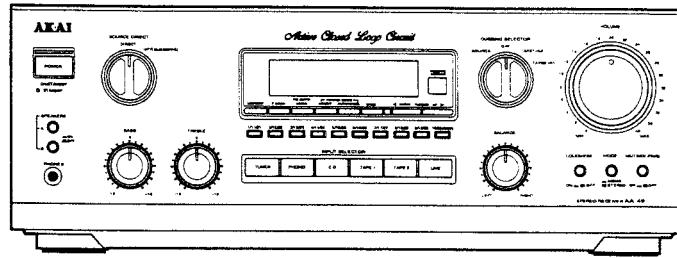


# AKAI SERVICE MANUAL



MODEL AA-49

## STEREO RECEIVER

## MODEL AA-39, 49

## SPECIFICATIONS

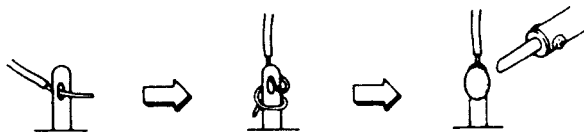
<b>Tuner section</b>	
<b>FM</b>	
Tuning frequency range .....	87.5 MHz to 108.0 MHz
Usable Sensitivity .....	1.8 $\mu$ V
Quieting Sensitivity .....	21.2 dBf (mono)
(S/N = 50dB)	34 dBf (stereo)
Total harmonic distortion ....	0.1 % (mono), 0.2 % (stereo)
S/N .....	72 dB (mono), 69 dB (stereo)
Frequency response .....	40 Hz to 15 kHz (+2 dB, -3 dB)
Stereo separation (1 kHz) ..	45 dB
Selectivity .....	70 dB
Capture ratio .....	2.0 dB
Image rejection .....	45 dB
IF rejection .....	85 dB
Spurious rejection .....	80 dB
AM suppression .....	65 dB
<b>MW</b>	
Tuning frequency range .....	531 kHz to 1602 kHz
Usable sensitivity .....	200 $\mu$ V/m
S/N .....	45 dB
Selectivity .....	23 dB
<b>LW</b>	
Tuning frequency range .....	144 kHz to 351 kHz (E, B)
	144 kHz to 288 kHz (V)
Usable sensitivity .....	600 $\mu$ V/m
S/N .....	35 dB
Selectivity .....	23 dB
<b>Amplifier section</b>	
Power output (at AC 230 V)	
AA-49 .....	100 W + 100 W (DIN, 4 ohms, 1 kHz, 1 %), 70 W + 70 W (DIN, 8 ohms, 1 %)
	60 W + 60 W (FTC, 8 ohms, 30 Hz to 20 kHz, 0.05 %)
AA-39 .....	80 W + 80 W (DIN, 4 ohms, 1 kHz, 1 %), 55 W + 55 W (DIN, 8 ohms, 1 %)
	45 W + 45 W (FTC, 8 ohms, 30 Hz to 20 kHz, 0.05 %)
Power band width .....	10 Hz to 60 kHz/0.1 %
Total harmonic distortion ....	0.008 % (1 kHz, 8 ohms)
Frequency response .....	5 Hz to 100 kHz (+0 dB, -3 dB)
Tone control	
Bass .....	$\pm$ 10 dB (100 Hz)
Treble .....	$\pm$ 10 dB (10 kHz)
Input sensitivity/Impedance	
Phono .....	2.0 mV/47 k ohms
CD/Tape/Line .....	150 mV/47 k ohms
Damping factor .....	65 (1 kHz, 8 ohms)
Residual noise .....	0.1 mV (IEC-A)
S/N	
Phono .....	81 dB (IEC-A)
CD/Tape/Line .....	99 dB (IEC-A)
Audio mute .....	-20 dB
Full mute .....	-70 dB
Channel separation .....	65 dB (1 kHz)/55 dB (10 kHz)
Cross talk	
CD to Phono .....	90 dB (1 kHz, 500 mV Input level)
CD to Tape/Line .....	90 dB (1 kHz, 500 mV Input level)
Required speaker impedance	
A or B .....	4 ohms to 16 ohms
A and B .....	8 ohms to 16 ohms
Power requirement .....	220 - 230 V, 50 Hz for Europe except U.K. 240 V, 50 Hz for U.K. (AA-39 only)
Power consumption	
AA-49 .....	150 W
AA-39 .....	125 W
Dimensions .....	425 (W) x 156 (H) x 370 (D) mm
Weight	
AA-49 .....	12.1 kg
AA-39 .....	11.3 kg
<b>Standard Accessories</b>	
Operator's Manual .....	x 1
Remote control unit .....	x 1
Dry batteries (R6 (AA) ) .....	x 2
FM antenna .....	x 1
FM antenna plug .....	x 1
AM loop antenna .....	x 1

\* For improvement purposes, specifications and design are subject to change without notice.

# ★ SAFETY INSTRUCTIONS

## PRECAUTIONS DURING SERVICING

1. Parts identified by the  $\triangle$  (\*) symbol are critical for safety. Replace them only with the parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.  
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
  - 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
  - 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers (Insulating barriers)
  - 4) Insulation sheets for transistors
  - 5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap the ends of the wires securely around the terminals before soldering.



6. Make sure that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

## SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input / output connectors, etc.) and the earth ground through a resistor of 1500 ohms paralleled with a 0.15  $\mu$ F capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.

The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 M ohms.

## MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.



Please leave them at an appropriate depot.

# ★ INFORMATION

## SYMBOLS FOR PRIMARY DESTINATION

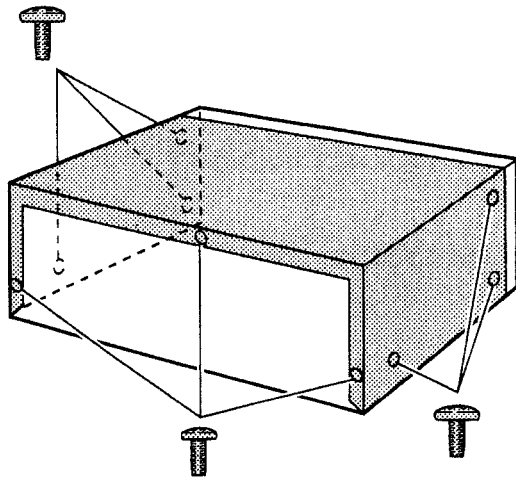
Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
A	U.S.A.
B	U.K.
C	Canada
E	Europe (except U.K.)
J	Japan
S	Australia
V	Germany
U	Universal Area
Y*	Custom version

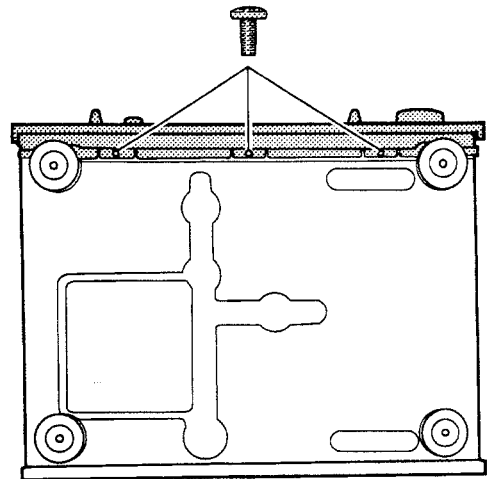
# I. DISASSEMBLY

In case of trouble, etc., necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in the reverse order.

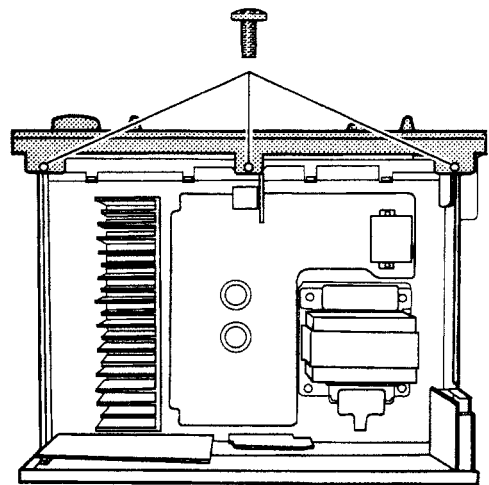
## 1. Removal of UPPER COVER



## 2. Removal of FRONT PANEL



Remove the six knobs by pulling them out and disconnect the P726 connector on the BALANCE VR PCB.



## II. PRINCIPAL PARTS LOCATION

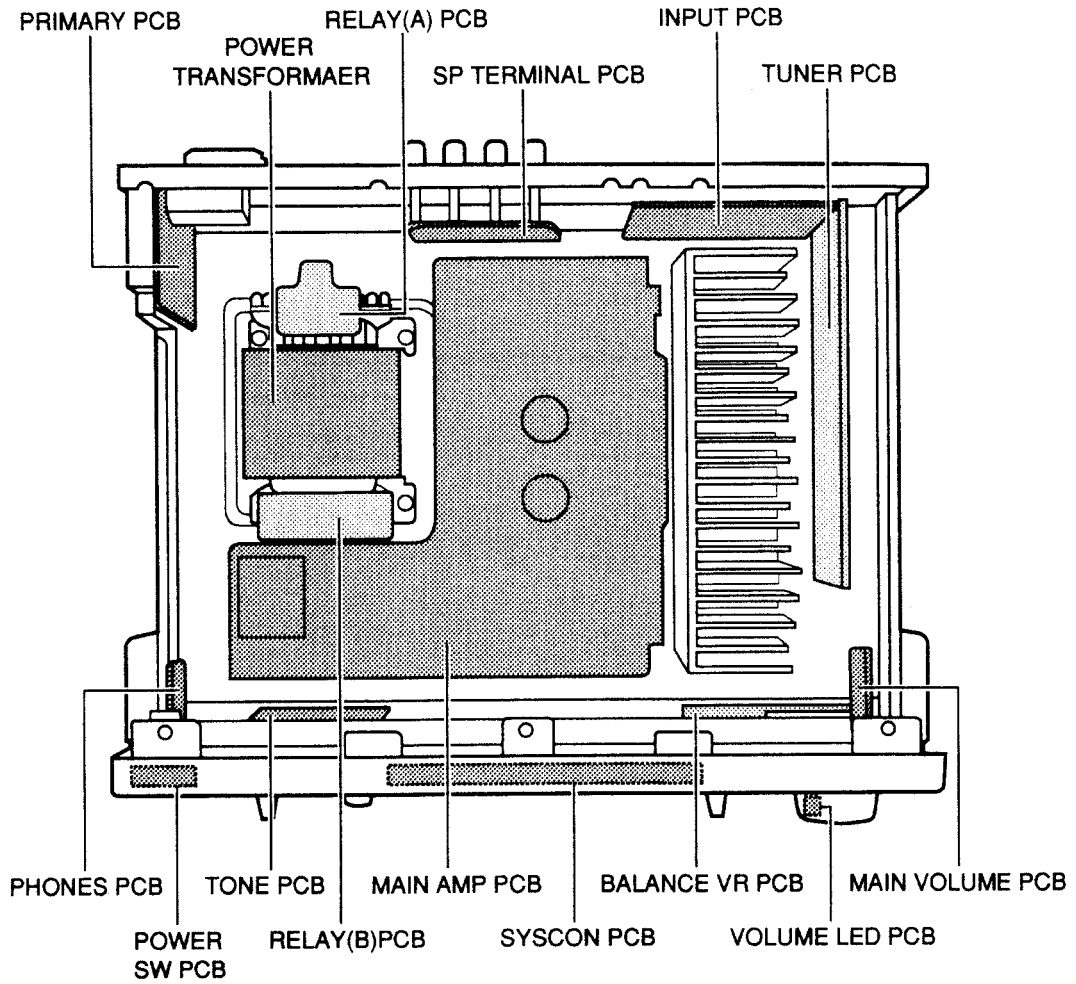


Fig. 2-1

### III. ADJUSTMENT

#### 3-1. INSTRUMENT CONNECTIONS

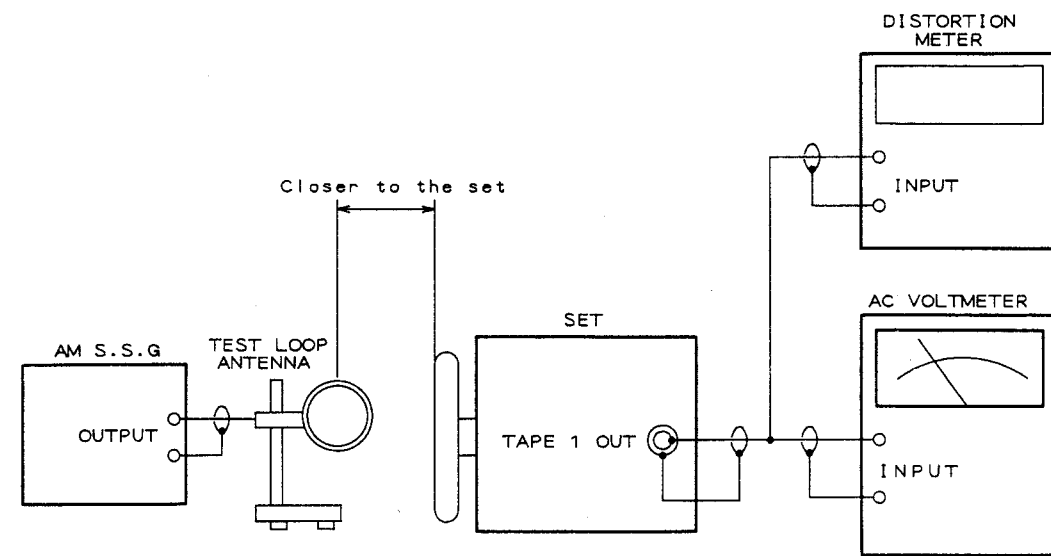


Fig. 3-1 Instrument Connection of AM Adjustment

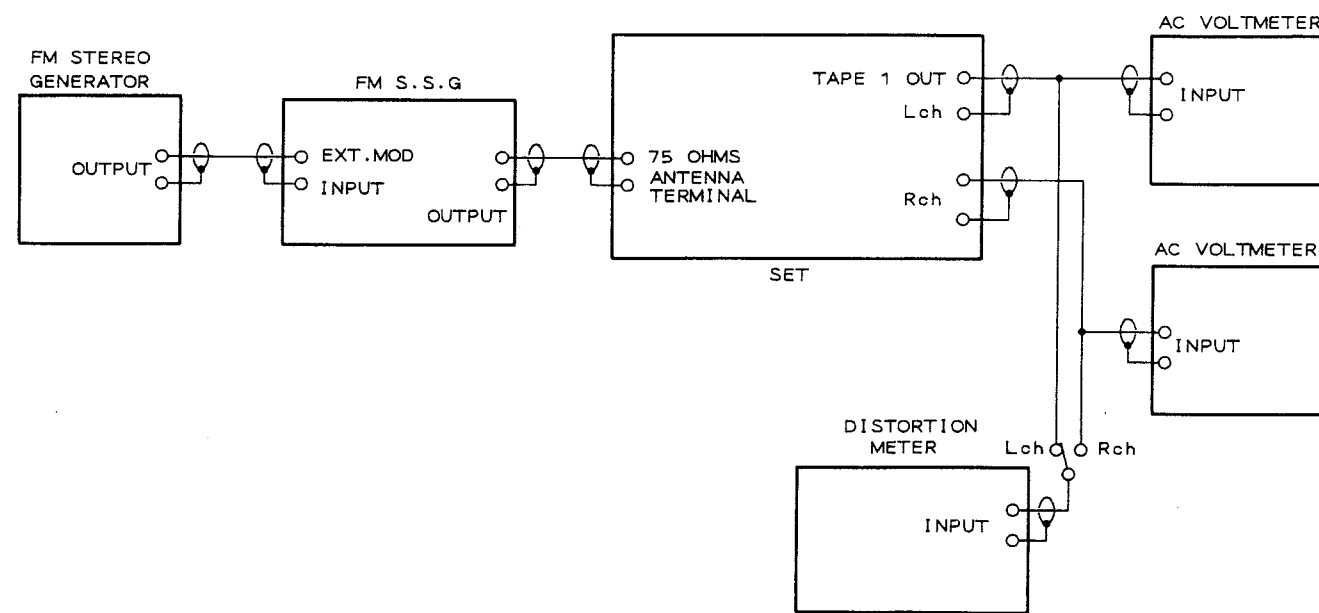


Fig. 3-2 Instrument Connection of FM Adjustment

#### 3-2. HOW TO CALL THE PRESET FREQUENCY FOR THE ADJUSTMENT

Preset frequency can be called with the "TUNER 10 KEY" buttons on the remote control (Press the RESET button on the rear panel first to initialize the previous memory).

The internal frequency preset memory is set as shown below.

CH No.	1 ch	2 ch	3 ch	4 ch	5 ch	6 ch	7 ch	8 ch	9 ch	10 ch
BAND	FM-ST	FM-MN	FM-MN	LW	LW	LW	MW	MW	MW	LW
V model	98 MHz	88 MHz	108 MHz	162 kHz	288 kHz	198 kHz	1404 kHz	603 kHz	999 kHz	288 kHz
E, B model	98 MHz	88 MHz	108 MHz	162 kHz	297 kHz	198 kHz	1404 kHz	603 kHz	999 kHz	351 kHz

- \* FM-ST : FM STEREO (FM AUTO ON)
- \* FM-MN : FM MONO (FM AUTO OFF)

### 3-3. ADJUSTMENT

STEP	ADJUSTMENT ITEM
1.	S.S.G. frequency, output level
2.	Tuning frequency
3.	Test point, Adjustment part
4.	Remarks (•) & result (*)

Test point    Adjustment part

**MW**

**2 MW SENSITIVITY**

- 603 kHz (Low)/1404 kHz (High), 74 dBμ
- 603 kHz (Low)/1404 kHz (High)
- TAPE 1 OUT, T201 (Low)/VC201 (High)
- Connect an AC milli-voltmeter to the TAPE 1 OUT

\* Maximum output level

**NOTE :** For best results, alternately repeat low and high adjustment several times.

**NOTE :** Set the S.S.G. to 1 kHz 30% modulation on each adjustment.

**1 MW OSC**

- NO signal input
- 1404 kHz
- JW175, T203
- Connect a digital DC voltmeter between JW175 (TP1) and GND.

\* 6.7 V ± 50 mV

**3 AM SIGNAL METER SENSITIVITY**

- 198 kHz, 80 dBμ
- 198 kHz
- Signal meter on the front panel, VR201
- Adjust VR201 so that at 80 dBμ, the 5 stages of the signal meter on the Front Panel light fully.

**LW**

**NOTE :** 1. Set the S.S.G. to 1 kHz 30% modulation on each adjustment.  
2. Frequencies indicated in < > are for the E, B models.

**2 LW SENSITIVITY**

- 162 kHz (Low)/288 kHz <297 kHz> (High), 74 dBμ
- 162 kHz (Low)/288 kHz <297 kHz> (High)
- TAPE 1 OUT, T202 (Low)/VC202 (High)
- Connect an AC milli-voltmeter to the TAPE 1 OUT.

\* Maximum output level

**NOTE :** For best results, alternately repeat low and high adjustment several times.

**1 LW OSC**

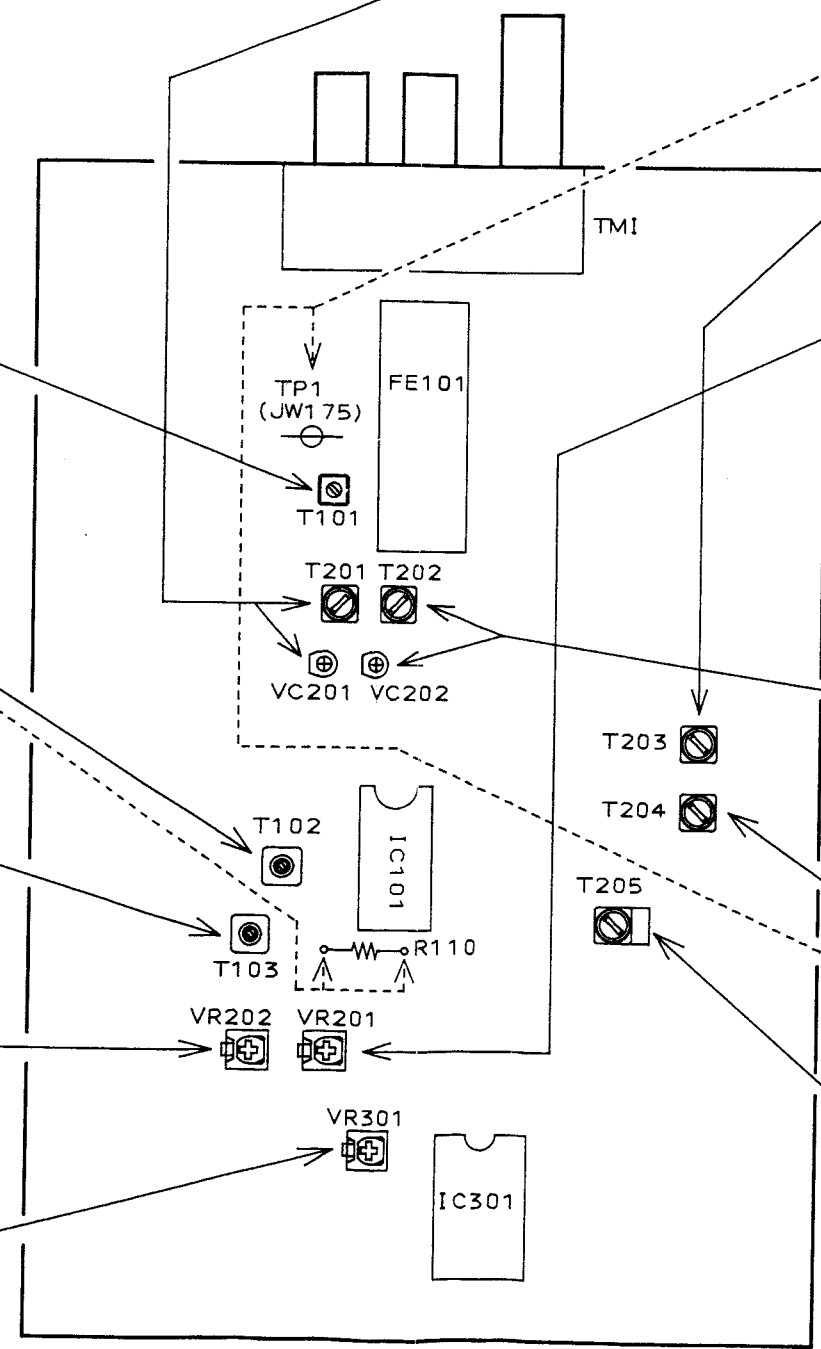
- NO signal input
- 288 kHz <351 kHz>
- JW175, T204
- Connect a digital DC voltmeter between JW175 (TP1) and GND.

\* 5.75 V (8.2 V)

**3 AM IF**

- 288 kHz, 74 dBμ
- 288 kHz
- TAPE 1 OUT, T205
- Connect an AC milli-voltmeter to the TAPE 1 OUT.

\* Maximum output level.



**FM**

**NOTE:** Set the S.S.G. to 1 kHz, 75 kHz deviation for E or B model.

**4 FM STEREO DISTORTION**

- 98.0 MHz (MONO), 60 dBμ
- 98.0 MHz (MONO)
- TAPE 1 OUT, T101
- Connect a distortion meter to the TAPE 1 OUT (Never turn the T101 more than 90°)

\* Minimum distortion.

**3 FM MONO SENSITIVITY**

- 98.0 MHz (MONO), 15 dBμ
- 98.0 MHz (MONO)
- TAPE 1 OUT, T101
- Connect a distortion meter to the TAPE 1 OUT

\* Minimum distortion.

**1 FM CENTER VOLTAGE**

- 98.0 MHz (MONO), 60 dBμ
- 98.0 MHz
- R110, T102
- Connect a DC voltmeter to both ends of R110.

\* 0 mV

**2 FM MONO DISTORTION (IF ADJ)**

- 98.0 MHz (MONO), 60 dBμ
- 98.0 MHz (MONO)
- TAPE 1 OUT, T103
- Connect a distortion meter to the TAPE 1 OUT

\* Minimum distortion.

**NOTE :** For best results, alternately repeat 1 and 2 adjustment several times.

**6 FM SIGNAL METER SENSITIVITY**

- 98.0 MHz (MONO), 30 dBμ
- 98.0 MHz
- Signal meter on the Front Panel, VR202
- Adjust VR202 so that at 30 dBμ, the 5 stages of the signal meter on the front panel light fully, and at 28 dBμ the 5th stage goes out.

**5 STEREO SEPARATION**

- 98.0 MHz, 60 dBμ (STEREO L or R channel only)
- 98.0 MHz
- TAPE 1 OUT, VR301
- Connect an AC milli-voltmeter to the TAPE 1 OUT (Opposite channel of signal input channel).

\* Minimum output level.

TUNER PCB

FRONT

# IV. PARTS LIST

**ATTENTION**

1. When placing an order for parts, be sure to list the Part No. of each component as indicated on this list. Otherwise, the part delivery will be delayed and the quality of the product may be affected.
2. Please make sure that the Part No. is correct when you order. If there is any difference between the Part No. and the Part No. in this list, please use the Part No. in this list.
3. Since the parts are sold in different quantities, please use the Part No. in this list as a reference.

## HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

### 2. HEAD BASE BLOCK

Ref. No.	Part No.	Description
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R/P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST

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SP (Service Parts) Classification  
 This number corresponds with the individual parts index number in that figure.

b) PC Board

### 6. MAIN PC BOARD

Ref. No.	Part No.	Description
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

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Symbols for primary destination  
 [A] : AAL (U.S.A)      [S] : SAA (Australia)  
 [B] : BEAB (England) [U] : U/T (Universal Area)  
 [C] : CSA (Canada)  
 [E] : CEE (Europe)    [V] : VDE (Germany)  
 [J] : JPN (Japan)      [Y] : Custom Version

↑  
 ↑

SP (Service Parts) Classification  
 These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

**WARNING**

⚠ (X) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

**AVERTISSEMENT**

⚠ (X) IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.

## 1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	AX-415040M	REMOCON RC-S49	66	ET-354094	TR DTC144WS
2	*BT-415035M	TRANS POW A1030-BS [AA-39][T901]	67	ET-322353	TR FET 2SK117 Y
3	*BT-415033M	TRANS POW A1030-EV [AA-39][T901]	68	ET-349458	TR FET 2SK192A Y
4	*BT-415038M	TRANS POW A1030S-BS [B]	69	ET-337759	TR FET 2SK246 GR
5	*BT-415037M	TRANS POW A1030S-EV [E,V]	70	ET-375780	TR FET 2SK381 E F05
6	*BT-415036M	TRANS POW A1031-EV [AA-49][T901]	71	*ET-345626	TR 2SA1248 S,T
7	EC-368118	C DBL LAYER EECS5R5H 224 5.5DC	72	ET-353899	TR 2SA1317 S,T,U
8	EC-364978	C EC V CUT SME 102M 16.0DC	73	*ET-352726	TR 2SA1392 T,U [AA-39]
9	EC-415076J	C EC V SNP USPB35 562M 45.0DC [AA-39]	74	*ET-368757	TR 2SA1490 P,Y
10	EC-415077J	C EC V SNP USPB40 682M 50.0DC [AA-49]	75	*ET-305463	TR 2SA970 GR,BL [AA-49]
11	ED-394509J	D LED GL3HY43 ORANGE	76	*ET-307195	TR 2SC2240 GR,BL [AA-49]
12	ED-415085J	D LED SLR-33VC3F RED	77	*ET-345625	TR 2SC3116 S,T
13	ED-383034J	D LED SLR-54PC3F L,M GREEN	78	ET-397160J	TR 2SC3330 R,S,T,U,V
14	ED-403987J	D LED SLR33MC3F GREEN	79	*ET-378524J	TR 2SC3383 S,T,U [AA-39]
15	ED-327057	D SILICON H DS442X	80	ET-394735J	TR 2SC3792 T05
16	ED-307572	D SILICON H 1SS131	81	*ET-368759	TR 2SC3854 P,Y
17	ED-624903	D SILICON H 1S2473	82	ET-356437	TR 2SC930 D2,E,F
18	*ED-384278J	D SILICON RBV602 200/6.0A	83	*ET-376880	TR 2SD1266 P
19	*ED-511907	D SILICON 1N4002 100/1.0A	84	ET-396072J	TR 2SD2159 V,W
20	ED-372893	D VARACTOR SVC321SPA A DBL	85	EV-401270J	VR ROTARY RK16312 B103X2
21	ED-396065J	D ZENER H HZS12C1	86	EV-403534J	VR ROTARY RK1631220 SPL W104
22	ED-400166J	D ZENER H HZS3B2	87	EV-415032M	VR SPL EUWM HD003 B15 B104X2
23	*ED-343421	D ZENER H HZ16-2L			
24	ED-330219	D ZENER H HZ20-2L			
25	ED-415106J	D ZENER H HZ24-2L T26			
26	ED-306010	D ZENER H HZ6 A2			
27	*ED-346528	D ZENER H HZ6C1L			
28	*ED-346529	D ZENER H HZ6C2L			
29	EE-415058J	FRONT END FE417-G04			
30	*EF-415060J	FUSE S504 T 250V 630MA			
31	*EF-415061J	FUSE S506 T 250V 2.50A			
32	EI-361624	IC LA1265			
33	EI-415073J	IC LA3401			
34	EI-416515J	IC LC7073M			
35	EI-415074J	IC LC7821N			
36	EI-361622	IC LM7001			
37	*EI-393323J	IC M5218AL-771			
38	EI-393325J	IC M5218AP			
39	EI-408672J	IC S-80721AN			
40	EI-415159J	IC SAA6579T			
41	EI-416841J	IC TMP47C870N-V497 A1030-1			
42	EI-349970	OSC CE CSB456F11 0.456MHZ			
43	EI-382875J	OSC CE CST4.00MGW 4MHZ			
44	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ			
45	EI-408814M	OSC X'TAL HC-49/U 7200KHZ			
46	EI-416694M	OSC X'TAL HC-49/U-S 4.33200MHZ			
47	*EJ-415049J	SOCKET OUT M1859 2P [E,V]			
48	EM-415082J	IND FL FIP12CGM7 CHARACTER			
49	*EQ-415055J	RELAY POW VS-6MB 1NO 6V			
50	EQ-403529J1	RELAY POW 12S MBU524UL3 2NO12V			
51	*ER-341493	R FUSE H S10 ERD2FC 1/4W 1001G			
52	ES-415097J	SW PUSH SPEC33 3THROW *			
53	ES-415087J	SW PUSH SPUL21 2THROW N			
54	ES-415100J	SW ROTARY SRBV14 01-04N [AA-49]			
55	ES-415099J	SW ROTARY SRBV22 02-02N			
56	ES-362883	SW TACT SKHHLM			
57	ES-394427J	SW TACT SOR-133HS T05			
58	ET-403432J	DETECTOR SPS-420-1			
59	ET-356336	TR DTA114ES			
60	ET-369248	TR DTA114YS			
61	ET-354415	TR DTA144ES			
62	ET-353897	TR DTC114ES			
63	ET-354365	TR DTC114YS			
64	ET-354364	TR DTC143TS			
65	ET-373391	TR DTC143ZS			



## 2. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1-A	BA-A1030T020A	ML PC (#) MAIN BLK AA-39 (E)/ML
1-B	BA-A1030T020B	ML PC (#) MAIN BLK AA-39 (V)/ML
1-C	BA-A1030T020C	ML PC (#) MAIN BLK AA-39 (B)/ML
1-D	BA-A1030T020D	ML PC (#) MAIN BLK AA-49 (E)/ML
1-E	BA-A1030T020E	ML PC (#) MAIN BLK AA-49 (V)/ML
2-A	BA-A1030T030A	ML PC (#) TU-PRE BLK AA-39 (E)/ML [E,B]
2-B	BA-A1030T030B	ML PC (#) TU-PRE BLK AA-39 (V)/ML
2-C	BA-A1030T030C	ML PC (#) TU-PRE BLK AA-49 (E)/ML
2-D	BA-A1030T030D	ML PC (#) TU-PRE BLK AA-49 (V)/ML

PC (#) MAIN BLK CONSISTS OF FOLLOWING P.C BOARDS.

- MAIN AMP P.C BOARD
- PRIMARY P.C BOARD
- SP TERMINAL P.C BOARD
- PHONES P.C BOARD

PC (#) TU-PRE BLK CONSISTS OF FOLLOWING P.C BOARDS.

- TUNER P.C BOARD
- INPUT P.C BOARD
- TONE P.C BOARD
- BALANCE VOLUME P.C BOARD
- MAIN VOLUME P.C BOARD
- VOLUME LED P.C BOARD
- SYSCON P.C BOARD
- POWER SW P.C BOARD

## 3. MAIN AMP P.C. BOARD

Ref. No.	Part No.	Description
C150-A	EC-415076J	C EC V SNP USPB35 562M 45.0DC [AA-39]
C150-B	EC-415077J	C EC V SNP USPB40 682M 50.0DC [AA-49]
C151-A	EC-415076J	C EC V SNP USPB35 562M 45.0DC [AA-39]
C151-B	EC-415077J	C EC V SNP USPB40 682M 50.0DC [AA-49]
C159	EC-364978	C EC V CUT SME 102M 16.0DC
D103	ED-327057	D SILICON H DS442X
D104	ED-327057	D SILICON H DS442X
D105	*ED-327057	D SILICON H DS442X
D106	ED-307572	D SILICON H 1SS131
D107	ED-307572	D SILICON H 1SS131
D108	ED-624903	D SILICON H 1S2473
D109	ED-307572	D SILICON H 1SS131
D110	ED-307572	D SILICON H 1SS131
D111	ED-624903	D SILICON H 1S2473
D112	ED-330219	D ZENER H HZ20-2L
D113	*ED-346528	D ZENER H HZ6C1L
D150	*ED-384278J	D SILICON RBV602 200/6.0A
D151	*ED-511907	D SILICON 1N4002 100/1.0A
D152	*ED-511907	D SILICON 1N4002 100/1.0A
D153	*ED-511907	D SILICON 1N4002 100/1.0A
D154	*ED-511907	D SILICON 1N4002 100/1.0A
D155	ED-327057	D SILICON H DS442X
D156	ED-327057	D SILICON H DS442X
D157	ED-327057	D SILICON H DS442X
D158	ED-327057	D SILICON H DS442X
D159	*ED-343421	D ZENER H HZ16-2L
D160	*ED-343421	D ZENER H HZ16-2L
D161	*ED-511907	D SILICON 1N4002 100/1.0A
D162	*ED-511907	D SILICON 1N4002 100/1.0A
D163	*ED-511907	D SILICON 1N4002 100/1.0A
D164	*ED-511907	D SILICON 1N4002 100/1.0A
D165	ED-327057	D SILICON H DS442X
D166	ED-327057	D SILICON H DS442X
D167	*ED-346529	D ZENER H HZ6C2L
D170	ED-383034J	D LED SLR-54PC3F L,M GREEN
D180	ED-511907	D SILICON 1N4002 100/1.0A
D181	ED-511907	D SILICON 1N4002 100/1.0A
D182	ED-415106J	D ZENER H HZ24-2L T26
D203	ED-327057	D SILICON H DS442X
D204	ED-327057	D SILICON H DS442X
D205	*ED-327057	D SILICON H DS442X
D206	ED-307572	D SILICON H 1SS131
D207	ED-307572	D SILICON H 1SS131
D270	ED-383034J	D LED SLR-54PC3F L,M GREEN
FR101	*ER-341493	R FUSE H S10 ERD2FC 1/4W 1001G
FR102	*ER-341493	R FUSE H S10 ERD2FC 1/4W 1001G
FR201	*ER-341493	R FUSE H S10 ERD2FC 1/4W 1001G
FR202	*ER-341493	R FUSE H S10 ERD2FC 1/4W 1001G
IC101	*EI-393323J	IC M5218AL-771
L101	EO-403613J	COIL FIX 2 202AK-018A 2R2K
L102	*EO-345874	COIL FIX 1 EL0606SKI 330J [AA-39]
L201	EO-403613J	COIL FIX 2 202AK-018A 2R2K
R115	*ER-382613J	R CB H S10FLR RDS 1/4W 331J
R118	*ER-382613J	R CB H S10FLR RDS 1/4W 331J
R120	*ER-382613J	R CB H S10FLR RDS 1/4W 331J
R122	*ER-378514J	R OMF H S12 FS 1W 8R2J
R123	*ER-378514J	R OMF H S12 FS 1W 8R2J
R125	*ER-368284	R OMF H S12 FS 1W 271J
R126	*ER-353877	R OMF H S15 FS 1W 1R0J
R127	*ER-353877	R OMF H S15 FS 1W 1R0J
R128	ER-324480	R CB H S10 FS RDS 1/4W 470J
R129	ER-324480	R CB H S10 FS RDS 1/4W 470J
R130	*ER-368226	R CT P R33+R33 5W
R131	*ER-333119	R OMF H S20 FS 2W 560J
R132	*ER-411836J	R OMF H S15 FS 2W 1R0J
R162	*ER-200939	R CB H S10 FS RDS 1/4W 181J
R163	*ER-200939	R CB H S10 FS RDS 1/4W 181J
R166	*ER-378833J	R CB H S10FLR RDS 1/4W 220J
R169	*ER-378833J	R CB H S10FLR RDS 1/4W 220J
R175	*ER-328069	R CB H S10 FS RDS 1/4W 2R7J
R181	ER-378608J	R OMF H S12 FS 1W 152J
R182	*ER-328069	R CB H S10 FS RDS 1/4W 2R7J
R215	*ER-382613J	R CB H S10FLR RDS 1/4W 331J
R218	*ER-382613J	R CB H S10FLR RDS 1/4W 331J
R220	*ER-382613J	R CB H S10FLR RDS 1/4W 331J

Ref. No.	Part No.	Description
R222	*ER-378514J	R OMF H S12 FS 1W 8R2J
R223	*ER-378514J	R OMF H S12 FS 1W 8R2J
R225	*ER-368284	R OMF H S12 FS 1W 271J
R226	*ER-353877	R OMF H S15 FS 1W 1R0J
R227	*ER-353877	R OMF H S15 FS 1W 1R0J
R230	*ER-368226	R CT P R33+R33 5W
R231	*ER-333119	R OMF H S20 FS 2W 560J
R232	*ER-411836J	R OMF H S15 FS 2W 1R0J
RL101	EQ-403529J1	RELAY POW 12S MBU524UL3 2NO12V
T101-A	*BT-415037M	TRANS POW A1030S-EV [E,V]
T101-B	*BT-415038M	TRANS POW A1030S-BS [B]
TR101	ET-322353	TR FET 2SK117 Y
TR102-A	*ET-378524J	TR 2SC3383 S,T,U [AA-39]
TR102-B	*ET-307195	TR 2SC2240 GR,BL [AA-49]
TR103-A	*ET-378524J	TR 2SC3383 S,T,U [AA-39]
TR103-B	*ET-307195	TR 2SC2240 GR,BL [AA-49]
TR104-A	ET-378524J	TR 2SC3383 S,T,U [AA-39]
TR104-B	ET-307195	TR 2SC2240 GR,BL [AA-49]
TR105-A	*ET-352726	TR 2SA1392 T,U [AA-39]
TR105-B	*ET-305463	TR 2SA970 GR,BL [AA-49]
TR106-A	*ET-352726	TR 2SA1392 T,U [AA-39]
TR106-B	*ET-305463	TR 2SA970 GR,BL [AA-49]
TR107	*ET-305463	TR 2SA970 GR,BL
TR108	ET-305463	TR 2SA970 GR,BL
TR109	*ET-307195	TR 2SC2240 GR,BL
TR110	*ET-378524J	TR 2SC3383 S,T,U
TR111	*ET-378524J	TR 2SC3383 S,T,U
TR112	*ET-352726	TR 2SA1392 T,U
TR113	*ET-345625	TR 2SC3116 S,T
TR114	*ET-345626	TR 2SA1248 S,T
TR115	*ET-368759	TR 2SC3854 P,Y
TR116	*ET-368757	TR 2SA1490 P,Y
TR117	ET-305463	TR 2SA970 GR,BL
TR118	ET-397160J	TR 2SC3330 R,S,T,U,V
TR119	ET-353899	TR 2SA1317 S,T,U
TR120	ET-397160J	TR 2SC3330 R,S,T,U,V
TR121	ET-397160J	TR 2SC3330 R,S,T,U,V
TR122	ET-397160J	TR 2SC3330 R,S,T,U,V
TR123	ET-397160J	TR 2SC3330 R,S,T,U,V
TR150	ET-352726	TR 2SA1392 T,U
TR151	*ET-376880	TR 2SD1266 P
TR152	ET-378524J	TR 2SC3383 S,T,U
TR153	*ET-345626	TR 2SA1248 S,T
TR154	ET-352726	TR 2SA1392 T,U
TR155	*ET-345625	TR 2SC3116 S,T
TR156	ET-397160J	TR 2SC3330 R,S,T,U,V
TR157	ET-378524J	TR 2SC3383 S,T,U
TR158	*ET-345625	TR 2SC3116 S,T
TR201	ET-322353	TR FET 2SK117 Y
TR202-A	*ET-378524J	TR 2SC3383 S,T,U [AA-39]
TR202-B	*ET-307195	TR 2SC2240 GR,BL [AA-49]
TR203-A	*ET-378524J	TR 2SC3383 S,T,U [AA-39]
TR203-B	*ET-307195	TR 2SC2240 GR,BL [AA-49]
TR204-A	*ET-378524J	TR 2SC3383 S,T,U [AA-39]
TR204-B	*ET-307195	TR 2SC2240 GR,BL [AA-49]
TR205-A	*ET-352726	TR 2SA1392 T,U [AM-39]
TR205-B	*ET-305463	TR 2SA970 GR,BL [AA-49]
TR206-A	*ET-352726	TR 2SA1392 T,U [AA-39]
TR206-B	*ET-305463	TR 2SA970 GR,BL [AA-49]

Ref. No.	Part No.	Description
TR207	*ET-305463	TR 2SA970 GR,BL
TR208	ET-305463	TR 2SA970 GR,BL
TR209	*ET-307195	TR 2SC2240 GR,BL
TR210	*ET-378524J	TR 2SC3383 S,T,U
TR211	*ET-378524J	TR 2SC3383 S,T,U
TR212	*ET-352726	TR 2SA1392 T,U
TR213	*ET-345625	TR 2SC3116 S,T
TR214	*ET-345626	TR 2SA1248 S,T
TR215	*ET-368759	TR 2SC3854 P,Y
TR216	*ET-368757	TR 2SA1490 P,Y
TR217	ET-305463	TR 2SA970 GR,BL
F2	*EF-415060J	FUSE S504 T 250V 630MA
F3	*EF-415060J	FUSE S504 T 250V 630MA

#### 4. PRIMARY P.C. BOARD

Ref. No.	Part No.	Description
C301	*EC-338496	C CE V DE7100 FZ 472P 400AC
D301	ED-624903	D SILICON H 1S2473
J302	*EJ-415049J	SOCKET OUT M1859 2P [E,V]
L301	*EO-403613J	COIL FIX 2 202AK-018A 2R2K
L302	*EO-403613J	COIL FIX 2 202AK-018A 2R2K
RL301	*EQ-415055J	RELAY POW VS-6MB 1NO 6V
F1	*EF-415061J	FUSE S506 T 250V 2.50A

#### 5. SP TERMINAL P.C. BOARD

Ref. No.	Part No.	Description
TM401	EJ-342935	TERMINAL W/SCREW YKD31-0132P8P

#### 6. PHONES P.C. BOARD

Ref. No.	Part No.	Description
J501	EJ-391132J	PHONE J 3P YKB24-5162 GP 63
R501	*ER-333108	R OMF H S20 FS 2W 471J
R551	*ER-333108	R OMF H S20 FS 2W 471J
SW501	ES-415087J	SW PUSH SPUL21 2THROW N

## 7. TUNER P.C. BOARD

Ref. No.	Part No.	Description
D201	ED-372893	D VARACTOR SVC321SPA A DBL
D202	ED-372893	D VARACTOR SVC321SPA A DBL
D205	ED-307572	D SILICON H 1SS131
D206	ED-307572	D SILICON H 1SS131
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-396065J	D ZENER H HZS12C1
D401	ED-306010	D ZENER H HZ6 A2
D402	ED-307572	D SILICON H 1SS131
FE101	EE-415058J	FRONT END FE417-G04
FL102-A	EH-394759J	FILTER CE SFE10.7MS2GK-A [E]
FL102-B	EH-338338	FILTER CE SFE10.7MS3GK-A [V]
FL103-A	EH-394759J	FILTER CE SFE10.7MS2GK-A [E]
FL103-B	EH-338338	FILTER CE SFE10.7MS3GK-A [V]
FL104	EH-405199J	FILTER LC LP K7-J1YD-0170 [V]
FL201	EH-344434	FILTER CE BFU450C4N 0.450MHZ
FL301	EH-370069	FILTER LC LP 42B-1081-00
FL302	EH-370069	FILTER LC LP 42B-1081-00
IC101	EI-361624	IC LA1265
IC301	EI-415073J	IC LA3401
IC401	EI-361622	IC LM7001
L301	EO-353588	COIL FIX 1 LAP02 F05 2R2K [V]
L302	EO-353588	COIL FIX 1 LAP02 F05 2R2K [V]
T101	EO-416498J	COIL IFT K7-H5 10.7MHZ
T102	EO-416500J	COIL DET 2 134-5250-03
T103	EO-416499J	COIL DET 2 134-5251-01
T201	EO-416501M	COIL VARI 2 MRHNF-45669A
T202	EO-416502M	COIL VARI 2 MRZNF-45670A
T203	EO-363279	COIL OSC 2 A7NRS-9857X 150.0UH
T204	EO-352089	COIL OSC 2 7BRS-9098X 580.0UH
T205	EO-408687J	COIL IFT BCFAZ-024
TM1	EJ-359031	TERMINAL LEVER YKD31-0215 P 2P
TR101	ET-356437	TR 2SC930 D2,E,F
TR201	ET-349458	TR FET 2SK192A Y
TR202	ET-394735J	TR 2SC3792 T05
TR203	ET-353897	TR DTC114ES
TR302	ET-396072J	TR 2SD2159 V,W
TR303	ET-354094	TR DTC144WS
TR304	ET-354094	TR DTC144WS
TR305	ET-356336	TR DTA114ES
TR306	ET-378524J	TR 2SC3383 S,T,U
TR307	ET-378524J	TR 2SC3383 S,T,U
TR308	ET-354364	TR DTC143TS
TR309	ET-354364	TR DTC143TS
TR401	ET-337759	TR FET 2SK246 GR
TR402	ET-397160J	TR 2SC3330 R,S,T,U,V
TR403	ET-354094	TR DTC144WS
TR404	ET-354094	TR DTC144WS
TR405	ET-353899	TR 2SA1317 S,T,U
TR406	ET-353899	TR 2SA1317 S,T,U
TR407	ET-397160J	TR 2SC3330 R,S,T,U,V
TS1	ES-362883	SW TACT SKHHLM
VC201	EC-337603	C S-FIX H VCT51F 5.5-30
VC202	EC-356284	C S-FIX H VCT51G 7.5- 50
VR201	EV-389479J	R S-FIX H T05EVNDXAA03 0.1W223
VR202	EV-389481J	R S-FIX H T05EVNDXAA03 0.1W473
VR301	EV-389477J	R S-FIX H T05EVNDXAA03 0.1W104
X301	EI-349970	OSC CE CSB456F11 0.456MHZ
X401	EI-408814M	OSC X'TAL HC-49/U 7200KHZ

## 8. INPUT P.C. BOARD

Ref. No.	Part No.	Description
D501	ED-307572	D SILICON H 1SS131
D502	ED-307572	D SILICON H 1SS131
D551	ED-307572	D SILICON H 1SS131
D552	ED-307572	D SILICON H 1SS131
D581	ED-307572	D SILICON H 1SS131
D582	ED-307572	D SILICON H 1SS131
IC501	EI-393325J	IC M5218AP
IC502	EI-415074J	IC LC7821N
J501	EJ-384270J	PIN J T6227-AACB 2P
J502	EJ-368244	PIN J T6087 6P
J503	EJ-368244	PIN J T6087 6P
TR501	ET-375780	TR FET 2SK381 E F05
TR502	ET-375780	TR FET 2SK381 E F05
TR503	ET-375780	TR FET 2SK381 E F05
TR504	ET-378524J	TR 2SC3383 S,T,U
TR505	ET-378524J	TR 2SC3383 S,T,U [AA-49]
TR506	ET-378524J	TR 2SC3383 S,T,U
TR507	ET-378524J	TR 2SC3383 S,T,U [AA-49]
TR551	ET-375780	TR FET 2SK381 E F05
TR552	ET-375780	TR FET 2SK381 E F05
TR553	ET-375780	TR FET 2SK381 E F05
TR554	ET-378524J	TR 2SC3383 S,T,U
TR555	ET-378524J	TR 2SC3383 S,T,U [AA-49]
TR556	ET-378524J	TR 2SC3383 S,T,U
TR557	ET-378524J	TR 2SC3383 S,T,U [AA-49]
TR581	ET-354094	TR DTC144WS
TR582	ET-354415	TR DTA144ES
TR583	ET-354094	TR DTC144WS
TR584	ET-354415	TR DTA144ES
TR585	ET-354415	TR DTA144ES

## 9. TONE P.C. BOARD

Ref. No.	Part No.	Description
D681	ED-400166J	D ZENER H HZS3B2
IC601	EI-393325J	IC M5218AP
IC602	EI-393325J	IC M5218AP
SW601	ES-415099J	SW ROTARY SRBV22 02-02N
VR601	EV-401270J	VR ROTARY RK16312 B103X2
VR602	EV-401270J	VR ROTARY RK16312 B103X2

## 10. BALANCE VOLUME P.C. BOARD

Ref. No.	Part No.	Description
TR781	ET-353899	TR 2SA1317 S,T,U
TR782	ET-353899	TR 2SA1317 S,T,U
TR783	ET-397160J	TR 2SC3330 R,S,T,U,V
TR784	ET-397160J	TR 2SC3330 R,S,T,U,V
TR785	ET-373391	TR DTC143ZS
TR786	ET-354415	TR DTA144ES
SW701	ES-415097J	SW PUSH SPEC33 3THROW *
SW702	ES-415100J	SW ROTARY SRBV14 01-04N [AA-49]
VR701	EV-403534J	VR ROTARY RK1631220 SPL W104

## 11. MAIN VOLUME P.C. BOARD

Ref. No.	Part No.	Description
TR701	ET-378524J	TR 2SC3383 S,T,U
TR702	ET-378524J	TR 2SC3383 S,T,U
TR751	ET-378524J	TR 2SC3383 S,T,U
TR752	ET-378524J	TR 2SC3383 S,T,U
VR702	EV-415032M	VR SPL EUWM HD003 B15 B104X2

## 12. VOLUME LED P.C. BOARD

Ref. No.	Part No.	Description
D702	ED-394509J	D LED GL3HY43 ORANGE

## 13. SYSCON P.C. BOARD

Ref. No.	Part No.	Description
C803	EC-368118	C DBL LAYER EECS5R5H 224 5.5DC
D801	ED-624903	D SILICON H 1S2473
D802	ED-307572	D SILICON H 1SS131
D803	ED-307572	D SILICON H 1SS131
D804	ED-624903	D SILICON H 1S2473
D805	ED-624903	D SILICON H 1S2473
D806	ED-624903	D SILICON H 1S2473
D807	ED-624903	D SILICON H 1S2473
D808	ED-624903	D SILICON H 1S2473
D809	ED-624903	D SILICON H 1S2473
D810	ED-624903	D SILICON H 1S2473
D811	ED-624903	D SILICON H 1S2473
D812	ED-624903	D SILICON H 1S2473
D813	ED-624903	D SILICON H 1S2473
D814	ED-624903	D SILICON H 1S2473
D815	ED-624903	D SILICON H 1S2473
D816	ED-624903	D SILICON H 1S2473
IB801	EH-418515J	COMP R RGLD6T 472J
IB802	EH-418516J	COMP R RGLE5T 472J
IC801	EI-408672J	IC S-80721AN
IC802	EI-416841J	IC TMP47C870N-V497 A1030-1
IC803	EI-415159J	IC SAA6579T
IC804	EI-416515J	IC LC7073M
IN801	EM-415082J	IND FL FIP12CGM7 CHARACTER
PH801	ET-403432J	DETECTOR SPS-420-1
TR801	ET-354365	TR DTC114YS
TR802	ET-354365	TR DTC114YS
TR803	ET-354365	TR DTC114YS
TR804	ET-397160J	TR 2SC3330 R,S,T,U,V
TR805	ET-354365	TR DTC114YS
TR806	ET-397160J	TR 2SC3330 R,S,T,U,V
TR807	ET-354415	TR DTA144ES
TR808	ET-369248	TR DTA114YS
TS801	ES-394427J	SW TACT SOR-133HS T05
TS802	ES-394427J	SW TACT SOR-133HS T05
TS803	ES-394427J	SW TACT SOR-133HS T05
TS804	ES-394427J	SW TACT SOR-133HS T05
TS805	ES-394427J	SW TACT SOR-133HS T05
TS806	ES-394427J	SW TACT SOR-133HS T05
TS807	ES-394427J	SW TACT SOR-133HS T05
TS808	ES-394427J	SW TACT SOR-133HS T05
TS809	ES-394427J	SW TACT SOR-133HS T05
TS810	ES-394427J	SW TACT SOR-133HS T05
TS811	ES-394427J	SW TACT SOR-133HS T05
TS812	ES-394427J	SW TACT SOR-133HS T05
TS813	ES-394427J	SW TACT SOR-133HS T05
TS814	ES-394427J	SW TACT SOR-133HS T05
TS815	ES-394427J	SW TACT SOR-133HS T05
TS816	ES-394427J	SW TACT SOR-133HS T05
TS817	ES-394427J	SW TACT SOR-133HS T05
TS818	ES-394427J	SW TACT SOR-133HS T05
TS819	ES-394427J	SW TACT SOR-133HS T05
TS820	ES-394427J	SW TACT SOR-133HS T05
TS821	ES-394427J	SW TACT SOR-133HS T05
TS822	ES-394427J	SW TACT SOR-133HS T05
TS823	ES-394427J	SW TACT SOR-133HS T05
TS824	ES-394427J	SW TACT SOR-133HS T05
X801	EI-367882J1	OSC CE FCR4.19MC3 4.190MHZ
X802	EI-416694M	OSC XTAL HC-49/U-S 4.33200MHZ
X803	EI-382875J	OSC CE CST4.00MGW 4MHZ

## 14. POWER SW P.C. BOARD

Ref. No.	Part No.	Description
D851	ED-415085J	D LED SLR-33VC3F RED
D852	ED-403987J	D LED SLR33MC3F GREEN
D853	ED-403987J	D LED SLR33MC3F GREEN
TS851	ES-394427J	SW TACT SOR-133HS T05

## 15. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
1-A	SP-415172M	PANEL REAR AA-39 (E) (SG)
1-B	SP-415173M	PANEL REAR AA-39 (V) (SG)
1-C	SP-415174M	PANEL REAR AA-39 (B) (SG)
1-D	SP-415175M	PANEL REAR AA-49 (E) (SG)
1-E	SP-415176M	PANEL REAR AA-49 (V) (SG)
2	ZS-394412J	BT BID30X08STL BZN PROJECTION
3	ZS-418383J	T2PAN30X16STL NI3 [V]
4-A	*EW-408724M	AC CORD200 SE1H03VVH2F VHR3N E [E,V]
4-B	*EW-415021M	AC CORD 200 SE-5VCTFK VHR3NB [B]
5	EJ-329610	TERMINAL W/SCREW UB-0067 L 1P
6-A	*BT-415033M	TRANS POW A1030-EV [AA-39][T901]
6-B	*BT-415035M	TRANS POW A1030-BS [AA-39][T901]
6-C	*BT-415036M	TRANS POW A1031-EV [AA-49][T901]
7	ZS-346742	ST BID40X08STL CMT CUP
8	ZW-410640J	SW40STL CMT
9	SE-373237J1	LENS POW
10	SB-415182M	BUTTON POWER (SG)
11	SK-402898J	BUTTON PUSH-B
12	SE-410963M	LENS LED (SG)
13	SE-415179J	WINDOW
14	SA-379375	FOOT (N)
15	ZS-336714	ST BID30X12STL CMT
16	SK-415178M	KNOB SELECTOR (SG)
17	SK-415180M	KNOB TONE (SG)
18	SK-414260M	KNOB VR (SG)
19	SP-391360J1	COVER UPPER B
20	ZS-393644J	ST BID30X08STL BZN PROJECT
21	ZS-404225J	ST BID40X08STL BZN
22	SB-415183M	BUTTON INPUT (SG)
23	ZS-394414J	BT BID30X08STL BZN
24	ZS-336611	ST CTS30X08STL CMT
25	ZS-395789J	BT BID30X16STL BZN
26	EZ-401261J	INSULATOR TBM-F FB-20
27	ZS-358936	ST BID30X06STL CMT
28	ZW-698308	RV NYL30X055 BL
29-A	SP-415166J	PANEL FRONT AA-39
29-B	SP-415167J	PANEL FRONT AA-49
30	SE-407867M	LENS VR (SG)
31-A	SE-415169M	ESCUTCHEON FRONT AA-39 (SG)
31-B	SE-415171M	ESCUTCHEON FRONT AA-49 (SG)
32	SM-365756C	NAME PLATE AKAI (2)
33	EZ-371605	BUSH CORD 2271
34	SE-373256	CASE LED

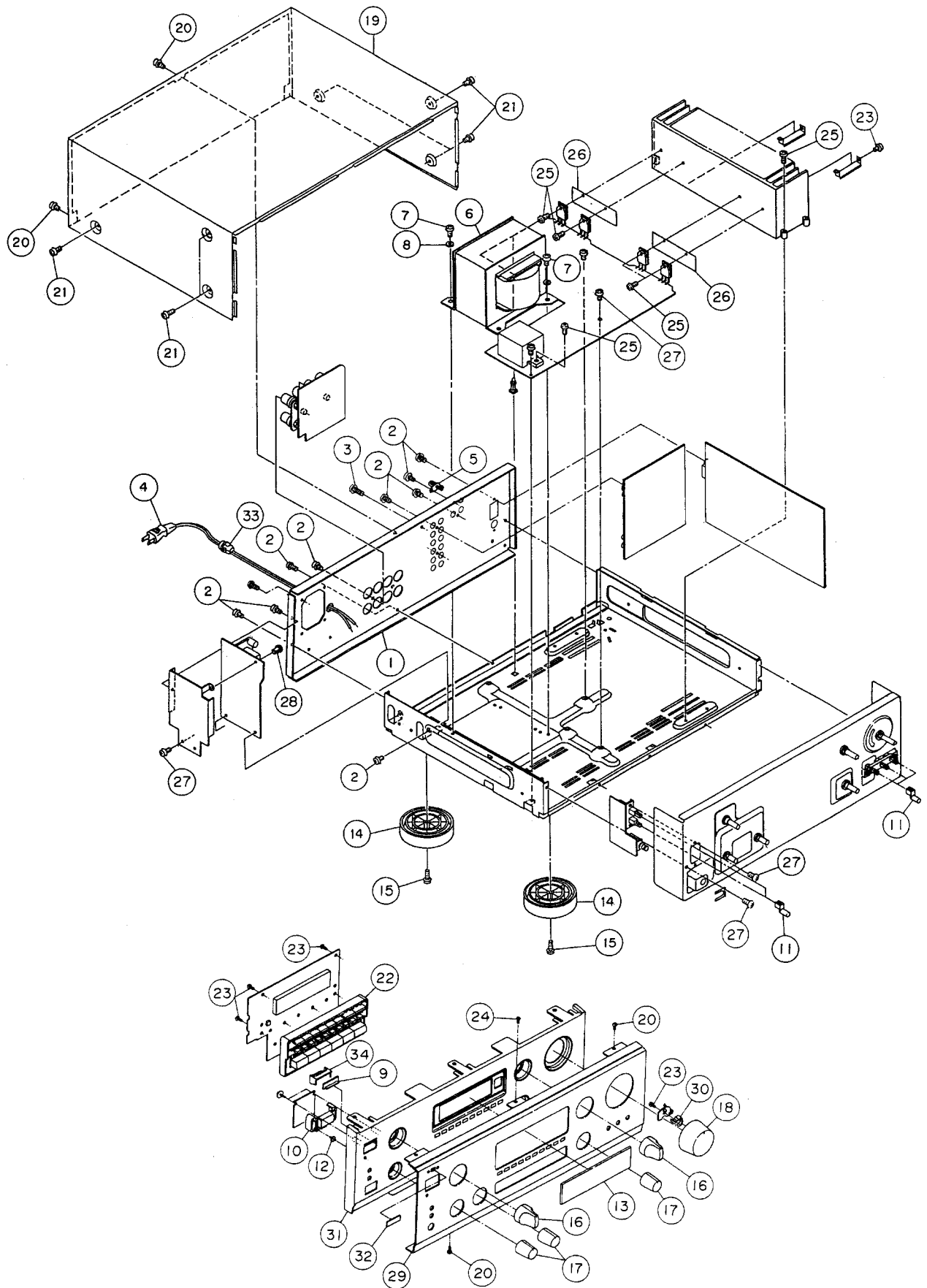
### NOTE:

Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

## 16. ACCESSORY

Ref. No.	Part No.	Description
1	AX-415040M	REMOCON RC-S49
2	AX-415039M	ANT LOOP WAU0990-0172M
3	EE-396107M	ANT WIRE FM A3063
4	EJ-394417J	SOCKET COAX HXC 0526-01-010

**FINAL ASSEMBLY BLOCK**



PARTS LIST

# INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AX415039M	16-2	ED403987J	14-D852	EJ394417J	16-4	ES394427J	13-TS813
AX415040M	16-1	ED403987J	14-D853	EJ415049J	4-J302	ES394427J	13-TS814
BAA1030T020A	2-1-A	ED415085J	14-D851	EM415082J	13-IN801	ES394427J	13-TS815
BAA1030T020B	2-1-B	ED415106J	3-D182	EO345874	3-L102	ES394427J	13-TS816
BAA1030T020C	2-1-C	ED511907	3-D151	EO352089	7-T204	ES394427J	13-TS817
BAA1030T020D	2-1-D	ED511907	3-D152	EO353588	7-L301	ES394427J	13-TS818
BAA1030T020E	2-1-E	ED511907	3-D153	EO353588	7-L302	ES394427J	13-TS819
BAA1030T030A	2-2-A	ED511907	3-D154	EO363279	7-T203	ES394427J	13-TS820
BAA1030T030B	2-2-B	ED511907	3-D161	EO403613J	3-L101	ES394427J	13-TS821
BAA1030T030C	2-2-C	ED511907	3-D162	EO403613J	3-L201	ES394427J	13-TS822
BAA1030T030D	2-2-D	ED511907	3-D163	EO403613J	4-L301	ES394427J	13-TS823
BT415033M	15-6-A	ED511907	3-D164	EO403613J	4-L302	ES394427J	13-TS824
BT415035M	15-6-B	ED511907	3-D180	EO408687J	7-T205	ES394427J	14-TS851
BT415036M	15-6-C	ED511907	3-D181	EO416498J	7-T101	ES415087J	6-SW501
BT415037M	3-T101-A	ED624903	3-D108	EO416499J	7-T103	ES415097J	10-SW701
BT415038M	3-T101-B	ED624903	3-D111	EO416500J	7-T102	ES415099J	9-SW601
EC337603	7-VC201	ED624903	4-D301	EO416501M	7-T201	ES415100J	10-SW702
EC338496	4-C301	ED624903	13-D801	EO416502M	7-T202	ET305463	3-TR1 05-B
EC356284	7-VC202	ED624903	13-D804	EQ403529J1	3-RL101	ET305463	3-TR1 06-B
EC364978	3-C159	ED624903	13-D805	EQ415055J	4-RL301	ET305463	3-TR1 07
EC368118	13-C803	ED624903	13-D806	ER200939	3-R162	ET305463	3-TR1 08
EC415076J	3-C150-A	ED624903	13-D807	ER200939	3-R163	ET305463	3-TR1 17
EC415076J	3-C151-A	ED624903	13-D808	ER324480	3-R128	ET305463	3-TR205-B
EC415077J	3-C150-B	ED624903	13-D809	ER324480	3-R129	ET305463	3-TR206-B
EC415077J	3-C151-B	ED624903	13-D810	ER328069	3-R175	ET305463	3-TR207
ED306010	7-D401	ED624903	13-D811	ER328069	3-R182	ET305463	3-TR208
ED307572	3-D106	ED624903	13-D812	ER333108	6-R501	ET305463	3-TR217
ED307572	3-D107	ED624903	13-D813	ER333108	6-R551	ET307195	3-TR1 02-B
ED307572	3-D109	ED624903	13-D814	ER333119	3-R131	ET307195	3-TR1 03-B
ED307572	3-D110	ED624903	13-D815	ER333119	3-R231	ET307195	3-TR1 04-B
ED307572	3-D206	ED624903	13-D816	ER341493	3-FR101	ET307195	3-TR1 09
ED307572	3-D207	EE396107M	16-3	ER341493	3-FR102	ET307195	3-TR202-B
ED307572	7-D205	EE415058J	7-FE101	ER341493	3-FR201	ET307195	3-TR203-B
ED307572	7-D206	EF415060J	3-F2	ER341493	3-FR202	ET307195	3-TR204-B
ED307572	7-D301	EF415060J	3-F3	ER353877	3-R126	ET307195	3-TR209
ED307572	7-D302	EF415061J	4-F1	ER353877	3-R127	ET322353	3-TR1 01
ED307572	7-D402	EH338338	7-FL102-B	ER353877	3-R226	ET322353	3-TR201
ED307572	8-D501	EH338338	7-FL103-B	ER353877	3-R227	ET337759	7-TR401
ED307572	8-D502	EH344434	7-FL201	ER368226	3-R130	ET345625	3-TR1 13
ED307572	8-D551	EH370069	7-FL301	ER368226	3-R230	ET345625	3-TR1 55
ED307572	8-D552	EH370069	7-FL302	ER368284	3-R125	ET345625	3-TR1 58
ED307572	8-D581	EH394759J	7-FL102-A	ER368284	3-R225	ET345625	3-TR213
ED307572	8-D582	EH394759J	7-FL103-A	ER378514J	3-R122	ET345626	3-TR1 14
ED307572	13-D802	EH405199J	7-FL104	ER378514J	3-R123	ET345626	3-TR1 53
ED307572	13-D803	EH418515J	13-IB801	ER378514J	3-R222	ET345626	3-TR214
ED327057	3-D103	EH418516J	13-IB802	ER378514J	3-R223	ET349458	7-TR201
ED327057	3-D104	EI349970	7-X301	ER378608J	3-R181	ET352726	3-TR1 05-A
ED327057	3-D105	EI361622	7-IC401	ER378833J	3-R166	ET352726	3-TR1 06-A
ED327057	3-D155	EI361624	7-IC101	ER378833J	3-R169	ET352726	3-TR1 12
ED327057	3-D156	EI367882J1	13-X801	ER382613J	3-R115	ET352726	3-TR1 50
ED327057	3-D157	EI382875J	13-X803	ER382613J	3-R118	ET352726	3-TR1 54
ED327057	3-D158	EI393323J	3-IC101	ER382613J	3-R120	ET352726	3-TR205-A
ED327057	3-D165	EI393325J	8-IC501	ER382613J	3-R215	ET352726	3-TR206-A
ED327057	3-D166	EI393325J	9-IC601	ER382613J	3-R218	ET352726	3-TR212
ED327057	3-D203	EI393325J	9-IC602	ER382613J	3-R220	ET353897	7-TR203
ED327057	3-D204	EI408672J	13-IC801	ER411836J	3-R132	ET353899	3-TR1 19
ED327057	3-D205	EI408814M	7-X401	ER411836J	3-R232	ET353899	7-TR405
ED330219	3-D112	EI415073J	7-IC301	ES362883	7-TS1	ET353899	7-TR406
ED343421	3-D159	EI415074J	8-IC502	ES394427J	13-TS801	ET353899	10-TR781
ED343421	3-D160	EI415159J	13-IC803	ES394427J	13-TS802	ET353899	10-TR782
ED346528	3-D113	EI416515J	13-IC804	ES394427J	13-TS803	ET354094	7-TR303
ED346529	3-D167	EI416694M	13-X802	ES394427J	13-TS804	ET354094	7-TR304
ED372893	7-D201	EI416841J	13-IC802	ES394427J	13-TS805	ET354094	7-TR403
ED372893	7-D202	EJ329610	15-5	ES394427J	13-TS806	ET354094	7-TR404
ED383034J	3-D170	EJ342935	5-TM401	ES394427J	13-TS807	ET354094	8-TR581
ED383034J	3-D270	EJ359031	7-TM1	ES394427J	13-TS808	ET354094	8-TR583
ED384278J	3-D150	EJ368244	8-J502	ES394427J	13-TS809	ET354364	7-TR308
ED394509J	12-D702	EJ368244	8-J503	ES394427J	13-TS810	ET354364	7-TR309
ED396065J	7-D303	EJ384270J	8-J501	ES394427J	13-TS811	ET354365	13-TR801
ED400166J	9-D681	EJ391132J	6-J501	ES394427J	13-TS812	ET354365	13-TR802

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
ET354365	13-TR803	EW408724M	15-4-A				
ET354365	13-TR805	EW415021M	15-4-B				
ET354415	8-TR582	EZ371605	15-33				
ET354415	8-TR584	EZ401261J	15-26				
ET354415	8-TR585	SA379375	15-14				
ET354415	10-TR786	SB415182M	15-10				
ET354415	13-TR807	SB415183M	15-22				
ET356336	7-TR305	SE373237J1	15-9				
ET356437	7-TR101	SE373256	15-34				
ET368757	3-TR116	SE407867M	15-30				
ET368757	3-TR216	SE410963M	15-12				
ET368759	3-TR115	SE415169M	15-31-A				
ET368759	3-TR215	SE415171M	15-31-B				
ET369248	13-TR808	SE415179J	15-13				
ET373391	10-TR785	SK402898J	15-11				
ET375780	8-TR501	SK414260M	15-18				
ET375780	8-TR502	SK415178M	15-16				
ET375780	8-TR503	SK415180M	15-17				
ET375780	8-TR551	SM365756C	15-32				
ET375780	8-TR552	SP391360J1	15-19				
ET375780	8-TR553	SP415166J	15-29-A				
ET376880	3-TR151	SP415167J	15-29-B				
ET378524J	3-TR102-A	SP415172M	15-1-A				
ET378524J	3-TR103-A	SP415173M	15-1-B				
ET378524J	3-TR104-A	SP415174M	15-1-C				
ET378524J	3-TR110	SP415175M	15-1-D				
ET378524J	3-TR111	SP415176M	15-1-E				
ET378524J	3-TR152	ZS336611	15-24				
ET378524J	3-TR157	ZS336714	15-15				
ET378524J	3-TR202-A	ZS346742	15-7				
ET378524J	3-TR203-A	ZS358936	15-27				
ET378524J	3-TR204-A	ZS393644J	15-20				
ET378524J	3-TR210	ZS394412J	15-2				
ET378524J	3-TR211	ZS394414J	15-23				
ET378524J	7-TR306	ZS395789J	15-25				
ET378524J	7-TR307	ZS404225J	15-21				
ET378524J	8-TR504	ZS418383J	15-3				
ET378524J	8-TR505	ZW410640J	15-8				
ET378524J	8-TR506	ZW698308	15-28				
ET378524J	8-TR507						
ET378524J	8-TR554						
ET378524J	8-TR555						
ET378524J	8-TR556						
ET378524J	8-TR557						
ET378524J	11-TR701						
ET378524J	11-TR702						
ET378524J	11-TR751						
ET378524J	11-TR752						
ET394735J	7-TR202						
ET396072J	7-TR302						
ET397160J	3-TR118						
ET397160J	3-TR120						
ET397160J	3-TR121						
ET397160J	3-TR122						
ET397160J	3-TR123						
ET397160J	3-TR156						
ET397160J	7-TR402						
ET397160J	7-TR407						
ET397160J	10-TR783						
ET397160J	10-TR784						
ET397160J	13-TR804						
ET397160J	13-TR806						
ET403432J	13-PH801						
EV389477J	7-VR301						
EV389479J	7-VR201						
EV389481J	7-VR202						
EV401270J	9-VR601						
EV401270J	9-VR602						
EV403534J	10-VR701						
EV415032M	11-VR702						

# AKAI

MODEL **AA-39**

MODEL **AA-49**

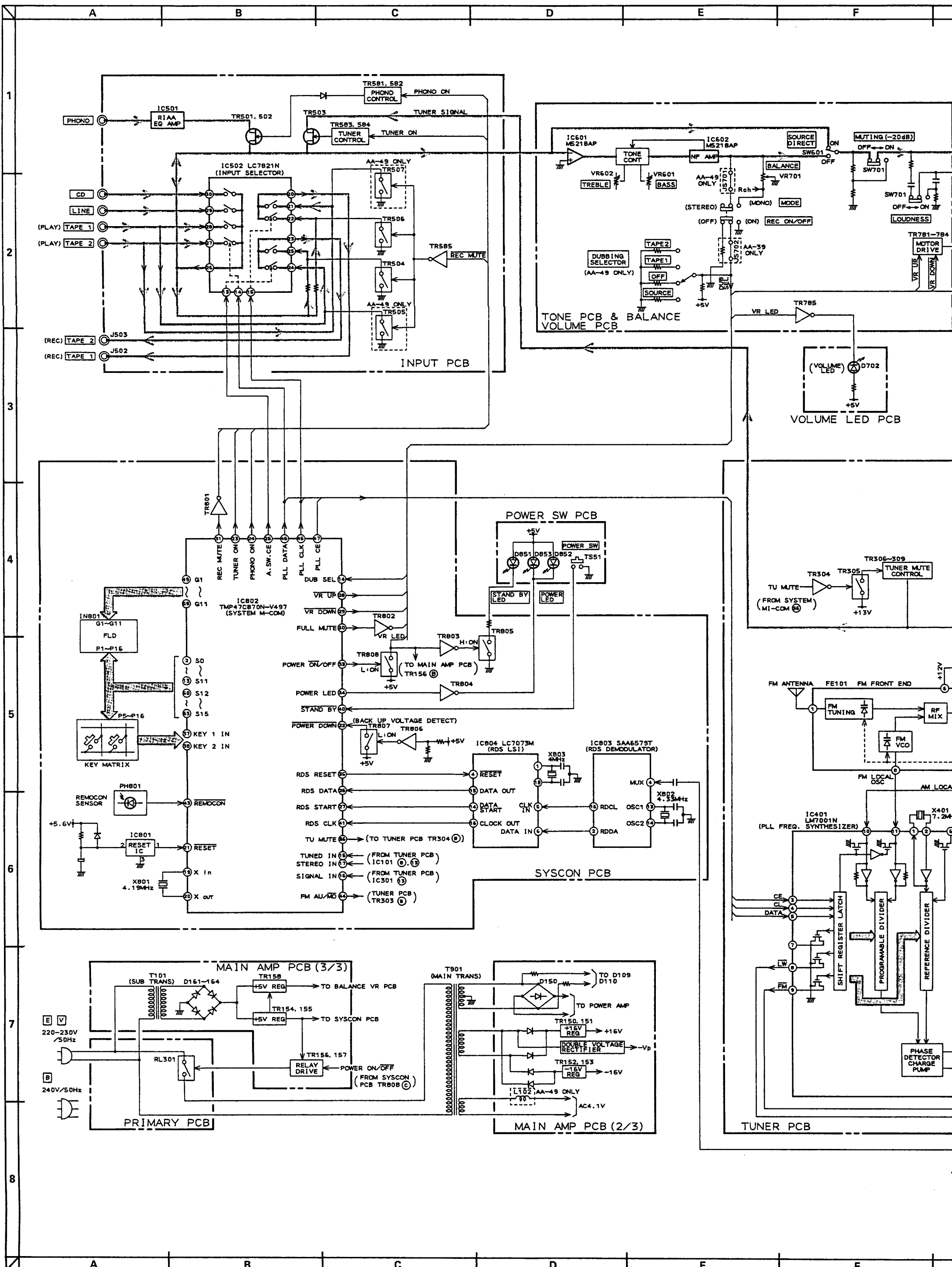
## SCHEMATIC DIAGRAMS AND PC BOARDS

### TABLE OF CONTENTS

1. BLOCK DIAGRAM .....	3
2. CONNECTION DIAGRAM .....	4
3. SYSCON AND OTHER PC BOARDS .....	5
4. TONE AND OTHER PC BOARDS .....	6
5. PRE AMP & SYSCON SCHEMATIC DIAGRAM .....	7
6. TUNER SCHEMATIC DIAGRAM .....	8
7. TUNER PC BOARD .....	9
8. MAIN AMP & POWER SCHEMATIC DIAGAM .....	10
9. MAIN AMP PC BOARD .....	11
10. PHONES AND OTHER PC BOARDS .....	12
11. INFORMATION OF ICs .....	13

Use these schematic diagrams and PC boards together with the provided service manual.

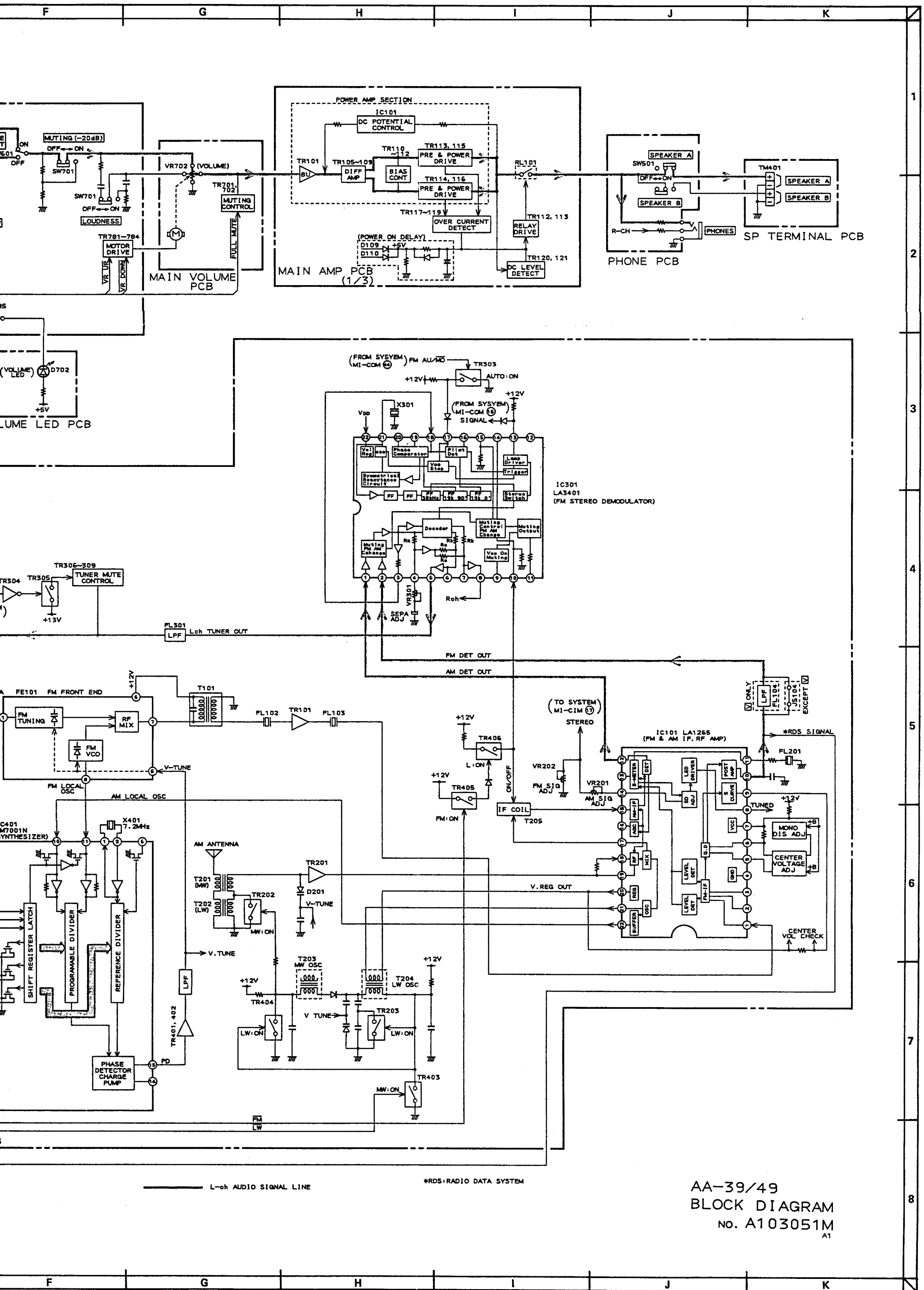




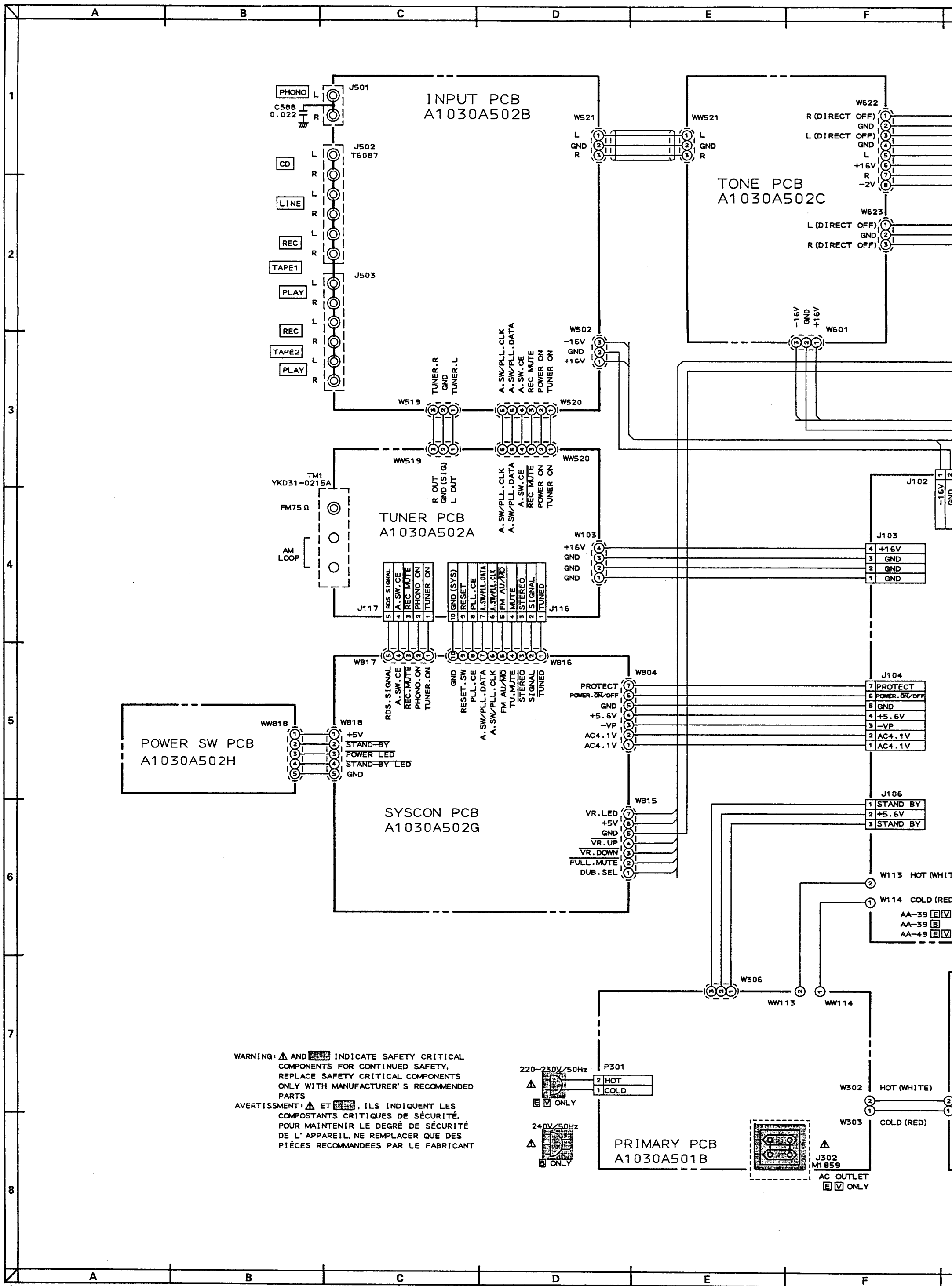
1  
2  
3  
4  
5  
6  
7  
8

A B C D E F

A B C D E F

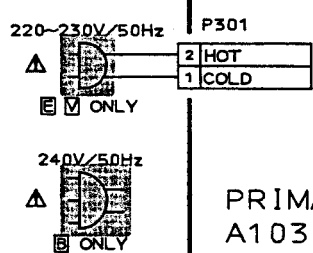


AA-39/49  
 BLOCK DIAGRAM  
 NO. A103051M  
 A1

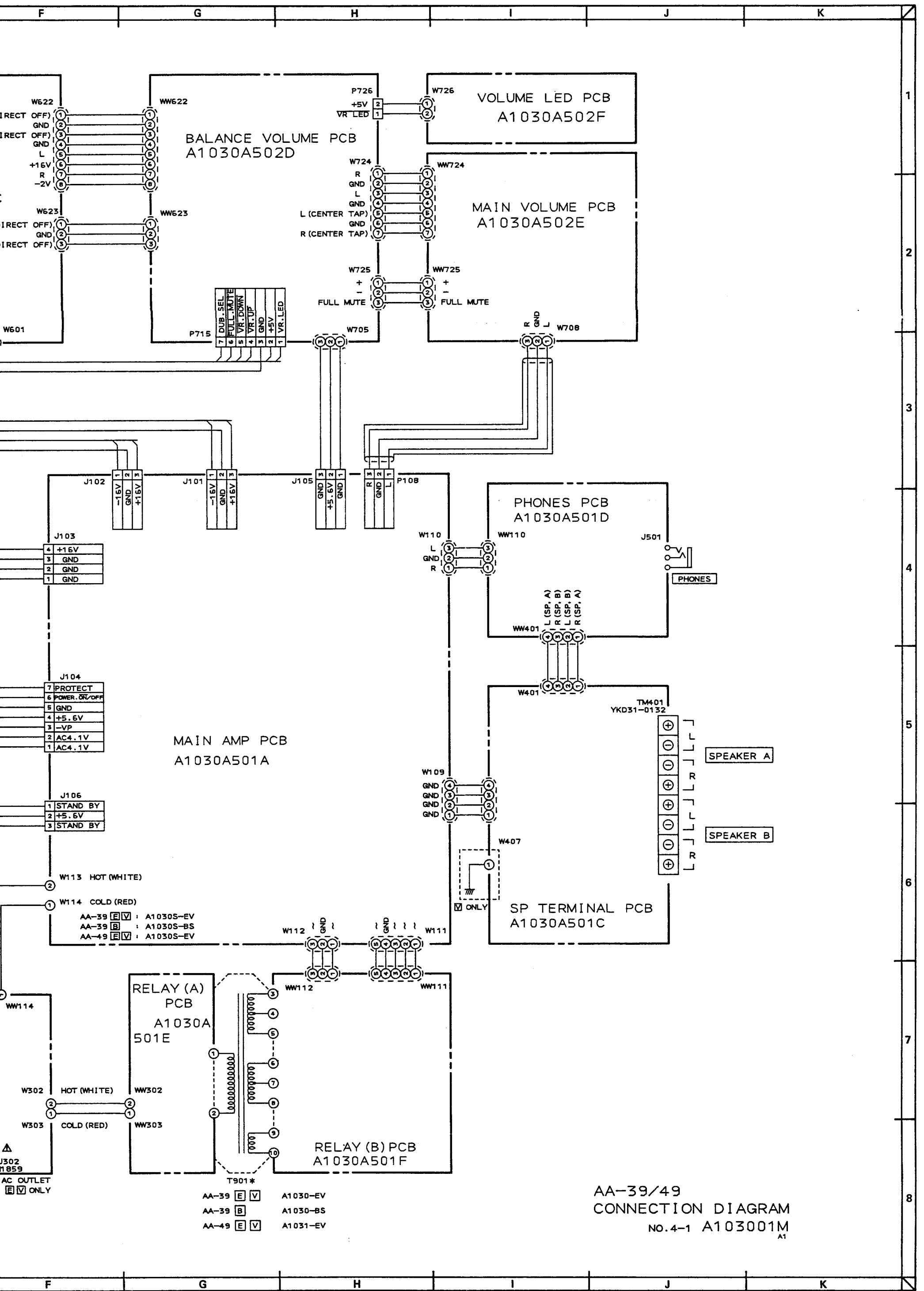


WARNING: AND INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

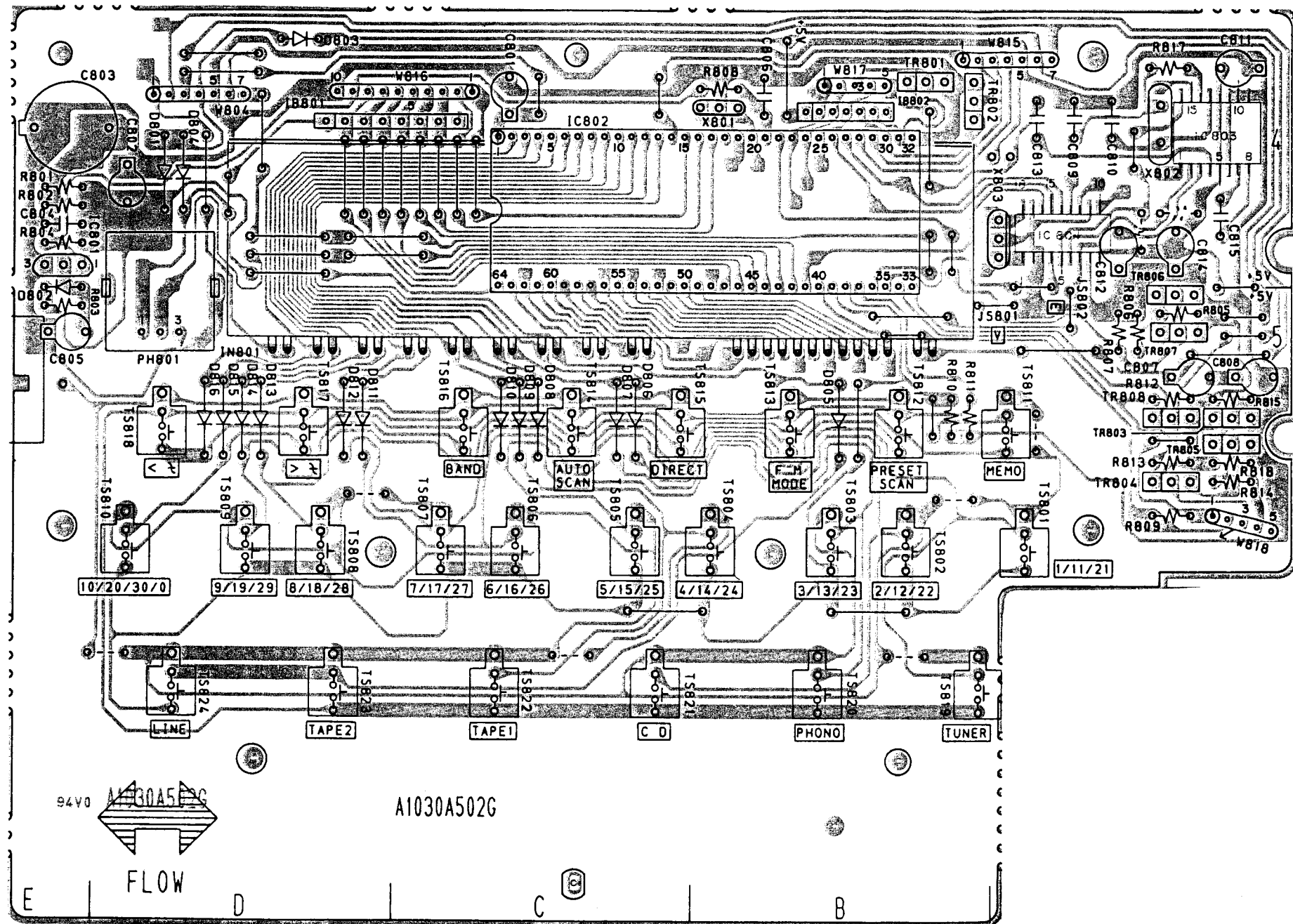
AVERTISSEMENT: ET ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT



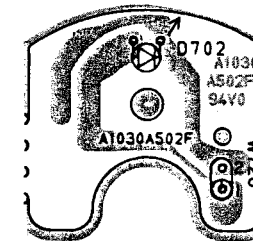
AA-39 V :  
AA-39 B :  
AA-49 V :



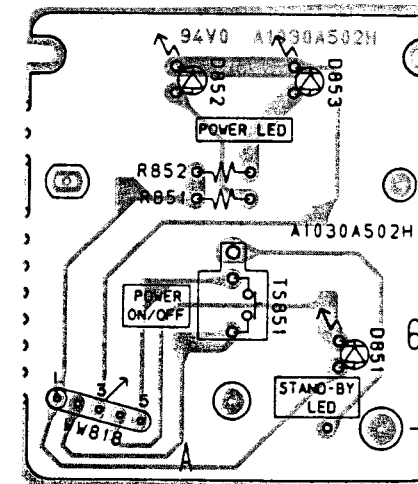
AA-39/49  
 CONNECTION DIAGRAM  
 No. 4-1 A103001M  
 A1



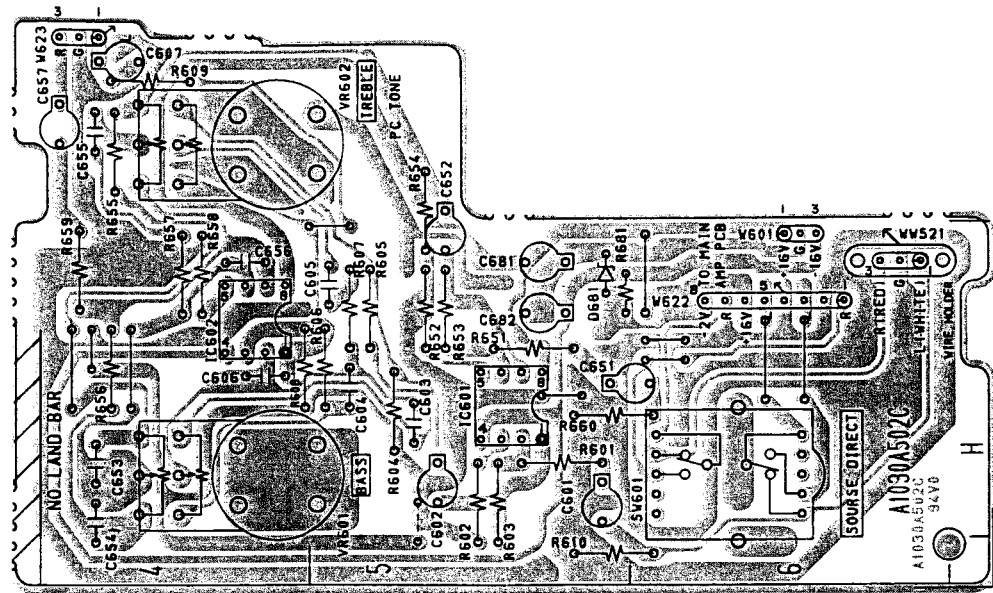
SYSCON PCB AI030A502G



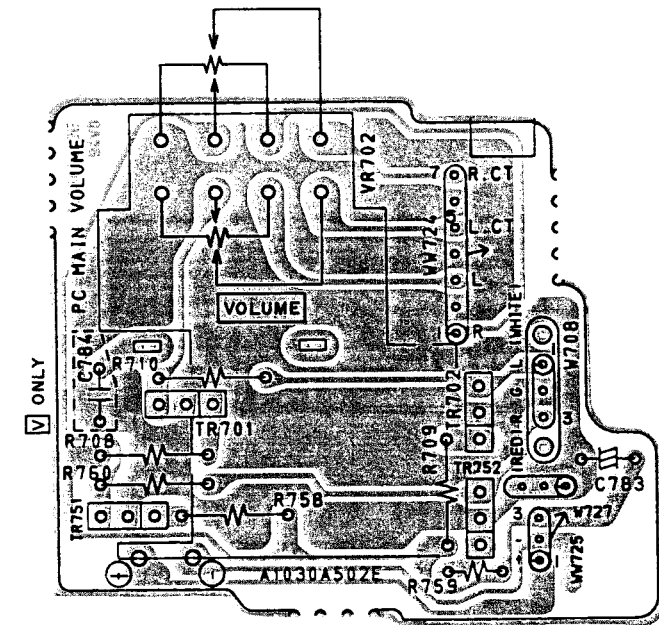
VOLUME LED PCB AI030A502F



POWER SW PCB AI030A502H



TONE PCB AI030A502C



MAIN VOLUME PCB AI030A502E

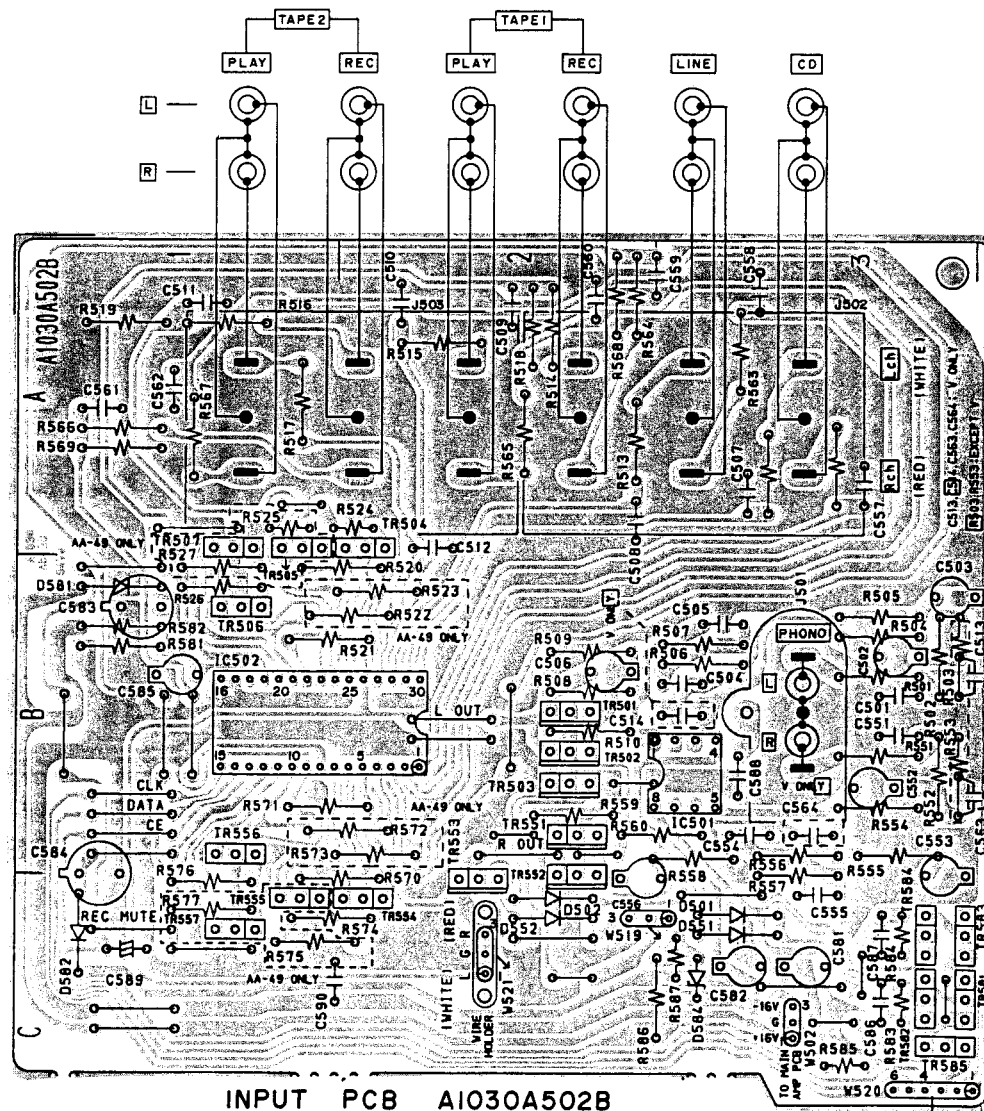
**PRINCIPAL PARTS LOCATION**

**ICs**  
 IC501 ..... B3  
 IC502 ..... B1,2

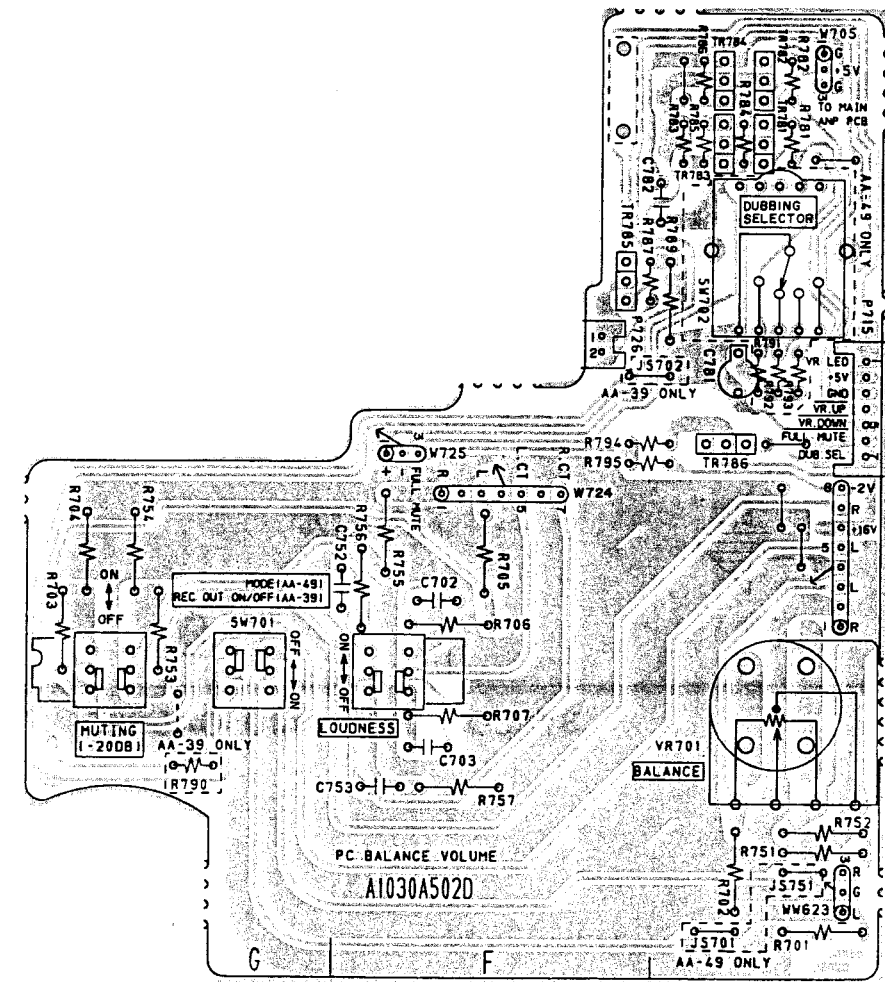
**WIRES**  
 W521 ..... C2  
 W502 ..... C3  
 W520 ..... C3

**CONNECTORS**  
 J501 ..... B3  
 J502 ..... A2,3  
 J503 ..... A1,2

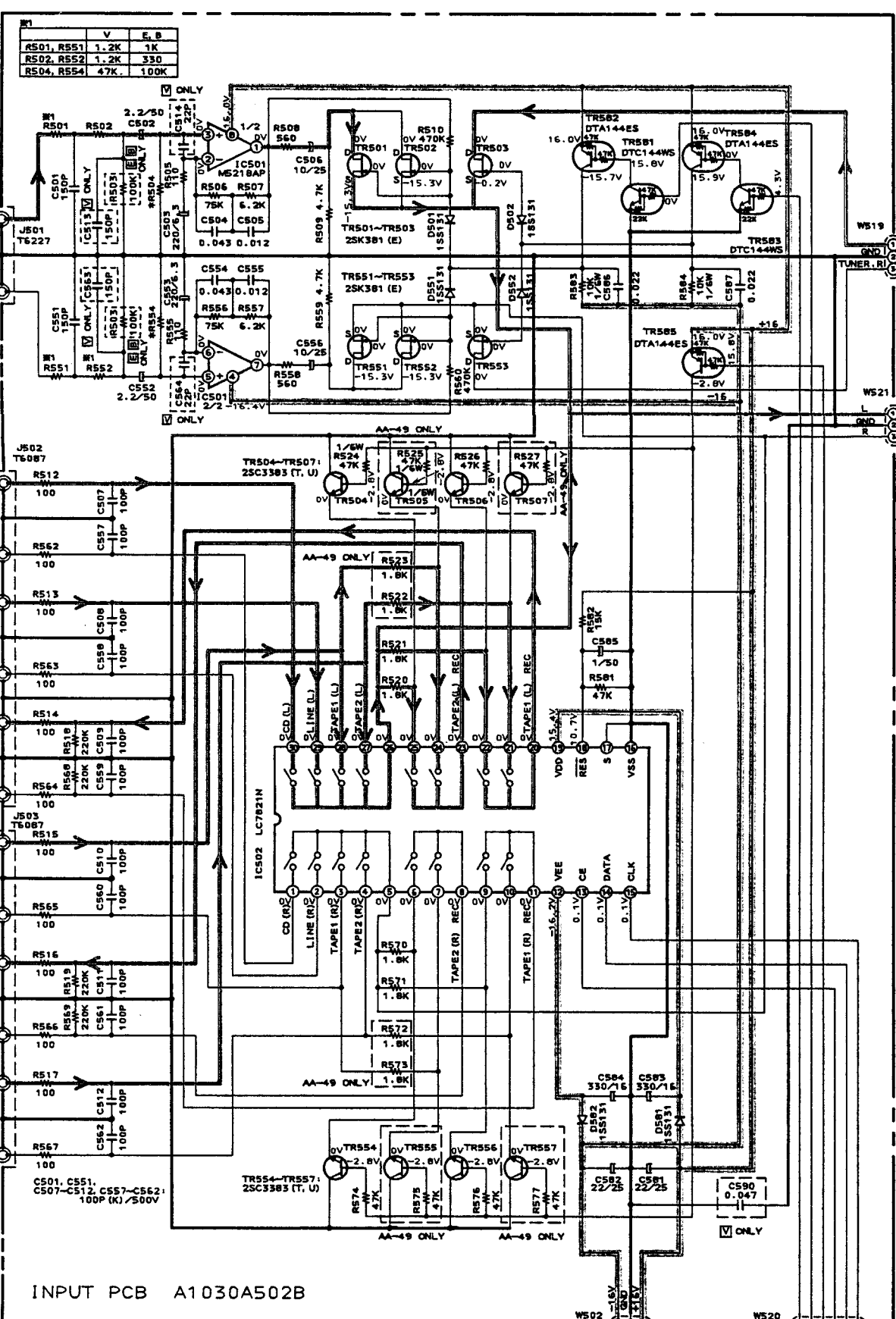
**TRANSISTORS**  
 TR501 ..... B2  
 TR502 ..... B2  
 TR503 ..... B2  
 TR504 ..... A2  
 TR505 ..... A1  
 TR506 ..... B1  
 TR507 ..... A1  
 TR551 ..... B2  
 TR552 ..... C2  
 TR553 ..... C2  
 TR554 ..... C2  
 TR555 ..... C1  
 TR556 ..... B1  
 TR557 ..... C1  
 TR581 ..... C3  
 TR582 ..... C3  
 TR583 ..... C3  
 TR584 ..... C3  
 TR585 ..... C3



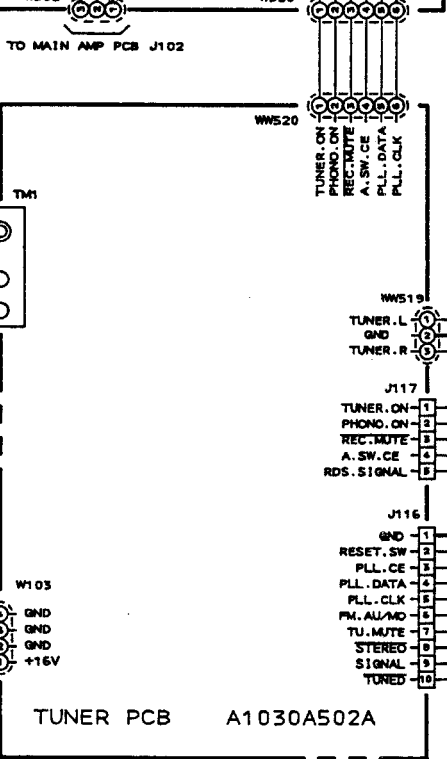
INPUT PCB AI030A502B



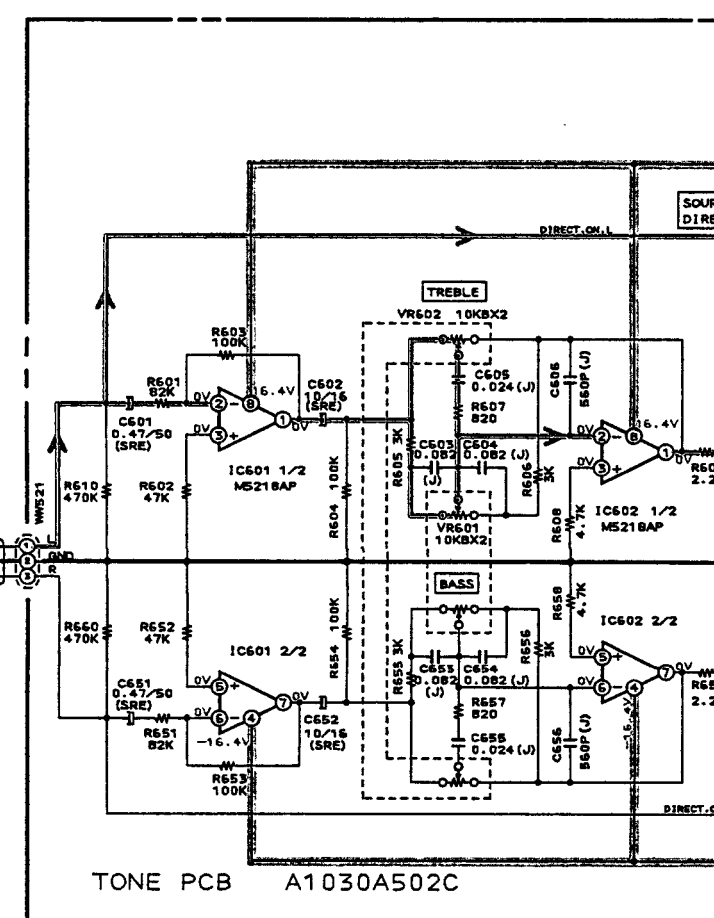
BALANCE VOLUME PCB AI030A502D



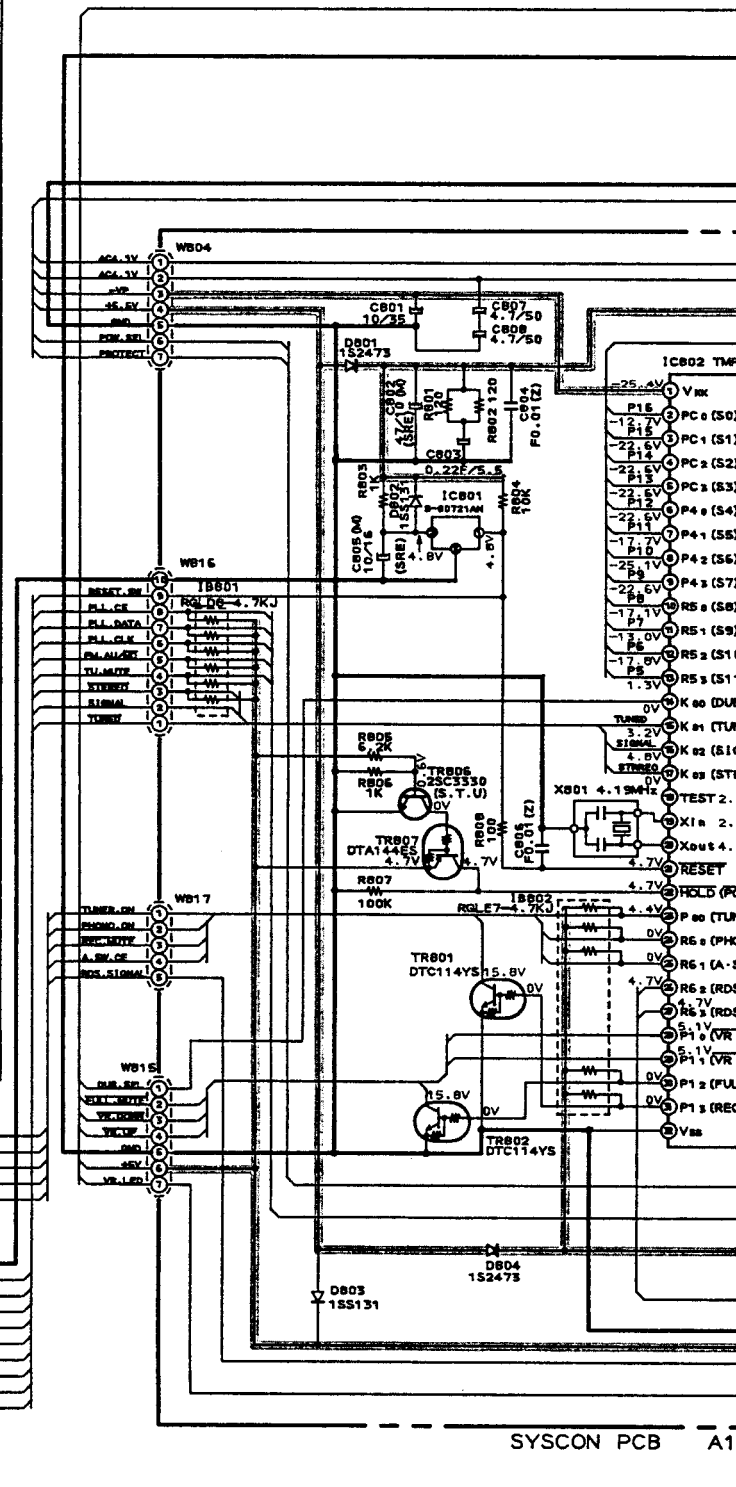
INPUT PCB A1030A502B



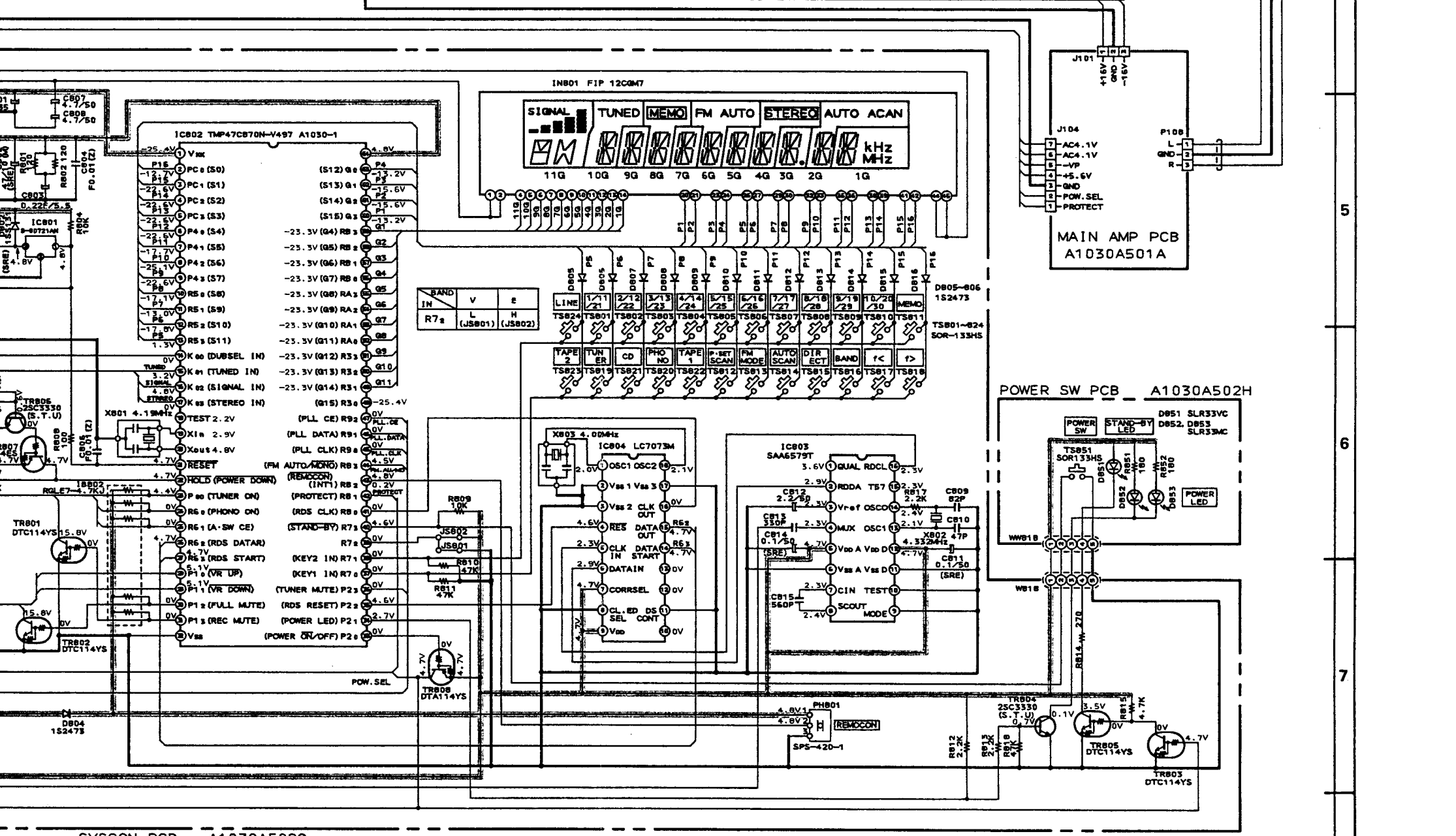
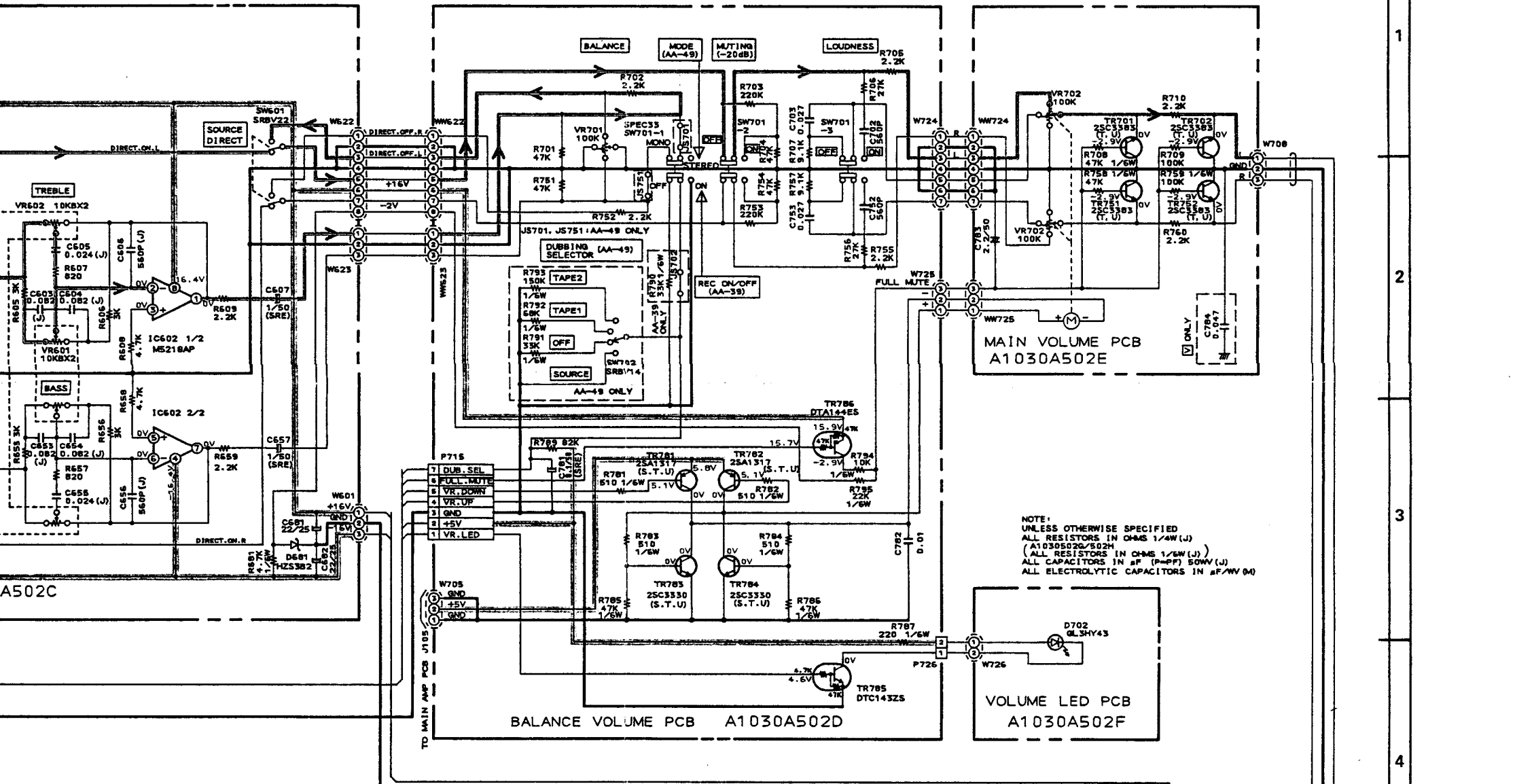
TUNER PCB A1030A502A



TONE PCB A1030A502C



SYSCON PCB A1030A502D

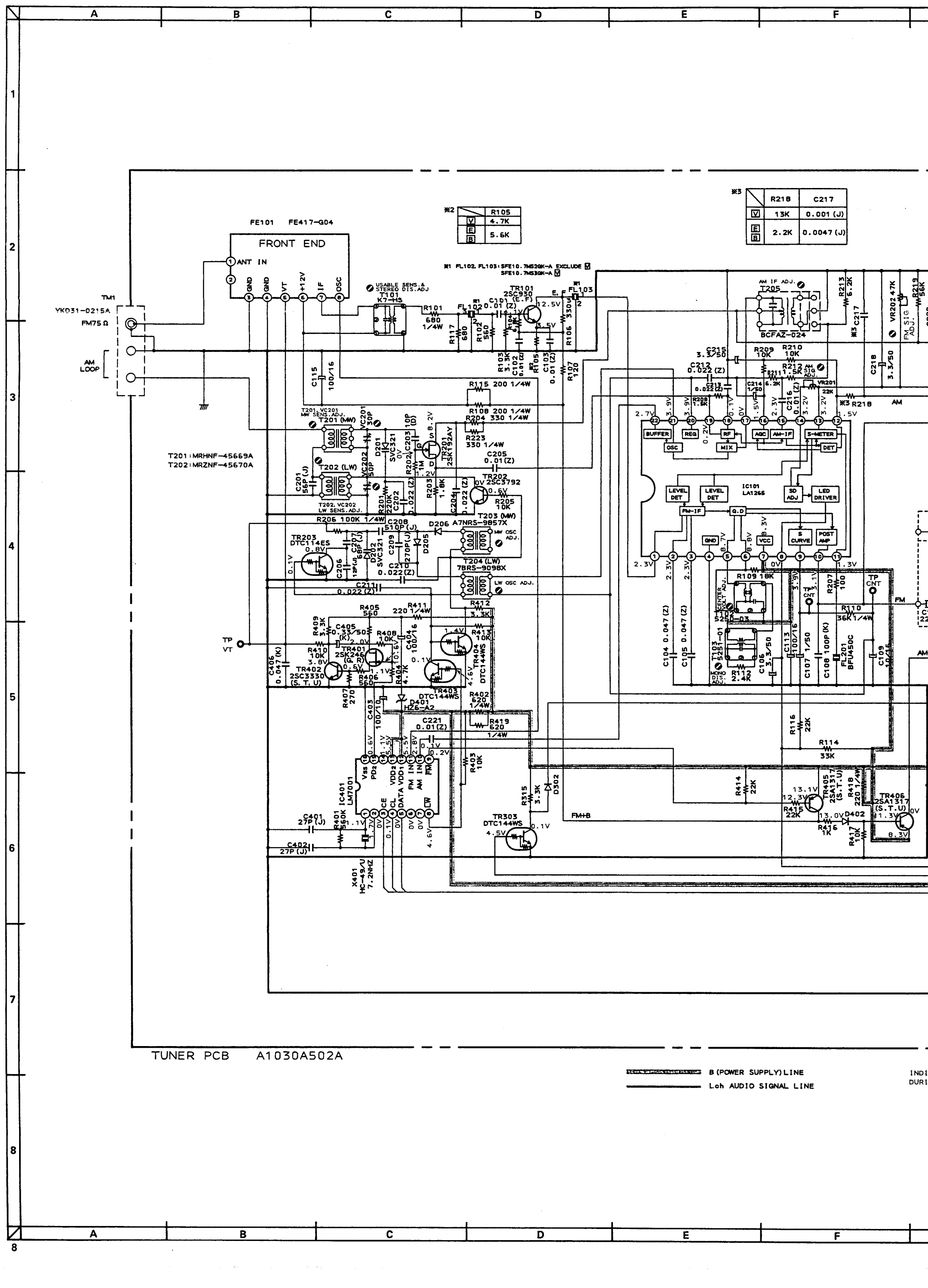


INDICATED VOLTAGES WERE MEASURED DURING FM STEREO MODE.

— B (POWER SUPPLY) LINE  
— L-h AUDIO SIGNAL LINE

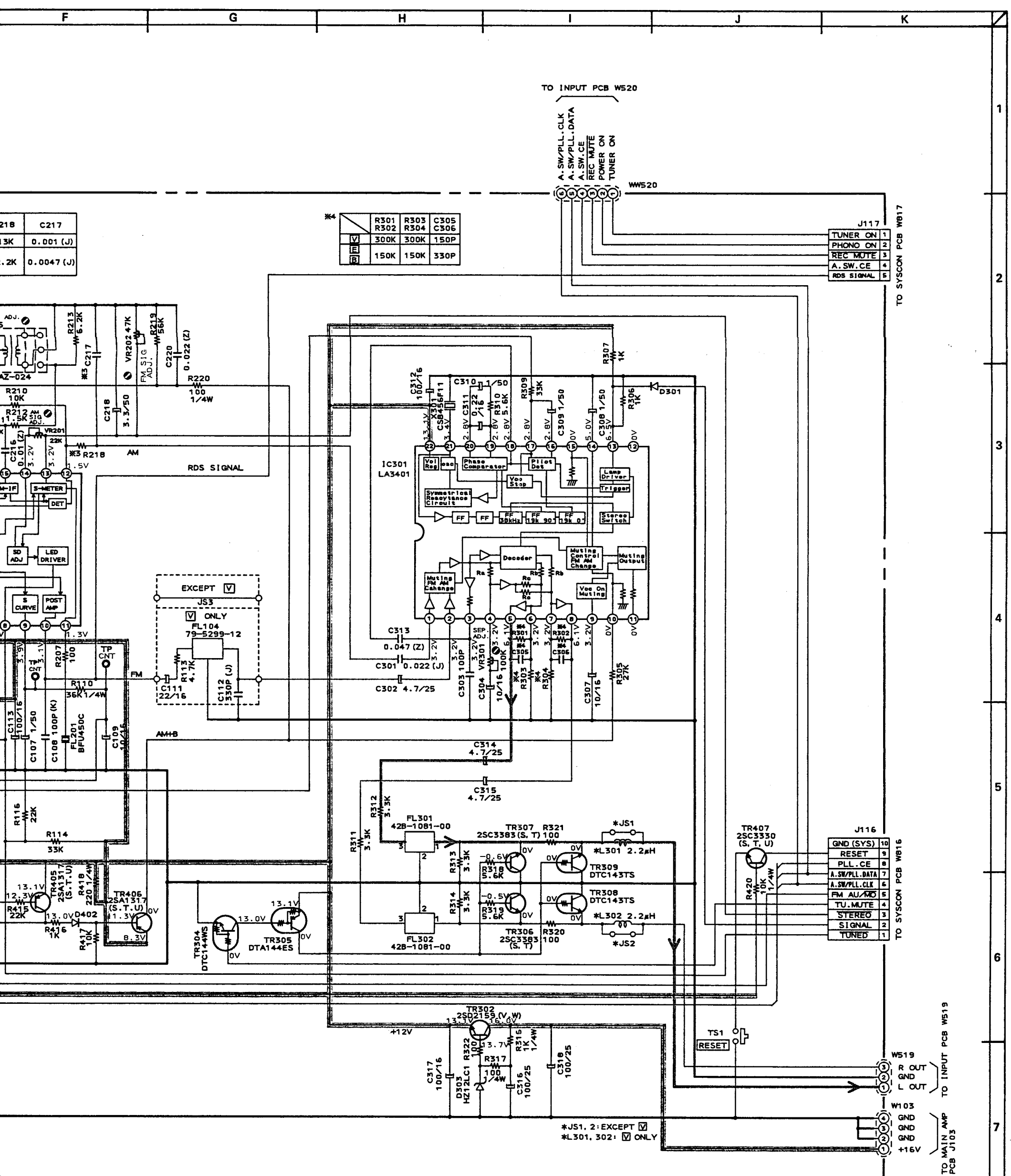
AA-39/49  
PRE AMP & SYSCON  
SCHEMATIC DIAGRAM  
NO.4-2 A103002M  
A1





TUNER PCB A1030A502A

B (POWER SUPPLY) LINE  
 LoH AUDIO SIGNAL LINE  
 INDICATED DURING



R301	R303	C305
R302	R304	C306
300K	300K	150P
150K	150K	330P

C218	C217
0.001 (J)	
0.0047 (J)	

INDICATED VOLTAGES WERE MEASURED DURING FM STEREO MODE.

NOTE  
UNLESS OTHERWISE SPECIFIED  
ALL RESISTORS IN OHMS 1/6W (J)  
ALL CAPACITORS IN μF 50V (M)  
ALL DIODES ARE 1SS131

AA-39/49  
TUNER  
SCHEMATIC DIAGRAM  
NO.4-3 A103003M  
A1

LINE  
AL LINE

TO MAIN AMP PCB J103  
TO INPUT PCB W519

\*JS1, 2: EXCEPT   
\*L301, 302:  ONLY

J116	GND (SYS)	10
	RESET	9
	PLL_CE	8
	A.SW/PLL_DATA	7
	A.SW/PLL_CLK	6
	FM AU/MO	5
	TU.MUTE	4
	STEREO	3
	SIGNAL	2
	TUNED	1

J117	TUNER ON	1
	PHONO ON	2
	REC MUTE	3
	A.SW.CE	4
	RDS SIGNAL	5

TO INPUT PCB W520

TO SYSCON PCB W817

TO SYSCON PCB W816

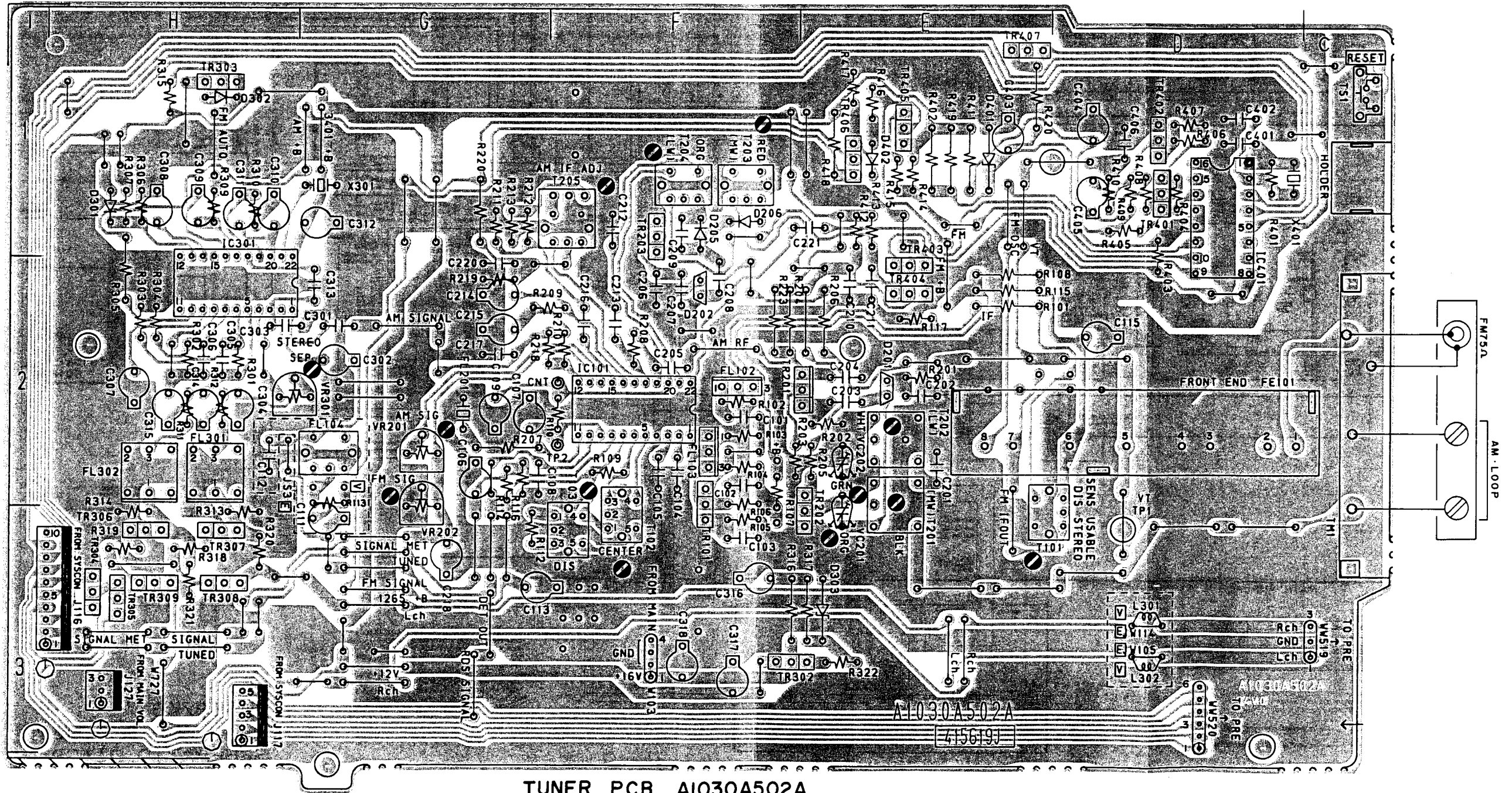
TO INPUT PCB W519  
R OUT  
L OUT

TO MAIN AMP PCB J103  
GND  
GND  
GND  
+16V

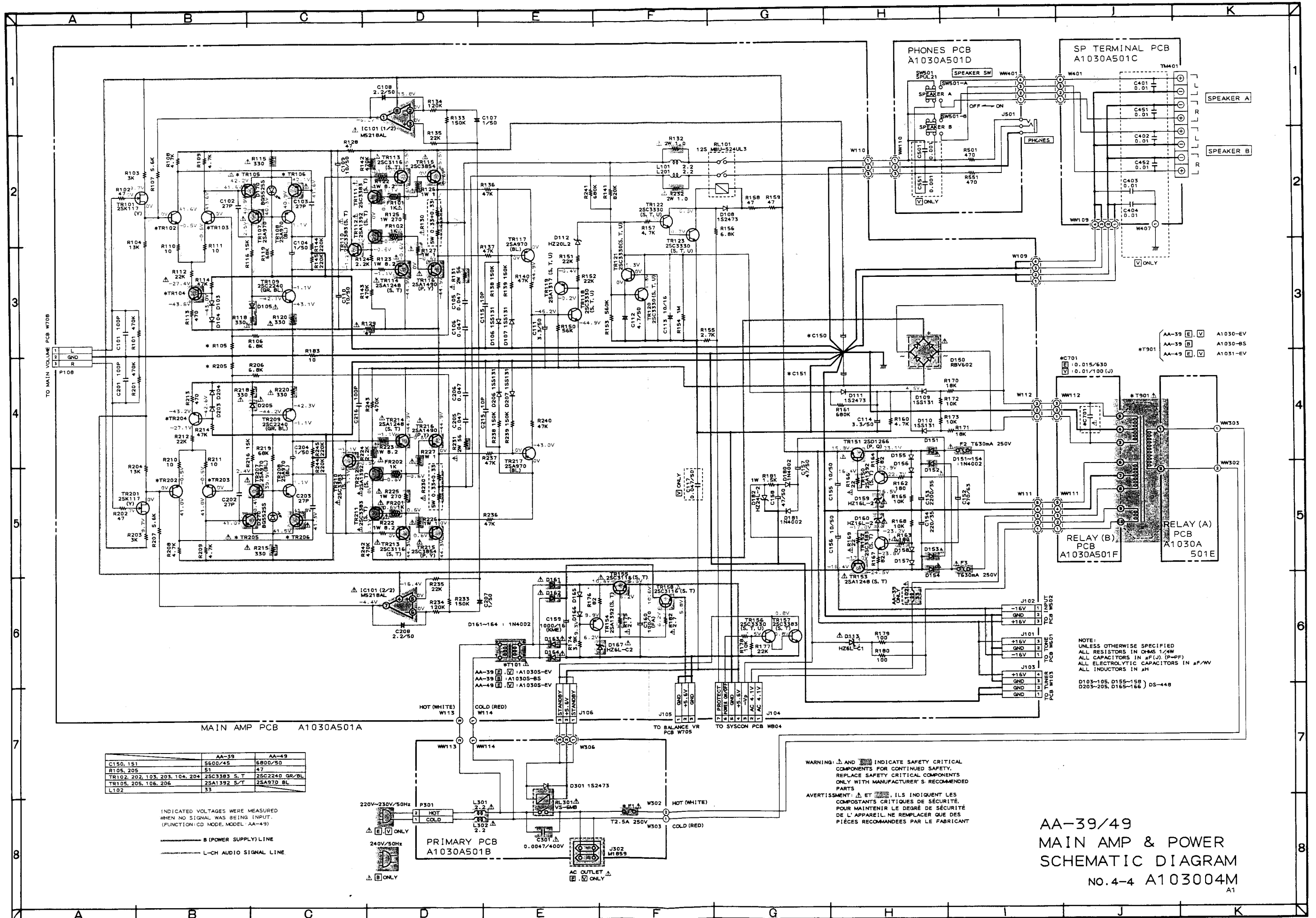
**PRINCIPAL PARTS LOCATION**

<b>TRANSISTORS</b>	TR401 ..... D1	<b>CONNECTORS</b>
TR101 ..... F2,3	TR402 ..... D1	J116 ..... 3H,I
TR201 ..... F,E2	TR403 ..... E2	J117 ..... H3
TR202 ..... F,E3	TR404 ..... E2	J127 ..... H3
TR203 ..... F1	TR405 ..... E1	
TR302 ..... F3	TR406 ..... E1	
TR303 ..... H1	TR407 ..... E1	
TR304 ..... H3		<b>WIRES</b>
TR305 ..... H3		W103 ..... F3
TR306 ..... H3	<b>ICs</b>	WW519 ..... C3
TR307 ..... H3	IC101 ..... F2	WW520 ..... D3
TR308 ..... H3	IC301 ..... H2	
TR309 ..... H3	IC401 ..... D1	

NOTE : PARTS DIFFER DEPENDING ON MODEL NUMBER.  
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT  
PARTS INFORMATION.



TUNER PCB A1030A502A



	AA-39	AA-49
C150, 151	5600/45	6800/50
R105, 205	51	47
TR102, 202, 103, 203, 104, 204	25C3383 S.T	25C2240 GR/BL
TR105, 205, 106, 206	25A1392 S/T	25A970 BL
L102	33	

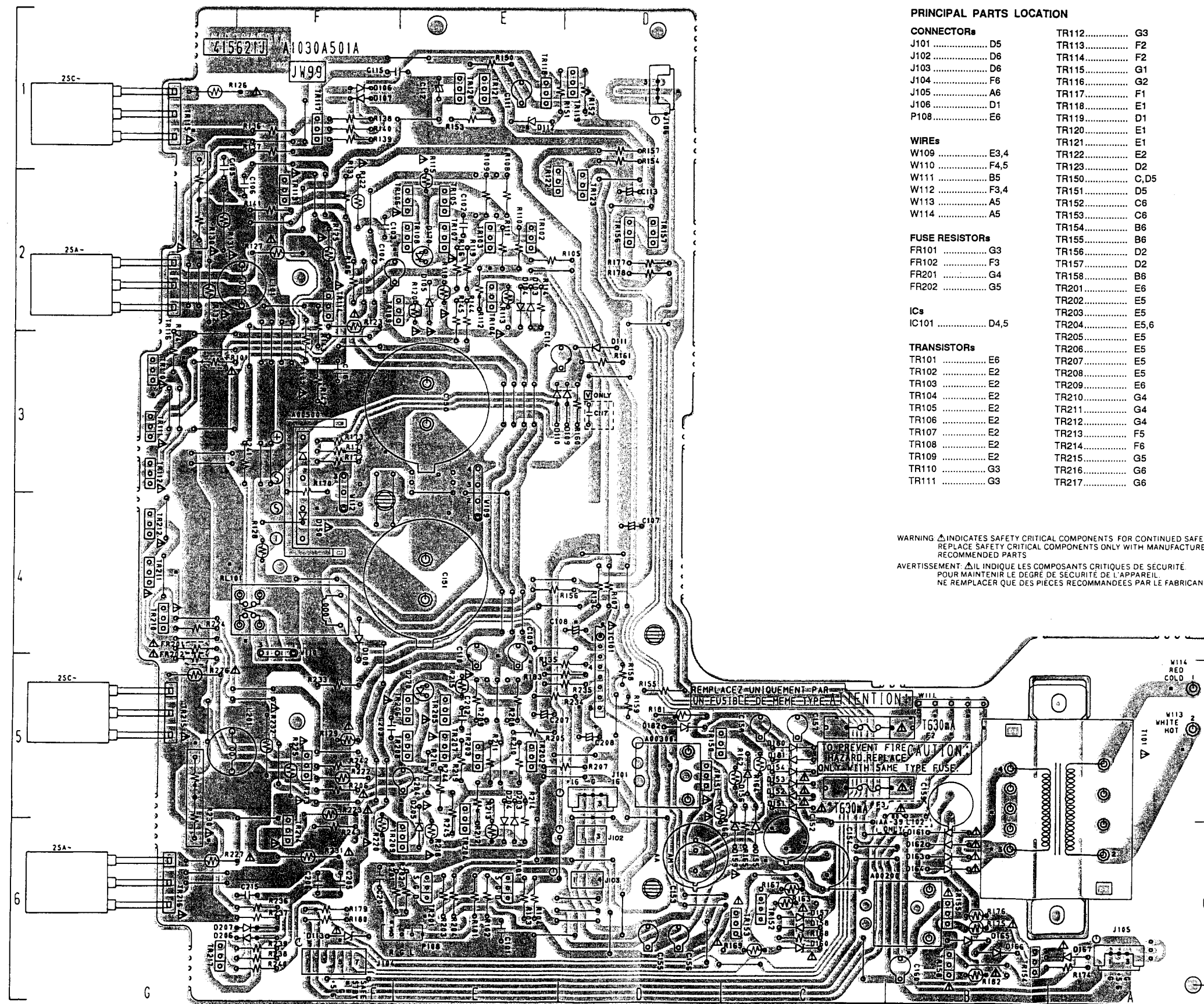
INDICATED VOLTAGES WERE MEASURED WHEN NO SIGNAL WAS BEING INPUT. (FUNCTION: CD MODE, MODEL: AA-49)

— B (POWER SUPPLY) LINE  
 - - - L-CH AUDIO SIGNAL LINE

WARNING: ⚠ AND ⚡ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.  
 AVERTISSEMENT: ⚠ ET ⚡ ILS INDIQUENT LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

AA-39/49  
 MAIN AMP & POWER  
 SCHEMATIC DIAGRAM  
 No. 4-4 A103004M  
 A1

NOTE:  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS 1/4W  
 ALL CAPACITORS IN μF (J) (P=WF)  
 ALL ELECTROLYTIC CAPACITORS IN μF/WV  
 ALL INDUCTORS IN μH  
 D103-105, D155-158  
 D203-205, D165-166 ) DS-448

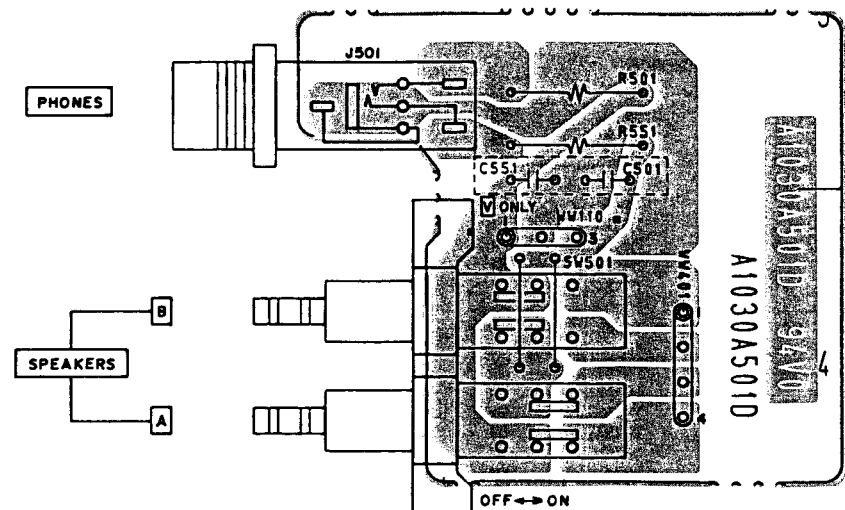


**PRINCIPAL PARTS LOCATION**

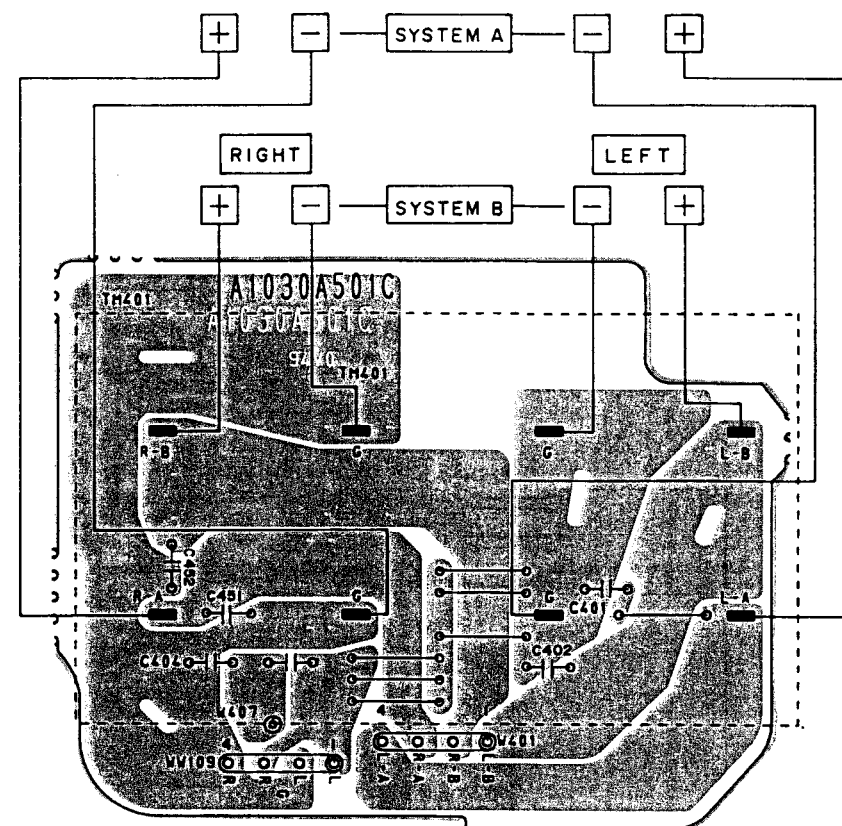
<b>CONNECTORs</b>		
J101 .....	D5	TR112..... G3
J102 .....	D6	TR113..... F2
J103 .....	D6	TR114..... F2
J104 .....	F6	TR115..... G1
J105 .....	A6	TR116..... G2
J106 .....	D1	TR117..... F1
P108 .....	E6	TR118..... E1
		TR119..... D1
		TR120..... E1
		TR121..... E1
		TR122..... E2
		TR123..... D2
		TR150..... C,D5
		TR151..... D5
		TR152..... C6
		TR153..... C6
		TR154..... B6
		TR155..... B6
		TR156..... D2
		TR157..... D2
		TR158..... B6
		TR201..... E6
		TR202..... E5
		TR203..... E5
		TR204..... E5,6
		TR205..... E5
		TR206..... E5
		TR207..... E5
		TR208..... E5
		TR209..... E6
		TR210..... G4
		TR211..... G4
		TR212..... G4
		TR213..... F5
		TR214..... F6
		TR215..... G5
		TR216..... G6
		TR217..... G6
<b>WIRES</b>		
W109 .....	E3,4	
W110 .....	F4,5	
W111 .....	B5	
W112 .....	F3,4	
W113 .....	A5	
W114 .....	A5	
<b>FUSE RESISTORs</b>		
FR101 .....	G3	
FR102 .....	F3	
FR201 .....	G4	
FR202 .....	G5	
<b>ICs</b>		
IC101 .....	D4,5	
<b>TRANSISTORs</b>		

WARNING  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.  
 AVERTISSEMENT  $\Delta$  IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL. NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

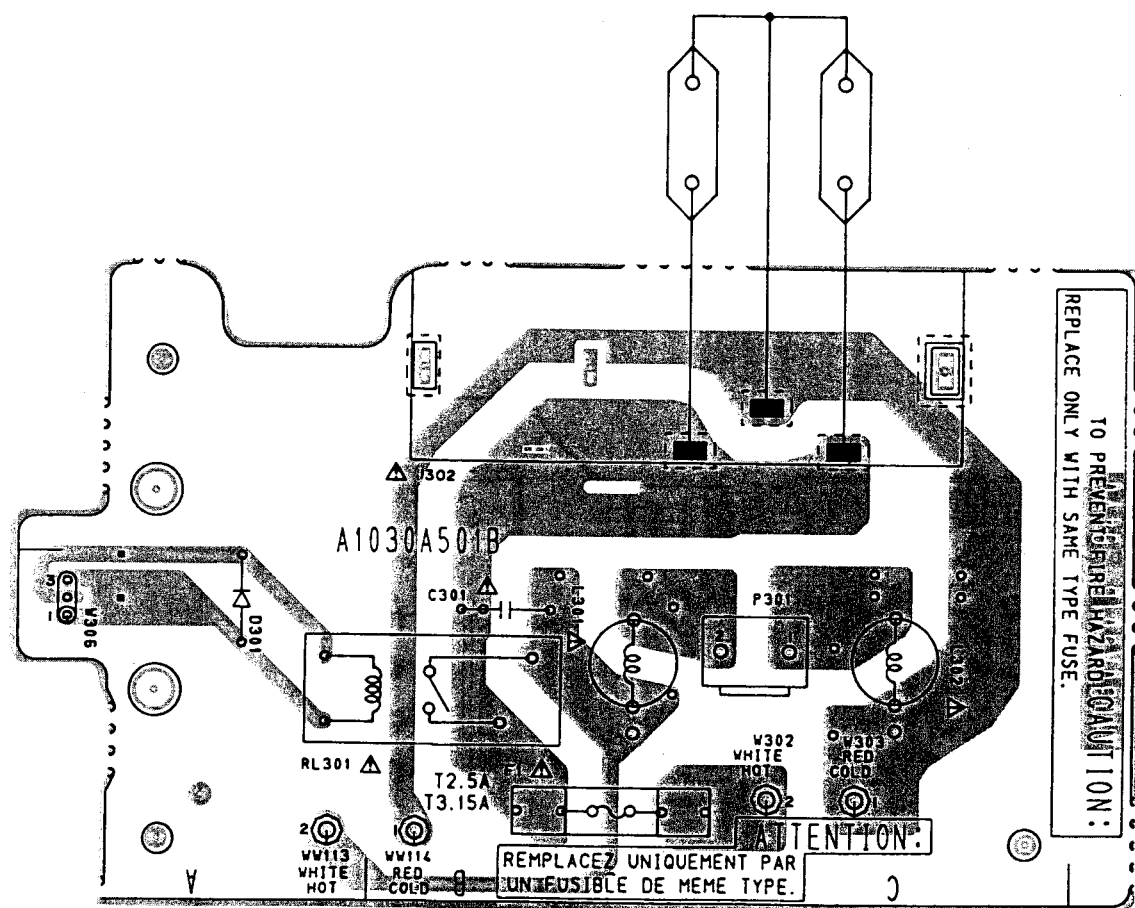
MAIN AMP PCB A1030A501A(J1)



PHONES PCB A1030A50ID(J1)

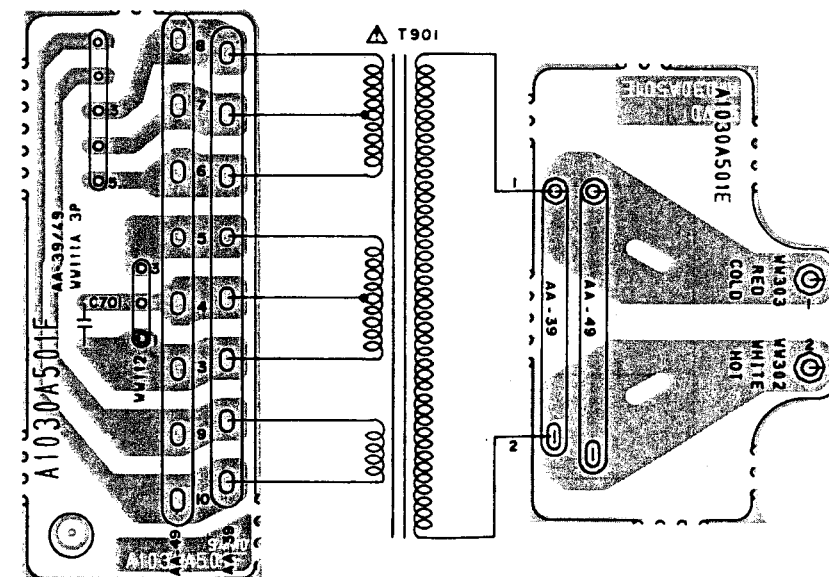


SP TERMINAL PCB A1030A50IC(J1)



PRIMARY PCB A1030A50IB(J1)

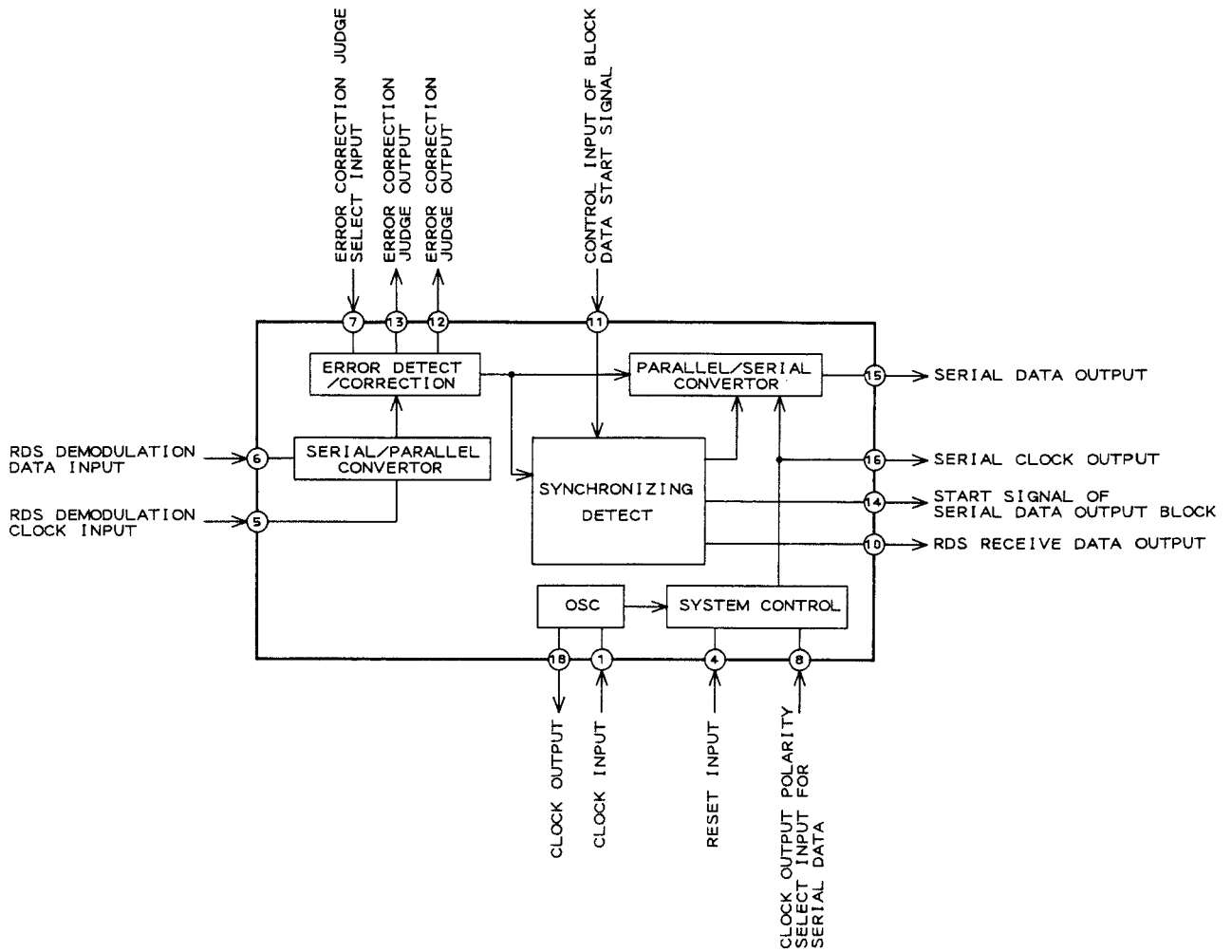
WARNING:  $\Delta$  INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.  
 AVERTISSEMENT:  $\Delta$  IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.



RELAY(B) PCB A1030A50IF(J1)

RELAY(A) PCB A1030A50IE(J1)

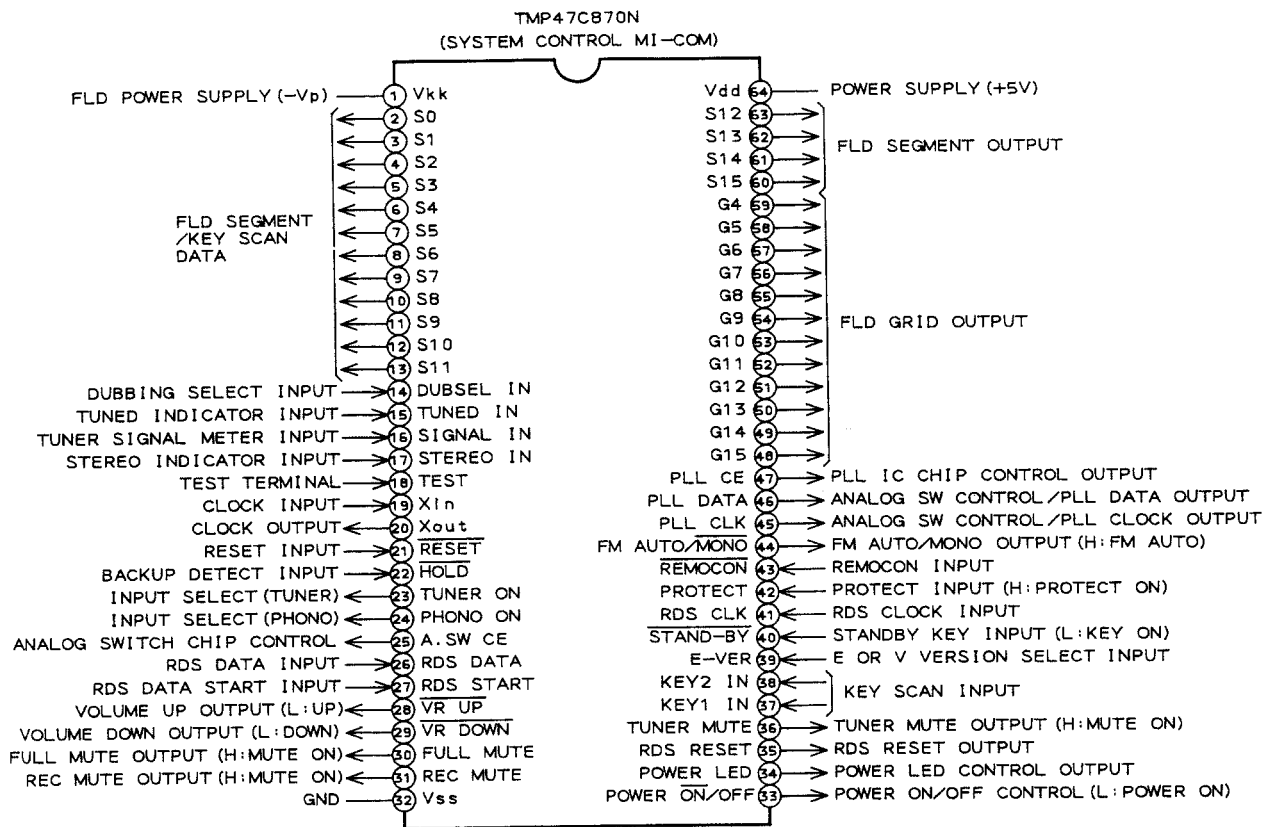
LC7073M (RDS LSI)



SAA6579T (RDS DEMODULATOR)

PIN No	PORT NAME	I/O	FUNCTION
1	QUAL	O	QUALITY INDICATION OUTPUT
2	RDDA	O	RDS DATA OUTPUT
3	VREF	—	REFERENCE VOLTAGE OUTPUT
4	MUX	I	MULTIPLEX SIGNAL INPUT
5	VDD	—	+5 V SUPPLY VOLTAGE FOR ANALOG PART
6	VSS	—	GND FOR ANALOG PART
7	CIN	I	SUBCARRIER INPUT TO COMPARATOR
8	SCOUT	O	SUBCARRIER OUTPUT OF RECONSTRUCTION FILTER
9	MODE	I	OSCILLATOR MODE / TEST CONTROL INPUT
10	TEST	I	TEST ENABLE INPUT
11	VSS	—	GND FOR DIGITAL PART
12	VDD	—	+5 V SUPPLY VOLTAGE FOR DIGITAL PART
13	OSC1	I	OSCILLATOR INPUT
14	OSC0	O	OSCILLATOR OUTPUT
15	T57	O	57 kHz CLOCK SIGNAL OUTPUT
16	RDCL	O	RDS CLOCK OUTPUT

TMP47C870N (SYSTEM CONTROL MI-COM)





## ABBREVIATIONS (TUNER)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AFC	Auto Frequency Control	MEMO	MEMOry
AGC	Auto Gain Control	MI-COM	Micro-COMputer
ALC	Auto Level Control	MIN	MINimum
AM	Amplitude Modulation	MIX	MIXing
AMP	AMPlifier	MPX	Multi pleX
ANT	ANTenna	MW	Medium Wave (frequency)
BATT	BATTery	NC	No Connection
BLK	BLock	NFB	Negative Feed Back
BUFF	BUFFer	OSC	OSCillator
COMP	COMPalator	PCB	Printed Circuit Board
DET	DETECT (DETECTor)	PLL	Phase Locked Loop
FLD	FLuorescent Display	Q.D	Quadrature Detector
FM	Frequency Modulation	Rch	Right channel
FREQ	FREQuency	REF	REFerence
GND	GrouND	REG	REGulator
H	Hight	RF	Radio Frequency
HPF	Hight Pass Filter	SEG	SEGment
IF	Intermediate Frequency	SELE	SELEctor
IHF	Institut of High Fidelity	SENS	SENSitivity
IND	INDicator	SIG	SIGnal
I/O	In/Out	S/N	Signal to Noise Ratio
JW	Jumper Wire	SSG	Standard Signal Generator
L	Low	STD	STanDard
LCD	Liquid Crystal Display	SW	SWitch: Short Wave (frequency)
Lch	Left channel	THD	Total Harmonic Distortion
LED	Light Emiting Diode	TP	Test Point
LPF	Low Pass Filter	VCO	Voltage Controlled Cscillator
LW	Long Wave (Frequency)	VR	Variable Resistor
		X'TAL	Crystal

## ABBREVIATIONS (AMPLIFIER)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A	Analog	MC	Moving Coil
AC	Alternating Current	MM	Moving Magnet
AMP	AMPlifier	PCB	Printed Circuit Board
CD	Compact Disc	R	Right
COM	COMmon	REG	REGulator
D	Digital	REC	RECORD
D/A	Digital to Analog	TR	TRansistor
DAC	Digital to Analog Converter	SW	SWitch
DAT	Digital Audio Tape recorder	V.AMP	Voltage AMPlifier
DC	Direct Current	V.DISC	Video DISC
GND	GrouND	VR	Variable Resistance
L	Left	VTR	Video Tape Recorder
LED	Light Emitting Diode		

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