ALIGNMENTS AND ADJUSTMENTS

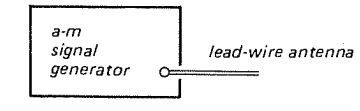
FM FREQUENCY COVERAGE AND TRACKING ALIGNMENT

Never attempt alignment of the fm front-end section for the fm frequency coverage and tracking alignment. If the fm frequency coverage alignment is required, replace the fm front-end board. In the case of tracking alignment, ask your nearest SONY Service Station to send your set to the Factory Service Center.

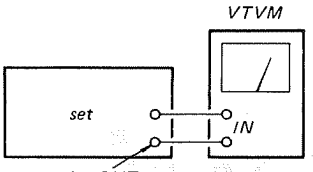
AM FREQUENCY COVERAGE AND AM TRACKING ALIGNMENT

Test setup:

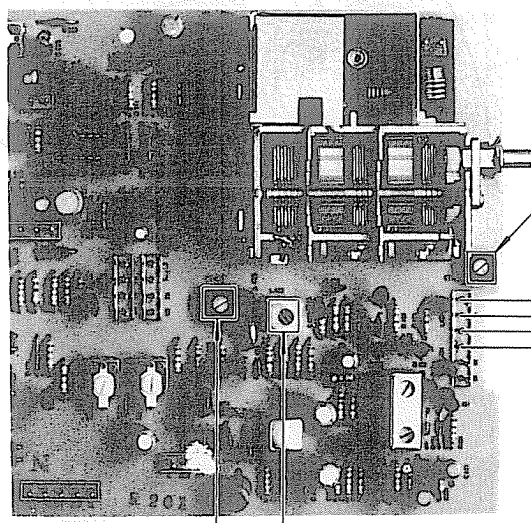
FUNCTION selector: AM



Modulation: 400Hz, 30%

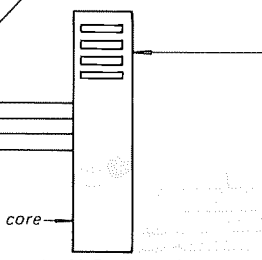


Adjust for maximum reading.



Step	AM TRACKING ALIGNMENT
1	L1 (600 kHz)
2	CT401 (1,400 kHz)

Note: Repeat step 1 and 2 several times, and finish the alignment at step 2.



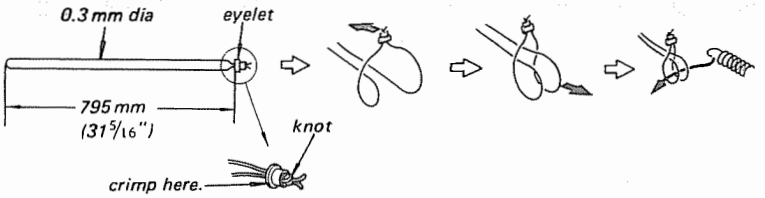
L1 AM Ferrite-rod antenna

Step	AM FREQUENCY COVERAGE ALIGNMENT	DIAL INDICATION
1	L403 (520 kHz)	Lower End
2	CT402 (1,680 kHz)	Upper End

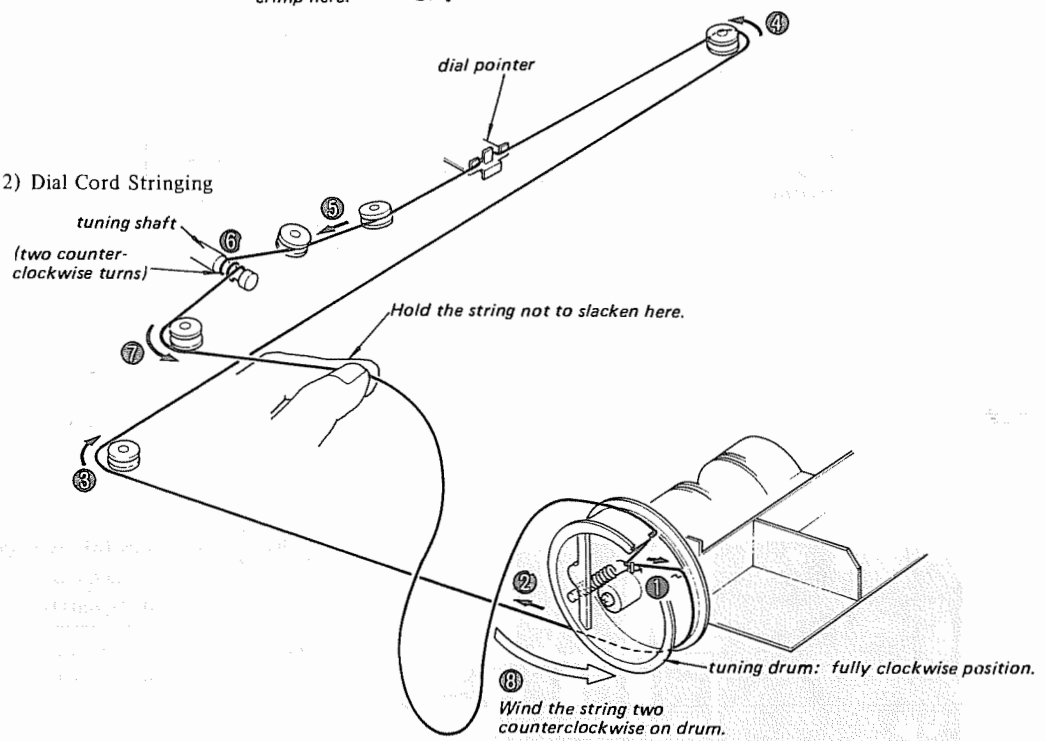
Note: Repeat step 1 and 2 several times, and finish the alignment at step 2.

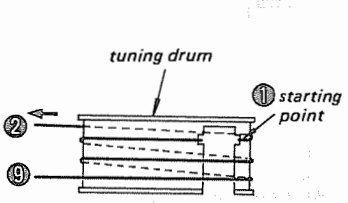
2-6. DIAL CORD STRINGING

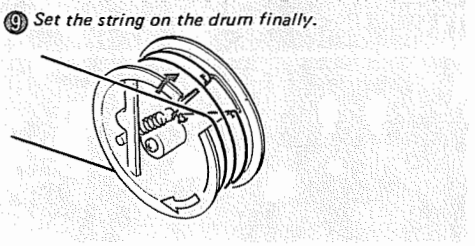
1) Dial Cord Length



2) Dial Cord Stringing



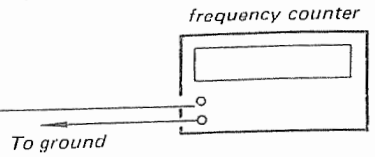




MPX ADJUSTMENT

Setup:

FUNCTION selector: FM



FM Signal Generator Setting:

Carrier frequency: 98 MHz
Modulation: no modulation
Output level: 3.2 mV (70 dB)

Procedure:

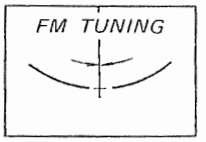
Adjust RT203 for 19 kHz ± 100 Hz on the counter.

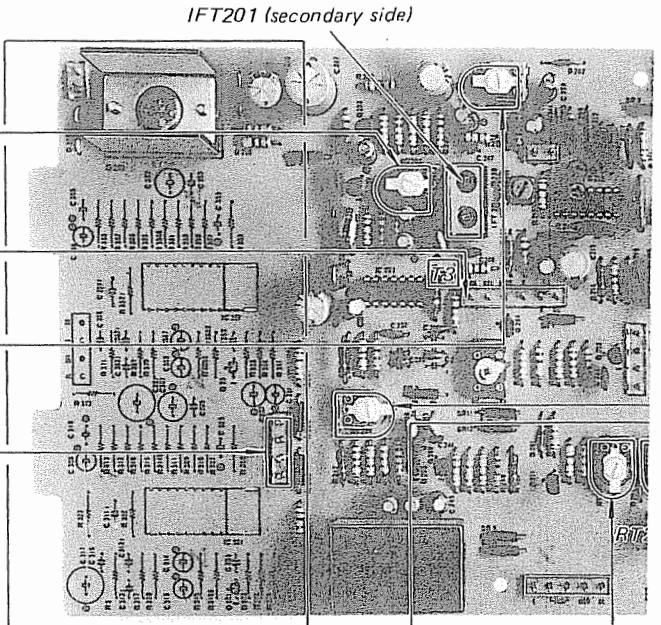
DISCRIMINATOR ALIGNMENT

Procedure:

FUNCTION selector: FM

1. Detune the set.
2. Adjust the secondary side core of IFT201 for zero center on the TUNING meter as shown.

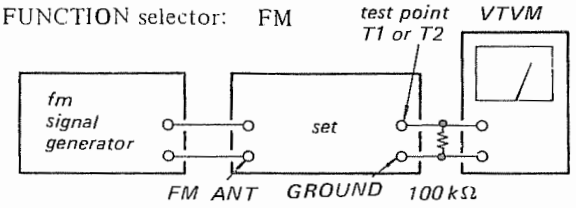




FM OUTPUT LEVEL ADJUSTMENT

Setup:

FUNCTION selector: FM

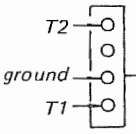


FM Signal Generator Setting:

Carrier frequency: 98 MHz
Modulation: 400 Hz, 75 kHz deviation (100 %)
Output level: 1 mV (60 dB)

Procedure:

Adjust RT202 for 870 mV on the VTVM.

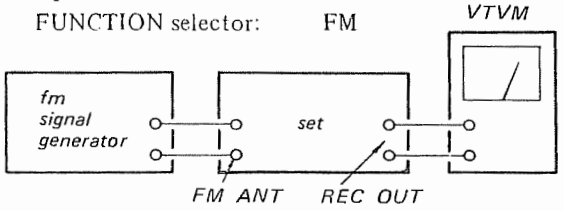


(STR-4800 AEP model)

SIGNAL METER CALIBRATION

Setup:

FUNCTION selector: FM

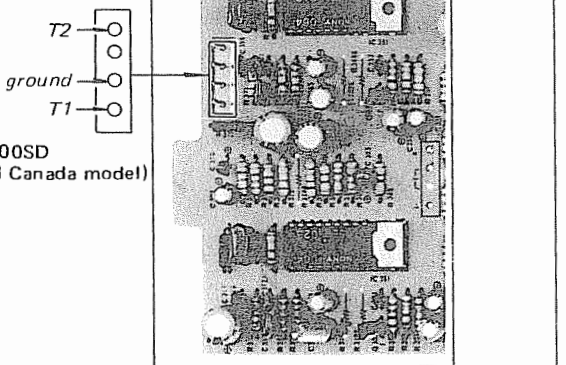


FM Signal Generator Setting:

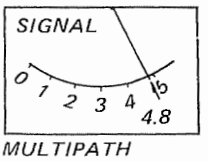
Carrier frequency: 98 MHz
Modulation: no modulation
Output level: 3.2 mV (70 dB)

Procedure:

Tune the set to 98 MHz and adjust RT201 for specified pointer position on the SIGNAL meter as shown.



(STR-4800SD USA and Canada model)



RT201

MUTIN

Setup:

FUN
MUT

fm
signa
genei

FM Sig
Carri
Mod

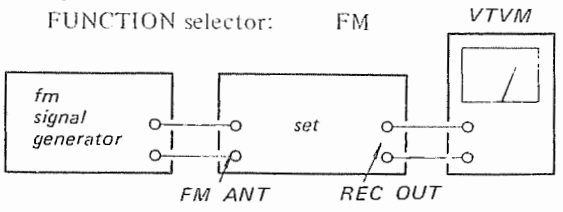
Procedu

1. Set
5.6 μ
2. Adju
disa

FM IF ALIGNMENT

Setup:

FUNCTION selector: FM

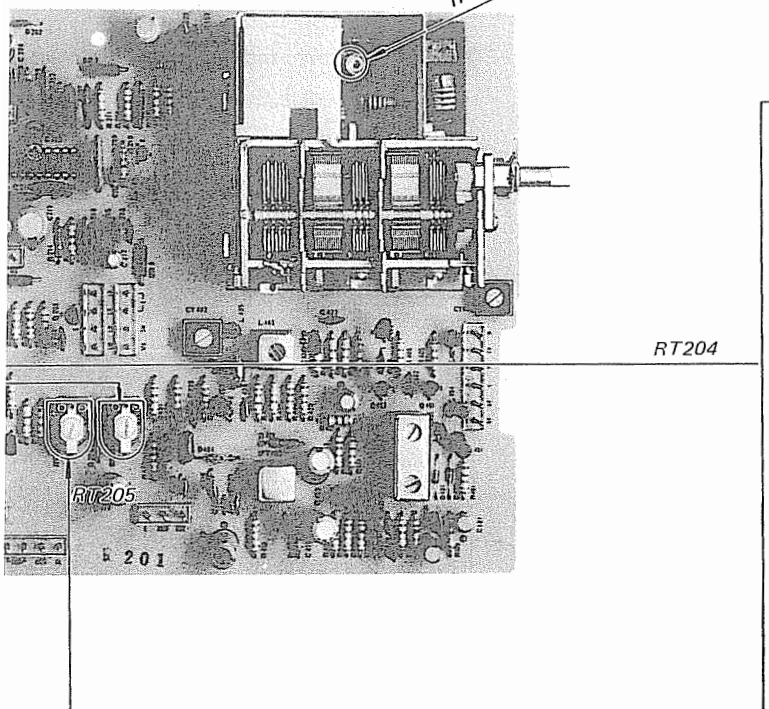


FM Signal Generator Setting:

Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)
Output level:	1 mV (60 dB)

Procedure:

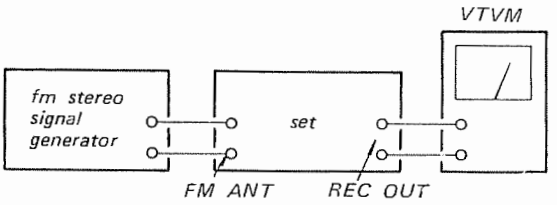
Tune the set to 98 MHz and adjust IFT101 for maximum reading on the VTVM.



FM STEREO SEPARATION ADJUSTMENT

Setup:

FUNCTION selector: FM



FM Stereo Signal Generator Setting:

Carrier frequency:	98 MHz
Mode:	Stereo
Audio (400 Hz) Modulation:	67.5 kHz (90 %)
Pilot (19 kHz) Modulation:	7.5 kHz (10 %)

Procedure:

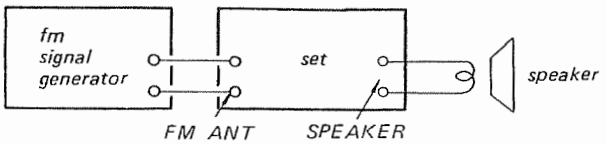
1. Tune the set to 98 MHz.
2. Set the signal generator channel selector to L-CH.
3. Connect the VTVM to the REC OUT "L-CH" of the set and read the output level on the VTVM.
4. Turn the stereo signal generator channel selector from L-CH to R-CH and adjust RT204 for minimum output on the VTVM.

   Note: The output level difference between step 3 and step 4 represents the separation.
5. Connect the VTVM to the REC OUT "R-CH" of the set and read the output level on the VTVM.
6. Turn the stereo signal generator channel selector from R-CH to L-CH and adjust RT204 for minimum output on the VTVM.
7. If the separations obtained in step 4 and step 6 differ more than 3 dB in value, readjust RT204 to be less than 3 dB.

MUTING LEVEL ADJUSTMENT

Setup:

FUNCTION selector: FM
MUTING switch: ON



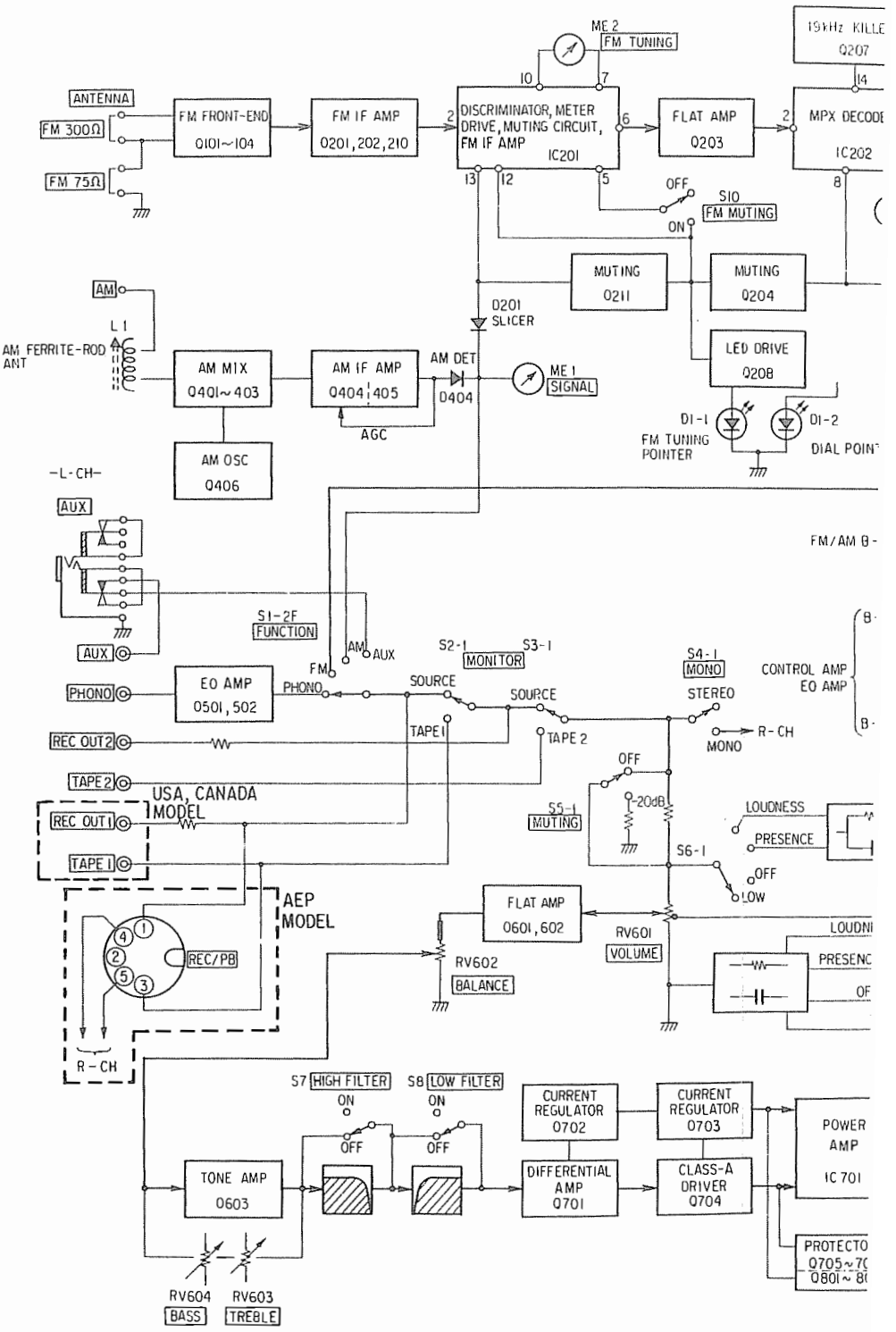
FM Signal Generator Setting:

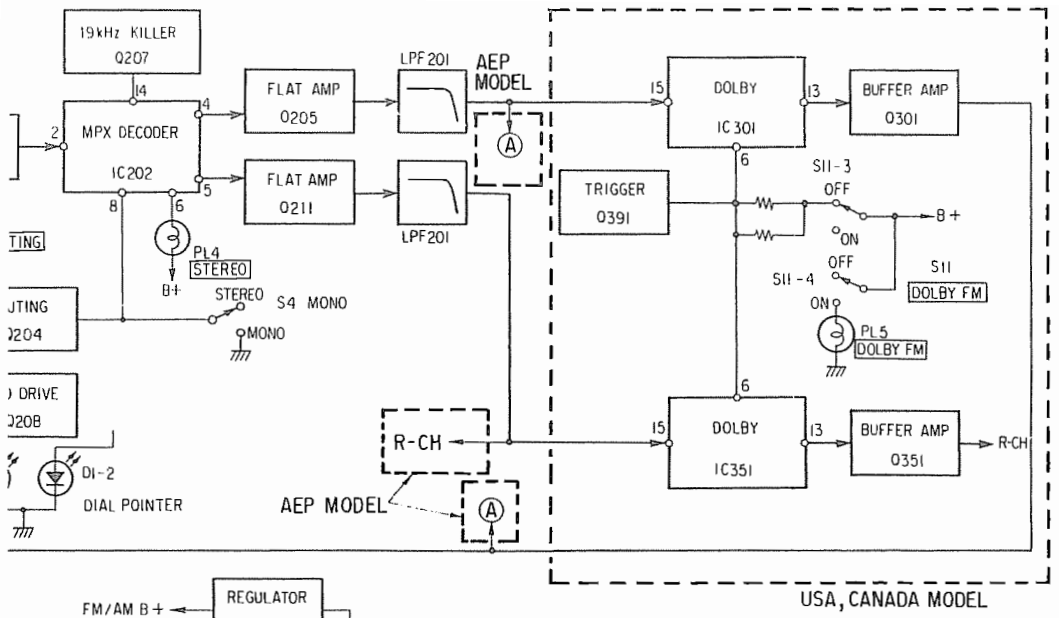
Carrier frequency:	98 MHz
Modulation:	400 Hz, 75 kHz deviation (100 %)

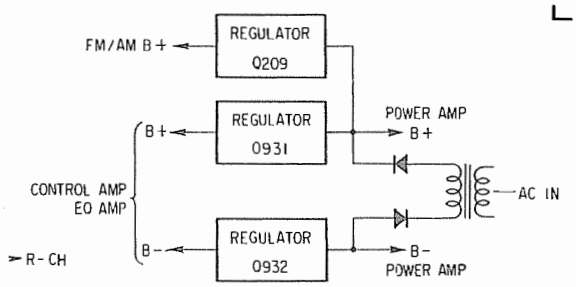
Procedure:

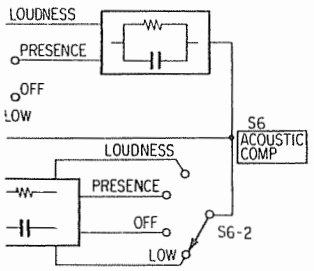
1. Set the output level of the fm signal generator to 5.6 μV (15 dB).
2. Adjust RT205 for the point that the sound just disappears.

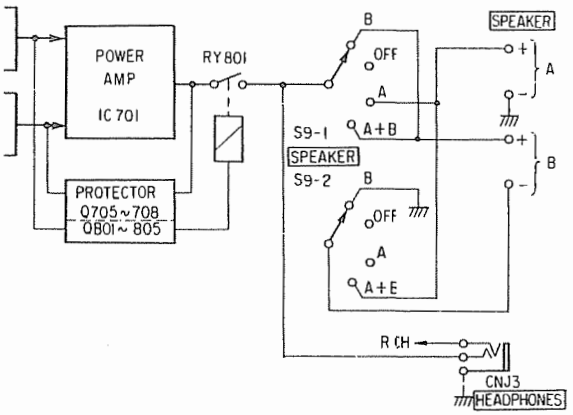
BLOCK DIAGRAM




19kHz KILLER
Q207
MPX DECODER
IC202
FLAT AMP
Q205
FLAT AMP
Q211
LPF201
LPF201
AEP
MODEL
DOLBY
IC301
BUFFER AMP
Q301
TRIGGER
Q391
S11-3
OFF
ON
B+
S11-4
OFF
ON
S11
DOLBY FM
PL5
DOLBY FM
PL4
STEREO
STEREO
S4 MONO
MONO
R-CH
DOLBY
IC351
BUFFER AMP
Q351
R-CH
D1-2
DIAL POINTER
AEP MODEL
USA, CANADA MODEL


FM/AM B+
REGULATOR
Q209
REGULATOR
Q931
POWER AMP
B+
AC IN
CONTROL AMP
EO AMP
REGULATOR
Q932
B-
POWER AMP
R-CH


LOUDNESS
PRESENCE
OFF
LOW
S6
ACOUSTIC
COMP
LOUDNESS
PRESENCE
OFF
LOW
S6-2


POWER
AMP
IC701
RY801
PROTECTOR
Q705~708
Q801~805
B
OFF
A
A+B
S9-1
SPEAKER
S9-2
B
OFF
A
A+B
SPEAKER
+
-
A
+
-
B
R CH
CNJ3
HEADPHONES

ELECTRICAL PARTS LIST

Note: The circled letters (Ⓐ to Ⓩ) are applicable for the European models only.

Ref. No.	*Part No.*	*Description*
		SEMICONDUCTORS
		Transistors
⇒Q201, 202		Ⓑ2SC403C
⇒Q203		Ⓑ2SC632A
Q204		Ⓑ2SC945
⇒Q205, 206		Ⓑ2SC632A
Q207, 208		Ⓑ2SC945
Q209		Ⓓ2SD291
⇒Q210		Ⓑ2SC403C
Q211		Ⓑ2SC945
⇒Q401～403		Ⓑ2SC403C
Q405, 406		Ⓑ2SC710
Q501, 551		Ⓑ2SC1636
Q502, 552		Ⓑ2SA705
Q601, 651		Ⓑ2SC1636
Q602, 652		Ⓑ2SA705
Q603, 653		Ⓑ2SC632A
Q701, 751		Ⓑ2SA705
Q703, 753		Ⓒ2SA896
Q704, 754		Ⓒ2SC1811
⇒Q705, 755		Ⓒ2SA678
⇒Q706, 756 Q707, 757		Ⓑ2SC634A
⇒Q708, 758		Ⓒ2SA678
⇒Q801～803		Ⓒ2SA678
⇒Q804		Ⓑ2SC634A
Q805		Ⓒ2SC1811
Q931		Ⓔ2SC1124
Q932		Ⓒ2SA706
		ICs
IC201		ⒽHA1137W
IC202		ⒿHA1156
IC701, 751		ⓁSS050A

Ref. No.	*Part No.*	*Description*
		Diodes
D1		ⒽTX312
⇒D201, 202		Ⓑ1S1555
D203		Ⓑ1T22A
⇒D204		ⒷEQB01-26
D205		Ⓑ10E2
⇒D261		Ⓑ1S1555
⇒D401, 402		Ⓑ1S1555
D403, 404		Ⓑ1T22A
D601		Ⓑ1S1555
D701, 751		ⒷVD1221
D702～705 D752～755		Ⓑ1S1555
D801～803		Ⓑ1S1555
D804		Ⓑ1T243M
D805, 806		Ⓑ1S1555
D901～904		ⒸU05E
D911, 912		Ⓑ10E2
D913, 914		Ⓑ10D2
⇒D931, 932		ⒷEQB01-21
		THERMISTOR
Pth801, 851	1-800-427-00	ⒷPositive
		COILS
L1	1-401-635-21	ⒼAM Ferrite-rod Ant
L201	1-459-152-00	Ⓑ18 μH
L401	1-407-169-XX	Ⓐmicroinductor, 100 μH
L402	1-407-182-XX	Ⓐmicroinductor, 2.2 μH
L403	1-405-656-00	ⒷAM Osc
L404	1-407-178-XX	Ⓐmicroinductor, 1 μH
L405	1-407-182-XX	Ⓐmicroinductor, 2.2 μH

⇒ : Due to replacement parts, the descriptions are different from the diagrams.

Note: The circled letters (Ⓐ to Ⓩ) are applicable for the European models only.

Ref. No.	*Part No.*	*Description*
		TRANSFORMERS
B1	1-417-014-31	Ⓑ Balun
IFT201	1-404-029-00	Ⓒ FM Discriminator
IFT401	1-404-014-11	Ⓓ AM IFT (USA, Canada model)
	1-404-014-21	Ⓓ AM IFT (AEP model)
IFT402	1-403-149-00	Ⓑ AM IFT
PT1	1-442-602-00	Ⓠ Power (USA model)
	1-442-646-00	Ⓠ Power (Canada model)
	1-442-647-00	Ⓠ Power (AEP model)
		FILTERS
CF201, 202	1-527-248-XX	Ⓗ Ceramic
LPF201	1-231-219-00	Ⓓ Low-pass
		CAPACITORS

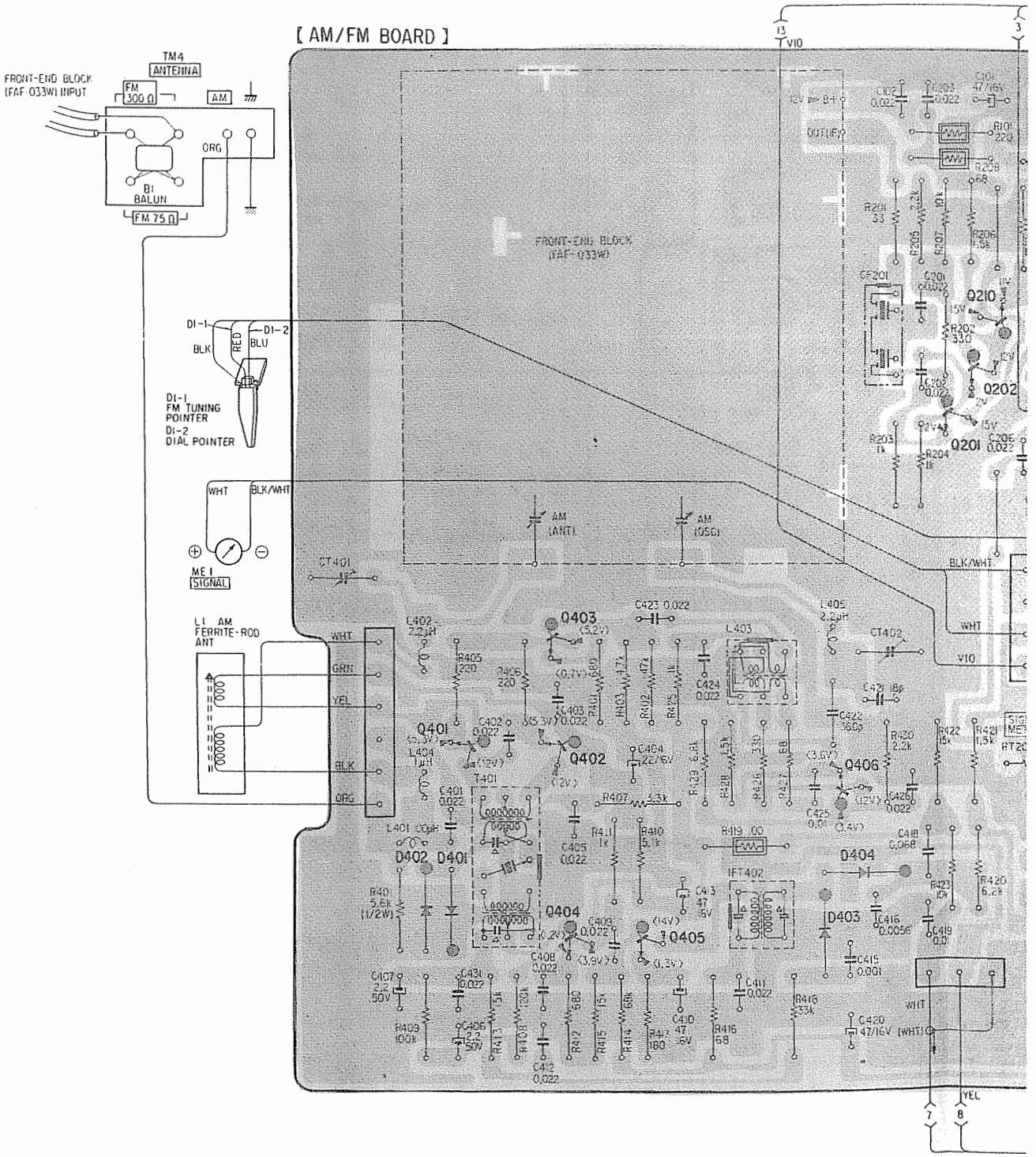
All capacitors are in μF and of electrolytic unless otherwise noted. (p = μμF)
50 and/or less working voltages are omitted except for electrolytic type.

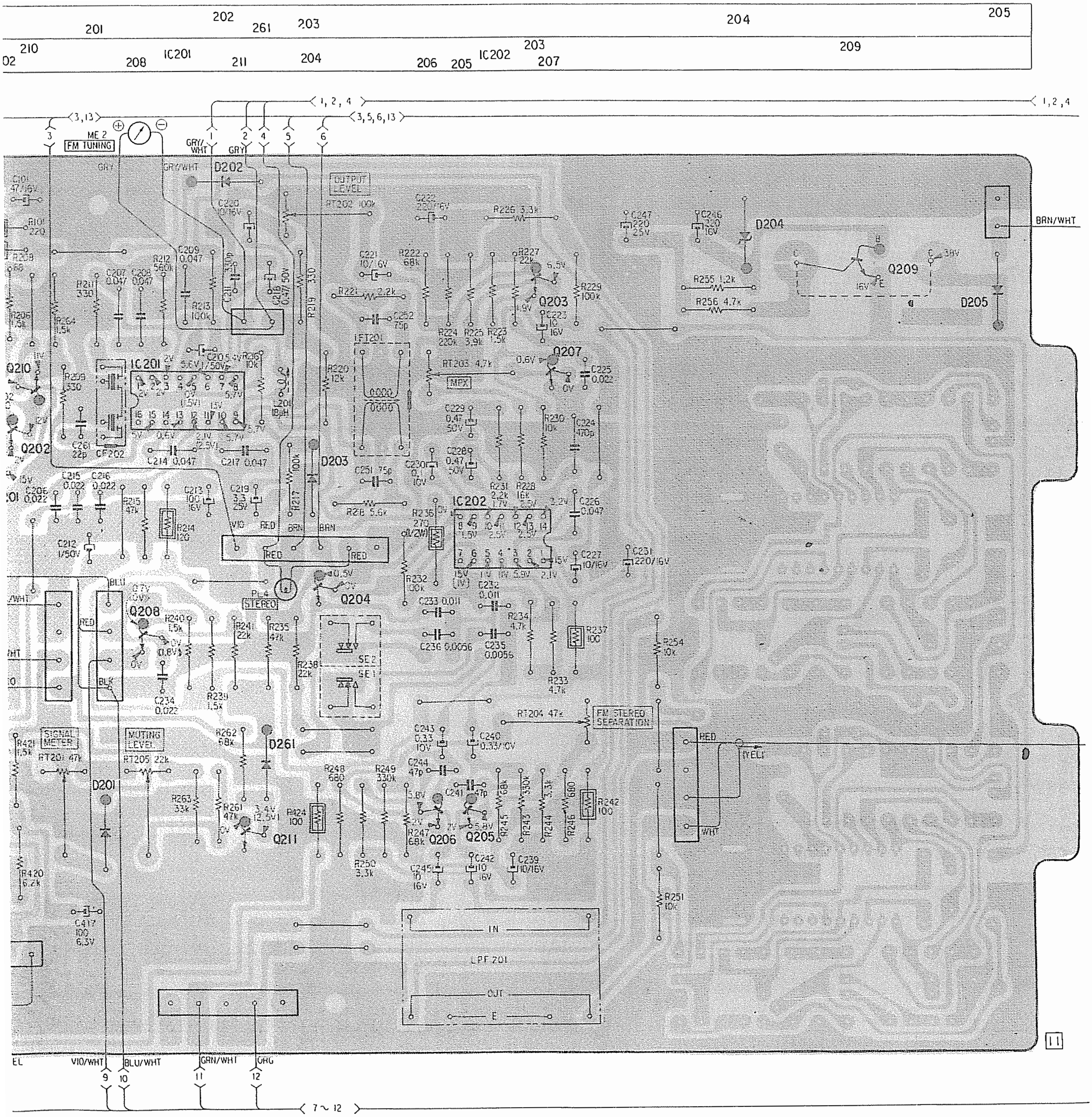
Ref. No.	*Part No.*	*Description*		
C101	1-121-970-11	Ⓐ 47	16 V	
C102	1-101-924-11	Ⓐ 0.022		ceramic
C201 ~ 203	1-101-924-11	Ⓐ 0.022		ceramic
C206	1-101-924-11	Ⓐ 0.022		ceramic
C207 ~ 209	1-101-925-11	Ⓐ 0.047		ceramic
C210	1-121-391-11	Ⓐ 1	50 V	
C211	1-102-820-11	Ⓐ 330 p		ceramic
C212	1-121-391-11	Ⓐ 1	50 V	
C213	1-121-415-11	Ⓑ 100	16 V	
C214	1-101-925-11	Ⓐ 0.047		ceramic
C215, 216	1-101-924-11	Ⓐ 0.022		ceramic
C217	1-101-925-11	Ⓐ 0.047		ceramic
C218	1-121-726-11	Ⓐ 0.47	50 V	
C219	1-121-392-11	Ⓐ 3.3	25 V	
C220, 221	1-121-651-11	Ⓐ 10	16 V	
C222	1-121-972-11	Ⓑ 220	16 V	
C223	1-121-651-11	Ⓐ 10	16 V	
C224	1-103-717-11	Ⓐ 470 p		polystyrol
C225	1-101-924-11	Ⓐ 0.022		ceramic
C226	1-108-246-12	Ⓐ 0.047		mylar
C227	1-121-651-11	Ⓐ 10	16 V	
C228, 229	1-121-726-11	Ⓐ 0.47	50 V	
C230	1-127-019-11	Ⓑ 0.1	10 V	solid aluminum
C231	1-123-068-11	Ⓑ 220	16 V	
C232, 233	1-108-580-12	Ⓐ 0.011		mylar (AEP model)
	1-108-571-12	Ⓐ 0.0047		mylar (USA, Canada model)
C234	1-101-924-11	Ⓐ 0.022		ceramic
C235, 236	1-108-573-12	Ⓐ 0.0056		mylar (AEP model)
	1-108-581-12	Ⓐ 0.012		mylar (USA, Canada model)
C239	1-121-651-11	Ⓐ 10	16 V	
C240	1-127-021-11	Ⓑ 0.33	10 V	solid aluminum
C241	1-101-880-11	Ⓐ 47 p		ceramic
C242	1-121-651-11	Ⓐ 10	16 V	
C243	1-127-021-11	Ⓑ 0.33	10 V	solid aluminum
C244	1-101-880-11	Ⓐ 47 p		ceramic
C245	1-121-651-11	Ⓐ 10	16 V	
C246	1-123-068-11	Ⓑ 220	16 V	
C247	1-121-936-11	Ⓑ 220	25 V	
C251, 252	1-102-732-11	Ⓐ 75 p		ceramic
C261	1-102-959-11	Ⓐ 22 p		ceramic
		(USA, Canada model)		
C301, 351	1-121-391-11	Ⓐ 1	50 V	
C302, 352	1-121-479-11	Ⓐ 22	16 V	
C303, 353	1-102-947-11	Ⓐ 10 p		ceramic
C305, 355	1-131-198-11	Ⓑ 6.8	16 V	tantalum
C307, 357	1-121-409-11	Ⓐ 47	16 V	
C308, 358	1-121-391-11	Ⓐ 1	50 V	
C309, 359	1-108-244-12	Ⓐ 0.033		mylar
C310, 360	1-131-196-11	Ⓑ 2.2	20 V	tantalum
C311, 361	1-108-603-12	Ⓐ 0.1		mylar
C312, 362	1-108-585-12	Ⓐ 0.018		mylar
C313, 363	1-108-587-12	Ⓐ 0.022		mylar
C314, 364	1-121-391-11	Ⓐ 1	50 V	
C315, 365	1-121-395-11	Ⓐ 4.7	25 V	
C316, 366	1-108-230-12	Ⓐ 0.0022		mylar
C317, 367	1-121-415-11	Ⓐ 100	16 V	
C391	1-121-651-11	Ⓐ 10	16 V	

MOUNTING DIAGRAM — Front-End, FM/AM Circuit Boards —

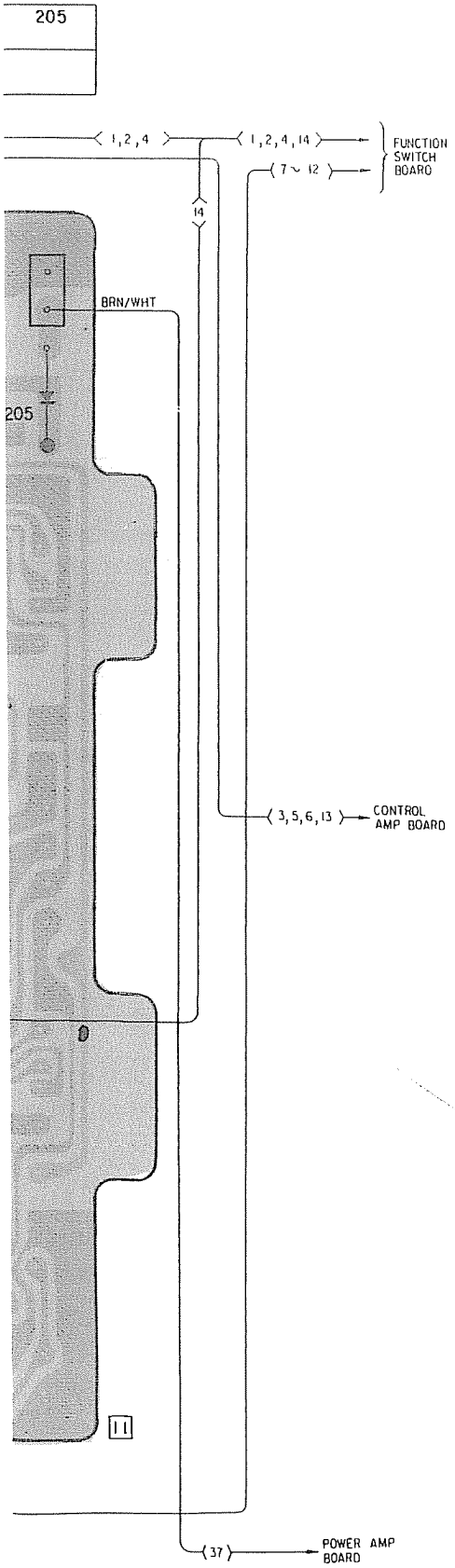
— Conductor Side —

D	402,401			403 404		
Q,IC	401	403 402 404	405	406	201 202	210



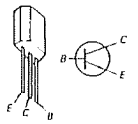


ME 2
FM TUNING
OUTPUT LEVEL
RT202 100k
MPX
RT203 4.7k
IC201
IC202
L201 18μH
LFT201
PL4 STEREO
Q202
Q203
Q204
Q205
Q206
Q207
Q208
Q209
Q210
Q211
D201
D202
D203
D204
D205
D261
SE2
SE1
SIGNAL METER
RT201 47k
MUTING LEVEL
RT205 22k
RT204 47k
FM STEREO SEPARATION
LPF 201
IN
OUT
BRN/WHT
VIO/WHT
BLU/WHT
GRN/WHT
ORG
GRY/WHT
GRY
RED
BLK
BLU
YEL
WHT
BRN
VIO

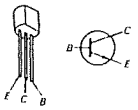


Q201, 202, 210
Q410
} : 2SC403

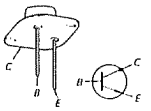
Q403 : 2SC632A



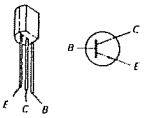
Q204, 207,
208, 211
} 2SC945



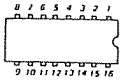
Q209: 2SD291



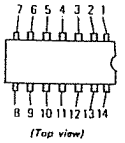
Q405, 406: 2SC710



IC201: HA1137W



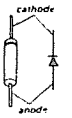
IC202: HA1156



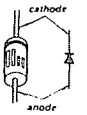
D201, 202
261, 401, 402
} 1T40

D203, 403, 404: 1T22A

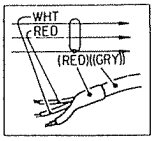
D205: 10E2



D204: EQA01-16R



Note: ● B+ pattern

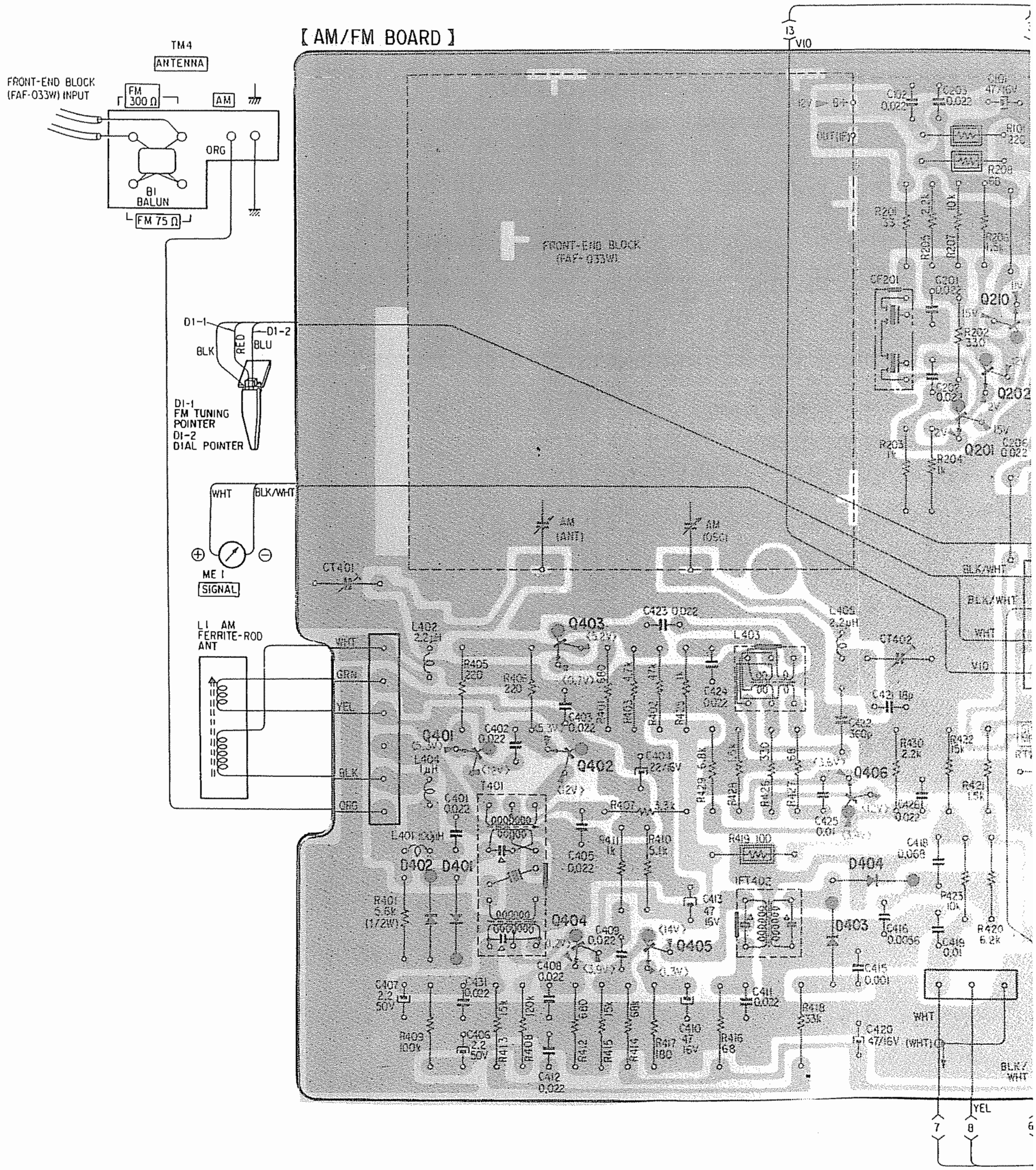


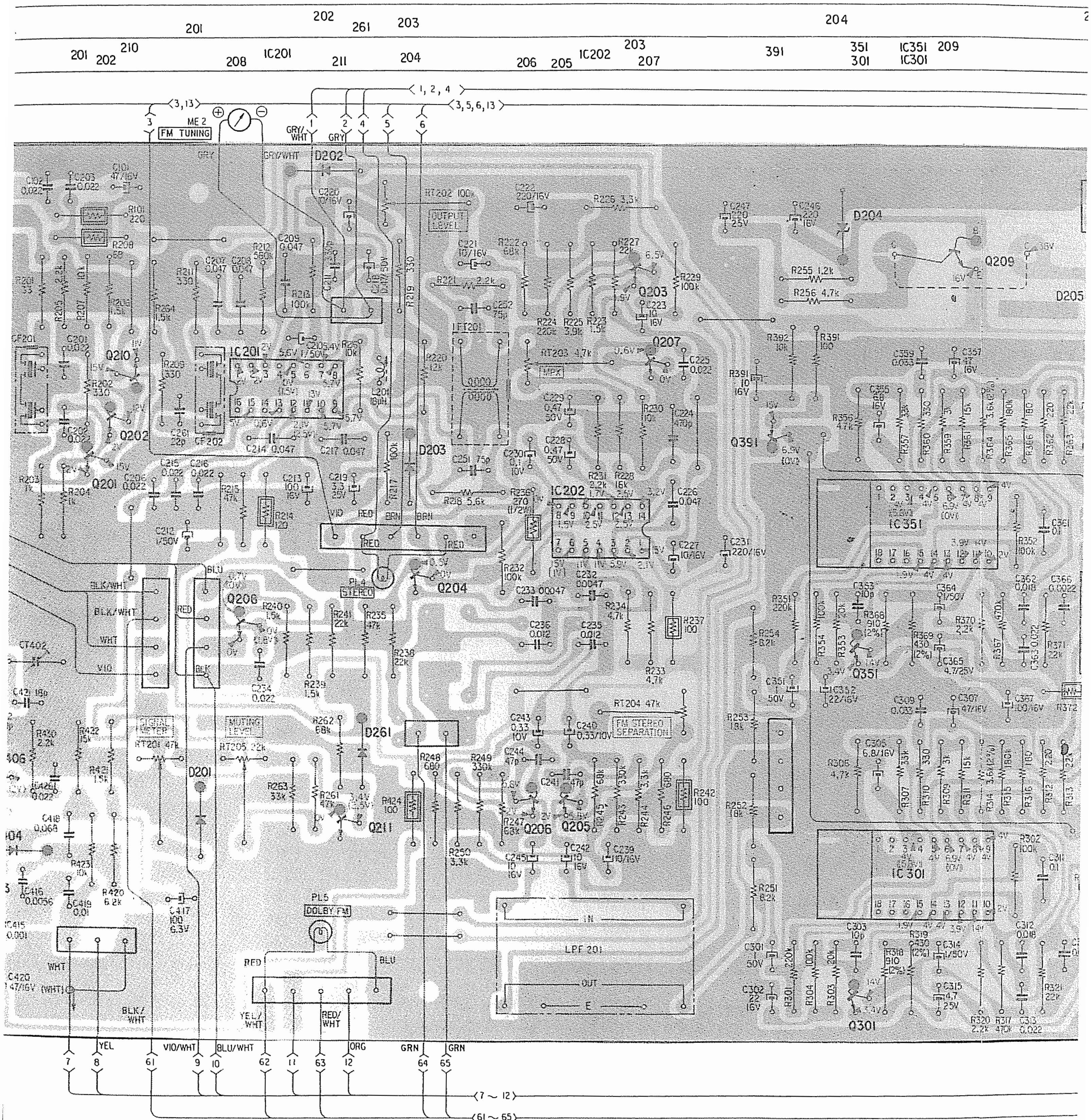
STR-4800SD (USA and Canada Model)

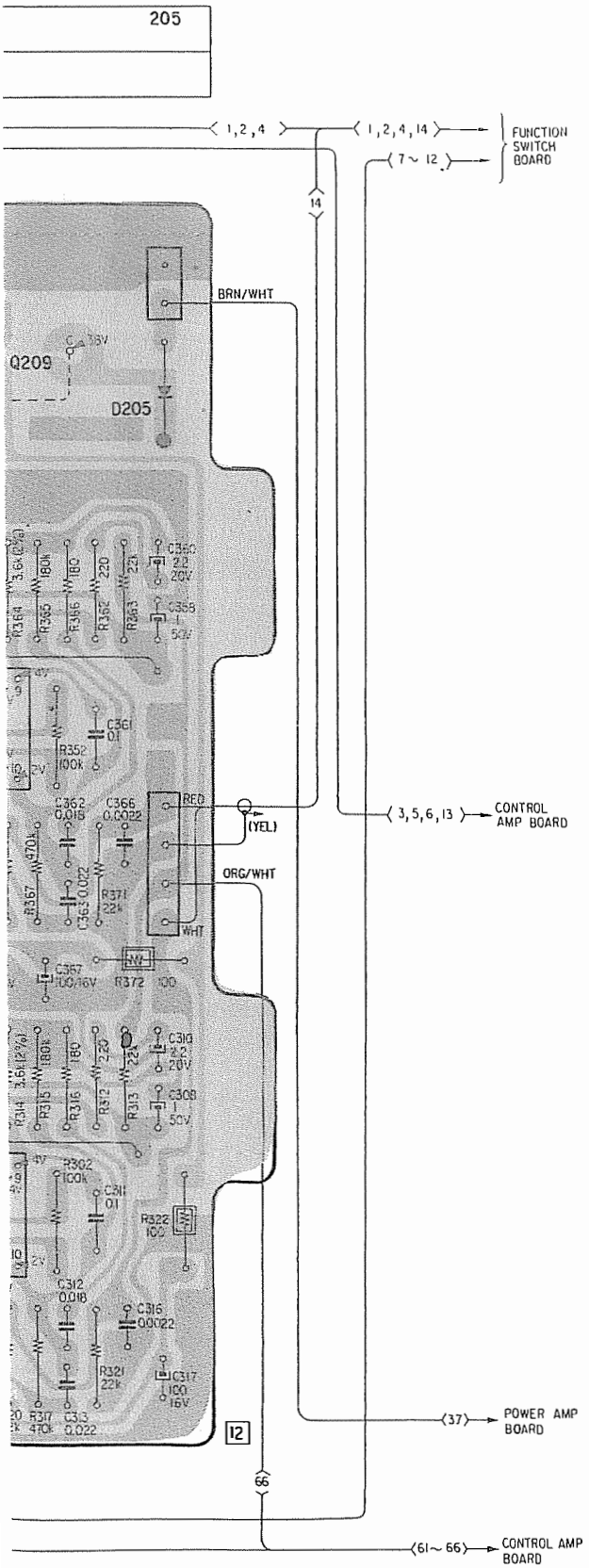
MOUNTING DIAGRAM – Front-End, FM/AM Circuit Boards –

– Conductor Side –

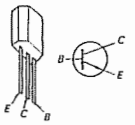
D	402,401			403 404		
Q,IC	401	403 402 404	405	406	201 202	210



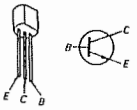

FM TUNING
ME 2
OUTPUT LEVEL
MPX
IFT201
IC201
IC202
IC351
IC301
Q201
Q202
Q203
Q204
Q205
Q206
Q207
Q209
Q210
Q211
Q301
Q351
Q391
D201
D202
D203
D204
D205
D261
CF201
CF202
L201
PL4 STEREO
PL5 DOLBY FM
SIGNAL METER
MUTING LEVEL
FM STEREO SEPARATION
LPF 201
IN
OUT
E
RT201 47k
RT202 100k
RT203 4.7k
RT204 47k
RT205 22k
(3, 13)
(1, 2, 4)
(3, 5, 6, 13)
(7 ~ 12)
(61 ~ 65)
GRY
GRY/WHT
BLK/WHT
WHT
VIO
RED
BLU
BRN
BLK
YEL
VIO/WHT
BLU/WHT
YEL/WHT
RED/WHT
ORG
GRN



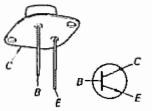
Q201, 202, 210, Q410 : 2SC403
Q403 : 2SC632A



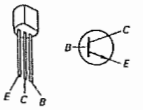
Q204, 207, 208, 211 : 2SC945



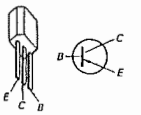
Q209: 2SD291



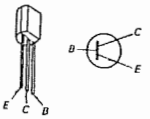
Q301, 351: 2SC900



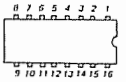
Q391: 2SA678



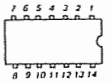
Q405, 406: 2SC710



IC201: HA1137W

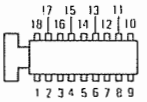


IC202: HA1156



(Top view)

IC301, 351: CX064

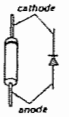


(Top view)

D201, 202, 261, 401, 402 : 1T40

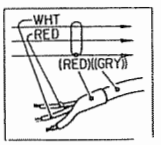
D203, 403, 404: 1T22A

D205: 10E2



D204: EQA01-16R

Note: ⊙ B+ pattern



Note: The circled letters (Ⓐ to Ⓩ) are applicable for the European models only.

Ref. No.	Part No.	Description		
C401 ~403	1-101-924-11	Ⓐ 0.022		ceramic
C404	1-121-479-11	Ⓐ 22	16 V	
C405	1-101-924-11	Ⓐ 0.022		ceramic
C406, 407	1-121-450-11	Ⓐ 2.2	50 V	
C408, 409	1-101-924-11	Ⓐ 0.022		ceramic
C410	1-121-409-11	Ⓐ 47	16 V	
C411, 412	1-101-924-11	Ⓐ 0.022		ceramic
C413	1-121-409-11	Ⓐ 47	16 V	
C415	1-108-277-12	Ⓐ 0.001		mylar
C416	1-108-355-12	Ⓐ 0.0056		mylar
C417	1-121-413-11	Ⓐ 100	6.3 V	
C418	1-108-249-12	Ⓐ 0.068		mylar
C419	1-108-239-12	Ⓐ 0.01		mylar
C420	1-121-409-11	Ⓐ 47	16 V	
C421	1-102-953-11	Ⓐ 18 p		ceramic
C422	1-103-714-11	Ⓐ 360 p		polystyrol
C423	1-101-924-11	Ⓐ 0.022		ceramic
C424	1-101-924-11	Ⓐ 0.022		ceramic
C425	1-108-239-12	Ⓐ 0.01		mylar
C426, 431	1-101-924-11	Ⓐ 0.022		ceramic
C501, 551	1-121-913-11	Ⓐ 3.3	25 V	
C502, 552	1-102-959-11	Ⓐ 22 p		ceramic
C503, 553	1-102-824-11	Ⓐ 470 p		ceramic
C504, 554	1-108-573-12	Ⓐ 0.0056		mylar
C505, 555	1-108-561-12	Ⓑ 0.0018		mylar
C506, 556	1-123-077-11	Ⓑ 470	6.3 V	(explosion proof)
C507, 557	1-121-912-11	Ⓐ 1	50 V	
C601, 651	1-102-976-11	Ⓐ 180 p		ceramic
C602, 652	1-108-230-12	Ⓐ 0.0022		mylar
C603, 653	1-108-244-12	Ⓐ 0.033		mylar
C604, 654	1-108-246-12	Ⓐ 0.047		mylar
C605, 655	1-108-227-11	Ⓐ 0.001		mylar
C606, 656	1-121-912-11	Ⓐ 1	50 V	
C607, 657	1-102-978-11	Ⓐ 220 p		ceramic
C608, 658	1-121-413-11	Ⓐ 100	6.3 V	
C609, 659	1-102-959-11	Ⓐ 22 p		ceramic
C610, 660	1-121-916-11	Ⓑ 10	16 V	
C611, 661 C612, 662	1-108-246-12	Ⓐ 0.047		mylar
C613, 663	1-108-228-12	Ⓐ 0.0015		mylar
C614, 664	1-121-916-11	Ⓑ 10	16 V	
C615, 665	1-121-913-11	Ⓐ 3.3	25 V	
C616, 666	1-102-963-11	Ⓐ 33 p		ceramic
C617, 667	1-121-915-11	Ⓐ 4.7	25 V	
C618, 668	1-121-413-11	Ⓐ 100	6.3 V	
C619, 669	1-108-585-12	Ⓑ 0.018		mylar
C620, 670	1-108-603-12	Ⓑ 0.1		mylar
C701, 751	1-102-116-11	Ⓐ 680 p		ceramic
C702, 752	1-121-912-11	Ⓐ 1	50 V	
C703, 753	1-123-076-11	Ⓑ 330	6.3 V	
C704, 754	1-102-973-11	Ⓐ 100 p		ceramic
C706, 756	1-121-413-11	Ⓐ 100	6.3 V	
C708, 758 C709, 759	1-123-056-11	Ⓑ 22	50 V	
C710, 760	1-108-244-12	Ⓐ 0.033		mylar
C761	1-121-413-11	Ⓐ 100	6.3 V	
C801	1-121-419-11	Ⓑ 220	6.3 V	
C802	1-121-479-11	Ⓐ 22	16 V	
C803	1-121-419-11	Ⓑ 220	6.3 V	
C804	1-101-004-11	Ⓐ 0.01		ceramic
C901, 902	1-125-141-11	Ⓚ 4700	50 V	
C911, 912	1-121-937-11	Ⓑ 220	50 V	
C913, 914	1-108-251-12	Ⓑ 0.1		mylar
C915, 916	1-121-937-11	Ⓑ 220	50 V	
C921, 922	1-121-935-11	Ⓑ 100	25 V	
C931, 932	1-123-062-11	Ⓑ 100	35 V	
C933, 934	1-108-239-12	Ⓐ 0.01		mylar
C935 ~938	1-121-935-11	Ⓑ 100	25 V	
C951 ~954	1-108-429-12	Ⓑ 0.047	200 V	mylar
CT401, 402	1-141-147-XX	Ⓑ 15 p		trimmer

RESISTORS

All resistors are in Ω. Regular-type ¼W carbon resistors are omitted.
Check the schematic diagram for the resistance values.
(k = 1000, M = 1000 k)

R1	1-202-719-11	Ⓐ 1M	½W	composition (USA, Canada model)

Note: The circled letters (Ⓐ to Ⓩ) are applicable for the European models only.

Ref. No.	*Part No.*	*Description*		
R101	1-211-530-11	Ⓐ 220	¼ W	carbon (nonflammable)
R208	1-211-518-11	Ⓐ 68	¼ W	carbon (nonflammable)
R214	1-211-524-11	Ⓐ 120	¼ W	carbon (nonflammable)
R236	1-202-559-11	Ⓐ 270	½ W	composition (nonflammable)
R237, 242	1-211-522-11	Ⓐ 100	¼ W	carbon (nonflammable)
R314, 364	1-246-486-11	Ⓐ 3.6 k ±2%	¼ W	carbon (USA, Canada model)
R318, 368	1-246-472-11	Ⓐ 910 ±2%	¼ W	carbon (USA, Canada model)
R319, 369	1-246-464-11	Ⓐ 430 ±2%	¼ W	carbon (USA, Canada model)
R322, 372	1-211-522-11	Ⓐ 100	¼ W	carbon (nonflammable) (USA, Canada model)
R401	1-244-891-11	Ⓐ 5.6 k	½ W	carbon (USA, Canada model)
R419, 424	1-211-522-11	Ⓐ 100	¼ W	carbon (nonflammable)
R603	1-202-561-11	Ⓐ 330	½ W	composition (USA, Canada model)
R706, 756	1-211-514-11	Ⓐ 47	¼ W	carbon (nonflammable)
R712, 762 R713, 763	1-211-538-11	Ⓐ 470	¼ W	carbon (nonflammable)
R715, 765	1-202-525-11	Ⓐ 10	½ W	composition
R716, 766	1-202-517-11	Ⓐ 4.7	½ W	composition
R718, 719	1-202-565-11	Ⓐ 470	½ W	composition
R767	1-202-595-11	Ⓐ 8.2 k	½ W	composition
R768, 769	1-202-565-11	Ⓐ 470	½ W	composition
R805	1-211-515-11	Ⓐ 51	¼ W	carbon (nonflammable)
R808	1-202-597-11	Ⓐ 10 k	½ W	composition
R812	1-202-561-11	Ⓐ 330	½ W	composition
R813	1-211-538-11	Ⓐ 470	¼ W	carbon (nonflammable)
R911, 912	1-217-387-11	Ⓑ 10	¼ W	fusible
R913	1-211-582-11	Ⓐ 4.7	½ W	carbon (nonflammable)
R914	1-213-213-11	Ⓑ 18	1 W	fusible
R915, 916	1-211-515-11	Ⓐ 51	¼ W	carbon (nonflammable)
R921, 922	1-211-530-11	Ⓐ 220	¼ W	carbon (nonflammable)
R931, 932	1-211-945-11	Ⓐ 2.2 k	¼ W	carbon (nonflammable)
R935, 936	1-211-515-11	Ⓐ 51	¼ W	carbon (nonflammable)
RT201	1-224-647-XX	Ⓑ 47 k		adjustable
RT202	1-224-648-XX	Ⓑ 100 k		adjustable
RT203	1-224-644-XX	Ⓑ 4.7 k		adjustable
RT204	1-224-647-XX	Ⓑ 47 k		adjustable
RT205	1-224-646-XX	Ⓒ 22 k		adjustable
RV601, 651	1-224-807-00	Ⓔ 250 k		variable, VOLUME
RV602, 652	1-224-810-00	Ⓓ 10 k		variable, BALANCE
RV603, 653 RV604, 654	1-224-811-00	Ⓓ 50 k		variable, TREBLE, BASS

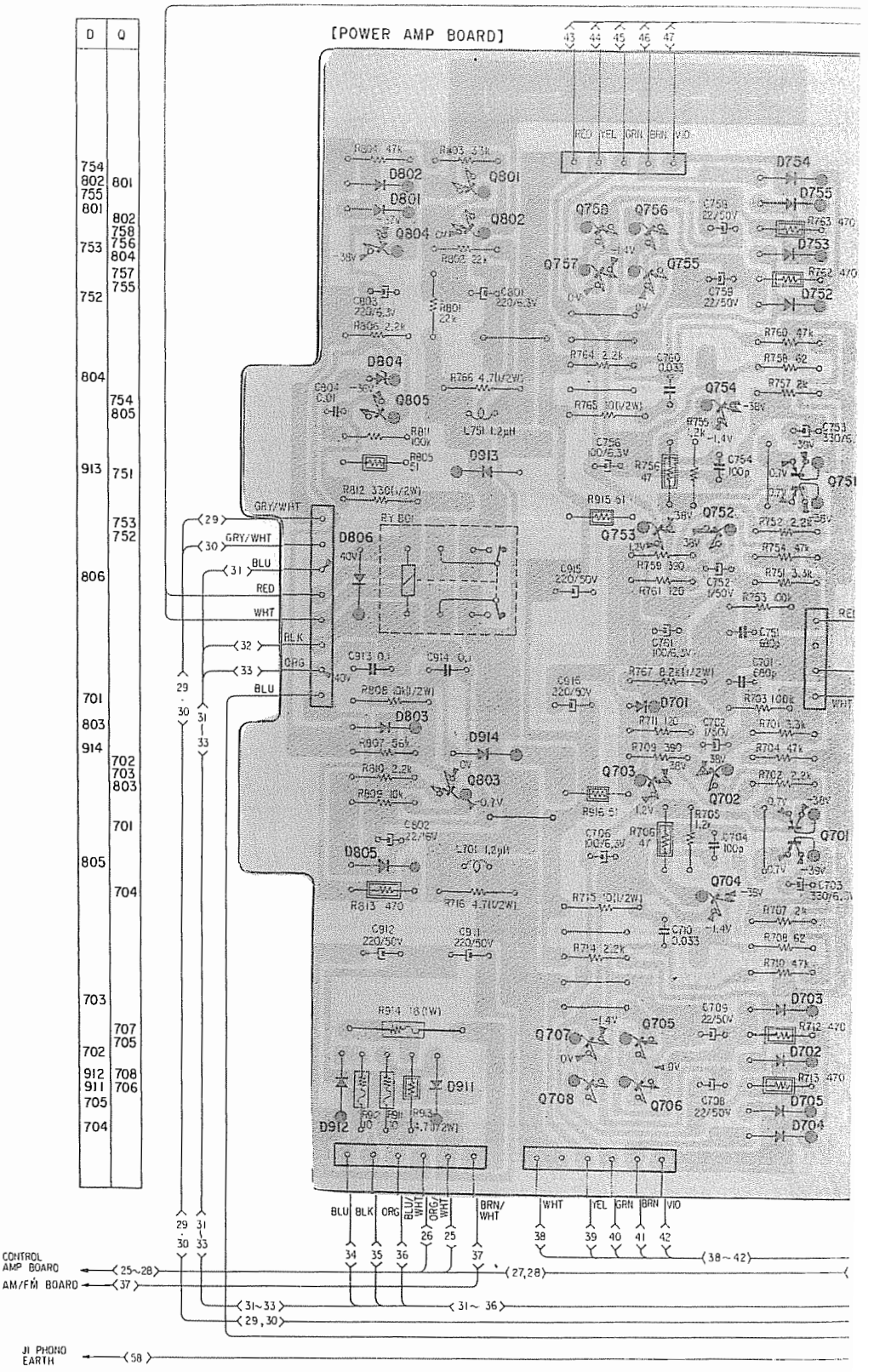
SWITCHES

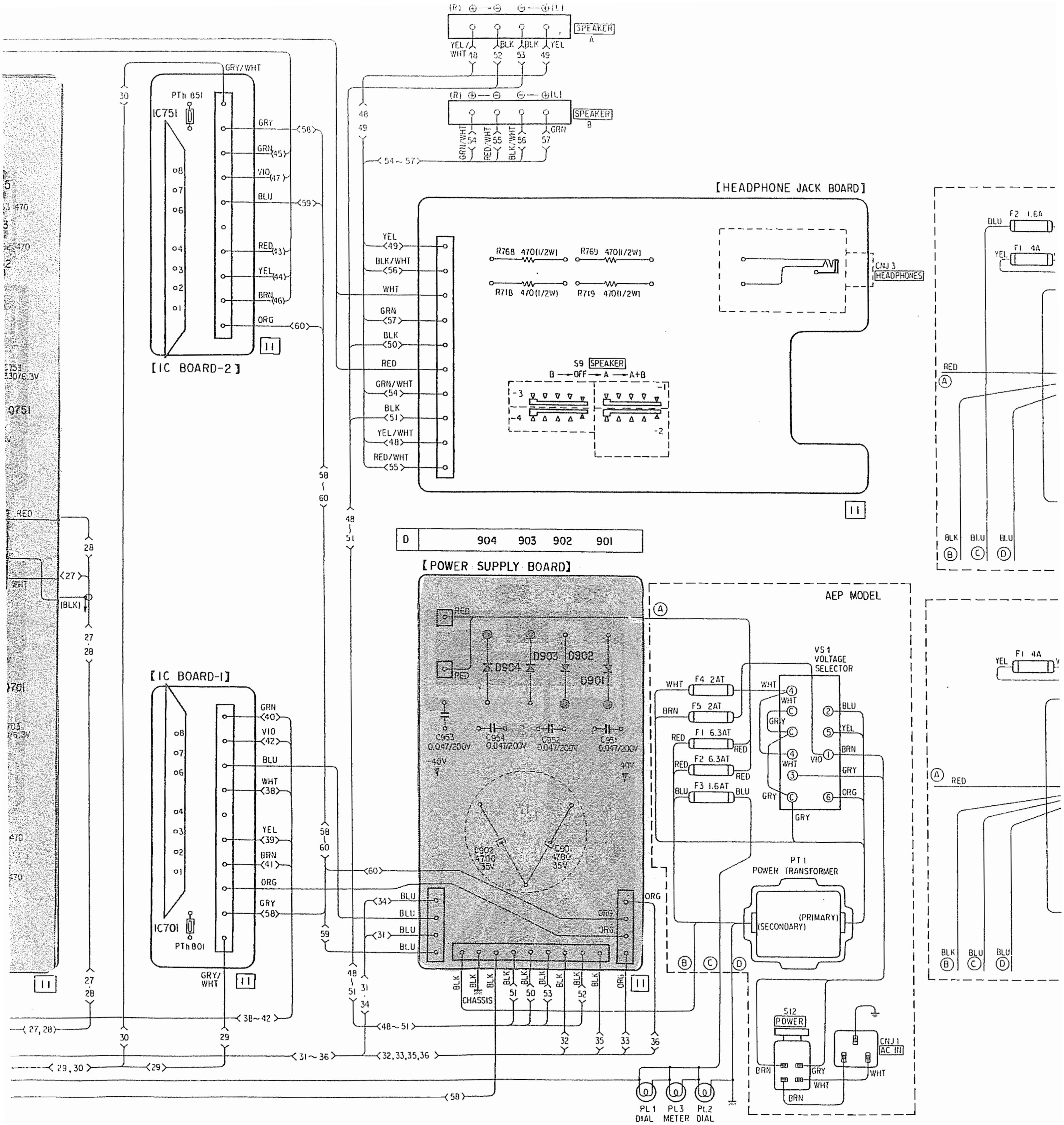
S1	1-516-948-00	Ⓖ Rotary, FUNCTION
S2～4, 10	1-516-955-00	Ⓕ Pushbutton, 4-key; MONITOR, MONO, FM MUTING (AEP model)
S2～4, 10, 11	1-516-956-00	Ⓖ Pushbutton, 5-key; MONITOR, MONO, FM MUTING, DOLBY FM (USA, Canada model)
S5	1-516-685-00	Ⓕ Lever Slide, MUTING
S6	1-516-952-00	Ⓔ Rotary Slide, ACOUSTIC COMP
S7, 8	1-516-946-00	Ⓔ Pushbutton, 2-key; FILTER
S9	1-516-957-00	Ⓔ Rotary Slide, SPEAKER
S12	1-516-628-00	Ⓔ Pushbutton; POWER (AEP model)
	1-516-693-00	Ⓔ Pushbutton; POWER (USA, Canada model)
SE1, 2	1-516-954-00	Ⓑ De-emphasis (AEP model)

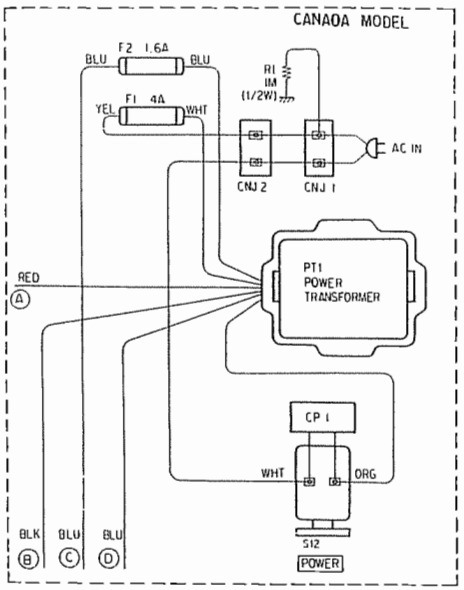
FUSES

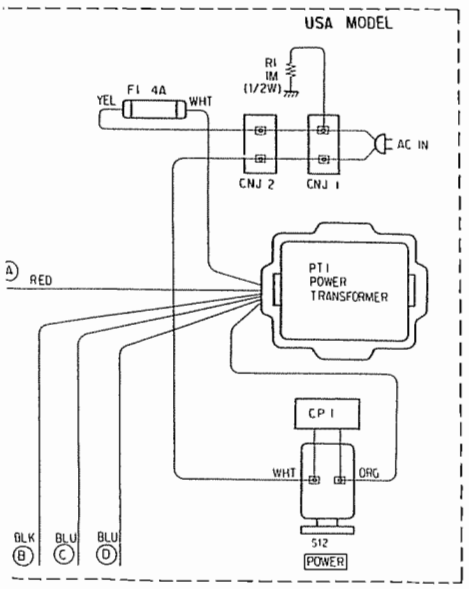
F1	1-532-349-XX	Ⓑ 4 A (USA, Canada model)

MOUNTING DIAGRAM – Power Amp, IC, Headphone Jack, Power Supply Circuit Boards –
– Conductor Side –

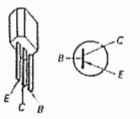



SPEAKER A
SPEAKER B
(R) ⊕—⊖ ⊖—⊕(L)
[HEADPHONE JACK BOARD]
R768 470(1/2W)
R769 470(1/2W)
R718 470(1/2W)
R719 470(1/2W)
CNJ 3 HEADPHONES
S9 SPEAKER
B — OFF — A — A+B
[IC BOARD-2]
IC751
PTh 851
[IC BOARD-1]
IC701
PTh801
D 904 903 902 901
[POWER SUPPLY BOARD]
D904 D903 D902 D901
C953 0.047/200V
C954 0.047/200V
C952 0.047/200V
C951 0.047/200V
C902 4700 35V
C901 4700 35V
-40V
40V
CHASSIS
AEP MODEL
VS1 VOLTAGE SELECTOR
F4 2AT
F5 2AT
F1 6.3AT
F2 6.3AT
F3 1.6AT
F2 1.6A
F1 4A
PT1 POWER TRANSFORMER
(PRIMARY)
(SECONDARY)
S12 POWER
CNJ1 AC IN
PL1 DIAL
PL3 METER
PL2 DIAL



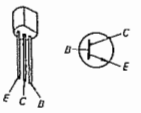


Q701, 751: 2SC705

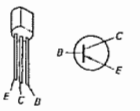


Q703, 753: 2SA896

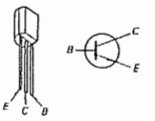
Q704, 754, 805: 2SC1811



Q705, 708, 755, 758, 801～803: 2SA735

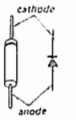


Q706, 707, 756, 757, 804: 2SC1364

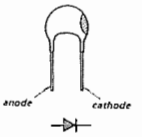


D702～705, 752～755, 801～803, 805, 806: 1S1555

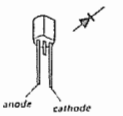
D911, 912: 10E2



D701: VD1221

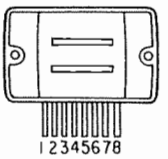


D804: 1T243M



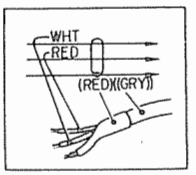
D901～904: U05E

IC701, 751: SS050A

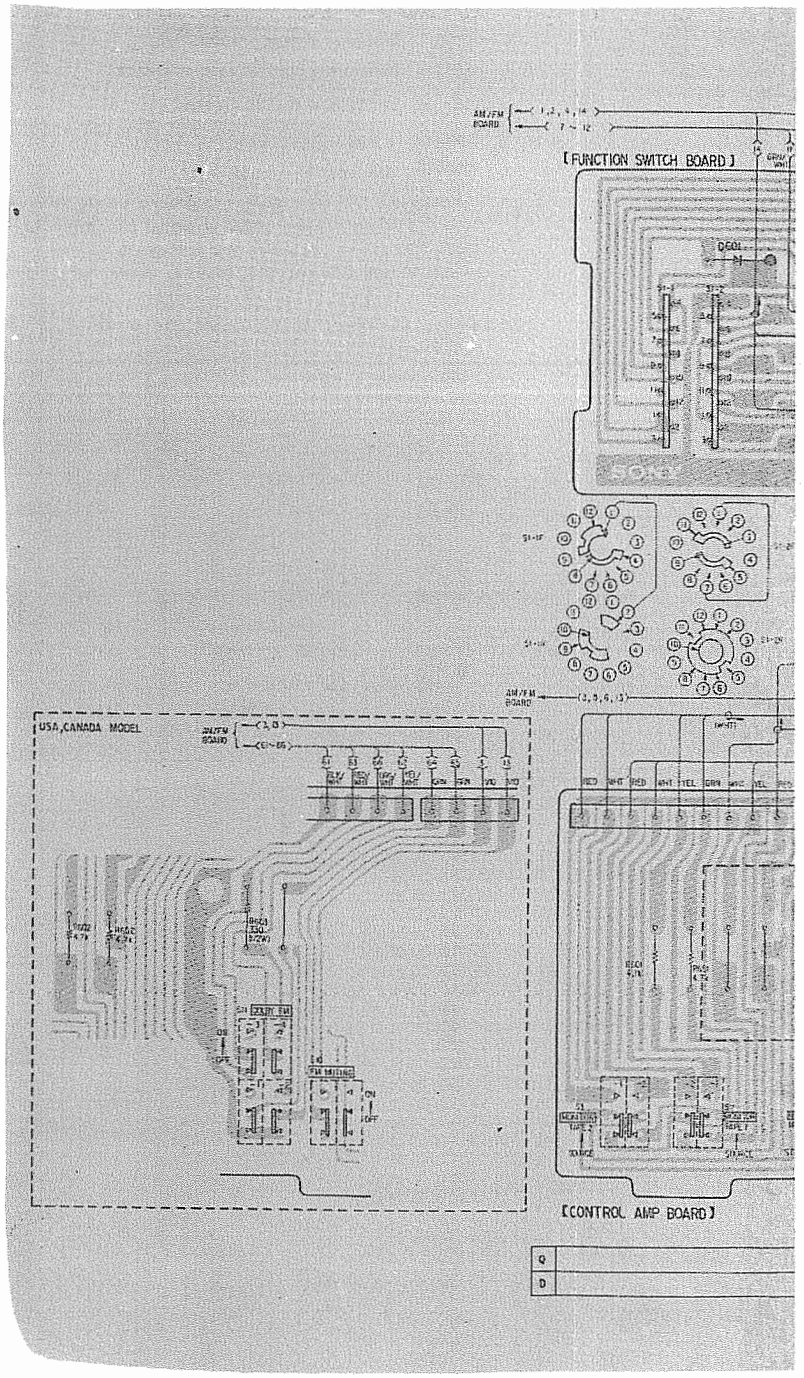


Note:

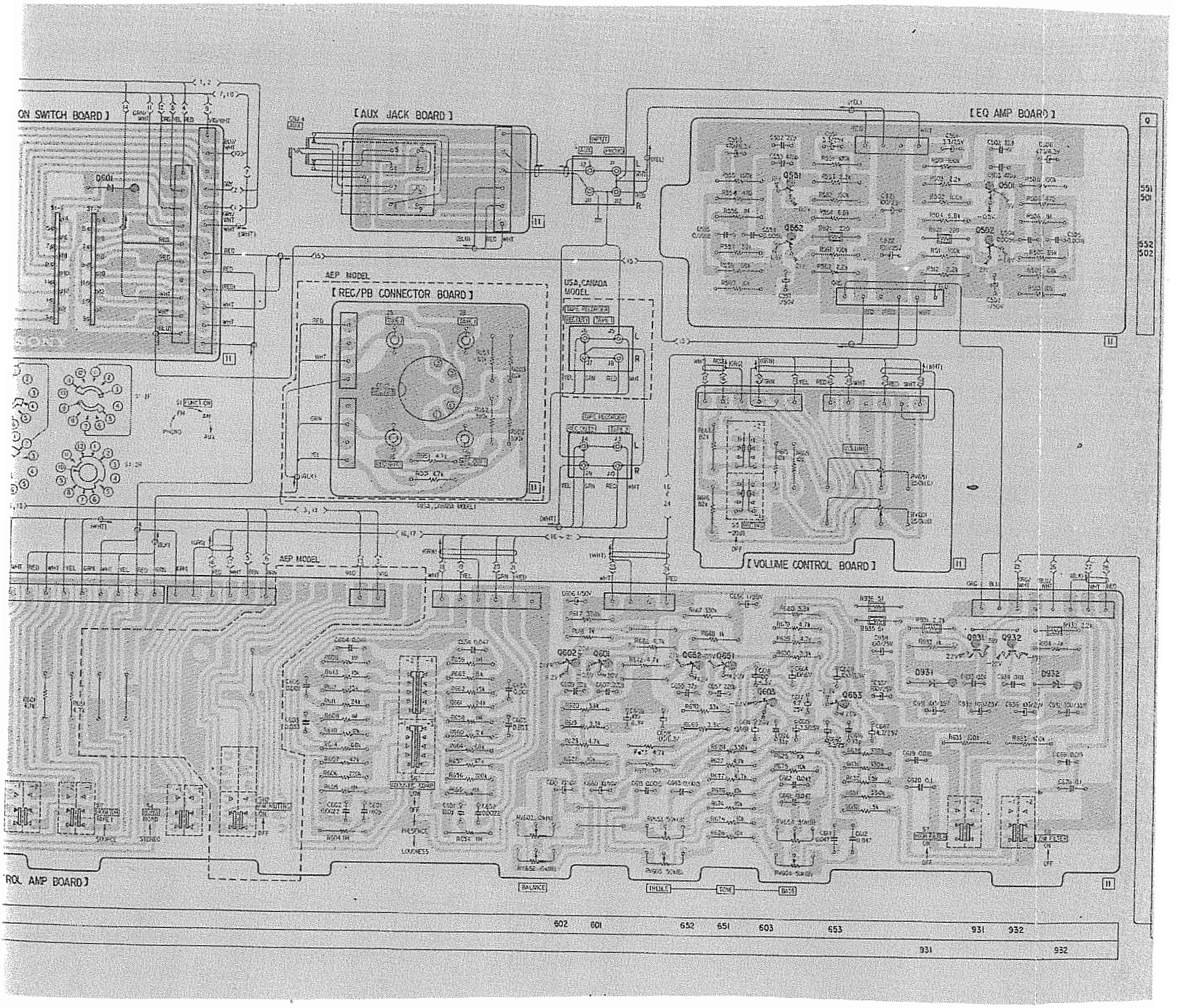
- ○ B+ pattern
- ○ B− pattern

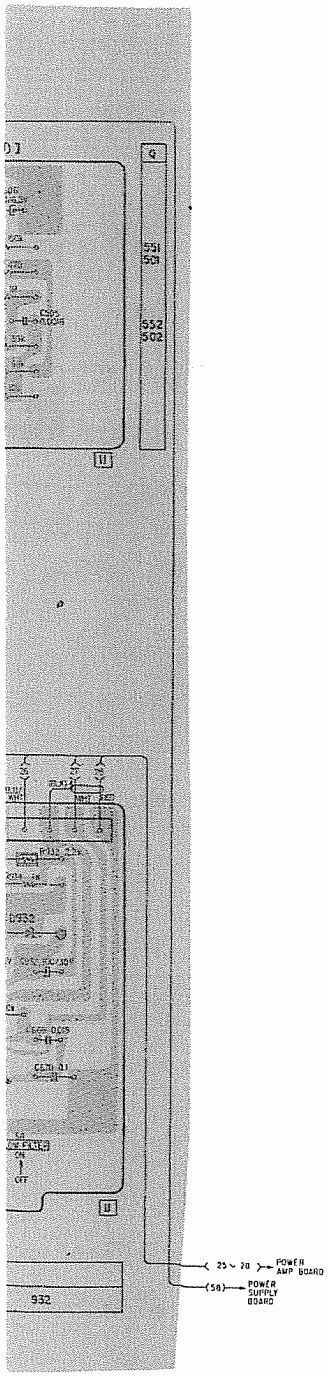


MOUNTING DIAGRAM – Function Switch, AUX Jack, REC/PB Co
– Conductor Side –



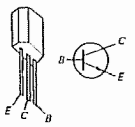
Jack, REC/PB Connector, EQ Amp, Volume Control, Control Amp Circuit Boards –



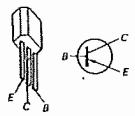


Q501, 551 } 2SC1636
Q601, 651 }

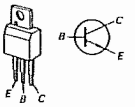
Q603, 653: 2SC632A



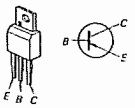
Q502, 552 } 2SA705
Q602, 652 }



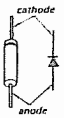
Q931: 2SC1124



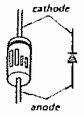
Q932: 2SA706



D601: 1S1555

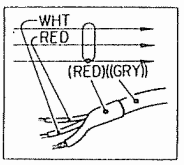


D931, 932: EQA01-21R



Note:

- ○ : B+ pattern
- ○ : B− pattern



Note: The circled letters (Ⓐ to Ⓩ) are applicable for the European models only.

Ref. No.	*Part No.*	*Description*
F2	1-532-267-XX	Ⓑ 1.6 A (Canada model)
F1, 2	1-532-325-00	Ⓑ 6.3 AT (AEP model)
F3	1-532-053-00	Ⓑ 1.6 AT (AEP model)
F4, 5	1-532-203-00	Ⓑ 2 AT (AEP model)
		JACKS
CNJ1, 2	1-526-528-00	Ⓓ AC OUTLET (USA, Canada model)
CNJ1	1-509-546-00	Ⓒ Connector, 3-p; AC IN (AEP model)
CNJ2	1-509-549-00	Ⓑ Connector, REC/PB (AEP model)
CNJ3	1-507-454-00	Ⓒ HEADPHONES
CNJ4	1-507-453-00	Ⓒ AUX
J1, 2 J11, 12	1-507-470-00	Ⓒ Phono, 4-p; PHONO, AUX
J3, 4 J9, 10	1-507-470-00	Ⓒ Phono, 4-p; TAPE 2, REC OUT 2
J5～8	1-507-471-00	Ⓒ Phono, 4-p; TAPE 1, REC OUT 1 (AEP model)
	1-507-470-00	Ⓒ Phono, 4-p; TAPE 1, REC OUT 1 (USA, Canada model)

Ref. No.	*Part No.*	*Description*
		MISCELLANEOUS
CP1	1-231-057-31	Ⓑ Encapsulated Component (USA, Canada model)
ME1	1-520-235-00	Ⓗ Meter, SIGNAL
ME2	1-520-236-00	Ⓗ Meter, FM TUNING
PL1～3	1-518-116-00	Ⓑ Lamp. 11 V 360 mA; dial, meter
PL4	1-518-169-XX	Ⓑ Lamp, 4.5 V 40 mA; STEREO
PL5	1-518-169-XX	Ⓑ Lamp, 4.5 V 50 mA, DOLBY FM (USA, Canada model)
RY801	1-515-257-00	Ⓗ Relay
TM1, 2	1-535-057-XX	Ⓔ Terminal Strip, SPEAKER
TM3	1-535-132-00	Ⓑ Terminal, ground
TM4	1-536-469-00	Ⓓ Terminal Strip, ANTENNA
	1-508-690-00	Ⓒ Plug, voltage selector (AEP model)
	1-534-538-XX	Ⓒ Cord, power (USA model)
	1-534-986-XX	Ⓕ Cord, power (Canada model)
	1-536-392-XX	Ⓑ Terminal Strip

CIRCUIT BOARD REMOVAL

TONE Control, AUX Jack and HEADPHONES Jack Circuit Board Removal.

1. Remove the bottom plate (2-3) and front panel (2-4) first.
2. Remove three screws (① – ③) as shown in Fig. 2-5.
   After removing the circuit boards from the front subchassis, replace the defective switch or jack.

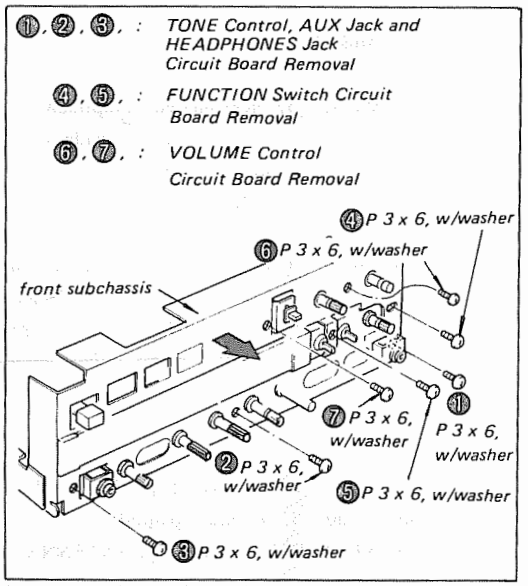


Fig. 2-5.

FUNCTION Switch Circuit Board Removal

1. Remove the front panel (2-4) first.
2. Remove two screws (④,⑤) as shown in Fig. 2-5. After removing the circuit board from the front subchassis, replace the defective switch.

VOLUME Control Circuit Board Removal

1. Remove the front panel (2-4) first.
2. Remove two screws (⑥,⑦) as shown in Fig. 2-5. After removing the circuit board from the front subchassis, replace the defective control.

POWER AMP and EQ AMP Circuit Board Removal

1. Remove the bottom plate (2-3) first.
2. See Fig. 2-6.

①: POWER AMP Circuit Board Removal
②: EQ AMP Circuit Board Removal

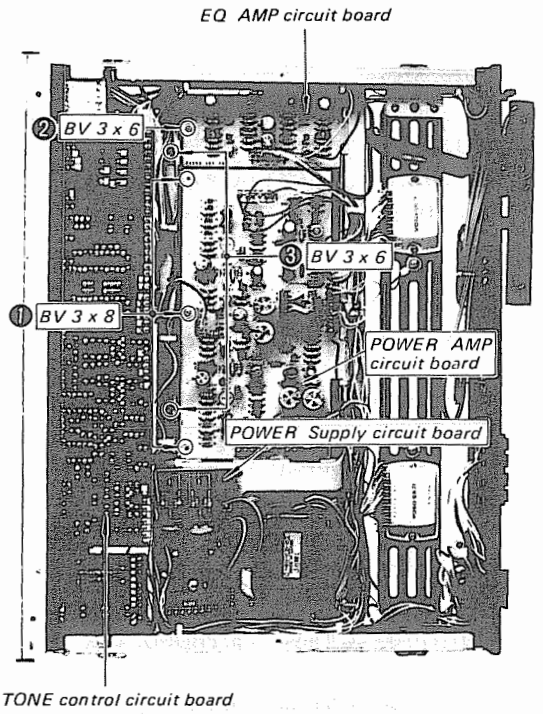


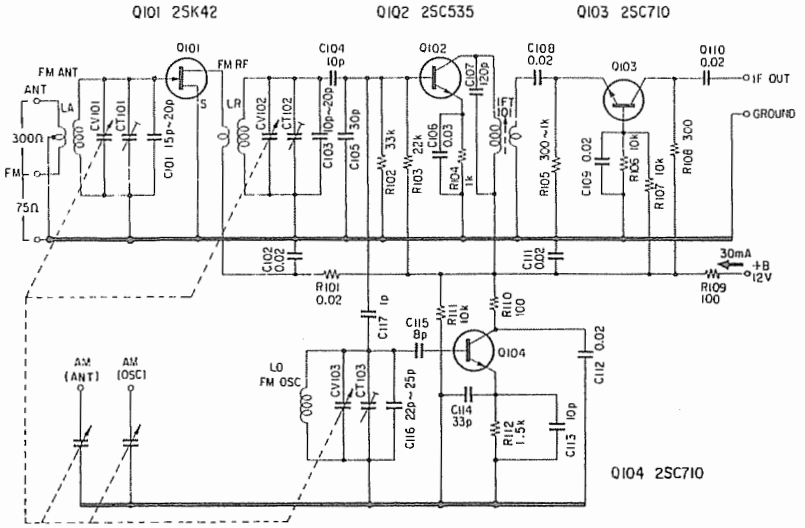
Fig. 2-6.

Replacement of the Components on the Front-End Circuit Board.

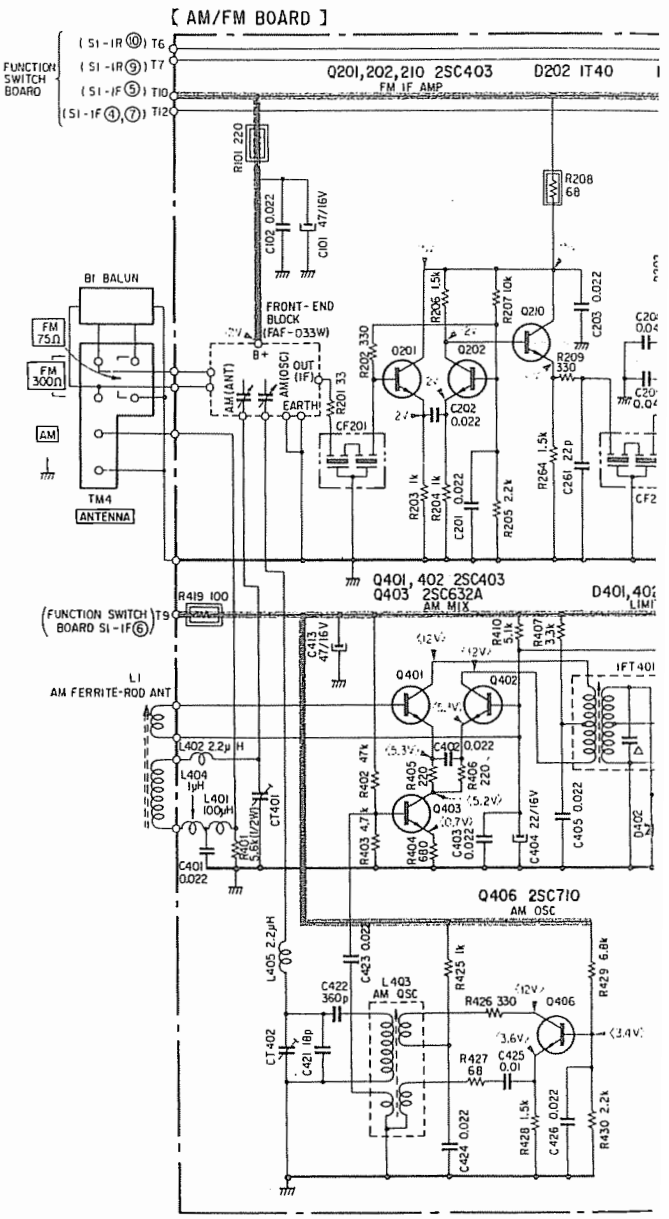
1. Remove the bottom plate (2 - 3) first.
2. Remove two BV 3 x 6 screws ③ securing the power amp and EQ amp circuit boards to the shield plate as shown in Fig. 2-6.
3. Remove the shield plate from the chassis.
4. It is possible to unsolder the components on the front-end circuit board.

SCHEMATIC DIAGRAM – Front-End, FM/AM Section –

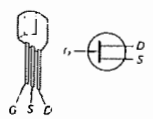
[FRONT-END BOARD]



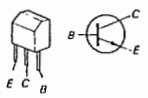
[AM/FM BOARD]



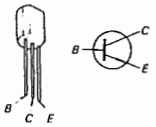
Q101: 2SK42

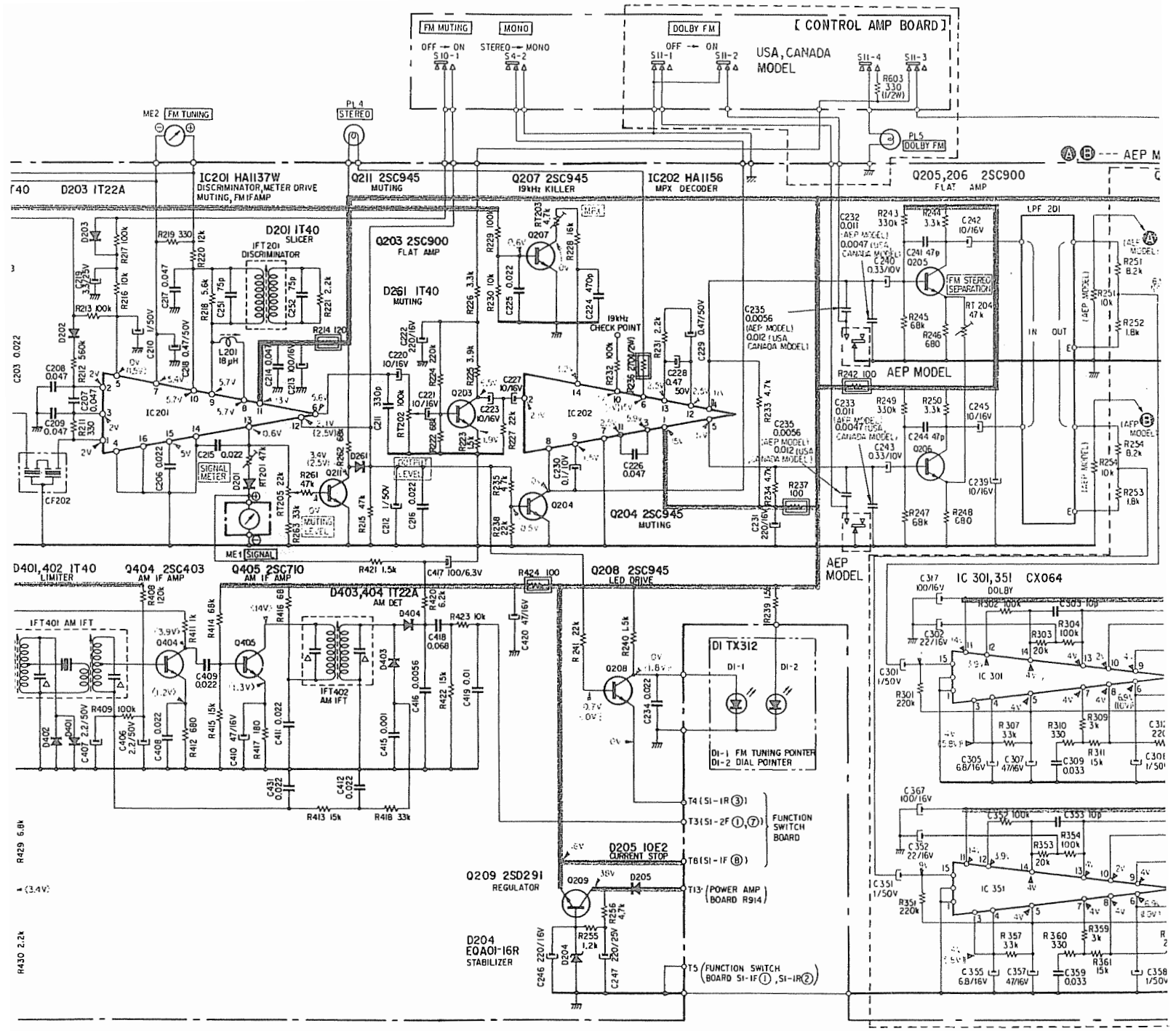


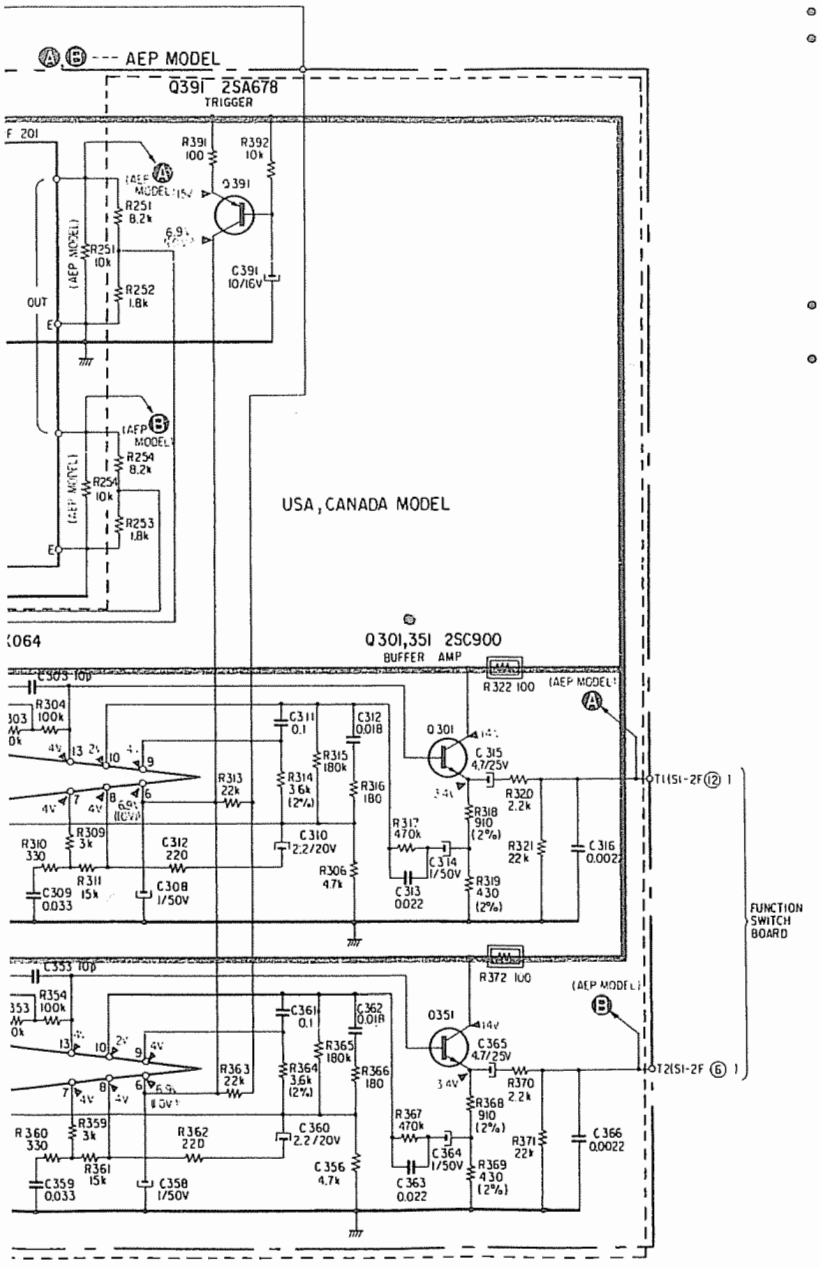
Q102: 2SC535



Q103, 104: 2SC710




[CONTROL AMP BOARD]
FM MUTING
MONO
DOLBY FM
USA, CANADA MODEL
IC201 HA1137W
DISCRIMINATOR, METER DRIVE MUTING, FM IFAMP
Q211 2SC945
MUTING
Q207 2SC945
19kHz KILLER
IC202 HA1156
MPX DECODER
Q205,206 2SC900
FLAT AMP
D203 IT22A
D201 IT40
SLICER
IFT201
DISCRIMINATOR
Q203 2SC900
FLAT AMP
D261 IT40
MUTING
19kHz CHECK POINT
LPF 201
AEP MODEL
FM STEREO SEPARATION
SIGNAL METER
MUTING LEVEL
OUTPUT LEVEL
Q204 2SC945
MUTING
D401,402 IT40
LIMITER
Q404 2SC403
AM IF AMP
Q405 2SC710
AM IF AMP
D403,404 IT22A
AM DET
IFT401 AM IFT
IFT402 AM IFT
Q208 2SC945
LED DRIVE
DI TX312
DI-1 FM TUNING POINTER
DI-2 DIAL POINTER
FUNCTION SWITCH BOARD
D205 10E2
CURRENT STOP
Q209 2SD291
REGULATOR
D204
EQA01-16R
STABILIZER
POWER AMP BOARD R914
FUNCTION SWITCH BOARD SI-1F ①, SI-1R ②
IC 301, 351 CX064
DOLBY

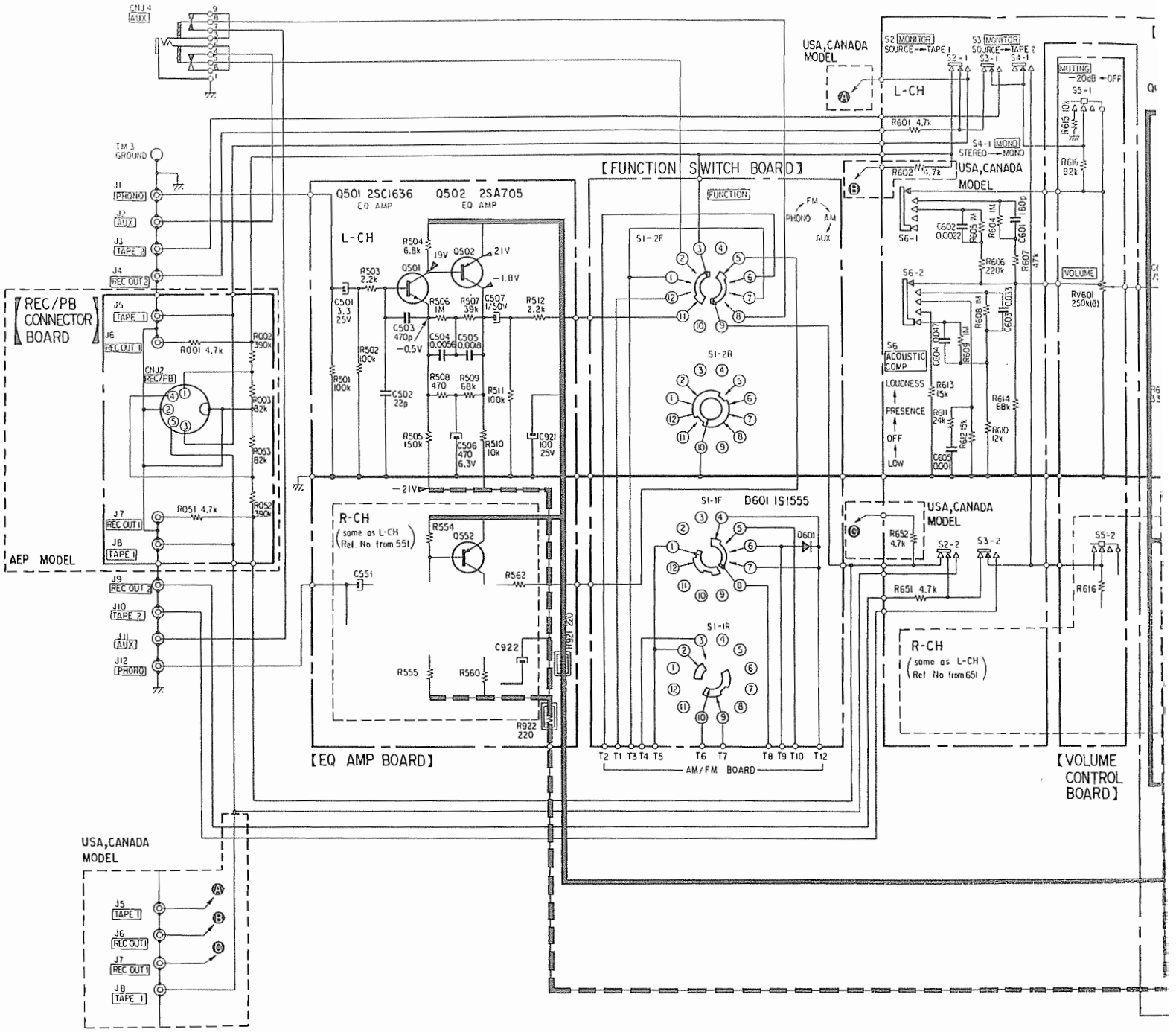


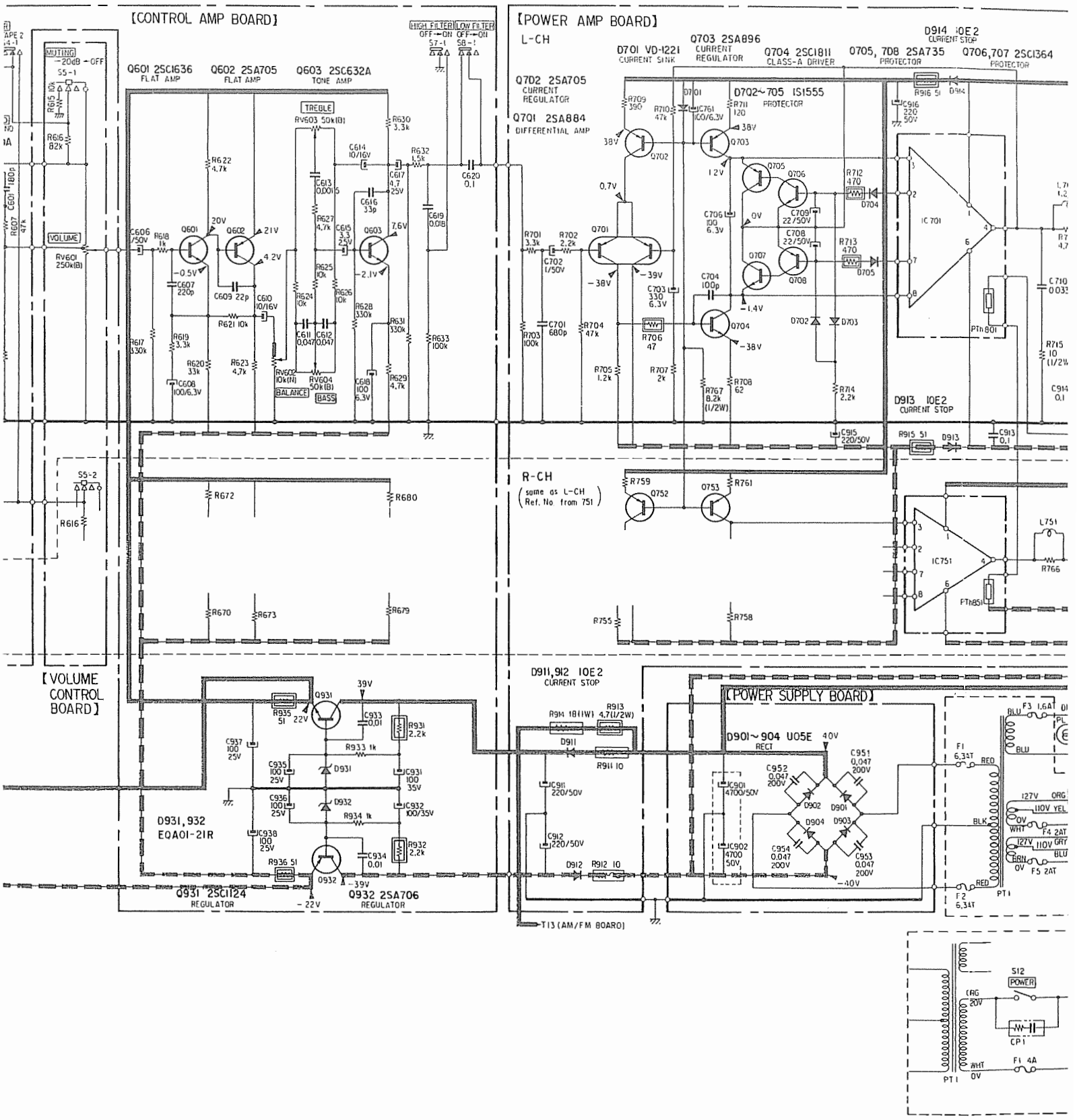
Note:

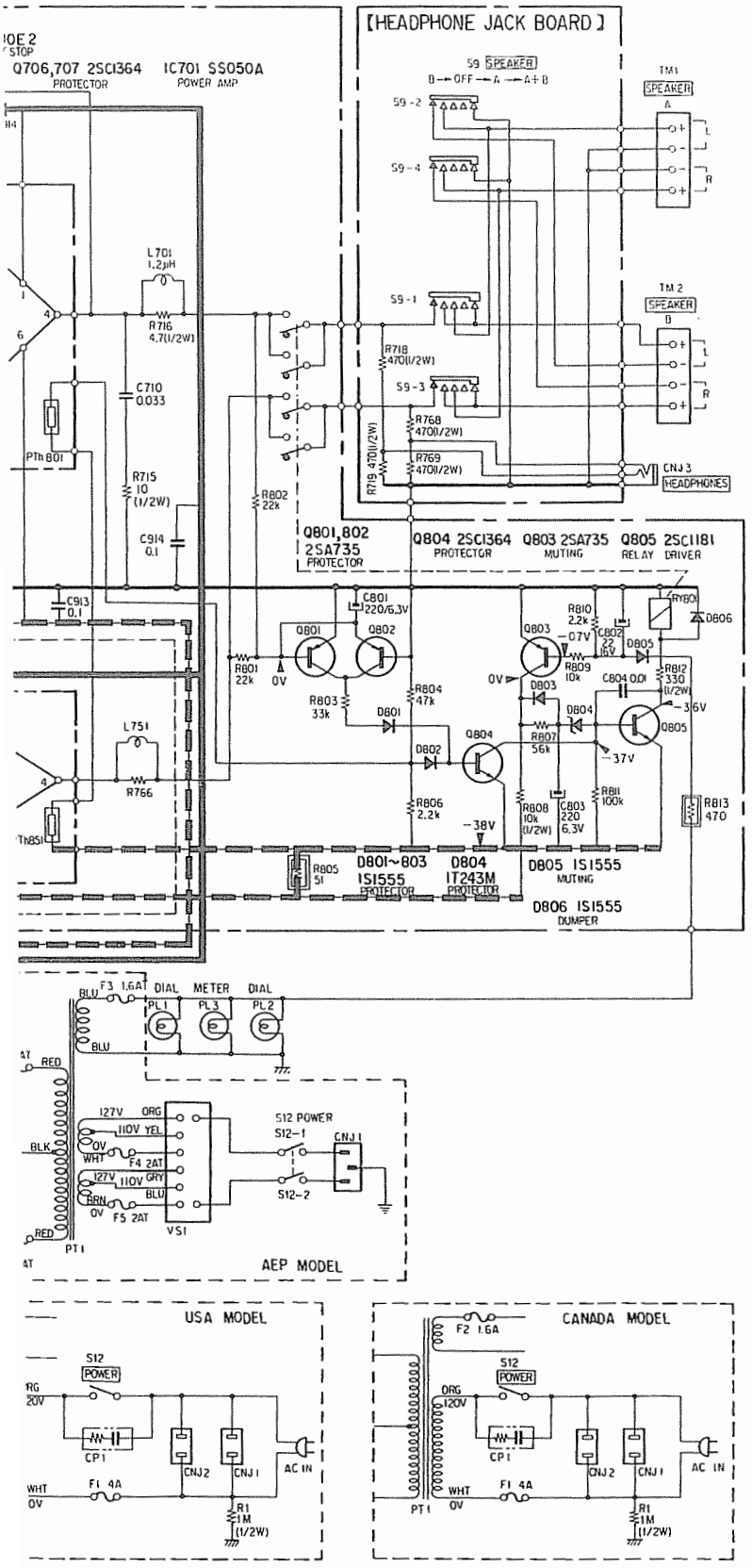
- All capacitors are in μF unless otherwise noted. 50 or le working volts are omitted except for electrolytic typ p = $\mu\mu$F.
- All resistors are in Ω, ¼W, unless otherwise note k = 1,000 M = 1,000 k
- △ indicates internal components.
- indicates chassis ground.
- indicates a nonflammable resistor.
- indicates B+ circuit.
- Voltage are measured by VOM (20 kΩ/v) in DC wi respect to ground unless otherwise noted.
  - ≪ ≫: FM (monaural or stereo)
  - ( ): FM MUTING (S10) — ON (Detuned in FM)
  - (( )): DOLBY FM (S11) — ON (Detuned in FM)
  - [ ]: FM STEREO
  - < >: AM (Detuned)
  - no mark: FM (Detuned)
- Voltage variations may be noted due to normal produ tion tolerances.
- Switch Mode:

Ref. No.	Switch	Position
S4	MONO	STEREO
S10	FM MUTING	OFF
S11	DOLBY FM	OFF

SCHEMATIC DIAGRAM – Amplifier Section –




[CONTROL AMP BOARD]
[POWER AMP BOARD]
L-CH
R-CH
(same as L-CH Ref. No. from 751)
[VOLUME CONTROL BOARD]
[POWER SUPPLY BOARD]
Q601 2SC1636 FLAT AMP
Q602 2SA705 FLAT AMP
Q603 2SC632A TONE AMP
Q701 VD-1221 CURRENT SINK
Q703 2SA896 CURRENT REGULATOR
Q704 2SC1811 CLASS-A DRIVER
Q705, 708 2SA735 PROTECTOR
Q706,707 2SC1364 PROTECTOR
Q702 2SA705 CURRENT REGULATOR
Q701 2SA884 DIFFERENTIAL AMP
D702~705 1S1555 PROTECTOR
D914 10E2 CURRENT STOP
D913 10E2 CURRENT STOP
D911,912 10E2 CURRENT STOP
D931,932 EQA01-21R
Q931 2SC1124 REGULATOR
Q932 2SA706 REGULATOR
D901~904 U05E RECT
IC701
IC751
TREBLE
BASS
BALANCE
VOLUME
MUTING
HIGH FILTER
LOW FILTER
POWER
T13 (AM/FM BOARD)



Note:

- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF.
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k
- indicates chassis ground.
- indicates a nonflammable resistor.
- indicates a fusible resistor.
- indicates B+ circuit.
- indicates B− circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/v). Measure the voltages after the power switch turned ON and 4–6 minutes passed for warm-up the set.
- Voltage variations may be noted due to normal production tolerances.
- Switch Mode:

Ref. No.	Switch	Position
S1	FUNCTION	PHONO
S2	MONITOR	SOURCE
S3	MONITOR	SOURCE
S4	MONO	STEREO
S5	MUTING	OFF
S6	ACOUSTIC COMP	LOW
S7	HIGH FILTER	OFF
S8	LOW FILTER	OFF
S9	SPEAKER	B
S10	FM MUTING	OFF
S12	POWER	OFF