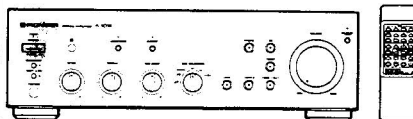


# Service Manual

**PIONEER®**  
The Art of Entertainment



The illustration shows model A-503R.

ORDER NO.  
**ARP2853**

STEREO AMPLIFIER

# A-503R

# A-503R-G

# A-403R

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model			Power Requirement	The voltage can be converted by the following method.
	A-503R	A-503R-G	A-403R		
HE	○	—	○	AC220—230V	AC240V, *
HB	○	—	—	AC240V	AC220—230V, *
HEWZ	○	—	○	AC220—230V	AC240V, *
HEZ	—	○	—	AC220—230V	AC240V, *

\* : Alter the wiring of the Power-supply block at the primary winding of Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

• For the following: A-503R/HB and HEWZ; A-503R-G/HEZ; A-403R/HEWZ, refer to page 26.

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# 1. EXPLODED VIEWS, PACKING AND PARTS LIST

**NOTES:**

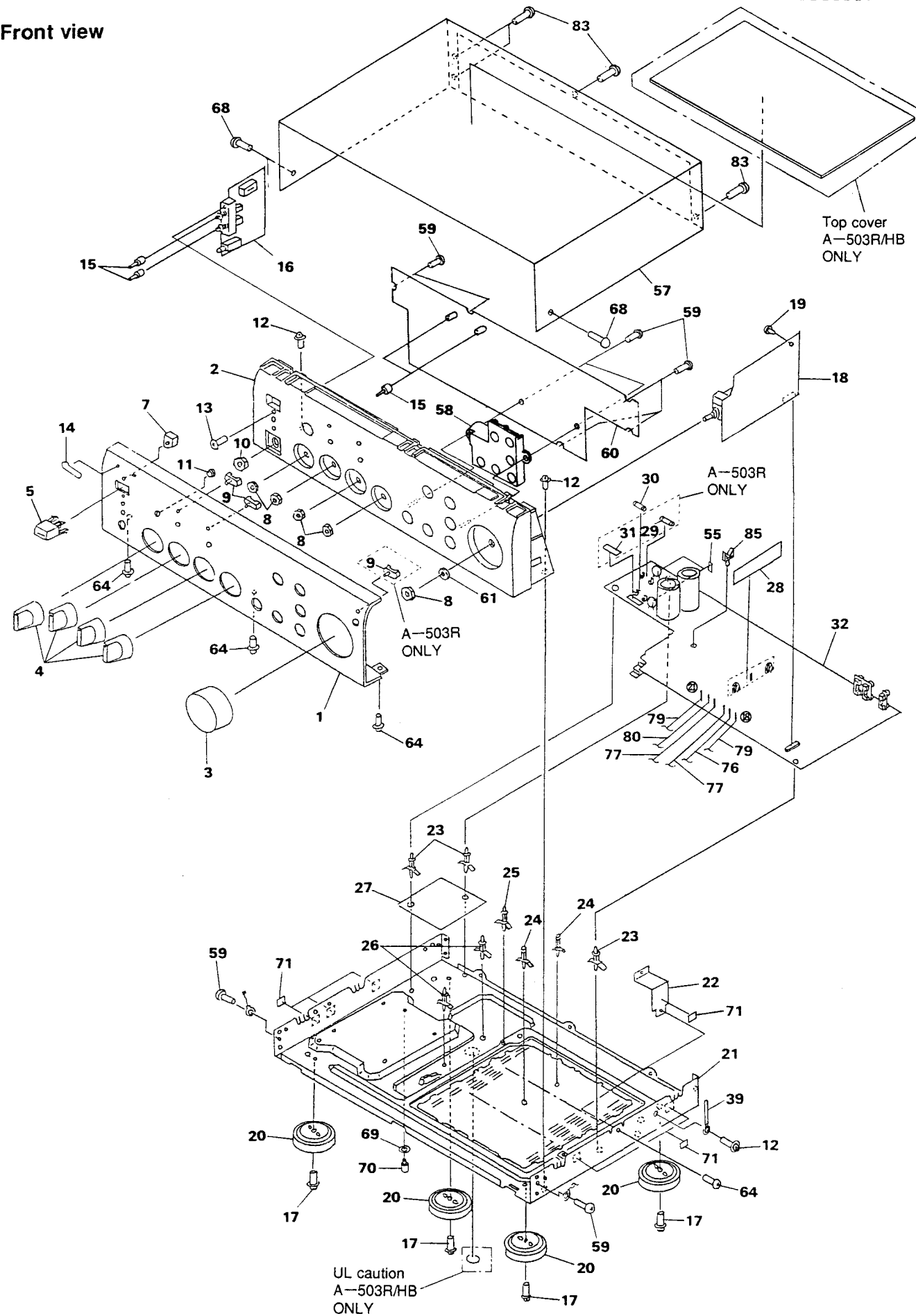
- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

## 1.1 FRONT VIEW AND REAR VIEW

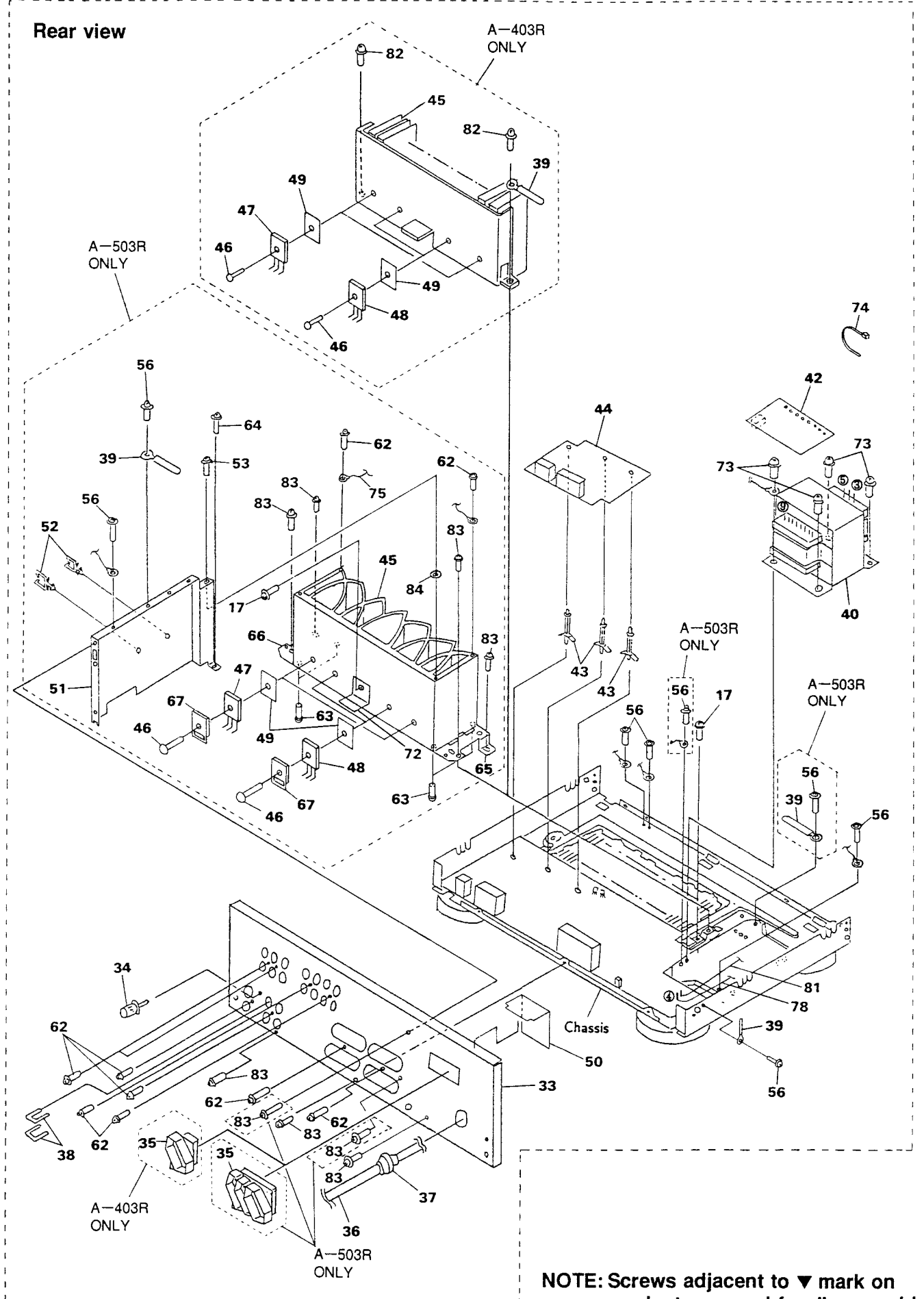
### •Part List (For A-503R/HE and A-403R/HE)

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	Front panel (A-503R)	ANB1820		42	TRANS ass'y (A-403R)	AWZ5696
	1	Front panel (A-403R)	ANB1821	NSP	43	Cushion	AEC1286
	2	Panel base	AMB2135		44	INPUT ass'y (A-503R)	AWZ5585
	3	Rotary knob (PLS)	AAB1343		44	INPUT ass'y (A-403R)	AWZ5591
	4	Rotary knob (PLS)	AAB1349		45	Heat sink (A-503R)	ANH1428
	5	Power button (PLS)	AAD2421		45	Heat sink (A-403R)	ANH1266
	6	.....			46	Screw	ABA1082
NSP	7	LED lens (ABS)	PNW2019	$\Delta$	47	Transistor (Q1, Q2) (A-503R)	2SC3281
	8	Nut	NK90FUC	$\Delta$	47	Transistor (Q1, Q2) (A-403R)	2SC3181N
	9	LED lens (PLS)	AAK2459	$\Delta$	48	Transistor (Q3, Q4) (A-503R)	2SA1302
	10	Nut	ABN-065	$\Delta$	48	Transistor (Q3, Q4) (A-403R)	2SA1264N
	11	Remocon window (PLS)	AAK2457		49	Sheet	AEE1014
	12	Screw (STEEL)	ABA1011	NSP	50	Shield plate C	AEC1538
	13	Screw	VMZ30P060FCU		51	Chamber frame (A-503R)	ANG1820
	14	Name plate (MET)	AAM1058	NSP	52	Wire clip (A-503R)	AEC1388
	15	Push button (PLS)	AAD2423	NSP	53	Screw (A-503R)	ABA1088
	16	SP switch ass'y (A-503R)	AWZ5581		54	Holder (A-503R)	ANG1922
	16	SP switch ass'y (A-403R)	AWZ5589	NSP	55	Tape (A-503R)	AEH1005
	17	Screw	ABA-298		56	Screw (STEEL)	ABA1009
	18	Motor VOL ass'y (A-503R)	AWZ5586		57	Bonnet case	ANE1438
	18	Motor VOL ass'y (A-403R)	AWZ5592		58	Function button (PLS)	AAD2422
	19	Nylon rivet	AEC1160		59	Screw	BPZ30P080FMC
	20	Insulator	PNW1912		60	CONTROL ass'y (A-503R)	AWZ5582
NSP	21	Chassis	ANA1489		60	CONTROL ass'y (A-403R)	AWZ5590
	22	VR PCB holder	ANG1821		61	Washer	ABE1018
	23	PCB support	AEC1215		62	Screw (STEEL)	ABA1050
NSP	24	PCB support	AEC1232		63	Screw (STEEL)(A-503R)	ABA1208
NSP	25	PCB support	AEC1231		64	Screw (STEEL)	ABA1192
NSP	26	PCB support	AEC1216		65	Heat sink holder A (A-503R)	ANG1818
NSP	27	Barrier	AEC1241		66	Heat sink holder B (A-503R)	ANG1819
	28	Shield ass'y	AWZ5583		67	Transistor cover LL (A-503R)	ANG1840
$\Delta$	29	Fuse (FU2, T500mA) (A-503R)	AEK-505		68	Screw	BBT30P060FZK
$\Delta$	30	Fuse (FU1, T1.6A) (A-403R)	AEK-510		69	PVC ring	ABF1030
$\Delta$	30	Fuse (FU1, T2A) (A-503R)	AEK-511		70	Foot ass'y	AEC1531
NSP	31	Fuse card (A-503R)	AAX1581	NSP	71	Spacer	AEB1254
	32	AF ass'y (A-503R)	AWZ5580	NSP	72	PCB holder (A-503R)	ANG1062
	32	AF ass'y (A-403R)	AWZ5588		73	Screw	ABA1200
	33	Rear panel (A-503R)	ANC2214		74	Nylon binder	AEC-093
	33	Rear panel (A-403R)	ANC2216		75	Ground lead (A-503R)	ADX1565
	34	Terminal screw	AKE-031	$\Delta$	76	Cut wire (Y6)	YJ80W0-30-35/35
$\Delta$	35	AC socket 3-P (A-503R)	AKP-502	$\Delta$	77	Cut wire (Y7, Y11)	YJ80W1-30-35/35
$\Delta$	35	AC socket 1-P (A-403R)	AKP-508	$\Delta$	78	Cut wire (Y2)	YJ80W1-35-35/35
$\Delta$	36	AC power cord	ADG1049	$\Delta$	79	Cut wire (Y9, Y10)	YJ80W4-30-35/35
	37	Strain relief	AEC-882	$\Delta$	80	Cut wire (Y8)	YJ80W8-30-35/35
	38	plug	AKM1061	$\Delta$	81	Cut wire (Y1)	YJ80W9-35-35/35
	39	Binder	AEP-215		82	Screw (A-403R)	ABA1054
$\Delta$	40	Power transformer (T1) (A-503R)	ATSI537		83	Screw	ABA1207
$\Delta$	40	Power transformer (T1) (A-403R)	ATSI532		84	Washer (A-503R)	ABE-053
	41	.....		NSP	85	Mini clamp	AEC1530
	42	TRANS ass'y (A-503R)	AWZ5584				

Front view

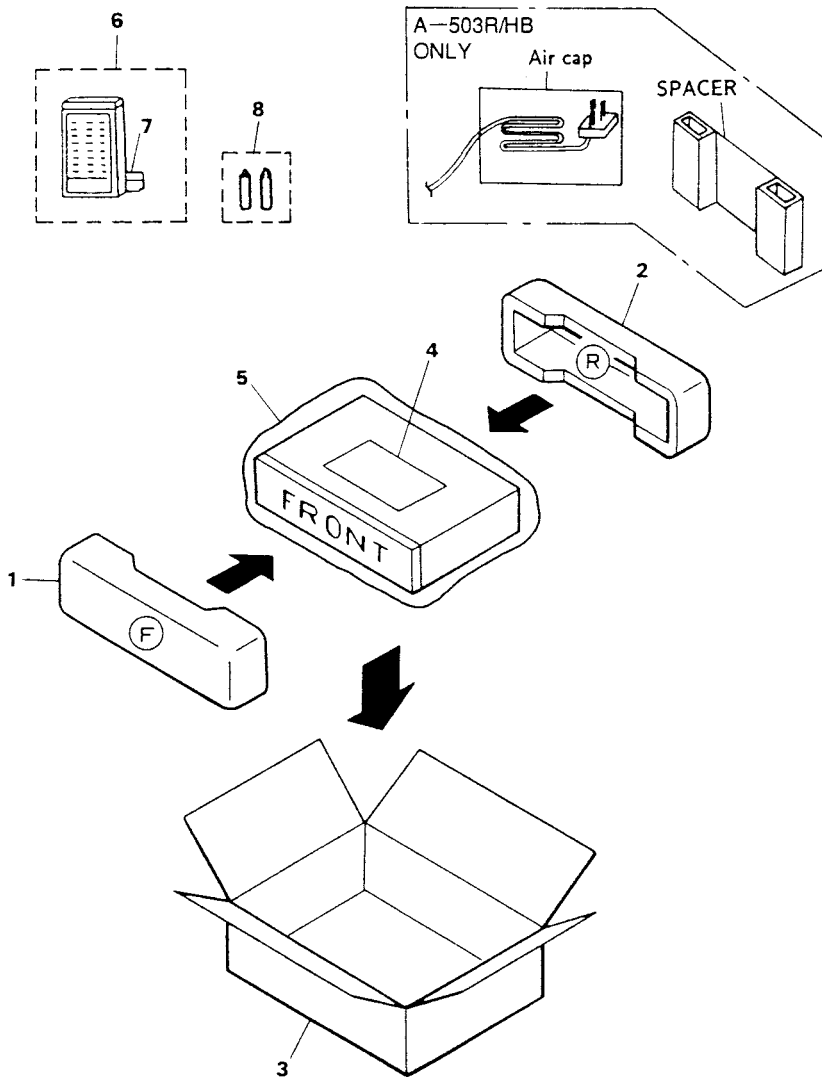


Rear view



## 1.2 PACKING (For A-503R/HE and A-403R/HE)

Mark No.	Description	Parts No.
1	Front pad	AHA1590
2	Rear pad	AHA1591
3	Packing case (A-503R)	AHD2740
3	Packing case (A-403R)	AHD2743
4	Operating instructions (English/German/French/Italian/ Swedish/Spanish/Dutch/Portuguese)	ARE1314
5	Packing sheet	AHG1016
6	Remote control unit (CU-A011) (A-503R)	AXD1391
6	Remote control unit (CU-A010) (A-403R)	AXD1392
7	Battery cover	AZN2249
NSP 8	Battery (R6P)	AEX-010



# 2. SCHEMATIC AND PCB CONNECTION DIAGRAMS

## 2.1 OVERALL WIRING DIAGRAM, AF, CONTROL, SP SWITCH AND SHIELD ASSEMBLIES

AF ASS'Y (AWZ5580 : A-503R/HE, A-503R/HEWZ AND A-503R-G/HEZ)  
(AWZ5587 : A-503R/HB)  
(AWZ5588 : A-403R/HE AND A-403R/HEWZ)

A

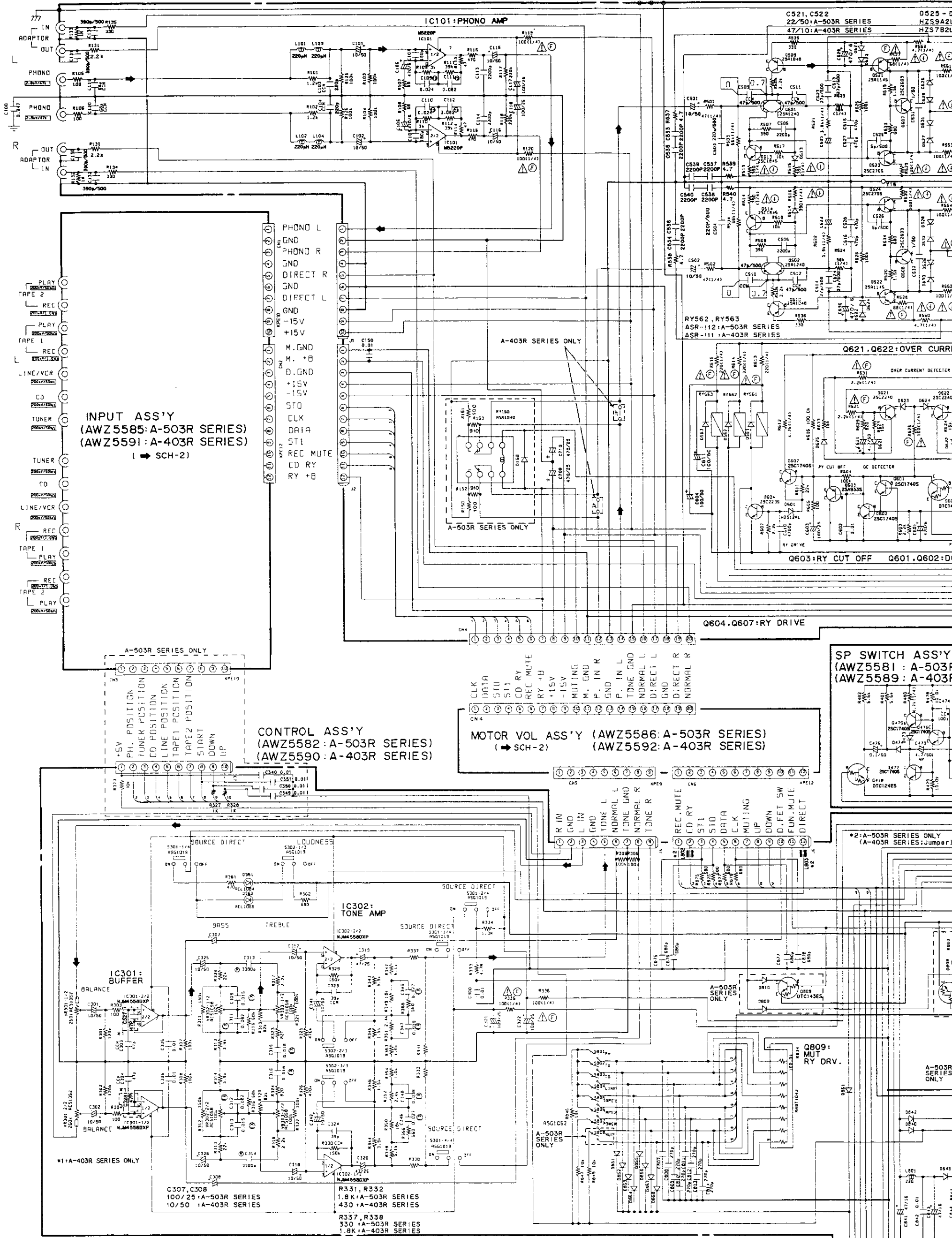
B

C

D

E

F



### SCH-1

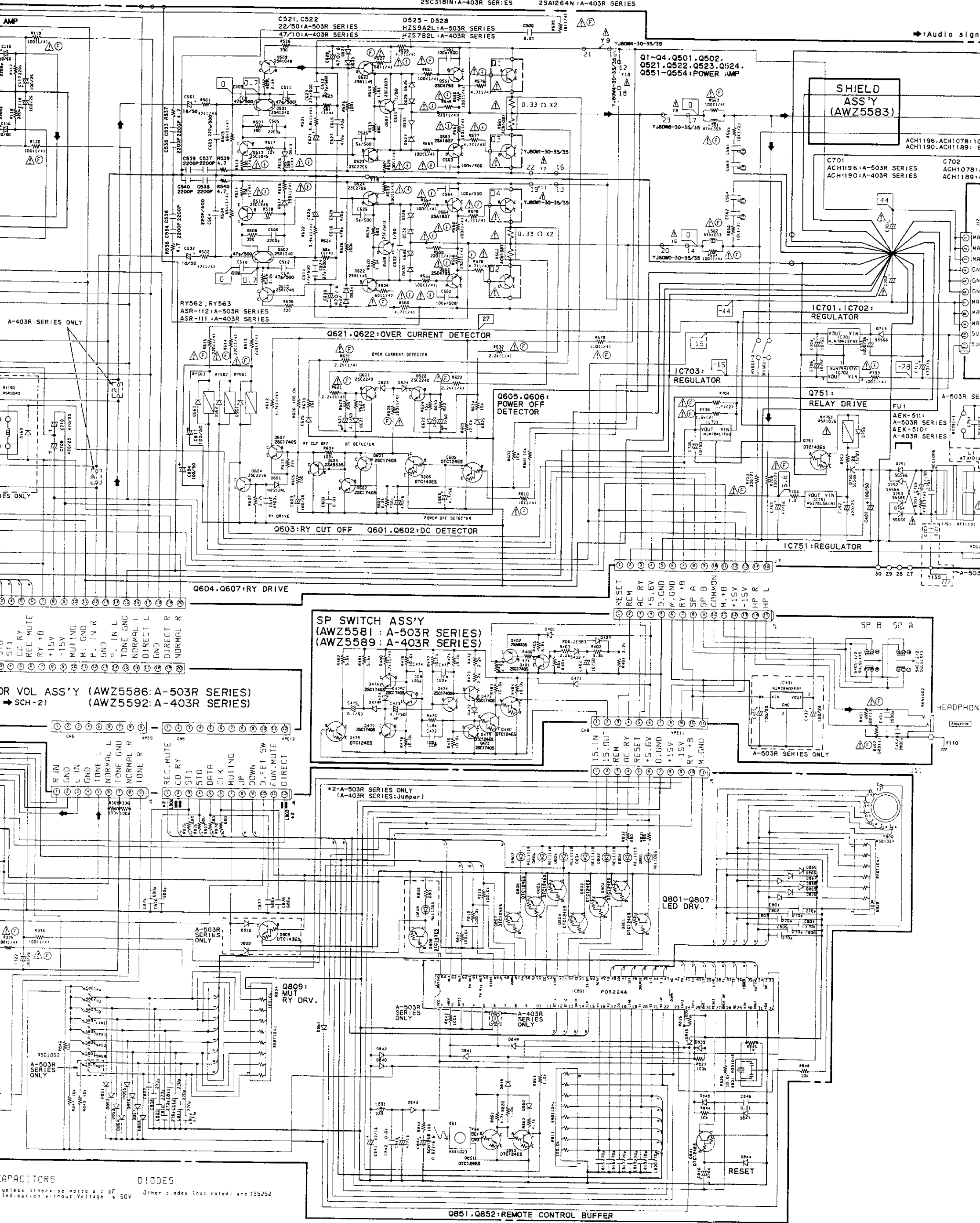
OVERALL, AF ASSY, CONTROL ASSY, SP SWITCH ASSY, SHIELD ASSY

RESISTORS: Indicated in  $\Omega$ , 1/BW \*5K tolerance unless otherwise noted; \*M: M.K.  
 CAPACITORS: unless otherwise noted;  $\mu$ :  $\mu$ F; indication without voltage is 50V  
 DIODES: Other diodes (not noted) are 1SS252

RAMS  
ASSEMBLIES

(HEZ)

Q1, Q2 25C3281:A-503R SERIES  
25C3181:A-403R SERIES  
Q3, Q4 25A1302:A-503R SERIES  
25A1264N:A-403R SERIES



Audio signal

SHIELD ASS'Y (AWZ5583)

C701, C702: REGULATOR

IC701, IC702: REGULATOR

IC703: REGULATOR

Q751: RELAY DRIVE

IC751: REGULATOR

SP SWITCH ASS'Y (AWZ5581: A-503R SERIES) (AWZ5589: A-403R SERIES)

SP B SP A

HEADPHON

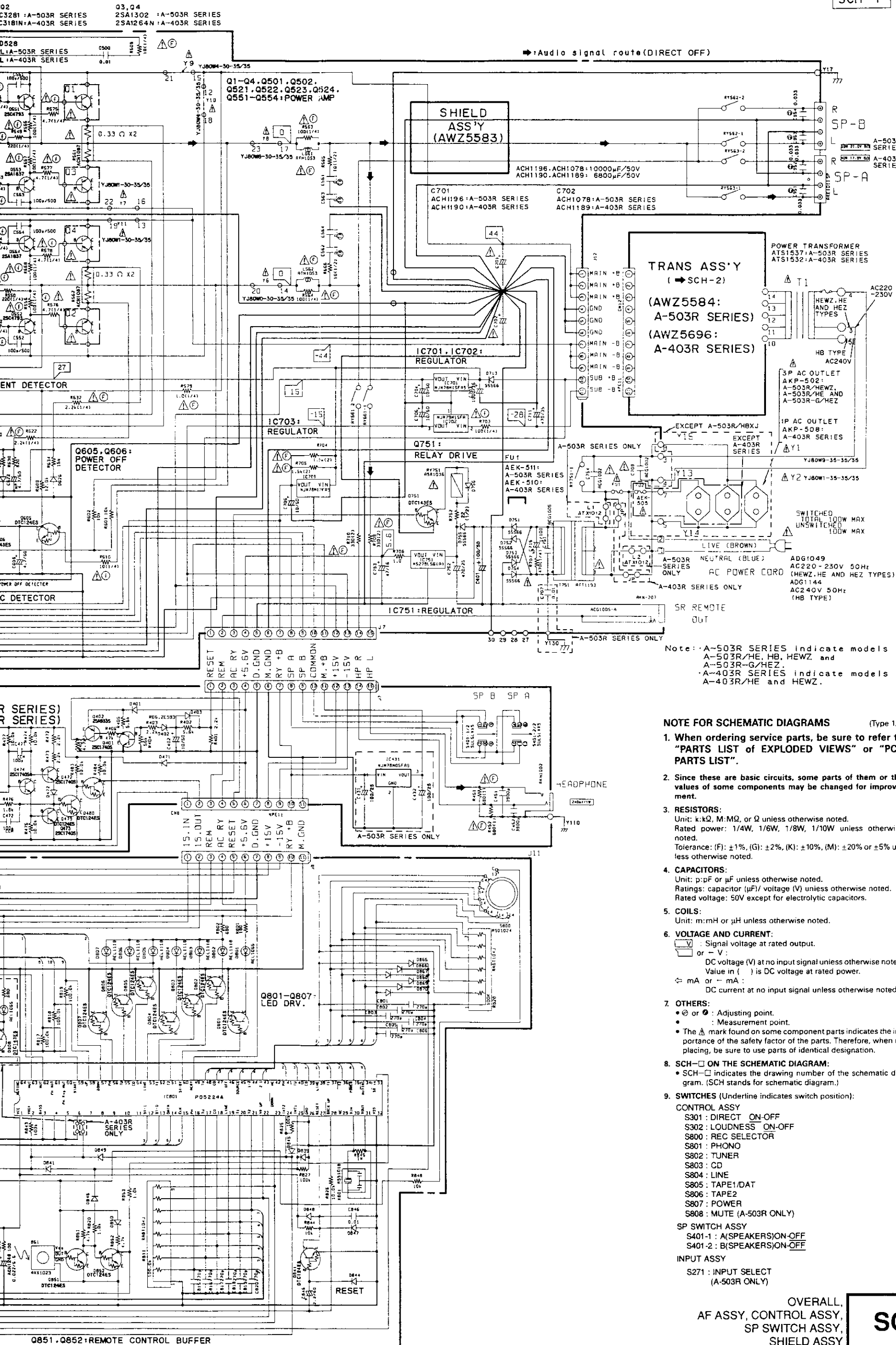
Q801-Q807: LED DRV.

Q809: MUT RY DRV.

Q851, Q852: REMOTE CONTROL BUFFER

RESISTORS CAPACITORS DIODES  
Unless otherwise noted, all are 1/4W  
Indication without Voltage = 50V  
Other diodes (not noted) are 1N5222

SCH-1



Note: A-503R SERIES indicate models A-503R/HE, HB, HEWZ and A-503R-G/HEZ. A-403R SERIES indicate models A-403R/HE and HEWZ.

**NOTE FOR SCHEMATIC DIAGRAMS** (Type 1A)

- When ordering service parts, be sure to refer to "PARTS LIST OF EXPLODED VIEWS" or "PCB PARTS LIST".
- Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
- RESISTORS:**  
Unit: k:Ω, M:MΩ, or Ω unless otherwise noted.  
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.  
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
- CAPACITORS:**  
Unit: p:pF or μ:μF unless otherwise noted.  
Ratings: capacitor (μF)/voltage (V) unless otherwise noted.  
Rated voltage: 50V except for electrolytic capacitors.
- COILS:**  
Unit: m:mH or μ:μH unless otherwise noted.
- VOLTAGE AND CURRENT:**  
V: Signal voltage at rated output.  
or -V: DC voltage (V) at no input signal unless otherwise noted. Value in ( ) is DC voltage at rated power.  
mA or -mA: DC current at no input signal unless otherwise noted.
- OTHERS:**  
⊙ or ⊚: Adjusting point.  
⊙: Measurement point.  
The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
- SCH-□ ON THE SCHEMATIC DIAGRAM:**  
SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
- SWITCHES** (Underline indicates switch position):  
CONTROL ASSY  
S301: DIRECT ON-OFF  
S302: LOUDNESS ON-OFF  
S800: REC SELECTOR  
S801: PHONO  
S802: TUNER  
S803: CD  
S804: LINE  
S805: TAPE1/DAT  
S806: TAPE2  
S807: POWER  
S808: MUTE (A-503R ONLY)  
SP SWITCH ASSY  
S401-1: A(SPEAKERS)ON-OFF  
S401-2: B(SPEAKERS)ON-OFF  
INPUT ASSY  
S271: INPUT SELECT (A-503R ONLY)

OVERALL, AF ASSY, CONTROL ASSY, SP SWITCH ASSY, SHIELD ASSY

SCH-1

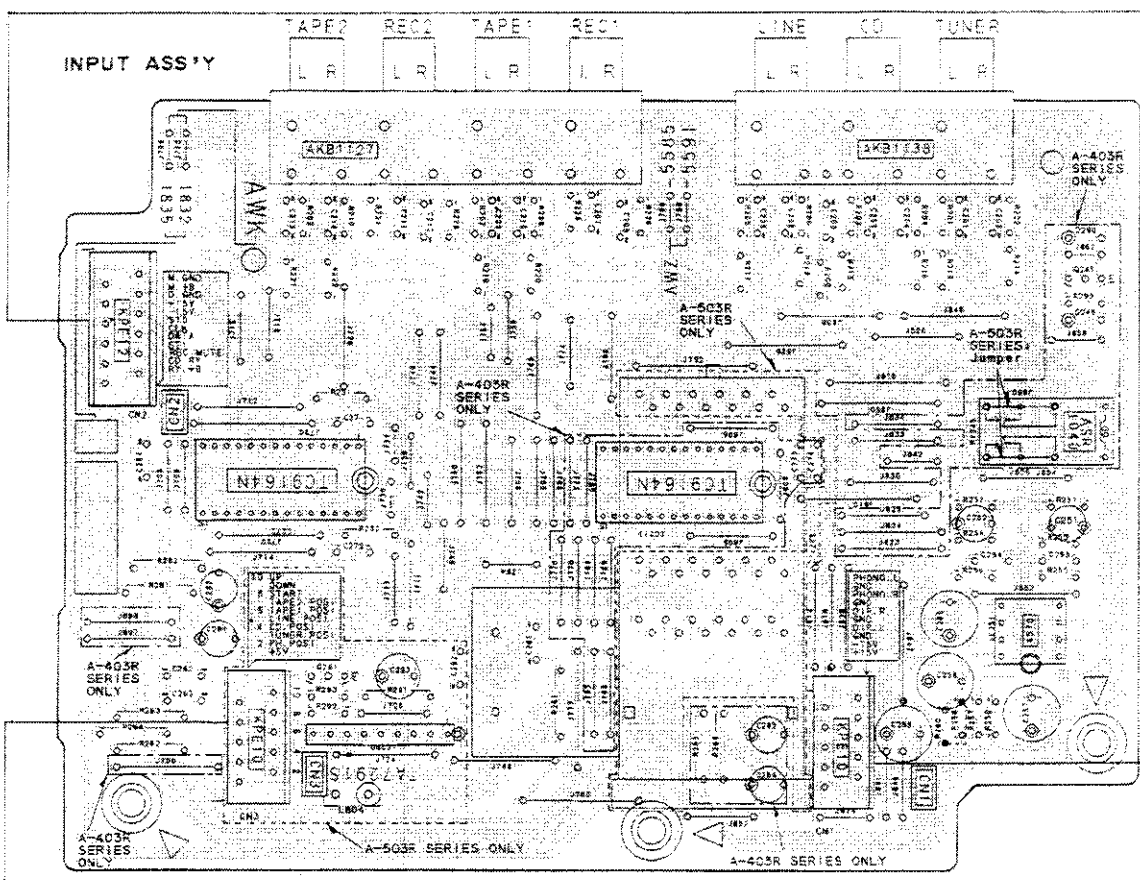
NOTE FOR PCB DIAGRAMS:

- 1. Part numbers in PCB diagrams match those in the schematic diagrams.
- 2. A comparison between the main parts of PCB and schematic diagrams is shown below.

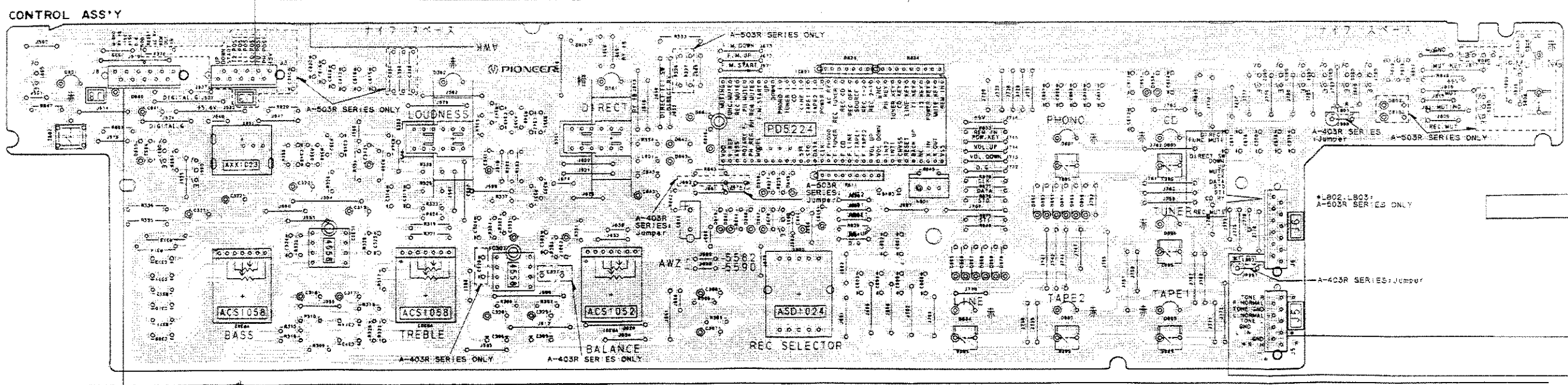
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
<p>Q504</p>	<p>Q504</p>	Transistor
<p>D203</p>	<p>D203</p>	Diode
<p>C513</p>	<p>C513</p>	Capacitor (Polarized)

- 3. The transistor terminal marked with E or shows the emitter.
- 4. The diode terminal marked with or shows cathode side.
- 5. The capacitor terminal marked with or shows negative terminal.

Note: A-503R SERIES indicate models  
 A-503R/HE, HB, HEWZ and  
 A-503R-G/HEZ.  
 A-403R SERIES indicate models  
 A-403R/HE and HEWZ.

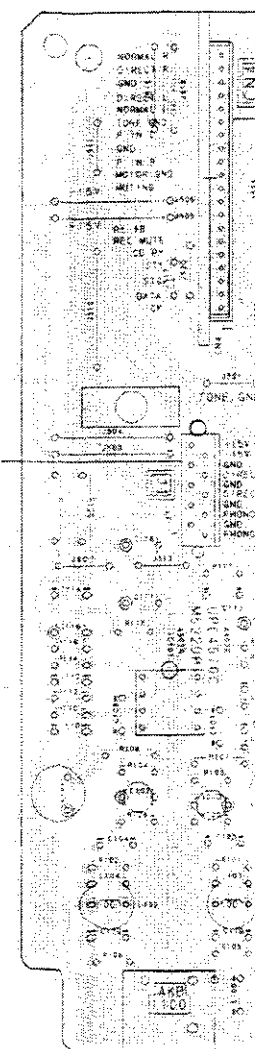


IC272 IC290 IC271 IC251 Q245  
 Q291



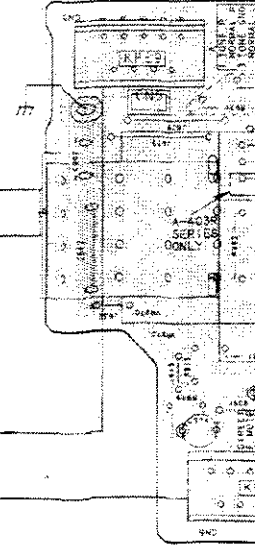
Q801 Q852 Q851 IC302 IC301 Q841 IC801 Q802 Q804 Q806 Q808  
 Q803 Q805 Q807 Q809

AF ASS'Y



Q1-Q4  
 IC703  
 Q622 Q508 Q507 Q621  
 IC702  
 IC701  
 Q552 Q554 Q553 Q551  
 Q522 Q521  
 Q509  
 Q524 Q523 Q510  
 Q501 Q502  
 Q514 Q513  
 Q751  
 IC101  
 Q605 Q606  
 Q603 IC751  
 Q602 Q601 Q604 Q607

MOTOR VOL ASS'Y



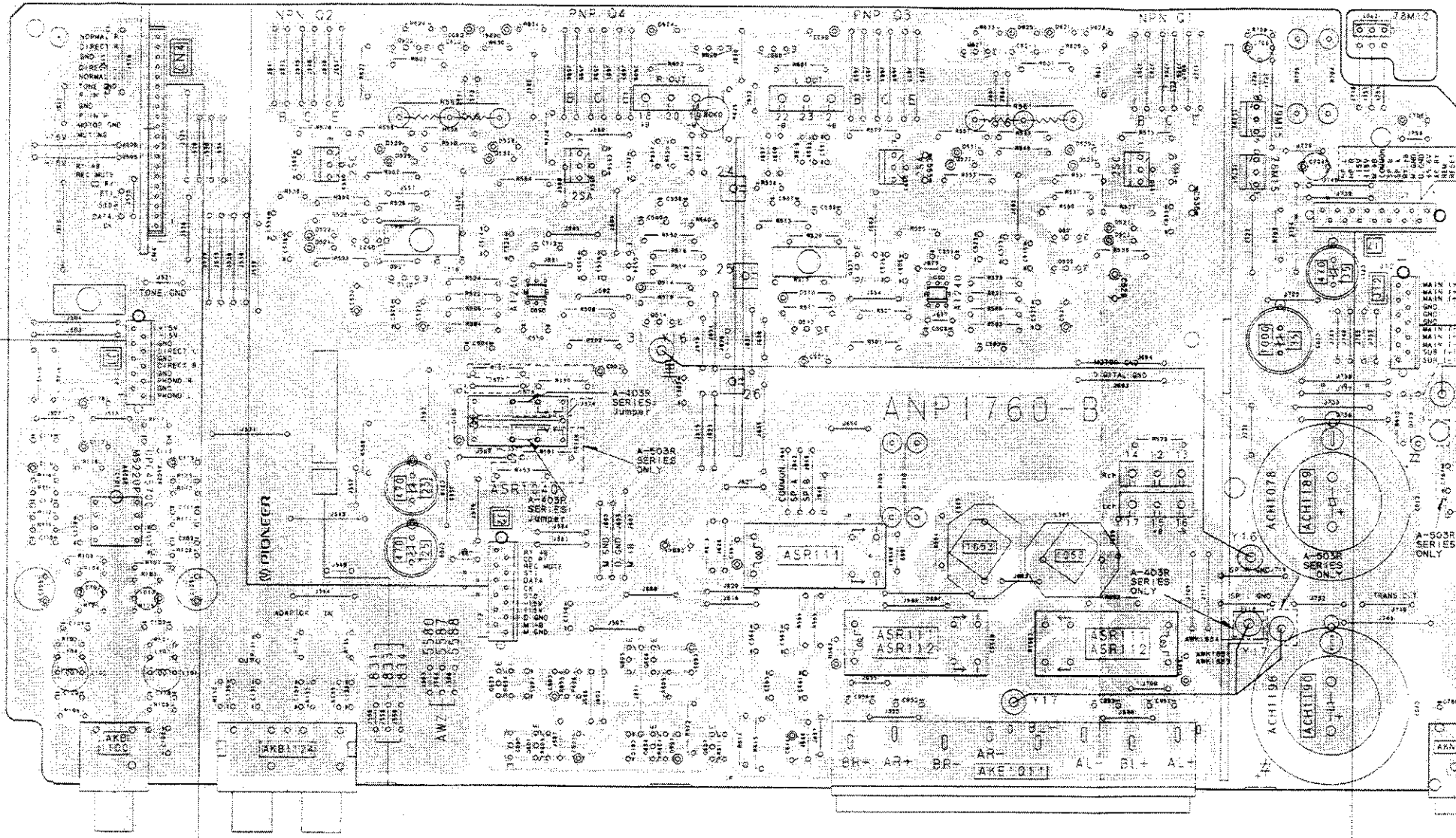


This diagram is viewed from the mounted parts side.

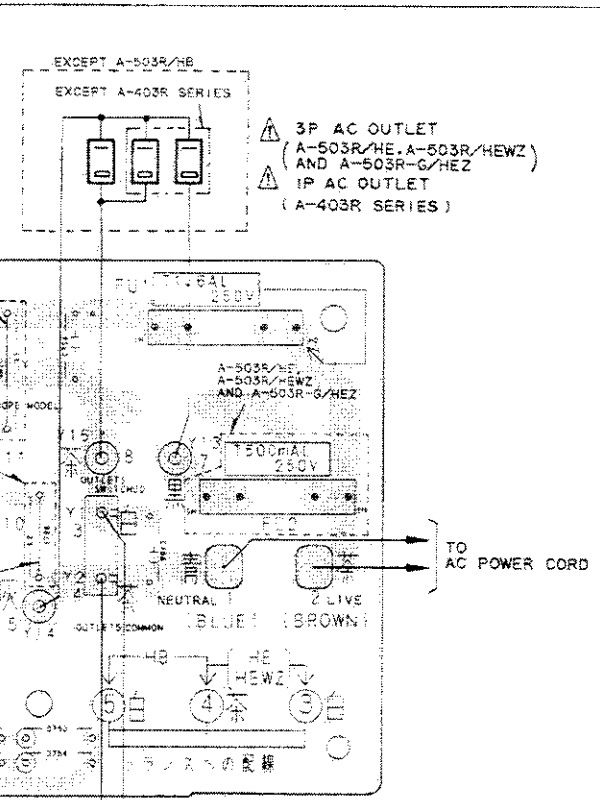
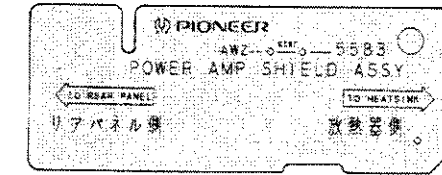
Note: R708 and C780 are used for push-on.

AF ASS'Y

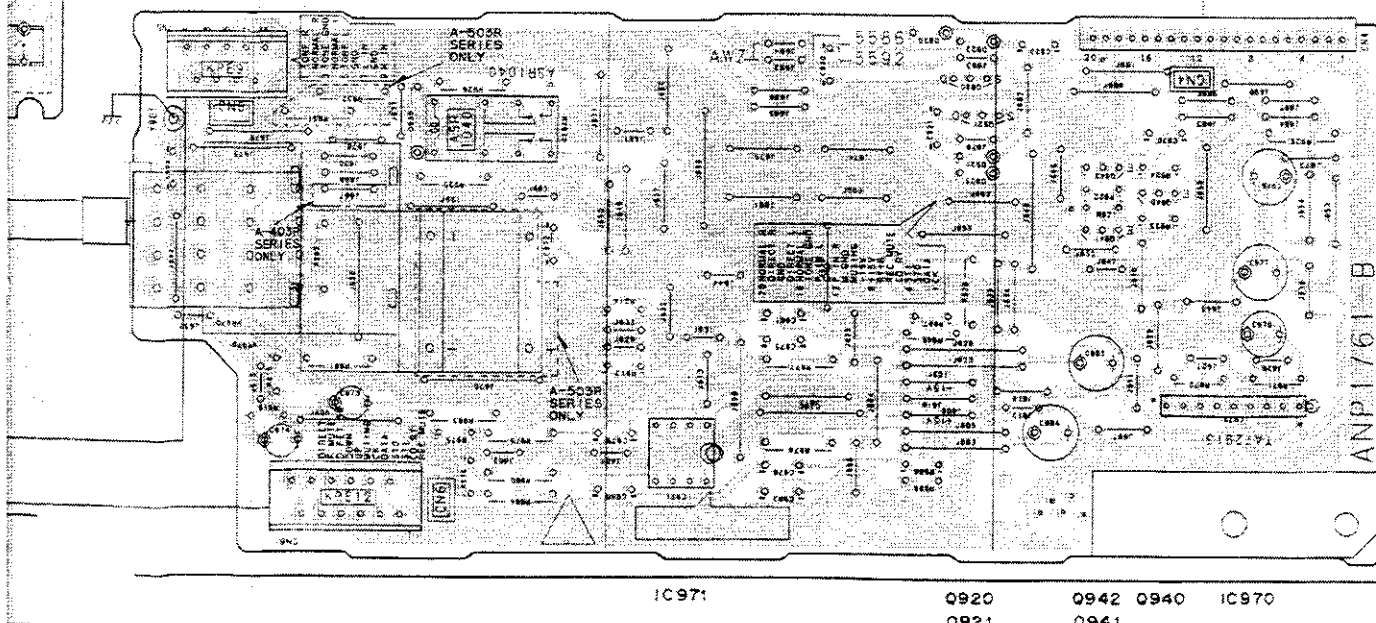
Q1-Q4  
IC703  
Q7 Q621  
IC702  
IC701  
Q551  
Q521  
Q509  
Q510  
Q502  
Q513



SHIELD ASS'Y

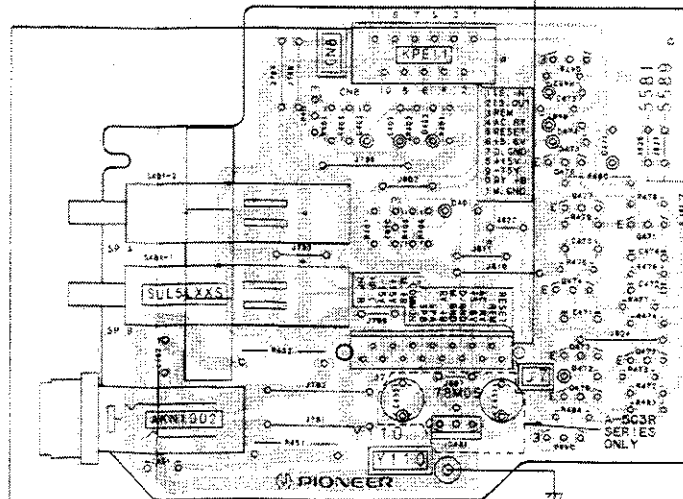


MOTOR VOL ASS'Y



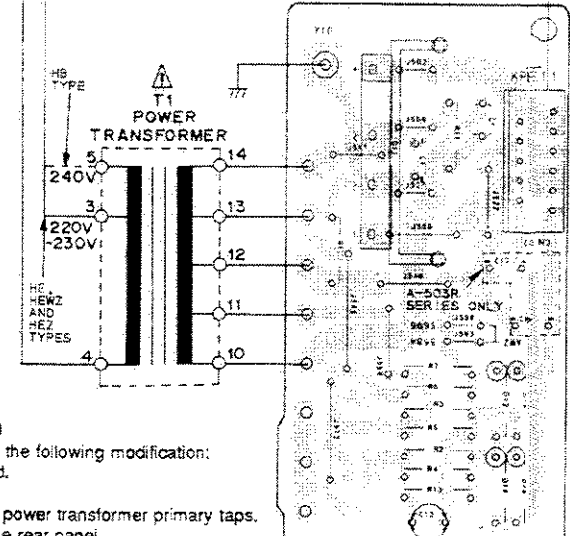
IC971 Q920 Q942 Q940 IC970  
Q921 Q941

SP SWITCH ASS'Y



Q401 Q402 IC431 Q472 - Q480

TRANS ASS'Y



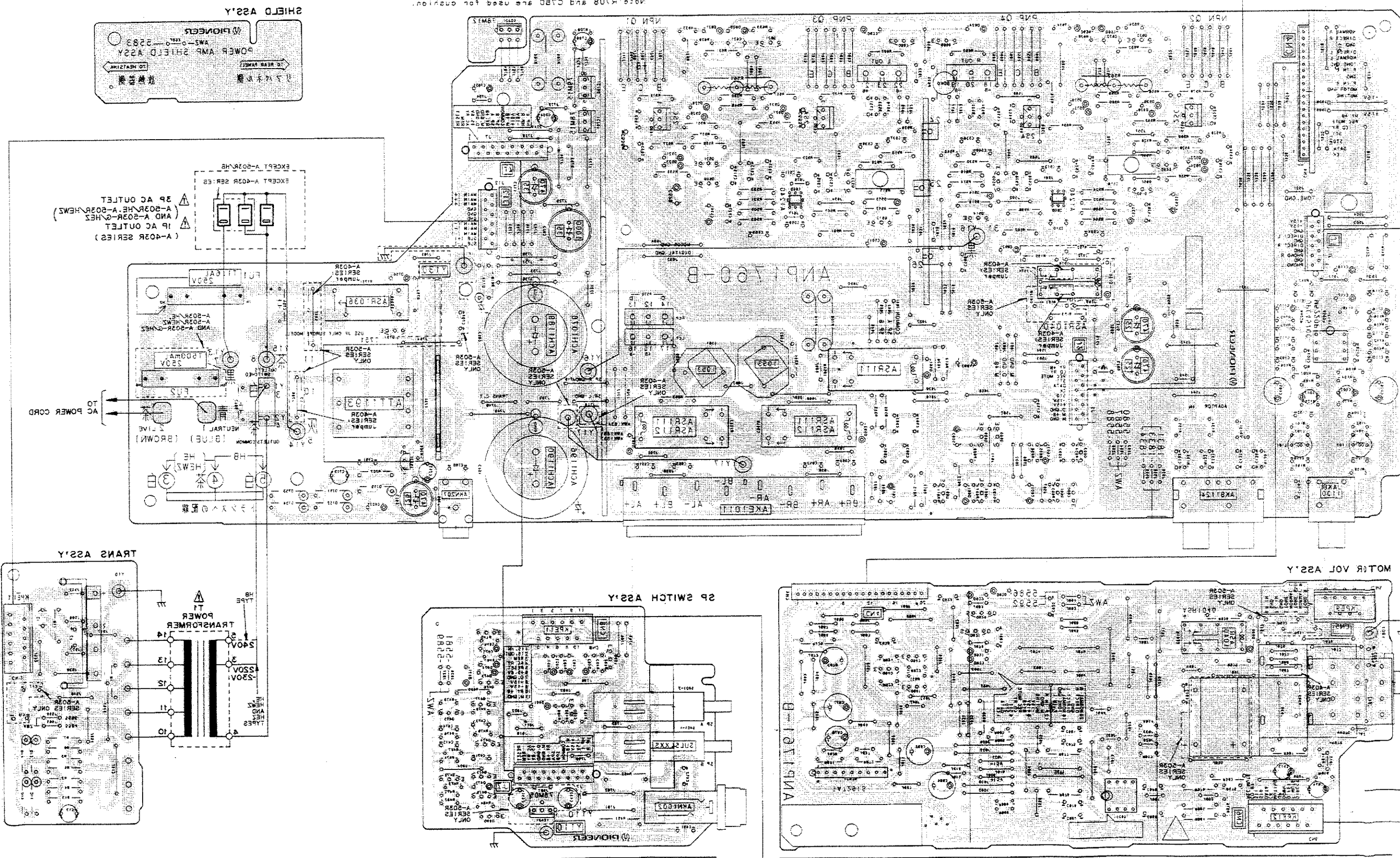
Line Voltage Selection

Line Voltage can be changed by the following modification:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection of the power transformer primary taps.
4. Stick a line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

This diagram is viewed from the foil side.



- 01-04 1C703
- 02-05 1C705
- 03-06 1C701
- 04-07 23 0251
- 05-08 53 0251
- 06-09 53 0210
- 07-10 01 0205
- 14-0213 14 0213
- 0251 1C101
- 0208 2 0251
- 0209 14 0205

Note R708 and C780 are used for capacitor.

0401 0405 1C431 0425 - 0480

1C91 0451 0450 0450 0450 0450

A

B

C

D

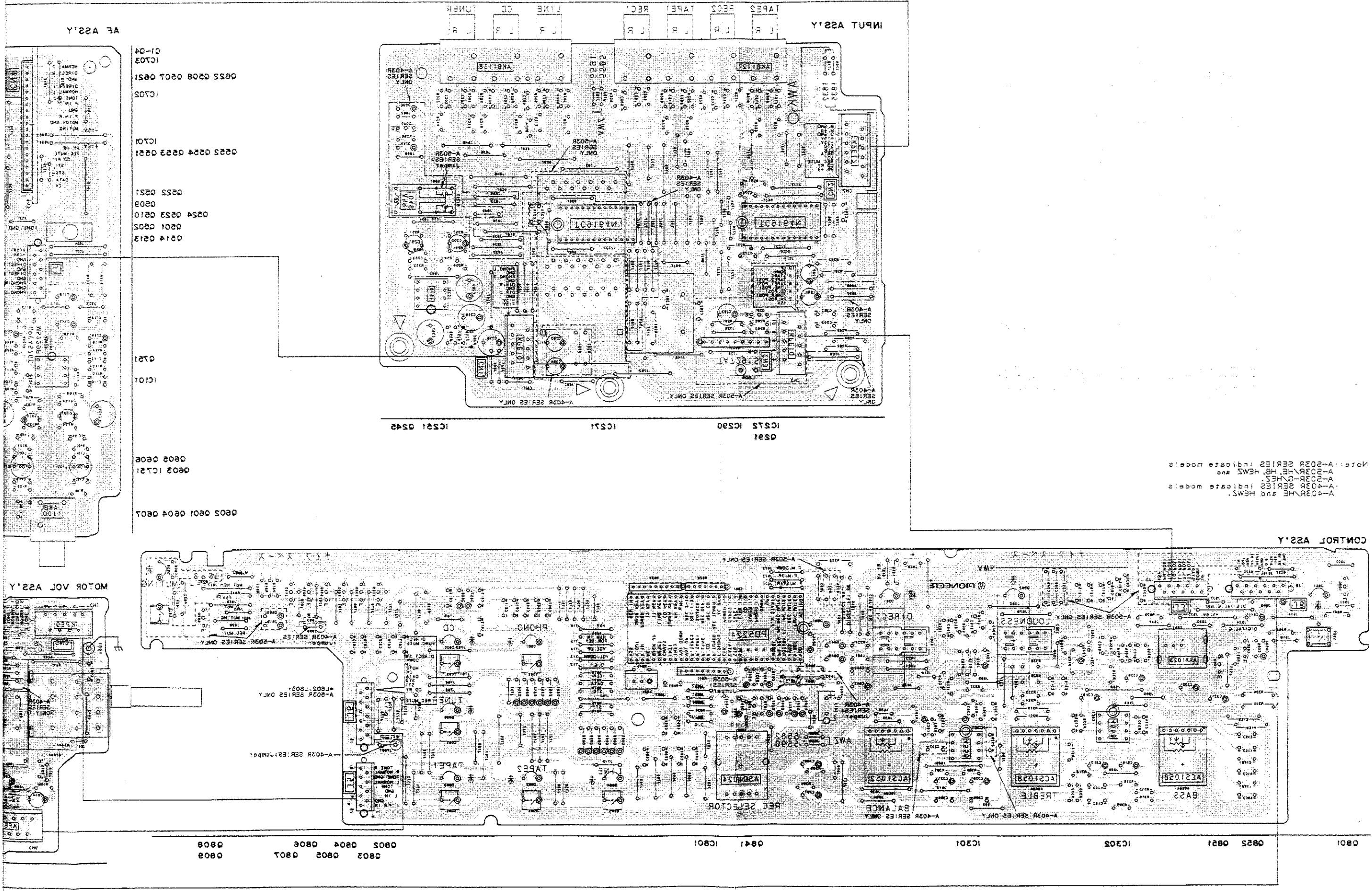
AF ASSY

MOTOR VOL ASSY

2P SWITCH ASSY

TRANS ASSY

SHIELD ASSY



A-403RHE and HEWS.  
 A-403R SERIES indicate models.  
 A-403RHEZ.  
 A-403RHE, HB, HEWS and  
 A-403R SERIES indicate models.

0801 0802 0803 0804 0805 0806 0807 0808 0809  
 0810 0811 0812 0813 0814 0815 0816 0817 0818 0819 0820  
 0821 0822 0823 0824 0825 0826 0827 0828 0829 0830  
 0831 0832 0833 0834 0835 0836 0837 0838 0839 0840  
 0841 0842 0843 0844 0845 0846 0847 0848 0849 0850  
 0851 0852 0853 0854 0855 0856 0857 0858 0859 0860  
 0861 0862 0863 0864 0865 0866 0867 0868 0869 0870  
 0871 0872 0873 0874 0875 0876 0877 0878 0879 0880  
 0881 0882 0883 0884 0885 0886 0887 0888 0889 0890  
 0891 0892 0893 0894 0895 0896 0897 0898 0899 0900  
 0901 0902 0903 0904 0905 0906 0907 0908 0909 0910  
 0911 0912 0913 0914 0915 0916 0917 0918 0919 0920  
 0921 0922 0923 0924 0925 0926 0927 0928 0929 0930  
 0931 0932 0933 0934 0935 0936 0937 0938 0939 0940  
 0941 0942 0943 0944 0945 0946 0947 0948 0949 0950  
 0951 0952 0953 0954 0955 0956 0957 0958 0959 0960  
 0961 0962 0963 0964 0965 0966 0967 0968 0969 0970  
 0971 0972 0973 0974 0975 0976 0977 0978 0979 0980  
 0981 0982 0983 0984 0985 0986 0987 0988 0989 0990  
 0991 0992 0993 0994 0995 0996 0997 0998 0999 1000

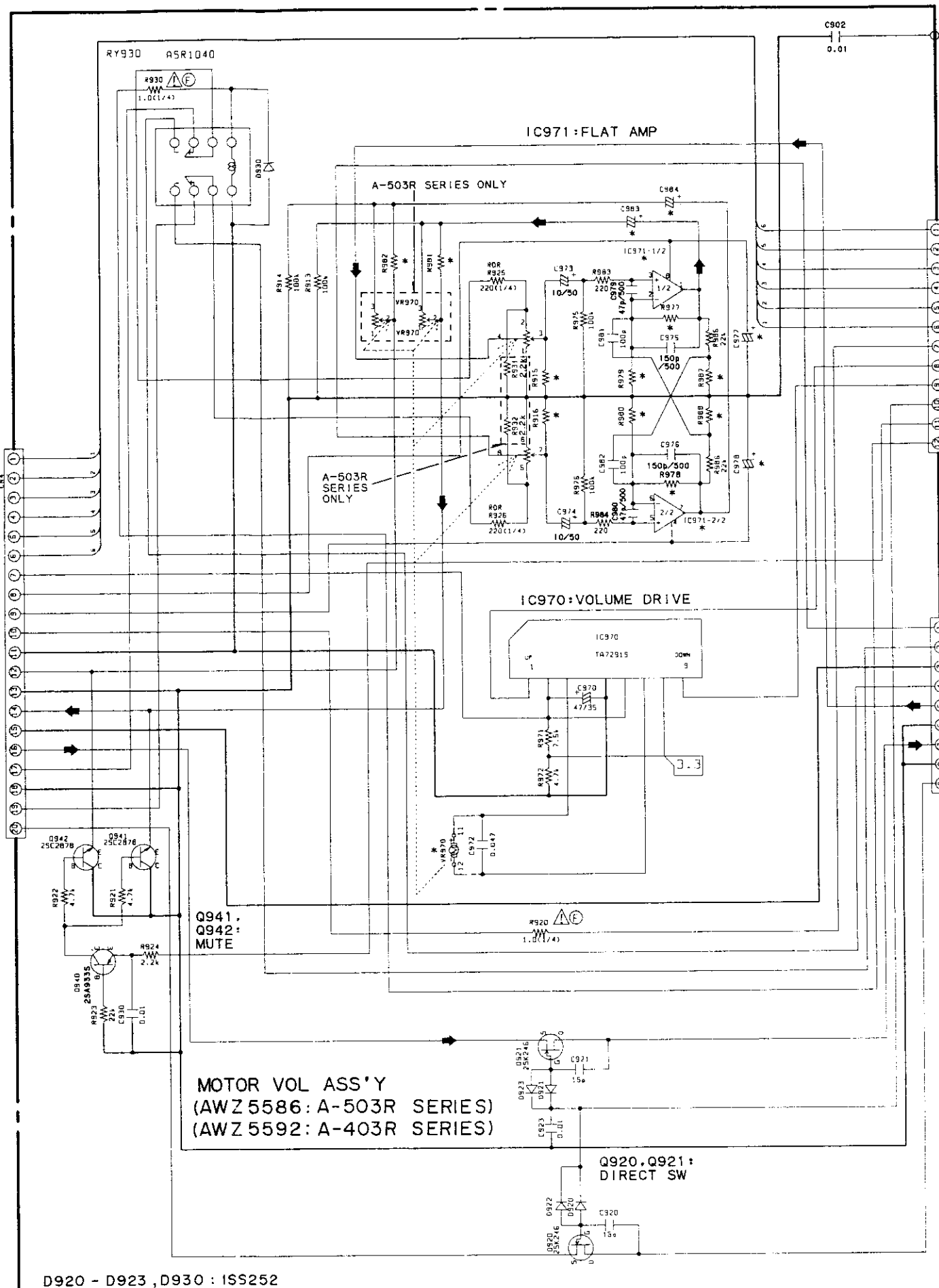
AF ASS'Y

INPUT ASS'Y

CONTROL ASS'Y

MOTOR VOL ASS'Y

Audio signal route(DIRECT OFF)



TO AF ASSY J1 (SCH-1)  
 TO AF ASSY J2 (SCH-1)  
 TO AF ASSY J3 (SCH-1)  
 TO AF ASSY CN4 (SCH-1)

CLK  
 DATA  
 ST0  
 ST1  
 CD RY  
 REC MUTE  
 RY +B  
 +15V  
 -15V  
 MUTING  
 M.GND  
 POWER IN R  
 GND  
 POWER IN L  
 TONE GND  
 NORMAL L  
 DIRECT L  
 GND  
 DIRECT R  
 NORMAL R

REC MUTE  
 CD RY  
 ST1  
 ST0  
 DATA  
 CLK  
 MUTING  
 UP  
 DOWN  
 D.FET SW  
 F.MUTE  
 DIRECT

TONE R  
 NORMAL R  
 TONE GND  
 NORMAL L  
 TONE L  
 GND  
 L IN  
 GND  
 R IN

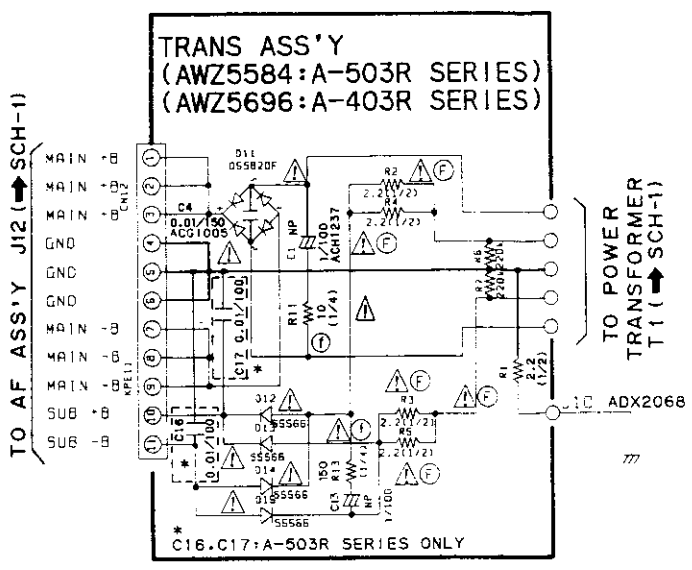
MOTOR VOL ASS'Y  
 (AWZ 5586: A-503R SERIES)  
 (AWZ 5592: A-403R SERIES)

Q920, Q921:  
 DIRECT SW

D920 - D923, D930 : ISS252

	A-503R SERIES	A-403R SERIES
C977, C978, C983, C984	100/25	10/50
IC971	NJM5532D-D	UPC4570C
R915, R916	8.2K	100K
R977, R978	2.7K	2.2K
R979, R980	390	430
R981, R982	3.3K	1K
R987	820	1K
R988	1K	2K
VR970	ACX1083	ACX1084

Note: A-503R SERIES indicate models A-503R/HE, HB, HEWZ and A-503R-G/HEZ.  
 A-403R SERIES indicate models A-403R/HE and HEWZ.



TRANS ASS'Y  
 (AWZ5584: A-503R SERIES)  
 (AWZ5696: A-403R SERIES)

C16, C17: A-503R SERIES ONLY

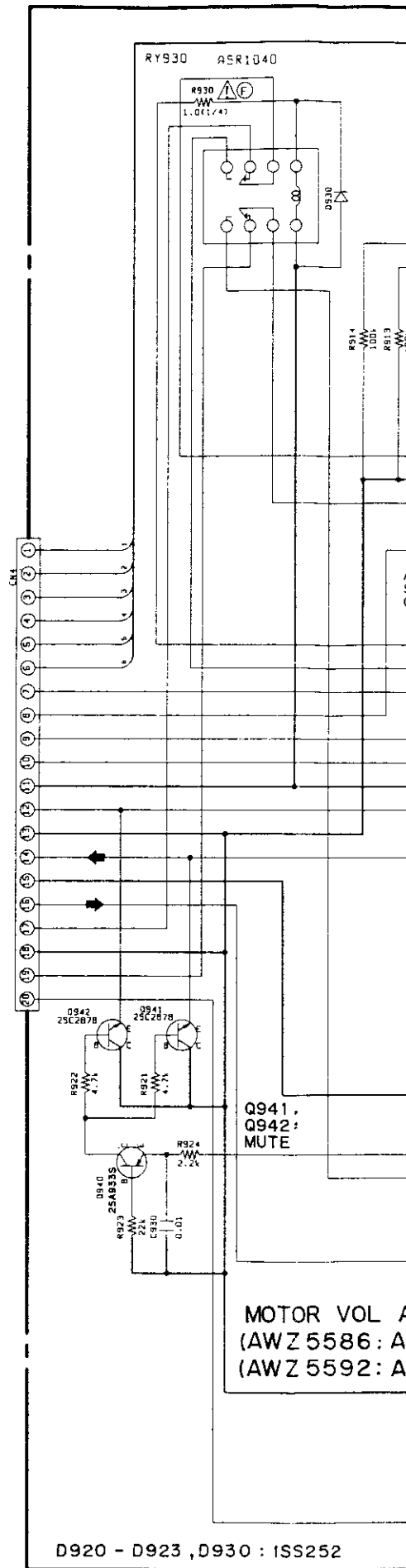
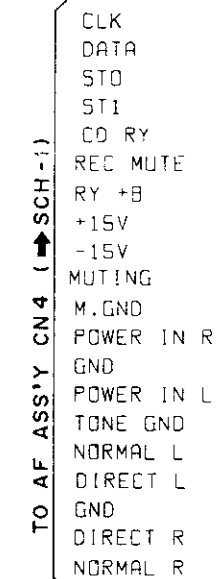
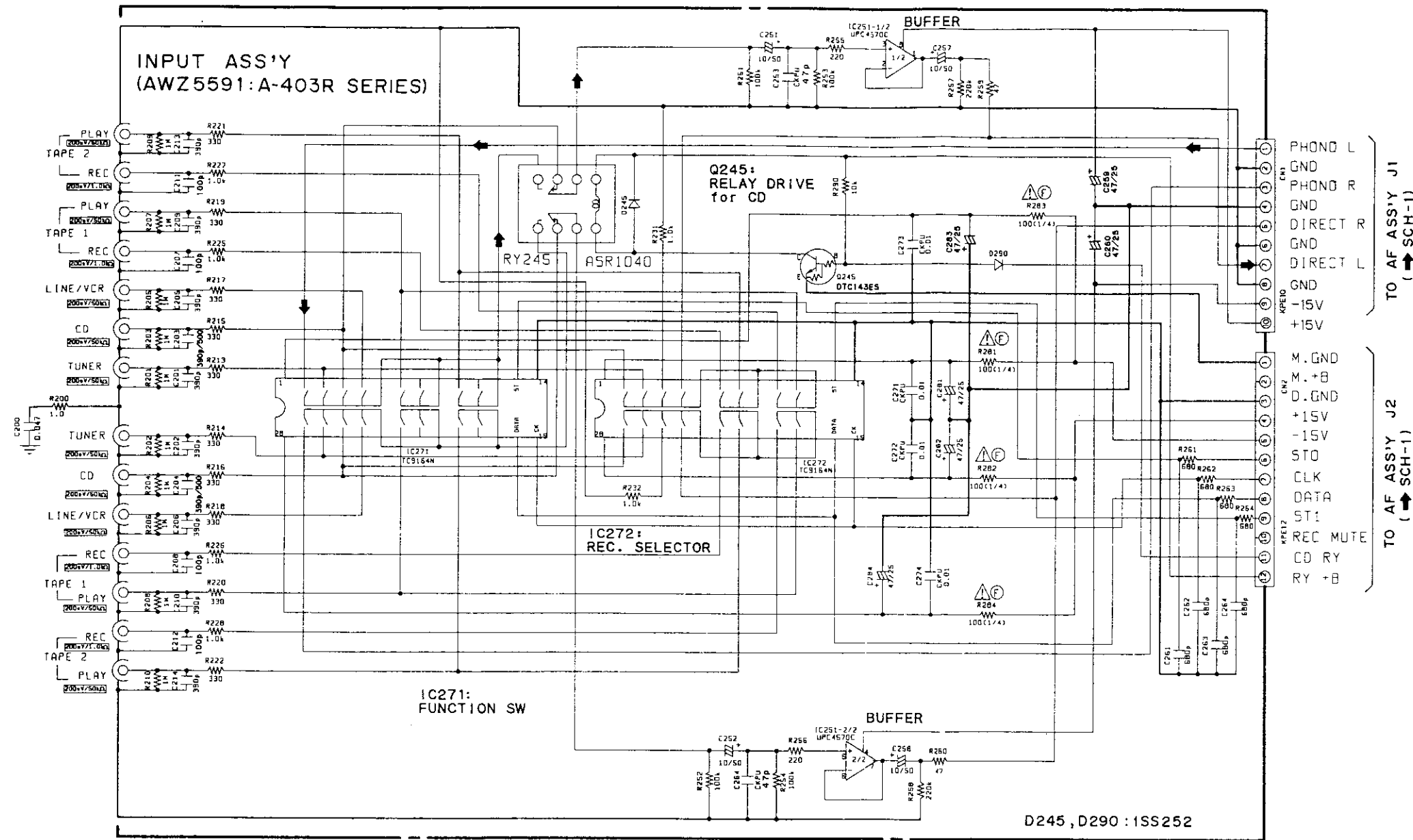
INPUT ASSY,  
 MOTOR VOL ASSY,  
 TRANS ASSY

2.2 INPUT, MOTOR VOL AND TRANS ASSEMBLIES

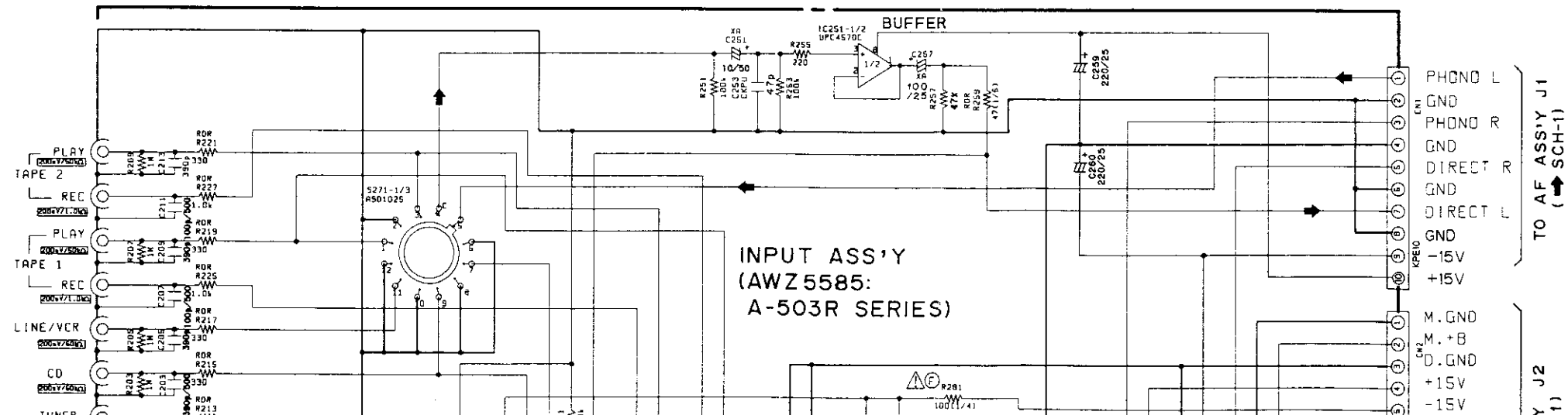
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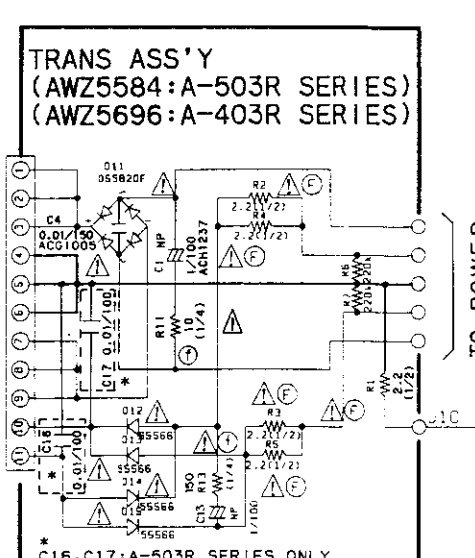
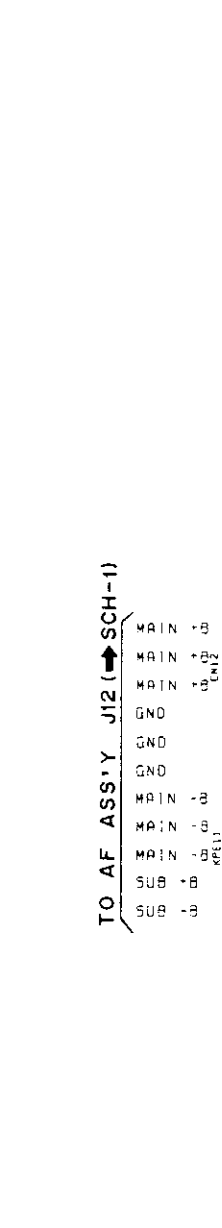
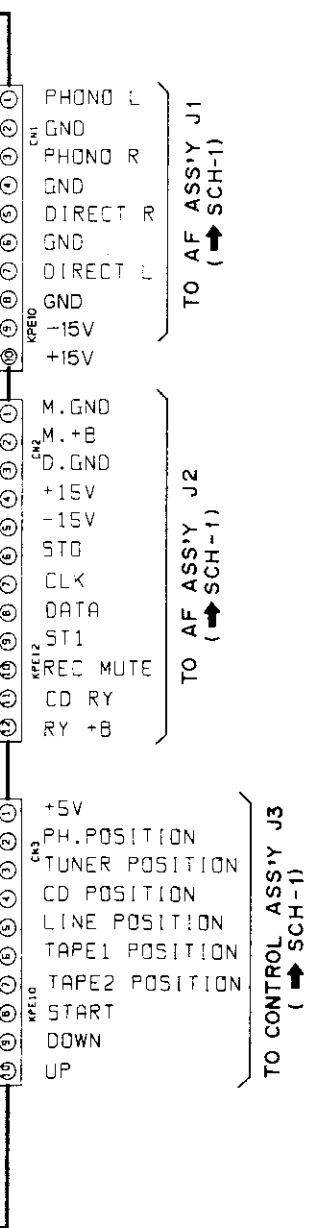
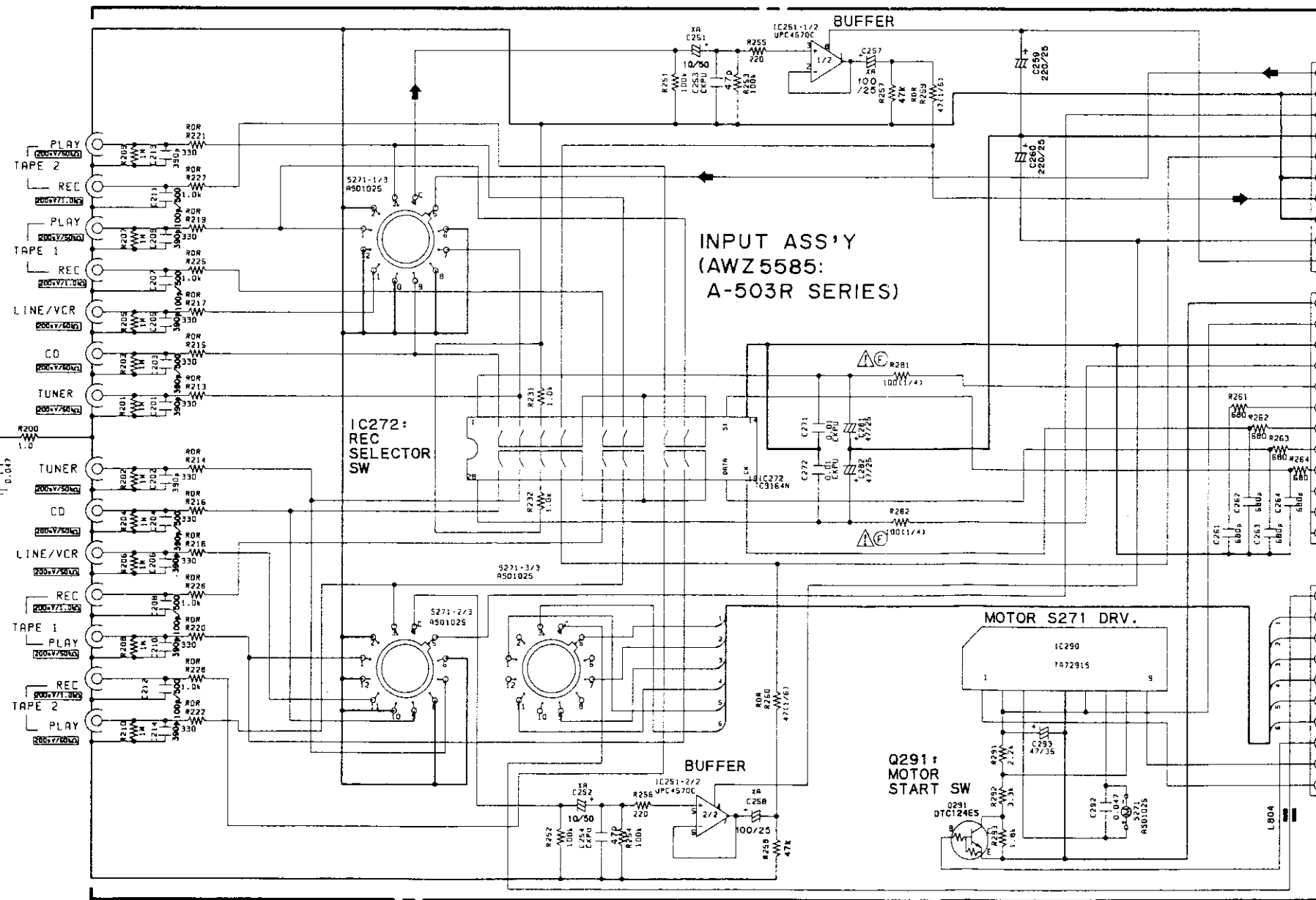
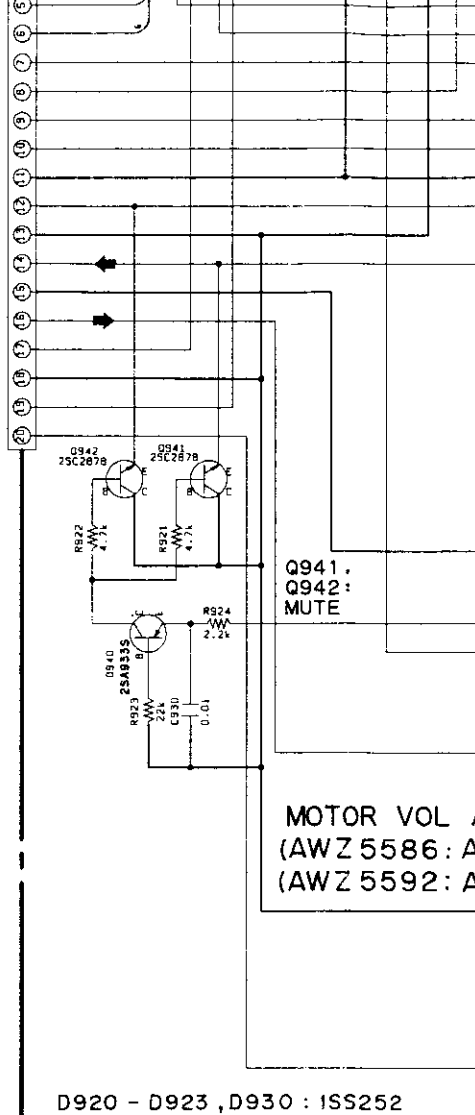
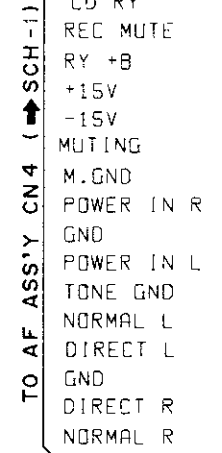
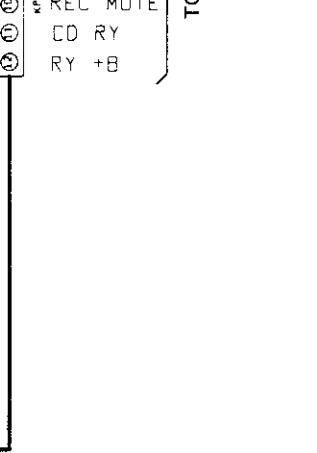
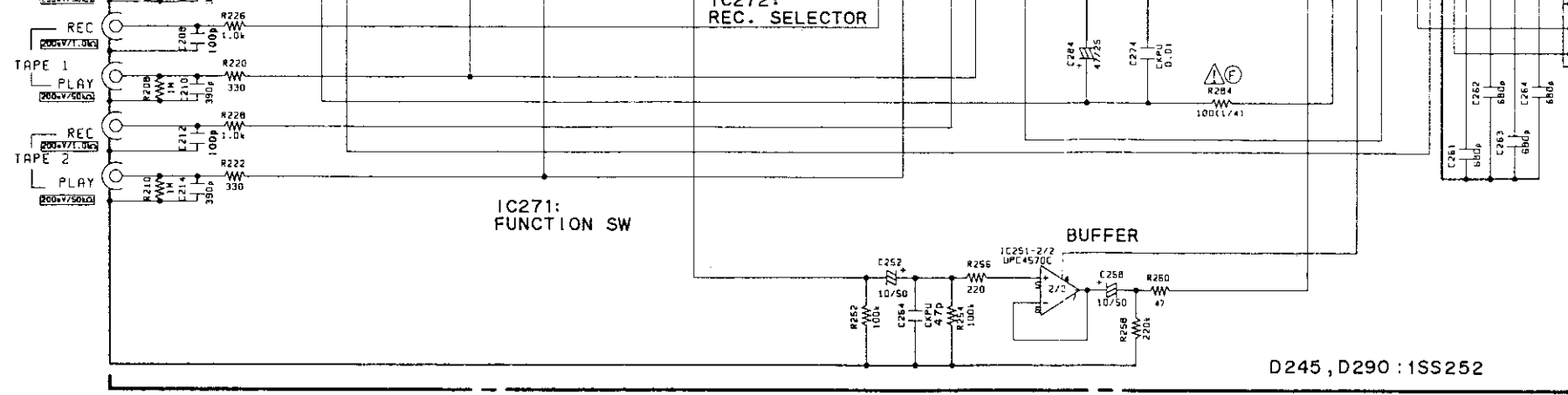
B

C



D





**SCH-2** INPUT ASSY, MOTOR VOL ASSY, TRANS ASSY

### 3. PCB PARTS LIST (FOR A-503R/HE AND A-403/HE)

**NOTES:**

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  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.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- 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 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	→	56 × 10 <sup>1</sup>	→	561	.....	RD1/8PM	<span style="border: 1px solid black; padding: 0 2px;">5</span> <span style="border: 1px solid black; padding: 0 2px;">6</span> <span style="border: 1px solid black; padding: 0 2px;">1</span> J
47kΩ	→	47 × 10 <sup>3</sup>	→	473	.....	RD1/4PS	<span style="border: 1px solid black; padding: 0 2px;">4</span> <span style="border: 1px solid black; padding: 0 2px;">7</span> <span style="border: 1px solid black; padding: 0 2px;">3</span> J
0.5Ω	→	0R5	.....			RN2H	<span style="border: 1px solid black; padding: 0 2px;">0</span> <span style="border: 1px solid black; padding: 0 2px;">R</span> <span style="border: 1px solid black; padding: 0 2px;">5</span> K
1Ω	→	010	.....			RS1P	<span style="border: 1px solid black; padding: 0 2px;">0</span> <span style="border: 1px solid black; padding: 0 2px;">1</span> <span style="border: 1px solid black; padding: 0 2px;">0</span> K

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

5.62kΩ	→	562 × 10 <sup>1</sup>	→	5621	.....	RN1/4PC	<span style="border: 1px solid black; padding: 0 2px;">5</span> <span style="border: 1px solid black; padding: 0 2px;">6</span> <span style="border: 1px solid black; padding: 0 2px;">2</span> <span style="border: 1px solid black; padding: 0 2px;">1</span> F
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Mark	No.	Description	Parts No.	Mark	Mark	No.	Description	Parts No.	Mark
<b>LIST OF ASSEMBLIES</b>							Q523,Q524	2SC2705	
For A-503R							Q551,Q552	2SC4793	
NSP	AF	ASS'Y	AWK1831			Q605	DTC124ES		
		AF ASS'Y	AWZ5580			Q606,Q751	DTC143ES		
		SP SWITCH ASS'Y	AWZ5581			D150 (A-503R only)	1SS252		
		CONTROL ASS'Y	AWZ5582			D513,D514,D521-D524	1SS252		
		SHIELD ASS'Y	AWZ5583			D529-D532,D561-D563	1SS252		
NSP	INPUT	ASS'Y	AWK1832			D621-D626,D756	1SS252		
		TRANS ASS'Y	AWZ5584			D601	HZS12AL		
		INPUT ASS'Y	AWZ5585			D525-D528 (For A-503R only)	HZS9A2L		
		MOTOR VOL ASS'Y	AWZ5586			D525-D528 (For A-403R only)	HZS7B2L		
						D713,D751-D755	S5566		
For A-403R							<b>COILS AND FILTERS</b>		
NSP	AF	ASS'Y	AWK1834			L561,L562 (1.5uH)	ATH1053		
		SHIELD ASS'Y	AWZ5583			L1,L2 (A-503R only)	ATX1012		
		AF ASS'Y	AWZ5588			L101-L104	LAU221K		
		SP SWITCH ASS'Y	AWZ5589			<b>TRANSFORMERS</b>			
		CONTROL ASS'Y	AWZ5590			$\Delta$ T751 (1.6VA)	ATT1193		
NSP	INPUT	ASS'Y	AWK1835			<b>SWITCHES AND RELAYS</b>			
		INPUT ASS'Y	AWZ5591			RY561	ASR-111		
		MOTOR VOL ASS'Y	AWZ5592			RY562 ,RY563 (For A-503R)	ASR-112		
		TRANS ASS'Y	AWZ5696			RY562 ,RY563 (For A-403R)	ASR-111		
<b>AF ASS'Y</b>							$\Delta$ RY751	ASR1036	
<b>SEMICONDUCTORS</b>							RY150 (A-503R only)	ASR1040	
		IC101	M5220P			<b>CAPACITORS</b>			
		IC751	M5278L56			$\Delta$ C708,C754 (0.01/AC400V)	ACG1002		
		IC703	NJM78M12FAS			C751,C780 (0.01/AC150V)	ACG1005		
		IC701	NJM78M15FAS			$\Delta$ C702 (10000/50) (For A-503R)	ACH1078		
		IC702	NJM79M15FA			$\Delta$ C702 (6800/50) (For A-403R)	ACH1189		
		Q509,Q510	2SA1048			$\Delta$ C701 (10000/50) (For A-503R)	ACH1196		
		Q521,Q522	2SA1145			$\Delta$ C701 (6800/50) (For A-403R)	ACH1190		
		Q501,Q502	2SA1240			C551-C554	CCCSL101K500		
		Q553,Q554	2SA1837			C503,C504	CCCSL221K500		
		Q603	2SA933S			C513,C514,C523,C524	CCCSL270K500		
		Q601,Q602,Q607	2SC1740S			C509-C512	CCCSL470K500		
		Q513,Q514	2SC1845			C119,C120	CCMSL680J50		
		Q604	2SC2235			C715	CEANP010M100		
		Q621,Q622	2SC2240			C621,C622	CEANP4R7M50		
		Q507,Q508	2SC2603			C101,C102,C115,C116	CEAS100M50		
						C704-C706	CEAS100M50		

Mark	No.	Description	Parts No.	Mark	Mark	No.	Description	Parts No.	Mark
	C117,C118,C603 C401,C604,C611 C703 C753 C709,C710,C752		CEAS101M25 CEAS101M50 CEAS102M35 CEAS470M16 CEAS471M25						
	C711 C105,C106,C529,C530,C601 C605 C501,C502 (For A-503R) C501,C502 (For A-403R)		CEAS471M35 CEAS471M6 CEAS4R7M50 CEEA100M50 CEAS100M50						
	C521,C522 (For A-503R) C521,C522 (For A-403R) C109,C110 C111,C112 C561-C564		CEEA220M50 CASA470M10 CFTXA243J50 CFTXA823J50 CFTYA104J50						
	C531,C532 C951-C954 C113,C114,C505,C506,C533-C540 C130-C133 C515,C516,C527,C528		CFTYA105J50 CFTYA333J50 CKCYB222K50 CKCYB391K500 CKCYB471K50						
	C610 C150,C500,C602 C707 (A-503R only) C100 C107,C108		CKCYB472K50 CKCYF103Z50 CKCYF103Z50 CKCYF473Z50 CKMYB181K50						
	C103,C104 C525,C526		CKMYB221K50 CMA050D500						
<b>RESISTORS</b>									
△	R561,R562 (0.33/5W) R752		ACN1087 RD1/2PM220J RD1/2PMF100J RD1/4PM101J RD1/4PM392J						
△	R565,R566 R150,R151 (A-503R only) R521,R522								
	R501,R502 R612 R503,R504,R523,R524 R152,R153 (A-503R only) R579		RD1/4PM470J RD1/4PM472J RD1/4PM563J RD1/4PM911J RD1/4PMF010J						
△	R509 R119,R120,R563,R564,R625 R613-R615 R621,R622,R631,R632 R527,R528		RD1/4PMF100J RD1/4PMF101J RD1/4PMF221J RD1/4PMF222J RD1/4PMF680J						
△	R610 R529,R530,R551-R558,R703 R549,R550 R513-R516 R707		RFA1/4PS100J RFA1/4PS101J RFA1/4PS221J RFA1/4PS391J RFA1/4PS471J						
△	R559,R560,R575-R578 R704,R705 R709,R710		RFA1/4PS4R7J RS2LMF152J RS2LMF331J						
	Other Resistors		RD1/8PM□□□J						
<b>OTHERS</b>									
	CN8104 PIN JACK(2P) PIN JACK(4P) SPEAKER TERMINAL 8-P CN8108 JACK		AKB1100 AKB1124 AKE1011 AKN-207						
<b>SP SWITCH ASS'Y</b>									
<b>SEMICONDUCTORS</b>									
			IC431 (A-503R only) Q402 Q401,Q472-Q477 Q478-Q480 D401,D403,D471-D474					NJM78M05FAS 2SA933S 2SC1740S DTC124ES 1SS252	
			D402					RD6.2ESB3	
<b>SWITCHES AND RELAYS</b>									
			S401					SUL5LXXS	
<b>CAPACITORS</b>									
			C471,C472,C474 C473 C475 C402 C431,C432 (A-503R only)					CCMSL101J50 CEANP4R7M50 CEASOR1M50 CEAS100M50 CEAS101M25	
			C451,C452					CGMYX392M25	
<b>RESISTORS</b>									
			R480 △ R451,R452					RD1/4PM472J RS1LMF681J	
			Other Resistors					RD1/8PM□□□J	
<b>OTHERS</b>									
			JACK CN8 CONNECTOR(11P)					AKN1002 KPE11	
<b>CONTROL ASS'Y</b>									
<b>SEMICONDUCTORS</b>									
			IC301,IC302 IC801 Q801-Q807,Q841,Q851,Q852 Q808,Q809 (A-503R only) D809,D810 (A-503R only)					NJM4558DXP PD5224A DTC124ES DTC143ES 1SS252	
			D839-D858,D861 D865-D870 D808 (RED) (A-503R only) D362,D801 (RED) D361 (ORANGE)					1SS252 1SS252 AEL1065 AEL1065 AEL1084	
			D802-D807 (RED)					AEL1118	
<b>COILS AND FILTERS</b>									
			L801 L802,L803 (A-503R only)					LAU221K ATX1008	
<b>SWITCHES AND RELAYS</b>									
			S800 S301,S302 S808 (A-503R only) S801-S806 S807					ASD1024 ASG1019 ASG1034 ASG1034 ASG1052	
<b>CAPACITORS</b>									
			C844 (0.022F/5.5) C327,C328 (A-403R only) C323,C324 C303,C304 C301,C302,C317,C318 C325,C326,C341,C342					ACH1246 CCCSL470J50 CCMSL390J50 CCMSL470J50 CEAS100M50 CEAS100M50	



Mark No.	Description	Parts No.	Mark	Mark No.	Description	Parts No.	Mark
C307, C308	(A-503R only)	CEAS101M25		IC251		UPC4570C	
C307, C308	(A-403R only)	CEAS100M50		Q245	(A-403R only)	DTC143ES	
C321, C322		CEAS101M25		Q291	(A-503R only)	DTC124ES	
C845		CEAS2R2M50		D245, D290	(A-403R only)	1SS252	
C841, C843		CEAS470M16					
C319, C320		CEAS470M25		<b>COILS AND FILTERS</b>			
C309, C310		CFTYA153J50		L804	(A-503R only)	ATX1008	
C315, C316		CFTYA183J50		<b>SWITCHES AND RELAYS</b>			
C345, C346		CFTYA273J50		S271	(A-503R only)	ASD1025	
C347, C348		CFTYA393J50		RY245	(A-403R only)	ASR1040	
C311, C312		CFTYA823J50		<b>CAPACITORS</b>			
C340	(A-503R only)	CKCYF103Z50		C257, C258	(100/25) (For A-503R)	ACH1262	
C300, C305, C306, C842		CKCYF103Z50		C257, C258	(For A-403R)	CEAS100M50	
C846		CKCYF103Z50		C207, C208, C211, C212	(For A-503R)	CCCSL101K500	
C801 - C820		CKMYB271K50		C207, C208, C211, C212	(For A-403R)	CCCSL101J50	
C875 - C878		CKMYB681K50		C253, C254		CCPUSL470J50	
C349 - C351	(A-503R only)	CKPUYF103Z25		C259, C260	(For A-503R)	CEAS221M25	
C313, C314		CQMA332J50		C259, C260	(For A-403R)	CEAS470M25	
<b>RESISTORS</b>				C281, C282		CEAS470M25	
R828		RA6T104J		C283, C284	(A-403R only)	CEAS470M25	
R811, R834		RA8T104J		C293	(A-503R only)	CEAS470M35	
R335, R336		RD1/4PMF101J		C251, C252	(A-503R only)	CEEA100M50	
VR301	(100k x 2)	ACSI052		C251, C252	(A-403R only)	CEAS100M50	
VR302, VR303	(100k - 20A x 2)	ACSI058		C201, C202, C205, C206		CKCYB391K500	
Other Resistors		RD1/8PM□□□J		C209, C210, C213, C214		CKCYB391K500	
<b>OTHERS</b>				C203, C204		CKCYB391K500	
X801	CERAMIC RESONATOR(4.19MHZ) REMOTE RECEIVER UNIT	ASS1018 AXX1023		C200		CKCYF473Z50	
<b>SHIELD ASS'Y</b>				C292	(A-503R only)	CKCYX473M25	
No service part				C261 - C264		CKMYB681K500	
<b>TRANS ASS'Y</b>				C271, C272		CKPUYF103Z25	
<b>SEMICONDUCTORS</b>				C273, C274	(A-403R only)	CKPUYF103Z25	
D11		D5SB20F		<b>RESISTORS</b>			
D12 - D15		S5566		△ R281, R282		RD1/4PMF101J	
<b>CAPACITORS</b>				△ R283, R284	(A-403R only)	RD1/4PMF101J	
C4	(0.01/AC150V)	ACG1005		Other Resistors		RD1/8PM□□□J	
C1	(10000/56)	ACH1237		<b>OTHERS</b>			
C13		CEANP010M100		CN8204	PIN JACK(8P)	AKB1127	
C16, C17	(A-503R only)	CQPA103J100		CN8205	PIN JACK(6P)	AKB1138	
<b>RESISTORS</b>				CN3	CONNECTOR(10P)(A-503R only)	KPE10	
R1 - R5		RD1/2PMF2R2J		CN1	CONNECTOR(10P)	KPE10	
R11		RFA1/4PS100J		CN2	CONNECTOR(12P)	KPE12	
R13		RFA1/4PS151J		<b>MOTOR VOL ASS'Y</b>			
Other Resistors		RD1/8PM□□□J		<b>SEMICONDUCTORS</b>			
<b>OTHERS</b>				IC971	(For A-503R)	NJM5532D - D	
SCREW		ABA-298		IC971	(For A-403R)	UPC4570C	
CN12	CONNECTOR(11P)	KPE11		IC970		TA7291 S	
<b>INPUT ASS'Y</b>				Q940		2SA933 S	
<b>SEMICONDUCTORS</b>				Q941, Q942		2SC2878	
IC290	(A-503R only)	TA7291 S		Q920, Q921		2SK246	
IC271	(A-403R only)	TC9164N		D920 - D923, D930		1SS252	
IC272		TC9164N		<b>SWITCHES AND RELAYS</b>			
<b>OTHERS</b>				RY930		ASR1040	
<b>SEMICONDUCTORS</b>				<b>CAPACITORS</b>			
IC290	(A-503R only)	TA7291 S		C977, C978, C983, C984	(100/25)	ACH1262	
IC271	(A-403R only)	TC9164N		(For A-503R)		CEAS100M50	
IC272		TC9164N		C977, C978, C983, C984	(For A-403R)	CCCSL101K500	
<b>OTHERS</b>				C981, C982		CCCSL151K500	
<b>SEMICONDUCTORS</b>				C975, C976			

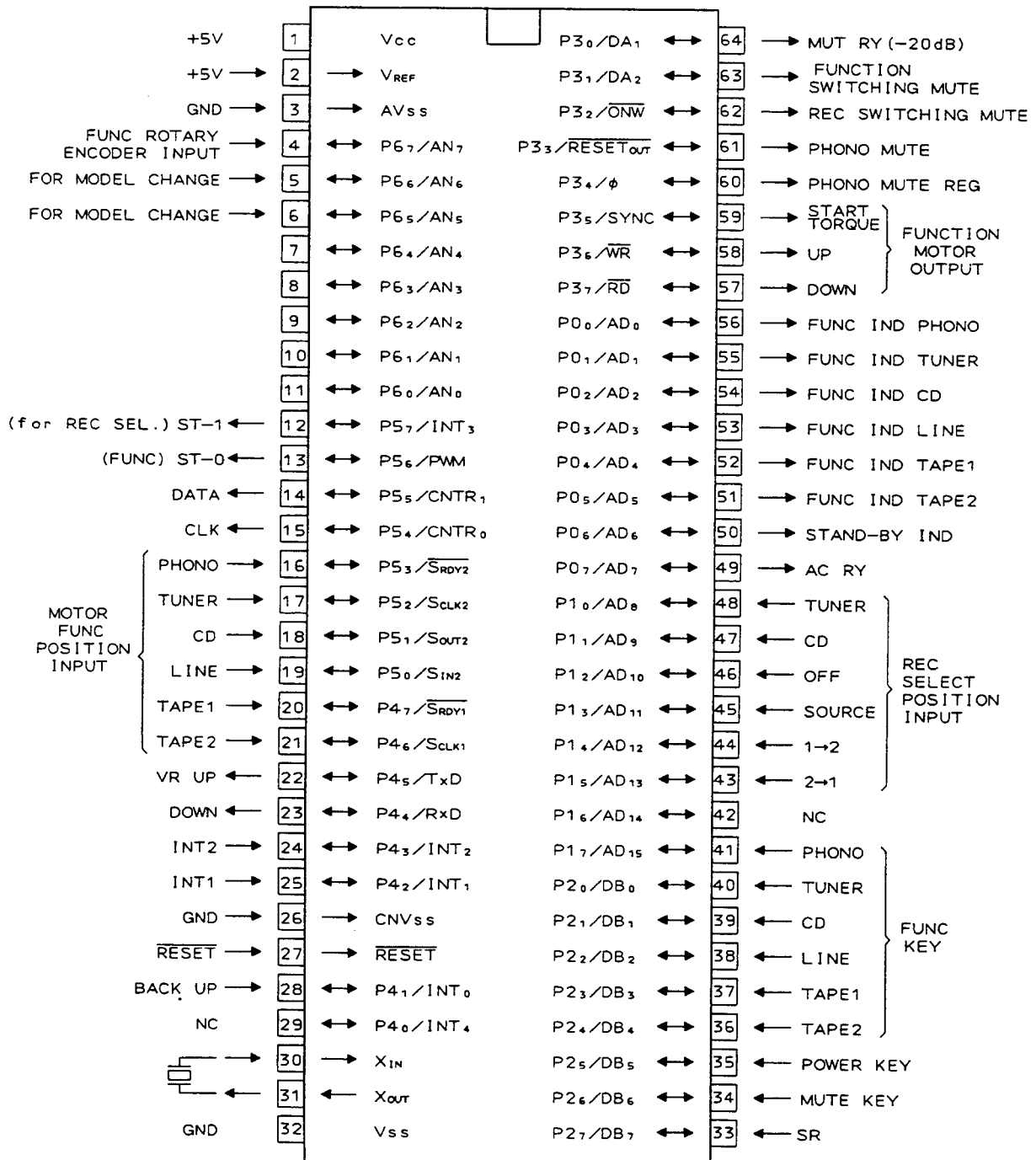
Mark	No.	Description	Parts No.	Mark
	C979,C980		CCCSL470K500	
	C920,C921		CCMSL150J50	
	C970		CEAS470M35	
	C973,C974 (For A-503R)		CEEA100M50	
	C973,C974 (For A-403R)		CEAS100M50	
	C902,C923,C930		CKCYF103Z50	
	C972		CKCYX473M25	
<b>RESISTORS</b>				
	R925,R926		RD1/4PM221J	
	R931,R932		RD1/4PM222J	
	R977,R978 (For A-503R)		RD1/4PM272J	
	R977,R978 (For A-403R)		RD1/4PM222J	
	R981,R982 (For A-503R)		RD1/4PM332J	
	R981,R982 (For A-403R)		RD1/4PM102J	
	R979,R980 (For A-503R)		RD1/4PM391J	
	R979,R980 (For A-403R)		RD1/4PM431J	
△	R920,R930		RD1/4PMF010J	
	VR970 (20k×2, 30k×2) (For A-503R)		ACX1083	
	VR970 (50k-A5×2) (For A-403R)		ACX1084	
	Other Resistors		RD1/8PM□□□J	
<b>OTHERS</b>				
	CN6	CONNECTOR(12P)	KPE12	
	CN5	CONNECTOR(9P)	KPE9	

## 4. IC INFORMATION

● The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

### ■ IC801 : (PD5224A) ● AMP CONTROL $\mu$ - COM

#### Pin Assignment



Pin Function

No.	Name	I/O	Function name	Function	Logic
1	V <sub>CC</sub>		Vcc	Input voltage +5V	-
2	V <sub>INT</sub>	I	-	"H" Pull up	-
3	AV <sub>SS</sub>	I	-	Digital GND	-
4	P67/AN7	I	F - EN	Function Rotary encoder input	Step V input
5	P66/AN6	I		For model change	"H"
6	P65/AN5	I		For model change	"H"
7	P64/AN4				
8	P63/AN3				
9	P62/AN2				
10	P61/AN1				
11	P60/AN0				
12	P57/INT3	O	ST	REC. SEL. SW(TC9164N) ST - 1	
13	P56/PWM	O	ST	FUNCTION REC. SEL. SW(TC9164N) ST - 0	
14	P55/CNTR1	O	DATA	FUNCTION AND REC. SEL. SW(TC9164N) DATA	
15	P54/CNTR0	O	CLK	FUNCTION AND REC. SEL. (TC9164N) CLK	
16	P53/SRDY2	I	F - PHONO	Motor FUNC PHONO POSITION INPUT	"H"
17	P52/SCLK2	I	F - TUNER	Motor FUNC TUNER POSITION INPUT	"H"
18	P51/SOUT2	I	F - CD	Motor FUNC CD POSITION INPUT	"H"
19	P50/SIN2	I	F - LINE	Motor FUNC LINE POSITION INPUT	"H"
20	P47/SRDY1	I	F - TAPE1	Motor FUNC TAPE1 POSITION INPUT	"H"
21	P46/SCLK1	I	F - TAPE2	Motor FUNC TAPE2 POSITION INPUT	"H"
22	P45/TxD	O	V - UP	VR UP	"H" (UP)
23	P44/RxD	O	V - DOWN	VR DOWN	"H" (DOWN)
24	P43/INT2	I	IN T2	Silent mode input (FUNCTION, POWER, MUTE, REC)	"H" (Release)
25	P42/INT1	I	INT1	Silent mode input (SR only)	"H" (Release)
26	CNV <sub>SS</sub>	I	-	(to V <sub>SS</sub> )	-
27	RESET	I	RST	Reset terminal	"L" (Reset)
28	P41/INT0	I	BACK UP	BACK UP detection (Back up mode)	"L"
29	P40/INT4	-	-		-
30	X <sub>IN</sub>	I	XIN	Oscillation (4.19MHz)	-
31	X <sub>OUT</sub>	O	XOUT	Oscillation (4.19MHz)	-
32	V <sub>SS</sub>	-	V <sub>SS</sub>	Digital GND	-
33	P27/DB7	I	SR	Remote controller signal input	-
34	P26/DB6	I	MUT.K	Muting key input	"H" (ON)
35	P25/DB5	I	POW.K	Power key input	"H" (ON)
36	P24/DB4	I	T2.K	FUNCTION TAPE2 key input	"H" (ON)
37	P23/DB3	I	TLK	FUNCTION TAPE1 key input	"H" (ON)
38	P22/DB2	I	LLK	FUNCTION LINE key input	"H" (ON)
39	P21/DB1	I	CD.K	FUNCTION CD key input	"H" (ON)
40	P20/DB0	I	TU.K	FUNCTION TUNER key input	"H" (ON)
41	P17/AD15	I	PH.K	FUNCTION PHONO key input	"H" (ON)
42	P16/AD14	-	-		-
43	P15/AD13	I	T2→1	RECEV T2→T1 Copy Position input	"H" (ON)
44	P14/AD12	I	T1→2	RECEV T1→T2 Copy Position input	"H" (ON)
45	P13/AD11	I	SOURCE	Sel.SOURCE Position input	"H" (ON)
46	P12/AD10	I	OFF	Sel. OFF Position input	"H" (ON)
47	P11/AD9	I	CD	sel. CD Position input	"H" (ON)
48	P10/AD8	I	TUNER	sel. TUNER Position input	"H" (ON)
49	P07/AD7	O	AC RY	AC Primary Relay	"H" (ON)
50	P06/AD6	O	ST. IND	STANDBY IND	"H" (ON)
51	P05/AD5	O	T2.IND	FUNCTION IND TAPE2	"H" (ON)
52	P04/AD4	O	T1.IND	FUNCTION IND TAPE1	"H" (ON)
53	P03/AD3	O	LI.IND	FUNCTION IND LINE	"H" (ON)
54	P02/AD2	O	CD.IND	FUNCTION IND CD	"H" (ON)
55	P01/AD1	O	TU.IND	FUNCTION IND TUNER	"H" (ON)
56	P00/AD0	O	PH.IND	FUNCTION IND PHONO	"H" (ON)
57	P37/RD	O	F - DOWN	Motor FUNCTION DOWN	"H" (ON)
58	P36/WR	O	F - UP	Motor FUNCTION UP	"H" (ON)
59	P35/SYNC	O	F - MOTOR	Motor FUNCTION Start Torque	"L"
60	P34/φ	O	P - REG	PHONO POWER ON/OFF	"H"
61	P33/RESET OUT	O	P - MUT	PHONO MUTE except (FUNCTION PHONO)	"H"
62	P32/ONW	O	R - MUT	REC change MUTE	"H"
63	P31/DA2	O	F - MUT	FUNCTION change MUTE	"H"
64	P30/DA1	O	MUT - RY	Muting relay	"H"

## 5. FOR A-503R/HB, HEWZ, A-503R-G/HEZ AND A-403R/HEWZ

**NOTES:**

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  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.
- Parts marked by "☉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

### 5.1 FOR A-503R/HB, HEWZ, A-503R-G/HEZ

#### CONTRAST OF MISCELLANEOUS PARTS

**A-503R/HB, HEWZ, A503R-G/HEZ and A-503R/HE have the same construction except for the following:**

Mark	Symbol & Description	Part No.				Remarks
		A-503R HE	A-503R HB	A-503R HEWZ	A-503R-G HEZ	
	AF assembly	AWZ5580	AWZ5587	AWZ5580	AWZ5580	
$\Delta$	AC power cord	ADG1049	ADG1144	ADG1049	ADG1049	
$\Delta$	Fuse (FU2 T500mA/250V)	AEK-505	.....	AEK-505	AEK-505	
$\Delta$	AC socket 3-P	AKP-502	.....	AKP-502	AKP-502	
	Rotary knob L (PLS)	AAB1343	AAB1343	AAB1343	AAB1355	
	Rotary knob S (PLS)	AAB1349	AAB1349	AAB1349	AAB1350	
	Power button (PLS)	AAD2421	AAD2421	AAD2421	AAD2450	
	Function button (PLS)	AAD2422	AAD2422	AAD2422	AAD2451	
	Push button (PLS)	AAD2423	AAD2423	AAD2423	AAD2452	
	Name plate	AAM1058	AAM1058	AAM1058	AAM1059	
	Screw	BBT30P060FZK	BBT30P060FZK	BBT30P060FZK	ABA-274	For bonnet side
	Spacer	.....	AHB1110	.....	.....	For packing
	Packing case	AHD2740	AHD2741	AHD2740	AHD2742	
NSP	Air cap	.....	AHG1087	.....	.....	For packing
	Panel base	AMB2135	AMB2135	AMB2135	AMB2156	
NSP	UL caution	.....	AAX-313	.....	.....	See P3.
	Top cover (PLS)	.....	AME1086	.....	.....	See P3.
	Front panel	ANB1820	ANB1820	ANB1820	ANB1822	
NSP	Rear panel	ANC2214	ANC2215	ANC2214	ANC2214	
	Bonnet case	ANE1438	ANE1437	ANE1438	ANE1433	
	Remote control unit	AXD1391	AXD1391	AXD1391	AXD1396	
	Battery cover	AZN2249	AZN2249	AZN2249	AZN2250	
	Operating Instructions (German)	.....	.....	ARC1472	.....	
	Operating Instructions (English)	.....	ARB1485	.....	.....	
	Operating Instructions (English/German/French/ Italian/Swedish/Dutch/ Spanish/Portuguese)	ARE1314	.....	.....	ARE1314	

**AF ASSEMBLY**

Although AWZ5587 and AWZ5580 are different in part number, they have the same service parts.

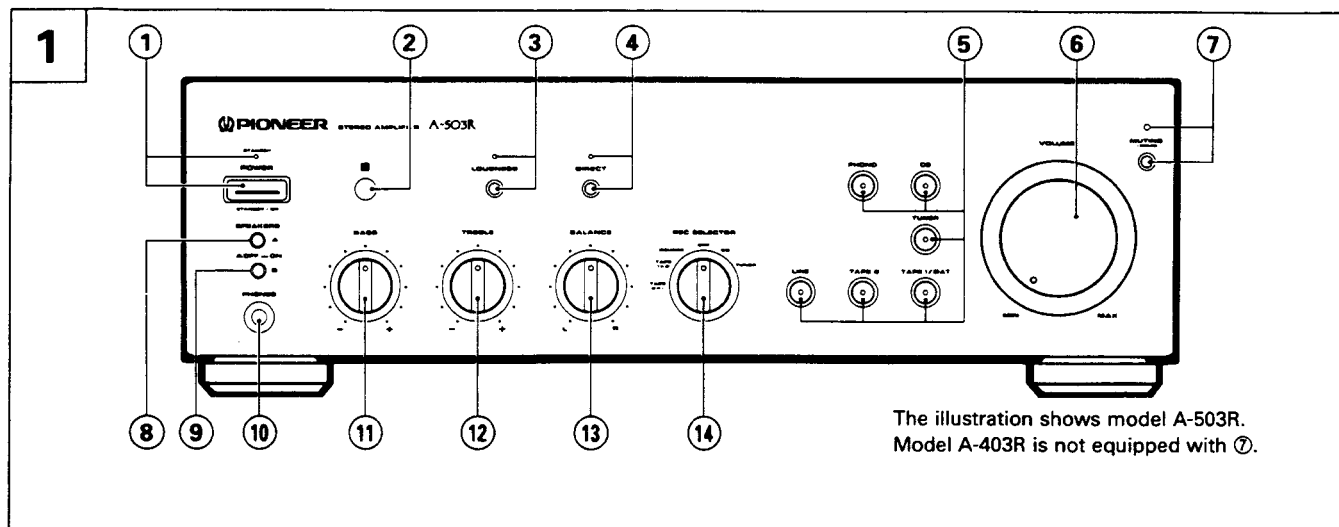
**5.2 FOR A-403R/HEWZ**

**CONTRAST OF MISCELLANEOUS PARTS**

**A-403R/HEWZ and A-403R/HE have the same construction except for the following:**

Mark	Symbol & Description	Part No.		Remarks
		A-403R/HE	A-403R/HEWZ	
	Operating Instructions (German)	.....	ARC1472	
	Operating Instructions (English/German/French/ Italian/Swedish/Dutch/ Spanish/Portuguese)	ARE1314	.....	

## 6. PANEL FACILITIES



### FRONT PANEL ①

#### ① POWER STANDBY/ON switch/indicator

This is the switch for electric power.

**ON** : When set to the ON position, power is supplied and the unit becomes operational.

**STANDBY** : When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness. When the STANDBY indicator lights, the unit is in STANDBY.

#### ② Remote control sensor window

#### ③ LOUDNESS button/indicator

Use when listening at low volume levels.

**On** : The indicator lights: Boosts low and high frequencies to give added punch to playback even at a low volume level.

**Off** : The indicator goes off: Should normally be left in this position.

#### NOTE:

*This button does not operate when the DIRECT button is in the on position.*

#### ④ DIRECT button/indicator

Use this button when you do not wish to pass the output from input terminal equipment through the various frequency adjusting circuits (BASS, TREBLE, BALANCE, LOUDNESS) and adaptor terminals (ADAPTOR).

**On** : The indicator lights: The signals input through the input terminals are reproduced without passing through the various frequency adjusting circuits. This results in flat, pure sound which is a more faithful reproduction of the input source.

**Off** : The indicator goes out: The signal passes through the various frequency adjusting circuits.

#### ⑤ Input selector buttons/indicators

Use to select the playback source.

**PHONO** : For record playback with a turntable.

**CD** : For compact disc playback with a CD player.

**TUNER** : For AM or FM broadcast reception with a tuner.

**TAPE 1/DAT** : For playback with a cassette deck or digital audio cassette deck connected to TAPE 1/DAT terminals.

**TAPE 2** : For playback with a cassette deck connected to TAPE 2 terminals.

**LINE** : For playback with a component connected to LINE terminals.

#### NOTE:

*Circuit switching is performed by motor-driven rotary switches. Therefore, there is a slight time lag between pressing of the button and switching (A-503R only).*

#### ⑥ VOLUME control

Use to adjust the volume level.

#### NOTE:

*This unit is equipped with a circuit that attenuates LOUDNESS and tone effects as volume is turned up.*

#### ⑦ MUTING button/indicator (A-503R only)

Use to temporarily lower sound volume.

**On** : The indicator lights: The sound volume is lowered to one-tenth (-20 dB).

**Off** : The indicator goes off: The sound will return to its previous volume.

#### ⑧ SPEAKERS A selector button

Use this button to listen to the speaker system connected to SPEAKER A terminals.

**ON (■)** : Depressed position: Sound is heard from the speaker system.

**OFF (□)** : Released position: No sound is heard from the speaker system. Set to this position when listening with headphones.

**⑨ SPEAKERS B selector button**

Use this button to listen to the speaker system connected to SPEAKER B terminals.

- ON (■)** : Depressed position: Sound is heard from the speaker system.
- OFF (■)** : Released position: No sound is heard from the speaker system. Set to this position when listening with headphones.

**⑩ PHONES jack**

When using headphones, insert the plug into this jack.

**⑪ BASS tone control**

Use to adjust the low-frequency tone. The center position is the flat (normal) position. When turned to the right, low-frequency tones are emphasized; when turned to the left, low-frequency tones are de-emphasized.

**NOTE:**

- *This control does not operate when DIRECT button is in the on position.*
- *When the volume knob is positioned before the 11 o'clock position, the set tone control effect is obtained.*  
*When the volume knob is positioned past the 11 o'clock position, the effect becomes increasingly weaker.*

**⑫ TREBLE tone control**

Use to adjust the high-frequency tone. The center position is the flat (normal) position. When turned to the right, high-frequency tones are emphasized; when turned to the left, high-frequency tones are de-emphasized.

**NOTE:**

- *This control does not operate when DIRECT button is in the on position.*
- *When the volume knob is positioned before the 11 o'clock position, the set tone control effect is obtained.*  
*When the volume knob is positioned past the 11 o'clock position, the effect becomes increasingly weaker.*

**⑬ BALANCE control**

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the L position and if the left side is louder, turn toward the R position.

**NOTE:**

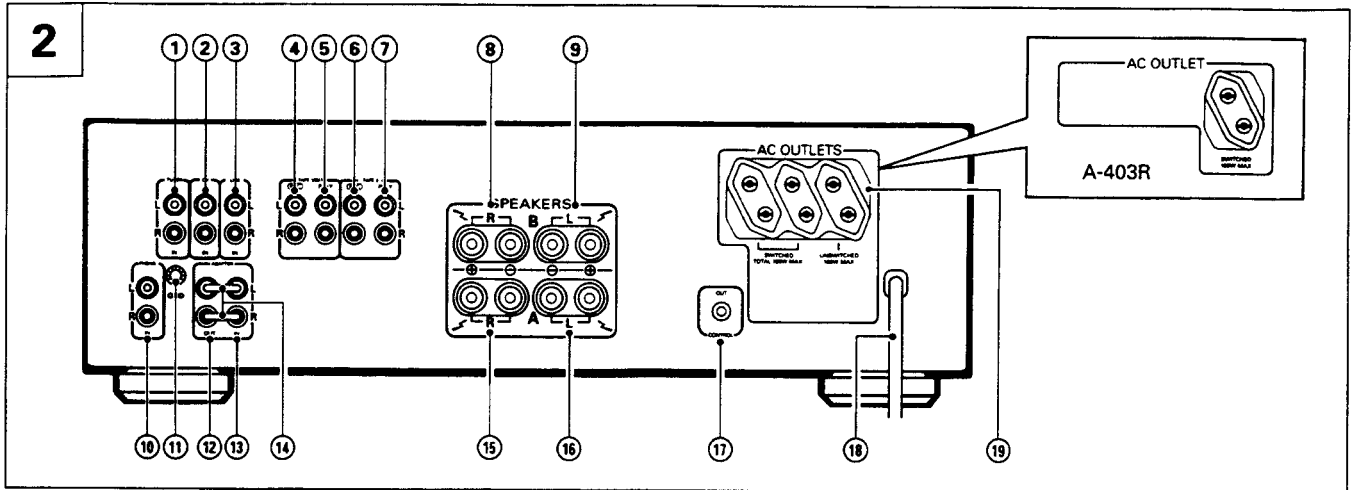
*This control does not operate when DIRECT button is in the on position.*

**⑭ REC SELECTOR switch**

When this switch is set to a position other than SOURCE or OFF, the equipment selected by REC SELECTOR switch can be recorded from, irrespective of the settings of the input selector buttons and DIRECT button.

- TUNER** : To record from the equipment connected to TUNER terminals.
- CD** : To record from the equipment connected to CD terminals.
- OFF** : In this position, nothing from the REC terminals of TAPE 1/DAT and TAPE 2 is output. Set to this position when not recording; the cassette deck will be disconnected, improving sound quality.
- SOURCE** : To record from the equipment selected by input selector button.
- TAPE 1 ► 2** : To record (copy) from the cassette deck of TAPE 1/DAT terminals, to the cassette deck of TAPE 2 terminals.
- TAPE 2 ► 1** : To record (copy) from the cassette deck of TAPE 2 terminals, to the cassette deck of TAPE 1/DAT terminals.





**REAR PANEL 2**

- ① TUNER terminals
- ② CD terminals
- ③ LINE terminals
- ④ TAPE 1/DAT REC terminals
- ⑤ TAPE 1/DAT PLAY terminals
- ⑥ TAPE 2 REC terminals
- ⑦ TAPE 2 PLAY terminals
- ⑧ SPEAKER B terminals (right channel)
- ⑨ SPEAKER B terminals (left channel)
- ⑩ PHONO terminals
- ⑪ Turntable ground terminal (GND)
- ⑫ ADAPTOR OUT terminals

- ⑬ ADAPTOR IN terminals
- ⑭ Shorting bars
- ⑮ SPEAKER A terminals (right channel)
- ⑯ SPEAKER A terminals (left channel)
- ⑰ CONTROL OUT jack

This jack is for output of control signals when operating other components bearing the mark with the attached remote control unit.

**⑱ Power cord**

Connect this cord to an AC wall socket, or the AC outlet of an audio timer.

**⑲ AC OUTLETS**

## 7. SPECIFICATIONS

### [A-503R]

#### Amplifier Section

DIN Continuous power output (both channels driven at 1 kHz)	
T.H.D. 1 %, 4 Ω	100 W + 100 W
T.H.D. 1 %, 8 Ω	70 W + 70 W
Continuous power output (both channels driven at 20 Hz to 20 kHz)**	
T.H.D. 0.05 %, 4 Ω	75 W + 75 W*
T.H.D. 0.03 %, 8 Ω	55 W + 55 W*
Dynamic power output (on EIA dynamic test signal)	
4 Ω/2 Ω	110 W/135 W
Total harmonic distortion**	
20 Hz to 20 kHz, 30 W, 8 Ω	0.01 %*

• The above values are applicable when AC 230 V power is supplied.

Input sensitivity/impedance	
PHONO (MM)	2.8 mV/50 kΩ
CD, TUNER, LINE, TAPE	200 mV/50 kΩ
PHONO overload level	
1 kHz, T.H.D. 0.1 %	150 mV
Output level/impedance	
TAPE REC	200 mV/1 kΩ
Frequency response	
PHONO (MM)	20 Hz to 20 kHz, ±0.5 dB
CD, TUNER, LINE, TAPE	5 Hz to 100 kHz, ± <sub>3</sub> dB*
Tone control (volume control set at -30 dB position)	
BASS	±8 dB (100 Hz)
TREBLE	±8 dB (10 kHz)
Loudness contour (volume control set at -30 dB position)	+6 dB (100 Hz)/ +3 dB (10 kHz)
Signal-to-Noise ratio (IHF short circuit, A network)	
PHONO (MM, 5 mV input)	89 dB*
CD, TUNER, LINE, TAPE	107 dB*
Signal-to-Noise ratio (DIN, continuous power/50 mW)	
PHONO (MM)	72 dB/70 dB*
CD, TUNER, LINE, TAPE	95 dB/80 dB*
MUTING	-20 dB

#### Power Supply/Miscellaneous

Power requirements	a.c. 220 — 230 Volts, 50/60 Hz
Power consumption	500 W
Dimensions	420 (W) x 360 (D) x 125 (H) mm
Weight (without package)	8.4 kg

#### Accessories

Remote control unit	1
Batteries (IEC R6P, AA)	2
Operating instructions	1

#### NOTE:

Specifications and design are subject to possible modifications without notice, due to improvements.

\*Measured with DIRECT button set to on.

\*\*Measured by Audio Spectrum Analyzer.

### [A-403R]

#### Amplifier Section

DIN Continuous power output (both channels driven at 1 kHz)	
T.H.D. 1 %, 4 Ω	75 W + 75 W
T.H.D. 1 %, 8 Ω	60 W + 60 W
Continuous power output (both channels driven at 20 Hz to 20 kHz)**	
T.H.D. 0.05 %, 4 Ω	50 W + 50 W*
T.H.D. 0.03 %, 8 Ω	40 W + 40 W*
Dynamic power output (on EIA dynamic test signal)	
4 Ω/2 Ω	85 W/95 W
Total harmonic distortion**	
20 Hz to 20 kHz, 20 W, 8 Ω	0.01 %*

• The above values are applicable when AC 230 V power is supplied.

Input sensitivity/impedance	
PHONO (MM)	2.8 mV/50 kΩ
CD, TUNER, LINE, TAPE	200 mV/50 kΩ
PHONO overload level	
1 kHz, T.H.D. 0.1 %	150 mV
Output level/impedance	
TAPE REC	200 mV/1 kΩ
Frequency response	
PHONO (MM)	20 Hz to 20 kHz, ±0.5 dB
CD, TUNER, LINE, TAPE	5 Hz to 100 kHz, ± <sub>3</sub> dB*
Tone control (volume control set at -30 dB position)	
BASS	±8 dB (100 Hz)
TREBLE	±8 dB (10 kHz)
Loudness contour (volume control set at -30 dB position)	+6 dB (100 Hz)/ +3 dB (10 kHz)
Signal-to-Noise ratio (IHF short circuit, A network)	
PHONO (MM, 5 mV input)	85 dB*
CD, TUNER, LINE, TAPE	106 dB*
Signal-to-Noise ratio (DIN, continuous power/50 mW)	
PHONO (MM)	71 dB/67 dB*
CD, TUNER, LINE, TAPE	95 dB/71 dB*

#### Power Supply/Miscellaneous

Power requirements	a.c. 220 — 230 Volts, 50/60 Hz
Power consumption	440 W
Dimensions	420 (W) x 360 (D) x 125 (H) mm
Weight (without package)	6.7 kg

#### Accessories

Remote control unit	1
Batteries (IEC R6P, AA)	2
Operating instructions	1

#### NOTE:

Specifications and design are subject to possible modifications without notice, due to improvements.

\*Measured with DIRECT button set to on.

\*\*Measured by Audio Spectrum Analyzer.

