

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

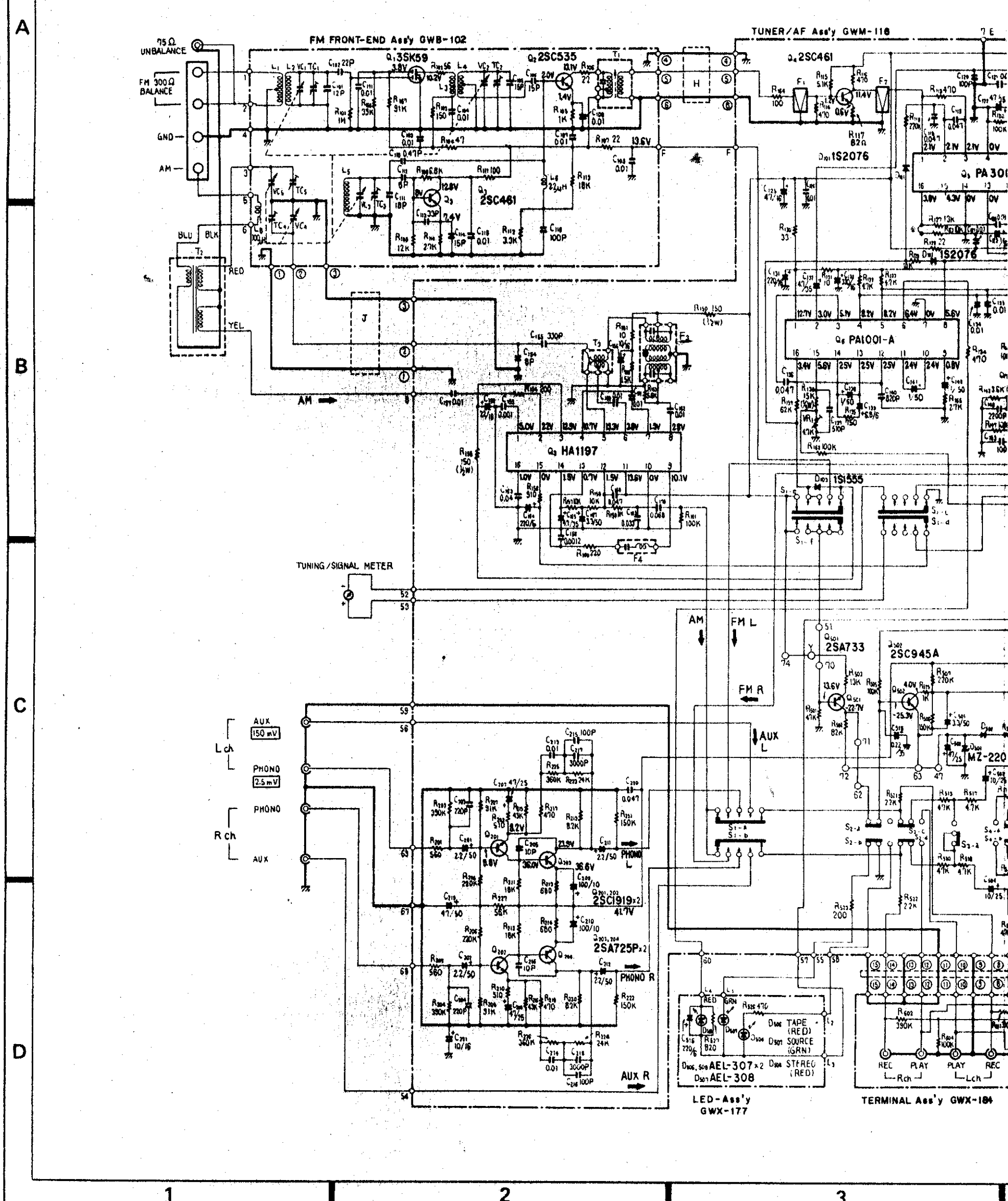
OTHERS

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	.....	.....

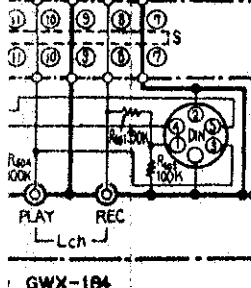
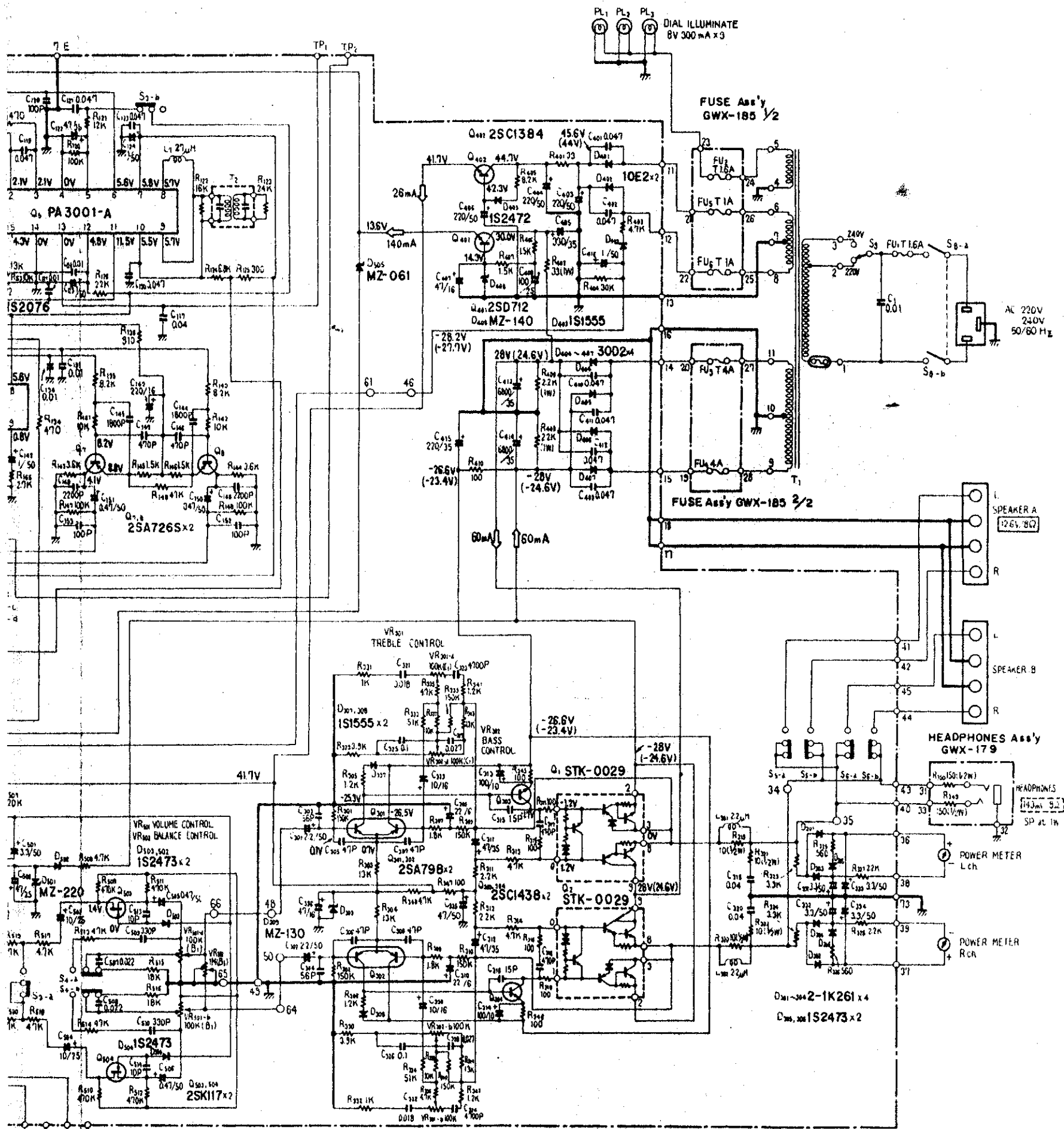
PACKING AND FURNISHED PARTS

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.



- SWITCHES:**
- S₁: FUNCTION
 - 1. AM
 - 2. FM
 - 3. PHONO
 - 4. AUX
 - S₂: TAPE MONITOR OFF - ON
 - S₃: FM MUTE / MODE ON / STEREO - OFF / MONO
 - S₄: LOUDNESS OFF - ON
 - S₅: SPEAKER A OFF - ON
 - S₆: SPEAKER B OFF - ON
 - S₇: POWER OFF - ON
 - S₈: LINE VOLTAGE SELECTOR 220V - 240V

- 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

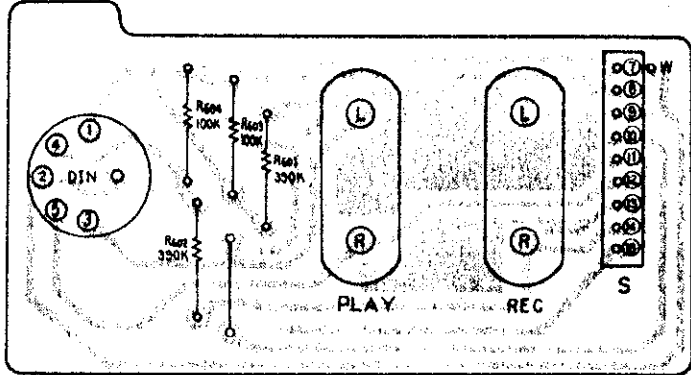
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

A
B
C
D

P.C. BOARD PATTERNS

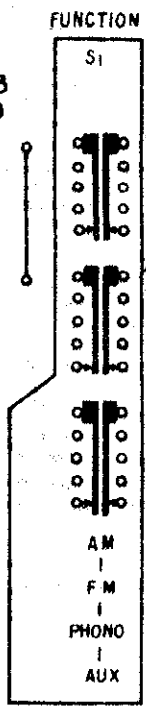
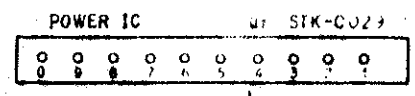
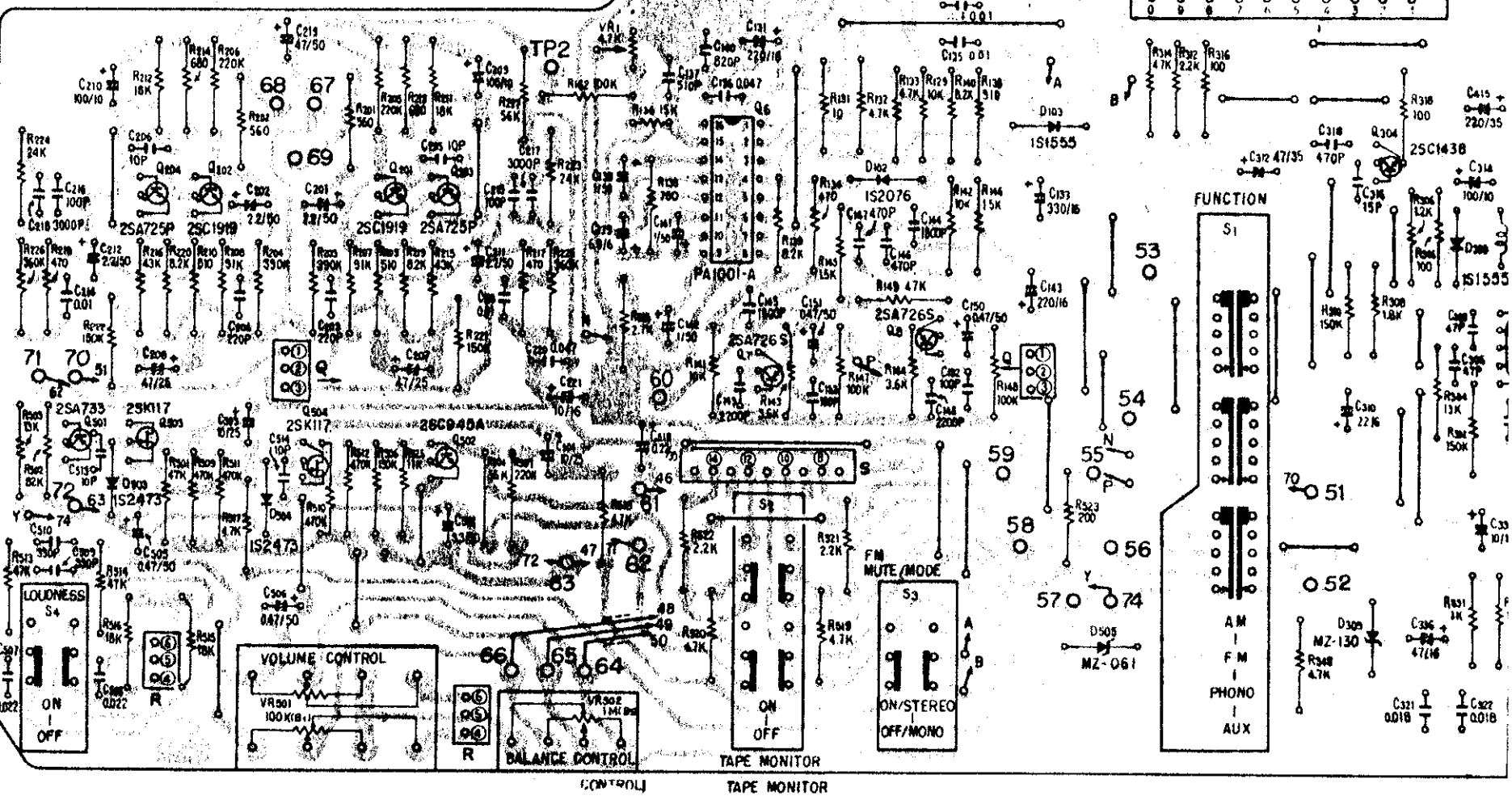
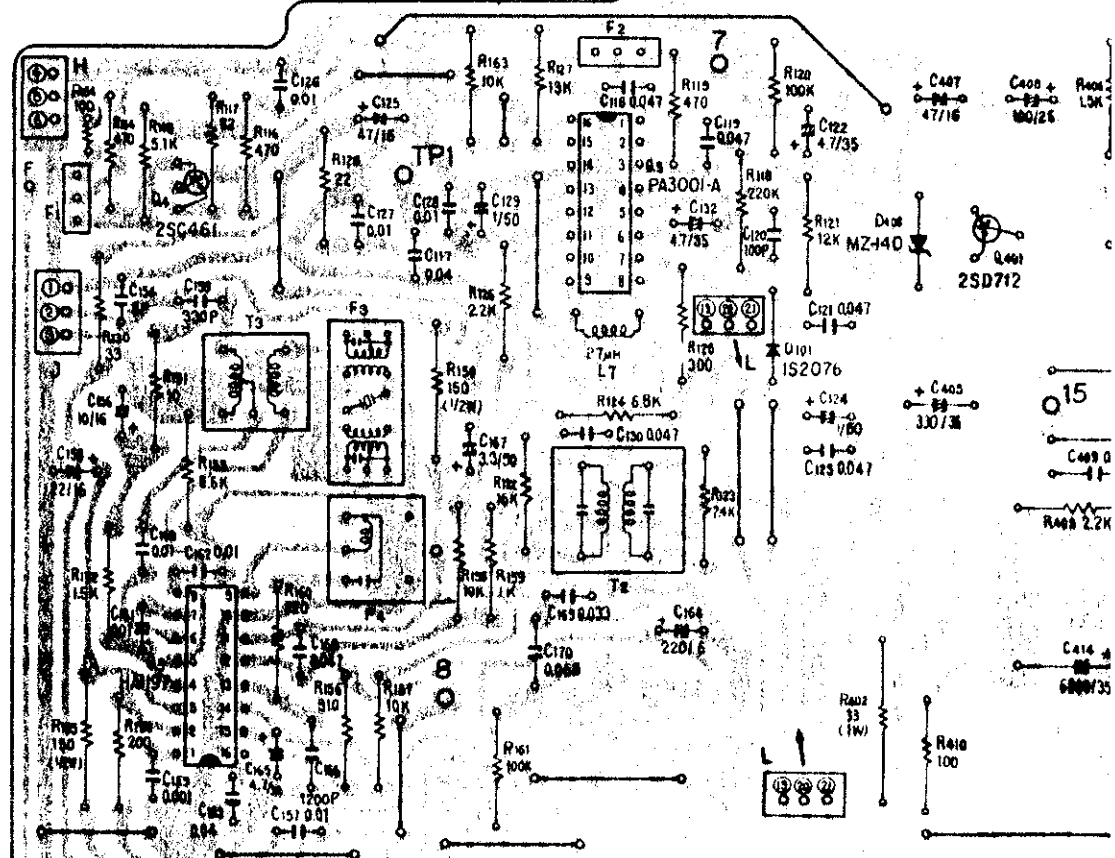
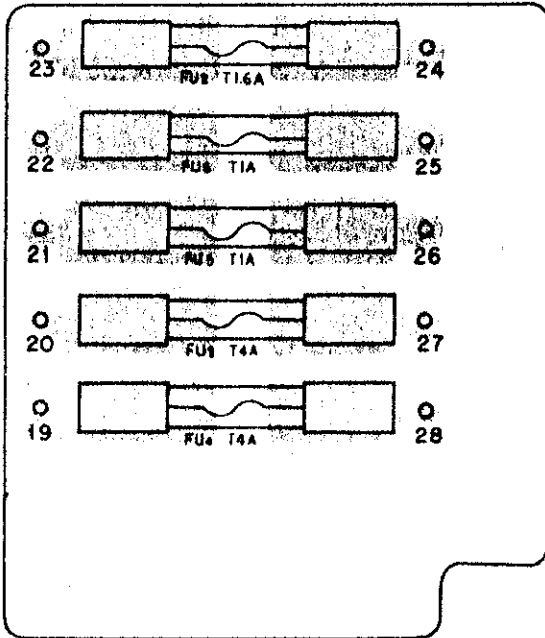
1 2 3

TERMINAL ASSEMBLY (GWX-184)



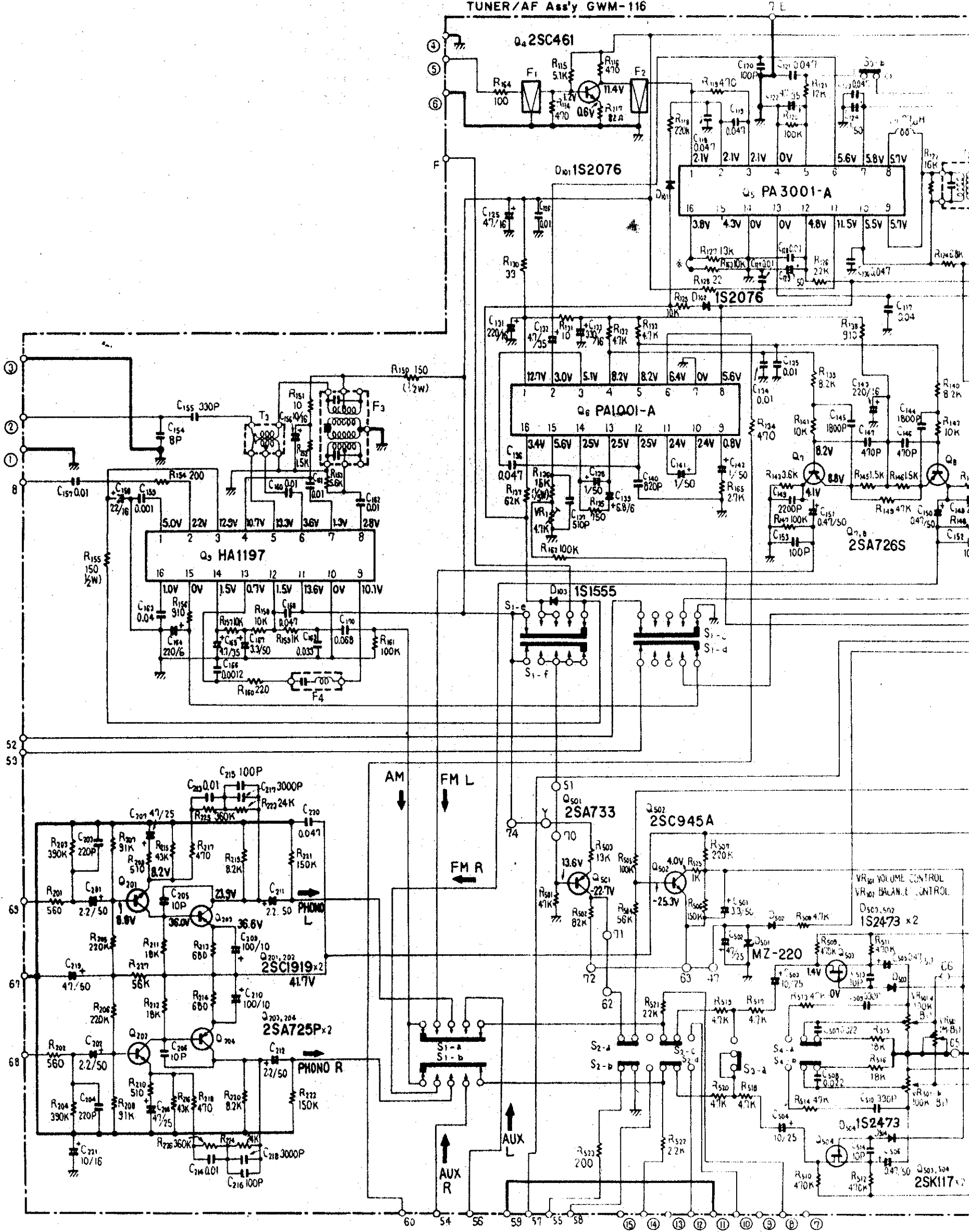
TUNER AND AF ASSEMBLY

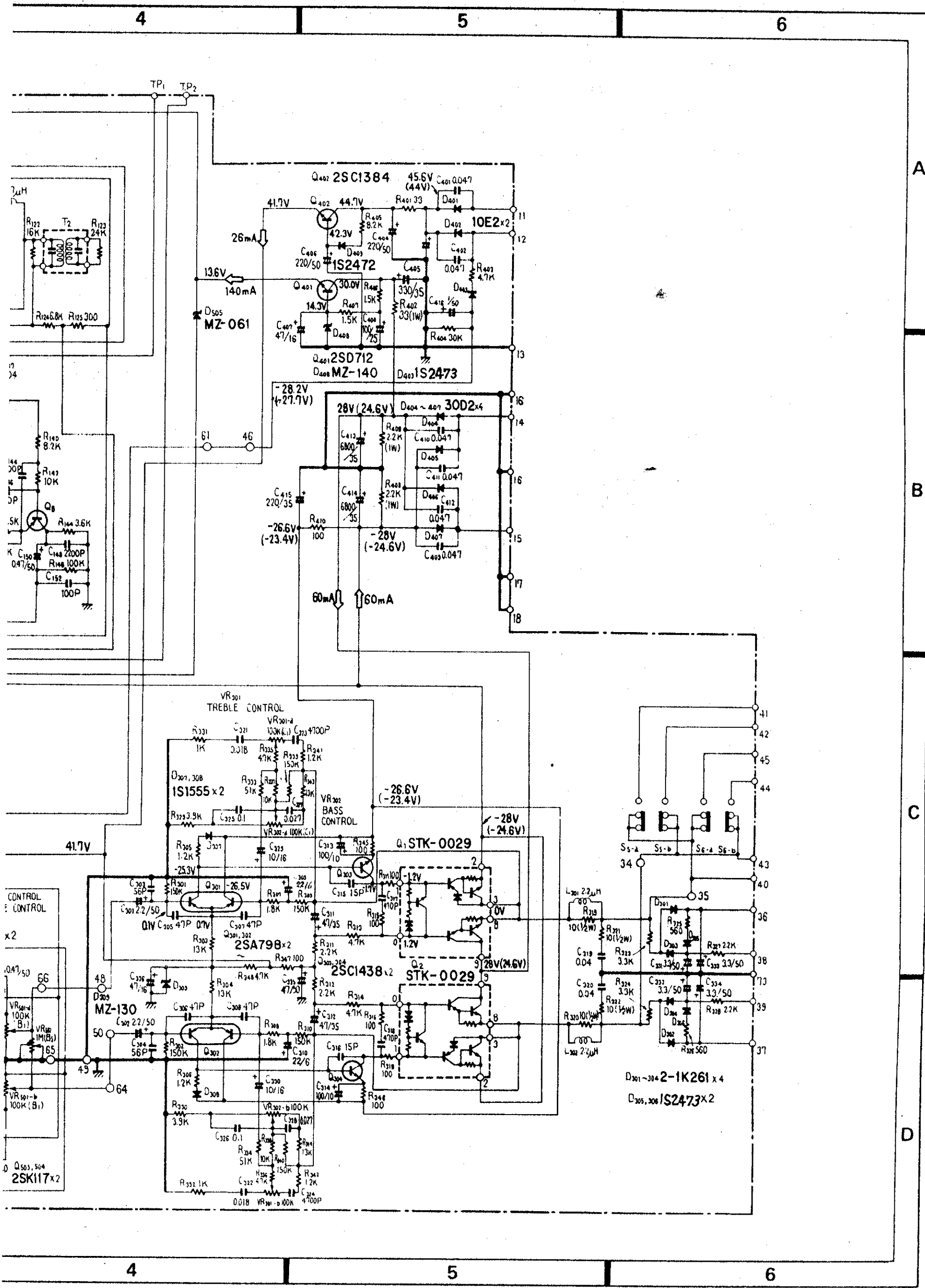
FUSE ASSEMBLY (GWX-185)



TUNER AND AF ASSEMBLY (GWM-116)

TUNER/AF Ass'y GWM-116





4

5

6

A

B

C

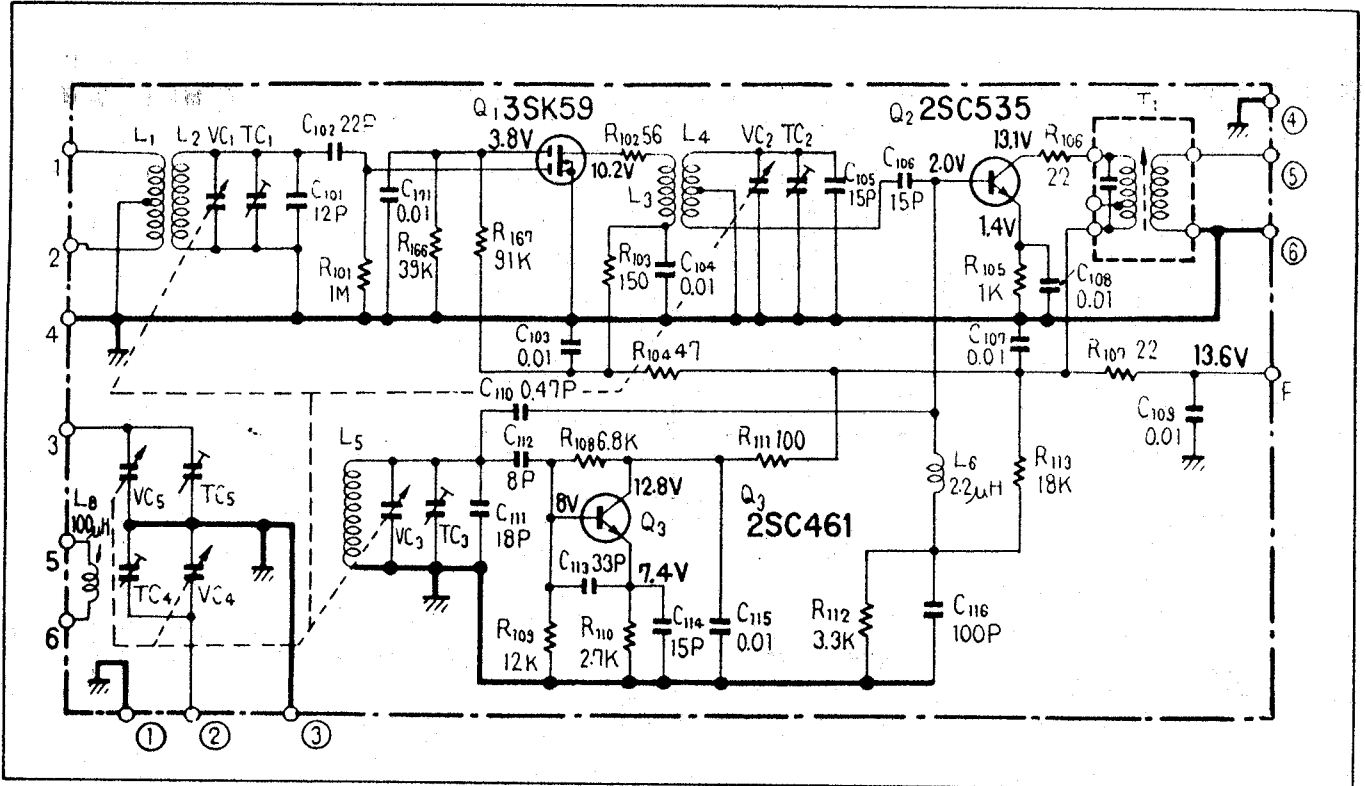
D

4

5

6

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
RD%PS □□□ J	R101, R103-R107, R113, R166, R167
RD%VS □□□ J	R111, R102, R108-R110

CAPACITORS

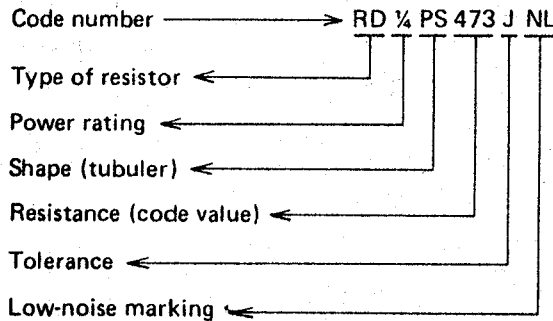
Part No.	Symbol & Description
CCDUJ 120K 50	C101
CCDSL 220K 50	C102
CKDYF 103Z 50	C103, C104, C107-C109, C115, C171
CCDUJ 150K 50	C105
CCDSL 150K 50	C106
CGB R47K 500	C110
CCDPH 180K 50	C111
CCDLH 080F 50	C112
CCDCH 330K 50	C113
CCDCH 150K 50	C114
CCDSL 101K 50	C116

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.

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

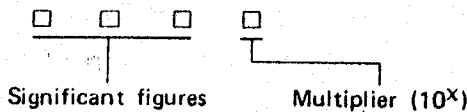
Ex. RD ¼ PS □□□ JNL

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.

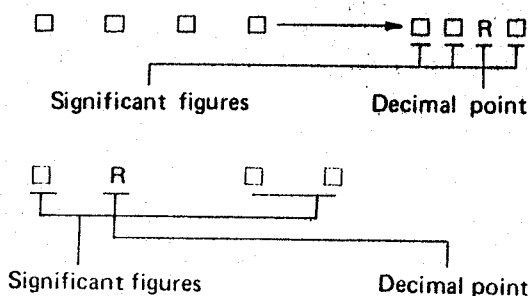
For further details on code numbers, refer to "Tuning Fork" VOL. 1.

Ex. 1 For □□□□ Codes

* General resistors



* Resistors with fractional values

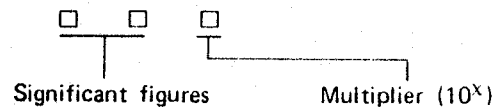


Ex. 1

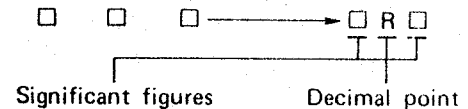
Nominal resistance (Ω)	Significant figure (three figures)	Multiplier (10 ^x)	Resistance value code
5.1	510	.....	5R10
5.62	562	.....	5R62
10	100	.....	10R0
22.5	225	.....	22R5
110	110	x10 ⁰	1100
1k (1000)	100	x10 ¹	1001
1.56k (1560)	156	x10 ¹	1561
10k (10000)	100	x10 ²	1002
33.6k (33600)	336	x10 ²	3362
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 27μH

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

