

3408



In this photo you can see Model SA-6800

Service Manual

STEREO AMPLIFIER

SA-6800

SA-608

SA 6800 / 608

 PIONEER®

Both Model SA-6800 and Model SA-608 have the same basic performance. The major difference is in appearance, Model SA-6800 being fitted with wooden side cover and top cover, while Model SA-608 employs metal cover. The following table is displayed on the SA-6800 and SA-608.

MODEL SA-6800

Type	Voltage	Remarks
KU	120V only	U.S.A. model
KC	120V only	Canada model

MODEL SA-608

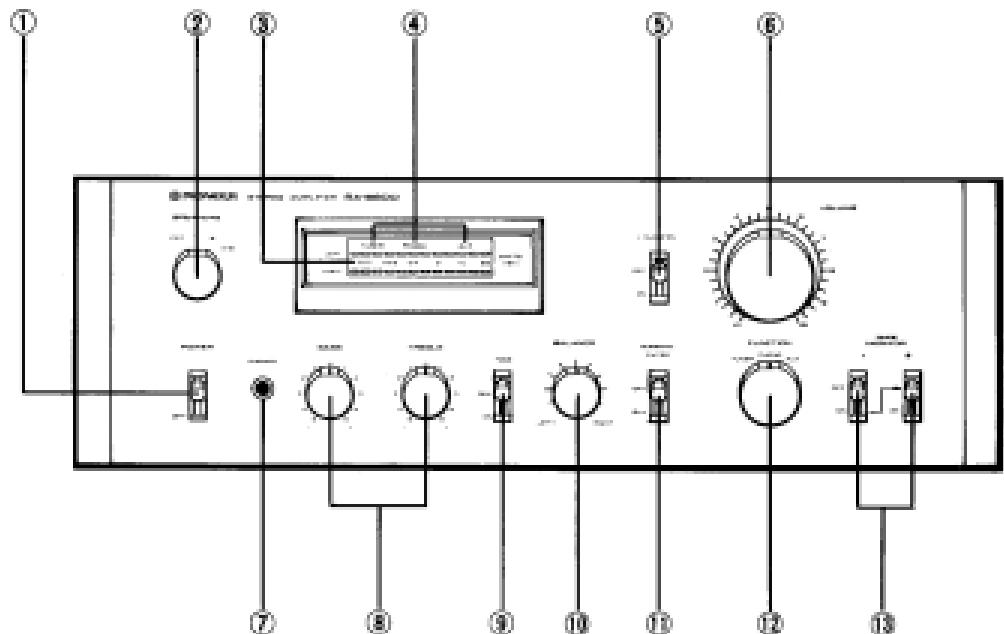
Type	Voltage	Remarks
KU	120V only	U.S.A. model
S	110V, 120V, 220V, and 240V (Switchable)	General export model
S/G	110V, 120V, 220V, and 240V (Switchable)	U.S. Military model
HE	220V and 240V	Europe model
HB	220V and 240V	United Kingdom model
HP	220V and 240V	Oceania model

- This service manual is applicable to the KU type of the Model SA-6800 and the Model SA-608. When repairing the KC type of the Model SA-6800 and the S, S/G types of the Model SA-608, please see the additional service manual (ART-370), and for HE, HB, HP types of the SA-608, please see the additional service manual (ART-371).

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2. FRONT PANEL FACILITIES



① POWER SWITCH

Set this switch to ON to supply power to the amplifier.

② SPEAKER SELECTOR

Use this selector to select the speaker systems.

OFF: Sound not obtained from speakers.

A: Sound obtained from speakers connected to the A speaker terminals.

B: Sound obtained from speakers connected to the B speaker terminals.

A+B: Sound obtained from speakers connected to both A and B speaker terminals.

③ POWER METER

This meter allows you to read out the rated power level on the fluorescent display tube when speakers with a nominal impedance of 8 ohms are connected to the amplifier's speaker terminals.

④ FUNCTION INDICATORS

The TUNER, PHONO, AUX function indicators light up in accordance with the position of the function selector.

NOTE:

The function indicator will not go off even when the tape monitor switch 1 or 2 is set to ON.

⑤ LOUDNESS SWITCH

When listening to a performance with the volume control turned down, set this switch to ON and the bass and treble will be accentuated.

When the volume is low, the human ear finds it harder to hear the bass and treble than when the volume is high. The loudness switch is thus designed to compensate for this deficiency. By setting it to ON, the bass and treble come through much more strongly and the sound takes on a punch even when the volume control is turned down.

When the SUBSONIC switch is turned ON, the subsonic filter is activated.

⑥ VOLUME CONTROL

Use this control to adjust the output level to the speakers and headphones. Turn it clockwise to increase the output level. No sound will be heard if you set it to "0".

⑦ HEADPHONE JACK

Plug the headphones into this jack when you want to listen through your stereo headphones.

NOTE:

Set the speaker selector to OFF when listening only with headphones.

⑧ BASS AND TREBLE CONTROLS

Use these controls to adjust the bass and the treble. If you set the tone switch to ON and turn the bass control to right from its center position, you will be able to emphasize the sound in the low-frequency range. Conversely, turning the bass control to the left from the center position, you will attenuate the sound.

You can use the treble control to adjust the sound in the high-frequency range.

⑨ TONE SWITCH

Set this switch to ON when adjusting the bass and treble controls. When set to OFF, the tone control circuits are disengaged and frequency response is flat. This function is convenient for checking phono cartridge and speaker tone quality and listening room acoustics.

⑩ BALANCE CONTROL

Use this control to balance the volume of the left and right channels. If the sound appears to be louder on the right, it means that the volume of the right channel is higher. Turn the balance control to the left and adjust.

Conversely, if the sound appears to be louder on the left, it means that the volume of the left channel is higher. Therefore, turn the balance control to the right and adjust.

SUBSONIC FILTER SWITCH

⑪ SUBSONIC FILTER SWITCH

When this switch is set to the 15Hz position, the subsonic filter with a cut-off frequency of 15Hz is actuated. The subsonic filter serves to attenuate frequencies lower than 15Hz in a 6dB/oct slope. It is therefore effective in suppressing ultra-low-frequency noise which is generated by record warp and other causes. You cannot actually hear this noise but it is a factor in the generation of intermodulation distortion and it may damage your speaker system. Set this switch to the 15Hz position during record play for the best effect.

⑫ FUNCTION SELECTOR

Use this selector to select the program source. When set, the function indicator above the meter panel corresponding to the position of the function selector will light up.

TUNER: Set here when listening to broadcasts on a tuner connected to the TUNER jacks. (The TUNER function indicator lights up.)

PHONO: Set here when playing records on a turntable connected to the PHONO jacks. (The PHONO function indicator lights up.)

AUX: Set here when listening to a program source which is connected to the AUX jacks.

(The AUX function indicator lights up.)

⑬ TAPE MONITOR SWITCHES (1, 2)

Use these switches to monitor recording or a tape being played back on a tape deck.

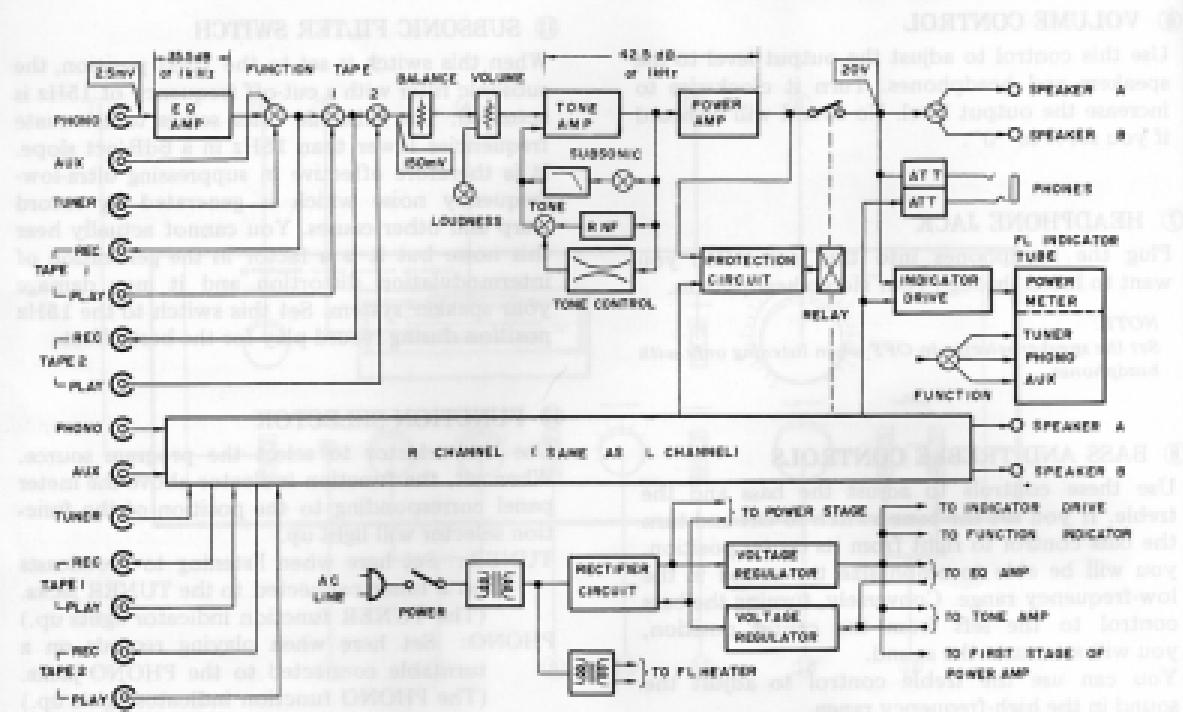
1: Set this switch to ON when you want to monitor a recording or a tape being played back on a tape deck which is connected to the TAPE 1 jacks.

2: Set this switch to ON when you want to monitor a recording or a tape being played back on a tape deck which is connected to the TAPE 2 jacks.

NOTE:

Set these switches to the upper (OFF) position when playing records or listening to broadcasts.

3. BLOCK DIAGRAM



4. CIRCUIT DESCRIPTIONS

Equalizer Amplifier

This circuit is an NFB type equalizer amplifier, with one high-performance IC (TA7136P1) in both L and R channels. The circuit diagram is shown in Fig. 4-1.

The input signal is applied to pin no. 2 of the IC, and the output signal is taken from pin no. 6. Pin no. 3 is the NFB in terminal. NFB is applied from pin no. 6. An equalization deviation of $\pm 0.3\text{dB}$ (30Hz-15kHz) has been achieved by using 1% tolerance metal film resistors at R1, R2, and R3. The IC supply voltage are $+19.9\text{V}$ and -18.9V . Allowable input is 180mVrms (at 1kHz, THD 0.02%).

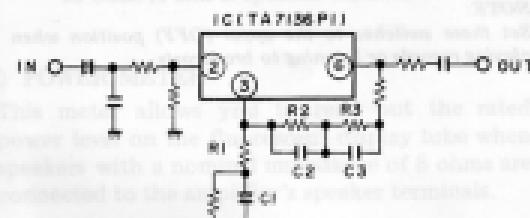


Fig. 4-1 Equalizer amplifier

Tone Control Circuit

Fig. 4-2 shows the basic tone control circuit. This circuit is an NFB type tone control, with IC (TA7136P1), and incorporates the subsonic filter.

Tone control (BASS, TREBLE) is accomplished by providing the tone amplifier NFB circuit with a frequency selectivity characteristic. The NFB circuit is changed to a flat frequency characteristic when the TONE switch is in the OFF position.

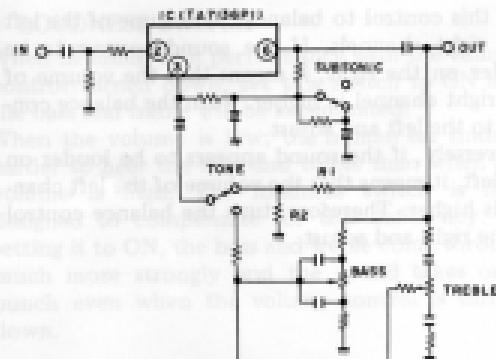


Fig. 4-2 Tone control circuit

When the SUBSONIC switch is turned ON position, the tone amplifier constitutes a high pass filter with a cutoff frequency (-3dB point) of 15Hz.

Power Amplifier

The basic circuit arrangement of power amplifier is shown in Fig. 4-3. The first stage is a differential amplifier (Q_1), the load circuit of which is a current mirror employing an NPN twin transistor (Q_2). The current mirror provides push-pull operation in this stage, which serves to cancel even numbered harmonics and further increase gain.

The pre-driver stage (Q_3 , Q_4) is a differential amplifier with a current mirror circuit (D_3 , Q_5), which enables stable operation and provides high voltage gain.

The power stage is a Darlington connection pure complementary SEPP circuit, and has an output of 45W (8Ω load, at both channels driven, THD 0.02%, 20Hz-30kHz).

Indicator Circuit

The SA-6800 output power and function indicators feature fluorescent indicator tube (FL tube). In this tube, thermionic emissions from the cathode are accelerated into the fluorescent substance of the segmental anodes, resulting in the emission of light. This tube is used to indicate numerals, letters, and other symbols.

An outline of the FL tube drive circuit is shown in Fig. 4-4. The output circuit signal is applied to pin no. 6 (4) of the IC (TA7318P-A). The IC contains a detector circuit, compressor (40dB), and peak hold circuit for both left and right chan-

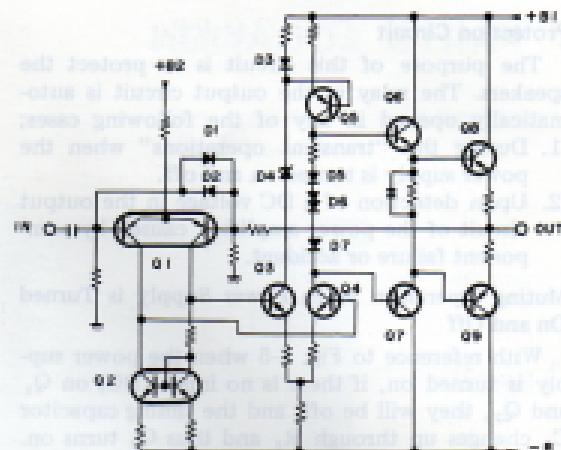


Fig. 4-3 Power amplifier

nels. The dynamic range of the signal is thus contracted by 40dB to obtain a "peak held" DC voltage.

The output power indicator segments of the FL tube are driven by the HA12010 ICs (one for each channel) equipped with 12 pairs of differential amplifiers. These amplifiers are biased at increasing levels, so each amplifier will commence to operate separately as the input level increases. And since these amplifiers apply the voltages to the output power indicator segments, each successive segment will light up in turn as the input level rises.

The function indicators are lit up as a result of a voltage being applied to the corresponding function indicator segment according to the selected positions of the FUNCTION switch.

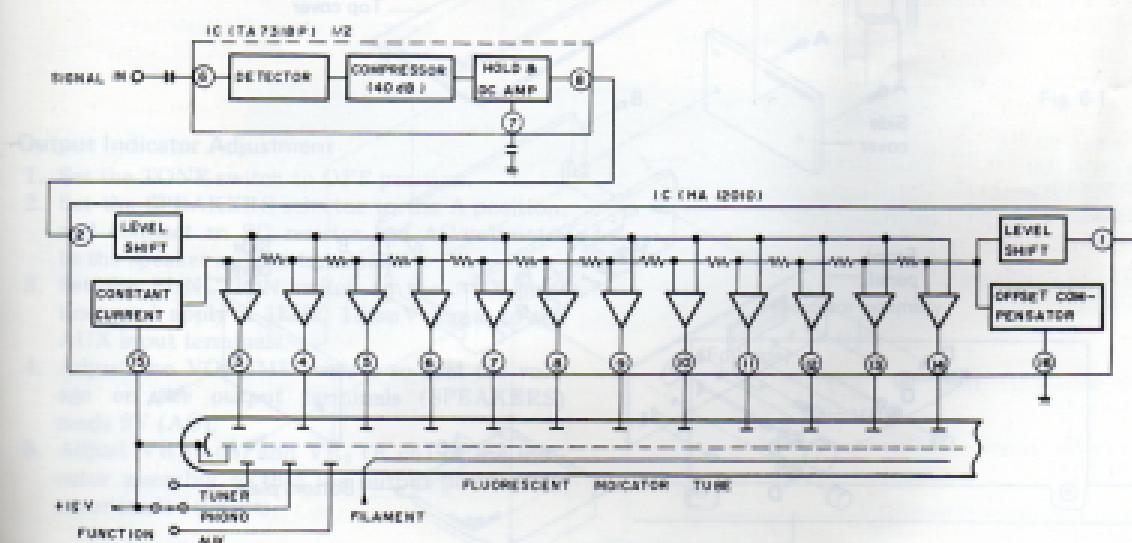


Fig. 4-4 Indicator circuit

Fig. 4-2

Protection Circuit

The purpose of this circuit is to protect the speakers. The relay in the output circuit is automatically opened in any of the following cases:

1. During the "transient operations" when the power supply is turned on and off.
2. Upon detection of a DC voltage in the output circuit of the power amplifier, caused by component failure or accident.

Muting Operation when Power Supply is Turned On and Off

With reference to Fig. 4-5 when the power supply is turned on, if there is no input (DC) on Q_1 and Q_2 , they will be off, and the timing capacitor C_1 changes up through R_1 , and thus Q_3 turns on. When Q_3 conducts, the relay operates, and the output muting on the power amplifier will be removed.

When the power supply is turned off, $+B$, will abruptly decay, C_1 will discharge through D_1 . Q_3 will cease to conduct, whereupon the relay will become de-energized and restore muting.

DC Voltage Detector

The output circuit is connected to the Q_1 emitter and Q_1 base via a low-pass filter (R_1 , C_1). Any DC voltages appearing the output circuit of the power amplifier, it will be applied to the Q_1 emitter and the Q_1 base. If the voltage is negative, Q_1 turns on. C_2 will rapidly discharge. If the voltage is positive, Q_1 turns on. C_2 will rapidly discharge. As consequence, Q_3 will turn on and the relay will become de-energized, thus causing the output circuit to open.

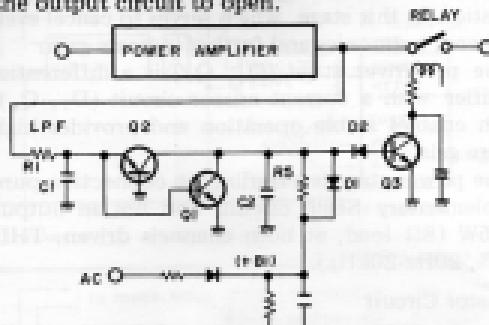
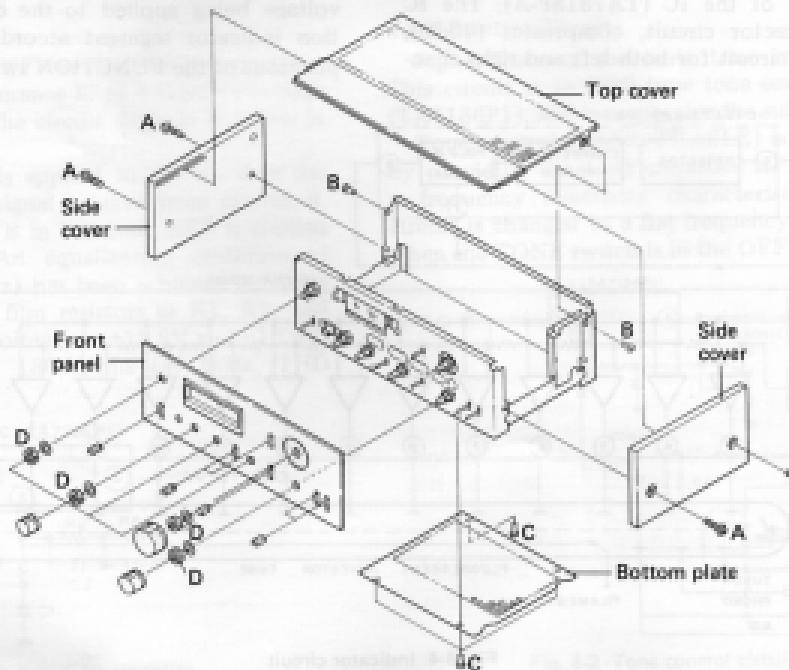


Fig. 4-5 Protection circuit

5. DISASSEMBLY**Side Covers and Top Cover**

1. Remove the four screws (A), and remove the left and right-hand side covers.
2. Remove the two screws (B), and remove the top cover.

**Bottom Plate**

Remove the four screws (C).

Front Panel

Pull off all the knobs, and remove the four nuts (D).

6. ADJUSTMENTS

Idle Current Adjustment

- Turn the VOLUME control down to minimum level, turn the power on, and wait about 10 minutes.
- Connect a DC voltmeter to the TP terminals (L ch; TP₂, \ominus and TP₁, \oplus , R ch; TP₃, \oplus and TP₄, \ominus) of the GWK-127.
- Check that the voltage between TP₁ and TP₂ (L ch) lies within the DC 4.4mV-35mV range. Then make a similar check for the R ch (between TP₃ and TP₄). If the voltage is less than 4.4mV, cut jumper A (L ch), and jumper B (R ch). If the voltage exceeds 35mV, check for circuit failure.

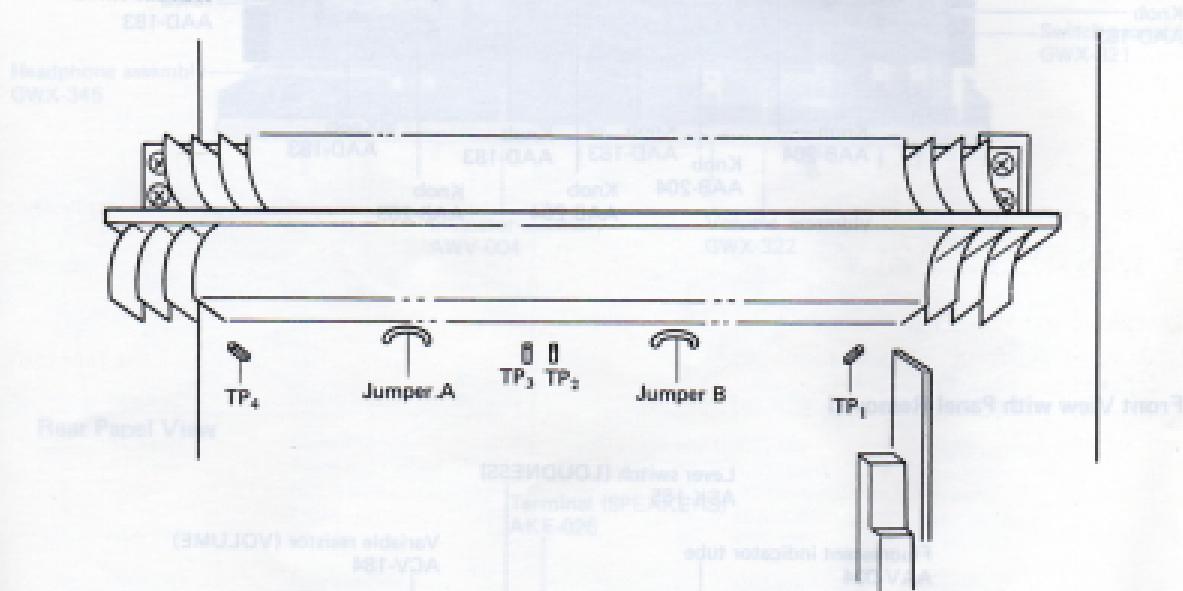


Fig. 6-1

Output Indicator Adjustment

- Set the TONE switch to OFF position.
- Set the SPEAKERS selector to the A position, and connect an 8Ω resistor and AC voltmeter to the speaker output terminals.
- Set the FUNCTION switch to the AUX position, and apply a 1kHz, 150mV signal to the AUX input terminals.
- Adjust the VOLUME control so that the voltage on the output terminals (SPEAKERS) reads 9V (AC).
- Adjust VR₁ (L ch) and VR₂ (R ch) of the indicator assembly so that the output power indicator reads 10 watts.

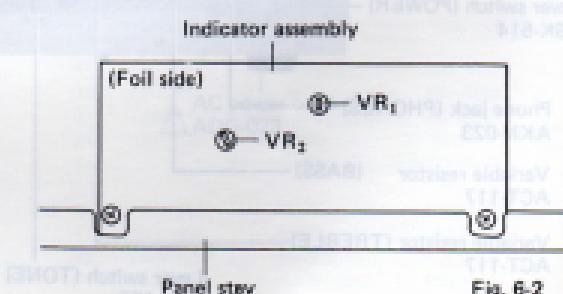


Fig. 6-2

7. PARTS LOCATION

Front Panel View

The front panel of the unit contains the following controls and indicators:

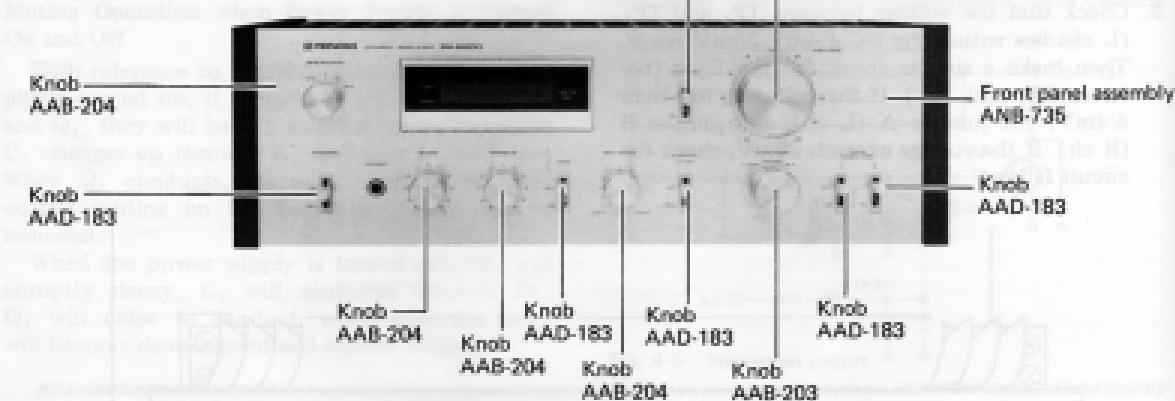
- A power switch labeled "ON/OFF".
- A fluorescent indicator tube labeled "TUBE".
- Two rotary switches labeled "SPEAKERS" and "POWER".
- Four knobs labeled "AAB-204" and "AAD-183".
- A large volume control labeled "VOLUME".
- A tone control labeled "TONE".
- A bass control labeled "BASS".
- A treble control labeled "TREBLE".
- A balance control labeled "BALANCE".
- A subsonic filter control labeled "SUBSONIC".
- A function switch labeled "FUNCTION".
- A tape monitor switch labeled "TAPE MONITOR 1".
- A tape monitor switch labeled "TAPE MONITOR 2".
- A lever switch labeled "LOUDNESS".
- A phone jack labeled "PHONES".

Muting Operation

To mute the power amplifier, turn the power switch to the "OFF" position.

When the power switch is turned to the "ON" position, the power amplifier will automatically turn off because of a self-muting circuit. This will occur even though the power switch is turned to the "OFF" position. To turn the power amplifier back on, turn the power switch to the "ON" position again. The power amplifier will turn on again because of the self-muting circuit.

- * The **A** mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

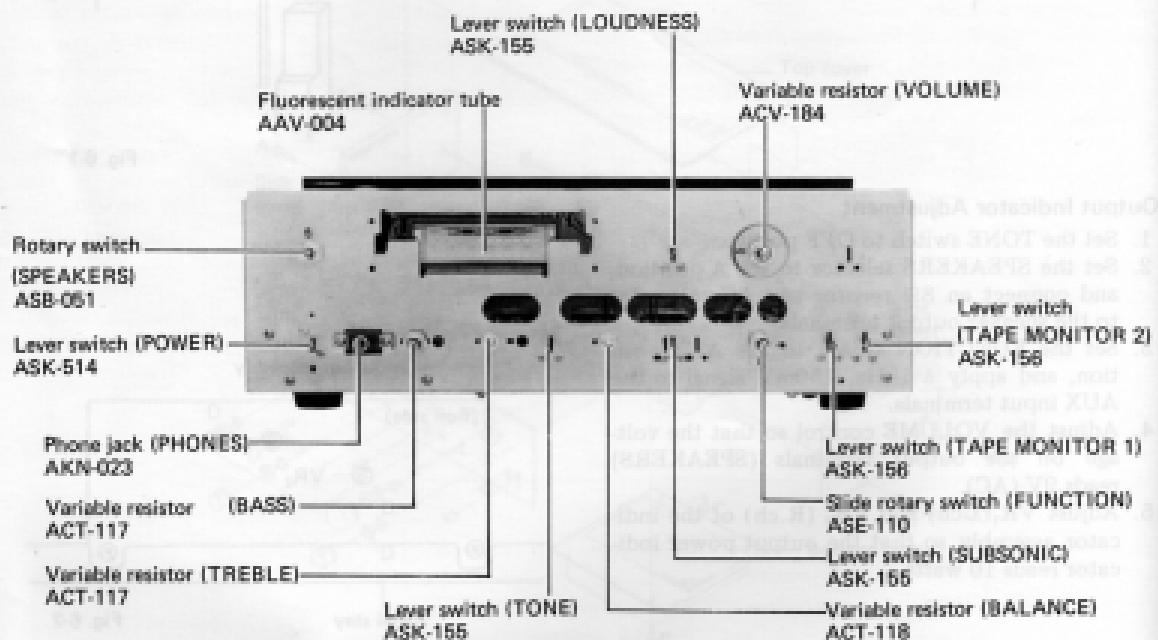


5. DISASSEMBLY

Side Covers and Knobs

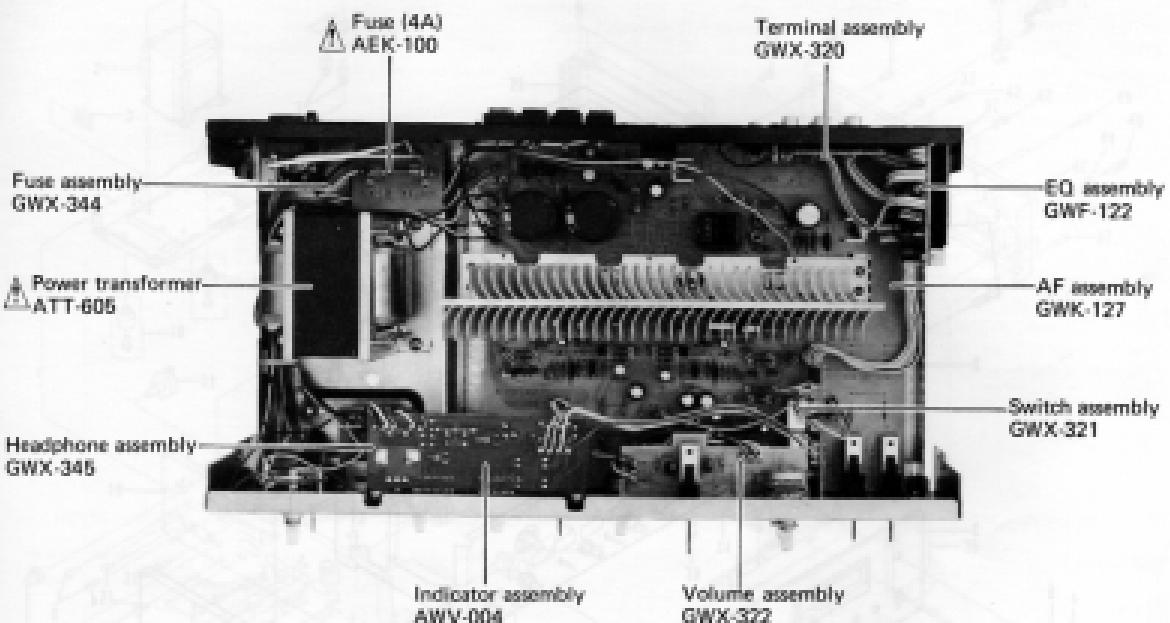
Remove the four screws (L1) from the side covers, and then remove the side covers.

Front View with Panel Removed

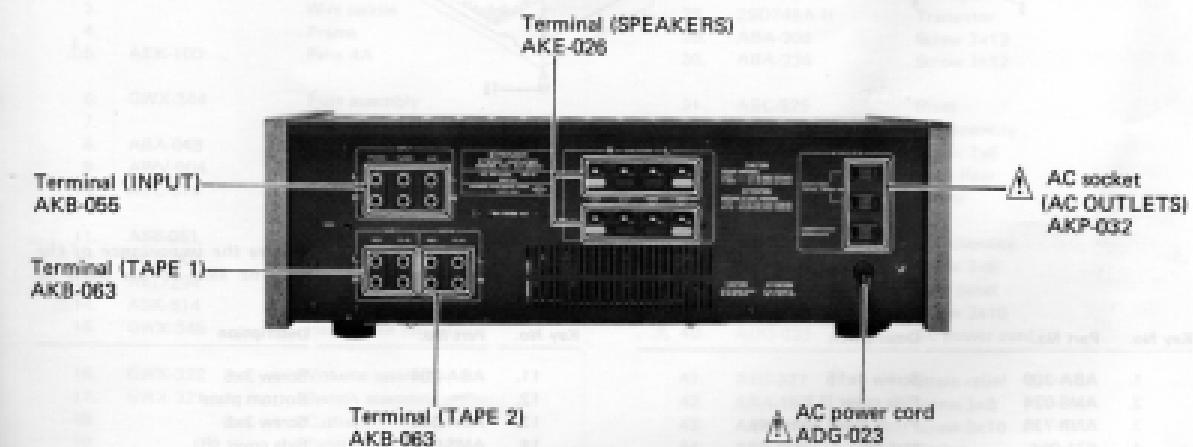


8. EXPLODED VIEW

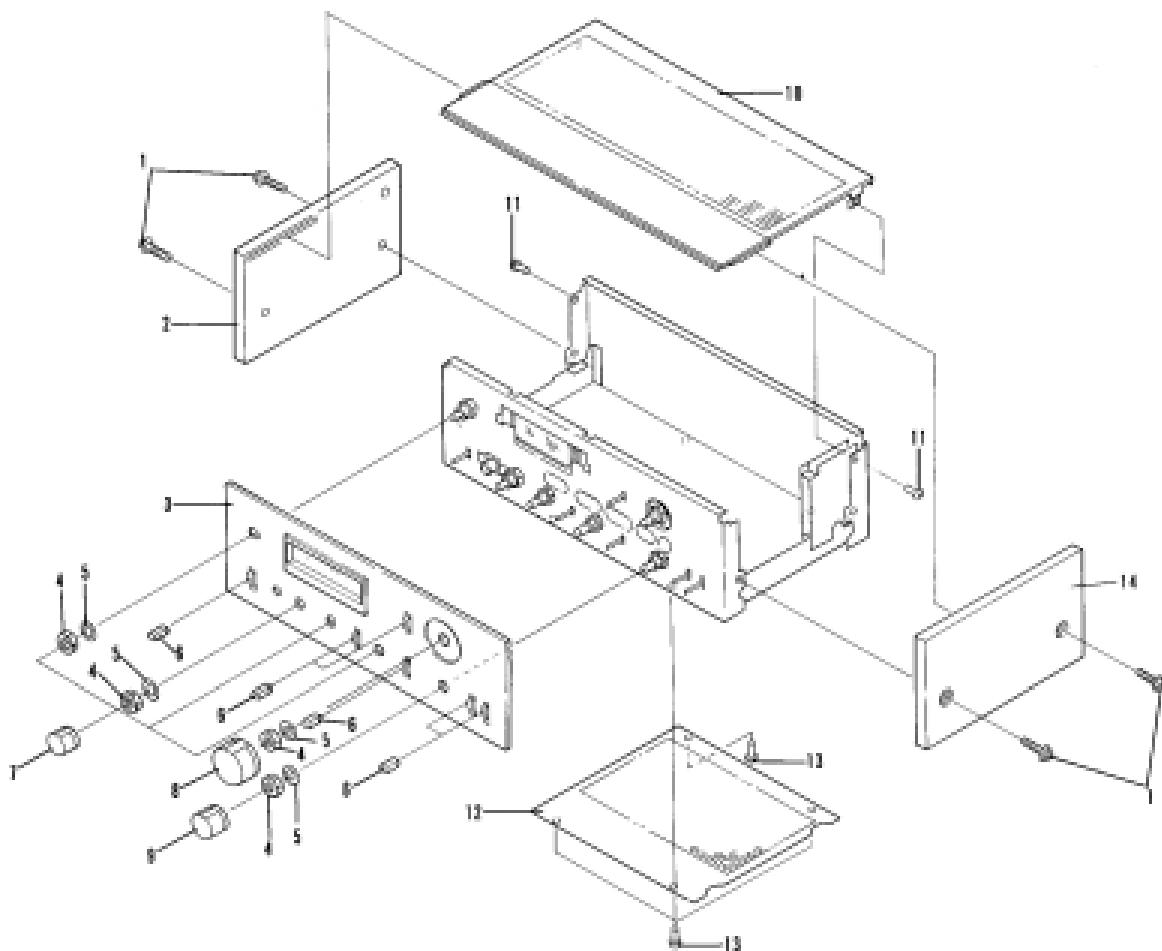
Top View



Rear Panel View

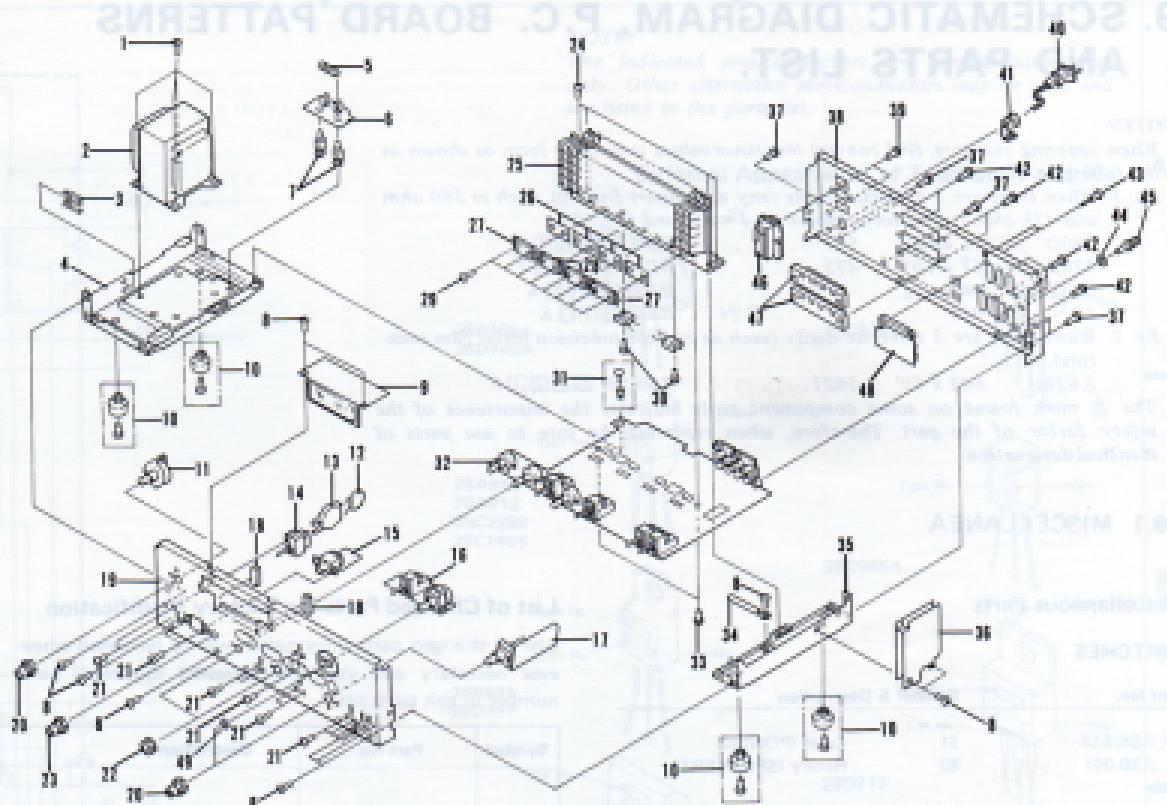


8. EXPLODED VIEW



* The mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Key No.	Part No.	Description	Key No.	Part No.	Description
1.	ABA-209	Screw 4x18	11.	ABA-204	Screw 3x6
2.	AMS-024	Side cover (L)	12.	ABA-048	Bottom plate
3.	ANB-735	Front panel assembly	13.	ABA-048	Screw 3x6
4.	B71-004	Nut M8	14.	AMS-025	Side cover (R)
5.	M45-086	Washer M8			
6.	AAD-183	Knob			
7.	AAB-204	Knob			
8.	AAB-202	Knob			
9.	AAB-203	Knob			
10.	AMS-023	Top cover			



Key No.	Part No.	Description	Key No.	Part No.	Description
1.	ABA-069	Screw 4x8	36.	AEC-488	Insulator spacer
2.	ATT-605	Power transformer	37.	288705A-R	Transistor
3.		Wire saddle	38.	288745A-R	Transistor
4.		Frame	39.	ABA-208	Screw 3x12
5.	AEK-100	Fuse 4A	40.	ABA-234	Screw 3x12
6.	GWX-344	Fuse assembly	31.	AEC-626	Rivet
7.		P.C. Board holder	32.	GWK-127	AF assembly
8.	ABA-048	Screw 3x6	33.	ABA-065	Screw 3x8
9.	AWV-004	Indicator assembly	34.		Cord fixer
10.	AEC-670	Foot assembly	35.		Frame
11.	ASB-051	Rotary switch (SPEAKERS)	36.	GWF-122	EQ assembly
12.	ACG-001	Ceramic capacitor (0.01/250V)	37.	ABA-228	Screw 3x6
13.	AEC-294	Capacitor cover	38.		Rear panel
14.	ASK-614	Lever switch (POWER)	39.	ABA-340	Screw 3x10
15.	GWX-345	Headphone assembly	40.	ADG-023	AC power cord
16.	GWX-322	Volume assembly	41.	AEC-327	Strain relief
17.	GWX-321	Switch assembly	42.	ABA-157	Screw 3x8
18.		Cushion	43.	ABA-115	Screw 3x10
19.		Panel stay	44.	ABA-008	Washer
20.	ABN-050	Union nut	45.		Terminal (GND)
21.	ABA-025	Screw 3x4	46.	AKP-032	AC socket (AC OUTLETS)
22.	ABN-031	Nut M7	47.	AKE-026	Terminal (SPEAKERS)
23.	ABN-049	Union nut	48.	GWX-320	Terminal assembly
24.	ABA-049	Screw 3x8	49.	B22-017	Washer
25.		Heat sink			

9. SCHEMATIC DIAGRAM, P.C. BOARD PATTERNS AND PARTS LIST.

NOTES:

- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 680 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

5600	56×10^3	561	.....	R56PS
47k0	47×10^3	473	.....	R47PS
0.5k	0.5k	.....	.....	RN2H
10	10	.....	.....	RSIP

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k10	5.62×10^3	5621	RN4SR
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- The mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

9.1 MISCELLANEA

Miscellaneous Parts

SWITCHES

Part No.	Symbol & Description
ASK-614	S1 Lever (POWER)
ASB-051	S2 Rotary (SPEAKERS)

SEMICONDUCTORS

Part No.	Symbol & Description
2SD745A-R	Q1, Q2
2SB705A-R	Q3, Q4

P.C. BOARD ASSEMBLIES

Part No.	Description
GWK-127	AF assembly
GMF-122	FG assembly
GWX-322	Volume assembly
GWX-321	Switch assembly
GWX-320	Terminal assembly
ARV-004	Indicator assembly
GWX-344	Fuse assembly
GWX-345	Headphone assembly

OTHERS

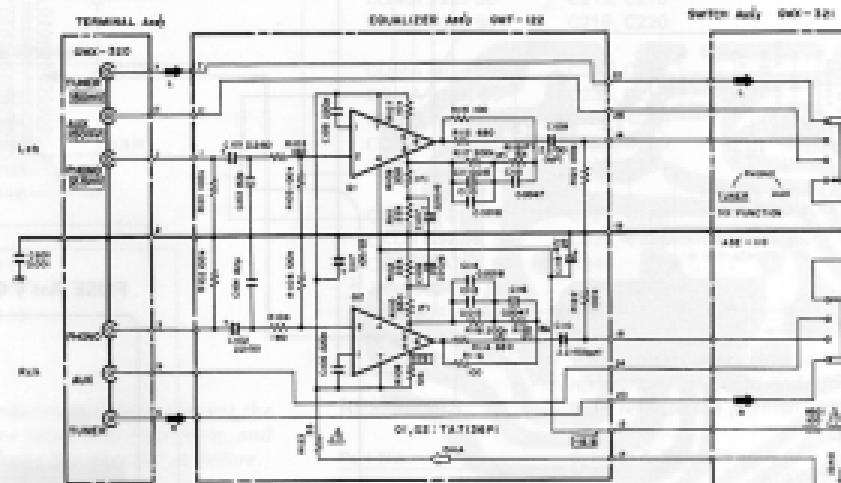
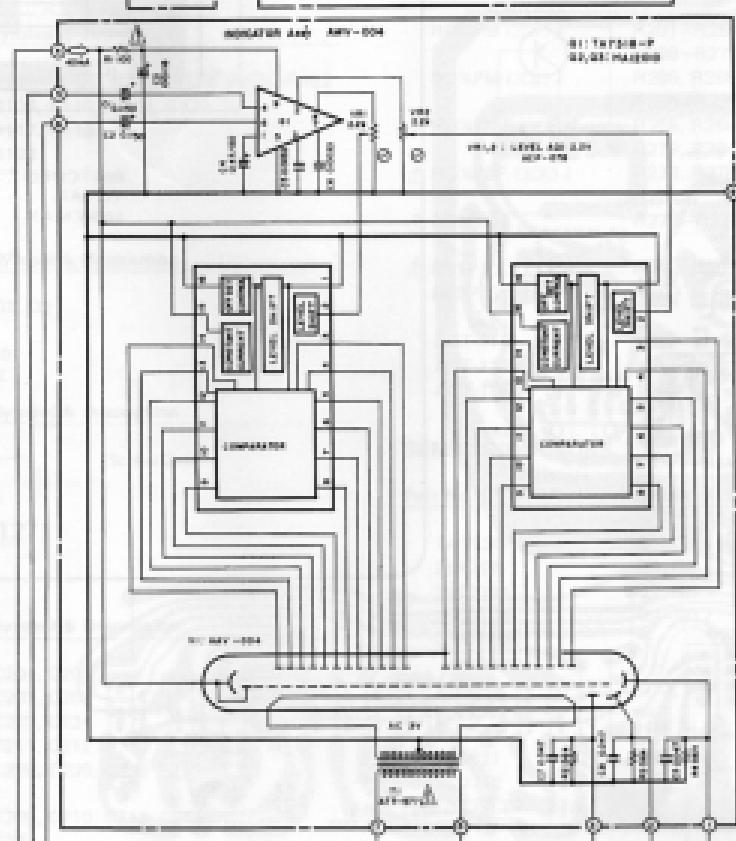
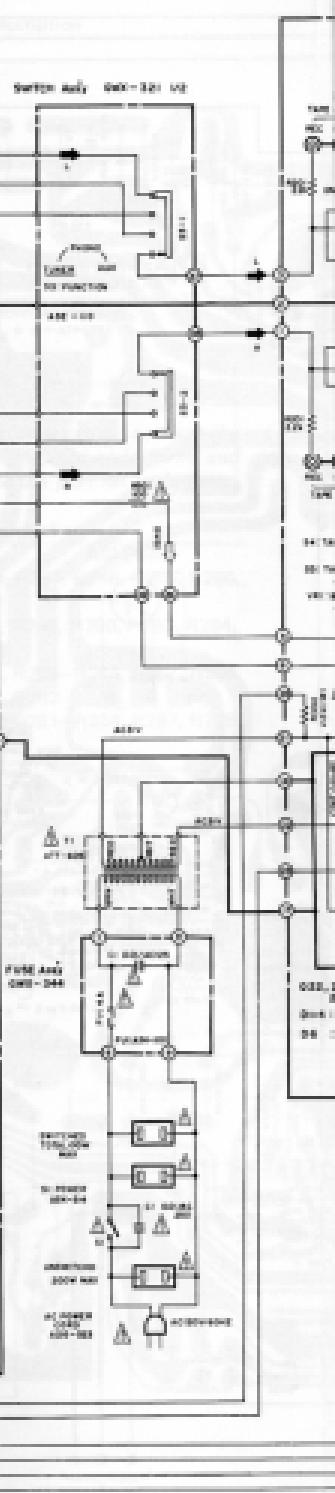
Part No.	Symbol & Description
ATT-005	T1 Power transformer
AEK-100	FU1 Fuse 4A
ACG-001	C1 Ceramic capacitor
AKP-032	AC socket (AC OUTLETS)
ADG-023	AC power cord
AKE-026	Terminal (SPEAKERS)

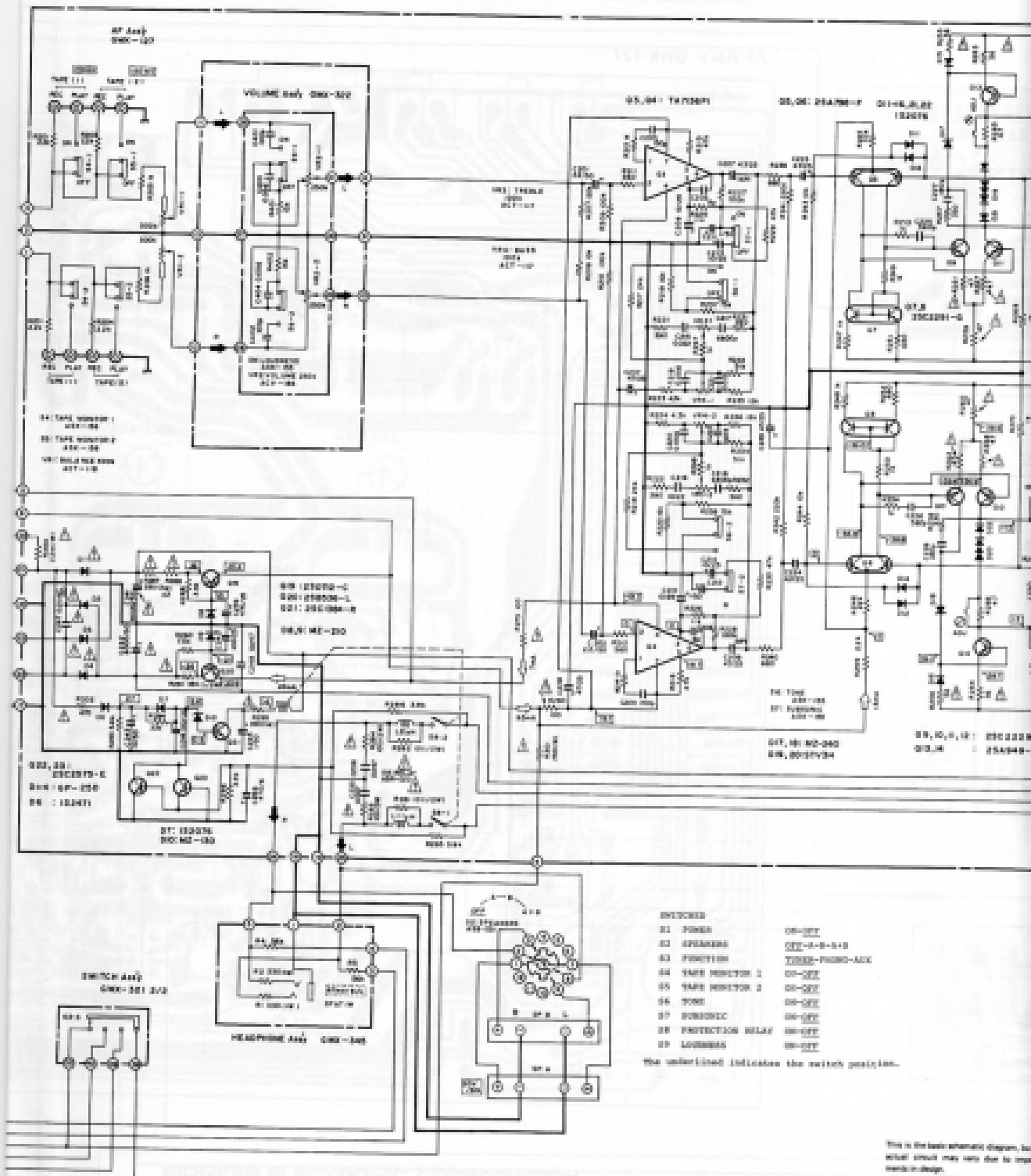
List of Changed Parts for Factory Modification

List of changed parts information will be furnished whenever necessary and you are requested to amend parts number in this parts list.

Symbol	Part No.	Description

9.2 SCHEMATIC DIAGRAM ASSEMBLIES

A**B****C****D**

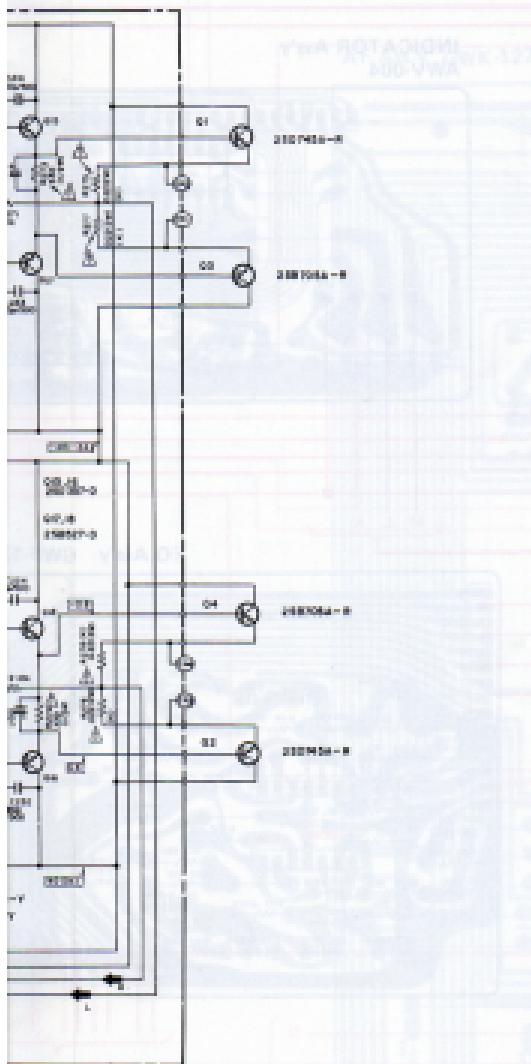


This is the basic schematic diagram, but actual circuit may vary due to implementation details.

NOTE: CARDANDO MOTORES 220V-240V

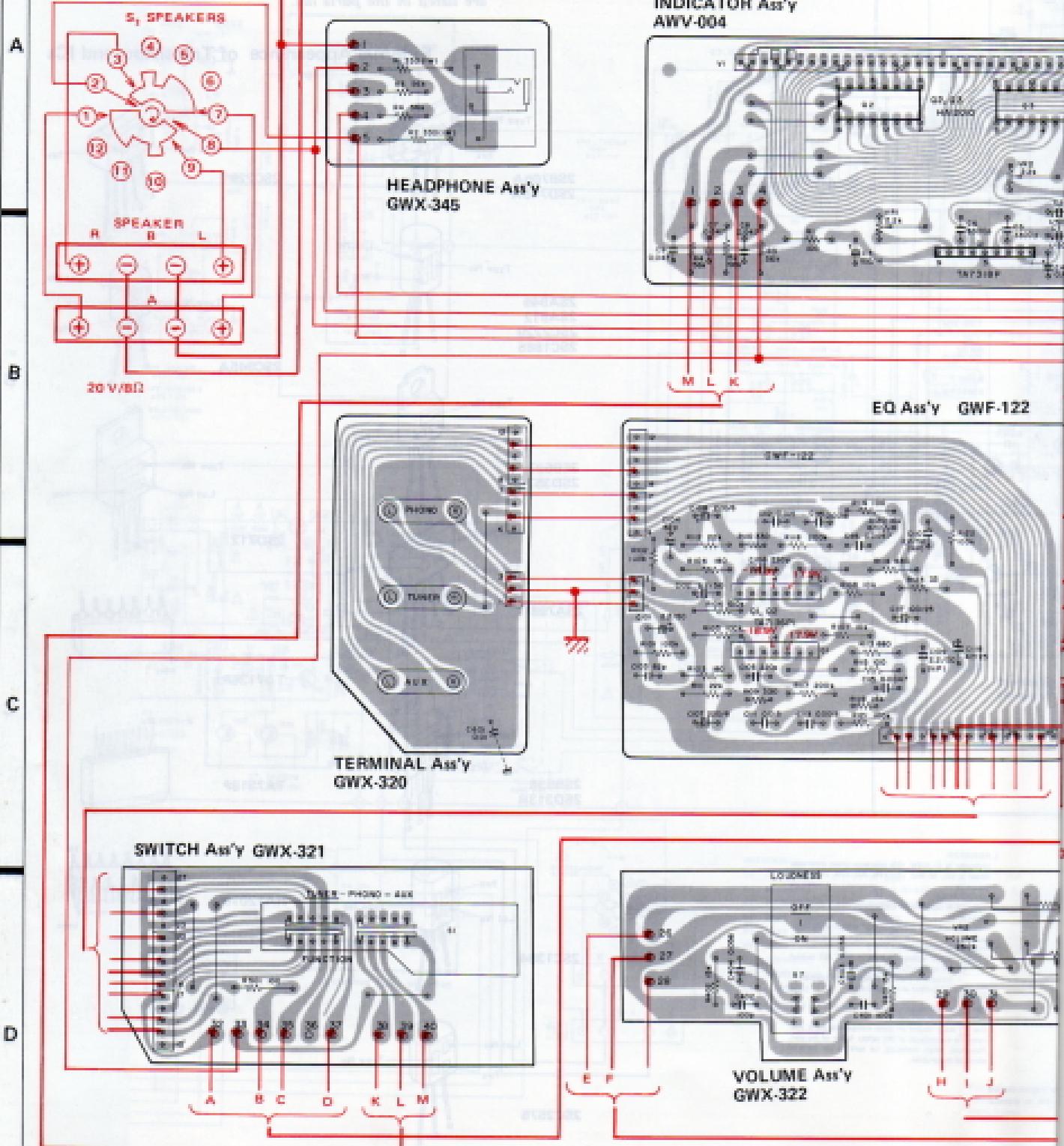
The indicated semiconductors are representative ones only. Other alternative semiconductors may be used and are listed in the parts list.

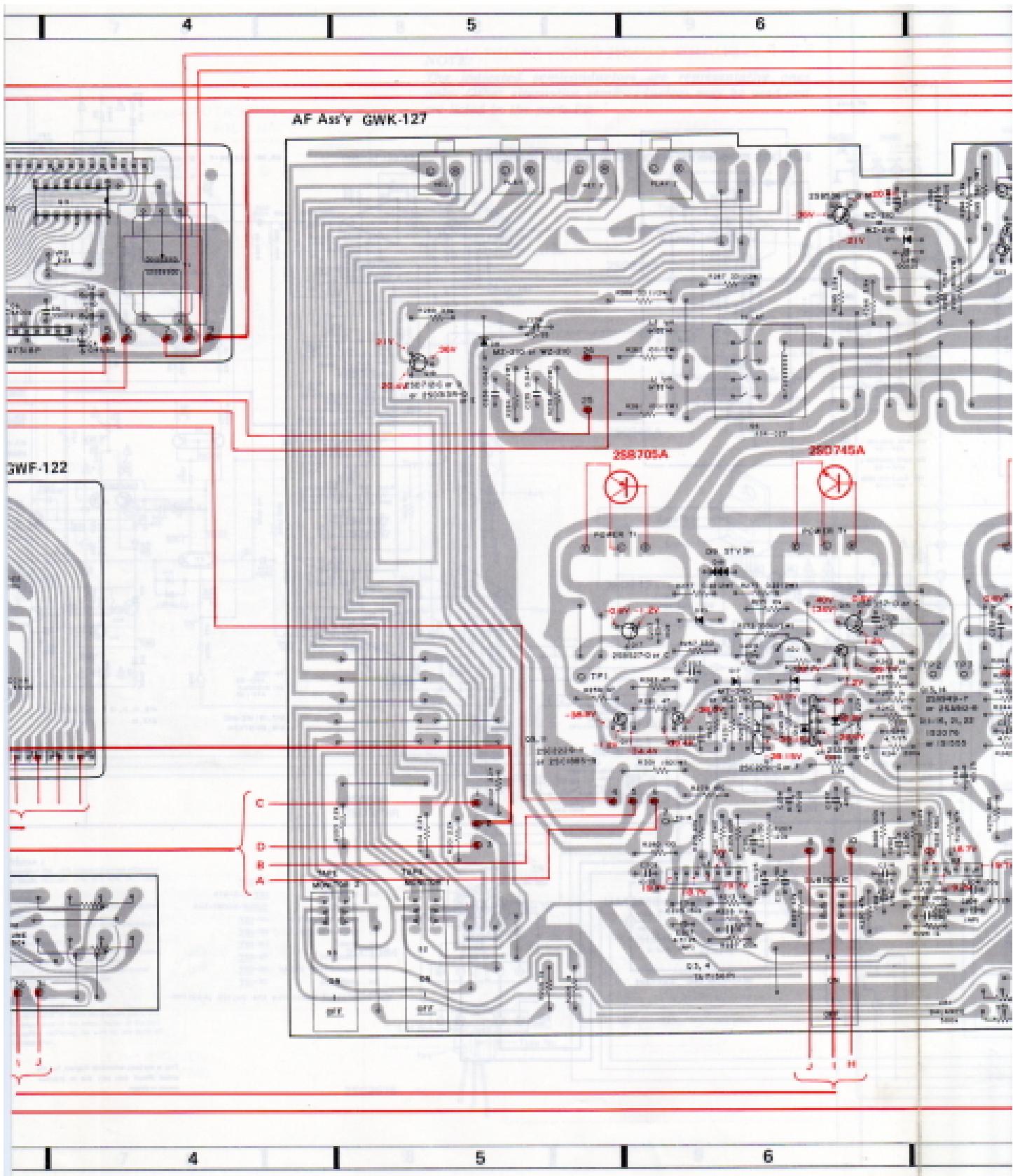
External Appearance of Transistors and ICs

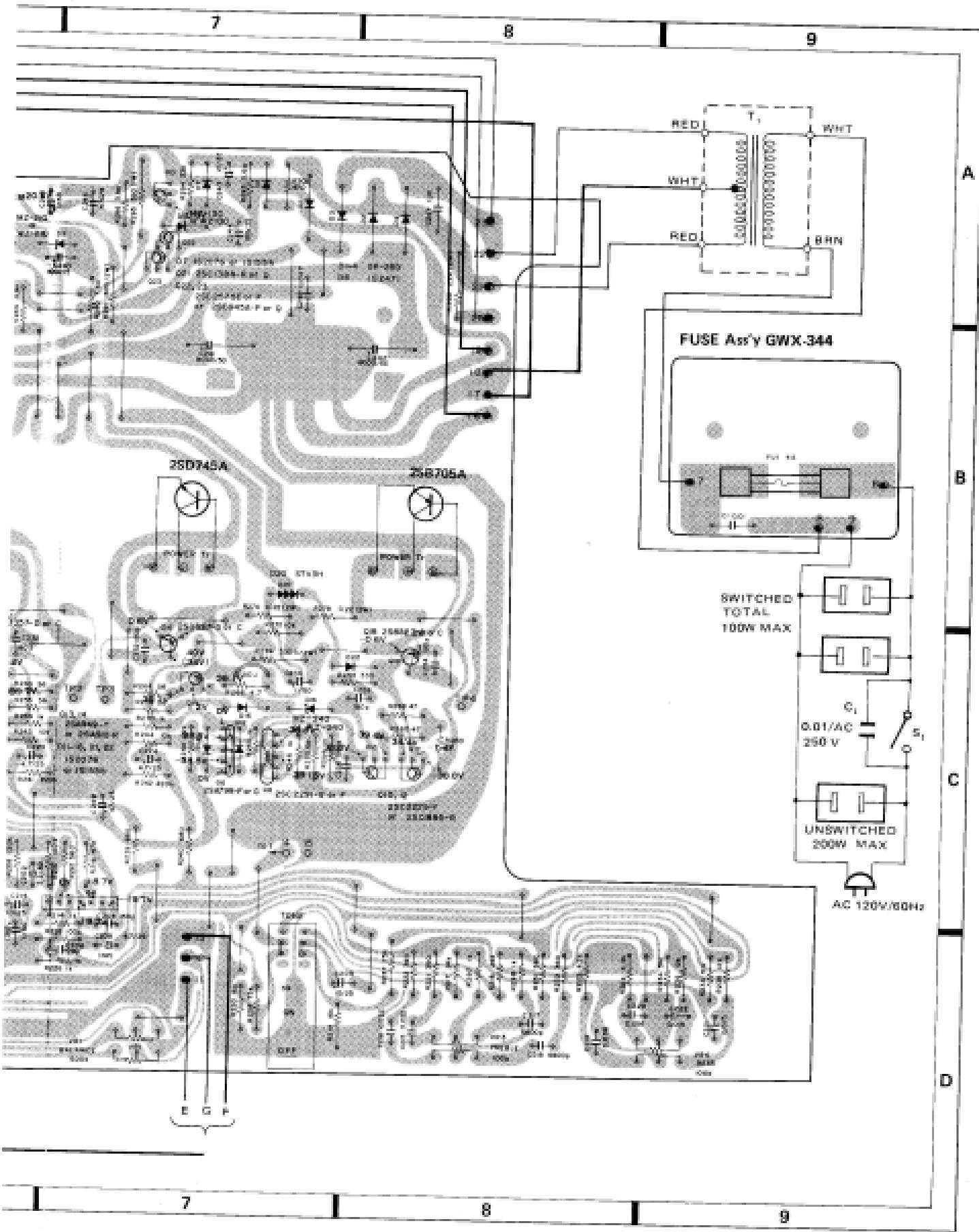


1. RESISTOR:
Indicated in Cl. 1000, 20% tolerance unless otherwise stated in ref. no. 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 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1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1939, 1940, 1941, 1

9.3 P.C. BOARD, CONNECTION DIAGRAM







9.4 PARTS LIST OF P.C. BOARD ASSEMBLIES

EQ Assembly (GWF-122)

CAPACITORS

Part No.	Symbol & Description
CEANL 2R2M 50	C101, C102
CCDSL 820K 50	C103, C104
CCDSL 221K 50	C105, C106
CEA 231P 6	C107, C108
CEANLNP 2R2M 50 (ACH-323)	C109, C110
CEA 153J 50	C111, C112
CEA 182J 50	C113, C114
CEA 473J 50	C115, C116
CEA 101P 25	C117
CEA 470P 25	C118

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

RESISTORS

Part No.	Symbol & Description
RDNPM 000 J	R101-R108, R111-R116, R121, R122
RNNSQ 0000 F	R109, R110, R119, R120
RNNSFT 0000 F	R117, R118
RDNPMF 000 J	R123

SEMICONDUCTORS

Part No.	Symbol & Description
TA7138P1	Q1, Q2

OTHER

Part No.	Symbol & Description
ABA-04B	Screw 3x6

AF Assembly (GWK-127)

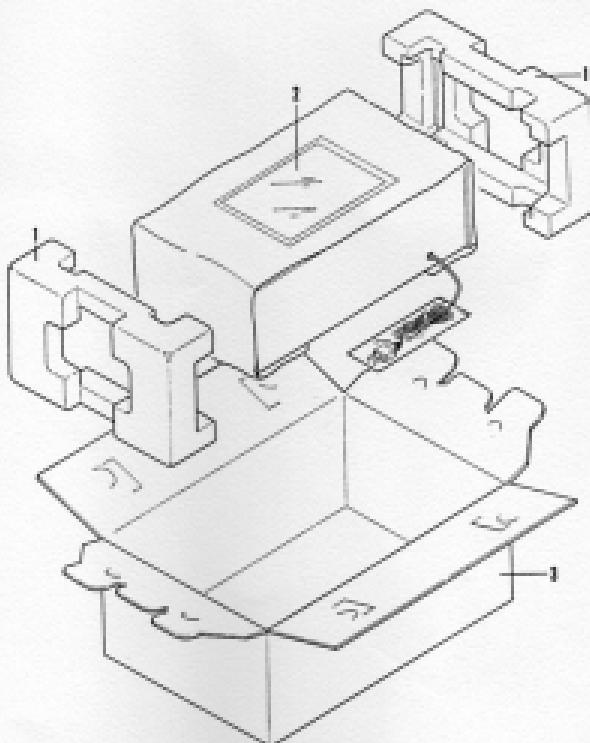
CAPACITORS

Part No.	Symbol & Description
CEANL 2R2M 50	C201, C202
ACH-318	C207, C208
CEANL 4R7M 25	C223, C224
CEANL 010M 50	C211, C212
CEA 010P 50	C229, C230, C245
CEA 100P 25	C209, C210, C213, C214
CEA 100P 50	C243
CEA 470P 25	C237, C238, C249
CEA 101P 25	C244
CEA 101P 25	C240
CEA 471P 6	C246
CEA 471P 25	C239
COMA 153J 50	C221, C222

Part No.	Symbol & Description	Symbol & Description
COMA 223J 50	C215, C216	001-SW
COMA 663J 50	C219, C220	002-SW
COMA 662J 50	C217, C218	001-SW
COMA 473K 50	C235, C236	002-SW
CCDSL 181K 500	C231-C234	100-SW
CCDSL 080F 50	C205, C206	Y-HV
CCDSL 151K 50	C203, C204	100-SW
CCDSL 181K 50	C227, C228	200-SW
CKDYS 561K 50	C225, C226	001-SW
CKDYF 473Z 50	C248	001-SW
▲ ACH-082	C241, C242	001-SW
▲ ACG-004	C247	001-SW
Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.		
RESISTORS	Symbol & Description	Symbol & Description
RDNPM 000 J	R201-R254, R267, R268, R265, R266, R269-R273	R201-R254, R267, R268, R265, R266, R269-R273
RDNPM 000 J	R289, R286, R289, R290, R293, R294, R295-R299	R289, R286, R289, R290, R293, R294, R295-R299
▲ RDNPMF 000 J	R255, R256, R259-R264, R267, R268, R279, R280, R302	R255, R256, R259-R264, R267, R268, R279, R280, R302
▲ RDNPWF 000 J	R273, R274, R281-R284, R287, R288, R291	R273, R274, R281-R284, R287, R288, R291
▲ ACG-039	R275-R278	R275-R278
▲ R81P 000 J	R295, R301	R295, R301
R82P 000 J	R300	R300
ACT-118	VR1	Variable (BALANCE)
ACT-117	VR3	Variable (TREBLE)
ACT-117	VR4	Variable (BASS)
SEMICONDUCTORS	Symbol & Description	Symbol & Description
TA7138P1	Q3, Q4	Q3, Q4
2SA798	Q5, Q6	Q5, Q6
2SC2291	Q7, Q8	Q7, Q8
2SC2229	Q9-Q12	Q9-Q12
(2SC1885)		
2SA849	Q13, Q14	Q13, Q14
(2SA812)		
2SD357	Q15, Q16	Q15, Q16
2SS827	Q17, Q18	Q17, Q18
2SD712	Q19	Q19
(2SD313P)		
2SD636	Q20	Q20
2SC1384	Q21	Q21
2SC2575	Q22, Q23	Q22, Q23
(2SC945A)		
▲ GP-250	Q1-Q4	Q1-Q4
1S2471	Q6	Q6

Part No.			Symbol & Description	
SWITCHES				
CAPACITORS				
RESISTORS				
SEMICONDUCTORS				
OTHERS				
Indicator Assembly (AWV-004)				
CAPACITORS				
RESISTORS				
SEMICONDUCTORS				
OTHERS				
Volume Assembly (GWX-322)				
CAPACITORS				
OTHERS				
Switch Assembly (GWX-321)				
Terminal Assembly (GWX-320)				
Fuse Assembly (GWX-344)				
Headphone Assembly (GWX-345)				
AAV-004				
182078 (181569)	D7	D11-D16, D21, D22		
MZ-210 MZ-210I	D8, D9			
MZ-130 MZ-130I	D10			
MZ-240 MZ-240I	D17, D18			
STV3H-Y	D19, D20			
ASK-156	S2	Lever (TAPE MONITOR 1)		
ASK-156	S3	Lever (TAPE MONITOR 2)		
ASK-156	S4	Lever (TONE)		
ASK-156	S5	Lever (SUBSONIC)		
ASR-023	S6	Relay		
AKB-053		Terminal (TAPE)		
ABA-139		Screw 3x6		
CEANL DR1M 50	C1, C2			
CEA 101P 16	C3			
CEA RA4P 50	C4			
CDMA 332K 50	C5, C6			
CKDYF 473Z 50	C7-C9			
Note: When ordering resistors, convert the resistor value into code form, and then rewrite the part no. as before.				
RD4PMF 000J	R1			
RD4PM 000J	R2-R4			
ACM-078	VR1, VR2			
TA3318P-A	Q1			
HA12010	Q2, Q3			
ATT-577	T1	Heater transformer		
V1	Fluorescent indicator tube			

10. PACKING



Key No.	Part No.	Description
1.	AHA-188	Side pad
2.	ARB-324	Operating instructions
3.	AHD-691	Packing case

11. SUPPLEMENS FOR MODEL SA-608/KU.

Model SA-608/KU is the same as SA-6800/KU with exception of description in this supplements.

Contrast of Miscellaneous Parts

Symbol	Description	Part No.		K. MOORLAG
		SA-608/KU	SA-6800/KU	
	Front panel assembly	ANB-768	ANB-736	
	Bonnet cover	ANE-250	.....
	Top cover	.....	AMS-023	
	Side cover (L)	.....	AMS-024	
	Side cover (R)	.....	AMS-025	
	Packing case	AHD-707	AHD-691	
	Side pad	AHA-188	AHA-188	
	Operating instructions	ARB-323	ARB-324	

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