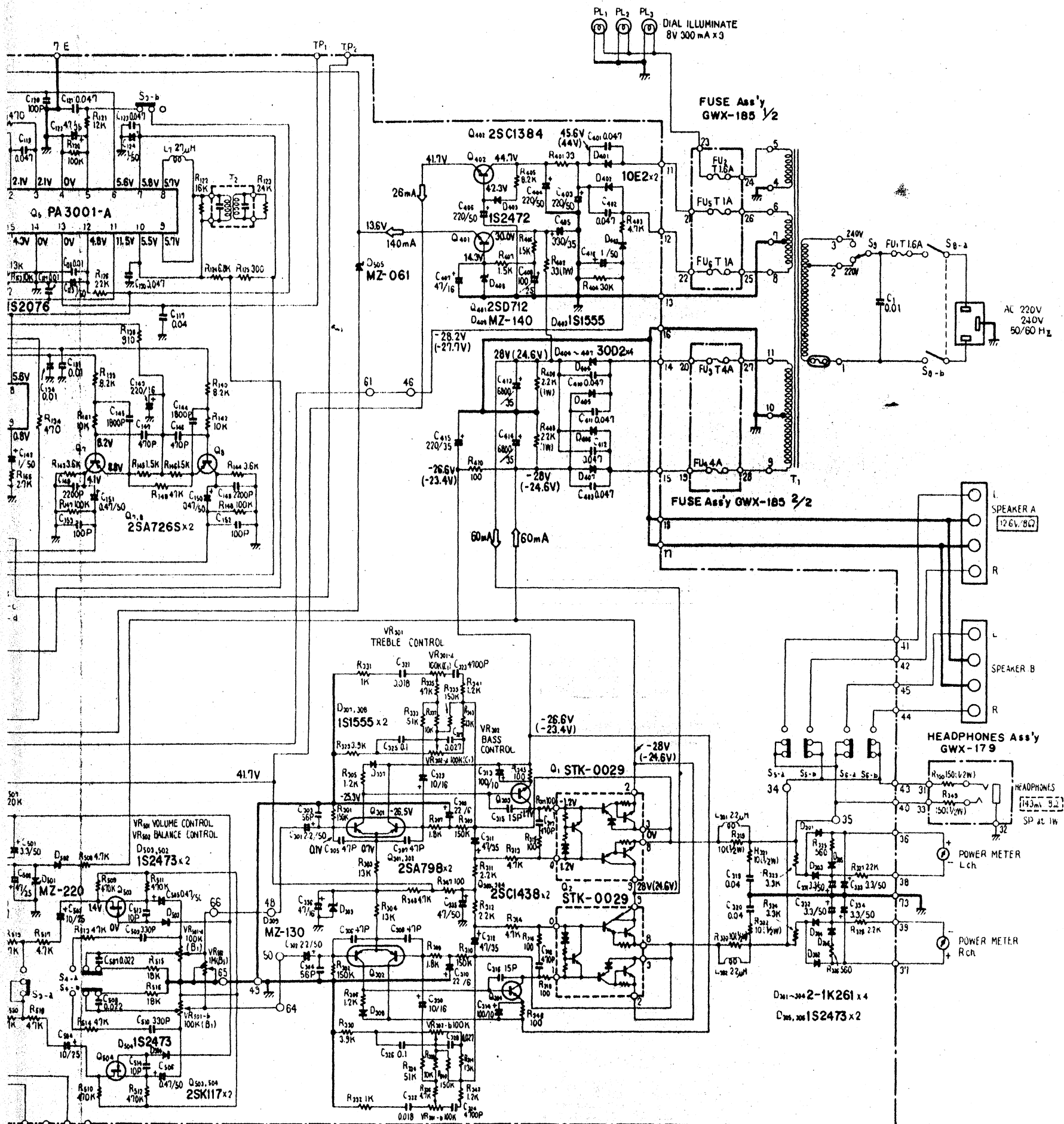
Symbol	Description	Part No.		
		SX-580/KU	SX-590/HGW4	SX-590/HG
	Operating instructions (ENGLISH)	ARB-267	ARB-275	ARB-275
	Operating instructions (GERMAN/FRENCH)	.....	ARD-121	.....
	Packing case	AHD-549	AHD-555	AHD-555
	Vinyl pouch (for AC power cord)	AHG-023	.....	.....

SCHEMATIC DIAGRAM.



NOTE:

The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.



RESISTORS:
IN OHM 1/4W ± 5% TOLERANCE UNLESS OTHERWISE NOTED K:KΩ M:MΩ

CAPACITORS:
IN μF UNLESS OTHERWISE NOTED P:pF

V : SIGNAL VOLTAGE AT 20W + 20W 8Ω OUTPUT (1KHz)

V : DC VOLTAGE AT NO INPUT SIGNAL

mA : DC CURRENT AT NO INPUT SIGNAL

(V) : DC VOLTAGE AT 20W OUTPUT

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

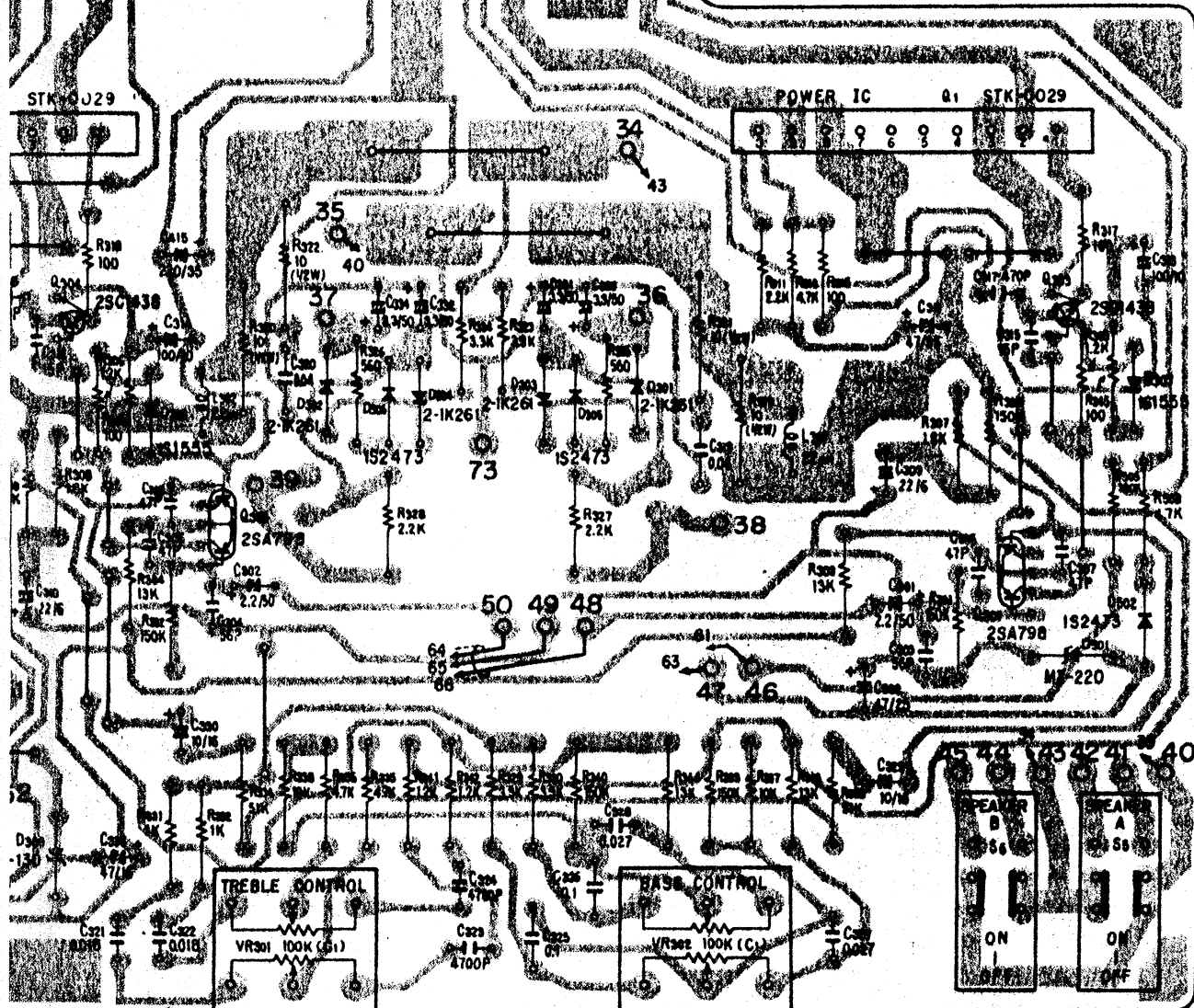
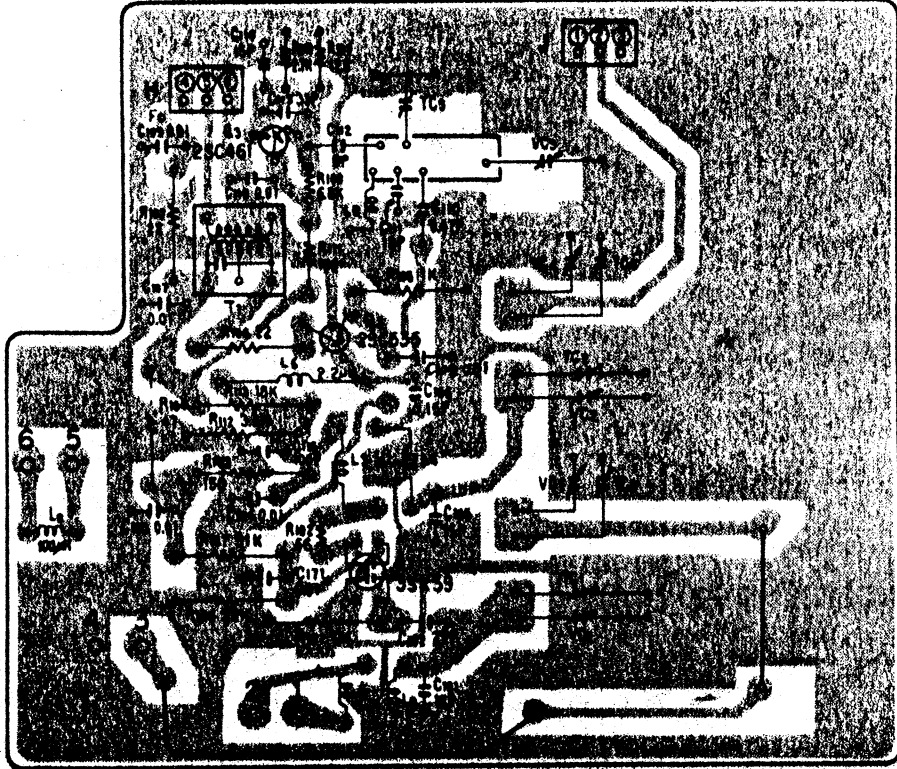
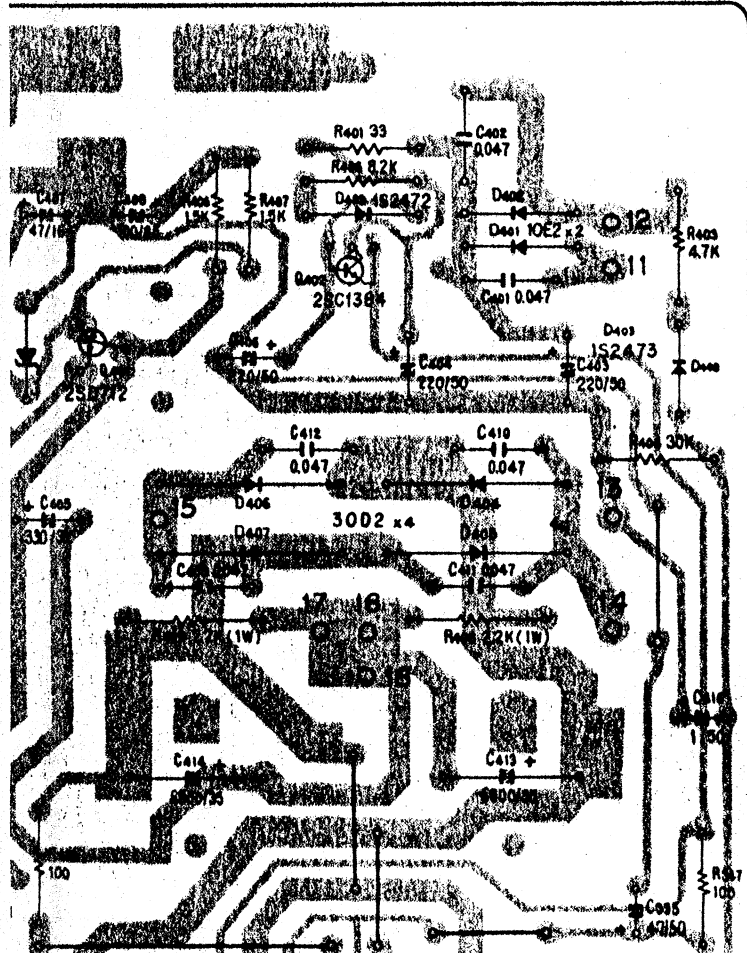
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ASSEMBLY (GWM-116)

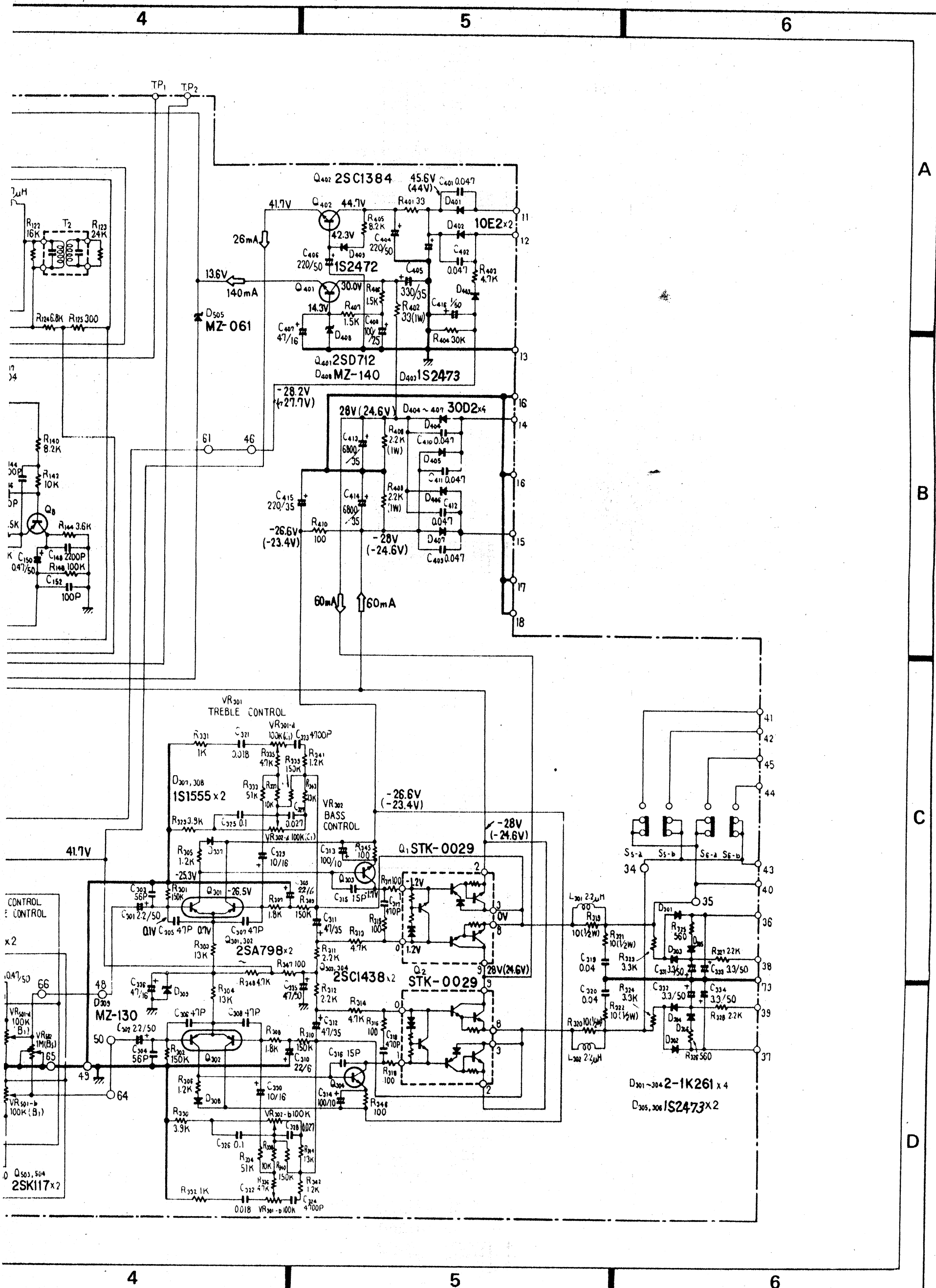
FRONT-END ASSEMBLY (GWB-102)



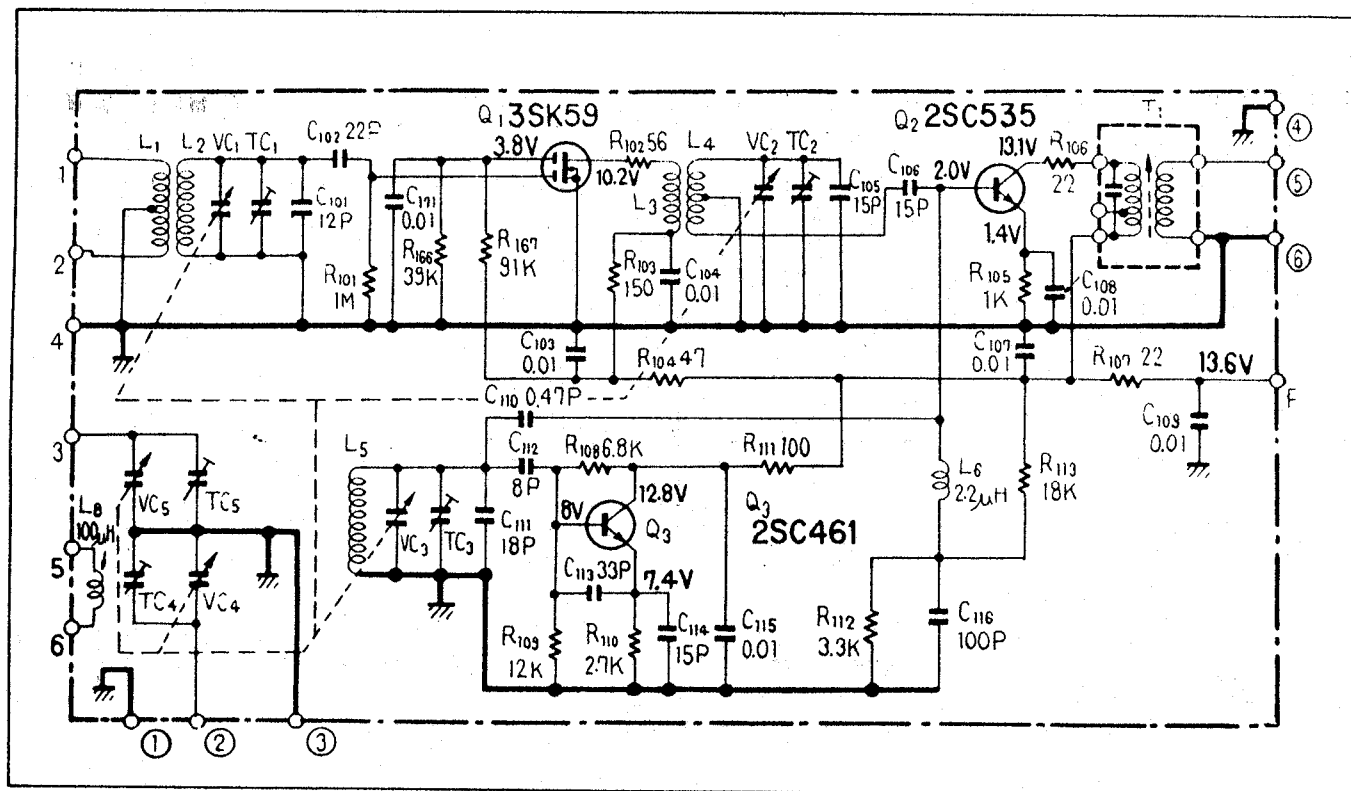
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FRONT END ASSEMBLY (GWB-102)



Parts List

SEMICONDUCTORS

Part No.	Symbol & Description
3SK59-Y or GR	Q1
2SC535-A or B	Q2
2SC461-B or C	Q3

TRANSFORMER AND COILS

Part No.	Symbol & Description
ATE-039	T1 FM IF transformer
T24-028	L6 RF choke coil 2.2μH
T24-030	L8 RF choke coil

RESISTORS

Part No.	Symbol & Description
RD4PS □□□ J	R101, R103-R107, R113, R166, R167
RD4VS □□□ J	R111, R102, R108-R110

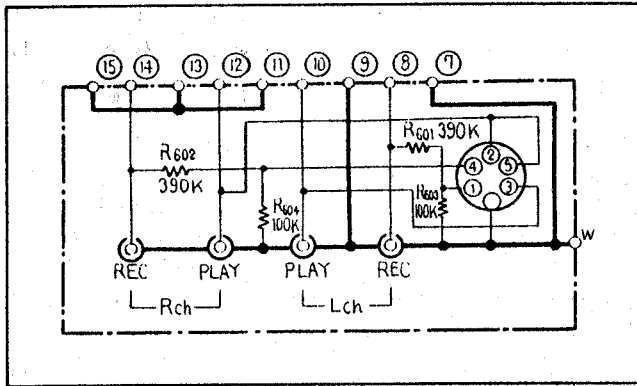
CAPACITORS

Part No.	Symbol & Description
CCDUJ 120K 50	C101
CCDSL 220K 50	C102
CKDYF 103Z 50	C103, C104, C107-C109, C115, C171
CCDUJ 150K 50	C105
CCDSL 150K 50	C106
CGB R47K 500	C110
CCDPH 180K 50	C111
CCDLH 080F 50	C112
CCDCH 330K 50	C113
CCDCH 150K 50	C114
CCDSL 101K 50	C116

ACK-012	VC	Tuning capacitor
ACM-006	TC3	Ceramic trimmer

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

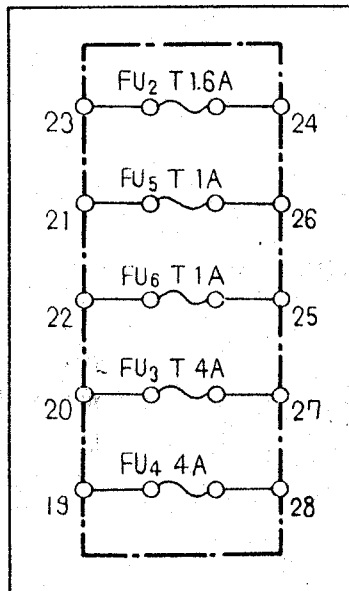
TERMINAL ASSEMBLY (GWX-184)



Parts List

Part No.	Symbol & Description
AKB-045	Terminal (TAPE)
AKP-011	DIN connector
RD¼PS 394J	R601, R602
RD¼PS 104J	R603, R604

FUSE ASSEMBLY (GWX-185)

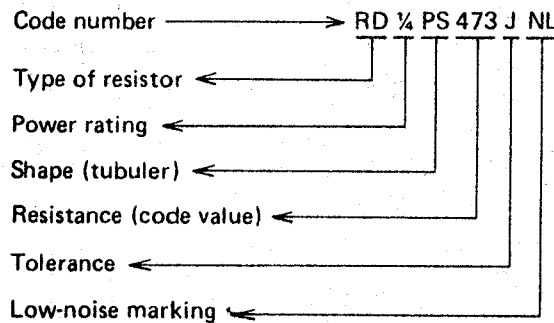


Parts List

Part No.	Symbol & Description
AKR-010	Fuse clip

RESISTANCE VALUE CODES

Code numbers of resistors used in Pioneer equipment are expressed in the following way:—



Furthermore, in the list of parts found in the Service Manual, the resistance (code value) part of the above code number is expressed as □□□ or □□□□.

Resistors included in the Service Manual list of parts

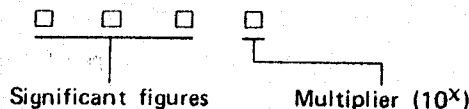
Ex. RD ¼ PS □□□ JNL

When ordering resistor components, first ascertain the actual resistance value from the circuit diagram, and then convert it into code no. form as shown in the following examples.

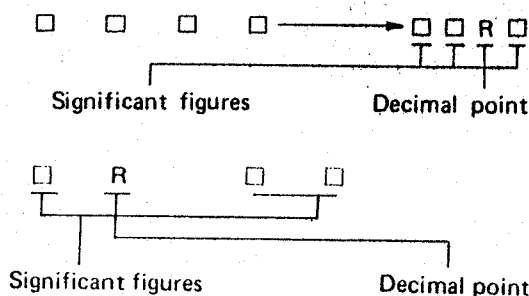
For further details on code numbers, refer to "Tuning Fork" VOL. 1.

Ex. 1 For □□□□ Codes

* General resistors



* Resistors with fractional values

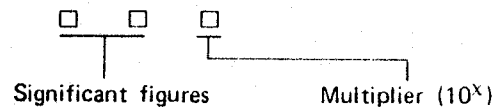


Ex. 1

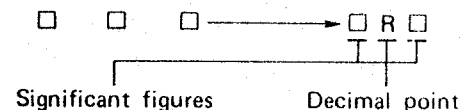
Nominal resistance (Ω)	Significant figure (three figures)	Multiplier (10 ^x)	Resistance value code
5.1	510	.....	5R10
5.62	562	.....	5R62
10	100	.....	10R0
22.5	225	.....	22R5
110	110	x10 ⁰	1100
1k (1000)	100	x10 ¹	1001
1.56k (1560)	156	x10 ¹	1561
10k (10000)	100	x10 ²	1002
33.6k (33600)	336	x10 ²	3362
112k (112000)	112	x10 ³	1123
1M (1000000)	100	x10 ⁴	1004
1.56M (1560000)	156	x10 ⁴	1564

Ex. 2 For □□□ Codes

* General resistors



* Resistors with fractional values



Ex. 2

Nominal resistance (Ω)	Significant figure (two figures)	Multiplier (10 ^x)	Resistance value code
0.5	05	.....	0R5
1.5	15	.....	1R5
1	01	x10 ⁰	010
22	22	x10 ⁰	220
330	33	x10 ¹	331
1k (1000)	10	x10 ²	102
5.6k (5600)	56	x10 ³	562
68k (68000)	68	x10 ³	683
820k (820000)	82	x10 ⁴	824
1M (1000000)	10	x10 ⁵	105
2.2M (2200000)	22	x10 ⁵	225

Parts List of Tuner and AF assembly (GWM-116)
SWITCHES

Part No.	Symbol & Description	
ASE-107	S1	Slide rotary (FUNCTION)
ASG-137	S2, S3	Dual push (TAPE MON., MODE/FM MUTE)
ASG-138	S4	Push (LOUDNESS)
ASG-139	S5, S6	Dual push (SPEAKERS)

TRANSFORMERS AND COILS

Part No.	Symbol & Description	
ATE-040	T2	FM transformer
ATB-013	T3	AM OSC coil
ATF-013	F1, F2	FM ceramic filter
ATF-034	F3	AM ceramic filter
ATF-038	F4	455kHz filter
ATH-022	L7	RF choke coil 27 μ H

CAPACITORS

Part No.	Symbol & Description	
CKDYF 403Z 50	C117, C163	
CKDYF 473Z 50	C118, C119, C121, C123, C130, C168	
CCDSL 101K 50	C120, C152, C153	
CEA 4R7P 16	C122, C132, C165	
CEA 010P 50	C124, C129, C142	
CEA 470P 16	C125	
CKDYF 103Z 50	C126-C128, C157, C160-C162	
CEA 221P 16	C131, C143	
CEA 331P 16	C133	
CKDYA 103J 50 (CQMA 103J 50)	C134, C135	
CQMA 473K 50	C136	
CQSH 511J 50	C137	
CEANL 010M 50	C138, C141	
CSZA 6R8M 6	C139	
CKDYB 821K 50	C140	
CKDYB 182K 50	C144, C145	
CKDYB 471K 50	C146, C147	
CKDYB 222K 50	C148, C149	
CEA R47P 50	C150, C151	
CCDXL 080F 50	C154	
CQSH 331J 50	C155	
CEA 100P 16	C156	
CEA 220P 16	C158	
CKDYB 102K 50	C159	
CKDYB 122K 50	C166	
CEA 3R3P 50	C167	
CQMA 333K 50	C169	
CQMA 683K 50	C170	
CEA 221P 6	C164	

Part No.	Symbol & Description	
CEANL 2R2P 50	C201, C202, C211, C212	
CCDSL 221K 50	C203, C204	
CCDSL 100F 50	C205, C206	
CEANL 470P 25	C207, C208	
CEA 101P 10	C209, C210	
CKDYA 103J 50 (CQMA 103J 50)	C213, C214	
CCDSL 101K 50	C215, C216	
CKDYA 302J 50 (CQMA 302J 50)	C217, C218	
CEA 470P 50	C219	
CKDYF 473Z 50	C220	
CEANL 2R2P 50	C301, C302	
CCDSL 560K 50	C303, C304	
CCDSL 470K 50	C305-C308	
CEA 220P 6	C309, C310	
CEA 470P 35	C311, C312	
CEA 101P 10	C313, C314	
CCDSL 150K 50	C315, C316	
CCDSL 471K 50	C317, C318	
CCDYF 403Z 50	C319, C320	
CQMA 183J 50	C321, C322	
CQMA 472J 50	C323, C324	
CQMA 104J 50	C325, C326	
CQMA 273J 50	C327, C328	
CEANL 100P 16	C329, C330	
CEA 3R3P 50	C331-C334	
CEA 470P 50	C335	
CEA 470P 16	C336	
ACG-009	C401, C402, C409-412	
	Ceramic	0.047/150V
CEA 221P 50	C403, C404, C406	
CEA 470P 16	C407	
CEA 101P 25	C408	
ACH-201	C413, C414	Electrolytic 6800/35V
CEA 221P 35	C415	
CEA 331P 35	C405	
CEA 0R1P 50	C416	
CEA 3R3P 50	C501	
CEA 470P 25	C502	
CEANL 100P 25	C503, C504	
CEANL R47M 50	C505, C506	
CQMA 223J 50	C507, C508	
CCDSL 331K 50	C509, C510	
CCDSL 100K 50	C513, C514	
CSZA R22M 35	C518	

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

RESISTORS

Part No.	Symbol & Description
RD%PS 000 J	R114-R135, R137-R149, R151-R154 R156-R163
RD%PS 000 J	R201-R204, R209-R227
RD%PS 000 J	R301-R314, R323-R348
RD%PS 000 J	R403-R407
RF%PS 000 J	R401, R410, R315-R318, R347

