

A.G. Tannenbaum

Electronic Service Data

2043 Empire Central
Dallas, Texas 75235 USA
Phone 214-654-0033
Fax 214-357-4693

WEB-PAGE: *HTTP://WWW.AGTANNENBAUM.COM*

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**Check Back Often As We Are Always
Adding More Listings And We
Appreciate Your Business**

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Service Manual

SA-500

FM/AM STEREO RECEIVER

SA-500

(M), (MC)

491



- The model SA-500 (M) is available in America only.
- The model SA-500 (MC) is available in Canada only.

Simulated wood cabinet

TECHNICAL SPECIFICATIONS (Specifications are subject to change without notice for further improvement.)

POWER AMPLIFIER SECTION

Rated minimum sine wave RMS power output
20Hz ~ 20kHz
both channels driven
0.04% total harmonic distortion
55W per channel (8 ohms)
60W per channel (4 ohms)

1kHz continuous power output
both channels driven
0.04% total harmonic distortion 58W per channel (8 ohms)
70W per channel (4 ohms)

Total harmonic distortion
rated power 0.04% (20Hz ~ 20kHz, 8 ohms, 4 ohms)
half power 0.025% (20Hz ~ 20kHz, 8 ohms)
0.008% (1kHz, 8 ohms)

Inter modulation distortion 0.04%
Residual hum and noise 0.6mV
Damping factor 32 (8 ohms), 16 (4 ohms)
Load impedance MAIN or REMOTE 4 ~ 16 ohms
MAIN + REMOTE 8 ~ 16 ohms

PREAMPLIFIER SECTION

Input sensitivity and impedance
PHONO 2.5mV, 47 kilohms
AUX 150mV, 33 kilohms
PLAYBACK (TAPE 1, 2) 150mV, 33 kilohms
PHONO maximum input voltage (1kHz, RMS) 150mV

S/N (IHF, A)
PHONO 78dB
AUX 95dB

Frequency response
PHONO RIAA standard curve ± 0.2 dB
AUX 20Hz ~ 20kHz, ± 0.5 dB
10Hz ~ 40kHz, -1dB

Tone controls
BASS 50Hz, +10dB ~ -10dB
TREBLE 10kHz, +10dB ~ -10dB
Low filter 100Hz, -6dB/oct.
High filter 7kHz, -6dB/oct.
Loudness control (-30 dB) 50Hz, +9dB
Output voltage
REC OUT (TAPE 1, 2) 150mV

Acoustic controls (Tone controls "0" position)

LOW BOOST 100Hz, +6dB
HIGH BOOST 10kHz, +6dB

FM TUNER SECTION

Frequency range 88 ~ 108MHz
Sensitivity 10.8dBf (1.9 μ V IHF '58)
50 dB quieting sensitivity
MONO 13.7dBf (2.7 μ V IHF '58)
STEREO 37.2dBf (39.7 μ V IHF '58)

Total harmonic distortion
100Hz 0.15% (MONO), 0.35% (STEREO)
1kHz 0.15% (MONO), 0.3% (STEREO)
6kHz 0.3% (MONO), 0.4% (STEREO)
S/N 75dB (MONO), 70dB (STEREO)

Frequency response 20Hz ~ 15kHz, +1dB
-2dB

Alternate channel selectivity 70dB
Capture ratio 1.2dB
Image rejection at 98MHz 70dB
IF rejection at 98MHz 90dB
Spurious response rejection at 98MHz 80dB
AM suppression 55dB
Stereo separation 45dB (1kHz), 35dB (10kHz)
Leak carrier -40dB (19kHz), -50dB (38kHz)
Antenna terminals 300 Ω , 75 Ω

AM TUNER SECTION

Frequency range 525 ~ 1605kHz
Sensitivity 30 μ V, 300 μ V/m
Selectivity 35dB
Image rejection at 1000kHz 50dB
IF rejection at 1000kHz 45dB

GENERAL

Power consumption 380VA, 320W

Power supply AC120V, 60Hz

Dimensions (W x H x D) 486 x 157 x 329 mm
(19-1/8" x 6-3/16" x 12-15/16")

Weight 11.4kg (25.1 lb.)

Weights and dimensions shown are approximate.

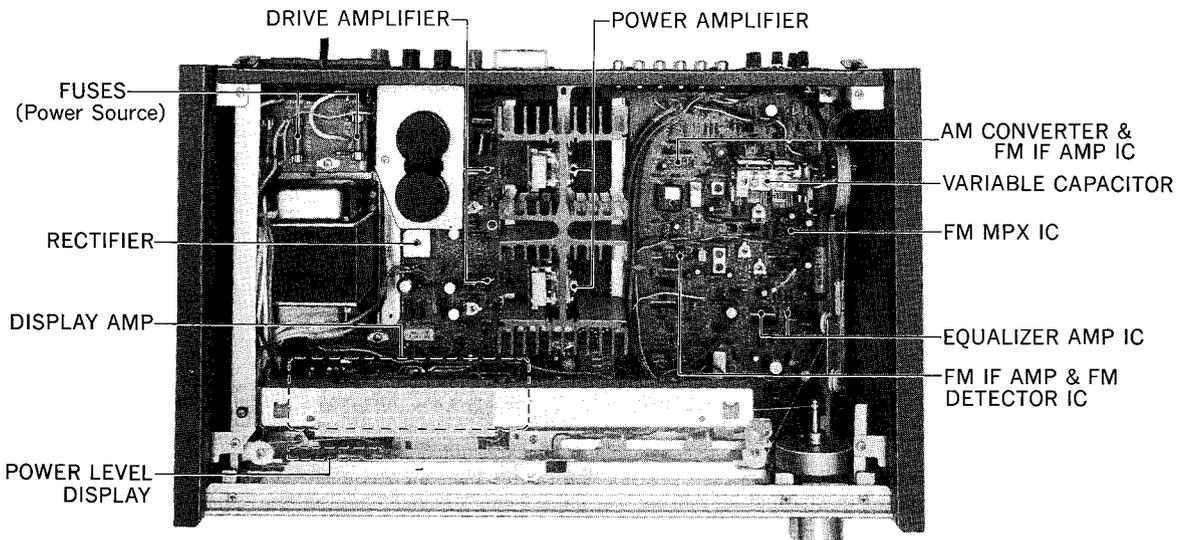
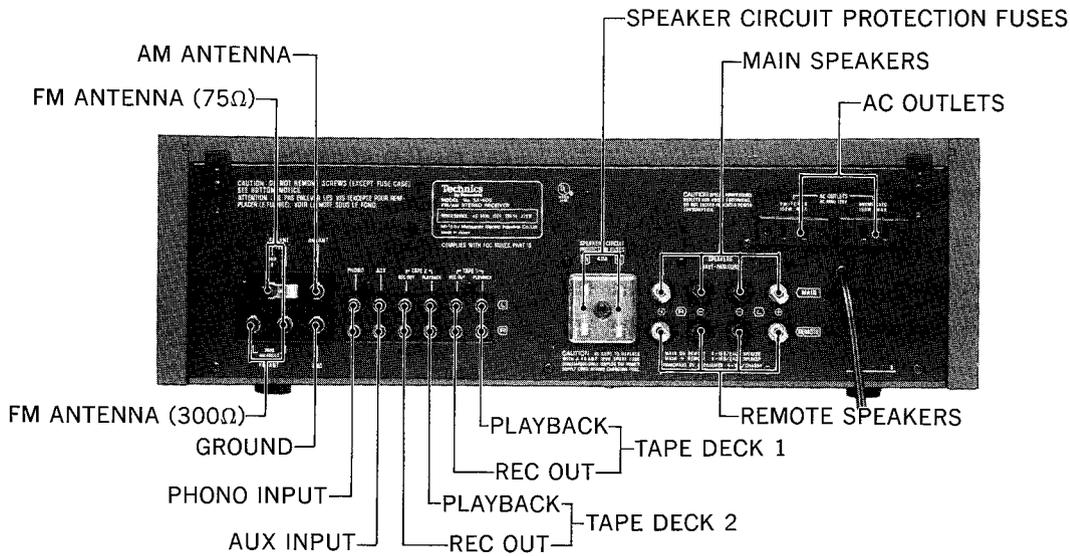
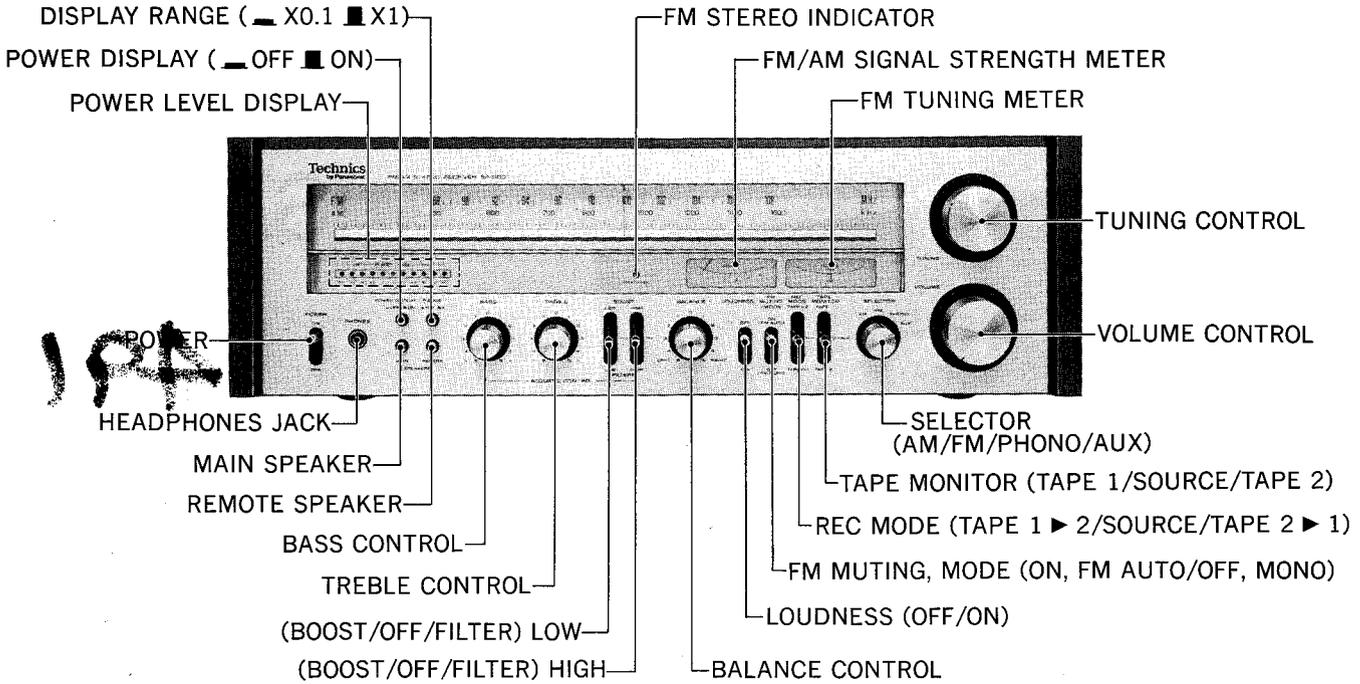
Technics
by Panasonic

Panasonic Company
Division of Matsushita Electric
Corporation of America
One Panasonic Way, Secaucus,
New Jersey 07094

Panasonic Hawaii, Inc.
320 Waiakamilo Road, Honolulu,
Hawaii 96817

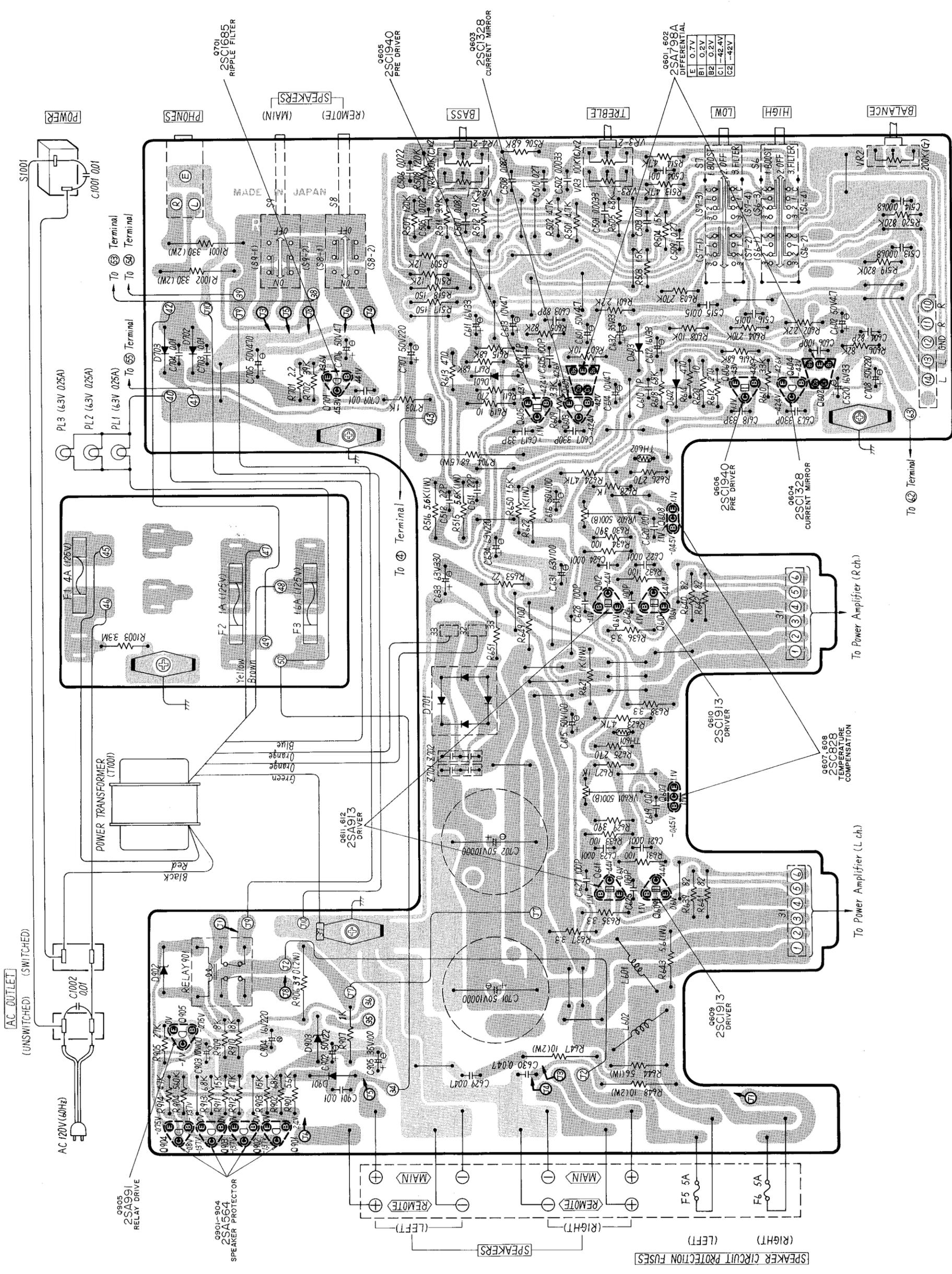
Matsushita Electric of Canada Ltd.
40 Ronson Drive, Rexdale,
Ontario, Canada M9W 1B5

LOCATION OF CONTROLS

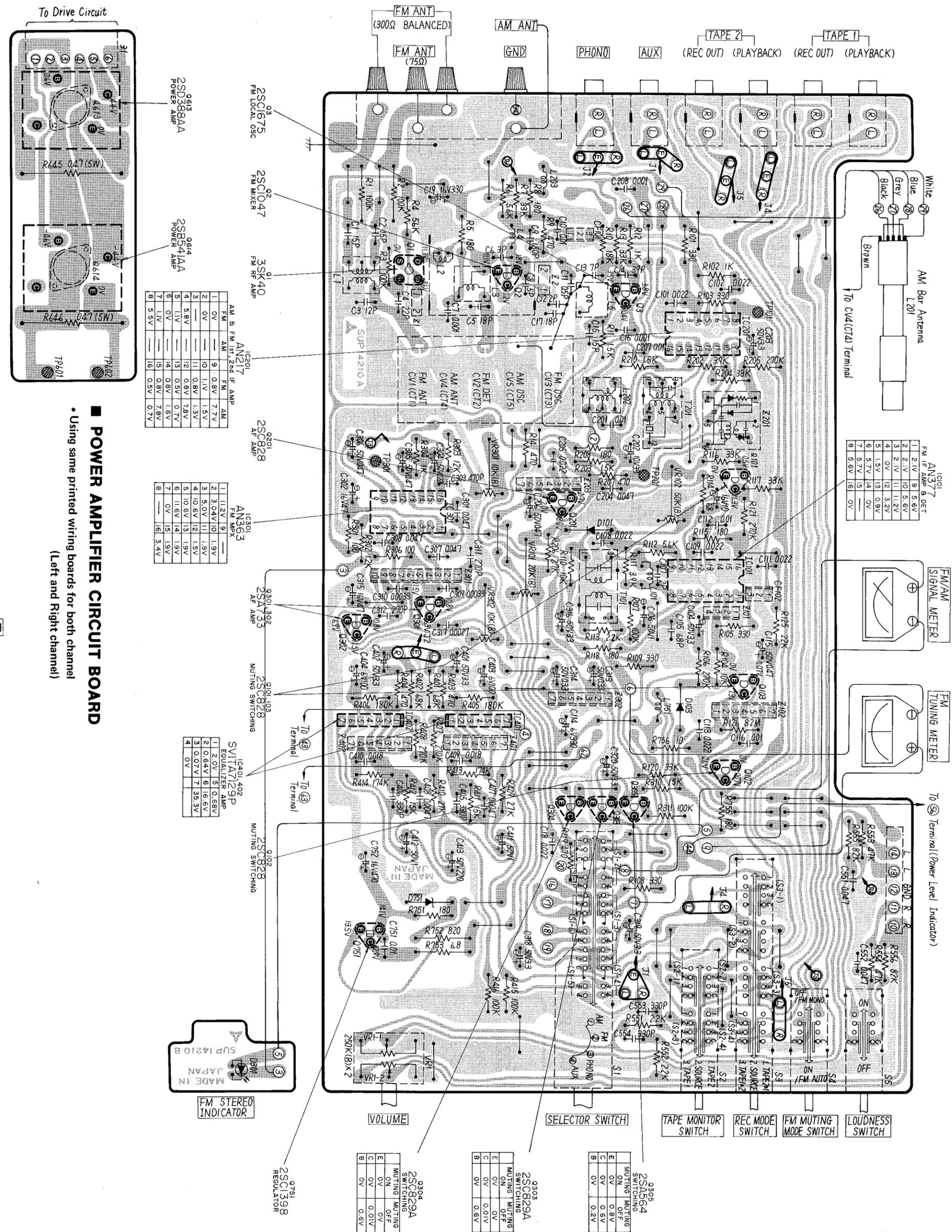


■ MAIN AMPLIFIER & POWER SUPPLY CIRCUIT BOARD

Earth (Ground) Lines



FM/AM TUNER AND EQUALIZER CIRCUIT BOARD



0615
2SD388AA
POWER AMP

0614
2SB541AA
POWER AMP

AM & FM 1st, 2nd IF AMP	
1	0V
2	0.8V
3	0V
4	0.8V
5	1.1V
6	0.8V
7	1.1V
8	0.5V
9	0.8V
10	0.7V
11	1.3V
12	0.8V
13	0.8V
14	0.8V
15	0.8V
16	0.5V

0201
2SC828
AF AMP

AN377 FM IF AMP & DET	
1	2.1V
2	1.1V
3	2.1V
4	0V
5	1.5V
6	5.7V
7	5.7V
8	5.5V
9	5.6V
10	5.6V
11	5.6V
12	5.6V
13	5.6V
14	5.6V
15	5.6V
16	5.6V

0201
2SC828
MUTING SWITCHING

AN363 FM MPX	
1	11.2V
2	3.04V
3	5.0V
4	10.6V
5	10.6V
6	10.6V
7	10.6V
8	10.6V
9	10.6V
10	10.6V
11	10.6V
12	10.6V
13	10.6V
14	10.6V
15	10.6V
16	10.6V

0202
2SC828
MUTING SWITCHING

IC401,402P EQUALIZER AMP	
1	2.0V
2	0.64V
3	0.07V
4	0V

0904
2SC829A
MUTING SWITCHING

ON	0V
OFF	0V
ON	0.01V
OFF	0.5V

0905
2SC829A
MUTING SWITCHING

ON	0V
OFF	0V
ON	0.01V
OFF	0.5V

0906
2SC829A
MUTING SWITCHING

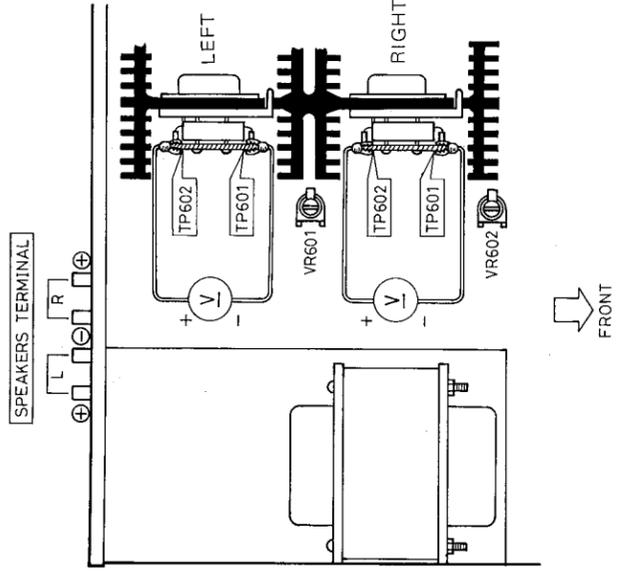
ON	0V
OFF	0V
ON	0.01V
OFF	0.5V

POWER AMPLIFIER CIRCUIT BOARD

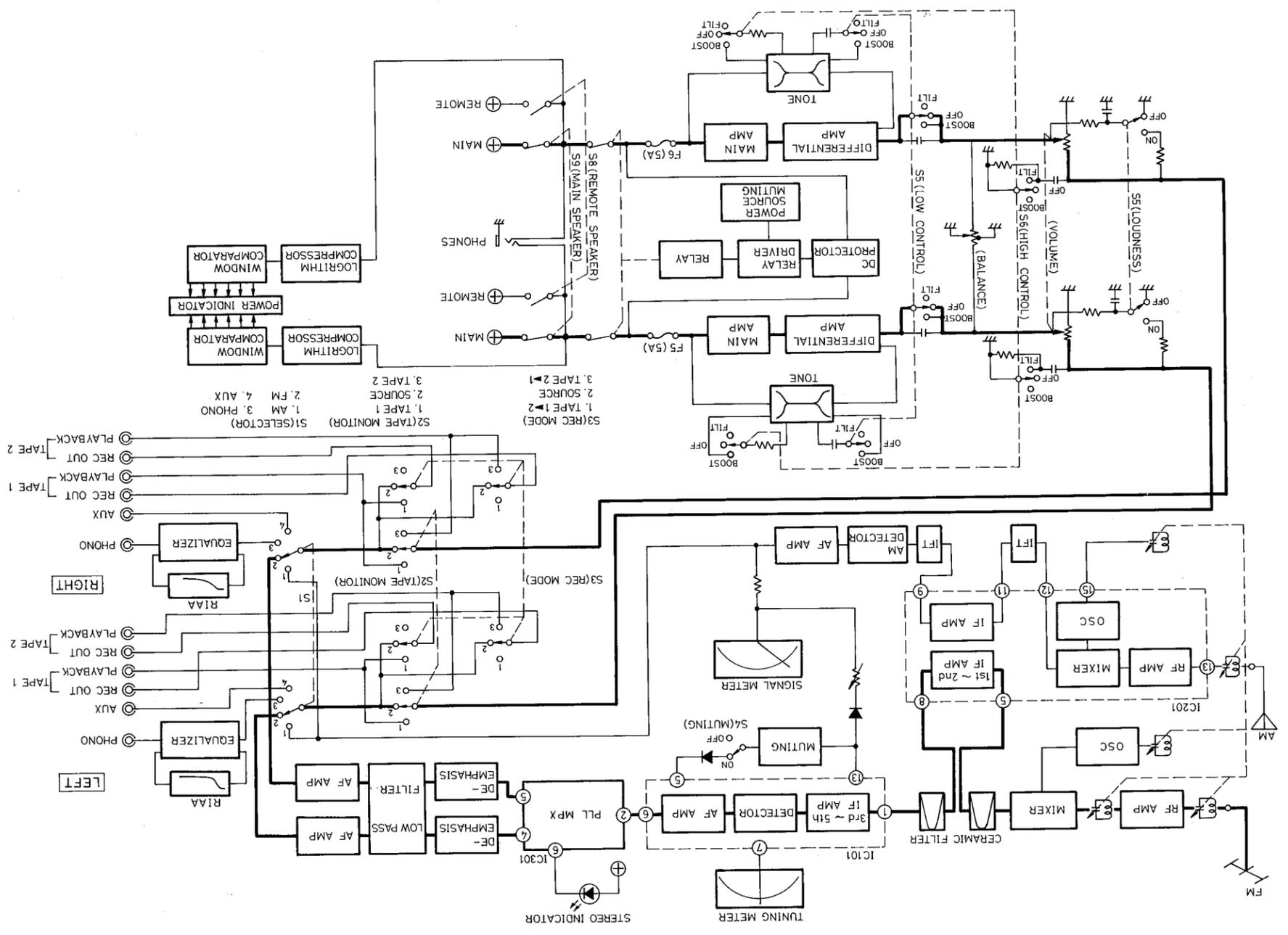
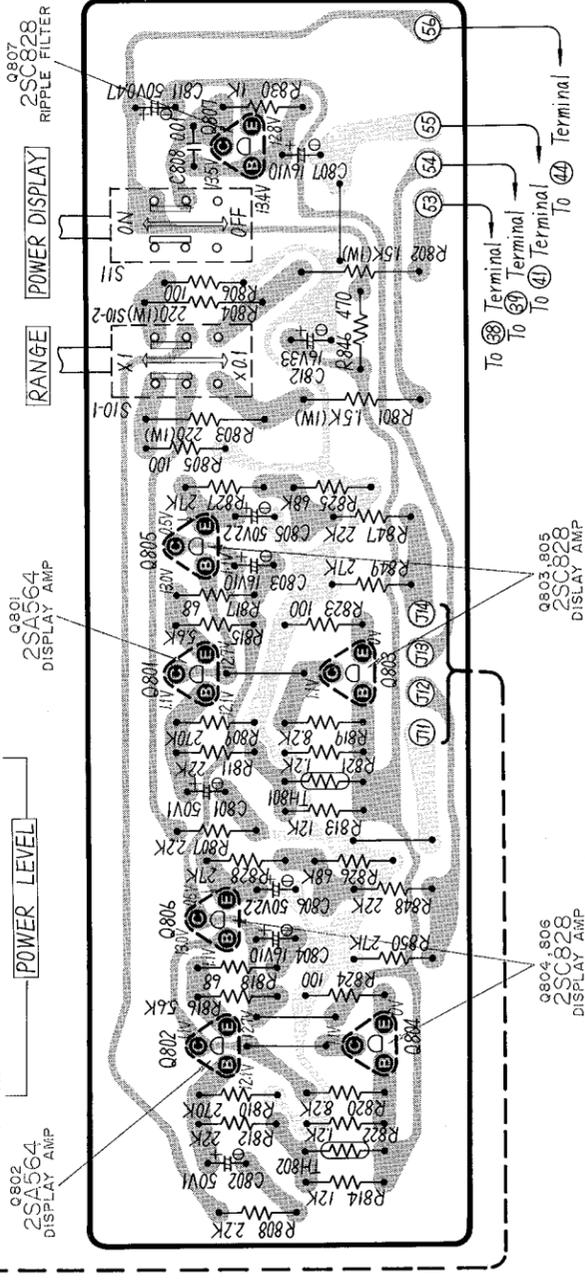
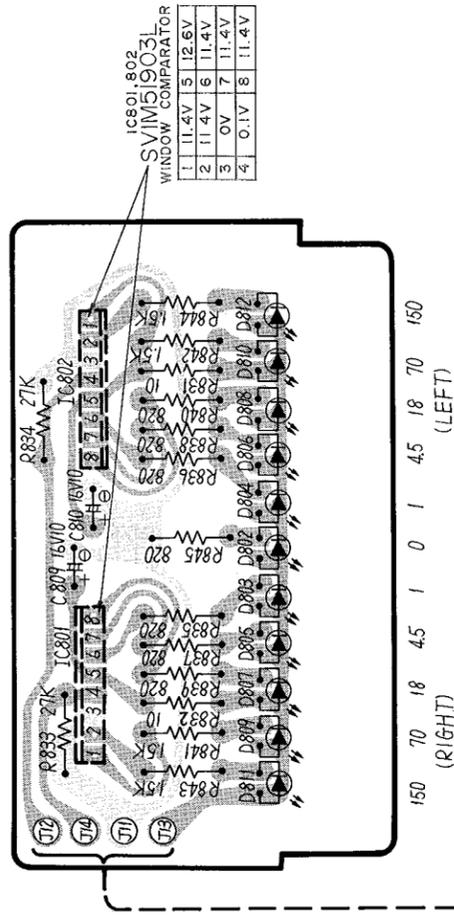
Using same printed wiring boards for both channel (Left and Right channel)

ALIGNMENT INSTRUCTIONS Main Amplifier Circuitry

- Main amplifier (1 cc) alignment.
- 1. The "1 cc" adjustment should be started about 5 minutes. After setting the power switch to the ON position.
- 2. Left channel
 - * Connect DC voltmeter between TP601 and TP602.
 - * Adjust VR601 to 8 mV on DC voltmeter indication.
- 3. Right channel
 - * Connect DC voltmeter between TP601 and TP602.
 - * Adjust VR602 to 8mV on DC voltmeter indication.



POWER LEVEL DISPLAY CIRCUIT BOARD



BLOCK DIAGRAM

REPLACEMENT PARTS LIST Electric Parts

Important Safety Notice
 Components identified by shaded area have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

NOTE: Part numbers are indicated on most mechanical parts.
 Please use this part number for parts orders.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
INTEGRATED CIRCUITS				
IC101	AN377	IC, FM IF Amplifier & FM Detecotr	1	
IC201	AN217-BB	IC, FM IF Amplifier & AM Converter	1	
IC301	AN363	IC, FM Multiplex	1	
IC401, 402	SVITA7129P	IC, Equalizer Amplifier	2	
IC801, 802	SVIM51903L	IC, Power Display Window Comparator	2	
TRANSISTORS				
Q1	3SK40-M	Transistor, FM RF Amplifier [FET]	1	
Q2	2SC1047-C	Transistor, FM Mixer (Use in ranks C or D)	1	
Q3	2SC1675-L1	Transistor, FM Local Oscillator	1	
Q101, 102, 103, 201	2SC1328-T	Transistor, Muting Switch & AF Amplifier (Use in ranks S, T or U)	4	
Q301, 302	2SA733-P1	Transistor, AF Amplifier (Use in ranks P1 or P2)	2	
Q303, 304	2SC829-C	Transistor, Muting Switching (Use in ranks A, B or C)	2	
Q305	2SA666AI-R	Transistor, Muting Switching (Use in ranks P, Q or R)	1	
Q601, 602	2SA798A-G2	Transistor, Differential Amplifier (Use in ranks F2 or G2)	2	
Q603, 604	2SC1328-T	Transistor, Current Mirror (Use in ranks S, T or U)	2	
Q605, 606	2SC1940-L	Transistor, Pre-Drive Amplifier (Use in ranks K or L)	2	
Q607, 608	2SC828A-R	Transistor, Temperature Compensation (Use in ranks P, Q or R)	2	
Q609, 610	2SC1913A-R	Transistor, Driver Amp. (Use in ranks P, Q or R)	2	Use pair ranks
Q611, 612	2SA913A-R	Transistor, Driver Amp. (Use in ranks P, Q or R)	2	
Q613 (X2)	2SD388AA-R	Transistor, Power Amp. (Use in ranks Q, R or S)	2	Use pair ranks
Q614 (X2)	2SB541AA-R	Transistor, Power Amp. (Use in ranks Q, R or S)	2	
Q701	2SC1685-T	Transistor, Ripple Filter (Use in ranks S or T)	1	
Q751	2SC1398-Q	Transistor, Regulator (Use in ranks P, Q or R)	1	
Q801, 802	2SA666AI-R	Transistor, Display Amplifier (Use in ranks P, Q or R)	2	
Q803, 804, 805, 806, 807	2SC1328-T	Transistor, Display Amplifier & Ripple Filter (Use in ranks S, T or U)	5	
Q901, 902, 903, 904	2SA666AI-R	Transistor, Speaker Protection (Use in ranks P, Q or R)	4	
Q905	2SA991-F	Transistor, Relay Driver (Use in ranks E or F)	1	
DIODES				
D101	SVDKB262E	Diode, Meter Detector	1	
D103	MA150	Diode, Switching	1	
D301	LN25RP	Light Emitting Diode, Stereo Indicator	1	
D601, 602	MA27B	Diode, Current Mirror	2	
D603	SVDMZ324	Diode, 24V Zener	1	
D701	SVDS10VB20	Rectifier	1	
D702, 703	SM112	Rectifier	2	
D751	SVDMZ414	Diode, 14V Zener	1	
D802	LN36BP	Light Emitting Diode, Green	1	
D803 ~ D808	LN46YP	Light Emitting Diode, Orange	6	
D809 ~ D812	LN26RP	Light Emitting Diode, Red	4	
D901	SM112	Rectifier	1	
D902	SVDMZ324	Diode, Relay Pulse Killer	1	
D903	SVDMZ330B	Diode, 30V Zener	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
COILS and TRANSFORMERS				
L1	SLA4P25	Coil, FM Antenna	1	
L2	RLQY25S2	Coil, Choke	1	
L3	SLD4P13	Coil, FM RF Detector	1	
L4	RLQY15G5	Coil, Choke	1	
L5	SL04P31	Coil, FM Local Oscillator	1	
L101	SLQX180-2	Coil, Choke	1	
L201	SLF2C11	Coil, AM Bar Antenna	1	
L202	SL02C3-P	Coil, AM Local Oscillator	1	
L203	SLQX101-2D	Coil, Choke	1	
L601, 602	SLQY15G-3U	Coil, Power Amplifier Output	2	
L751	SLQX101-2D	Coil, Choke	1	
T101	SLI4D513-3	Transformer, FM IF Detector	1	
T201	SLI7D101-M	Transformer, AM IF	1	
T1001	SLT5P141	Transformer, Power Source	1	○
COMPONENT COMBINATIONS				
Z1	EXRP102Z223S	Component Combination, 22k Ω & 0.01 μ F	1	
Z2	EXRP103P102S	Component Combination, 1k Ω & 0.01 μ F	1	
Z101	EXF3SL04C	Component Combination, 0.01 μ F (X3)	1	
Z102	EXBH85006K	Component Combination, 10k Ω 22k Ω 33k Ω , 56k Ω , 320k Ω	1	
Z201	SLI9F101-Z	Component Combination, AM Detector	1	
Z203	EXBH85005K	Component Combination, 1.5k Ω , 3.3k Ω , 47k Ω , 56k Ω , 180k Ω	1	
Z301	EXBH88007K	Component Combination, 390 Ω (X2), 10k Ω (X4), 1.5k Ω (X2)	1	
Z302	EXA6YD03C	Component Combination, 3.9k Ω (X2), 100k Ω (X2), 1500pF (X2)	1	
Z401, 402	EXA6SD01C	Component Combination, 100 Ω , 330 Ω , 68pF, 150pF, 680pF (X2)	2	
Z701, 702	EXRFS203ZS	Component Combination, 0.01 μ F (X2)	2	
CERAMIC FILTERS				
CF101, 102	SVFE107MS8-A	Ceramic Filter, Red, 10.7MHz	each 2	
	SVFE107MS8-B	Ceramic Filter, Blue, 10.67MHz		
	SVFE107MS8-C	Ceramic Filter, Orange, 10.73MHz		
	SVFE107MS8-D	Ceramic Filter, Black, 10.64MHz		
	SVFE107MS8-E	Ceramic Filter, White, 10.76MHz		
(Use pair ranks as same as CF101 and CF102.)				
VARIABLE RESISTORS				
VR1	EWV2F25BF5S	Volume Control, 250k Ω (B)	1	
VR2	EVH63F25G25S	Balance Control, 200k Ω (G)	1	
VR3, 4	EWK32F25C15S	Bass & Treble Control, 100k Ω (C)	2	
VR101	EVLS3AA00B24	Meter Adjustment, 20k Ω (B)	1	
VR102	EVLS3AA00B54	Muting Level Adjustment, 50k Ω (B)	1	
VR301	EVT3SMA00B14	PLL VCO Adjustment, 10k Ω (B)	1	
VR302	EVLS3AA00B14	Separation Adjustment, 10k Ω (B)	1	
VR601, 602	EVLS3AA00B52	Power Amp ICQ Adjustment, 500 Ω (B)	2	
VARIABLE CAPACITOR				
CV1 ~ CV5 (CT1 ~ CT5)	ECVC751K144A	Variable Capacitor, with Trimmer	1	
LAMPS				
PL1, 2, 3	XAMR62S	Lamp, Dial (6.3V 0.25A)	3	
FUSES				
F1	XBA1F40NU14	Fuse, 4A (125V), Primary	1	
F2	XBA1F10NU14	Fuse, 1A (125V), Secondary	1	
F3	XBA1F16NU14	Fuse, 1.6A (125V), Secondary	1	
F5, 6	XBAS1A5001	Fuse, 5A (125V), Speaker Circuit	2	
RELAY				
RLY901	SSY19-1	Relay, Speaker Protection	1	
SWITCHES				
S1	ESRM164F25E	Switch, Program Selector	1	
S2	SSL117	Switch, Tape Monitor	1	
S3	SSL115	Switch, Recording Mode	1	
S4, 5	SSL123	Switch, Fm muting/Mode & Loudness	2	
S6, 7	SSL119	Switch, High & Low Boost/Filter	2	
S8, 9	SSH223S	Switch, Main & Remote Speakers	1	
S10, 11	SSH219S	Switch, Power Display Range	1	
S1001	SSL81	Switch, Power Source	1	

■ REPLACEMENT PARTS LIST Electric Parts

NOTES:

- Components identified by shaded area have special characteristic important for safety. When replacing any of these components use only manufacturer's specified parts.
- Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
- Guide letters of Resistor and Capacitor indicate:

Resistors

ERD Carbon
 ERO Metal film
 ERG Metal oxide
 ERF Non-flammable
 ERX Metal film
 ERC Solid

Capacitors

ECC Ceramic
 ECK Ceramic
 ECOM Polyester
 ECOMP Polypropylene
 ECE Electrolytic
 ECE[.....] N . . . Non-polar electrolytic
 ECOU Polyester
 ECQS Polystyrene

Ref. No.	Part No.
R1, 2	ERD50TJ104
R3	ERD25TJ104
R4	ERD25TJ563
R5	ERD25TJ181
R6	ERD25TJ562
R7	ERD25TJ333
R8	ERD25TJ181
R9	ERD25TJ471
R10	ERD25TJ183
R11	ERD25TJ152
R12	ERD25TJ102
R13	ERD25TJ333
R14	ERD25TJ471
R101	ERD25TJ102
R102	ERD25TJ331
R103	ERD25TJ331
R104	ERD25TJ103
R105	ERD25TJ331
R106	ERD25TJ274
R107	ERD25TJ104
R108, 109	ERD25TJ331
R110	ERD25TJ103
R111	ERD25TJ392
R112	ERD25TJ562
R113	ERD25TJ222
R114	ERD25TJ680
R115	ERD25TJ181
R116, 117	ERD25TJ333
R118	ERD25TJ181
R119	ERD25TJ471
R120	ERD25TJ333
R121	ERD25TJ274
R125	ERD25TJ223
R126	ERC14GK825
R202	ERD25TJ392
R203	ERD25TJ152
R204	ERD25TJ333
R205	ERD25TJ274

Ref. No.	Part No.
R206	ERD25TJ272
R207	ERD25TJ471
R208	ERD25TJ181
R210	ERD25TJ152
R211	ERD25TJ122
R301	ERD25TJ101
R302	ERD25TJ122
R303	ERD25TJ102
R304	ERD25TJ101
R306	ERD25TJ153
R310	ERD25TJ104
R401, 402	ERD25TJ104
R403, 404	ERD25TJ471
R405, 406	ERD25TJ181
R407, 408	ERD25TJ273
R409, 410	ERD25TJ273
R411, 412	ERD25TJ104
R413, 414	ERD25TJ104
R415, 416	ERD25TJ472
R501, 502	ERD25TJ152
R503, 504	ERD25TJ682
R505, 506	ERD25TJ124
R507, 508	ERD25TJ124
R509, 510	ERD25TJ392
R511, 512	ERD25TJ124
R513, 514	ERD25TJ332
R515, 516	ERD25TJ332
R517, 518	ERD14FJ151
R519, 520	ERD25TJ824
R551, 552	ERD25TJ222
R553, 554	ERD25TJ473
R555, 556	ERD25TJ823
R601, 602	ERD25TJ222
R603, 604	ERD25TJ274
R605, 606	ERD25TJ823
R607, 608	ERD25TJ103
R609, 610	ERD25TJ332
R611, 612	ERD25TJ271

Ref. No.	Part No.
R613, 614	ERD25TJ471
R615, 616	ERD25TJ683
R617, 618	ERD25TJ122
R619, 620	ERD14FJ100
R621, 622	ERD14FJ100
R623, 624	ERD12FJ472
R625, 626	ERD25TJ271
R627, 628	ERD25TJ102
R629, 630	ERD25TJ391
R631, 632	ERD14FJ101
R633, 634	ERD14FJ101
R635, 636	ERD14FJ3R3
R637, 638	ERD14FJ3R3
R639, 640	ERD14FJ820
R641, 642	ERD14FJ820
R643, 644	ERD14FJ820
R645, 646	ERD14FJ820
R647, 648	ERD14FJ100
R649	ERD14FJ101
R650	ERD14FJ152
R651	ERD14FJ330
R653	ERD14FJ220
R701	ERD18FJ2R2
R702	ERD14FJ102
R703	ERD14FJ102
R704	ERD14FJ102
R751	ERD25TJ181
R752	ERD14FJ102
R753	ERD12FJ6R8
R755	ERD25TJ181
R756	ERD25TJ100
R801, 802	ERG1ANJ152
R803, 804	ERG1ANJ221
R805, 806	ERD25TJ101
R807, 808	ERD25TJ222
R809, 810	ERD25TJ274
R811, 812	ERD25TJ223
R813, 814	ERD25TJ123
R815, 816	ERD25TJ562

Ref. No.	Part No.
R817, 818	ERD25TJ680
R819, 820	ERD25TJ822
R821, 822	ERD25TJ122
R823, 824	ERD25TJ101
R825, 826	ERD25TJ683
R827, 828	ERD25TJ273
R830	ERD25TJ102
R831, 832	ERD25TJ100
R833, 834	ERD25TJ273
R835, 836	ERD25TJ821
R837, 838	ERD25TJ821
R839, 840	ERD25TJ821
R841, 842	ERD25TJ152
R843, 844	ERD25TJ152
R845	ERD25TJ821
R846	ERD25TJ471
R847, 848	ERD25TJ223
R849, 850	ERD25TJ273
R901	ERD25TJ562
R902	ERD25TJ683
R903	ERD25TJ153
R904	ERD25TJ684
R905	ERD25TJ273
R906	ERD25TJ391
R907	ERD12FJ102
R909, 910	ERD25TJ183
R911	ERD25TJ153
R912	ERD25TJ473
R913	ERD25TJ682
R914	ERD25TJ473
R1001, 1002	ERG2ANJ331
R1003	ERC12ZGK335

THERMISTORS

TH601, 602	ERT251
TH801, 802	ERTD2FHL103S

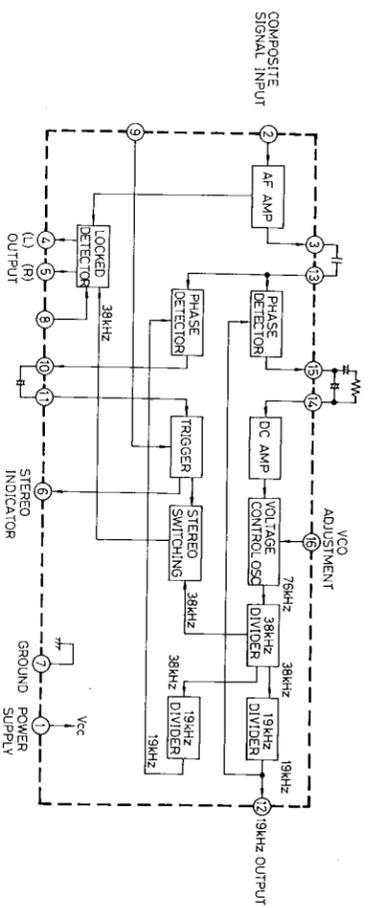
Ref. No.	Part No.
C1, 2	CAPACITORS
C3	ECCD1H150KC
C4	ECCD1H120KC
C5	ECCD1H220KC
C6	ECCD1H180KR
C7	ECCD1H030CC
C8	ECCD1H102NDA
C9	ECCD1H050CC
C10	ECCD1H181K
C11	ECCD1H103ZF
C11, 312	ECCD1H0R5CC
C12	ECCD1H020CC
C13	ECCD1H070DC
C14	ECCD1H390KC
C15	ECCD1H150KC
C16	ECCD1H102ZF
C17	ECCD1H180KR
C18	ECCD1H223ZF
C19	ECEA1CS331
C101, 102	ECCD1H223ZF
C104	ECEA2AS3R3
C105	ECCD1H680K
C106	ECEA2AS010
C107	ECCD1H020CC
C108, 109	ECCD1H223ZF
C110	ECEA1HS100
C111	ECCD1H223ZF
C112	ECCD1H103ZF
C113	ECCD1H223ZF
C114	ECEA1AS331
C115	ECEA2ASR47
C116	ECCD1H103ZF
C201	ECCD1H103MMD
C202	ECEA1CS330
C203	ECEA2AS3R3
C204	ECCD1H473KZ
C205	ECCD1H223KZ
C206	ECEA2ASR47

Ref. No.	Part No.
C207	ECCD1H103ZF
C208	ECCD1H102ZE
C301	ECCD1H473KZ
C302	ECEA1ES470
C303	ECQS05471JZ
C304	ECEA50ZR22
C305	ECEA50ZR47
C306	ECEA50MR47R
C307, 308	ECCD1H473JZ
C309, 310	ECCD1H332KZ
C311, 312	ECCD1H103ZF
C313, 314	ECCD1H271KB
C315	ECEA50ZR33
C316	ECEA1ES470
C317	ECEA2AS3R3
C318, 319	ECCD1H272KZ
C320	ECEA50ZR3R3
C401, 402	ECEA50MR3R3
C403, 404	ECEA1AS101
C405, 406	ECCD1H331KB
C407, 408	ECQPI472GZ
C409, 410	ECQPI183GZ
C411, 412	ECEA50MR
C413	ECEA1HS221
C501, 502	ECCD1H332KZ
C503, 504	ECCD1H103KZ
C505, 506	ECCD1H223KZ
C507, 508	ECCD1H823KZ
C509, 510	ECCD1H274KZ
C511, 512	ECCD1H220K
C513, 514	ECCD1H682KZ
C515, 516	ECCD1H153KZ
C520	ECEA1CS330
C551, 552	ECCD1H473KZ
C553, 554	ECCD1H331KB
C601, 602	ECEA50MR47R
C603, 604	ECCD1H820K
C605, 606	ECCD1H101K
C607, 608	ECCD1H331K

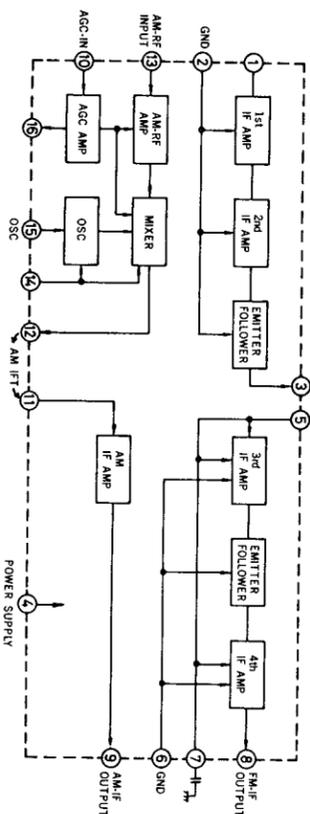
413 50V220

■ BLOCK DIAGRAM OF INTEGRATED CIRCUITS

Ref. No.	Part No.
C630, 610	ECCD1H010C
C611, 612	ECEA1CS330
C613, 614	ECEA1AS470
C615, 616	ECEA1HS101
C617, 618	ECCD1H330K
C619, 620	ECKD1H103ZF
C621, 622	ECKD1H102ZF
C623, 624	ECKD1H102KB
C625, 626	ECCD2H101K
C627, 628	ECCD2H101K
C629, 630	ECQM1H473KZ
C631	ECEA1JS101
C632	ECEA1VS330
C633	ECEA1JS331
C634	ECEA1JS221
C701, 702	ECE190R103Z
C703, 704	ECKD1H103ZF
C705	ECEA1JS471
C706	ECEA1HS470
C707, 708	ECEA1HS221
C709	ECKD1H103ZF
C751	ECKD1H103ZF
C752	ECEA1CS471
C801, 802	ECEAZAS100
C803, 804	ECEA1HS100
C805, 806	ECEA1JS4R7
C807	ECEA1HS100
C808	ECEA1HS100
C809, 810	ECKD1H103ZF
C811	ECEA1HS100
C812	ECEAZASR47
C901	ECEA1CS330
C902	ECEA50Z2R2
C903	ECEA1AS101
C904	ECEA16N220V
C905	ECEA1VS101
C1001, 1002	EQU1A103WC

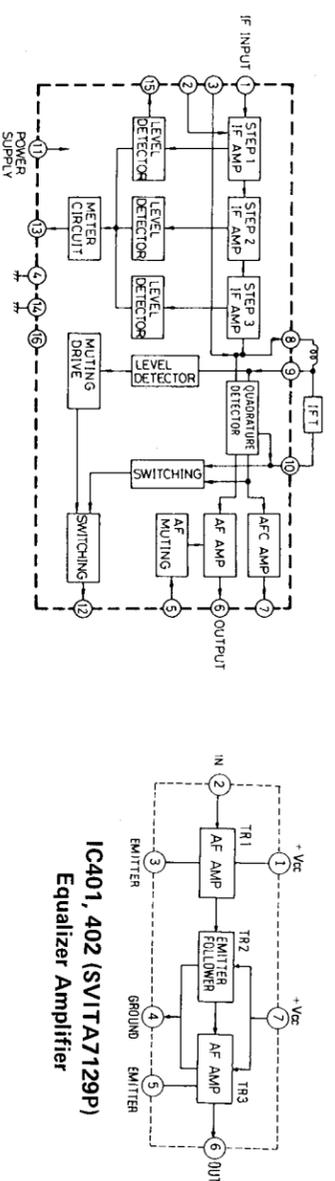


IC301 (AN363)
FM MPX



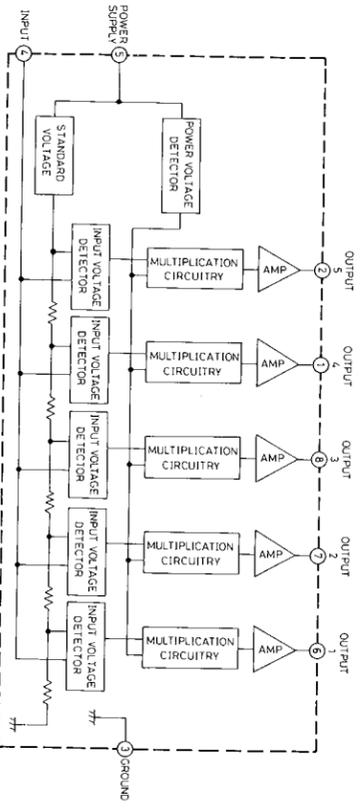
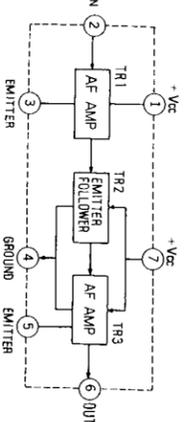
IC201 (AN217)
FM 2 Steps IF Amplifier
& AM Converter

15



IC101 (AN377)
FM IF Amplifier & Detector

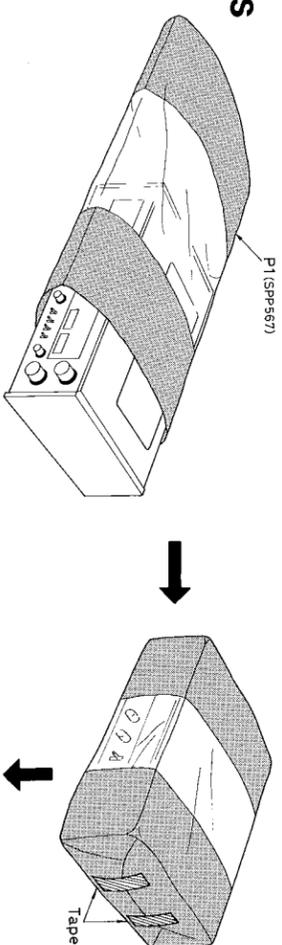
IC401, 402 (SVTA7129P)
Equalizer Amplifier



IC801, 802 (SVIM51903L)
Window Comparator

16

PACKINGS



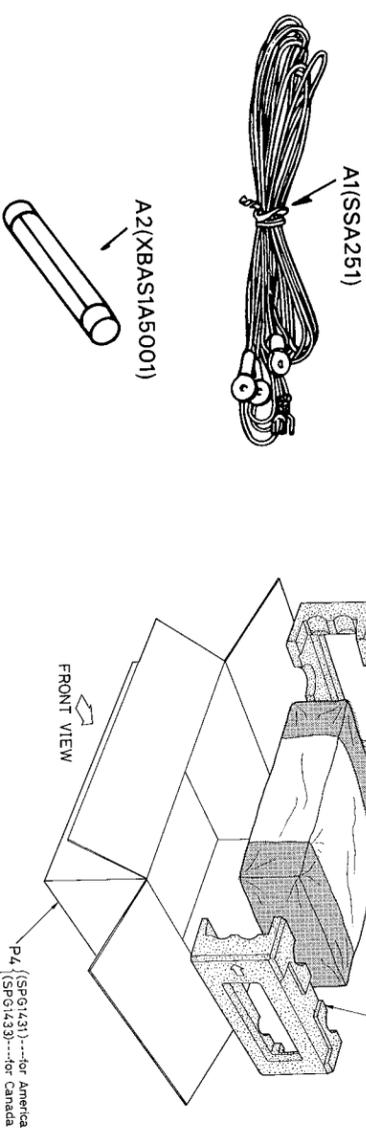
REPLACEMENT PARTS LIST

Important Safety Notice
Components identified by shaded area have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

NOTE: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
CABINET and CHASSIS PARTS				
1	SBN753	Knob, Volume	1	
2	SBN757	Knob, Tuning	1	
3	SHR9383	Spacer, Tuning Knob	1	
4	SBN755	Knob, Bass, Treble, Balance & Selector	4	
5	SPD7-2	Knob, Lever Switches	7	
6	SWG A500M	Panel, Front Assy	1	○
7	XTB3-8B	Screw, Front Panel M'tg	2	
8	XTS3-8C	Screw, Front Panel M'tg	3	
9	SUS123-1	Spring, Push Switches	4	
10	SBC193	Button, Push Switches	4	
11	SSM133	Meter, Signal & Tuning	1	
12	XNS8	Nut, Volumes & Selector	5	
13	XWV8	Washer, Volumes & Selector	5	
14	XNSS12	Nut, Headphones Jack M'tg	1	
16	XCJ6P21B-A	Headphones Jack	1	
17	SHS187	Shading Cloth, Lever Switches	7	*
18	SDT8043-2	Shaft, Tuning	1	*
19	SKD3530	Scale, Dial	1	**
20	SDH471A	Scale, Dial Plate, Dial	1	*○
21	SGX6587	Bracket, Dial Scale Right Side	1	
22	SGX6589	Bracket, Dial Scale Left Side	1	
23	XTN3-9B	Screw, Dial Scale Bracket M'tg	2	
24	XTN3-12B	Screw, Dial Scale Bracket M'tg	2	
25	SDP1129	Printer, Dial	1	*
26	SHP33	Sheet, Pointer Slider	1	
27	SDL19	Reflector Plate	1	
28	SDH473	Reflector Plate	1	
29	XTN3-10B	Screw, Reflector Plate M'tg	2	
30	SHR9339	Spacer, Reflector Plate Screw	1	
31	SJS2101	Socket, Pilot Lamp	3	
32	SHD3X1F	Screw, Pulley M'tg	4	*
33	SDR1	Pulley, Dial Cord	4	
34	SJS5611	Connector, 6 pin	4	
35	XSN4-12FZS	Screw, Power Transformer M'tg	1	
36	SMM31	Bracket, Meier	1	
37	RHG109	Rubber Cushion, AM Bar Antenna	2	
38	SD2051-2	Cord, Dial 200cm (78-3/4')	1roll	
39	SDSA4121	Spring, Dial Cord	1	
40	SDD47-1	Drum, Variable Capacitor	1	
41	SJF8003	Terminal, Input & Antenna	1	
42	SJF8013	Terminal, Speakers	1	
43	SGP1210B	Rear Panel	1	○
44	SUM1293-1	Metal Fitting, Top Board M'tg	2	
45	XTB3-8BFZ	Screw, Rear Panel & Metal Fitting M'tg	2	
46	SHR401-1	Latch, Speakers & Input Terminal M'tg	6	
47	SUV337	Cover, Speaker Fuses	1	*
48	XTB3-10BFZ	Screw, Speaker Fuses Cover M'tg	1	
49	SJS9205-1	Socket, AC Outlet	2	
50	XTN3-8BFZ	Screw, AC Outlet Socket M'tg	4	
51	BHR111	Bushing, AC Cord	1	
52	RAA10A	AC Cord, Power Source	1	
53	SYK493	Top Board	1	
54	SYK497	Side Board, Right Assy	1	
55	XTN3-10B	Screw, Side Board M'tg	4	
56	XW/C4B	Washer, Cabinet	4	
57	SYK495	Side Board, Left Assy	1	
58 (M)	SYU157-1	Bottom Board	1	*
58 (MC)	SYU157-2	Bottom Board	1	*
59	SKP61	Ventilation Plate	1	
60	XTN3-10B	Screw, Ventilation Plate M'tg	2	
61	XTN3-12B	Screw, Ventilation Plate M'tg	2	
62	XTN3-10B	Screw, Set Foot M'tg	4	
63	SKX245-1	Foot, Set	4	
64	XTN3-10B	Screw, Bottom Board M'tg	4	
65	XSB3-16BNS	Screw, Power Transistors M'tg	8	
66	XW/E3FN	Washer, Power Transistors Screw	8	
67	XWA3BFN	Washer, (Spring), Power Transistors Screw	8	
68	SMX137	Mica Plate	4	
69	SIV1401-1	Socket, Power Transistors	4	

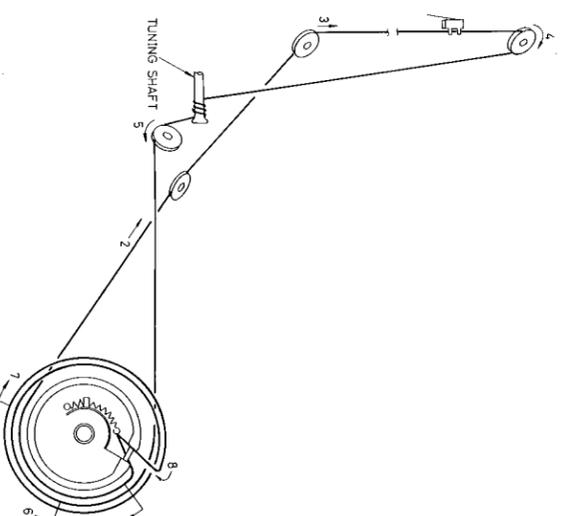
ACCESSORIES



Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
ACCESSORIES				
A1	SSA251	Cord, FM Feeder	1	
A2	XBAS1A5001	Fuse, 5A(125V) Speaker Circuit	2	
PACKING PARTS				
P1	SPS567	Polyethylene Bag	1	
P2	SPS1501	Pad, Left and Right Side	2	
P3	SPS1623	Pad, Set Top Side	1	
P4 (M)	SPG1431	Carton Box	1	○
P4 (MC)	SPG1433	Carton Box	1	○
P5 (M)	SQF1879	Instructions Book, Printed Matter	1	○
P5 (MC)	SQF1881	Instructions Book, Printed Matter	1	○

DIAL CORD INSTALLATION GUIDE

- For threading a fresh cord, proceed as follows:
 - Prepare a fresh cord more than 200cm (78-3/4") in length.
 - Bring the variable capacitor into a state where the drum is completely turned to the right (maximum capacity and lowest frequency for the variable capacitor).
 - Direct the cord in the order from 1 to 8.
 - Stretch the cord in such a tension as the spring length is elongated by 1.5 times that of the original state.
 - Fix the knot of the cord with the bond.



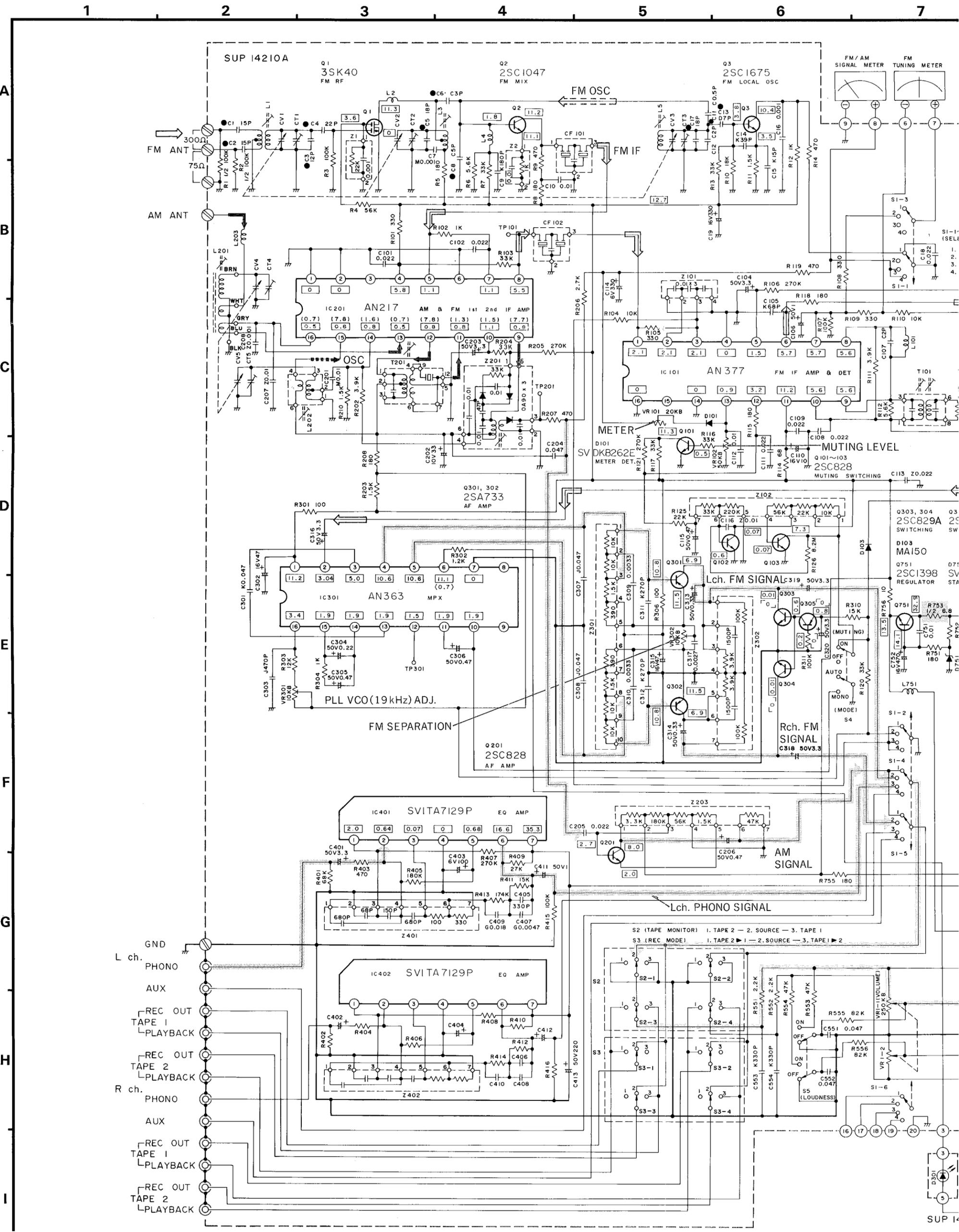
Schematic Diagram ... Model SA-500

Notes:

- S1-1 ~ S1-6 : Selector switch in "AM" position.
① AM ↔ ② FM ↔ ③ PHONO ↔ ④ AUX
- S2 : Tape Monitor switch in "SOURCE" position.
① TAPE 2 ↔ ② SOURCE ↔ ③ TAPE 1
- S3 : Recording mode switch in "SOURCE" position.
① TAPE 2 ▶ 1 ↔ ② SOURCE ↔ ③ TAPE 1 ▶ 2
- S4 : FM muting/Mode switch in "ON/FM AUTO" position.
- S5 : Loudness switch in "OFF" position.

- S6-1 ~ S6-4 : Acoustic high switch in "OFF" position.
① BOOST ↔ ② OFF ↔ ③ FILTER
- S7-1 ~ S7-4 : Acoustic low switch in "OFF" position.
① BOOST ↔ ② OFF ↔ ③ FILTER
- S8-1, S8-2 : Remote speakers switch in "OFF" position.
- S9-1, S9-2 : Main speakers switch in "ON" position.
- S10-1, S10-2 : Power display range switch in "X1" position.
- S11 : Power display switch in "ON" position.
- S1001 : Power source switch in "ON" position.

- Indicated voltage values by the DC electronic taken as standard. voltage values, dependent.
- Not apply sign () AM signal receive FM muting switch AF Signal line



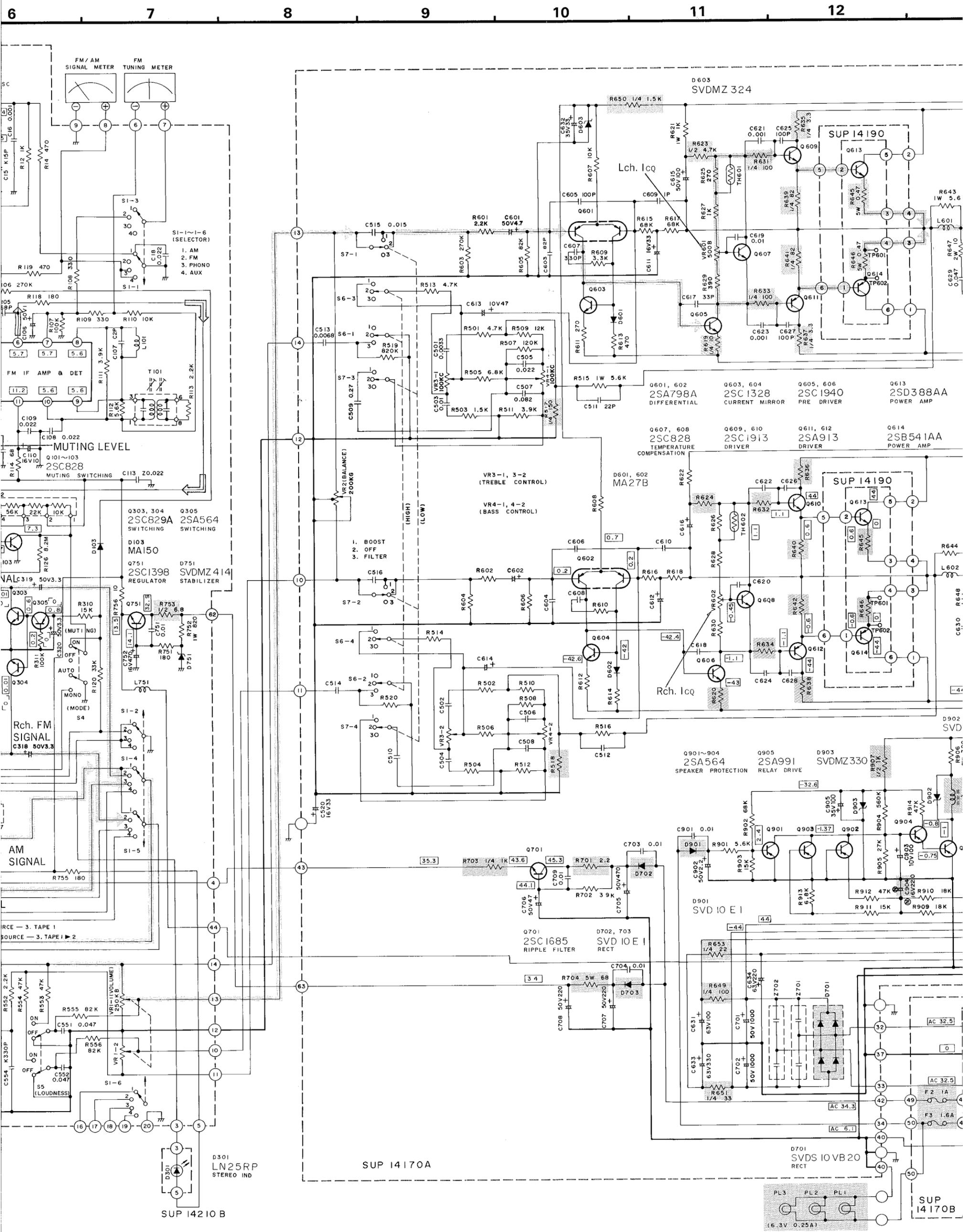
13. Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

- Not apply signal to set and muting switch to OFF condition
 - () AM signal reception
 - └ FM muting switch is turned on under no-signal condition.
14. AF Signal lines. FM Signal lines. AM Signal lines.

15. This schematic diagram may be modified at any time with the development of new technology.

- 16. VR1-1, 1-2 : Volume Control
- 17. VR2 : Balance Control
- 18. VR3-1, 3-2 : Treble Control
- 19. VR4-1, 4-2 : Bass Control

THE SH-RATES WHEN SPECIF IN THE



■ TERMINAL GUIDE

2SA798A 	2SA564, 2SA733 2SC828, 2SC1047 2SC1328, 2SC1675 2SC1685, 2SA991 	2SA913, 2SC1913 2SC1398 	SVITA7129 	2SB541AA, 2SD388AA
	2SC1953 	3SK40 	AN217, AN377 AN363 	SVM51903L

IMPORTANT SAFETY NOTICE
 THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR SAFETY. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

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