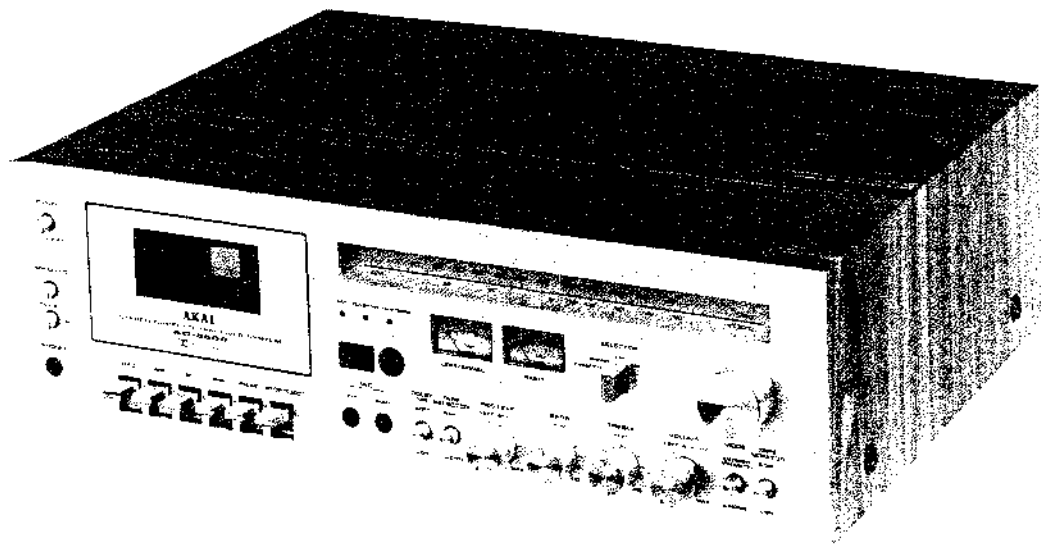
SERVICE MANUAL
PARTS LIST

MODEL AC-3500

AKAI

ALSO APPLICABLE TO MODEL AC-3500L



AKAI STEREO HIFI COMPACTS

MODEL AC-3500

SECTION 1

SERVICE MANUAL

TABLE OF CONTENTS

For basic adjustments, measuring methods, and operating principles, refer to GENERAL OPERATING PRINCIPLES AND ADJUSTMENTS.

I. TECHNICAL DATA

RECEIVER SECTION

(Amplifier)

POWER OUTPUT	25 watts per channel, min. RMS at 8 ohms from 40 to 20,000 Hz with no more than 0.5% T.H.D.
POWER BANDWIDTH (IHF)	10 Hz to 40 kHz/8 ohms (T.H.D: 0.5%)
SIGNAL TO NOISE RATIO (IHF)	PHONO: Better than 75 dB TAPE MONITOR: Better than 90 dB
CHANNEL SEPARATION (IHF)	PHONO: Better than 50 dB at 1 kHz
DAMPING FACTOR	More than 30 (1 kHz, 8 ohms)
OUTPUT SPEAKER HEADPHONES	A, B (4 to 16 ohms)/A+B (8 to 16 ohms) 4 to 16 ohms
INPUT SENSITIVITY/IMPEDANCE	PHONO: 3 mV/50 kohms TAPE MONITOR: PIN; 150 mV/100 kohms DIN; 150 mV/100 kohms
OUTPUT LEVEL/IMPEDANCE	TAPE REC: PIN; 150 mV/100 kohms DIN; 30 mV/180 kohms
FREQUENCY RESPONSE	PHONO (RIAA): 30 Hz to 15 kHz ±1 dB TAPE MONITOR: 10 Hz to 70 kHz +0/−2 dB
TONE CONTROL	BASS: ±10 dB at 100 Hz TREBLE: ±10 dB at 10 kHz

(Tuner)

FM

FREQUENCY RANGE	88 MHz to 108 MHz
SENSITIVITY (IHF)	1.9 μV
CAPTURE RATIO	1.5 dB
SELECTIVITY (IHF)	More than 50 dB
STEREO SEPARATION	More than 35 dB at 1 kHz
SIGNAL TO NOISE RATIO	65 dB
HARMONIC DISTORTION	MONO: Less than 0.3%, STEREO: Less than 0.7%
IMAGE REJECTION	More than 65 dB
IF REJECTION	More than 90 dB
SPURIOUS REJECTION	More than 90 dB
AM SUPPRESSION	45 dB
MUTING	Switchable to ON-OFF
ANTENNA INPUT IMPEDANCE	300 ohms balanced, 75 ohms unbalanced

MW

FREQUENCY RANGE	520 kHz to 1,605 kHz
SENSITIVITY (IHF)	180 μV/m (Bar antenna), 10 μV/m (Ext. antenna)

* LW

FREQUENCY RESPONSE	150 kHz to 350 kHz
SENSITIVITY (IHF)	200 μV/m (Bar antenna), 10 μV/m (Ext. antenna)

CASSETTE RECORDER SECTION

TRACK SYSTEM	4 track, 2 channel stereo system
WOW & FLUTTER	0.08% WRMS (NAB), 0.24% (DIN45507)
FREQUENCY RESPONSE	35 to 13 kHz ±3 dB using LN tape 35 to 14 kHz ±3 dB using SA tape
DISTORTION	Less than 1.5% using LN tape (1 kHz/0 VU)
SIGNAL TO NOISE RATIO	51 dB using LN tape (Measured via tape with peak recording level of +3 VU) Dolby N.R. Switch ON: Improves up to 10 dB above 5 kHz
ERASE RATIO	Better than 65 dB
BIAS FREQUENCY	75 kHz
HEADS	(2): One Recording/Playback head, One Erase head
MOTOR	(1): Electronically Speed Controled DC Motor
INPUT SENSITIVITY/IMPEDANCE	MICROPHONE (2): 0.3 mV/2 kohms REQUIRED MICROPHONE IMPEDANCE: 600 ohms

MISCELLENEOUS

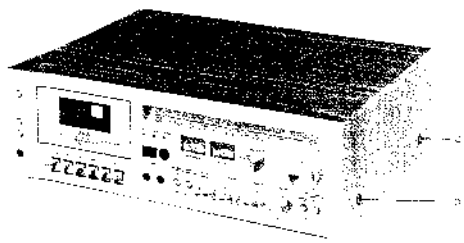
SEMI CONDUCTORS	Transistors: 25, Diodes: 24, ICs: 8, FET: 1
POWER REQUIREMENTS	CSA models: 120V/60 Hz CEE models: 220V/50 Hz Other models: 110/220/240V, 50/60 Hz switchable
DIMENSIONS	500(W) x 157(H) x 400(D)mm (19.7(W) x 6.2(H) x 15.7(D) inches)
WEIGHT	11 kg (24.2 lbs)

Notes:
1. *Applicable to only Model AC-3500L.
2. For improvement purposes, specifications and design are subject to change without notice.
3. Noise reduction circuit made under license from Dolby Laboratories Inc. The word 'DOLBY' and the Double-D symbol are trademarks of Dolby Laboratories Inc.

II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating disassembly, please disassemble in the order shown in photographs. Reassemble in reverse order.

1



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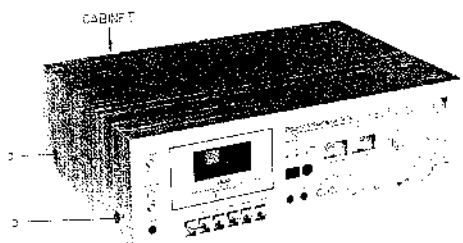

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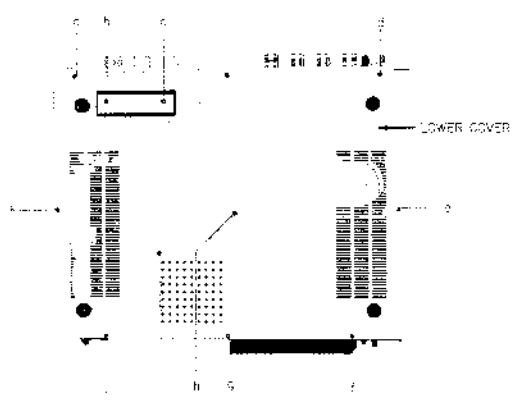

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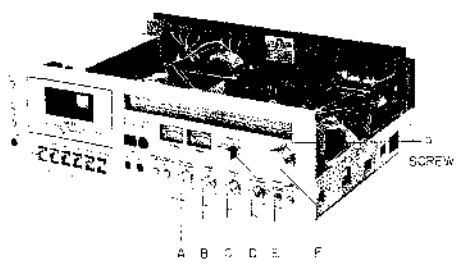

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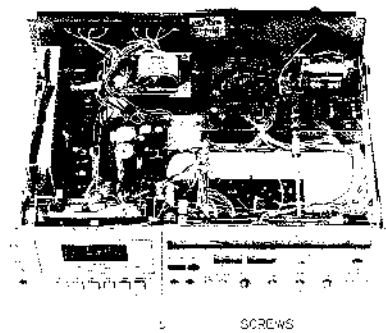

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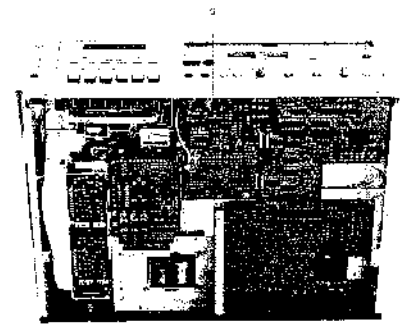

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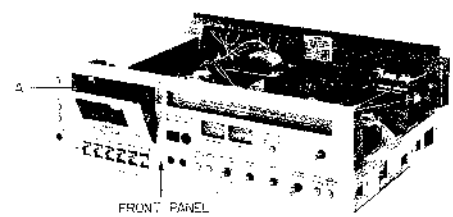

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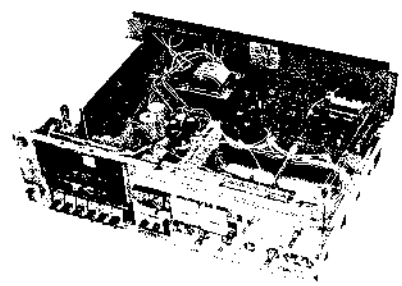


III. CONTROLS

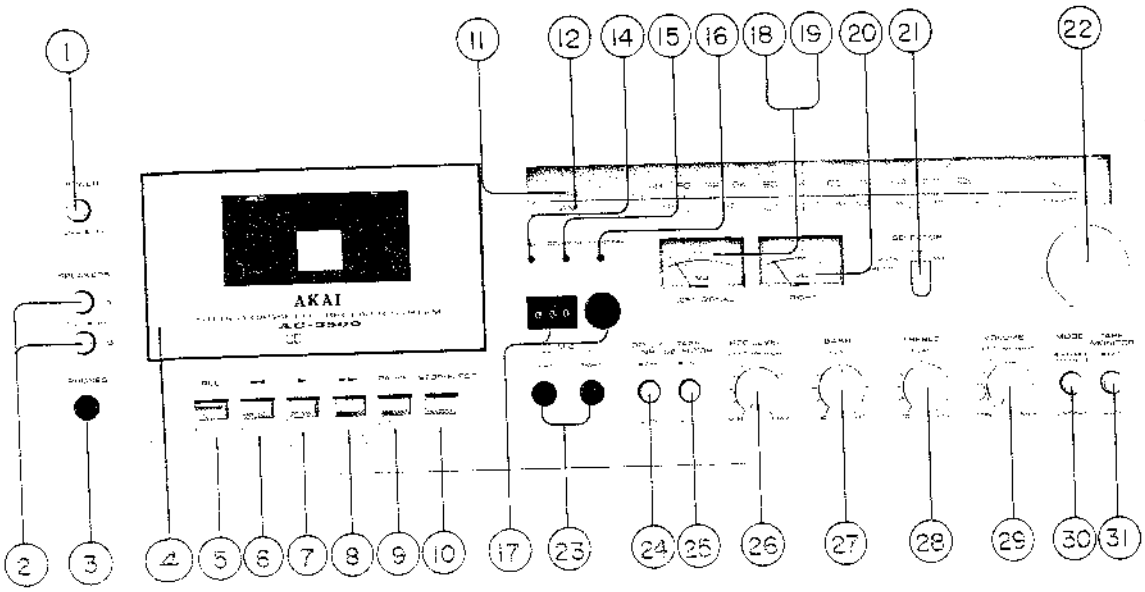


Fig. 1 AC–3500

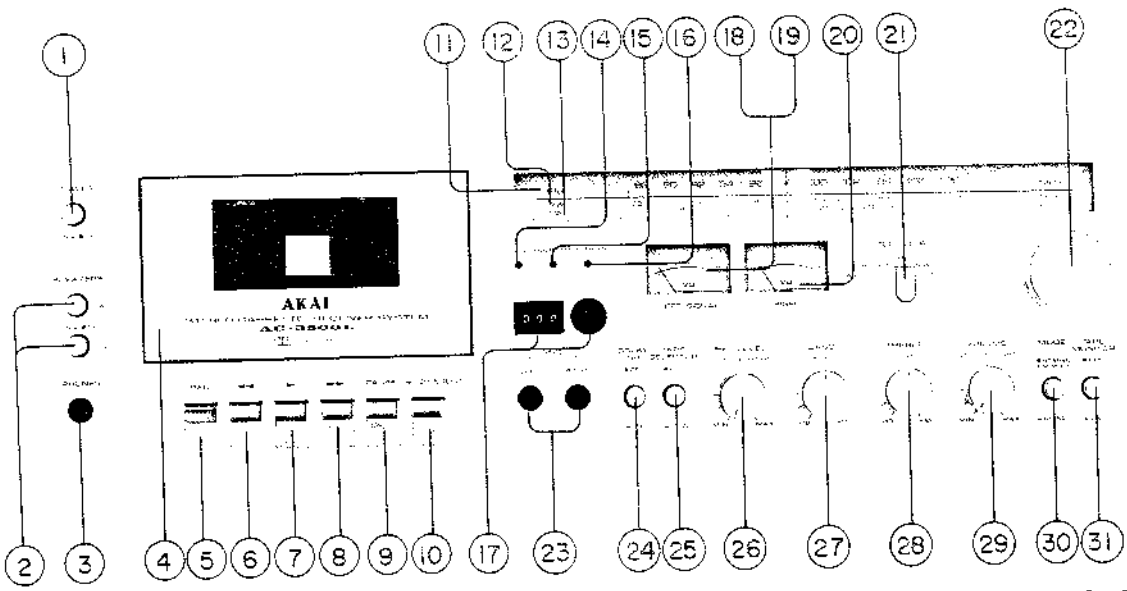


Fig. 2 AC–3500L

1. POWER SWITCH
2. SPEAKER SYSTEM SELECTOR
3. HEADPHONE JACK
4. CASSETTE RECEPTACLE (WITH TAPE VIEW WINDOW)
5. RECORDING (REC) KEY
6. REWIND KEY
7. PLAY KEY
8. FAST FORWARD KEY
9. PAUSE KEY
10. STOP/EJECT KEY
11. FM DIAL SCALE
12. AM DIAL SCALE (MEDIUM WAVE)
13. AM DIAL SCALE (LONG WAVE)
14. RECORDING INDICATOR LAMP
15. DOLBY N.R. INDICATOR LAMP
16. FM STEREO LAMP
17. INDEX COUNTER AND RESET BUTTON
18. FM/AM/LW TUNING METER
19. LEFT VU METER
20. RIGHT VU METER
21. SOURCE SELECTOR
22. TUNING KNOB
23. MICROPHONE JACKS (LEFT AND RIGHT)
24. DOLBY N.R. SWITCH
25. TAPE SELECTOR SWITCHES
26. RIGHT RECORDING CONTROL
    LEFT RECORDING CONTROL
27. BASS CONTROL KNOB
28. TREBLE CONTROL KNOB
29. VOLUME CONTROL (LEFT/RIGHT)
30. MODE SWITCH (FM MUTE SWITCH)
31. TAPE MONITOR SWITCH

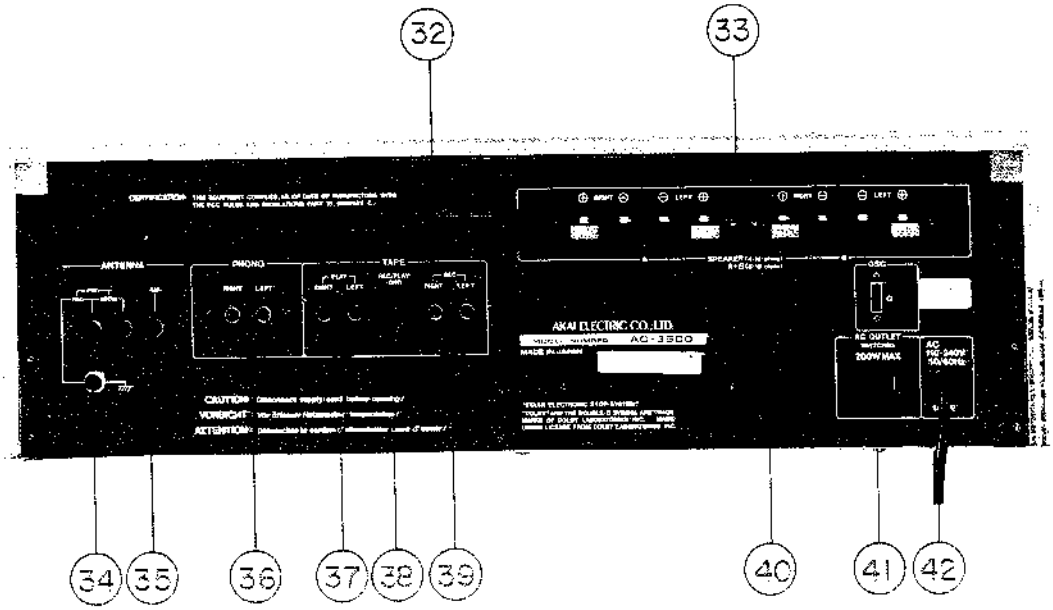


Fig. 3 AC–3500

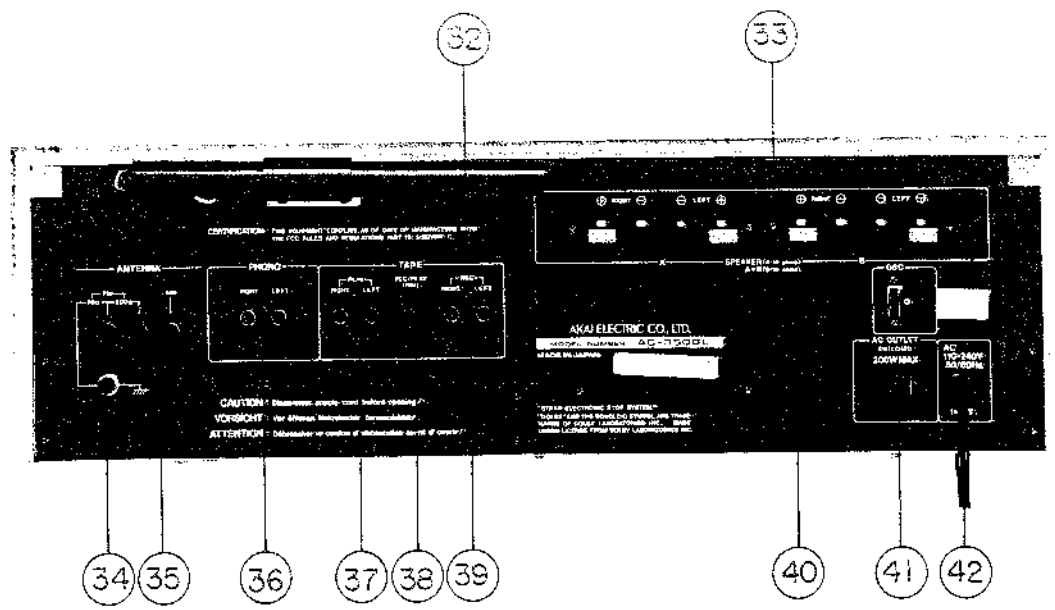


Fig. 4 AC–3500L

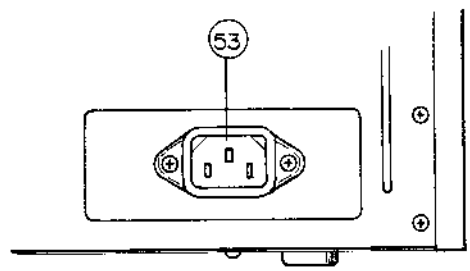


Fig. 5

32. AM FERRITE BAR ANTENNA
33. A AND B SYSTEM SPEAKER TERMINALS
34. AMPLIFIER AND PHONO GROUND TERMINAL
35. ANTENNA TERMINAL
36. PHONO JACK
37. TAPE PLAY JACK
38. TAPE SYSTEM DIN JACK
39. TAPE REC JACK
40. BEAT CUT-OFF SWITCH (OSC)
41. EXTRA AC OUTLET (CEE MODELS NOT EQUIPPED WITH THIS FACILITY)
42. AC CORD
43. AC INLET

IV. PRINCIPAL PARTS LOCATION

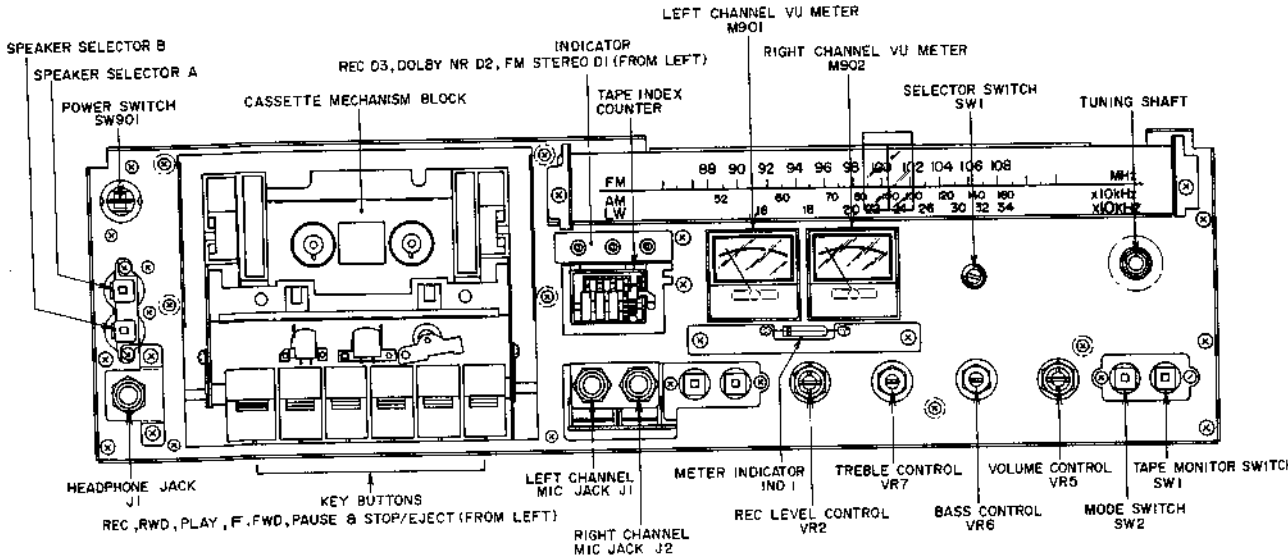


Fig. 6 Front View

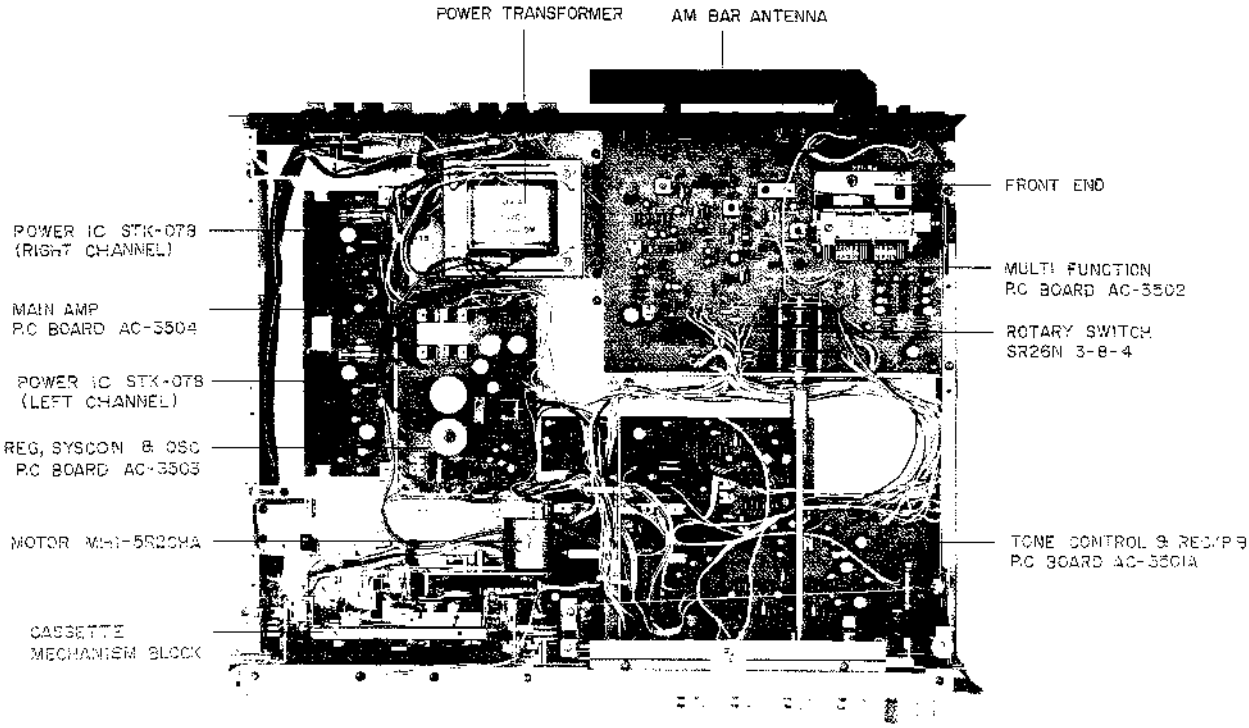


Fig. 7 AC–3500 Top View

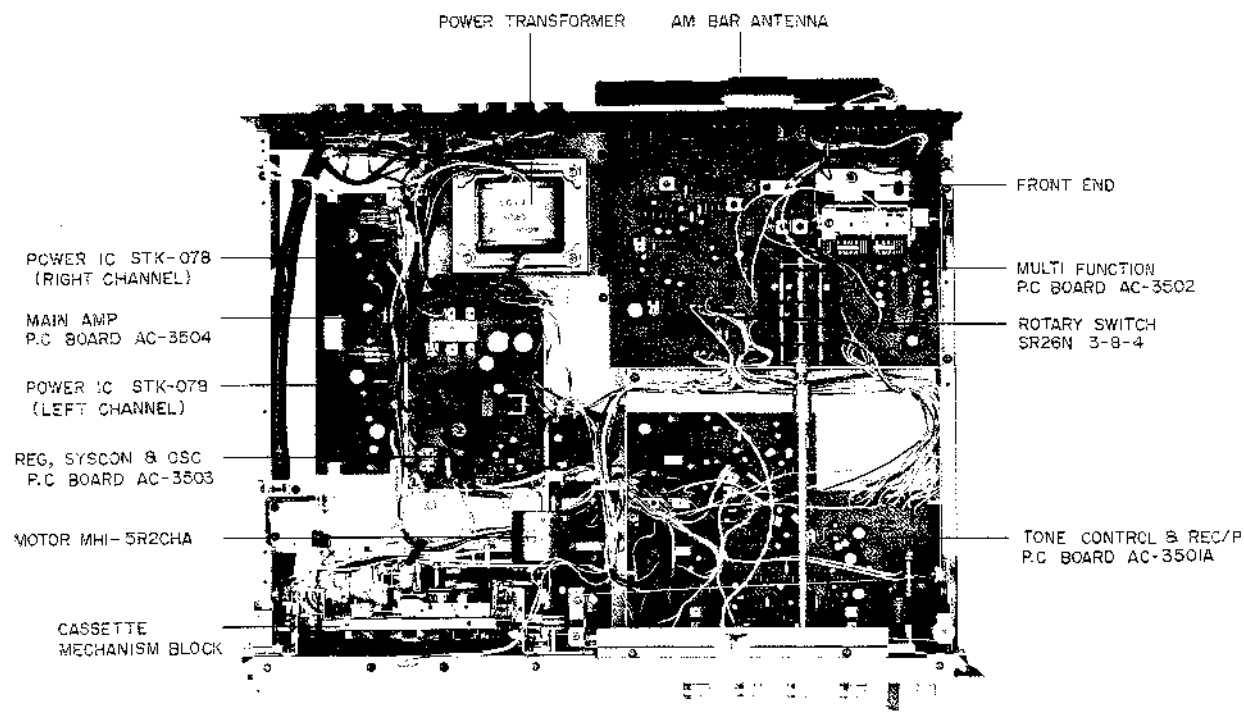


Fig. 8 AC–3500L Top View

V. DIFFERENTIAL PEAK DETECTOR OPERATION

1. CIRCUIT CONFIGURATION

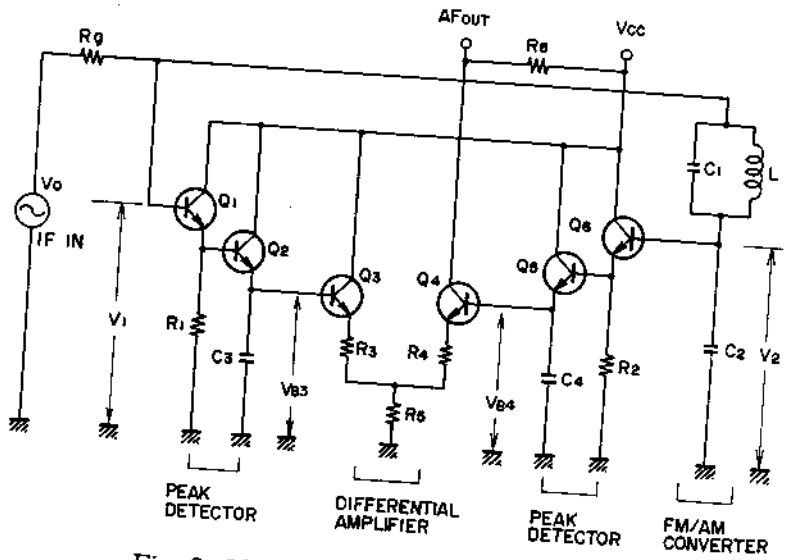


Fig. 9 IC2 (TA7303P) Detector Equivalent Circuit

2. OPERATION

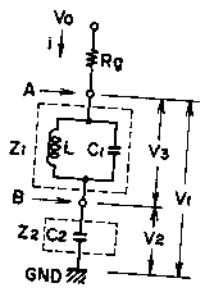


Fig. 10

As shown in Fig. 9, FM Signals of IF output voltage are converted into AM signals due to the resonance frequency characteristics of series resonance in circuit L (constituting an LC circuit) and circuits C_1, C_2 and parallel resonance in circuits L and C_1.

As can be understood in Fig. 10, the circuit impedance is at minimum in the vicinity of series resonance frequency f_L. Thus, the following approximation is obtained:

$$Z_1 + Z_2 \fallingdotseq 0 \quad \cdots\cdots (1)$$

And, circuit current i can be expressed as follows:

$$i = Vo / Rg \quad \cdots\cdots (2)$$

When expressing the voltages across A and B, and across B and GND as V_3 and V_2 respectively, the following are obtained:

$$V_3 = V_1 - V_2 = Z_1 \cdot i \quad \cdots\cdots (3)$$

$$V_2 = Z_2 \cdot i \quad \cdots\cdots (4)$$

Provided that the voltage across A and GND equals V_1, and formula (5) is obtained from (1), (3) and (d).

$$V_1 = (Z_1 + Z_2)i \fallingdotseq 0 \quad \cdots\cdots (5)$$

Therefore, comparing formula (4) and (5), the following is obtained:

$$|V_2| \gg |V_1|$$

As is clear from formula (1), (3) and (4), voltage V_3 across A and B and voltage V_2 across B and GND are equal in amplitude, and out of phase. Accordingly, voltage V_1 across A and GND is cancelled approximately to zero.

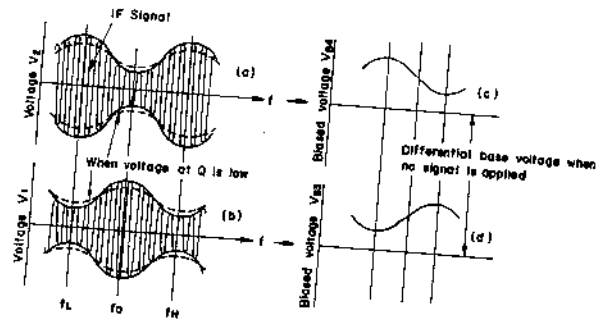


Fig. 11

The circuit is arranged so that voltage V_1 across A and GND and voltage V_2 across B and GND are equal in absolute value, and out of phase when IF frequency is 10.1 MHz (≒fo).

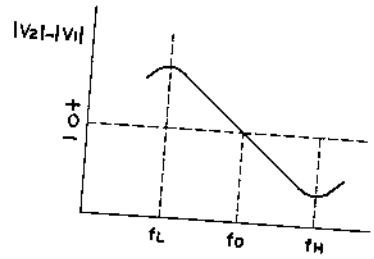


Fig. 12

Because the impedance across A and B is infinity with parallel resonance frequency f_H, voltage V_2 across B and GND is approximately zero V. Thus, the following is obtained.

$$|V_1| \gg |V_2|$$

As explained above, FM signals of IF output pass through the LC series/parallel circuits included in Fig. 9, where their waveforms become as shown in Fig. 11 (a) and (b), while the signals are converted into AM signals.

The AM signals converted are then fed the bases of transistors Q_2 and Q_5 through the emitter-followers of transistors Q_1 and Q_2 as indicated in Fig. 9.

Capacitors C_3 and C_4 in circuits Q_2 and Q_5 eliminate IF signals, and detect the peak signals thereby providing waveforms like those shown in Fig. 11 (c) and (d).

They are then fed to the bases of transistors Q_3 and Q_4 included in the differential amplifier circuit, which amplifies the signals. A band width is specified for the differential circuit and, when inputs such as shown in Fig. 11 (c) and (d) are applied to the bases of transistors Q_3 and Q_4, the amplifier output exhibits S-curve characteristics as shown in Fig. 12.

As the S-curve in Fig.12 becomes sharper, the output becomes saturated at a frequency nearer to fo, thus permitting the band width to be narrower and providing a larger detection output.

VI. LEVEL DIAGRAM

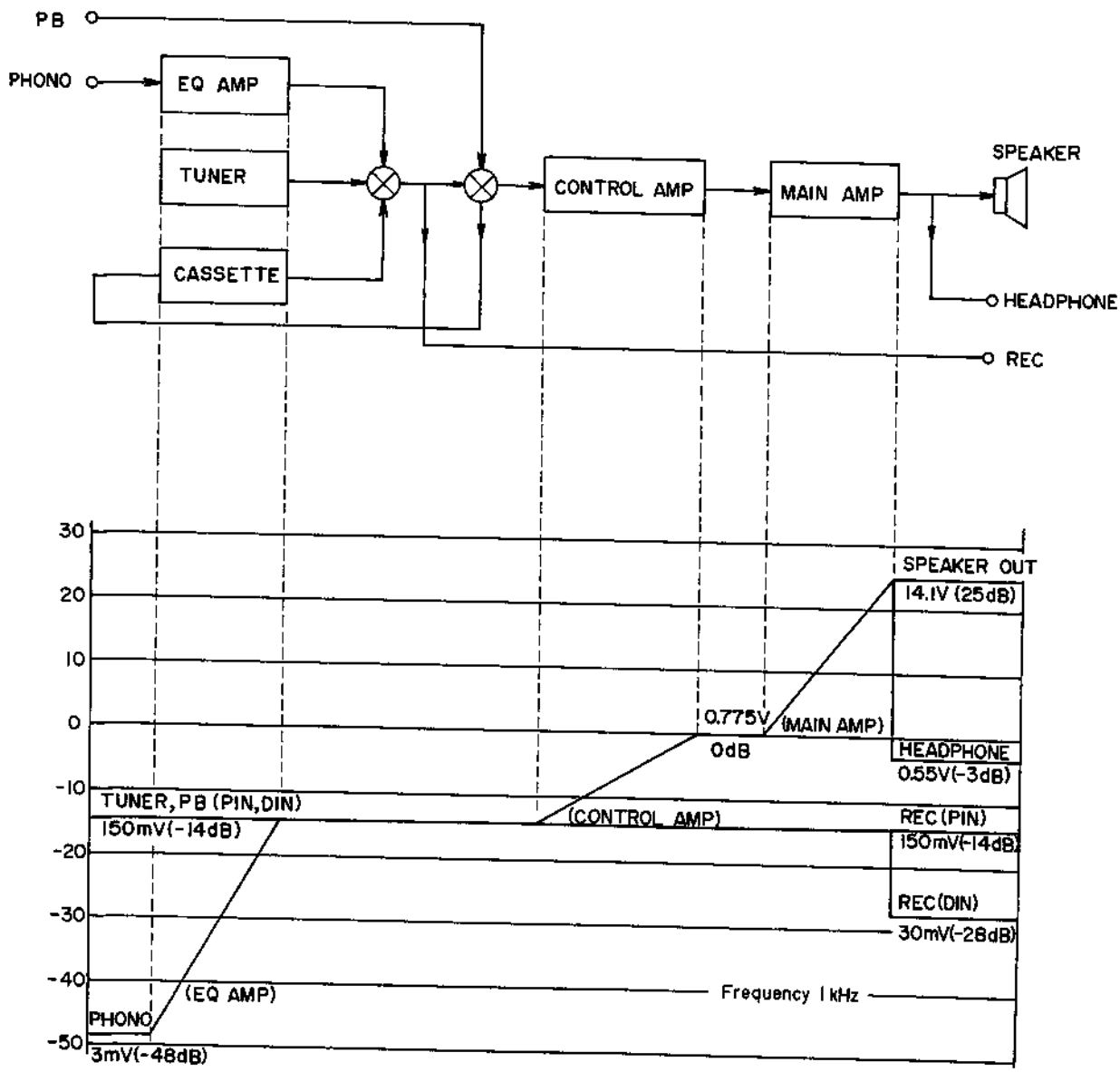


Fig. 13 Level Diagram of Model AC–3500/L

VII. TUNER ADJUSTMENT

1. MODEL AC–3500 TUNER ADJUSTMENT

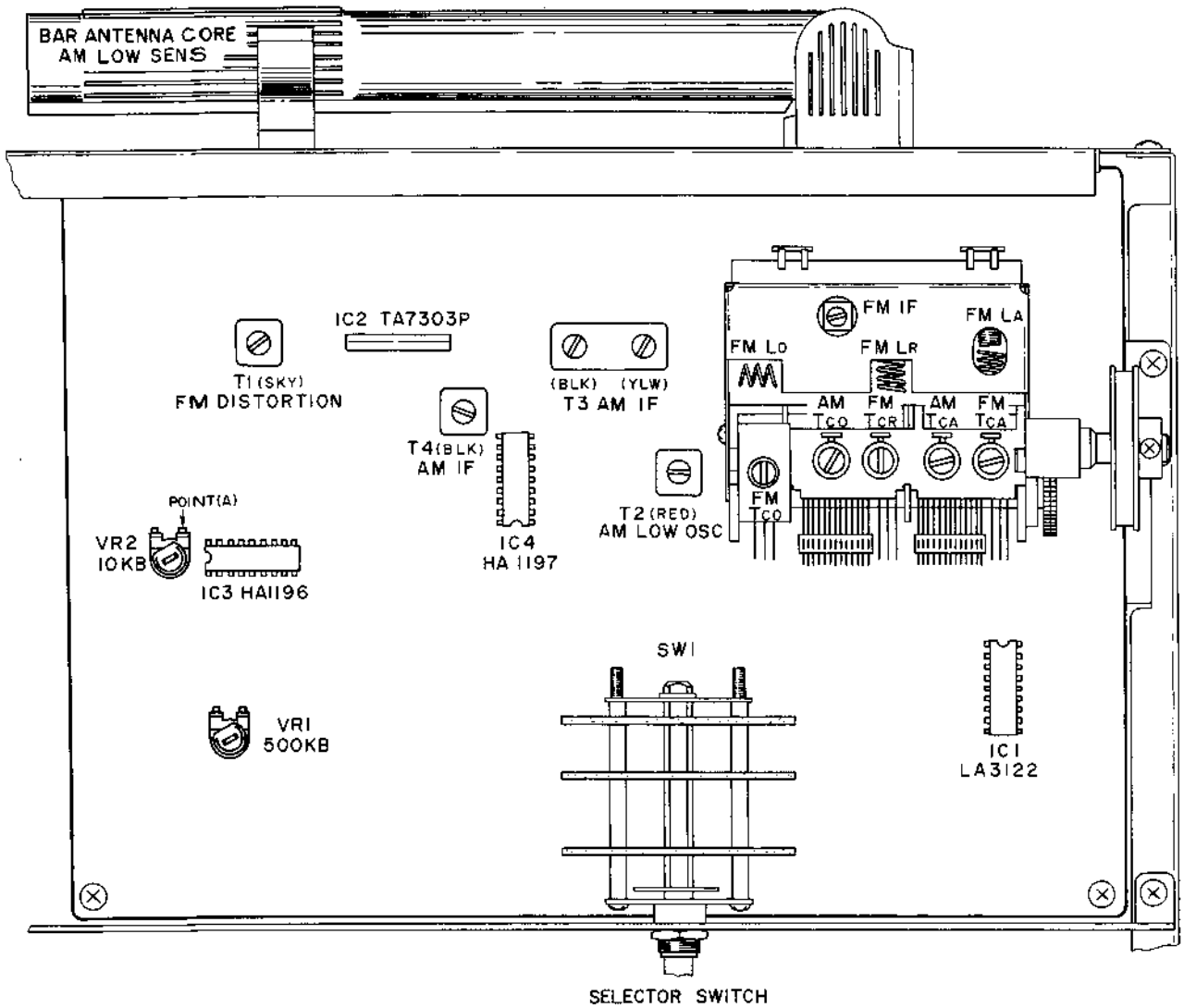


Fig. 14 Tuner Adjustment

1) FM SECTION ADJUSTMENT (Refer to Fig. 14)

Step	Adjustment Item	Adjustment Point	Result	Remarks
1	Front end IF coil	IF coil (Front end)	Maximum noise level	SELECTOR to "FM". MODE to "MONO". Set dial to where there is no broadcast signal.
2	High range scale indication	FM Tco condenser (Front end)		108 MHz, 60 dB (mono) input. TUNING INDICATOR to 108 MHz. Error: ±250 kHz
3	Confirmation of low range indication			88 MHz, 60 dB (mono) input. TUNING INDICATOR to 88 MHz. Error: ±250 kHz. (See Note 1)
4	High range sensitivity	FM TCA, TCR trimmer condensers (Front end)	Less than 3% distortion factor	108 MHz, 14 dB (mono) input
5	Confirmation of low range sensitivity		Less than 3% distortion factor	88 MHz, 14 dB (mono) input (See Note 2)
6	Distortion factor	T1 (SKY core)	Less than 0.5% distortion factor	98 MHz, 60 dB (mono) input (See Note 3)
7	PLL free running frequency	VR2 10 kB (AC-3502)	76.00 kHz	Prepare frequency counter, and then connect 1/4W 100 kohms resistor between frequency counter and point "A" of Multi function P.C Board (AC-3502). MODE SW. to "STEREO (FM MUTE)".
8	Stereo indicator lighting confirmation		Stereo indicator (IND 1) lights	98 MHz, 60 dB (stereo) input. No stereo separation when stereo indicator does not light.
9	Stereo separation (Left channel)	VR1 500 kB (AC-3502)	More than 35 dB	98 MHz, 60 dB (stereo) right channel input. Less than 0.7% distortion factor. (See Note 3)
10	Stereo separation (Right channel)		More than 35 dB	98 MHz, 60 dB (stereo) left channel input. Less than 0.7% distortion factor. (See Note 3)
11	Confirmation of signal meter indication		Around 3 indication	98 MHz, 100 dB (mono) input

Chart 1

Notes:
1. When the low range indication error does not fall within the specified data, adjust the Front End local oscillator coil Lo's coil pitch and repeat adjustments in Steps 2 and 3.
2. When the specified sensitivity of 14 dB cannot be obtained at three frequency points of 88 MHz, 98 MHz, and 108 MHz, repeat adjustment in Step 4.
3. When the distortion factor or the stereo separation still do not comply with the data specifications, adjust by turning the Front End FM IF coil core but not more than 1/2 turn.

1) FM SECTION ADJUSTMENT

FM section adjustment is same as model AC-3500.

2) LW SECTION ADJUSTMENT (Refer to Fig. 15)

Step	Adjustment Item	Adjustment Point	Result	Remarks
1	Low range scale indication	T5 (GRN) LW OSC coil	Maximum output	Selector SW. to "LW". 160 kHz optional input.
2	Low range sensitivity	Bar antenna coil. T3 (YLW,BLK core). T4 (BLK core) (AC-3502).	Maximum output minimum distortion factor	160 kHz optional input
3	High range scale indication	Tc2b LW OSC trimmer	Maximum output	340 kHz optional input
4	High range sensitivity	Tc1b LW antenna trimmer	Maximum output, minimum distortion factor	340 kHz optional input

Chart 3

3) MW SECTION ADJUSTMENT (Refer to Fig. 15)

Step	Adjustment Item	Adjustment Point	Result	Remarks
1	Low range scale indication	T2 (RED core) MW OSC coil (AC-3502)	Maximum output	Selector SW. to "AM". 520 kHz, 50 dB input. Tuning indicator to 600 kHz. Error within 2%.
2	Low range sensitivity	Bar antenna MW core (Rear panel)	Maximum output, minimum distortion factor.	520 kHz, 50 dB input. Less than 10% distortion factor.
3	High range scale indication	Tc2a MW OSC trimmer (AC-3502)	Maximum output	1,400 kHz, 50 dB input. Tuning indicator to 1,400 kHz. Error within 2%.
4	High range sensitivity	Tc1a MW antenna trimmer	Maximum output, minimum distortion factor.	1,400 kHz, 50 dB input. Less than 10% distortion factor.

Chart 4

VIII. TUNING CORD THREADING

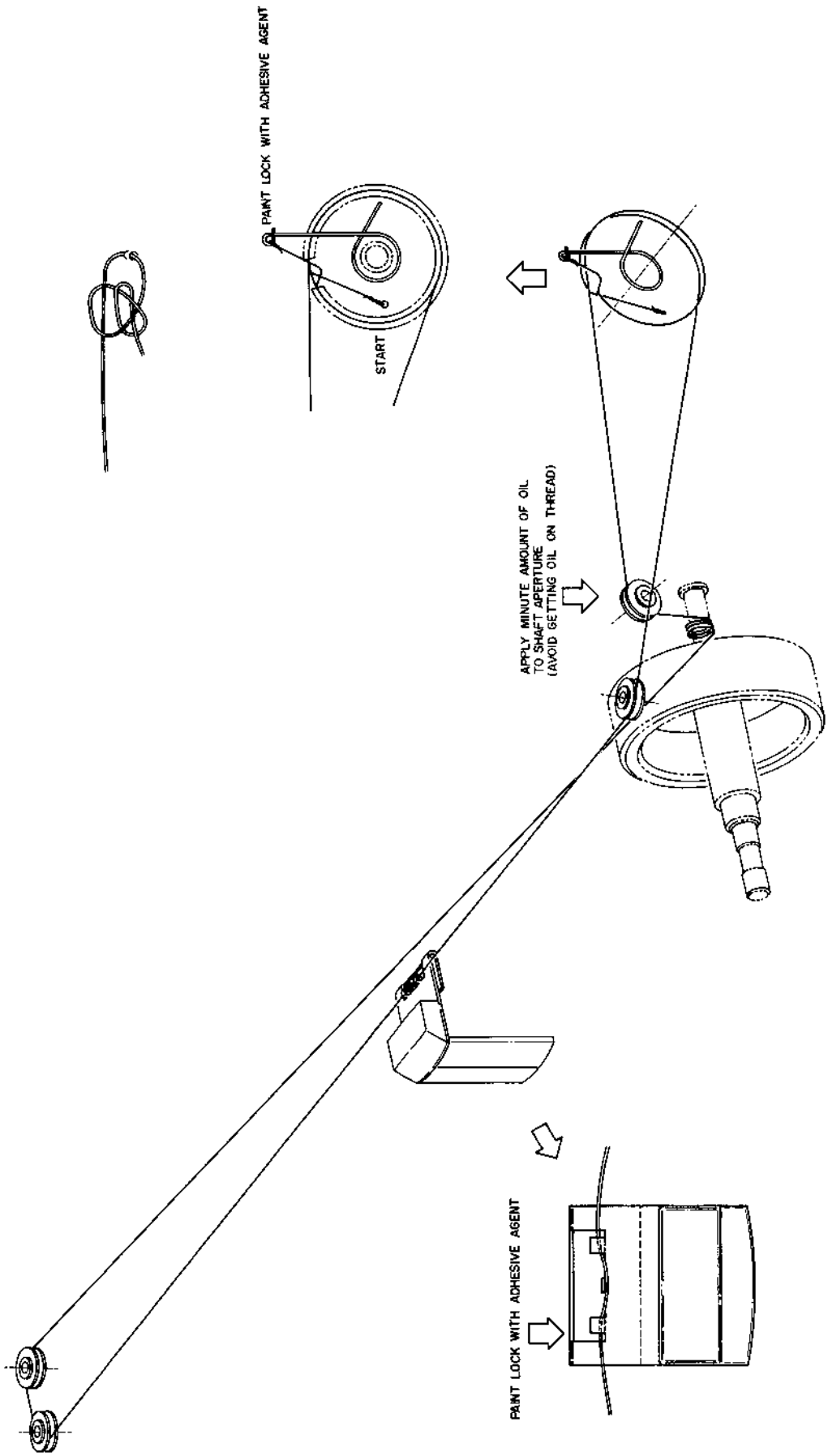


Fig. 16 Tuning Cord Threading

X. CASSETTE RECORDER AMP ADJUSTMENT

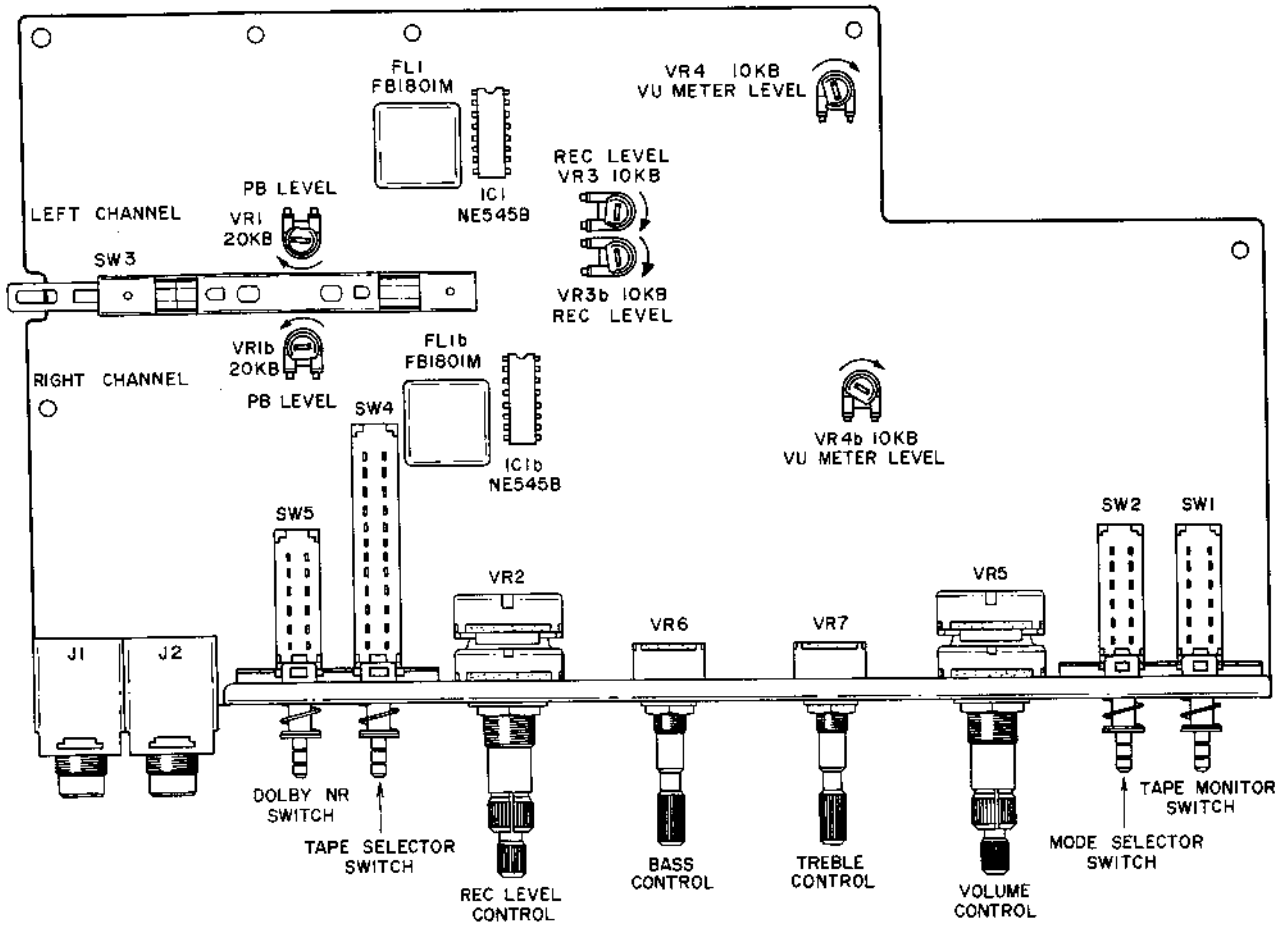


Fig. 23 Tone Control & Rec/PB P.C Board (AC–3501A) Adjustment

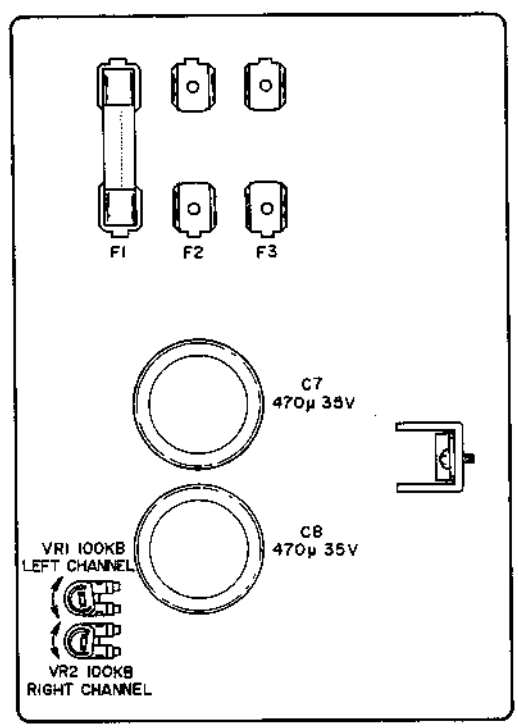


Fig. 24 Power Sys. Con & OSC P.C Board (AC–3503) Adjustment

Step	Adjustment Item	Test Tape, Supply Signal	Mode	Adjustment Point	Result	Remarks
1	Playback level adjustment	333 Hz, 0 VU test tape	PLAY	VR1, 20 kB	−14 ±0.5 dB (150 mV)	
2	VU meter sensitivity adjustment	333 Hz, 0 VU test tape	PLAY	VR4, 10 kB	0 VU indication	
3	Recording level adjustment	Low noise blank tape, 1,000 Hz, 0 VU recording	REC/ PLAY	VR3, 10 kB	−14 ±0.5 dB (150 mV)	Refer to Note 5
4	Frequency response adjustment	Low noise blank tape, 1,000 Hz, 10,000 Hz, −20 VU recording	REC/ PLAY	VR1, 100 kB (LEFT channel) VR2, 100 kB (RIGHT channel)	1,000 Hz to 10,000 Hz flat response	Refer to Note 5

Chart 5

Notes:
1. Connect measuring instruments as shown in Fig. 25.
2. Set Selector SW. to cassette.
3. Set Tape Selector to Low Noise.
4. Set Dolby N.R. Switch to OFF.
5. Set Monitor Switch to TAPE ON.
6. After Recording Level and Frequency Response Adjustments have been made with Low Noise Tape, confirm with Chrome.
7. Because each of these adjustments are vital to perfect Dolby N.R. circuit operation, be sure that they are carried out with as little error as possible.
8. Use the following cassette measuring tape:
   Low Noise Tape: Fuji C–60LN
   Chrome Tape: TDK SA C–60

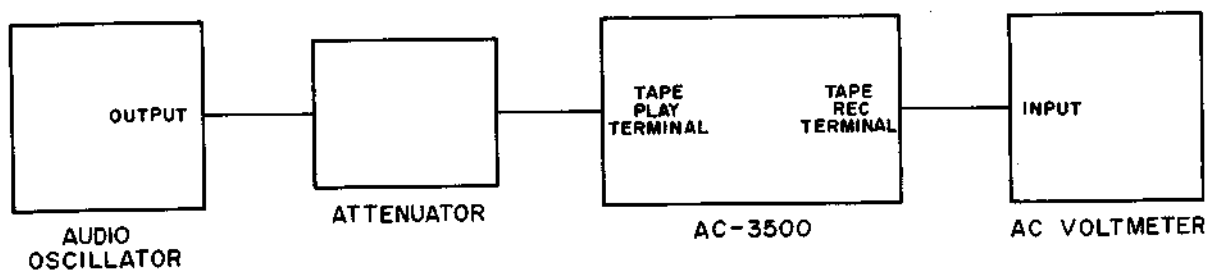
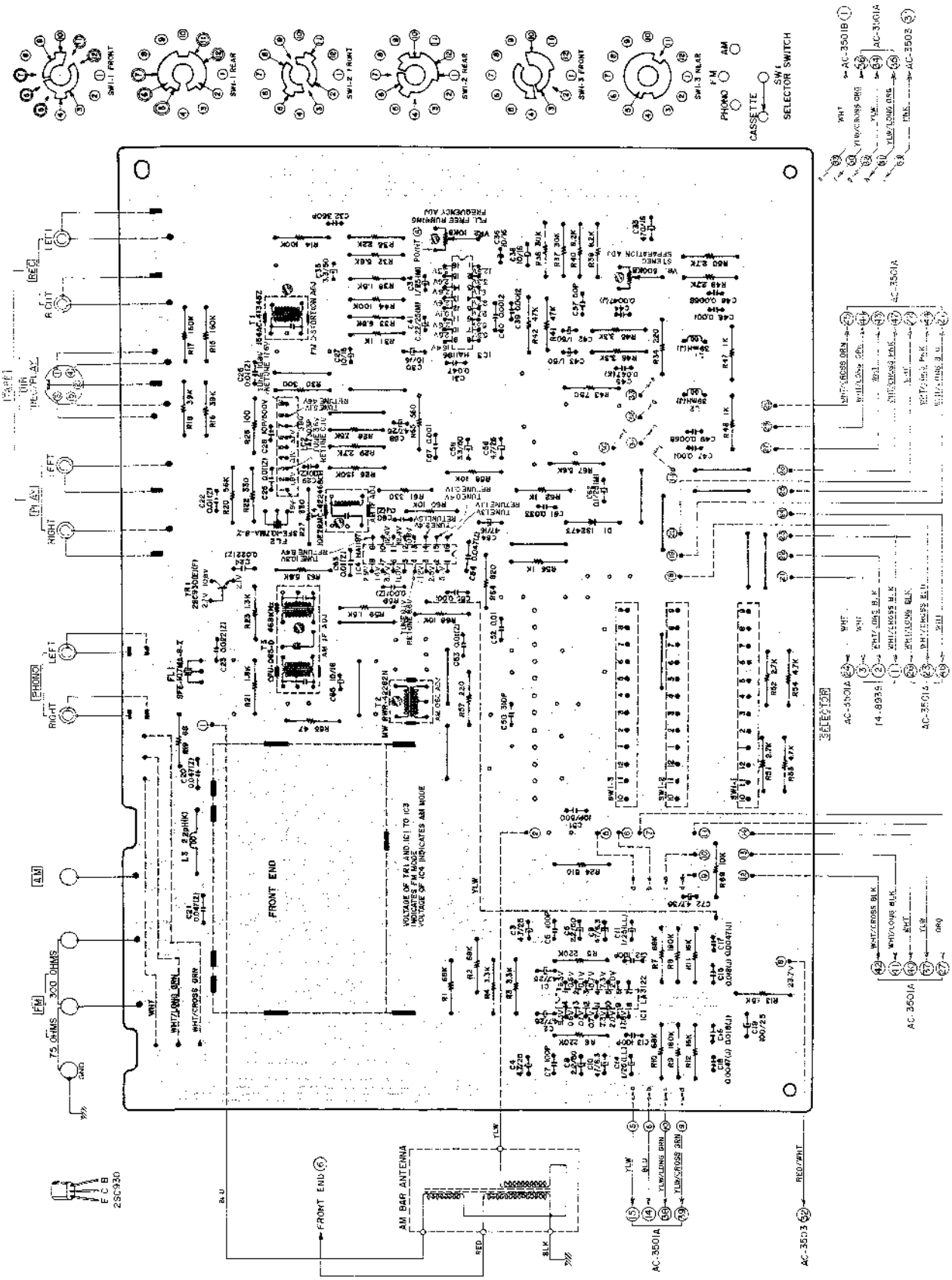
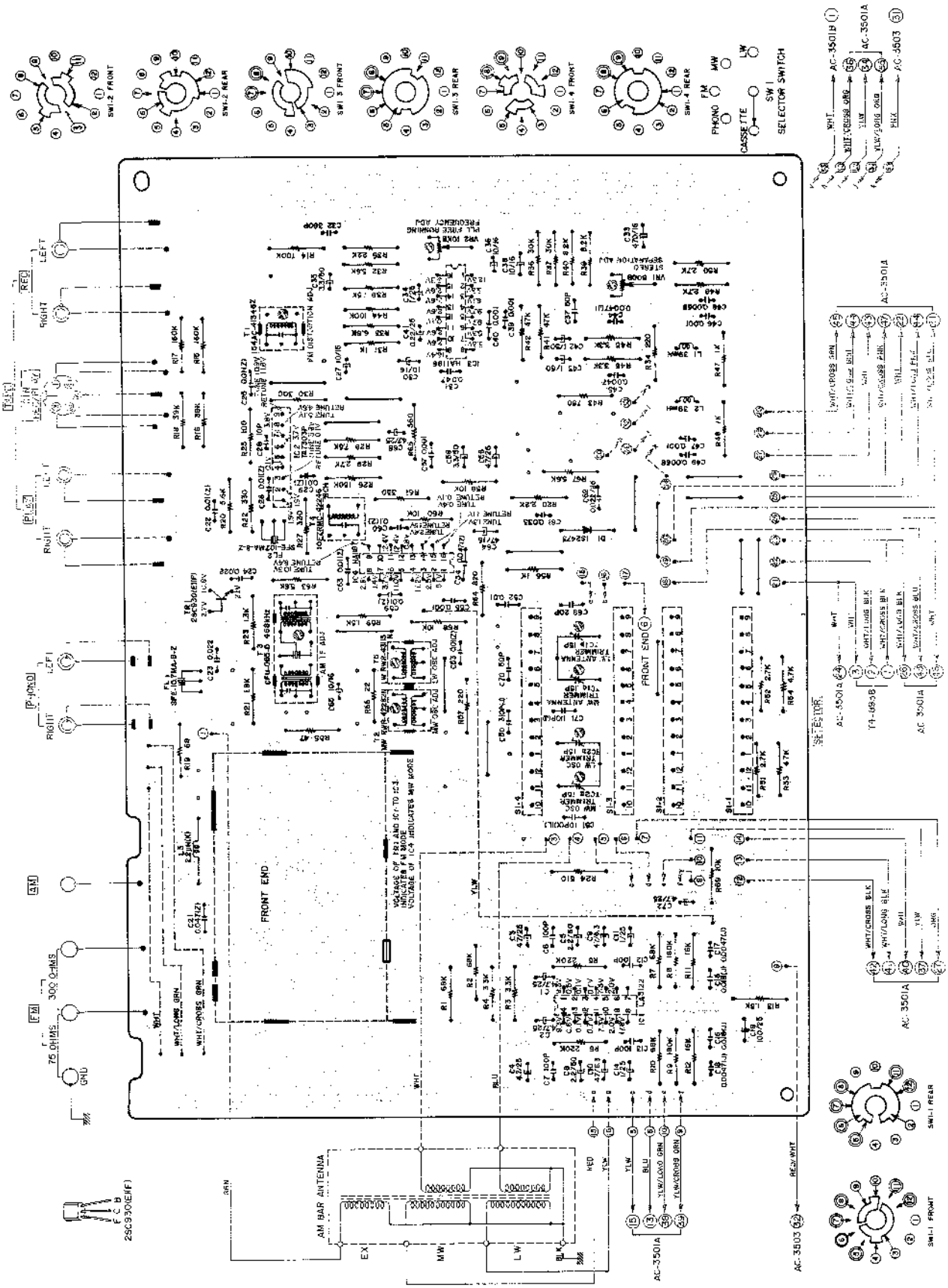


Fig. 25 Measuring Instruments Connection

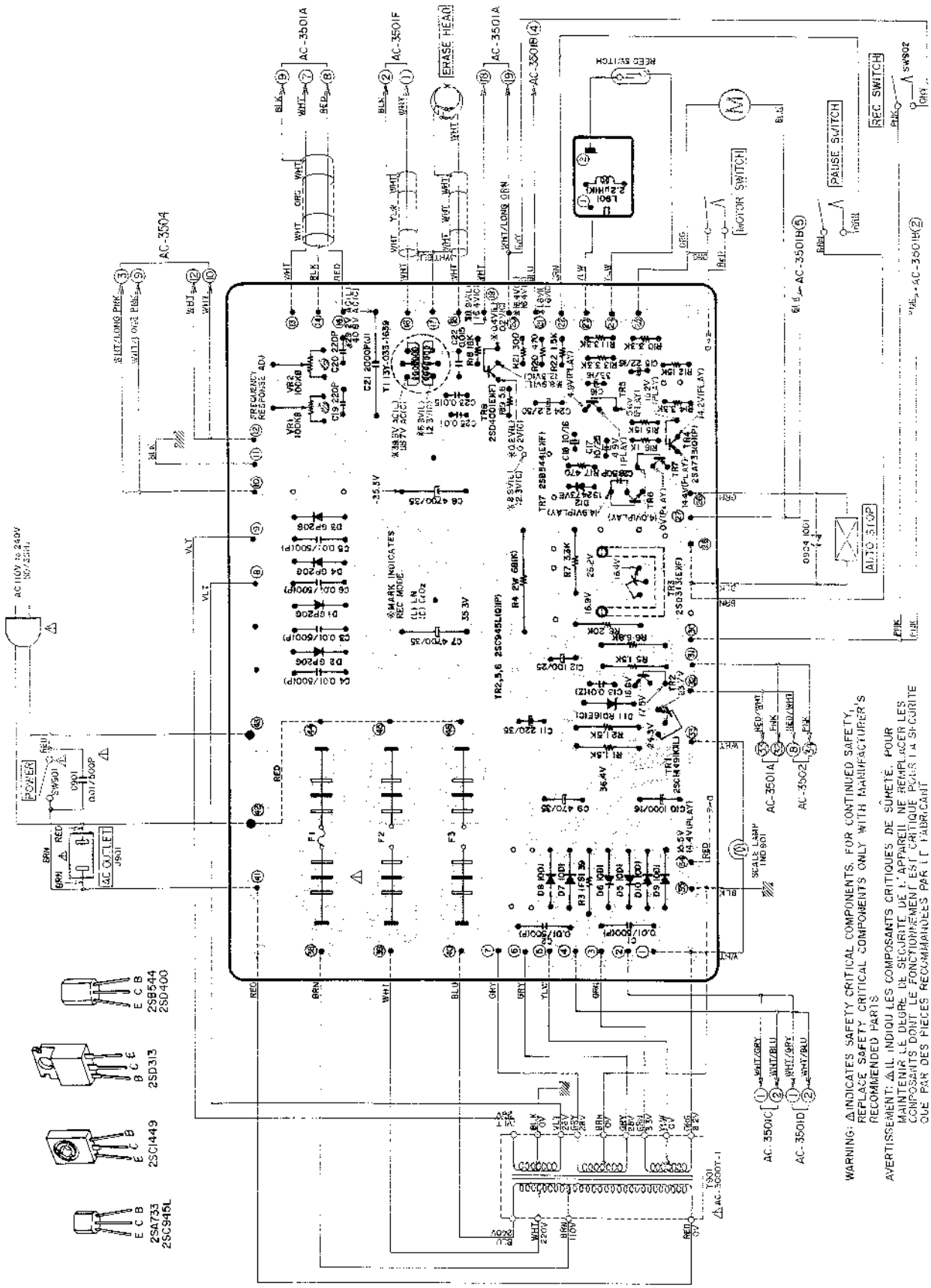
2) MULTI FUNCTION P.C BOARD AC-3502 AC-3500



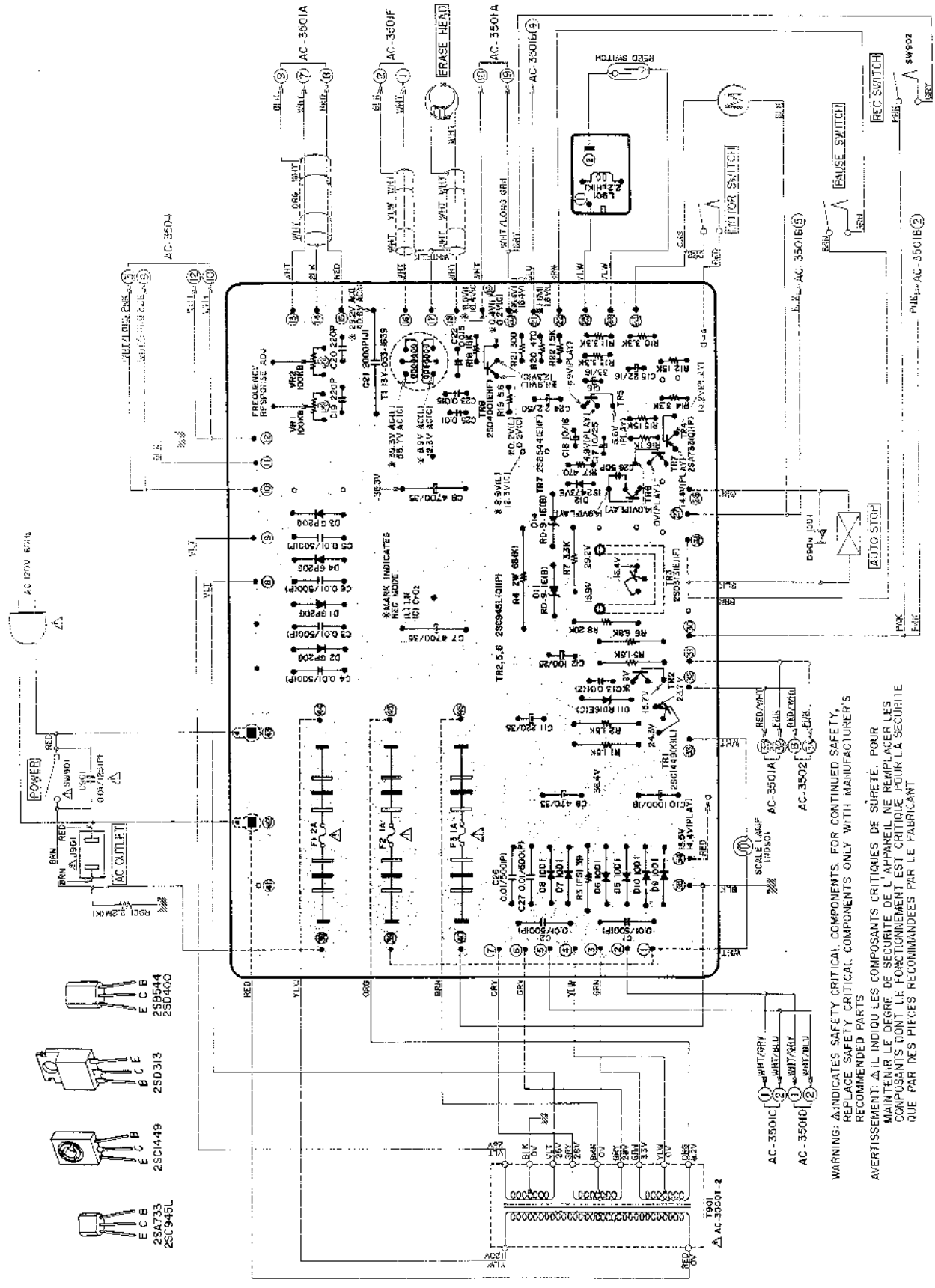
3) MULTI FUNCTION P.C BOARD AC–3502 AC–3500L



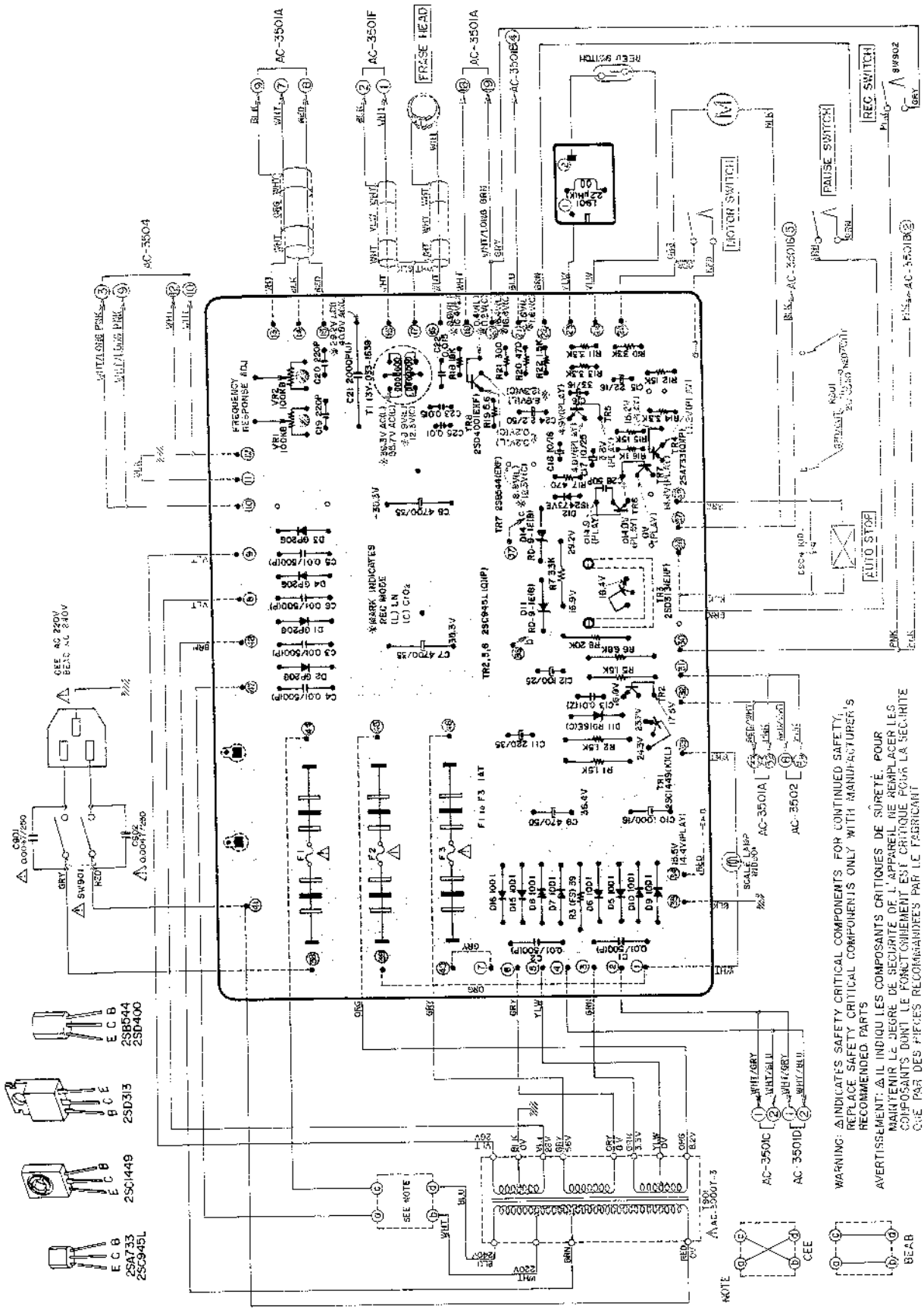
4) POWER, SYS. CON AND OSC P.C BOARD AC-3503 AC-3500/L (U/T TYPE)



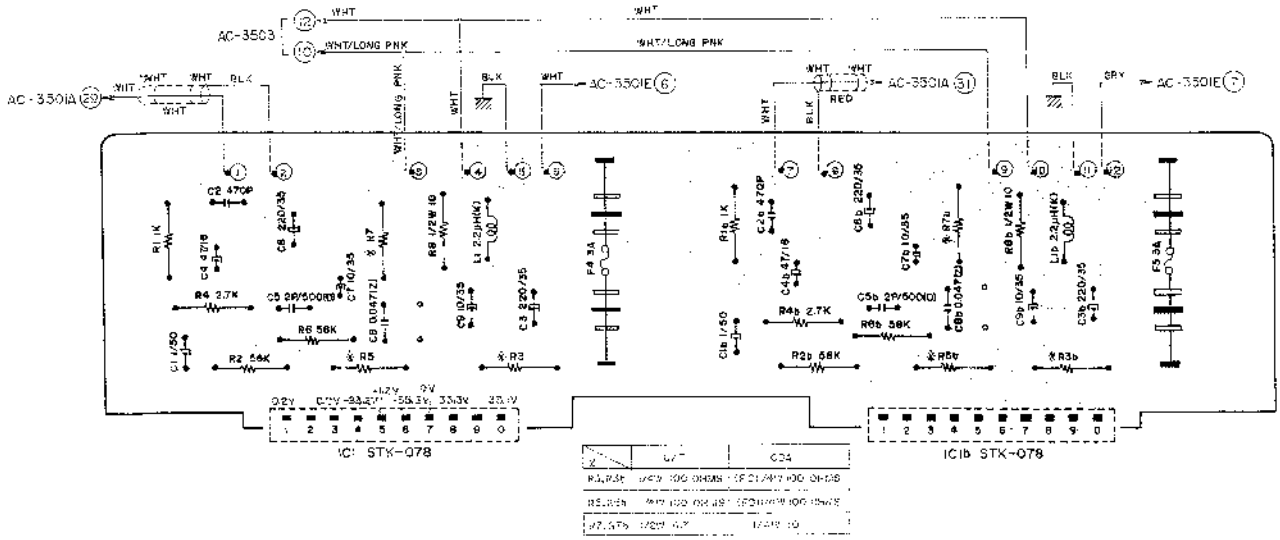
5) POWER, SYS. CON AND OSC P.C BOARD AC–3503 AC–3500 (CSA TYPE)



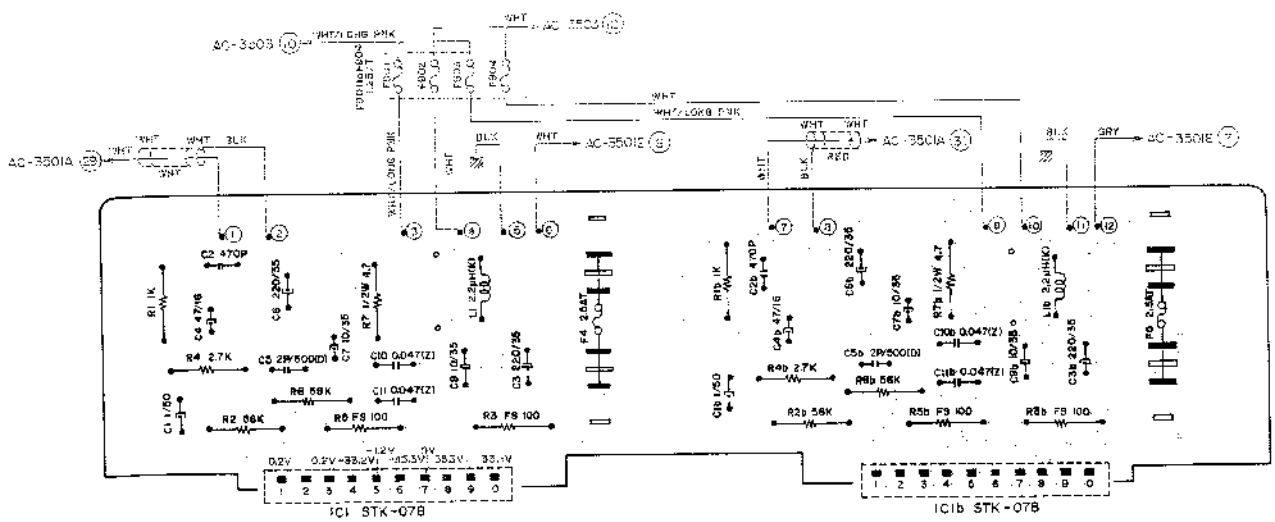
6) POWER, SYS. CON AND OSC P.C BOARD AC–3503 AC–3500L (CEE, BEAB TYPE)



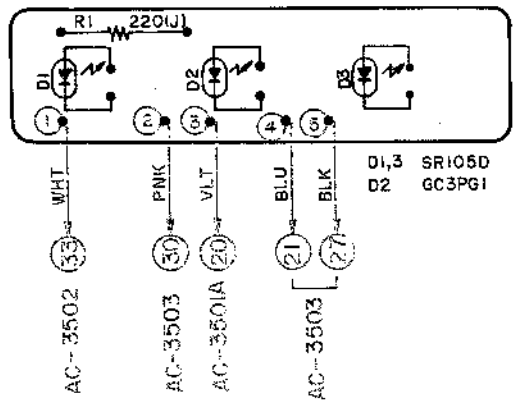
7) MAIN AMP P.C BOARD AC–3504 AC–3500L (U/T TYPE) AC–3500L (CEE, BEAB TYPE)



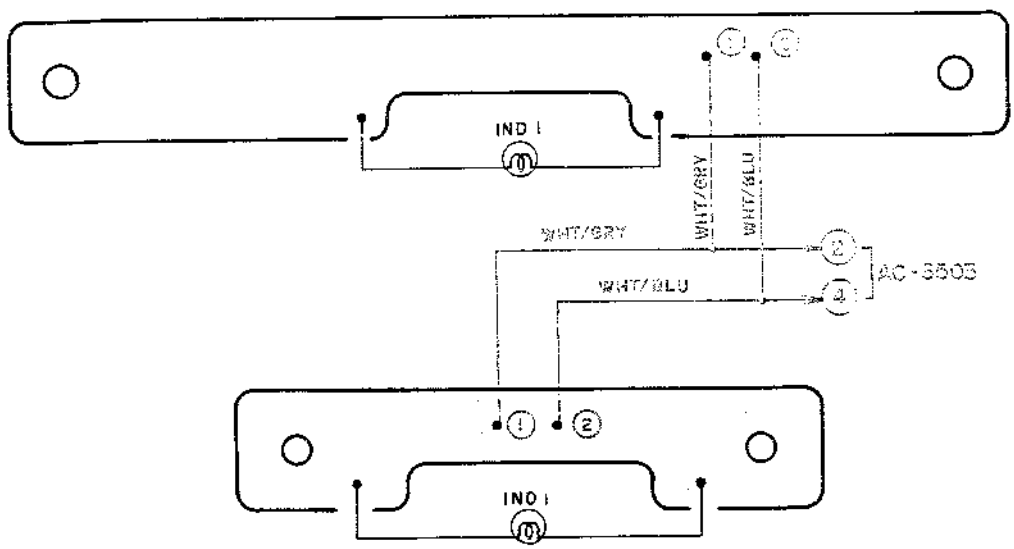
8) MAIN AMP P.C BOARD AC–3504 AC–3500 (CEE, BEAB TYPE)



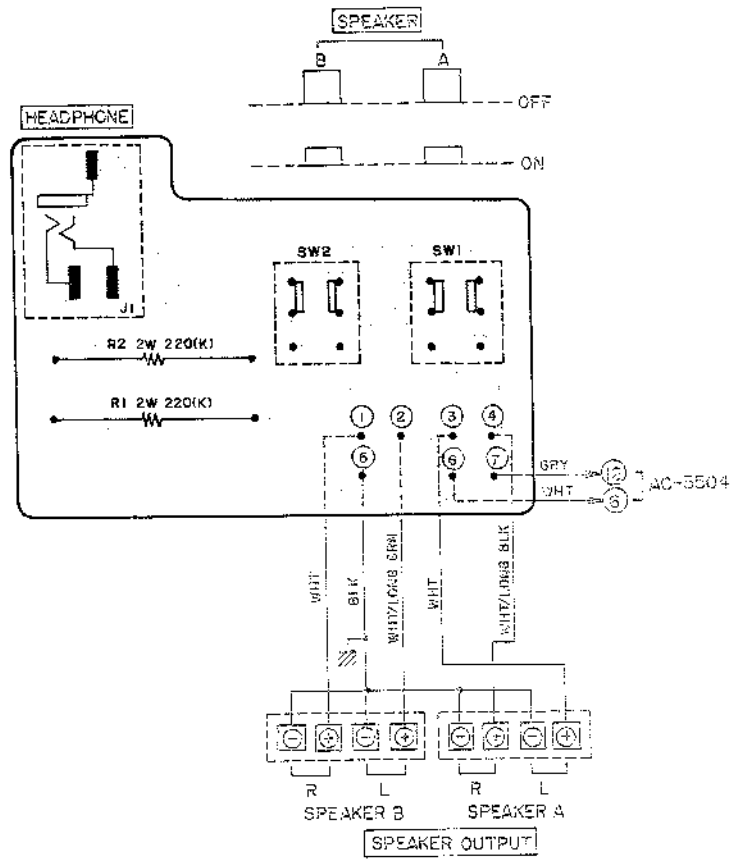
9) LED P.C BOARD AC–3501B AC–3500/L



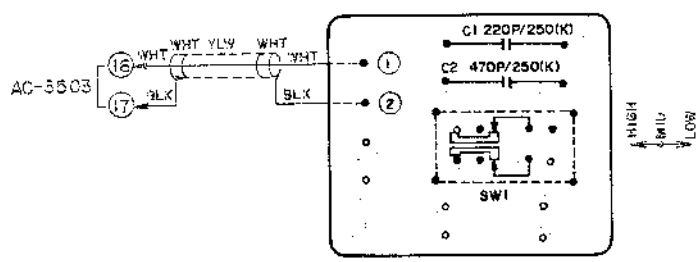
10) LAMP B & A P.C BOARD AC–3501C, AC–3501D AC–3500/L



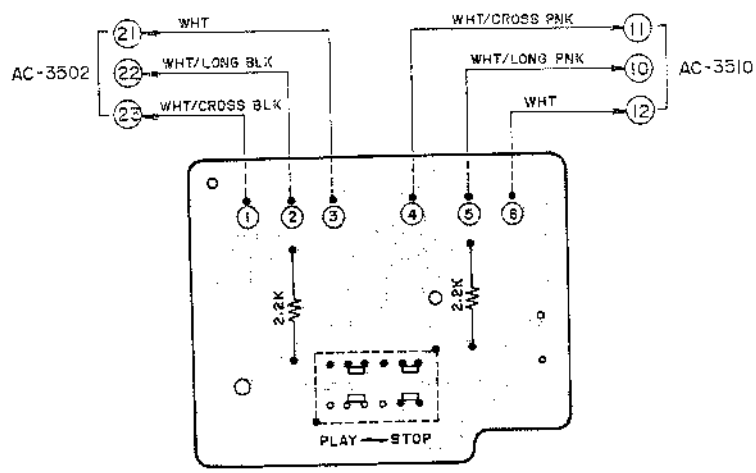
11) HEADPHONE P.C BOARD AC-3501E AC-3500/L



12) BEAT SWITCH P.C BOARD AC-3501F AC-3500/L



13) MUTE SWITCH P.C BOARD T4-8938 AC-3500/L



SECTION 2

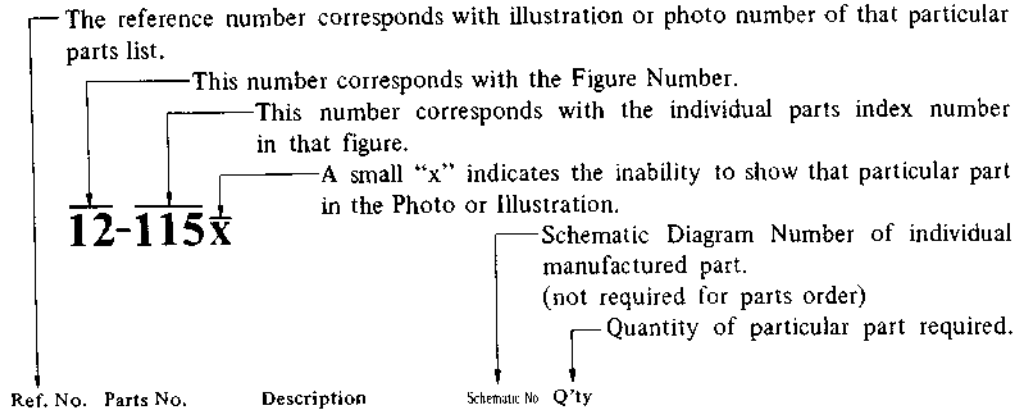
PARTS LIST

TABLE OF CONTETNS

Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

HOW TO USE THIS PARTS LIST

1. This parts list is compiled by various individual blocks based on assembly process.
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read list.



Ref. No.	Parts No.	Description	Schematic No	Q'ty
		FLYWHEEL BLOCK #13		
12-115x	800425	Flywheel Block Assy. Comp.	RDG #13	1
12-116	244506	Flywheel Only	RD 233	1
12-117x	244754	Felt, Flywheel	RD 235	1
12-118	251324	Main Metal Case	RD 236	1
12-119	253080	Main Metal	RD 237	1

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of components of the Schematic Diagram or Service Manual.
5. The indications of Resistors and Capacitors in the photos of P.C. Board are being eliminated.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts Table of P.C. Board.
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.
   It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

CAUTION:

1. When placing an order for parts, be sure to list the parts no. model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Service Manual (Basic Parts List) may be partially changed, please use this parts list for all future reference.

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMEMNDED PARTS.

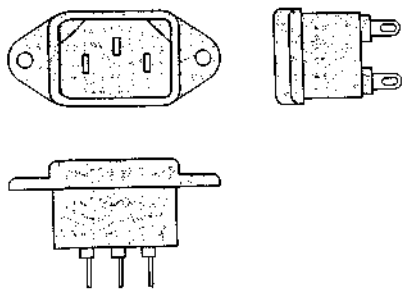
AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

AC INLET SYSTEM

This model is equipped with an AC INLET SYSTEM. Please refer to the AC INLET SYSTEM CHART below for the specific type. By the AC INLET SYSTEM, AC (mains) cord can be connected to and disconnected from the model because the model is provided with socket exclusively for AC (mains) cord on its main body.
Please note, however, that certain models are not equipped with this system and has a built-in AC (mains) cord as before.

AC INLET SYSTEM CHART

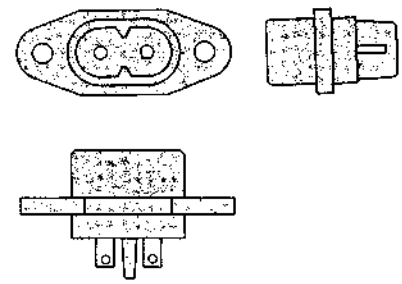
CLASS I

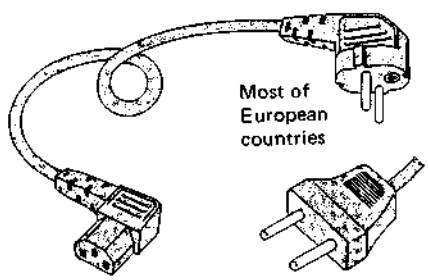


Picture 1
AC INLET to be installed on machines

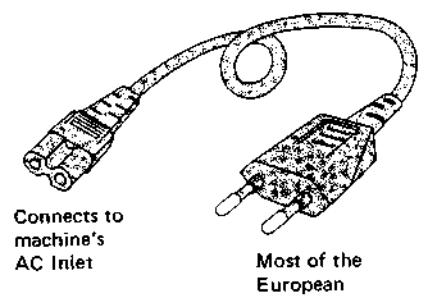
CLASS II

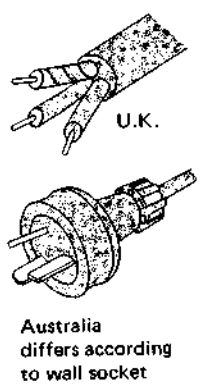
⧈ This mark indicating double insulation will be attached to machine's rear panel

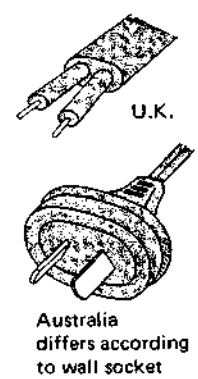




Picture 2
AC (mains) cord







Parts List for AC (mains) Cord Set

Standard		Description	Type of AC Inlet	Parts No.
Class I	CEE	Cord Set CEE (3 cores)	3P	EW302993
	BEAB	Cord Set BEAB (3 cores)	3P	EW302994
	SAA	Cord Set SAA (3 cores)	3P	EW302996
	U/T	Cord Set U/T (3 cores)	3P	EW302646
Class II	CEE	Cord Set CEE (2 cores)	2P	EW638144
	BEAB	Cord Set BEAB (2 cores)	2P	EW302995
	SAA	Cord Set SAA (2 cores)	2P	EW302991
	U/T	Cord Set U/T (2 cores)	2P	EW302899

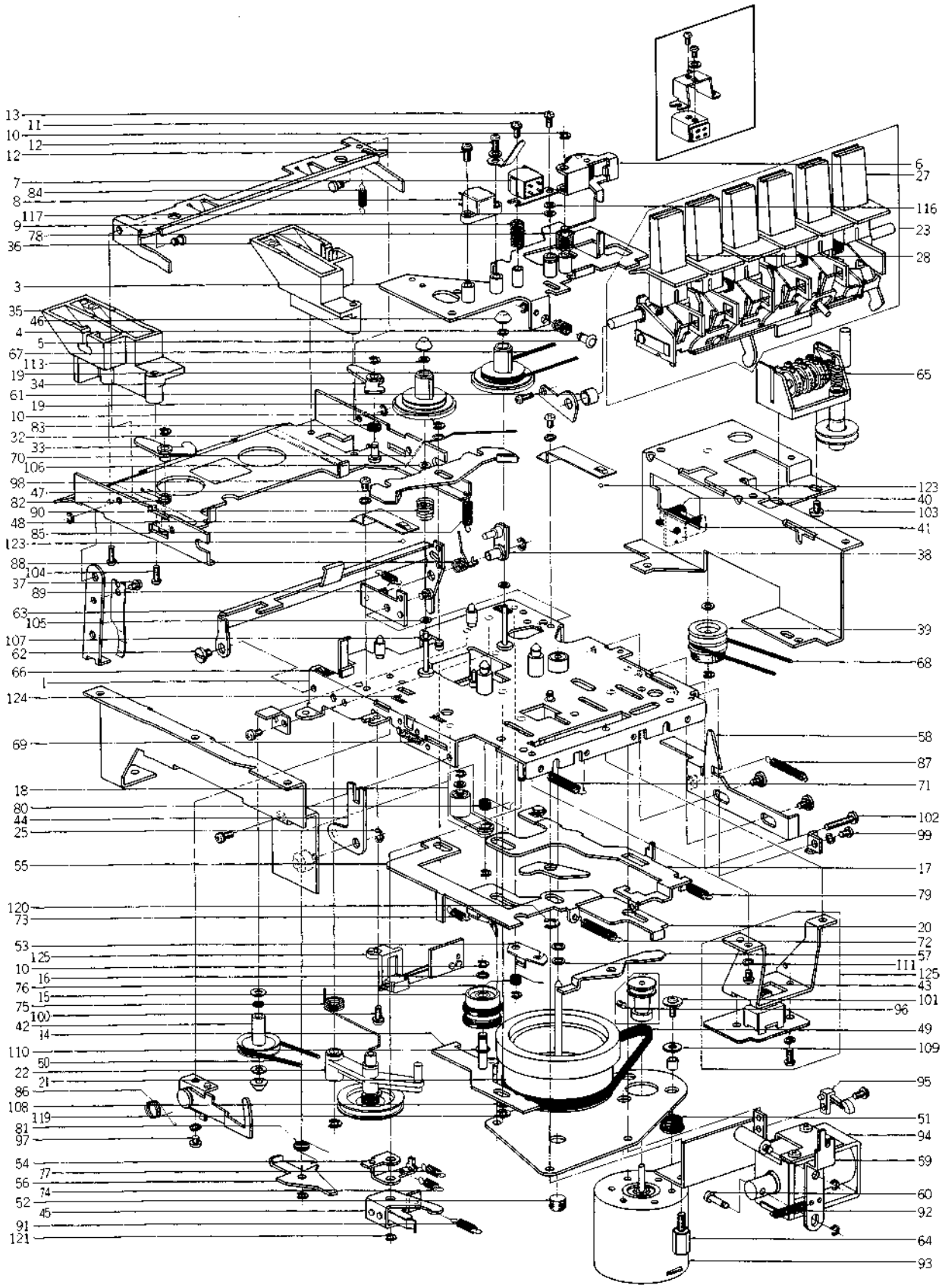
1. RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

Parts No.	Description	Note
BA290632	Tone Control & Rec/PB P.C Board Comp. AC-3500	
BA290452	Multi Function P.C Board Comp. AC-3500	
BA290316	Multi Function P.C Board Comp. AC-3500L	
BA290755	Power, Sys. Con & OSC P.C Board Comp.	
BA290204	Power, Sys. Con & OSC P.C Board Comp. (CSA)	
BA304120	Power, Sys. Con & OSC P.C Board Comp. (CEE)	
BA290373	Main Amp P.C Board Comp.	
BA290261	Main Amp P.C Board Comp.	
BA290272	Main Amp P.C Board Comp. (CEE)	
EI697871	IC LA-3122	IC1 (AC-3502)
EI299441	IC TA-7303P	IC2 (AC-3502)
EI299452	IC HA-1196	IC3 (AC-3502)
EI299700	IC HA-1197	IC4 (AC-3502)
EI299608	IC STK-078	IC1 (AC-3504)
EI605013	IC NE545B	IC1 (AC-3501 A)
ET554657	Transistor 2SA733(P)(Q)	TR4 (AC-3503)
ET299531	Transistor 2SB54MP(E)(F)	TR7 (AC-3503)
ET618873	Transistor 2SC930(E)(F)	TR1 (AC-3502)
ET639437	Transistor 2SC945L(Q)(P)	TR4, 5 (AC-3501 A)
ET649034	Transistor 2SC1449(K)(L)	TR1 (AC-3503)
ET223446	Transistor 2SC1571NP(G)(H)	TR1 to TR3 (AC-3501 A)
ET299507	Transistor 2SD400MP(E)(F)	TR8 (AC-3503)
ED224526	Silicon Diode 10D1	D5, 6 (AC-3503)
ED245417	Silicon Diode GP-20G	D3, 4 (AC-3503)
ED560913	Silicon Diode 1S2473VE	D12 (AC-3503)
ED624903	Germanium Diode 1S188AM	D1 to D3 (AC-3501 A)
ED290722	Zener Diode RD-16 E (C)	D11 (AC-3503)
ED300269	Zener Diode RD-9-1E (B)(CSA)(CEE)	D11 (AC-3503)
ED283138	LED GC-3PGI	D2 (AC-3501B)
ED698826	LED SR105D	D1, 3 (AC-3501B)
EL283184	Lamp (L/T)	IND1 (AC-3501C, D)
EL698793	Lamp (Cord Type) 6V 65 mA(400M/M)	IND901
EM698815	VU Meter MG-20	M901, M902
E0290744	OSC Coil 13Y-033-1639	T1 (AC-3503)
E0299665	OSC Coil MW RWR-42282N	T2 (AC-3502)
BT698804	⚠ Power Trans. AC-3000T-1	
BT294120	⚠ Power Trans. AT-3000T-2 (CSA)	
BT294131	⚠ Power Trans. AC-3000T-3 (CEE, BEAB)	
ES299327	Push SW. JP7134	SW1, 2 (AC-3501 A)

Parts No.	Description	Note
ES299362	Slide SW. CL212E	SW3 (AC-3501A)
ES299294	Push SW. JP-7135	SW4, 5 (AC-3501A)
ES299428	Rotary SW. SR26N 3-8-4	SW1 (AC-3502)
ES299430	Rotary SW. SR26N 4-13-5 (AC-3500L)	SW1 (AC-3502)
ES224436	⚠Push SW. JP-1	SW901
ES242346	⚠Push SW. JP17 (CEE, BEAB)	SW901
ES246227	Slide SW. SSC323E	SW1 (AC-3501F)
ES698927	Push SW. JP-7136	SW1, 2 (AC-3501E)

2. ILLUSTRATION OF MECHA BLOCK



2) MECHA BLOCK

Ref. No.	Parts No.	Description	Schematic No.
2-1	BZ720955	Mecha Frame Comp. CS-705D	TA2-1387
2-2x	BH720966	Head Base Block Comp. CS-705D	TA3-1624
2-3	HZ723060	Head Base Comp. CS-707D	TA3-1425
2-4	ZG720988	Head Base Shaft Spring CS-705D	T4-10180
2-5	MS720990	Head Base Shaft CS-705D	T4-10436
2-6	BZ721001	Pinch Roller Arm Comp. CS-705D	TA4-13682
2-7	HP721045	REC/PB HEAD (HN-424549) CS-705D	T4-18244
2-8	HE721056	ERASE HEAD (168-36) CS-705D	T4-8807
2-9	ZG717827	Head Adjust Spring CT-5	T4-5067
2-10	ZW358018	'E' Ring 2M	6-1-9
2-11	ZS722081	Screw, pan head w/s. washer M2x5 CS-705D	Z4-5077
2-12	ZS608106	Screw, pan head 2x6	Z4-2365
2-13	ZS721091	Screw, pan head w/washer CS-705D	Z4-5551
2-14	BL721113	FR Lever Comp. CS-705D	TA4-7049
2-15	BZ721124	Idler A Comp. CS-705D	TA4-12545
2-16	ZW721135	Flat Washer M25x0.1 CS-705D	Z4-5137
2-17	BZ721146	Pause Function Lever Comp. CS-705D	TA4-12525
2-18	BZ721157	Idler B Comp. CS-705D	TA4-9511
2-19	BR700986	Supply, Take-up Reel Table Block Comp. CS-705D	TA4-7102
2-20	ML723082	FF Lever Comp. CS-707D	TA4-13659
2-21	BF701100	Flywheel w/shaft CS-705D	TA4-12528
2-22	BL720347	Tension Arm B Block Comp. CS-707D	TA4-13681
2-23	BK700301	Operation Button Block Comp.	TA2-1388
2-24x	BK740391	Operation Button Block Comp. (BL)	TA2-1537
2-25	ZW270101	'E' Ring 3M	6-1-9
2-26x	ZS460440	Screw, pan head 2x4	
2-27	SB721247	Operation Button A CS-705D	T3-1530
2-28	SB721258	Operation Button B (REC) CS-705D	T3-1531
2-29x	SB743467	Operation Button A CS-705D-BL	T3-1709
2-30x	SB743470	Operation Button B CS-705D-BL	T3-1310
2-31x	BZ700290	Cassette Holder Base Block Comp.	TA2-1389
2-32	BZ721260	Cassette Holder Base Comp. CS-705D	TA3-1330
2-33	BL721282	Stop Lever L Comp. CS-705D	TA4-11810
2-34	BL721293	Stop Lever R Comp. CS-705D	TA4-11813
2-35	BZ721348	Cassette Guide L Comp. (Lower) CS-705D	TA4-13183
2-36	BZ721350	Cassette Guide R Comp. (Lower) CS-705D	TA4-13184
2-37	ZS722092	Screw, pan head w/s. washer M2x4 CS-705D	Z4-5074
2-38	BL721405	Limiter Lever Comp. CS-705D	TA4-11820
2-39	BZ721440	Counter Idler Comp. CS-705D	TA4-13185
2-40	TC721473	SW. Installation Plate CS-705D	T4-11727
2-41	ES721484	Reed SW. (MAH-16) CS-705D	T4-8351
2-42	BZ721495	Idler Comp. CS-705D	TA4-12472
2-43	MR740390	Motor Pulley Part AC-3500/L/BL	TA4-12527
2-44	BL721517	Joint Lever Comp. CS-705D	TA4-13186
2-45	BL721528	Muting Lever Comp. CS-705D	TA4-13187
2-46	MT721530	Reel Shaft Cap CS-705D	T4-12471
2-47	ML721541	Brake Lever CS-705D	T4-6003
2-48	ZG721563	Head Base Holding Spring CS-705D	T4-7016
2-49	MB701111	Belt (Capstan) 62.25x5x0.4 CS-705D	T4-11840
2-50	MB701122	Belt (Take-up) 1x56.7 CS-705D	T4-11841
2-51	MB721607	Motor Installation Rubber CS-705D	T4-7840
2-52	ZS721620	Flywheel Adjust. Screw CS-705D	T4-7869
2-53	MZ721631	Pause Lock Plate CS-705D	T4-10218
2-54	ML721642	RWD Lever B CS-705D	T4-9314
2-55	ML721653	Brake Function Lever CS-705D	T3-702
2-56	ML740392	REC Lever B-6 AC-3500/L/BL	T4-14573
2-57	ML721675	FF Lever CS-705D	T4-10586
2-58	ML721686	Hook Lever CS-705D	T4-11844
2-59	ML721708	Shut Off Lever CS-705D	T4-11846
2-60	MS721710	Plunger Shaft CS-705D	T4-11847
2-61	TC721721	Spacer CS-705D	T4-11848
2-62	ZS721732	Graduated Screw M2.6 CS-705D	T4-11849
2-63	ML721743	Timing Lever CS-705D	T3-1334
2-64	ZS721765	Screw, hexagon head M2.6 CS-705D	T4-12082
2-65	MC701368	Counter CS-705D	T4-13188
2-66	MB721798	Rubber Cushion CS-705D	T4-12056
2-67	MB701370	Belt A (Counter) CS-705D	T4-13166
2-68	MB701381	Belt B (Counter) CS-705D	T4-13167
2-69	ZG721855	REC Safety Plate Spring CS-705D	T4-7147
2-70	ZG721866	Brake Lever Spring CS-705D	T4-5126
2-71	ZG721877	Head Base Spring CS-705D	T4-7076
2-72	ZG721888	Brake Function Lever Spring CS-705D	T4-7077
2-73	ZG721890	FF Lever Spring CS-705D	T4-7079
2-74	ZG721901	REW Lever Spring B CS-705D	T4-10401
2-75	ZG721912	Idler B Lever Spring CS-705D	T4-12624
2-76	ZG740393	Pause Lock Plate Spring AC-3500/L/BL	T4-14033
2-77	ZG721934	FR Lever Spring D CS-705D	T4-7846
2-78	ZG721102	Pinch Roller Spring CS-705D	T4-10359
2-79	ZG721945	Pause Function Lever Spring CS-705D	T4-10360
2-80	ZG721956	Idler B Lever Spring CS-705D	T4-7853
2-81	ZG721967	REC Lever Spring B CS-705D	T4-7082
2-82	ZG721361	Stop Lever Spring L CS-705D	T4-11816
2-83	ZG721372	Stop Lever Spring R CS-705D	T4-11817
2-84	ZG721383	Cassette Detector Arm Spring CS-705D	T4-11818
2-85	ZG721978	Cassette Up Spring CS-705D	T4-11855
2-86	ZG721980	Safety Lever Spring CS—705D	T4-11856
2-87	ZG723115	Hook Lever Spring CS-707D	T4-13653
2-88	ZG722002	Limiter Lever Spring CS-705D	T4-11858
2-89	ZG722013	Timing Lever Spring CS-705D	T4-13320
2-90	ZG722024	Back Tension Spring CS-705D	T4-5733
2-91	ZG722035	Muting Lever Spring CS-705D	T4-13319
2-92	ZG740394	Shut-off Lever Spring AC-3500/L/BL	T4-15003
2-93	BM701335	Motor Block Comp. MHI-5R2CHA CS-705D	T4-8918
2-94	EP740395	Plunger P-14W AC-3500/L/BL	T4-18147
2-95	ES722070	Leaf SW. H-7160 CS-705D	T4-8765
2-96	ZS521943	Set Screw, hesagon socket 2x3 (CUP/P.)	Z4-2372
2-97	ZS722103	Screw, pan head M2.6x3 CS-705D	Z4-2400
2-98	ZS608185	Screw, pan head 2.6x4	Z4-2366
2-99	ZS722114	Screw, pan head w/s. washer M2.6x4 CS-705D	Z4-5061
2-100	ZS722125	Screw, pan head w/s. washer M2.6x6 CS-705D	Z4-5063
2-101	ZS740396	Screw, pan head M2.6x7 w/s. washer	Z4-5069
2-102	ZS722136	Screw, binding head M2.6x14 CS-705D	Z4-5735
2-103	ZS323728	Screw, binding head 3x5	Z4-2375
2-104	ZS721394	Tapping Screw, pan head #2 M2x6 CS-705D	Z4-5054
2-105	ZW740397	Washer M1.6x6x0.2 (Teflon)	Z4-5843
2-106	ZW740398	Washer M6.2x9.5x0.15 (Lumilar)	Z4-5844
2-107	ZW722171	Wahser (Lumilar) M1.8x3x0.2 CS-705D	Z4-5194
2-108	ZW722182	Flat Washer M4x0.8 CS-705D	Z4-5114

Ref. No.	Parts No.	Description	Schematic No.
2-109	ZW722193	Flat Washer M2.6x0.5 CS-705D	Z4-5111
2-110	ZW722204	Washer (Teflon) CS-705D	Z4-5117
2-111	ZW722215	Flat Washer M2.5x0.25 CS-705D	Z4-5128
2-112x	ZW721135	Flat Washer M25x0.1 CS-705D	Z4-5137
2-113	ZW721181	Plyslider Washer M1.6x0.25 CS-705D	Z4-5141
2-114x	ZW740399	Washer D2.5x5x0.25 (Polyslider)	Z4-5166
2-115x	ZW700380	Spring Washer M2.6	
2-116	ZW740400	Washer M2.5x0.2	Z4-5190
2-117	MH740401	Head Adjust. Spacer	T4-11562
2-118	ZW356657	'E' Ring 1.5M	6-1-9
2-119	ZW270112	'E' Ring 3.2	6-1-9
2-120	ZW623283	'E' Ring 4M	6-1-13
2-121	ZW410051	'E' Ring 2.5	6-1-9
2-122	MV357208	Steel Ball D2	
2-123	MV666887	Steel Ball D2.5	
2-124	BA722496	Mute P.C Board Comp. CS-705D	TA4-8937
2-125	ES740342	Leaf SW.	T4-18346

3. TONE CONTROL & REC/PB P.C BOARD (AC–3501A) BLOCK

Symbol No.	Parts No.	Description	Schematic No.	Q'ty
3-1	BA290632	Tone Control & Rec/PB P.C Board Comp. AC-3500		1
3-IC1	EI605013	IC NE545B	45-8-117	2
3-TR1to3	ET223446	Transistor 2SC1571NP(G)(H)	45-1-238	6
3-TR4,5	ET639437	Transistor 2SC945L(Q)(P)	45-1-85	4
3-TR6,7	ET223446	Transistor 2SC1571NP(G)(H)	45-1-238	4
3-D1to3	ED562386	Germanium Diode 1S188AM	45-3-24	6
3-L1	EO299384	Inductor RX-9P 472k	23-1-275	2
3-L2	EO299373	Inductor RX-9P 22MH(K)	23-1-275	2
3-FL1	ER669734	MPX Filter FB1801M	53-1-104	2
3-J1,2	EJ299283	Mic. Jack HLJ273-1-080	31-2-82	2
3-SW1,2	ES299327	Push SW. JP7134	25-5-248	1
3-SW3	ES299362	Slide SW. CL212E	25-3-134	1
3-SW4,5	ES299294	Push SW. JP-7135	25-5-249	1
3-VR1	EV522797	Semi-fixed/Vol. V8K4-1 20 kB	36-10-266	2
3-VR2	EV299338	Double axial 2 throw Vol. V24L5DGPHN 15A 50kx2	36-3-80	1
3-VR3,4	EV520806	Semi-fixed/Vol. V8K4-1 10 kB	36-10-266	4
3-VR5	EV299351	Double axial 2 throw Vol. V24L5DGPHN 3B 250kx2	36-3-79	1
3-VR6,7	EV299340	Single axial 2 throw Vol. V16L4PHN 100 kBx2	36-22-25	2
3-2	ZS379350	Screw, pan head 3x6		4
	Capacitor, Vertical Type			
3-C1	EC676721	Styrol 470PF(K) 50WV	24-11-11	2
3-C12	EC621257	Solid Aluminum 0.47μF(M) 25WV	24-19-2	2
3-C15	EC638177	Solid Aluminum 1μF(M) 25WV	24-19-2	2
3-C20	EC604440	Solid Aluminum 0.33μF(M) 25WV	24-19-2	2
3-C21	EC523282	Solid Aluminum 0.1μF(M) 25WV	24-19-2	2
3-C27	EC523282	Solid Aluminum 0.1μF(M) 25WV	24-19-2	2
3-C38	EC621257	Solid Aluminum 0.47μF(M) 25WV	24-19-2	2

4. MULTI FUNCTION P.C BOARD (AC–3502) BLOCK

Symbol No.	Parts No.	Description	Schematic No.	Q'ty
4-1	BA290452	Multi Function P.C Board Comp. AC-3500		1
4-2	BA290316	Multi Function P.C Board Comp. AC-3500L		1
4-IC1	EI697871	IC LA-3122	45-8-185	1
4-IC2	EI299441	IC TA7303P	45-8-216	1
4-IC3	EI299452	IC HA1196	45-8-217	1
4-IC4	EI299700	IC HA1197	45-8-218	1
4-TR1	ET618873	Transistor 2SC930(E)(F)	45-1-185	1
4-D1	ED624903	Silicon Diode 1S2473	45-3-28	1
4-L1,2	EO650428	Inductor 146LY 39μH(J)	23-1-214	2
4-L3	EO539820	Peaking Coil 2.2μH(K)	23-1-187	1
4-T1	BT299575	FM-IF Trans. 154AC-41345Z	23-1-274	1
4-T2	EO299665	OSC Coil MW RWR-42282N	23-4-41	1
4-T3	BT697950	AM-IF Trans. CFU-085-D	23-1-241	1
4-T4	BT293398	AM-IF Trans. 10EZ RMC-42246BCH 46	23-1-276	1
4-T5	EO299564	OSC. Coil LW RWR-43115N	23-4-42	1
4-FL1,2	ER650430	Ceramic Filter SFE-10.7 MA-8-Z	53-1-102	2
4-TC1,2	EC675742	Trimmer/C. CTY-21D 15PV	24-2-35	2
4-J1	EJ223457	2P Pin Jack JPJ355	31-1-167	1
4-J2	EJ283094	4P Pin Jack 1-01-0107-00	31-5-137	1
4-SW1	ES299428	Rotary SW. SR26N 3-8-4	25-6-107	1
4-SW1	ES299430	Rotary SW. SR26N 4-13-5 (AC-3500L)	25-6-108	1
4-VR1	EV572433	Semi-fixed/Vol. V8K4-1 500 kB	36-10-266	1
4-VR2	EV520806	Semi-fixed/Vol. V8K4-1 10 kB	36-10-266	1
4-3	ZS325495	Tapping Screw #2, 3x6 (BR)		2
	Capacitor, Vertical Type			
4-C32	EC299518	Styrol 360PF(K) 50WV	24-11-3	1
4-C34	EC638177	Solid Aluminum 1μF(M)25WV	24-19-2	1
4-C41	EC522167	Solid Aluminum 0.22μF(M) 25WV	24-19-2	1
4-C50	EC650406	Styrol/C. 310PF(J) 50WV	24-11-3	1
4-C62	EC523282	Solid Aluminum 0.1μF(M) 25WV	24-19-2	1
4-C62	EC298800	Solid Aluminum 0.1μF(M) 16WV (AC-3500L)	24-19-2	1

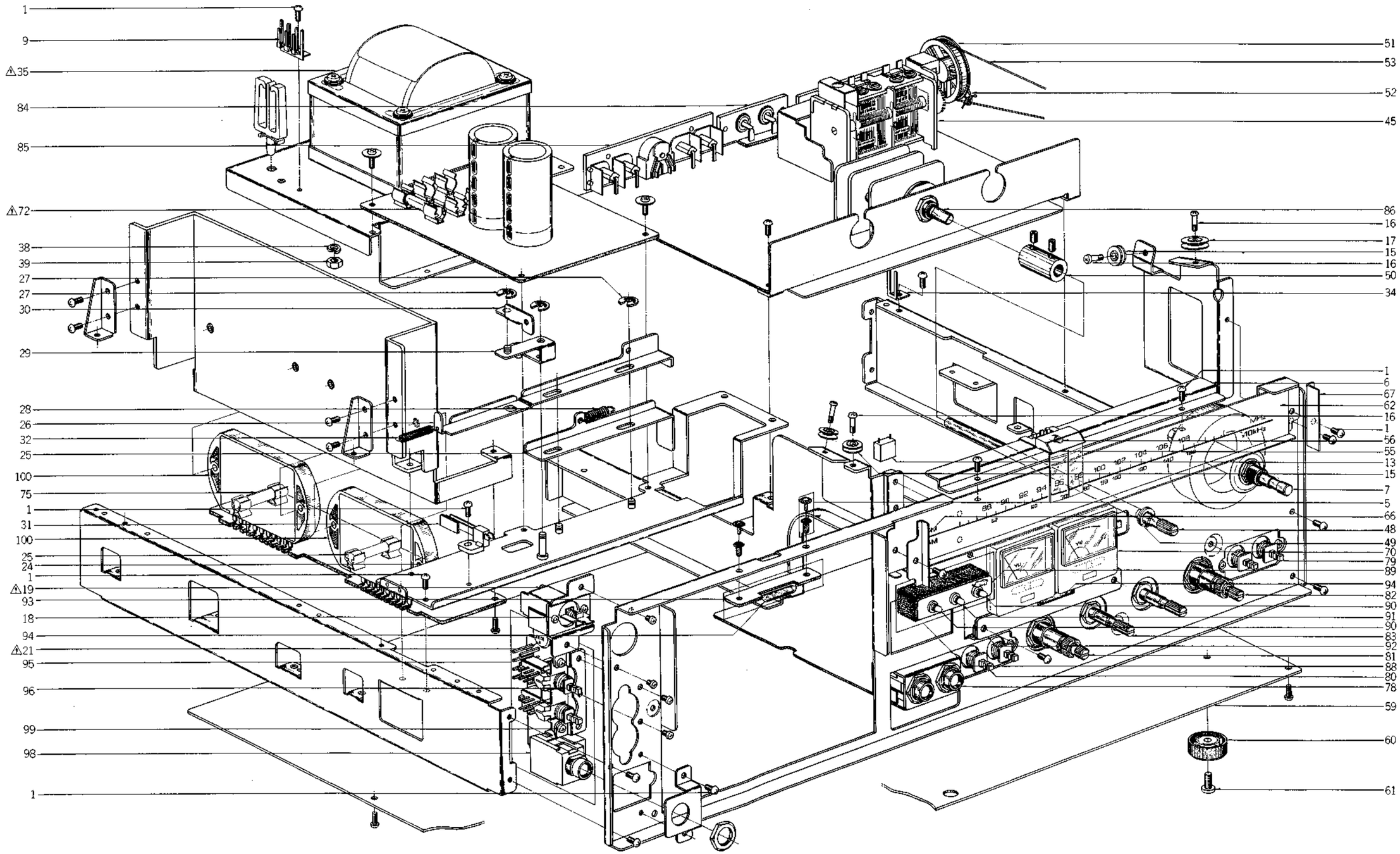
5. POWER, SYS. CON & OSC P.C BOARD (AC–3503) BLOCK

Symbol No.	Parts No.	Description	Schematic No.	Q'ty
5-1	BA290755	Power, Sys. Con & Osc P.C Board Comp.	AC-3565	1
5-2	BA290204	Power, Sys. Con & Osc P.C Board Comp. (CSA)	AC-3565	1
5-3	BA304120	Power, Sys. Con & Osc P.C Board Comp. (CEE)	AC-3565	1
5-TR1	ET649034	Transistor 2SC1449(K)(L)	45-1-214	1
5-TR2	ET639437	Transistor 2SC945L(Q)(P)	45-1-85	1
5-TR3	ET452531	Transistor 2SD313(E)(F)	45-1-105	1
5-TR4	ET554657	Transistor 2SA733(P)(Q)	45-1-124	1
5-TR5,6	ET639437	Transistor 2SC945L(Q)(P)	45-1-85	2
5-TR7	ET299531	Transistor 2SB544MP(E)(F)	45-1-258	1
5-TR8	ET299507	Transistor 2SD400MP(E)(F)	45-1-259	1
5-D1to4	ED245417	Silicon Diode GP20G	45-2-70	4
5-D5to10	ED224526	Silicon Diode 10D1	45-2-11	6
5-D11	ED290722	Zener Diode RD-16E(C)	45-6-72	1
5-D11	ED300269	Zener Diode RD-9-1E(B) (CSA, CEE)	45-6-72	1
5-D12	ED560913	Silicon Diode 1S2473VE	45-3-23	1
5-D14	ED300269	Zener Diode RD-9-1E(B) (CSA, CEE)	45-6-72	1
5-D15,16	ED224526	Silicon Diode 10D1 (CEE)	45-2-11	2
5-VR1,2	EV464231	Semi-fixed/Vol. V8K4-1 100 kB	36-10-266	2
5-T1	EO290744	Osc. Coil 13Y-033-1639	23-4-43	1
5-4	ZS325495	Tapping Screw #2, 3x6 (BR)		1
5-R4	ER300744	Cement/R. (Wire-wound Type) 2W 68 ohms (J) (U/T, CSA)	35-16-57	1
		Capacitor		
5-C1to6	EC204671	Ceramic DD31-6 0.01μF(P) 500WV	24-5-66	6
5-C7,8	EC300742	Elect. (Vert. Type) 4700μF 35WV	24-10-116	2
5-C10	EC220421	Elect. (Vert. Type) 1000μF 16WV	24-12-9	1
5-C21	EC520773	Styrol (Tub. Type) 2000PF(J) 250WV	24-11-10	1
5-C26,27	EC684720	Ceramic CLD16VE 0.01μF(P) 500WV (CSA)	24-5-61	2

6. MAIN AMP P.C BOARD (AC–3504) BLOCK

Symbol No.	Parts No.	Description	Schematic No.	Q'ty
6-1	BA290373	Main Amp P.C Board Comp.	AC-3563 A/B	1
6-2	BA290261	Main Amp P.C Board Comp. (CSA)	AC-3563 A/B	1
6-3	BA290272	Main Amp P.C Board Comp. (CEE)	AC-3563/A/B	1
6-IC1	EI299608	IC STK-078	45-8-219	2
6-L1	EO650823	Phase Compensation Coil 2.2μH(K)	23-1-239	2
6-4	ZS462802	Tapping Screw #2, 3x15(BR) (BR)		4
6-5	ZS325495	Tapping Screw #2, 3x6(BR) (BR)		6
6-C2	EC516767	Styrol/C. (Vert. Type) 470PF(K) 50WV	24-11-3	2

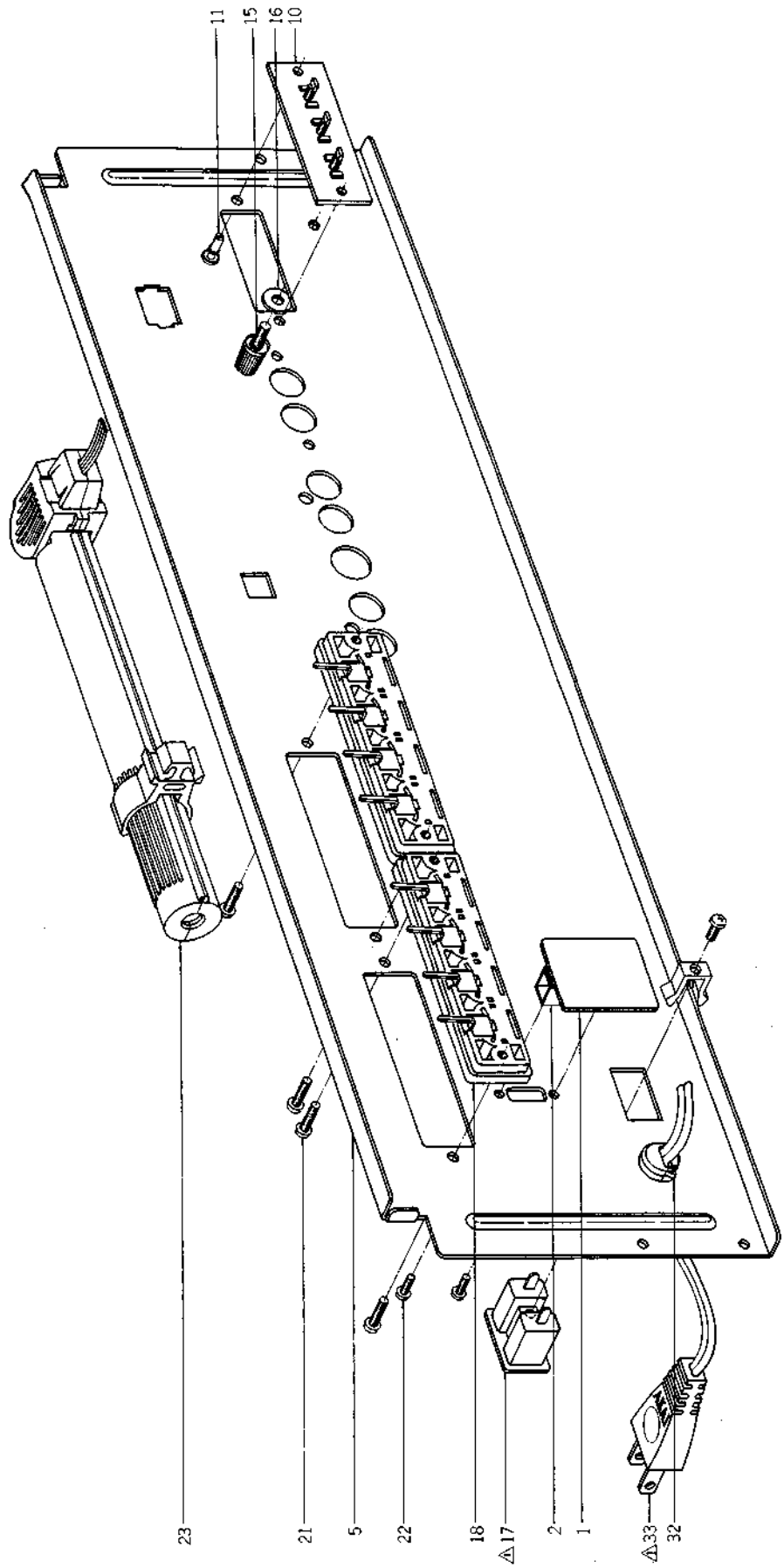
7. ILLUSTRATION OF ASSEMBLY BLOCK

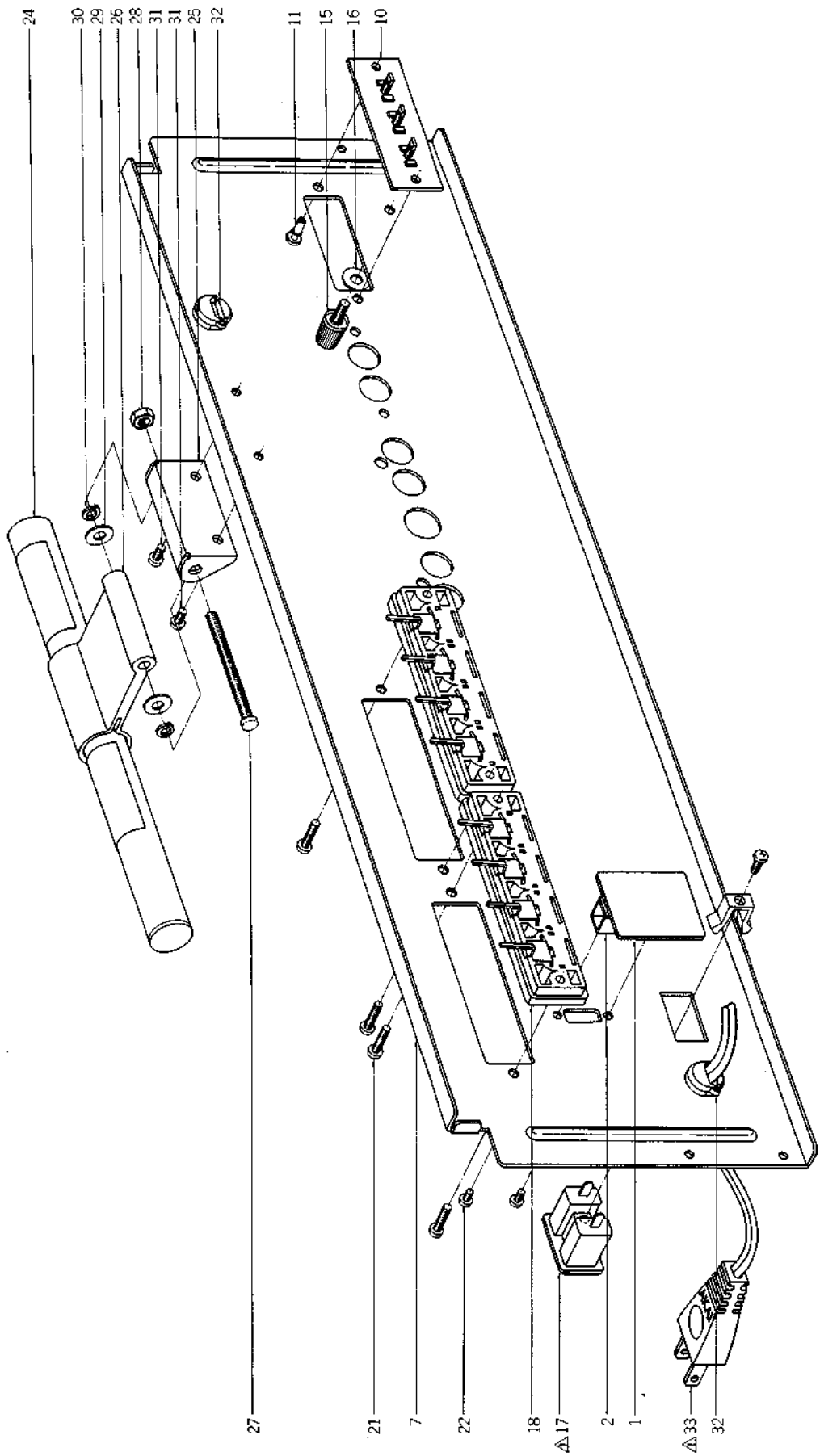


7. ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
	ASSEMBLY BLOCK			
7-1	ZS325495	Tapping Screw #2, 3x6(BR)		45
7-2x	ZS447761	Tapping Screw #2, 3x6 (BR) (BLACK)		8
7-3x	ZS300425	Screw, pan head 3x6 w/s. washer		7
7-4x	ZS379350	Screw, pan head 3x6		7
7-5	ZW698308	Nylon Rivet (FNPR) 3x5.5 Black	2-7-54	5
7-6	TA286626	Rail	AC-3520	1
7-7	MI300419	Tuning Wheel	13-2-26	1
7-8x	ZW270088	'E' Ring 1.9M	6-1-9	1
7-9	EJ551035	Wrapping Terminal, 4P T5251	32-1-36	1
7-10x	ZS434250	Screw, pan head 4x8, w/washer (CEE, BEAB)		1
7-11x	ZW413188	Nut M4, #1 (CEE, BEAB)		1
7-12x	ZW273881	Earth Lug (CEE, BEAB)		1
7-13	EO263068	Inductor 144LZ 2.2μH(K)	23-1-240	1
7-14x	ED224526	Silicon Diode 10D1	45-2-11	1
7-15	MR530662	Roller B	91-5009	3
7-16	ZS530673	Roller Screw A	91-5010	4
7-17	MR530651	Roller A	91-5008	1
7-18	ZS417216	Screw, pan head 3x4		2
7-19	ES224436	⚠ Push SW. JP-1	25-5-221	1
7-20x	ES242346	⚠ Push SW. JP17 (CEE, BEAB)	25-5-224	1
7-21	EC684720	⚠ Ceramic/C. CLD16YE 0.01μF(P) 500WV	24-5-61	1
7-22x	EC294118	⚠ Ceramic/C. DPN6600 YM 0.01μF(P)125WV (CSA)	24-5-70	1
7-23x	EC301320	⚠ MP/C. PME271Y447 4700PF 250WV	24-9-118	2
7-24	ML290924	Rec Lever Stopper Plate Part AC-3500	AC-3521	1
7-25	ML286457	Lever (3)	AC-3524	1
7-26	ML286604	Lever (4)	AC-3525	1
7-27	ZW290283	'U' Ring 2.85M	6-1-1	4
7-28	ZG300739	Rec Lever Spring	AC-3561	1
7-29	ML290902	Lever (2) Part AC-3500		1
7-30	ML286470	Lever (1)	AC-3522	1
7-31	ES592964	Leaf SW. BSW-1F TX	25-10-18	1
7-32	ZG514697	Head Return Spring (Old)	CG-1308	1
7-33x	ZG431897	Slide SW. Return Spring (New)	ED-B112	1
7-34	EJ539447	Earth Terminal 2P T4460	32-1-32	1
	FINAL ASSEMBLY BLOCK			
7-35	BT698804	⚠ Power Trans. AC-3000T-1	38-4-489	1
7-36x	BT294120	⚠ Power Trans. AT-3000T-2 (CSA)	38-4-490	1
7-37x	BT294131	⚠ Power Trans. AC-3000T-3 (CEE, BEAB)	38-4-491	1
7-38	ZW273914	Spring Washer		4
7-39	ZW273960	Nut M4		4
7-40x	ZS516205	Tapping Screw #2, 3x8(BR) w/washer		1
7-41x	ZS302024	Tapping Screw #2, 3x8(Pan) W=10		4
7-42x	ZW698940	Nylon Rivet (FNRP) 4x6 (Black)	2-7-58	2
7-43x	EJ254970	Lug Plate KP1L1 (CEE,BEAB)	33-3-3	1
7-44x	ER300744	Cement/R. (Wire-wound Type) 2W 68 ohms (J) (CEE,BEAB)	35-16-57	1
7-45	EE655301	Front End FB512U14	57-2-35	1
7-46x	EE301419	Front End FB513U12 (CEE, BEAB)	57-2-44	1
7-47	MS186413	Relay Shaft	AC-3539	1
7-48	ZW312693	'E' Ring 4M	6-1-4	2
7-49	ZW322110	Washer (Nylon) D6.1x10.3x1.0t		1
7-50	TC300422	Joint	AC-3556	1
7-51	TA300423	Dial Wheel	2-15-16	1
7-52	ZS300421	Dial Wheel Spring	AC-3551	1
7-53	TA207347	Thread D0.5 1.6m		1
7-54x	ZS421806	Screw, pan head 3x8		2
7-55	TA300418	Pointer Part-G	AC-3557	1
7-56	EL698793	Lamp (Cord Type) 6V 65mA (400M/M)	28-2-61	1
7-57x	ZS447840	Tapping screw #2, 3x8 (BR)		5
7-58x	ZW659193	Adjust. Washer (U) D4.5x10x0.5t		2
7-59	SP286727	Bottom Plate	AC-3531	1
7-60	SA301770	Tran Leg (J)	2-6-18	4
7-61	ZS565942	Tapping Screw #2, 4x8 (Pan)		4
7-62	TA286672	Scale Plate	AC-3512	1
7-63x	TA301139	Scale Plate (B) (3500L)	AC-3512	1
7-64x	TA302001	Scale Plate (A-BL)	AC-3512	1
7-65x	TA302002	Scale Plate (B-BL)	AC-3512	1
7-66	TA286525	Plate (L), Dummy	AC-3513	1
7-67	TA286536	Plate (R), Dummy	AC-3514	1
7-68x	TA301310	Plate (L-BL), Dummy	AC-3513	1
7-69x	TA301311	Plate (R-BL), Dummy	AC-3514	1
7-70	EM698815	VU Meter MG-20	46-1-162	2
7-71x	EM301306	VU Meter KL-218D-106	46-1-173	2
7-72	EF590692	⚠ Fuse 1.2A 250V	39-1-50	1
7-73x	EF563703	⚠ Fuse 2A 250V (CSA)	39-1-50	1
7-74x	ER563681	⚠ Fuse 1A 250V (CSA)	39-1-50	2
7-75	EF563657	Fuse 3A 250V	39-1-50	2
7-76x	EF623103	⚠ Fuse (SEMKO T Type) 1AT (CEE, BEAB)	39-1-53	3
7-77x	EF300580	Fuse (EAK) 2.5AT	39-1-59	2
	TONE CONTROL P.C BOARD BLOCK			
7-78	EJ299283	Mic. Jack HLJ273-1-080	31-2-82	2
7-79	ES299327	Push SW. JP-7134	25-5-248	1
7-80	ES299294	Push SW. JP-7135	25-5-249	1
7-81	EV299338	Double axial 2 throw Vol. V24L50DGPHN 15A 50kx2	36-3-80	1
7-82	EV299351	Double axial 2 throw Vol. V24L5DGPHN 3B 250kx2	36-3-79	1
7-83	EV299340	Single axial 2 throw Vol. V16L4PHN 100 kBx2	36-22-25	2
	MULTI FUNCTION P.C BOARD BLOCK			
7-84	EJ223457	2P Pin Jack JPJ355	31-1-167	1
7-85	EJ283094	4P Pin Jack 1-01-0107-00	31-5-137	1
7-86	ES299428	Rotary SW. SR26N 3-8-4	25-6-107	1
7-87x	ES299430	Rotary SW. SR26N 4-13-5 (3500L)	25-6-108	1
	LED P.C BOARD (AC-3501B) BLOCK			
7-88	BA290643	LED P.C Board Comp. AC-3500	AC-3568	1
7-89	EA286334	LED P.C Board	AC-3501B	1
7-90	ED698826	LED SR-105D	45-15-16	2
7-91	ED283138	LED GL-3PG1	45-15-15	1
	LAMP P.C BOARD (AC-3501C/D) BLOCK			
7-92	BA291115	Lamp P.C Board Comp. AC-3500(A)	AC-3573	1
7-93	BA290935	Lamp P.C Board Comp. AC-3500(B)	AC-3574	1
7-94	EL283184	Lamp (L/T)	28-2-59	2
	HEADPHONE P.C BOARD (AC-3501E) BLOCK			
7-95	BA290654	Headphone P.C Board Comp. AC-3500	AC-3580	1
7-96	ES698927	Push SW. JP-7136	25-5-250	1
7-97x	ER246363	Metal Oxide Film/R. 2W 220 ohms (K)	35-15-18	2
7-98	EJ225022	Headphone Jack LJ255-1-12	31-2-77	1
7-99	ZS417216	Screw, pan head 3x4		2
7-100	EJ299608	IC STK-078	45-8-219	2
7-101x	EF602550	⚠ Fuse (SEMKO T Type) 1.25AT 250V (CEE, BEAB)	39-1-53	4

8. ILLUSTRATION OF REAR PANEL BLOCK

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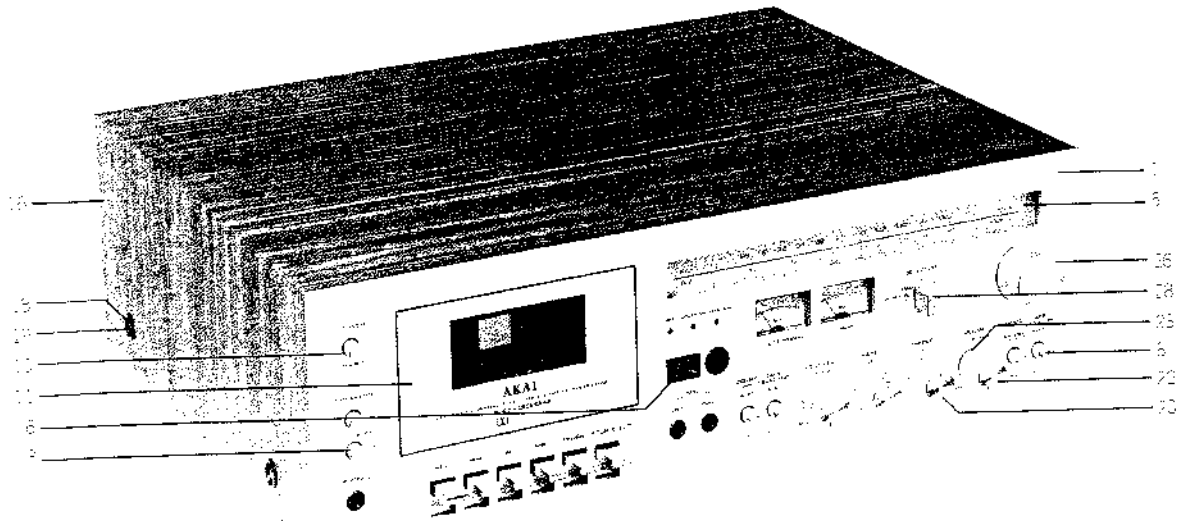
8) REAR PANEL BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
		BEAT SW. P.C BOARD (AC-3501F) BLOCK		
8-1	BA298618	Beat SW. P.C Board Comp. AC-3500	AC-3567	1
8-2	ES246227	Slide SW. SSC323E	25-3-119	1
8-3x	EC299553	Styrol/C. (Tub. Type) 220PF (K) 250WV	24-11-10	1
8-4x	EC298563	Styrol/C. (Tub. Type) 470PF (K) 250WV	24-11-10	1
		REAR PANEL BLOCK		
8-5	SP286773	Rear Panel (1)	AC-3508/3509	1
8-6x	SP286784	Rear Panel (2) (CSA)	AC-3509	1
8-7	SP287357	Rear Panel (1) (L-U/T)	AC-3511/3546	1
8-8x	SP287346	Rear Panel (2) (L-CEE)	AC-3546	1
8-9x	SP287335	Rear Panel (3) (L-BEAB)	AC-3547	1
8-10	EJ299610	3P Antenna Terminal Plate	32-1-78	1
8-11	ZW698308	Nylon Rivet (FNPR) 3x5.5 Black	2-7-54	2
8-12x	ZS355522	Screw, pan head 3x6 (CEE, BEAB)		2
8-13x	ZW273767	Earth Lug D3x20L (CEE, BEAB)		1
8-14x	ZS417216	Screw, pan head 3x4 (CEE, BEAB)		1
8-15	SK652397	Knob 0512-2	34-1-4	1
8-16	ZW652408	Washer (SPC) D3.2x10x0.5t		1
8-17	EJ298596	⚠ AC Concent UL	31-1-196	1
8-18	EJ240581	4P Push Terminal	32-1-72	2
8-19x	EJ296853	⚠ 3P In-Let CM-3 (CEE, BEAB)	31-1-199	1
8-20x	ZS463353	Tapping Screw #2, 3x8 (BR) (CEE, BEAB)		2
8-21	ZS522865	Tapping Screw #2 3x12 (BR)		4
8-22	ZS608185	Screw, pan head 2.6x4		2
8-23	EE299621	Bar Antenna	55-1-49	1
8-24	EE298337	Bar Antenna	55-1-50	1
8-25	TA530910	Antenna Channel	91-5029	1
8-26	TA625847	Antenna Holder	2-7-46	1
8-27	ZS552600	Screw, pan head 4x50		1
8-28	ZW604416	Nut M4		1
8-29	ZW420682	Washer (Nylon) D4.2x9x0.5t		2
8-30	ZW273914	Spring Washer		2
8-31	ZS447761	Tapping Screw #2 3x6 (BR) (Black) (L)		2
8-32	EZ631945	Strain Relief SR-4N-4	2-7-49	2
8-33	EW540123	⚠ AC Cord (CUL) 2.5M	26-3-20	1
8-34x	EW207742	⚠ AC Cord (CUL) (CSA)	26-3-45	1

9. PHOTO OF FINAL ASSEMBLY BLOCK



9) FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
	FRONT PANEL BLOCK			
9-1	BD290327	Front Panel Block Comp. AC-3500		1
9-2x	BD302054	Front Panel Block Comp. AC-3500-BL		1
9-3x	BD290338	Front Panel Block Comp. AC-3500L		1
9-4x	BD302055	Front Panel Block Comp. AC-3500L-BL		1
9-5	SP286558	Front Plate	AC-3535	1
9-6	SE630156	Counter Escutcheon	CJ-6007	1
9-7x	ZG286435	Taper Spring	AC-3536	7
9-8	SK286367	Push Button Knob (A)	AC-3537	7
9-9x	SK301304	Push Button Knob (C) (BL)	AC-3562	7
9-10	SE286547	Button Escutcheon (A)	AC-3538	3.5
9-11	BD305096	Lid Panel Part-G		1
9-12x	BD305097	Lid Panel Part-G (BL)		1
9-13x	BD305098	Lid Panel Part-G (L)		1
9-14x	BD305099	Lid Panel Part-G (L-BL)		1
9-15x	ZW273835	Nut M3		2
	FINAL ASSEMBLY BLOCK			
9-16	BC286694	Cabinet	AC-3545	1
9-17x	BC302006	Cabinet BL	AC-3545	1
9-18	ZW548010	Spot Facing Washer	MC-6028	4
9-19	ZS510344	Screw, binding head 4x12		4
9-20	SK646817	Single Knob	AA-5250	2
9-21x	SK281564	Single Knob (BL)	AA-5250	2
9-22	SK644670	Double Knob (Upper)	AA-5355	2
9-23	SK645208	Double Knob (Lower)	AA-5353	2
9-24x	SK287662	Double Knob (Upper) (BL)	AA-5355	2
9-25x	SK287673	Double Knob (Lower) (BL)	AA-5353	2
9-26	SK223705	Tuning Knob	T2-5019	1
9-27x	SK267445	Tuning Knob (BL)	T2-5019	1
9-28	SK264892	Selector Knob B	CI-6020	1
9-29x	SK691288	Selector Knob	CI-6020	1

10. LIST OF INTERCHANGEABLE SEMICONDUCTORS

As far as service is concerned, in case the original parts cannot be obtained, the interchangeable parts listed below can be substituted.

Original Parts			Interchangeable Parts	
Description	Parts No.	Utilizing P.C Board	Description	Parts No.
HA-1196	EI299452	AC-3502		
HA-1197	EI299700	AC-3502		
LA3122	EI697871	AC-3502		
NE545B	EI605013	AC-3501A		
STK-078	EI299608	AC-3504		
TA7303P	EI299441	AC-3502		
2SA733(Q)(P)	ET554657	AC-3503	2SA564(Q)(R) 2SA628(E)(F)	ET538154 ET557976
2SB544MP(E)(F)	ET299531	AC-3503		
2SC930(E)(F)	ET618873	AC-3502	2SC454(B)(C) 2SC710(D)	ET591366 ET704002
2SC945L(Q)(P)	ET639437	AC-3501A AC-3503	2SC536(F)(G)(H) 2SC711(E)(F)(G)(H)	ET634893 ET619727
2SC1449(K)(L)	ET640034	AC-3503	2SD234(O)(Y) 2SD313(E)(F)	ET393568 ET452531
2SC1571NP(G)(H)	ET223446	AC-3501A	2SC1222(E)(F) 2SC1312(G)(H)	ET459810 ET517263
2SD313(E)(F)	ET452531	AC-3503	2SD234(O)(Y) 2SC1449(K)(L)	ET393568 ET640034
2SD400MP(E)	ET299507	AC-3503		
1S188AM	ED562386	AC-3501A	1N34A 1N60	ED219464 ED428264
1S2473	ED624903	AC-3502	1S1588 1S2473VE	ED557447 ED560913
1S2473VE	ED560913	AC-3503	1S1588 1S2473	ED557447 ED624903
10D1	ED224526	AC-3503	1N4002	ED511907
GP20G	ED245417	AC-3503		
RD-16E(C)	ED290722	AC-3503		
RD-9-1E(B)	ED300269	AC-3503		
SR-105D	ED698826	AC-3501B		
GC-3PGI	ED283138	AC-3501B		

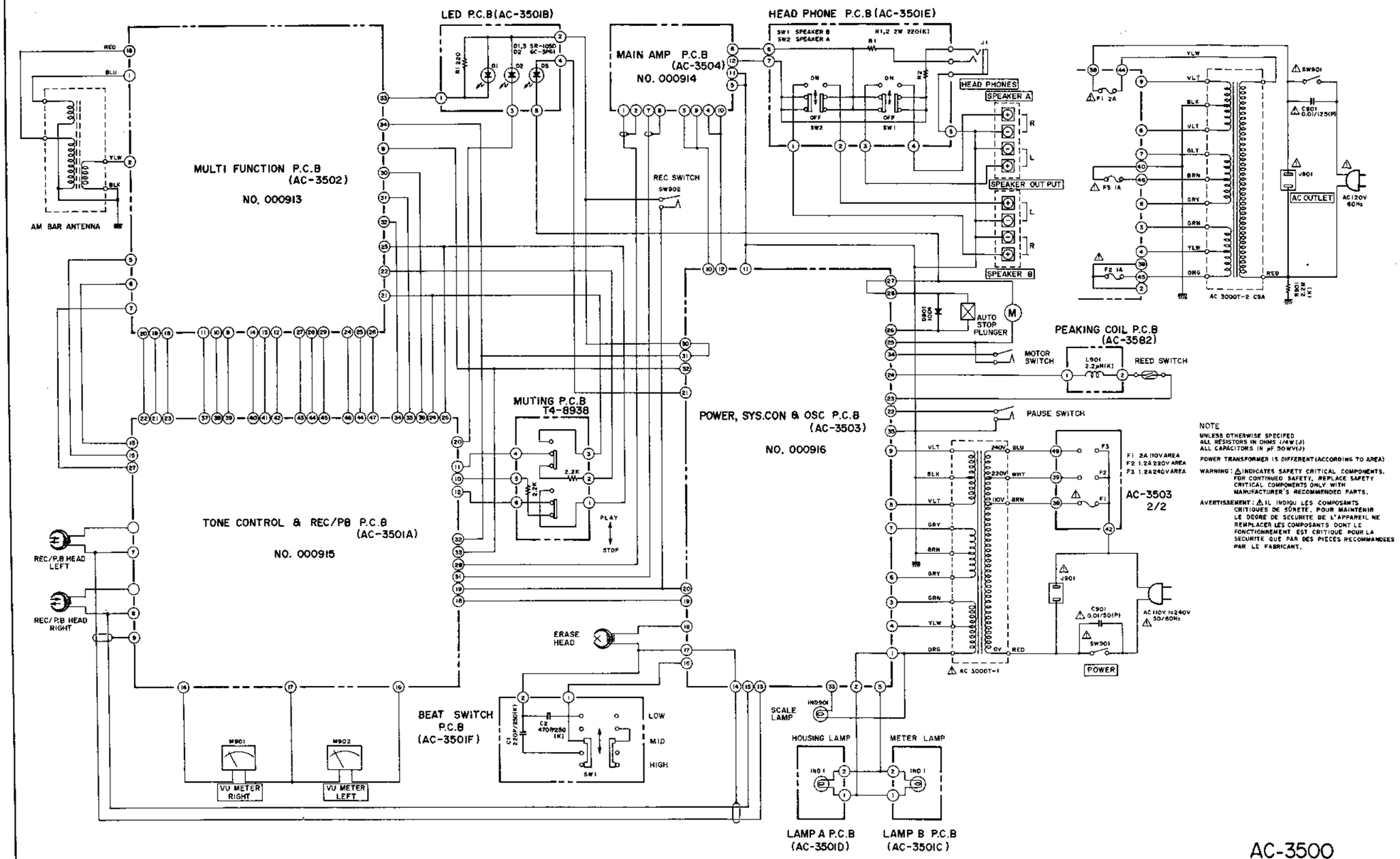
INDEX

SECTION 3

SCHEMATIC DIAGRAM

1. AC-3500 BLOCK DIAGRAM NO.8-1 1542036A
2. AC-3500L BLOCK DIAGRAM NO.8-2 1542037A
3. AC-3500/L TONE CONTROL SCHEMATIC DIAGRAM NO.8-3 1542038A
4. AC-3500 MULTI FUNCTION SH SCHEMATIC DIAGRAM NO.8-4 1542039A
5. AC-3500L MULTI FUNCTION SCHEMATIC DIAGRAM NO.8-5 1542040A
6. AC-3500/L POWER, SYS. CON. & OSC. SCHEMATIC DIAGRAM NO.8-6 1542041A
7. AC-3500/L MAIN AMP SCHEMATIC DIAGRAM NO.8-7 1542042A
8. AC-3500/L FRONT END SCHEMATIC DIAGRAM NO.8-8 1542043A

AC-3500

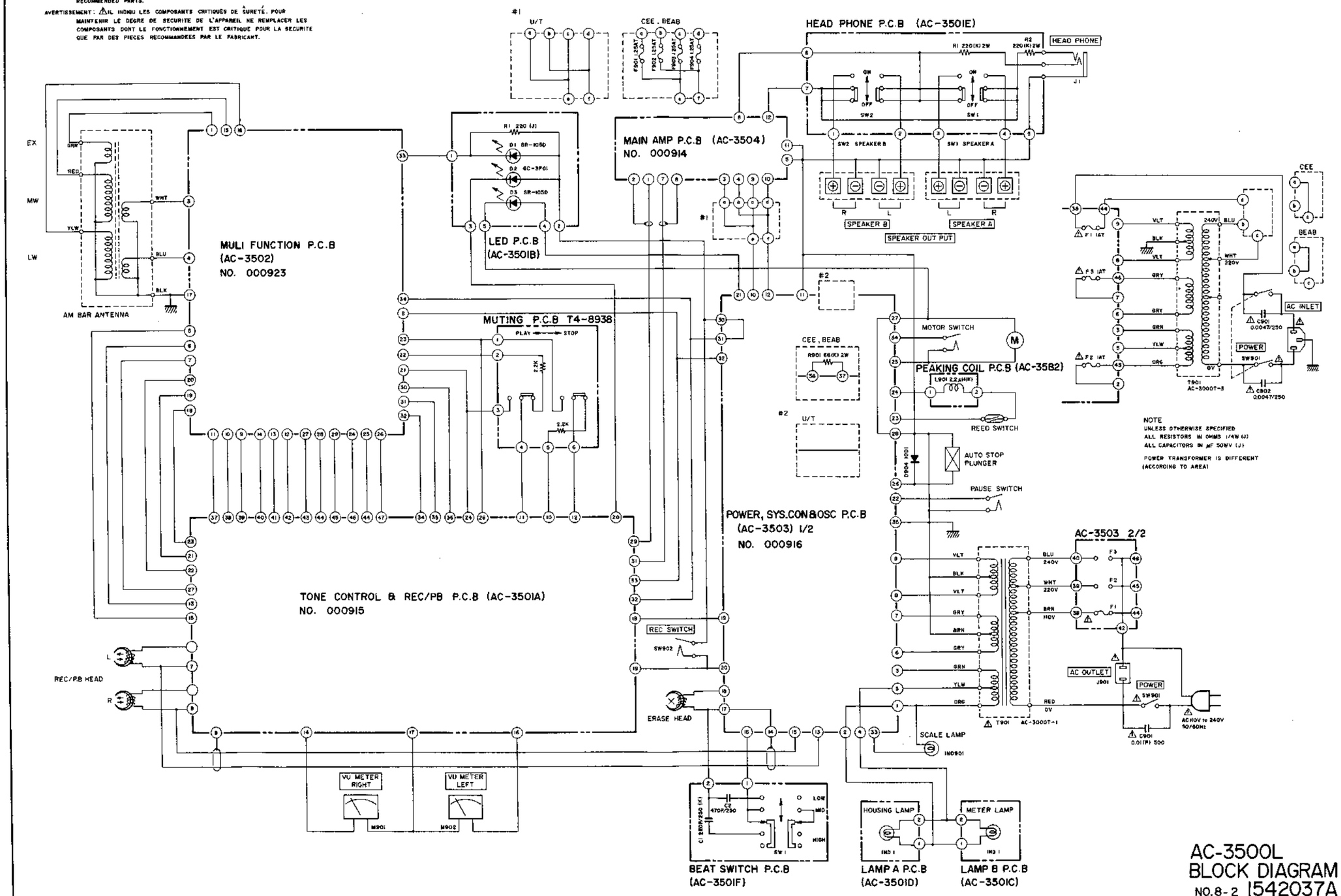


AC-3500
BLOCK DIAGRAM
No. 8-1 1542036A

AC-3500L

WARNING : ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT : ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.



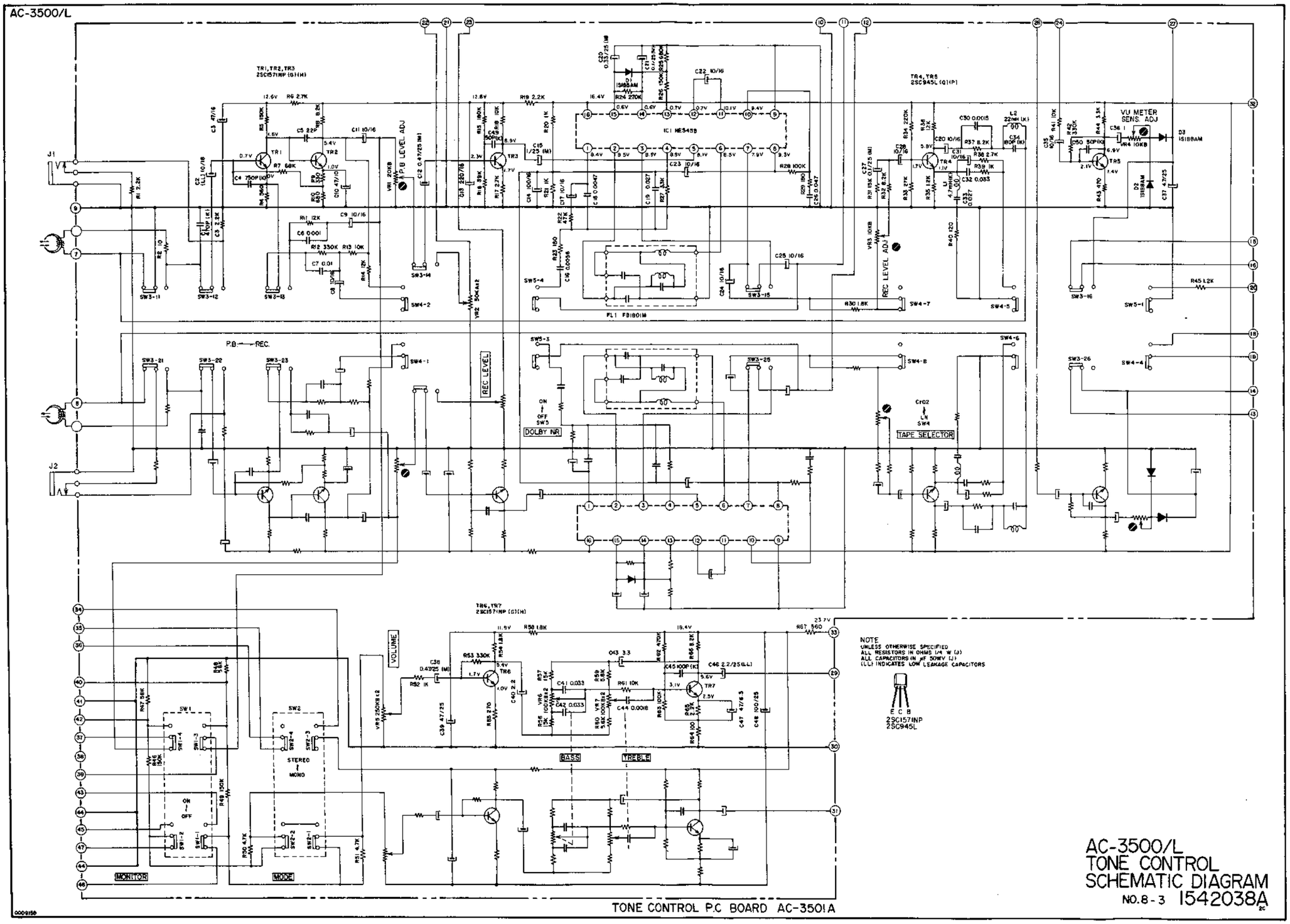
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50WV (J)

POWER TRANSFORMER IS DIFFERENT (ACCORDING TO AREA)

0008220

AC-3500L BLOCK DIAGRAM NO.8-2 1542037A

AC-3500/L

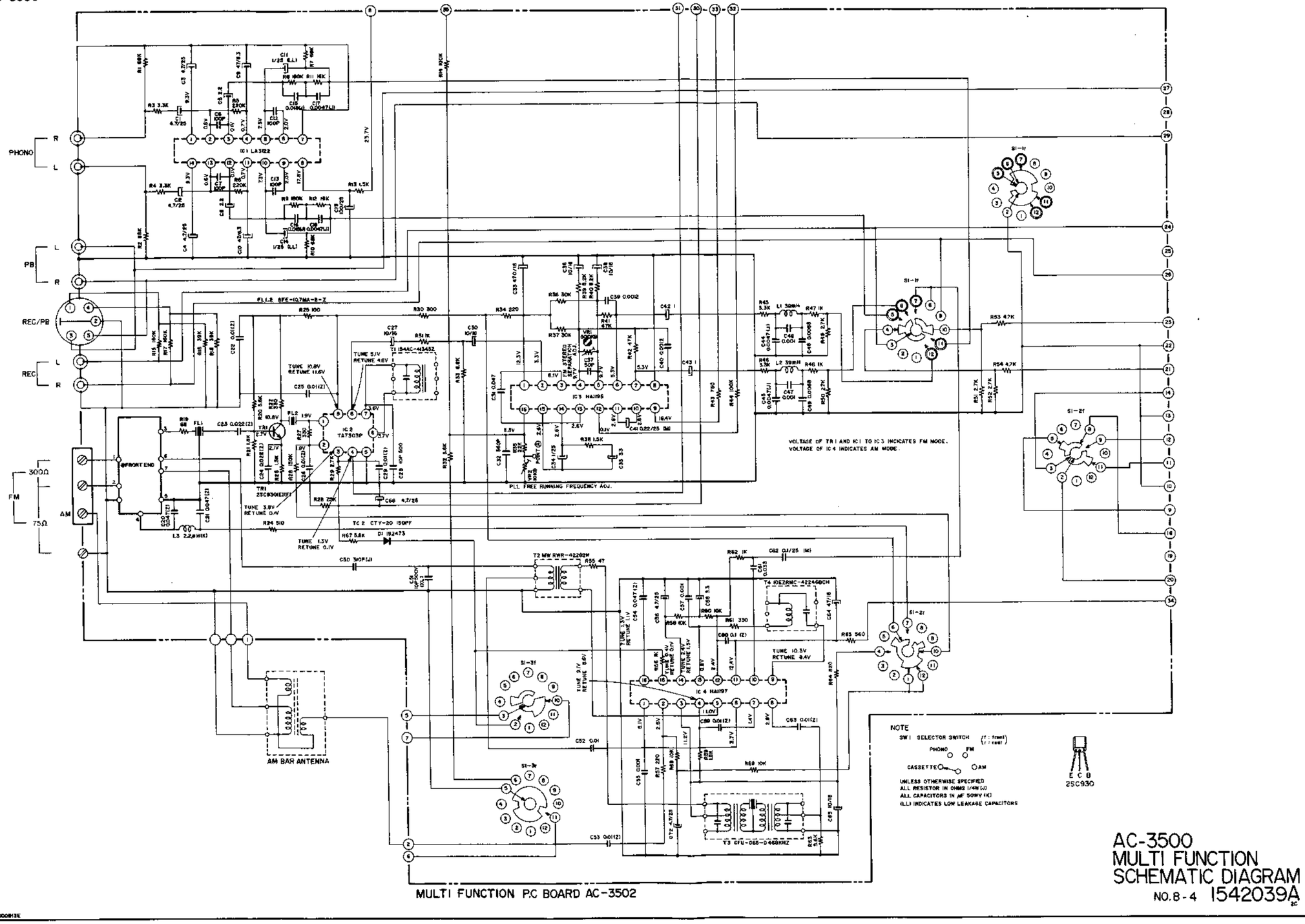


NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS (1/4 W (J)
ALL CAPACITORS IN μF 50WV (J)
(LL) INDICATES LOW LEAKAGE CAPACITORS

AC-3500/L
TONE CONTROL
SCHEMATIC DIAGRAM

NO.8-3 1542038A 2C

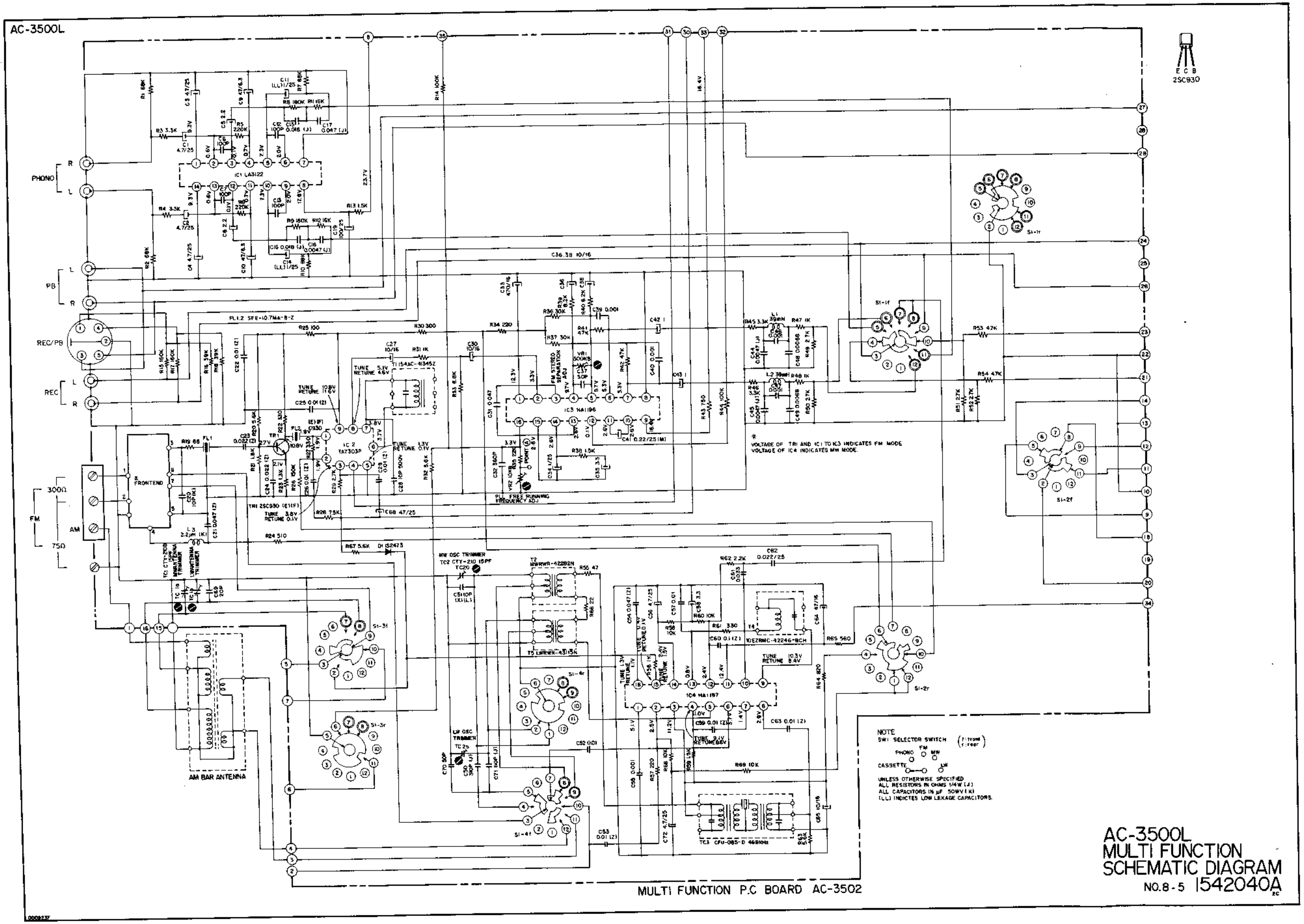
AC-3500



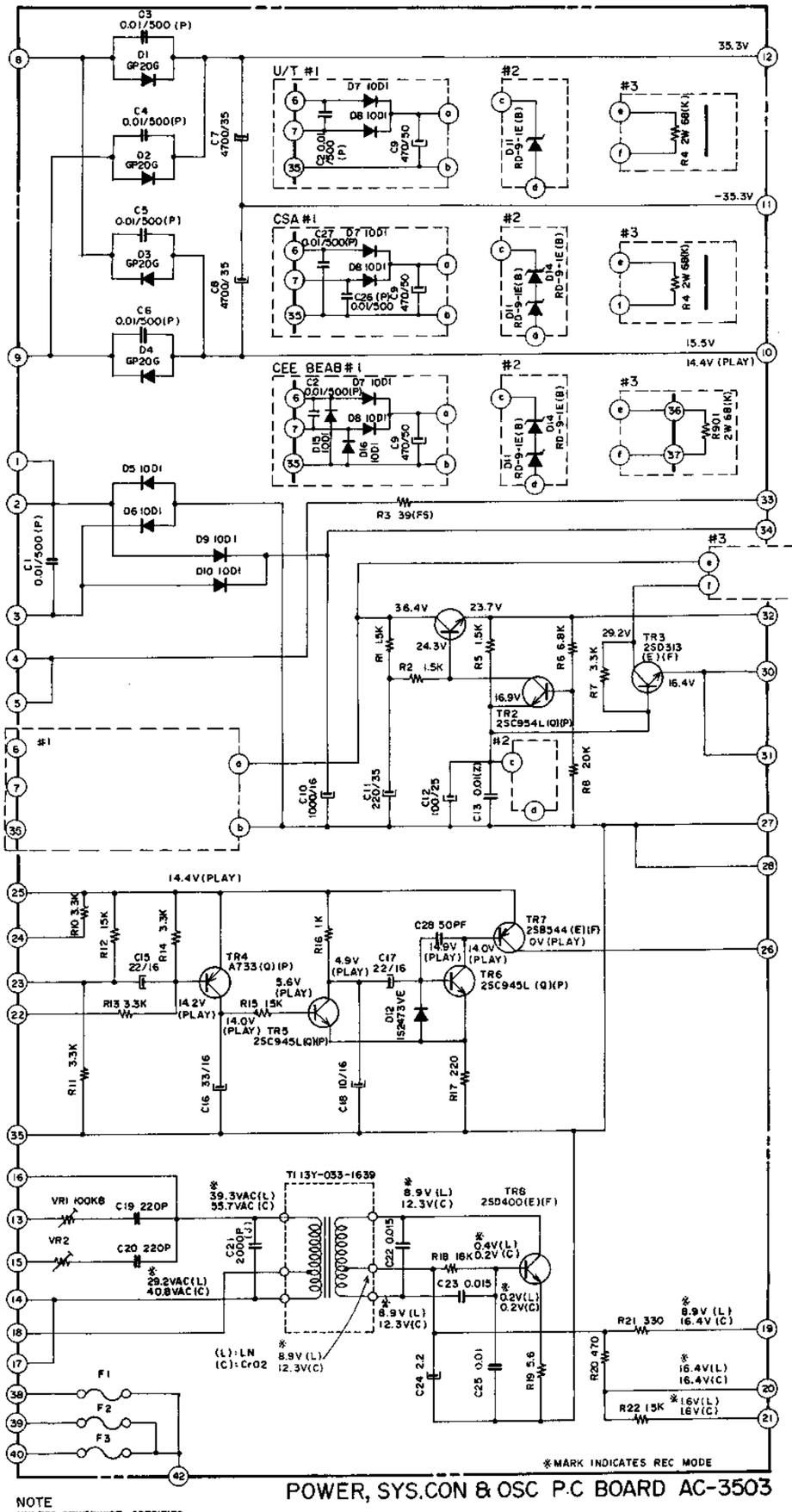
MULTI FUNCTION P.C BOARD AC-3502

AC-3500
MULTI FUNCTION
SCHEMATIC DIAGRAM

NO.8-4 1542039A


AC-3500L
PHONO
R
L
PB
REC/PB
REC
FM
300Ω
75Ω
AM
FRONTEND
IC1 LA3122
IC2 TA7303P
IC3 HA1196
IC4 HA1197
TR1 2SC930 (E)(F)
FL1.2 SFE-10.7MA-8-Z
T1 154AC-41345Z
FM STEREO SEPARATION ADJ
PLL FREE RUNNING FREQUENCY ADJ
C36.38 10/16
MW OSC TRIMMER
TC2 CTY-210 15PF
LW OSC TRIMMER
T2 MWRWR-42282N
T5 LWRWR-43115N
T4 10EZRMC-42246-BCH
TC3 CFU-085-D 468kHz
AM BAR ANTENNA
S1-1f
S1-1r
S1-2f
S1-2r
S1-3f
S1-3r
S1-4f
S1-4r
E C B
2SC930
* VOLTAGE OF TR1 AND IC1 TO IC3 INDICATES FM MODE
VOLTAGE OF IC4 INDICATES MW MODE.
NOTE
SW1 SELECTOR SWITCH (f: front r: rear)
PHONO FM MW
CASSETTE LW
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50WV (K)
(LL) INDICTES LOW LEKAGE CAPACITORS.
MULTI FUNCTION P.C BOARD AC-3502
AC-3500L
MULTI FUNCTION
SCHEMATIC DIAGRAM
NO.8-5 1542040A

AC-3500/L



POWER, SYS.CON & OSC P.C BOARD AC-3503

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50WV (K)
(F.S) INDICATES FAIL SAFE RESISTORS.

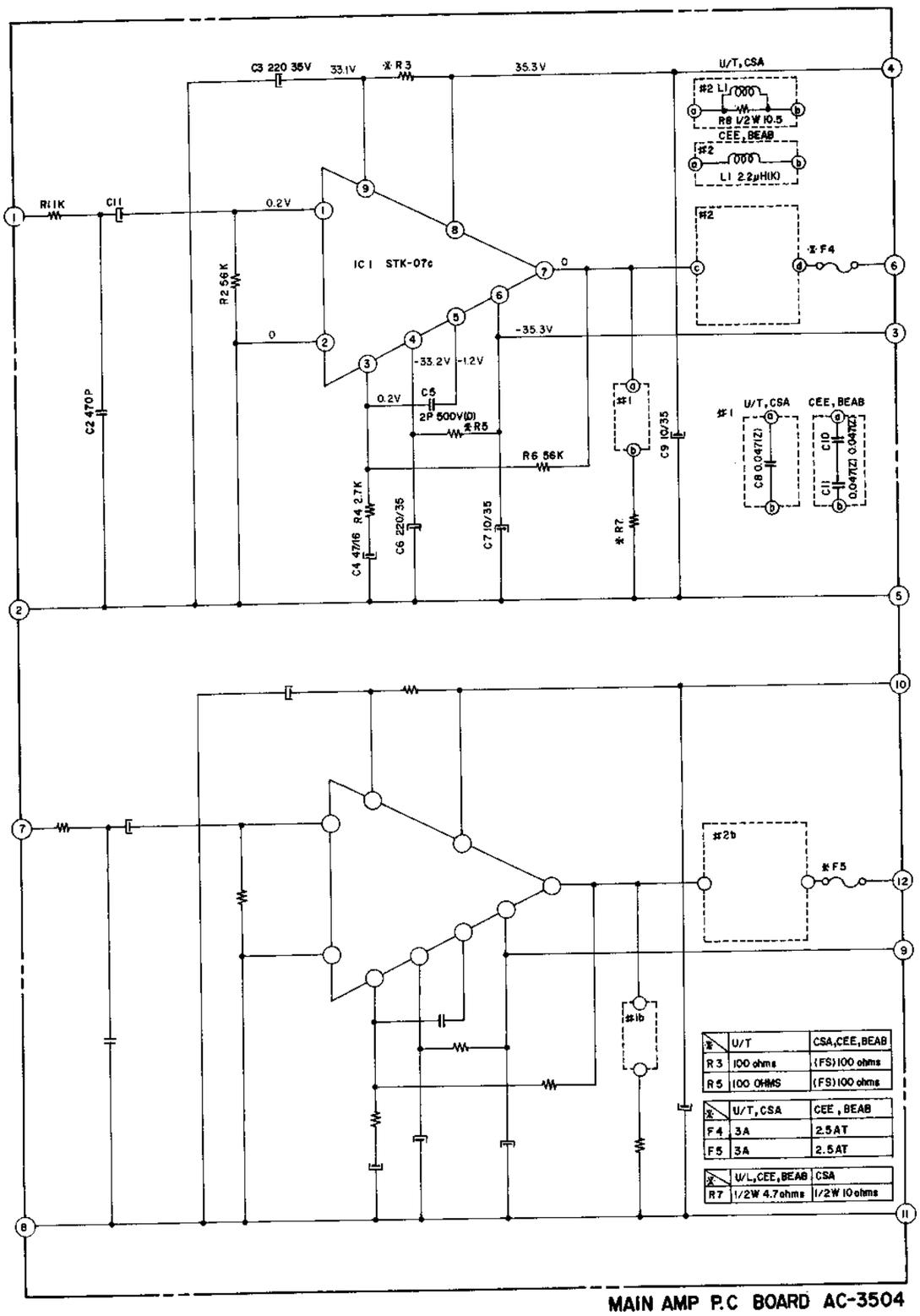
	U/T			CSA	CEE BEAB
	110V	220V	240V		
F1	2A	–	–	2A	1 AT
F2	–	1A	–	1A	1AT
F3	–	–	1A	1A	1AT

AC-3500/L POWER, SYS.CON. & OSC. SCHEMATIC DIAGRAM

NO.8-6 1542041A 2C

000916D

AC-3500/L



*	U/T	CSA,CEE,BEAB
R3	100 ohms	(FS)100 ohms
R5	100 OHMS	(FS)100 ohms

*	U/T, CSA	CEE, BEAB
F4	3A	2.5AT
F5	3A	2.5AT

*	U/L, CEE, BEAB	CSA
R7	1/2W 4.7ohms	1/2W 10ohms

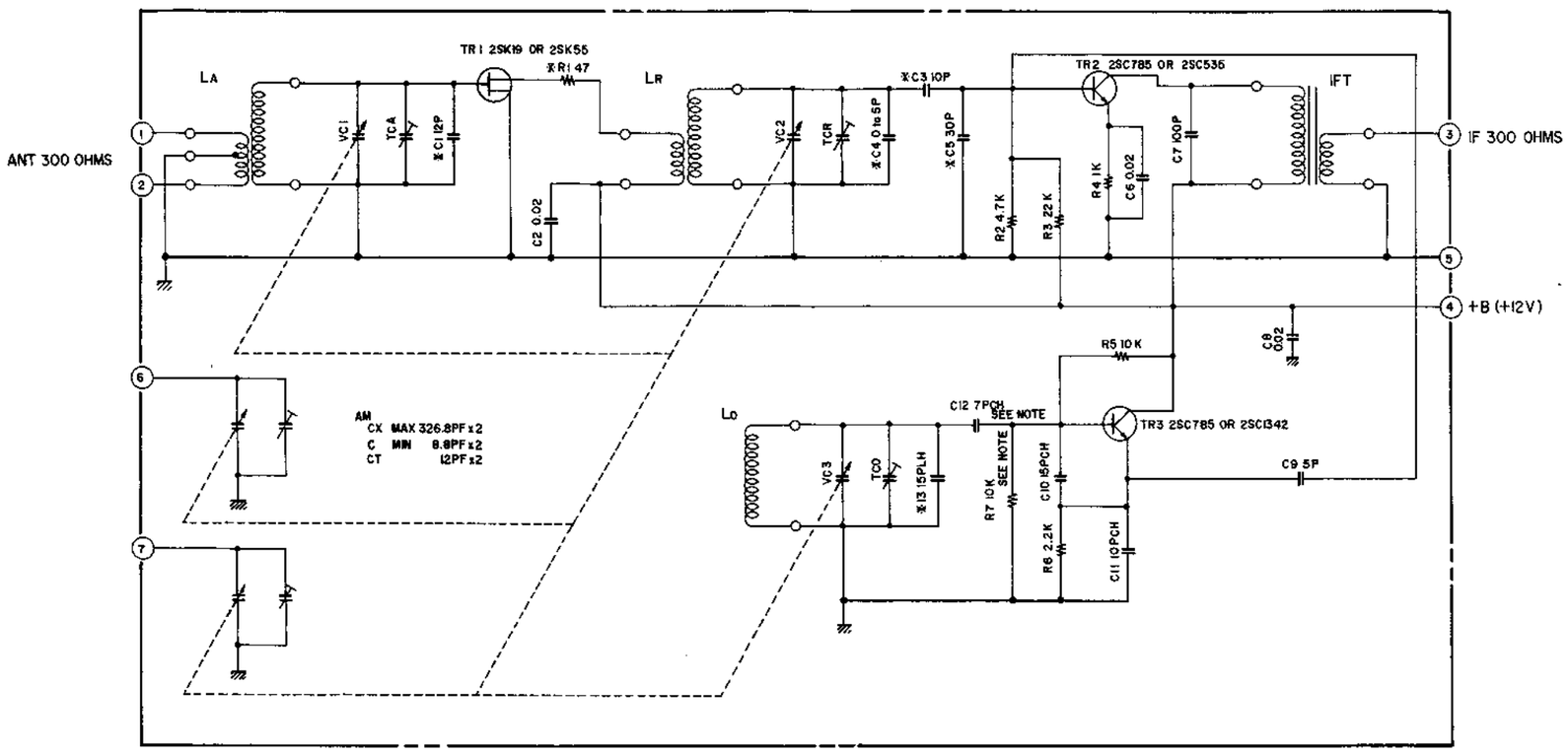
MAIN AMP P.C BOARD AC-3504

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50WV

AC-3500/L
MAIN AMP
SCHEMATIC DIAGRAM
NO. 8-7 1542042A 2C

0009I4A

AC-3500/L



NOTE

1. UNLESS OTHERWISE SPECIFIED
   ALL RESISTER IN OHMS
   ALL CAPACITORS IN μF
2. ※ MARK: ADJUSTED BY FACTORY
3. R7: 6.8K OHMS (CEE, BEAD MODEL)
   C12: 5pF (CEE, BEAD MODEL)
4. MODEL AC-3500 (U/T, CSA): FB512FU14
   MODEL AC-3500L(U/T) : FB512FU14
   MODEL AC-3500L(CEE, BEAD): FB512FU12
5. TCA AND TCO ARE USING ONLY AC-3500 THAT INDICATES % MARK

AC-3500/L FRONT END SCHEMATIC DIAGRAM

NO.8-8 1542043A

000919