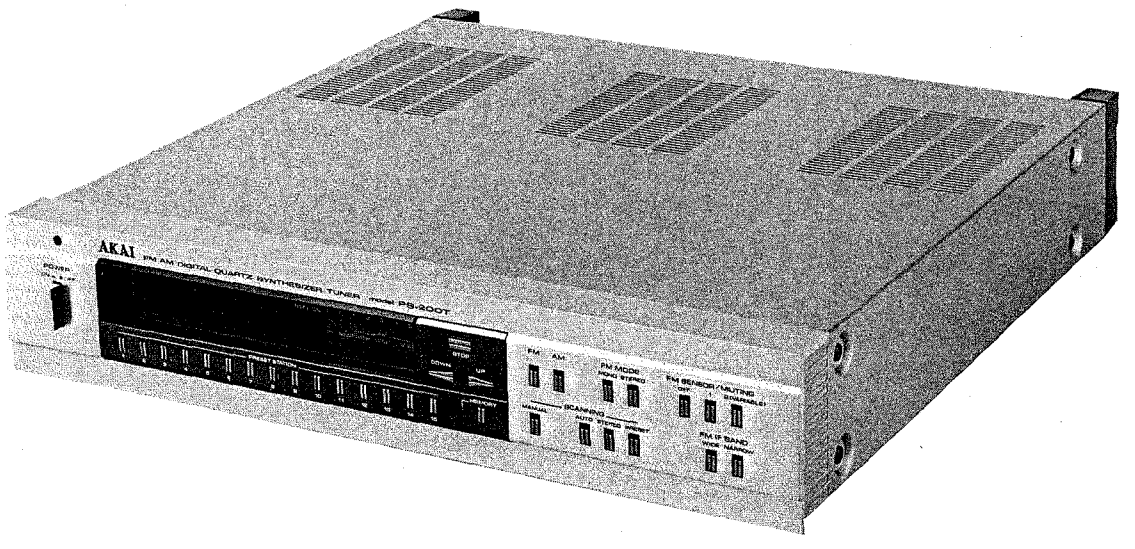
SERVICE MANUAL
PARTS LIST

PS-200T

MODEL PS-200T

AKAI

ALSO APPLICABLE TO BLACK PANEL MODEL



FM AM DIGITAL QUARTZ SYNTHESIZER TUNER

MODEL PS-200T

ALSO APPLICABLE TO BLACK PANEL MODEL

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SECTION 1

SERVICE MANUAL

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For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I. TECHNICAL DATA

FM TUNER SECTION		
FREQUENCY RANGE		87.5 MHz to 108 MHz
SENSITIVITY (IHF)		0.8 μV (75 ohms)
CAPTURE RATIO		1.0 dB
SELECTIVITY (IHF)		More than 100 dB
IMAGE REJECTION		More than 110 dB (98 MHz)
IF REJECTION		More than 110 dB (98 MHz)
SPURIOUS REJECTION		More than 110 dB (98 MHz)
AM SUPPRESSION		60 dB
SIGNAL TO NOISE RATIO		75 dB
HARMONIC DISTORTION	MONO	Less than 0.08% Narrow (100% modulation)
	STEREO	Less than 0.1% wide 0.3% Narrow (100% modulation)
TUNING INDICATOR	SIGNAL	5 point LED
	LOCK	LED
	MULTIPATH	LED
MUTING	LEVEL CONTROL	OFF : 0 dB 1 : 50 μV 2 : 10 μV to 100 μV
STEREO SEPARATION		More than 50 dB (1 kHz)
SUB CARRIER SUPPRESSION		More than 65 dB
OUTPUT VOLTAGE		Variable, Controllable from 0 V to 1.5 V Fixed, 450 mV (100% modulation)
ANTENNA INPUT IMPEDANCE		75 ohms unbalanced

AM TUNER SECTION	
FREQUENCY RANGE	513 kHz to 1,647 kHz (520 kHz to 1,610 kHz USA & Canada)
SENSITIVITY (IHF)	6 μV (external antenna) 50 ohms
SELECTIVITY (IHF)	More than 35 dB
IMAGE REJECTION	More than 70 dB (1,000 kHz)
IF REJECTION	More than 65 dB
SIGNAL TO NOISE RATIO	More than 55 dB
OUTPUT VOLTAGE	Controllable from 0 mV to 500 mV or 150 mV (30% modulation)

MISCELLANEOUS	
SEMICONDUCTORS	Transistors: 80, Diodes: 20, FETs: 14, ICS: 36, LED: 23
POWER CONSUMPTION	25W
POWER REQUIREMENTS	120V, 60 Hz for USA & Canada 220V, 50 Hz for Europe except UK 240V, 50 Hz for UK & Australia 110/220/240V, 50/60 Hz internally switchable for use othe countries
DIMENSIONS	440(W) x 90(H) x 443(D) mm (17.3 x 3.5 x 17.4) inches
WEIGHT	7.8 kg (3.5 lbs)

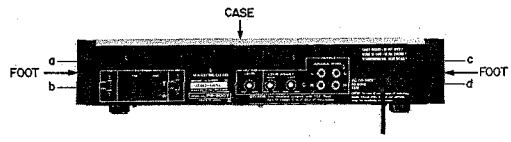
STANDARD ACCESSORIES	
	FM di-pole antenna 1
	FM external antenna plug 1
	AM external antenna plug 1
	AM antenna 1
	Connection Cords . . . . . 1 set
	Operator's Manual 1

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

II. DISMANTLING OF UNIT

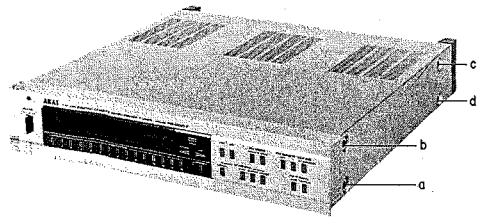
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

3



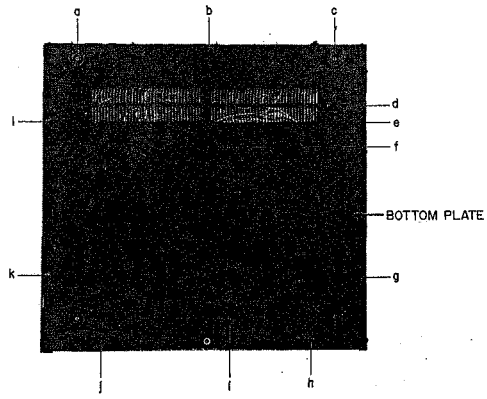
SCREWS

1



SCREWS

4



SCREWS

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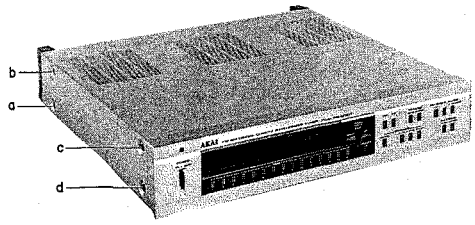
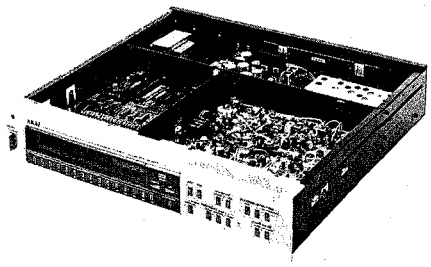


SCREWS

5



III. CONTROLS

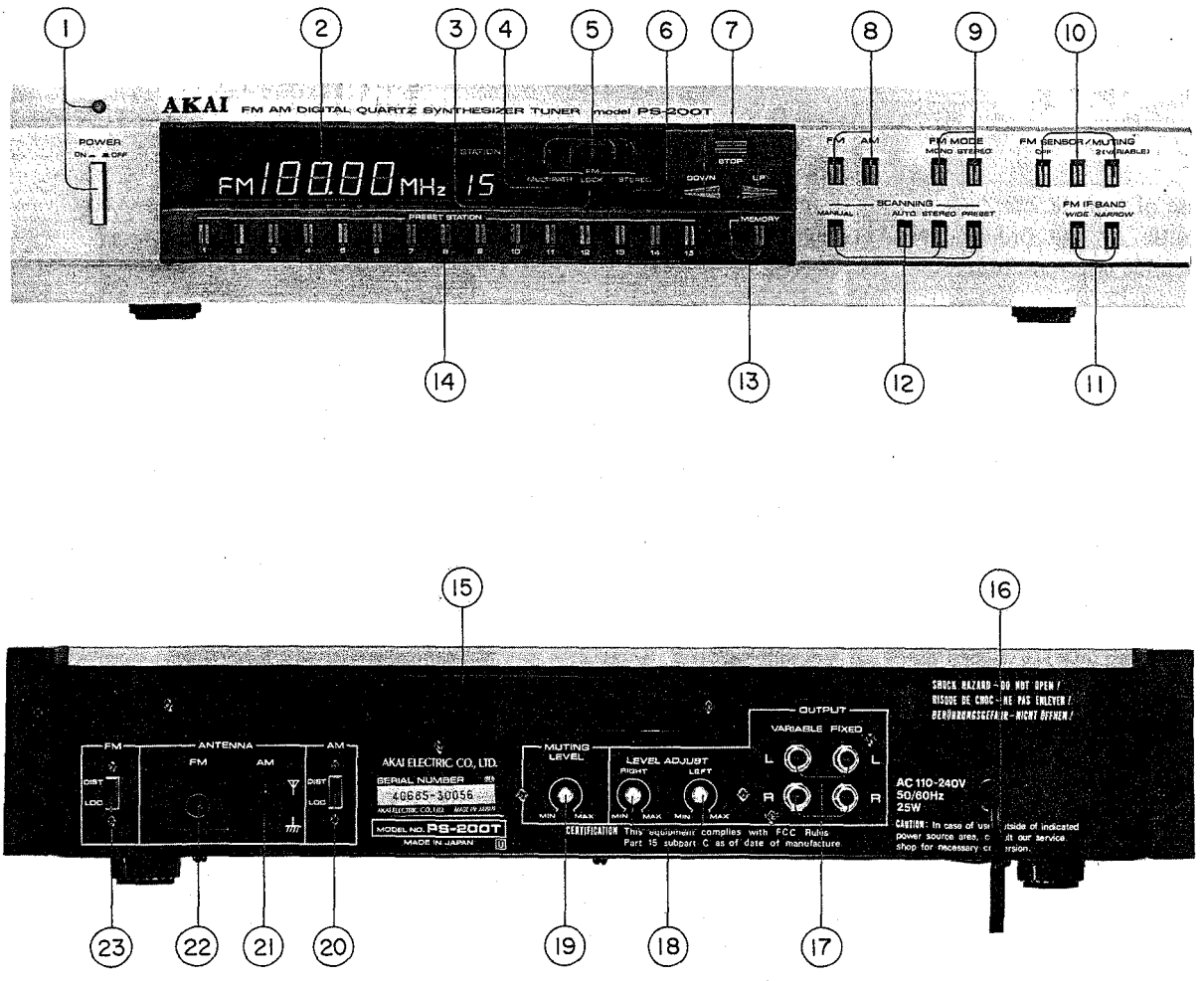


Fig. 3-1

1. POWER SWITCH AND INDICATOR
2. DIGITAL FL DISPLAY
3. FM LOCK INDICATOR
4. MULTIPATH INDICATOR
5. LED SIGNAL STRENGTH METER
6. FM STEREO INDICATOR
7. TUNING SECTION (STOP, UP, DOWN)
8. FM AND AM BAND SELECTORS
9. FM MODE SELECTOR (MONO, STEREO)
10. FM SENSOR/MUTING SWITCHES
11. FM IF BAND SELECTOR BUTTONS
12. SCANNING (MANUAL, AUTO, STEREO, PRESET)
13. MEMORY BUTTON AND MEMORY INDICATOR
14. PRESET STATIONS
15. MEMORY BATTERY BOX
16. AC POWER CORD (AC INLET FOR SOME COUNTRIES)
17. OUTPUT (VARIABLE, FIXED)
18. OUTPUT LEVEL ADJUSTMENT CONTROL
19. AUDIO MUTE LEVEL
20. AM ANTENNA SWITCH
21. AM EXTERNAL ANTENNA JACKS
22. FM EXTERNAL ANTENNA JACKS
23. FM ANTENNA SWITCH (LOCAL, DIST)

IV. PRINCIPAL PARTS LOCATION

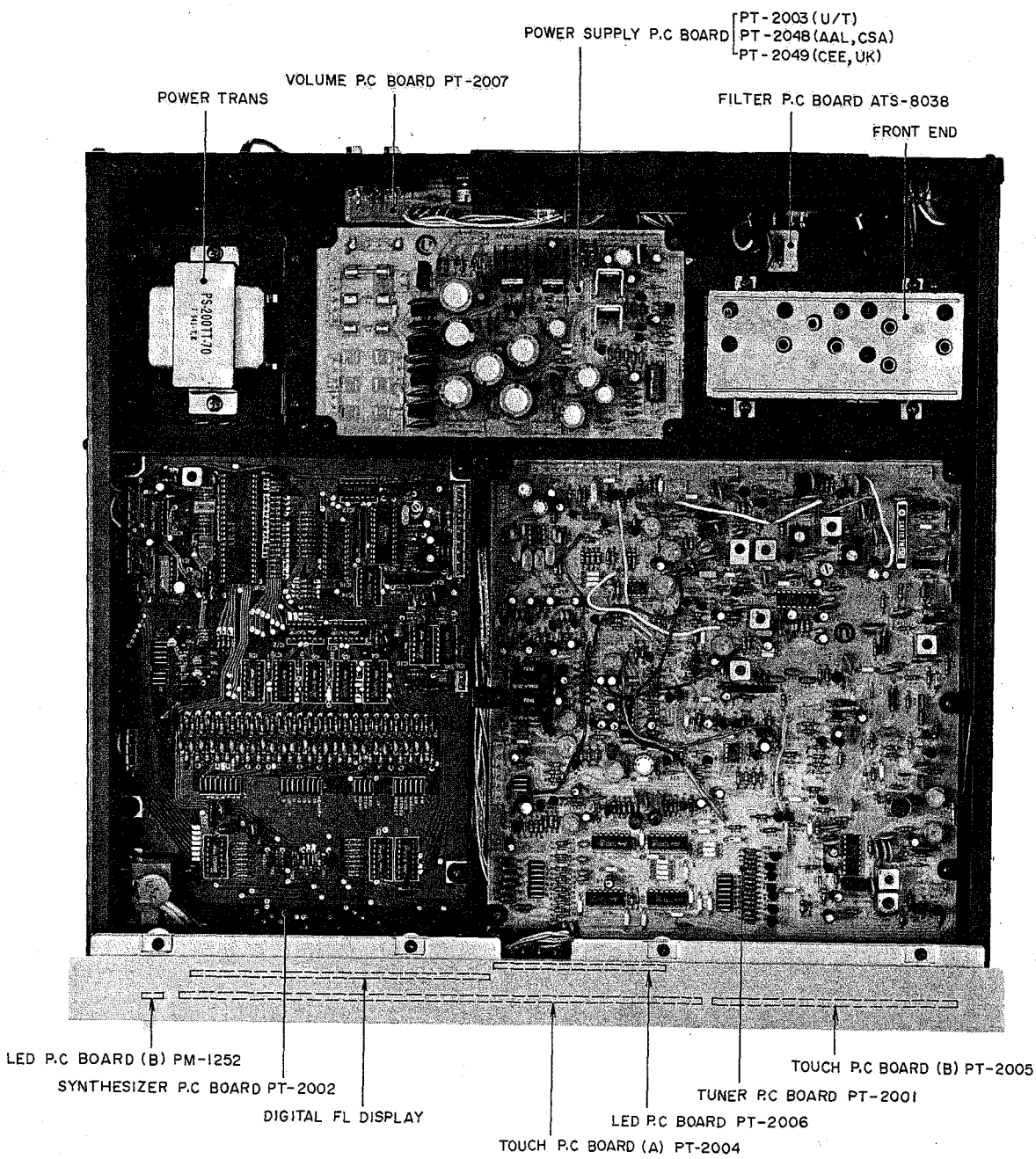


Fig. 4-1 Top View (U/T Model)

V. VOLTAG CONVERSION

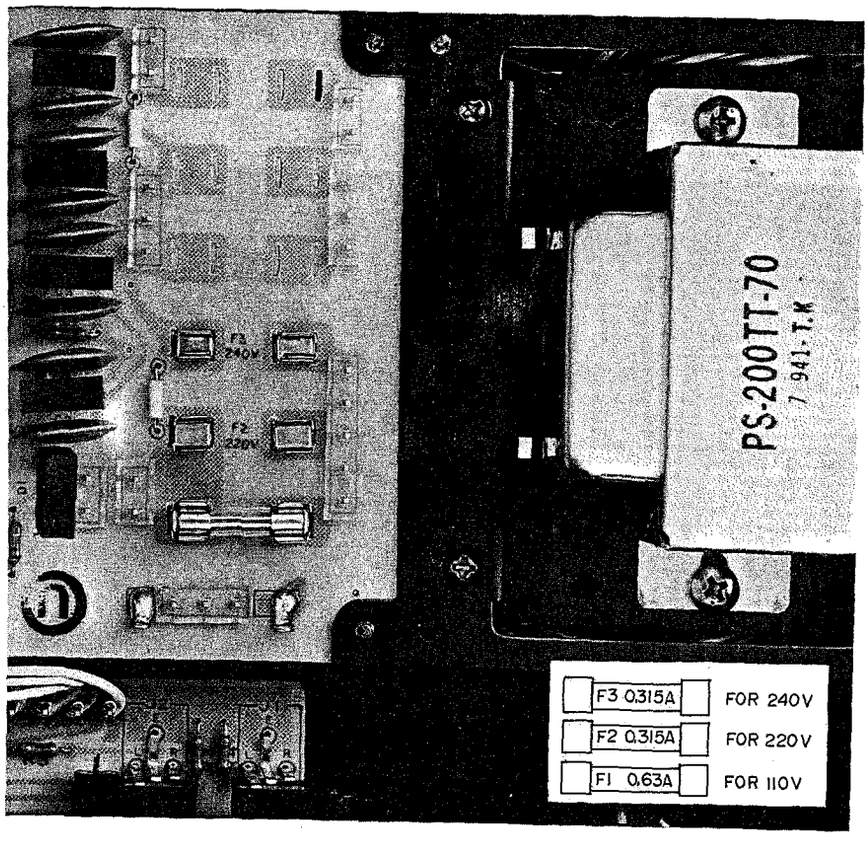


Fig. 5-1

(Models for Canada, USA, Europe, UK and Australia are not equipped with this facility.)

Each machine is preset at the factory according to destination but some machines can be set to 110V, 220V or 240V as required.

If voltage change is necessary, this can be accomplished as follows.

1) Disconnect AC Power Cord.
2) Loosen holding screws and remove upper case. (Refer to Section 2.)
3) Remove existing line voltage fuse and insert required line voltage fuse in proper fuse holder, explicitly following instructions printed inside the tuner near the line voltage fuses.

VI. CIRCUIT OPERATION

1. OUTLINE

The PS-200T is a synthesizer AM/FM tuner with a micro-processor and with the power switch out, uses the touch switch for all front panel operation. Different from existing tuners in that there is no mechanical varicon, there is no longer the cumbersome turning of the tuning dial by hand. Furthermore, by pressing in the batteries (1.5 x 3) in the Rear Panel, it can back up the memory of each mode and when the power source is cut off and switched on again each mode will have retained the memory that was there before the power source was cut off. Even without the batteries several hours of back up memory are possible due to the Electric Condenser's power supply circuit.

There are various PS-200T models for USA, Canada, European countries etc. so the important differences are outlined below.

	USA, Canada	Europe
AM Frequency Range	520 kHz ~ 1,610 kHz	513 kHz ~ 1,647 kHz
AM Step Frequency	10 kHz	9 kHz
AM IF Frequency	460 kHz	459 kHz
FM Frequency Range	87.5 MHz ~ 108 MHz	87.5 MHz ~ 108 MHz
FM Step Frequency	100 kHz	50 kHz
De-emphasis	75 μsec	50 μsec

2. BLOCK DIAGRAM

1) FM Block Diagram

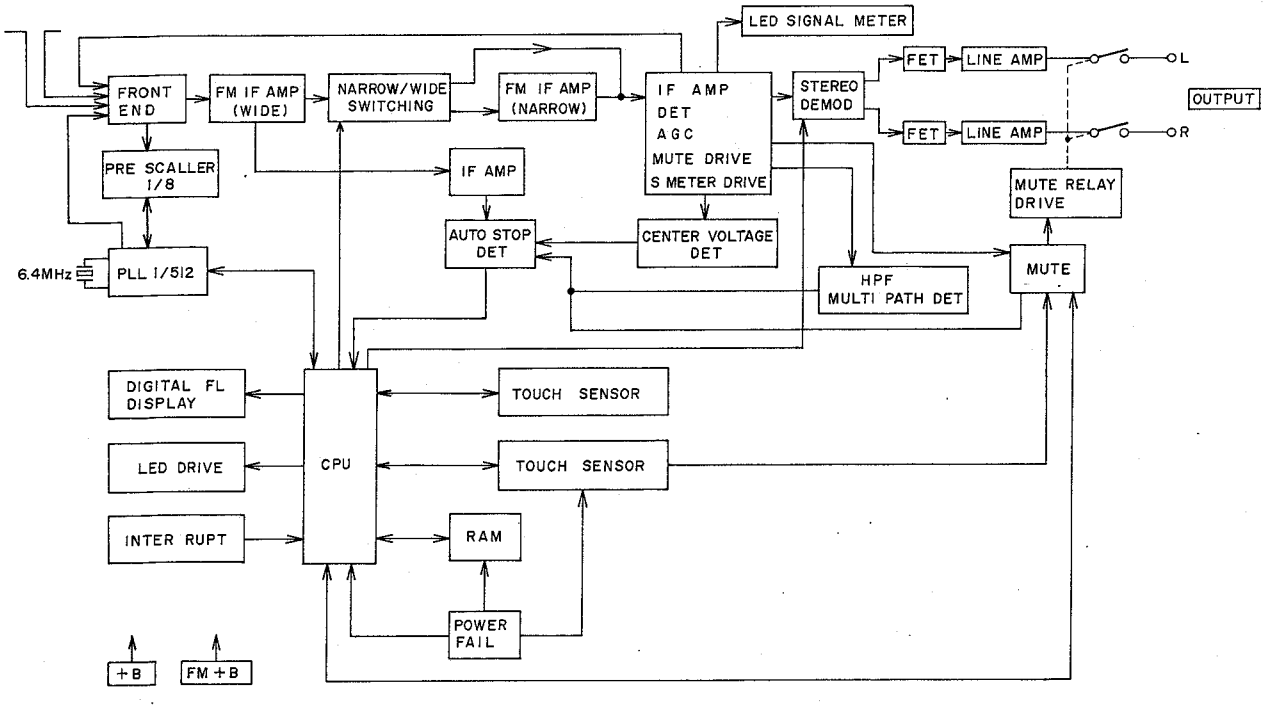


Fig. 6-1

2) AM Block Diagram

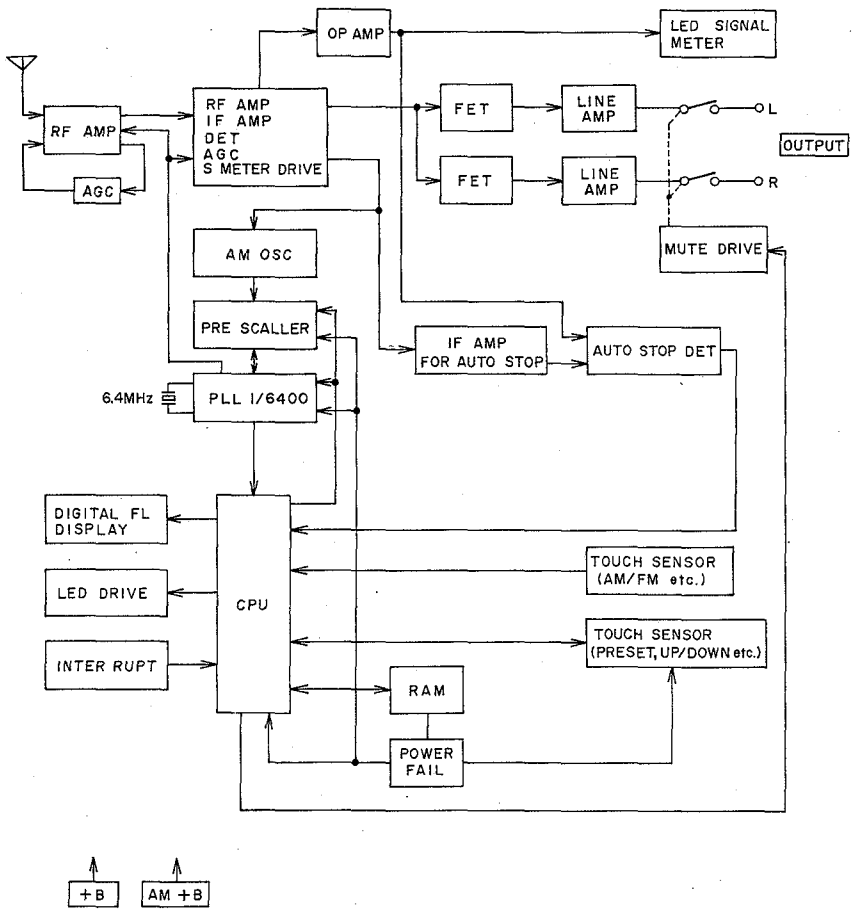


Fig. 6-2

3. PLL SYNTHESIZER

1) FM

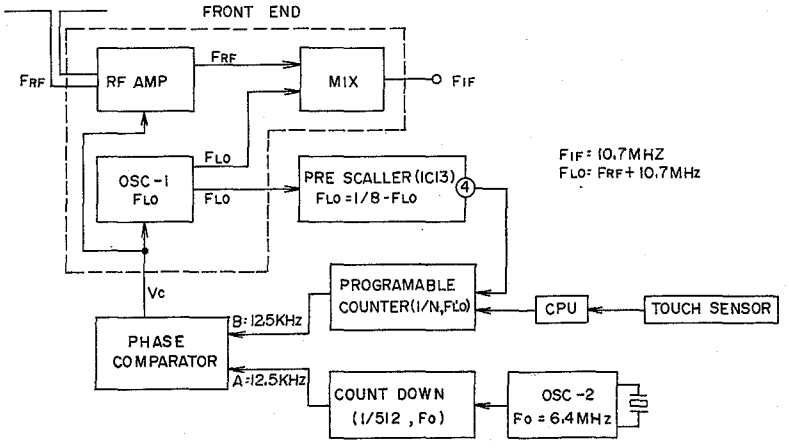


Fig. 6-3 PLL Synthesizer Block Diagram (FM)

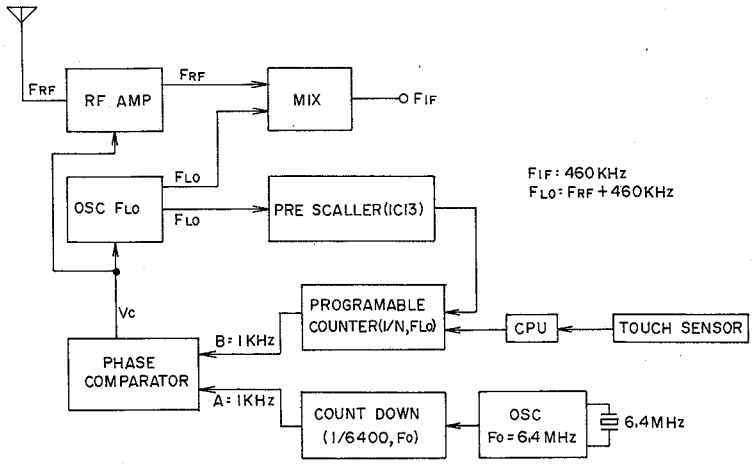


Fig. 6-4 PLL Synthesizer Block Diagram (AM)

Now in Fig. 6-3 is an explanation of when FM 98 MHz broadcast is received. First, when the desired broadcast station (98 MHz in this case) is designated by the Touch Sensor, the countdown ratio N of the Programmable Counter is established at 1084 (at 98 MHz). In the input A of the phase comparator a standard signal 12.5 kHz made by OSC-2 is added.

Up to the phase comparator's input comparison signal B reaching 12.5 kHz against this standard signal A the phase comparator's output voltage VC changes and it also changes until the frequency has the oscillation frequency FLo of OSC-1 (in this case 108.7 MHz).

In other words, if the countdown ratio N of the Programmable Counter is 1084, at the point when comparison signal of the phase comparator becomes 12.5 kHz, the frequency FLo of the OSC-1 is 108.7 MHz.

Therefore the FM IF frequency is 10.7 MHz = 108.7 MHz − 98 MHz.

Always at the point where the IF frequency becomes 10.7 MHz, the OSC-1 frequency changes by establishing the countdown ratio N of the Programmable Counter and is locked on.

2) AM

The operation of the AM's PLL synthesizer's operation is practically the same as for FM. The difference is that because AM has a low frequency compared with FM, the pre-scaler's countdown ratio is 1/1 and the countdown is 1/6450 and the standard frequency is 1 kHz.

For example, when receiving an AM broadcast of 900 kHz,

FIF = 950 kHz + 460 kHz = 1360 kHz

Therefore the countdown ratio N of the Programmable Counter should be 1360. In other words, when selecting a 950 kHz broadcast with the Touch Sensor by CPU the countdown ratio of the Programmable Counter become 1/1360 and the phase comparator's output VC changes and when the local oscillator frequency FLo becomes 1360 kHz it locks on.

VII. ADJUSTMENT

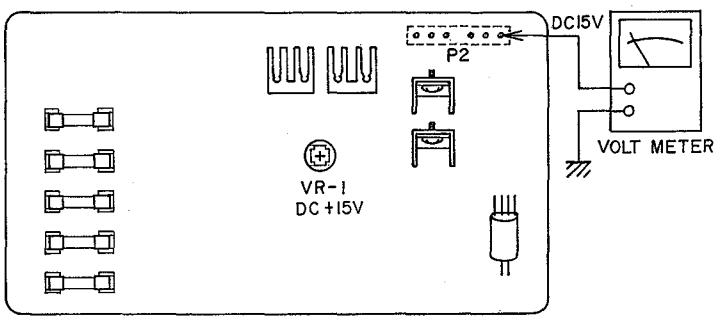
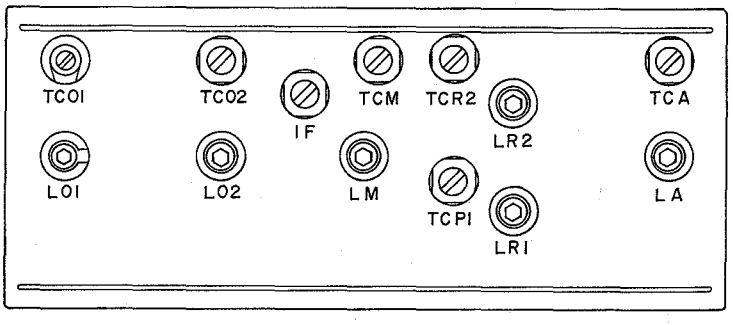


Fig. 7-1 Power Supply P.C Board



IF : DISTORTION
LA, LRI, LR2, LM, LO2 : LOW FREQUENCY SENSITIVITY
TCA, TCRI, TCR2, TCM, TCO2: HIGH FREQUENCY SENSITIVITY
TCOI, LOI : DO NOT TOUCH (ADJUSTED BY FACTORY)

Fig. 7-2 Front End

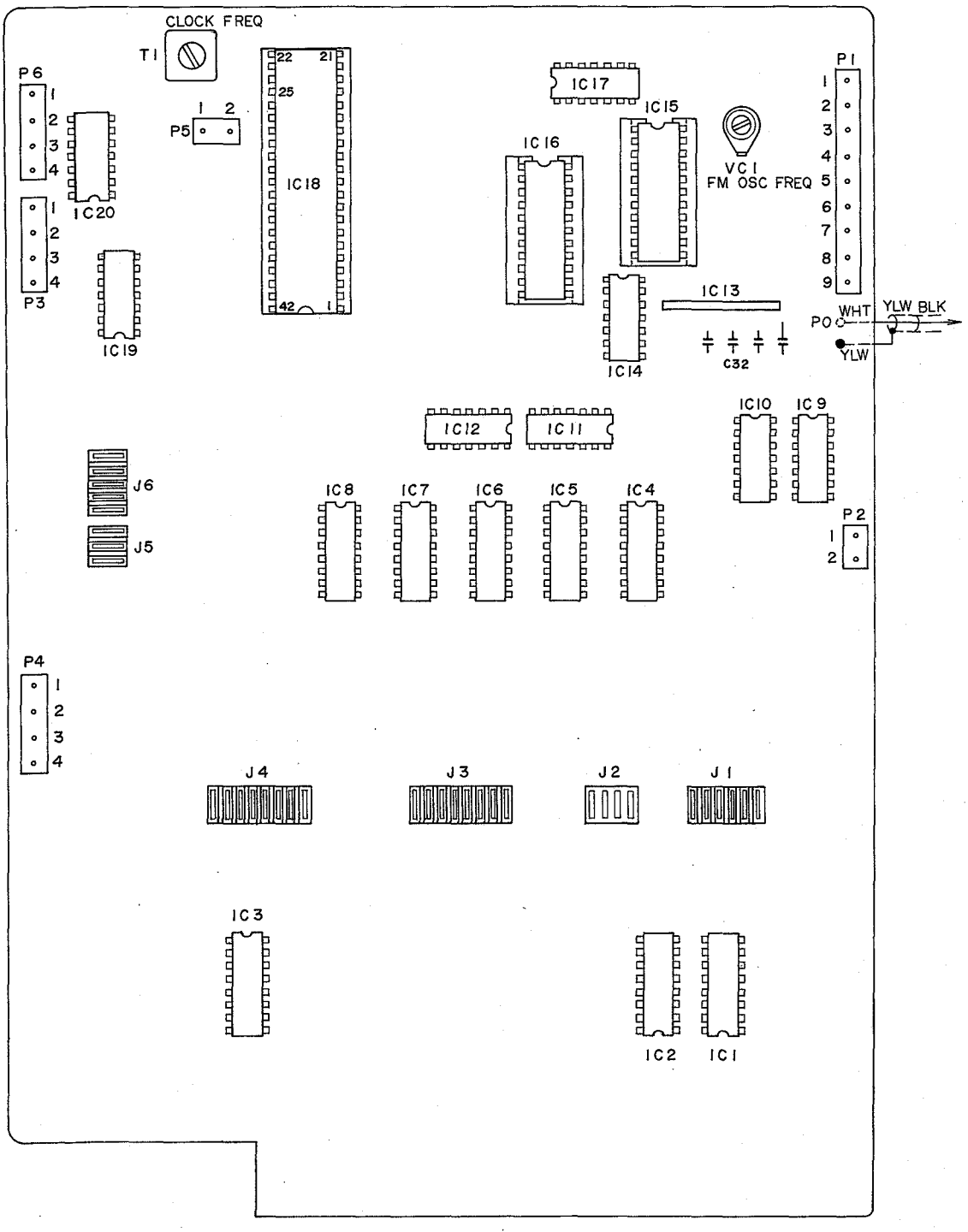


Fig. 7-3 Synthesizer P.C Board

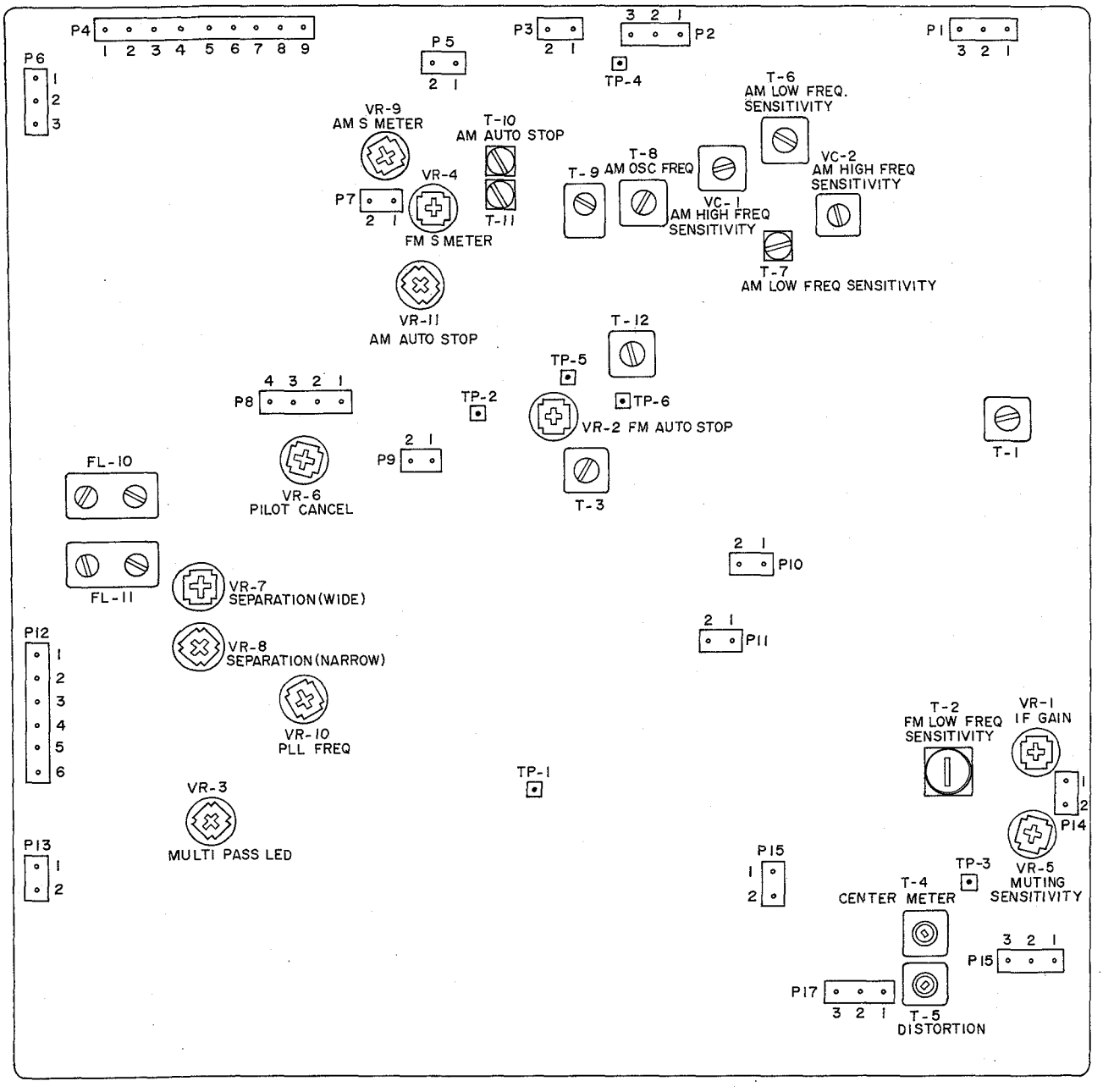


Fig. 7-4 Tuner P.C Board (PT-2001)

1. POWER SUPPLY ADJUSTMENT (Refer to Fig. 7-1)

STEP	ADJUSTMENT ITEMS	TEST POINTS	ADJUSTMENT PARTS	RESULT & REMARKS
1	DC + 15 V	P2-1	VR-1	DC + 15 V (Volt Meter)

2. AM SECTION ADJUSTMENT (Refer to Fig. 7-3, 7-4)

STEP	ADJUSTMENT ITEMS	TEST POINTS	ADJUSTMENT PARTS	RESULT & REMARKS
1	Clock Freq.	IC 18 (Pin 25) (PT-2002)	T-1 (PT-2002)	470 kHz ± 1 kHz (Frequency Counter)
2	AM OSC Freq.	P3-2 PT-4	T-8	710 kHz ± 1 kHz (Frequency Counter), TP-4 should be grounded at the shortest possible distance.
3	Low Freq. Sensitivity (600 kHz or 603 kHz)	Output	T-6 T-7	1) Set Digital FL Display to 100 kHz (603 kHz). 2) Feed a signal of 600 kHz (603 kHz), 30% modulation, 20 dB from SSG to Ant Input. 3) Adjust so that the SSG output is approximately less than 16 dB when the distortion factor is 10%. (Distortion Meter and SSG) NOTE 1, 2
4	High Freq. Sensitivity (1,400 kHz or 1,404 kHz)	Output	TC 1 TC 2	Adjust the sensitivity at 1,400 kHz (1,404 kHz) by the same as step 3.
5	Mid. Freq. (1,000 kHz or 999 kHz)	Output	Confirm	Check the sensitivity and distortion at 1,000 kHz (999 kHz) by the same as step 3.
6				Readjust in step 3 to 5.
7	Auto Stop	TP-5	T-10 T-11	The output of TP-5 to the maximum by feeding 1,000 kHz (999 kHz), 30 dB from SSG to Ant Input.
		P8-4	VR-11	Feed 1,000 kHz (999 kHz), 20 ± 6 dB from SSG to Ant Input and make adjustment until P8-4 becomes "H" level. (Oscilloscope) (NOTE 3)
8	S Meter Sensitivity	S Meter (LED)	VR-9	1) Feed 1,000 kHz (999 kHz), 30% modulation, 50 dB ± 6 dB from SSG to Ant Input. 2) Adjust VR-9 until the fifth lamp of S meter LED is lighted.

NOTES:
1. AM Step Frequency of Digital FL Display is stepped up or down by the unit of 10 kHz in the USA, Canada, etc. and 9 kHz in European countries, etc.
2. With Model PS-200T, the frequency of Digital FL Display is locked by a digital circuit at intervals of 10 kHz (or 9 kHz).
   Therefore, adjust the output frequency of SSG by checking the frequency counter.
3. When turning VR-11 "L" level (0 V) changes instantaneously to "H" level (approx. DC 5 V) at a certain point and this point means the point to obtain "H" level. This function is normal when "H" level changes to "L" level when ATT of SSG is lowered by 1 dB.
4. For the adjustment, set AM Ant Switch to "DIST" side.
5. IF any test point or adjustment parts are not specified, refer to Tuner P.C Board (Fig. 7-4).
6. It may be convenient to Pre-set the display frequency of Digital FL Display to the frequency to be used before performing the adjustment, but in such a case, be sure to return the frequency to the frequency pre-set by the customer when the adjustment is made.

3. FM SECTION ADJUSTMENT (Refer to Fig. 7-2 ~ Fig. 7-4)

STEP	ADJUSTMENT ITEMS	TEST POINTS	ADJUSTMENT PARTS	RESULT & REMARKS
1	Clock Freq.	IC 18 (Pin 25) (PT-2002)	T-1 (PT-2002)	470 kHz ± 1 kHz (Frequency Counter)
2	FM OSC Freq.	P0 (PT-2002)	VC-1 (PT-2002)	(Digital FL Display Freq. + 10.7 MHz) ± 1 kHz (Frequency Counter) (NOTE 1)
3	PLL Freq.	P12-2	VR-10	76 kHz ± 76 Hz (Frequency Counter)
4	Center Meter	P17-1 P17-3	T-4	1) Connect the center meter between P17-1 and P17-3. (NOTE 2) 2) Feed 90 MHz, 54 dB from SSG to Ant Input. 3) Set IF Band SW. to "Wide" and adjust T-4 until the needle of center meter indicates the center of scale. (Center meter should be connected until the adjustment is completed)
5	Distortion	Output	T-5 IF (Front End)	Minimize the distortion under the condition described in step 4. (Distortion Meter)
6				Readjust in steps 4 and 5.
7	Low Freq. Sensitivity (90 MHz)	Output	VR 1 T-2	1) Feed 90 MHz, 5 dB from SSG to Input. 2) Set VR-1 to the center. 3) Obtain a maximum output by adjusting T-2. (VTVM)
		Output	LA, LR1, LR2 LM, L02 (Front End)	Input the 90 kHz signal from SSG, into Ant. Input and at the point where distortion is 3% adjust so that the SSG's ATT is less than 5 dB. (Distortion Meter)
8	High Freq. Sensitivity (106 MHz)	Output	TCA, TCR1 TCR2, TCM TC02 (Front End)	Input the 106 kHz signal from the SSG into Ant. Input and at the point where distortion is 3% adjust so that the SSG's ATT is less than 5 dB.
9				Readjust in steps 7 and 8.
10	IF Gain	TP-3	VR-1	1) Feed 98 MHz, 30 dB from SSG to Ant Input. 2) Adjust VR-1 so that the electric potential is kept same when IF Band Switch is set to "Wide" and "Narrow" (VTVM) (NOTE 3).
11	Muting Sensitivity	Output	VR-5	1) Set FM IF Band switch to "Wide". 2) Set FM Sensor/Muting switch to "1". 3) Feed 98 MHz, 30 dB from SSG to Ant Input. 4) Set VR-5 to the point where the output is produced at SSG ATT. 30 dB and disappears at 29 dB. 5) Set FM IF Band switch to "Narrow" and make adjustment as described in the above 2) to 4). If the sensitivity can not be adjusted to the required range, repeat step 10.
12	S Meter Sensitivity	S Meter LED	VR-4	Feed 98 MHz, 54 dB ± 6 dB from SSG to Ant. Input and adjust VR-4 until the fifth lamp of S Meter LED is lighted. (NOTE 4)

STEP	ADJUSTMENT ITEMS	TEST POINTS	ADJUSTMENT PARTS	RESULT & REMARKS
13	Auto Stop Level	TP-2	VR-2	1) Feed 98 MHz, 20 dB ± 6 dB from SSG to Ant. Input. 2) Set FM Sensor/Muting switch to the "Off" position. 3) Adjust VR-2 to such a point where the voltage of TP-2 change from "H" level to "L" level. (Oscilloscope) (NOTE 5)
14	Separation (Wide)	Output	VR-7	1) Set FM IF Band Switch to the "Wide" side. 2) Feed the signal of 98 MHz, 60 dB, stereo L-CH from SSG to Ant Input. 3) Adjust VR-7 until L-CH Output becomes maximum and R-CH output becomes minimum. 4) Equally adjust L-CH in connection with R-CH by means of VR-7. (VTVM)
15	Separation (Narrow)	Output	VR-8	Set IF Band Switch to "Narrow" and adjust VR-8 in the same manner as Step 14 (VTVM).
16	Pilot Cancel	Output	VR-6	Minimize the distortion and adjust the separation to the optimum point (Distortion meter, VTVM).
17	Multi Pass LED	Multi Pass LED	VR-3	This is the point where Mute is "OFF" and LED is not lighted when there is no input.

NOTES:

1. (Digital FL Display Frequency + 10.7 MHz) ± 1 kHz means that when the display frequency of Digital FL Display is 100 MHz, it should be adjusted to 110.7 MHz ± 1 kHz.
2. For the center meter, use a tunning meter supplied as a part of other models. Before adjustment, disconnect the shorting wire between P17-1 and P17-3. Do not forget to reconnect after the repairs have been completed.
3. Measure the voltage on the "Wide" side and adjust VR-1 until the electric potential on the "Narrow" side becomes equal to the potential on the "Wide" side.
4. The point where the fifth lamp of LED is lighted is the point where the fifth lamp of LED is turned off when ATT is reduced by 1 dB.
5. The point where "H" level changes to "L" level means the point where the level changes to "H" level when ATT is increased by 1 dB.
6. Unless otherwise specified adjustment should be made on IF Band "Narrow" side and Ant Switch "Dist" side.
7. The test points and adjustment parts are provided on Tuner P.C Board (Fig. 7-4, if not specified particularly).
8. It may be convenient to pre-set the display frequency of Digital FL Display to the frequency to be used before performing the adjustment, but in such a case, be sure to return the frequency to the frequency Pre-set by the customer when the adjustment is completed.

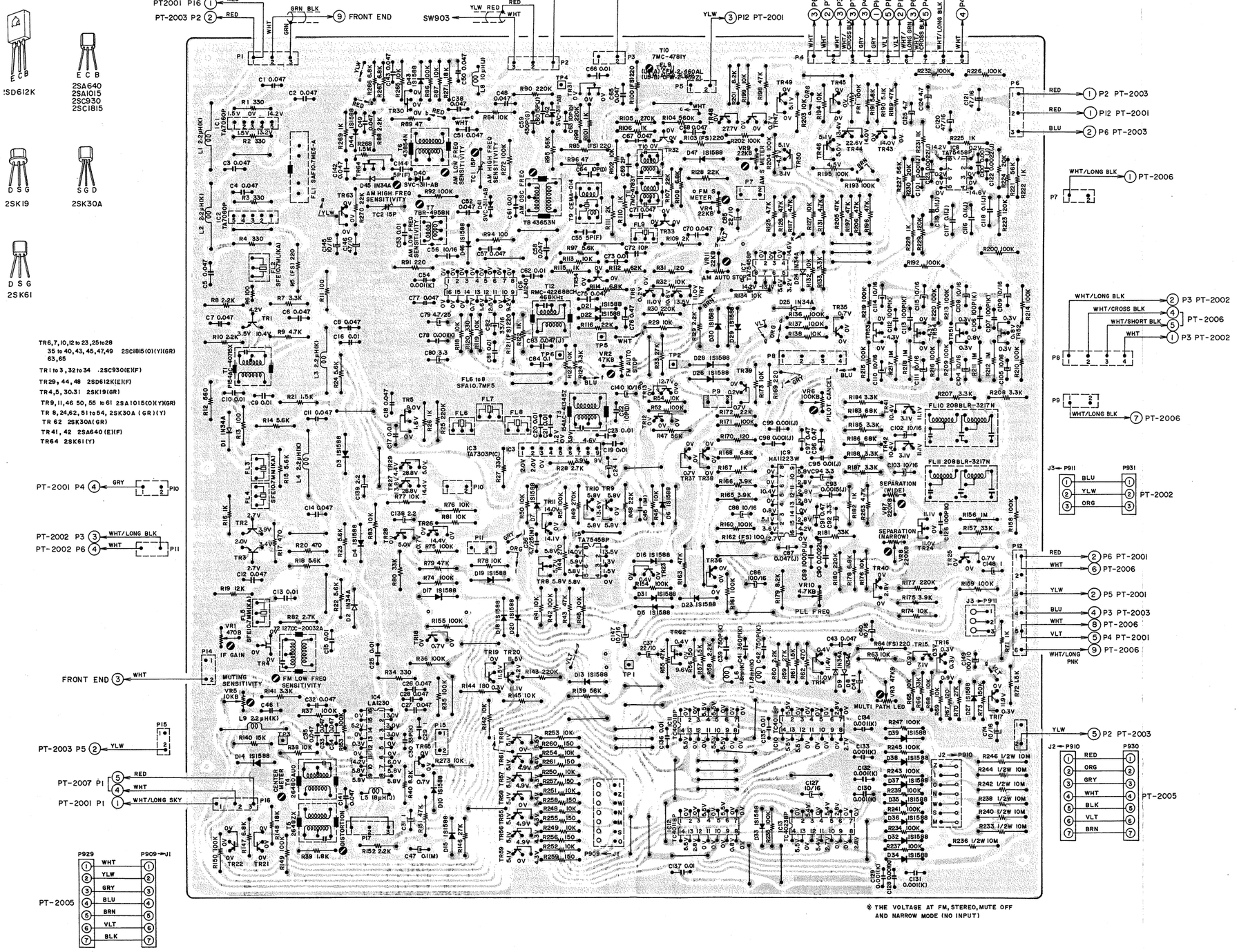
VIII. CLASSIFICATION OF VARIOUS P.C BOARDS

1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

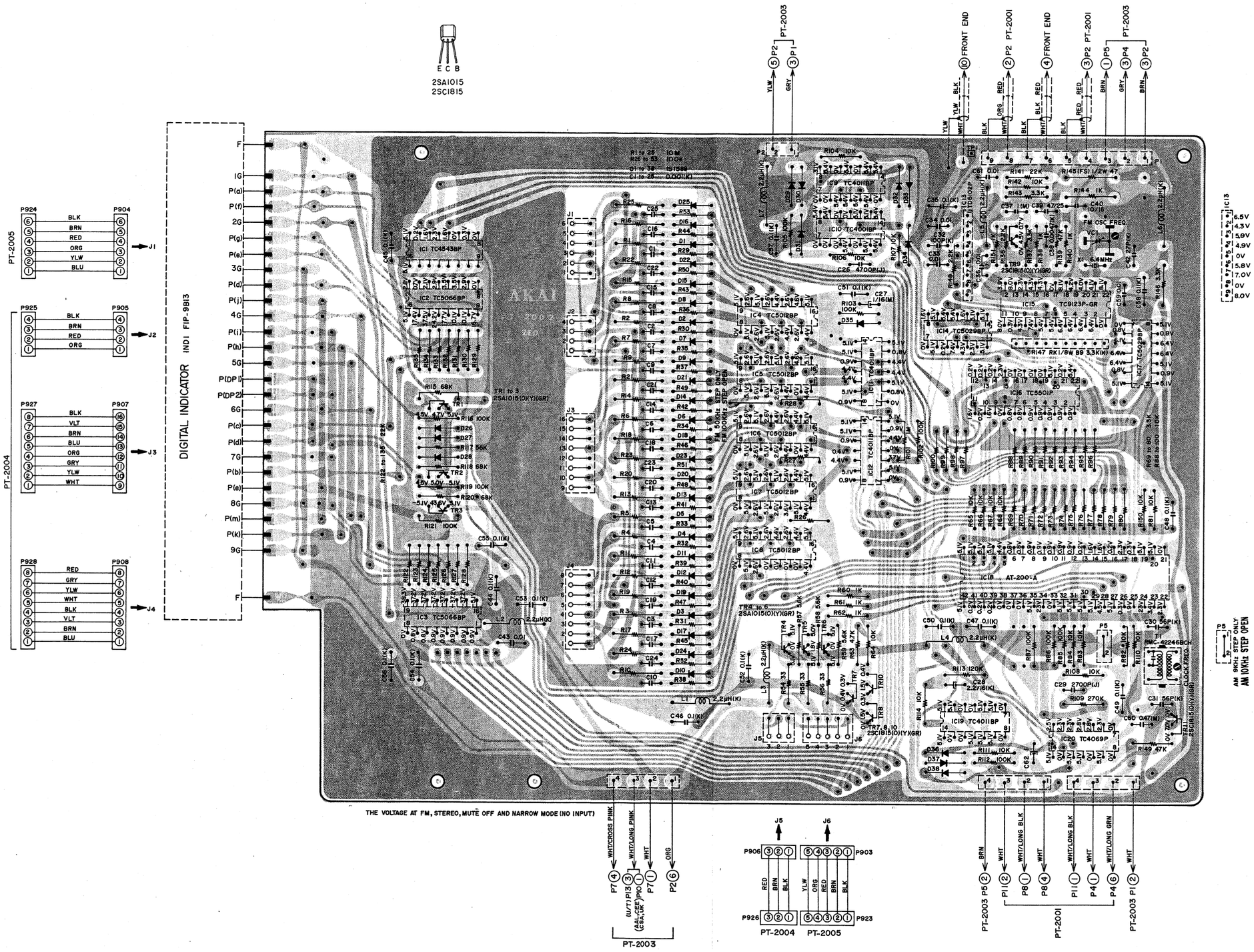
P.C Board Titles	Number of P.C Boards
Tuner P.C Board	PT-2001
Synthesizer P.C Board	PT-2002
Power Supply P.C Board (U/T)	PT-2003
Power Supply P.C Board (AAL, CSA)	PT-2048
Power Supply P.C Board (CEE, UK)	PT-2049
Touch P.C Board (A)	PT-2004
Touch P.C Board (B)	PT-2005
LED P.C Board	PT-2006
Volume P.C Board	PT-2007
Fuse P.C Board (CSA, AAL)	PT-2045
Fuse P.C Board (CEE, UK)	PT-2050
Filter P.C Board	ATS-8038
Battery P.C Board	ATS-8039
LED P.C Board (B)	PM-1232

2. COMPOSITION OF VARIOUS P.C BOARDS

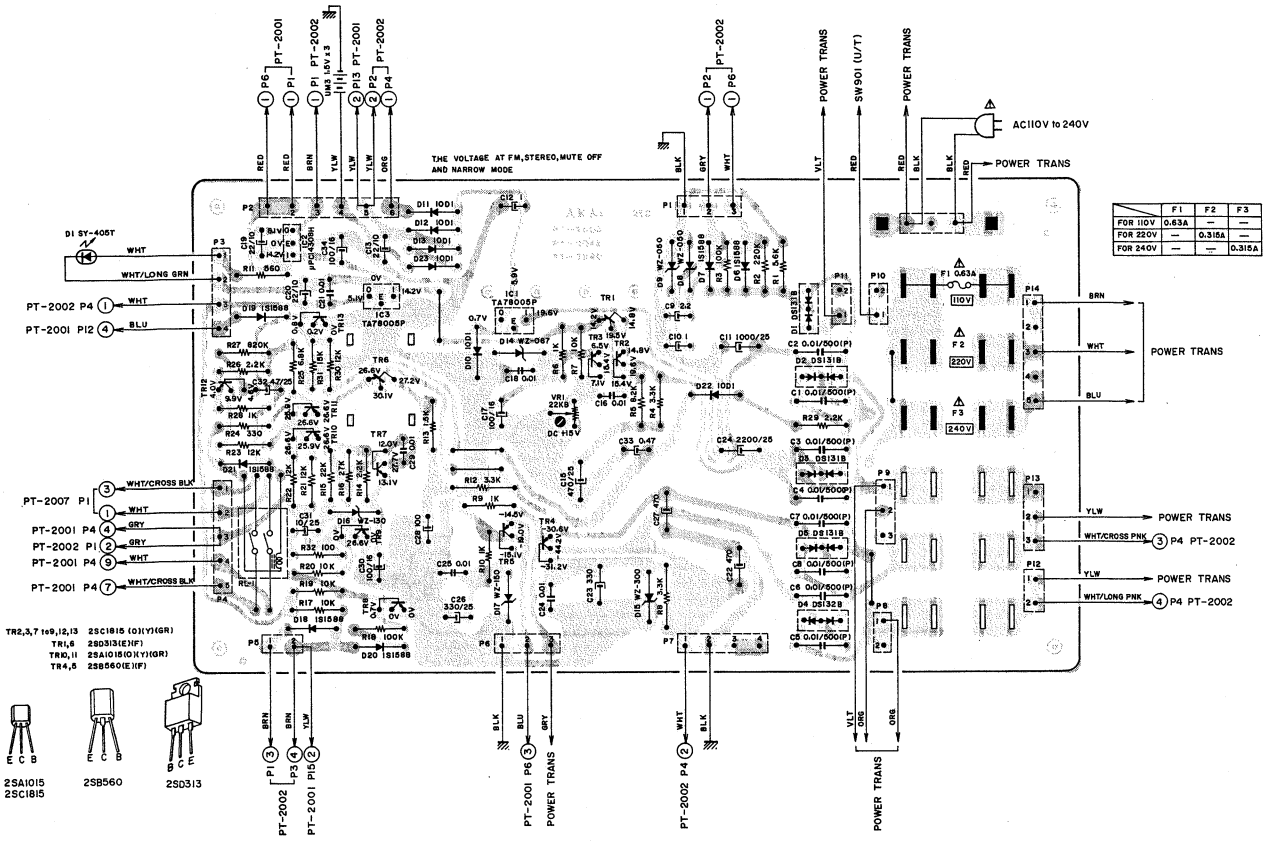
1) TUNER P.C BOARD (2ED) PT-2001

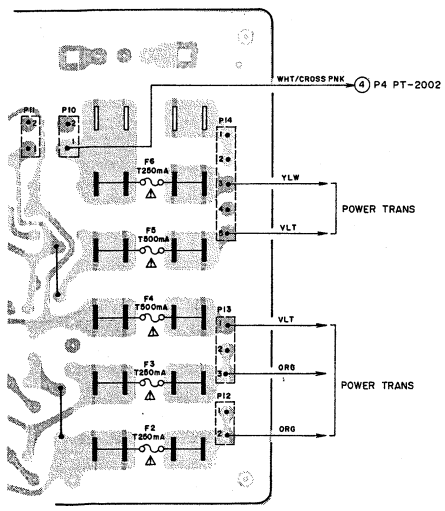


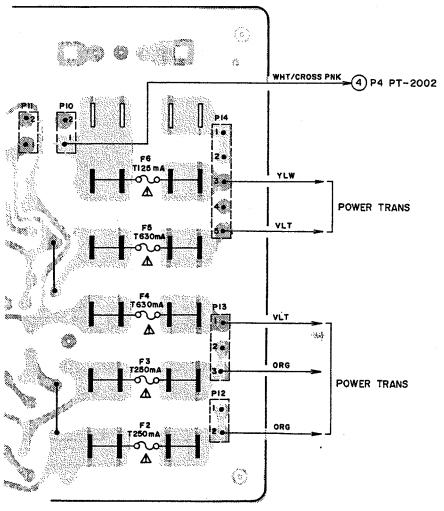
2) SYNTHESIZER P.C BOARD (2ED) PT-2002



3) POWER SUPPLY P.C BOARD (2ED) PT-2003 (U/T), POWER SUPPLY P.C BOARD (2ED) PT-2048 (AAL, CSA) AND POWER SUPPLY P.C BOARD (2ED) PT-2049 (CEE, UK)



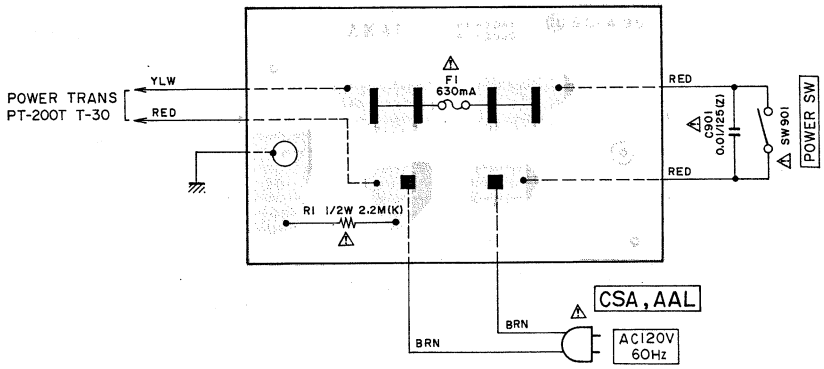


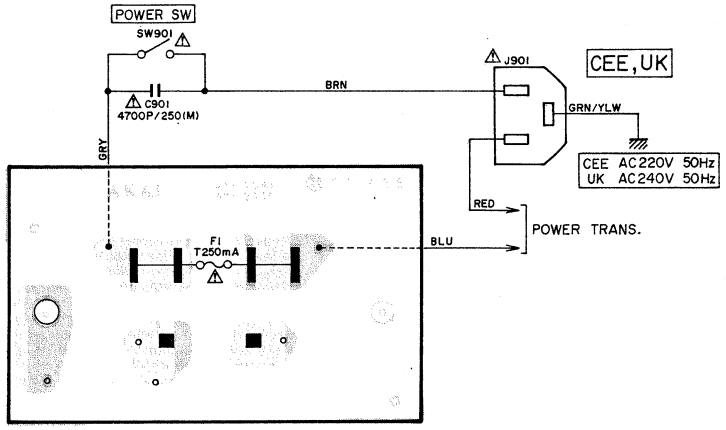


WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

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

4) FUSE P.C BOARD PT-2045 (AAL, CSA) AND FUSE P.C BOARD PT-2050 (CEE, UK)

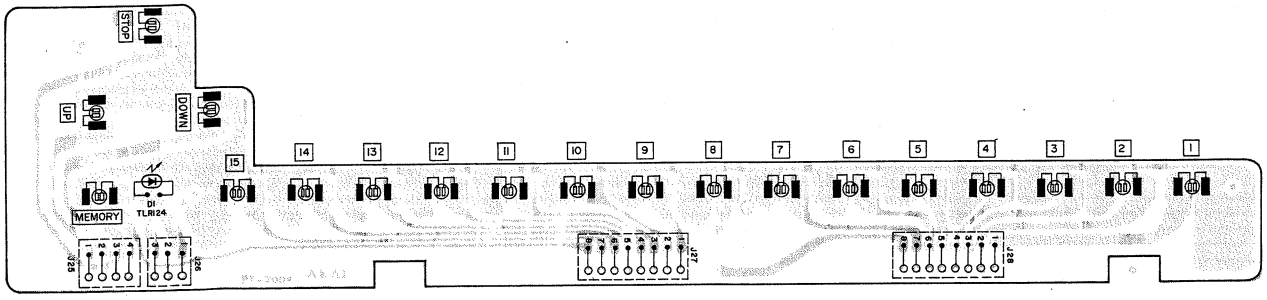


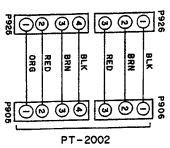


WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

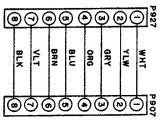
AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

5) TOUCH P.C BOARD (A) PT-2004

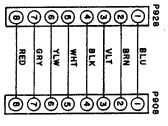




PT-2002

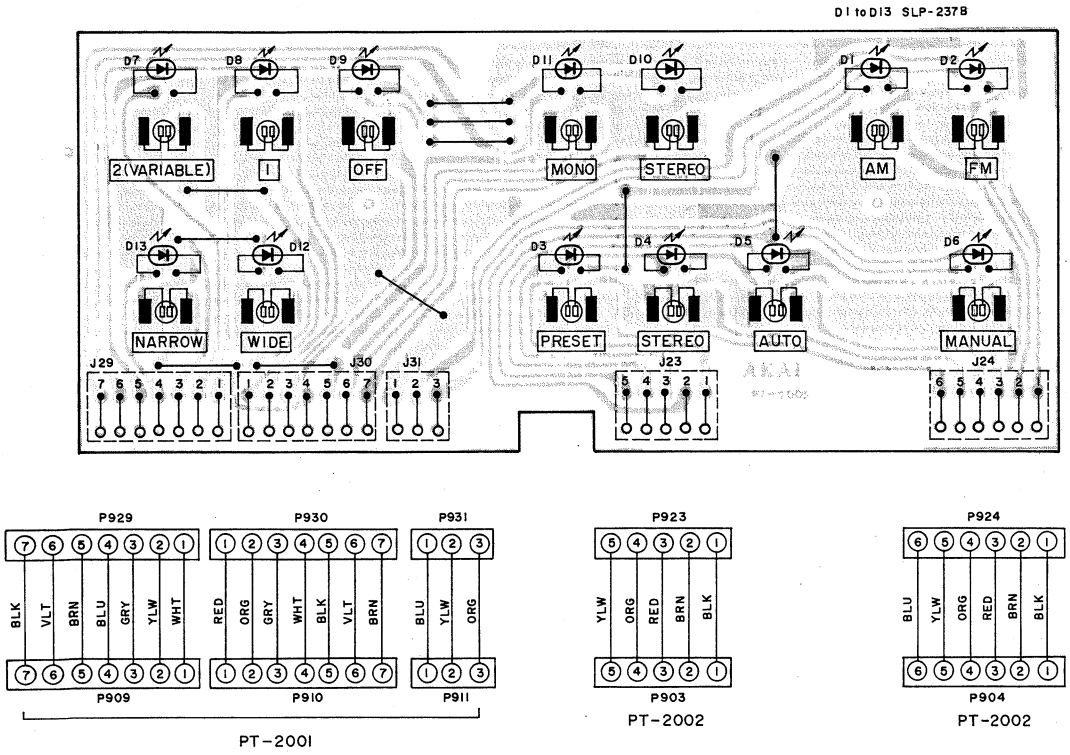


PT-2002

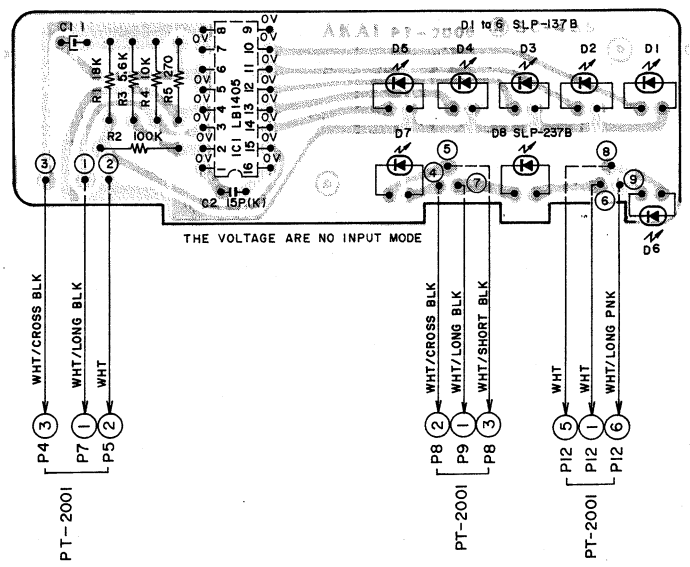


PT-2002

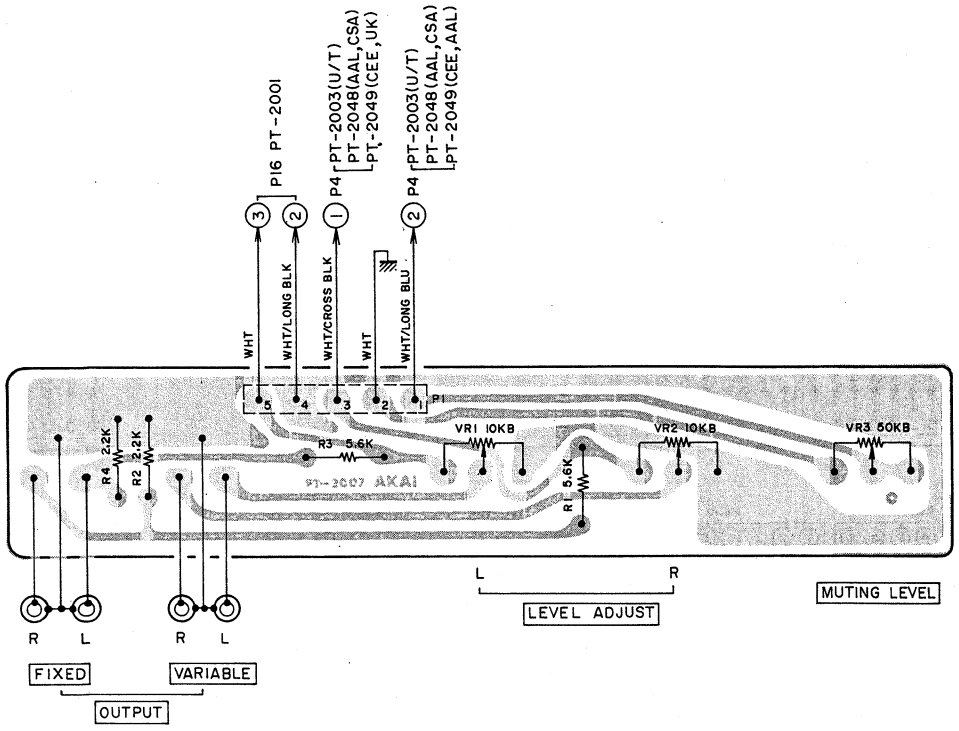
6) TOUCH P.C BOARD (B) PT-2005



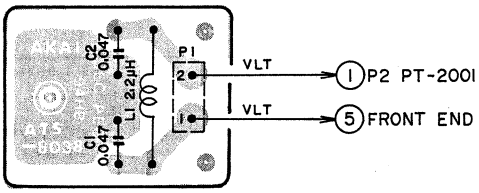
7) LED P.C BOARD PT-2006



8) VOLUME P.C BOARD PT-2007



9) FILTER P.C BOARD ATS-8038



SECTION 2

PARTS LIST

TABLE OF CONTENTS

1. RECOMMENDED SPARE PARTS LIST 32
2. TUNER P.C BOARD (PT-2001) BLOCK 34
3. SYNTHESIZER P.C BOARD (PT-2002/J) BLOCK 35
4. POWER SUPPLY P.C BOARD (PT-2003) BLOCK 35
5. ASSEMBLY BLOCK 36
6. FINAL ASSEMBLY BLOCK 38

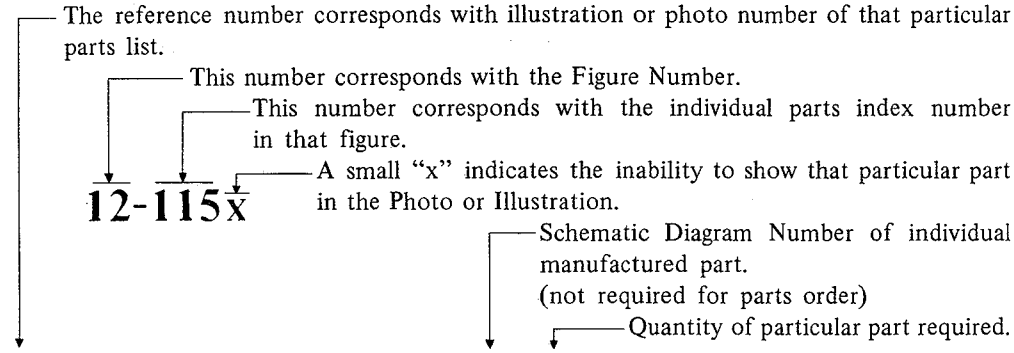
INDEX 39

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

25-28

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-275	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. Please utilize separate "Common List for Service Parts" for Resistor Parts orders.
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 RECOMMENDED PARTS.

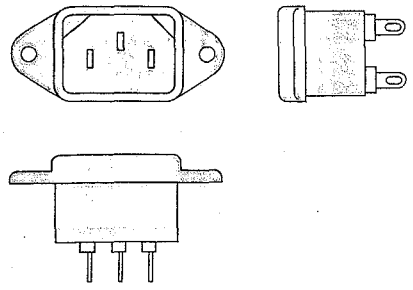
AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

AC INLET SYSTEM

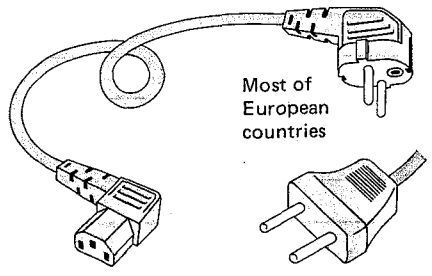
This model is equipped with an AC INLET SYSTEM. Please refer to the AC INLET SYSTEM CHART below for the specific type. By the AC INLET SYSTEM, AC (mains) cord can be connected to and disconnected from the model because the model is provided with socket exclusively for AC (mains) cord on its main body.
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

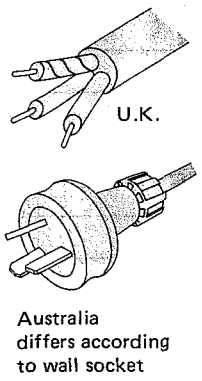
CLASS I



Picture 1
AC INLET to be installed on machines

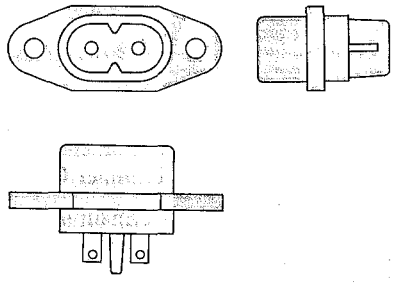


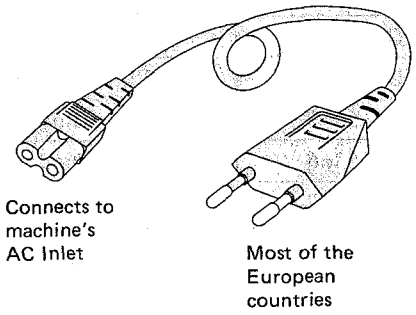
Picture 2
AC (mains) cord

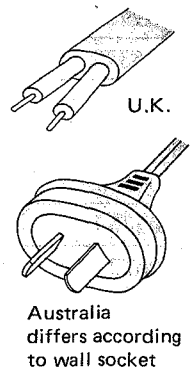


CLASS II

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







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
BA314502	Power Supply P.C Board Comp. PS-200T (U/T)	U/T
BA313954	Power Supply P.C Board Comp. PS-200T (CEE)	CEE, UK
BA314503	Power Supply P.C Board Comp. PS-200T (CSA)	CSA, AAL
BA314513	Synthesizer P.C Board Comp. PS-200T	
BA314511	Tuner P.C Board Comp. PS-200T	
BT315357	⚠ Power Trans. PS-200TT-30	CSA, AAL
BT315359	⚠ Power Trans. PS-200TT-40	CEE
BT315360	⚠ Power Trans. PS-200TT-50	UK
BT315249	⚠ Power Trans. PS-200TT-70	U/T
EC616342	Trimmer/C. CTY-15D33 15PF	
EC315346	Trimmer/C. ECV-1ZW 50X32E	
ED219464	Germanium Diode 1N34A	
ED311856	LED SLP1378	
ED315361	LED SLP237B	
ED311794	LED SY405T	
ED315498	LED TLR124	
ED315365	Silicon Diode DS131B	
ED315366	Silicon Diode DS132B	
ED557447	Silicon Diode 1S1588	
ED315411	Vari Cap Diode SVC-311-AB	
ED315367	Zener Diode WZ-050	
ED315368	Zener Diode WZ-067	
ED539976	Zener Diode WZ-130	
ED315372	Zener Diode WZ-300	
EE315248	Front End VFT-51EH-22	
EF315334	⚠ Fuse 250MA 125V	CSA, AAL
EF306125	⚠ Fuse 315MA 250V	U/T
EF305703	⚠ Fuse 630MA 125V	CSA, AAL
EF306124	⚠ Fuse 630MA 250V	U/T
EF300574	⚠ Fuse (EAWK) 125MAT	CEE, UK
EF300586	⚠ Fuse (EAWK) 250MAT	CEE, UK
EF593706	⚠ Fuse (SEMKO T Type) 500MAT	CEE, UK
EI315388	Crystal OSC 6.4MHz	
EI315311	IC HA11223W	
EI650586	IC LA-1230	
EI293185	IC LA-1240	
EI315491	IC LB1405S	
EI573838	IC TA7060P	
EI306703	IC TA75458P	
EI315243	IC TA78005P	
EI304657	IC TC4011BP	

Parts No.	Description	Note
EI304657	IC TC4011BP	
EI304657	IC TC4011BP	
EI315312	IC TC4023BP	
EI306726	IC TC4069BP	
EI315378	IC TC4543BP	
EI315380	IC TC5012BP	
EI315383	IC TC5029BP	
EI315379	IC TC5066BP	
EI315385	IC TC5501P	
EI315384	IC TC9123PYSTU	
EI315381	IC TD6102P	
EI315387	IC TMP4315P	
EI299441	IC TA7303P (C)	
EI313797	IC TC4001BP	
EI313797	IC TC4001BP	
EP249344	Reed Relay, L Type L24	
ES310839	⚠ Push SW. SDG-1P	CEE, UK
ES655806	⚠ Push SW. SDG-1P	U/T
ES656335	⚠ Slide SW. SSB02210	U/T, CSA, AAL
ES665875	⚠ Push SW. SDG1P-J TV-3 UL/CSA	CSA, AAL
ET315313	FET 2SK19 (GR)	
ET315313	FET 2SK19 (GR)	
ET491051	FET 2SK30A (GR)	
ET552870	FET 2SK30A (Y) (GR)	
ET315410	FET 2SK61 (Y)	
ET308867	Transistor 2SA1015 (O) (Y) (GR)	
ET623790	Transistor 2SA640 (E) (F)	
ET305221	Transistor 2SC1815 (O) (Y) (GR)	
ET305221	Transistor 2SC1815 (O) (Y) (GR)	
ET618873	Transistor 2SC930 (E) (F)	
ET452531	Transistor 2SD313 (E) (F)	
ET310148	Transistor 2SD612K (E) (F)	
TA315369	Digital Display FIP-9B13	

2. TUNER P.C BOARD (PT-2001) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
2-1	BA314511	Tuner P.C Board Comp. PS-200T	PT-2056
2-IC1,2	EI573838	IC TA7060P	45-8-97
2-IC3	EI299441	IC TA7303P(C)	45-8-216
2-IC4	EI650586	IC LA-1230	45-8-152
2-IC5	EI306703	IC TA75458P	45-8-309
2-IC6	EI293185	IC LA-1240	45-8-220
2-IC7,8	EI306703	IC TA75458P	45-8-309
2-IC9	EI315311	IC HA11223W	45-8-353
2-IC10	EI304657	IC TC4011BP	45-8-232
2-IC11	EI313797	IC TC4001BP	45-8-348
2-IC12	EI304657	IC TC4011BP	45-8-232
2-IC13	EI315312	IC TC4023BP	45-8-361
2-TR1to3	ET618873	Transistor 2SC930(E)(F)	45-1-185
2-TR4,5	ET315313	FET 2SK19(GR)	45-12-3
2-TR6,7	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR8	ET552870	FET 2SK30A(Y)(GR)	45-12-4
2-TR10	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR11	ET308867	Transistor 2SA1015(O)(Y)(GR)	45-1-328
2-TR12to23	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR24	ET552870	FET 2SK30A(Y)(GR)	45-12-4
2-TR25to28	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR29	ET310148	Transistor 2SD612K(E)(F)	45-1-308
2-TR30,31	ET315313	FET 2SK19(GR)	45-12-3
2-TR32to34	ET618873	Transistor 2SC930(E)(F)	45-1-185
2-TR35to40	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR41,42	ET623790	Transistor 2SA640(E)(F)	45-1-102
2-TR43	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR44	ET310148	Transistor 2SD612K(E)(F)	45-1-308
2-TR45	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR46	ET308867	Transistor 2SA1015(O)(Y)(GR)	45-1-328
2-TR47	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR48	ET310148	Transistor 2SD612K(E)(F)	45-1-308
2-TR49	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR50	ET308867	Transistor 2SA1015(O)(Y)(GR)	45-1-328
2-TR51to54	ET552870	FET 2SK30A(Y)(GR)	45-12-4
2-TR55to61	ET308867	Transistor 2SA1015(O)(Y)(GR)	45-1-328
2-TR62	ET491051	FET 2SK30A(GR)	45-12-4
2-TR63	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-TR64	ET315410	FET 2SK61(Y)	45-12-24
2-TR65	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
2-D1,2	ED219464	Germanium Diode 1N34A	45-3-1
2-D3to7	ED557447	Silicon Diode 1S1588	45-3-22
2-D8,9	ED219464	Germanium Diode 1N34A	45-3-1
2-D10to23	ED557447	Silicon Diode 1S1588	45-3-22
2-D24,25	ED219464	Germanium Diode 1N34A	45-3-1
2-D26to39	ED557447	Silicon Diode 1S1588	45-3-22
2-D40to42	ED315411	Vari Cap Diode SVC-311-AB	45-3-54
2-D43,44	ED557447	Silicon Diode 1S1588	45-3-22
2-D45	ED219464	Germanium Diode 1N34A	45-3-1
2-D46,47	ED557447	Silicon Diode 1S1588	45-3-22
2-VR1	EV361800	Semi-Fixed/Vol. (Solid Type) SR19R 470 ohmB	36-19-10
2-VR2,3	EV483377	Semi-Fixed/Vol. (Solid Type) SR19R 47kB	36-19-10
2-VR4	EV551452	Semi-Fixed/Vol. (Solid Type) SR19R 22kB	36-19-10
2-VR5	EV483388	Semi-Fixed/Vol. (Solid Type) SR19R 10kB	36-19-10
2-VR6	EV380215	Semi-Fixed/Vol. (Solid Type) SR19R 100kB	36-19-10
2-VR7,8	EV315318	Semi-Fixed/Vol. (Solid Type) SR19R 220kB	36-19-10
2-VR9	EV551452	Semi-Fixed/Vol. (Solid Type) SR19R 22kB	36-19-10
2-VR10	EV427858	Semi-Fixed/Vol. (Solid Type) SR19R 4.7kB	36-19-10
2-VR11	EV551452	Semi-Fixed/Vol. (Solid Type) SR19R 22kB	36-19-10
2-VC1,2	EC616342	Trimmer/C. CTY-15D33 15PF	24-2-32
2-FL1	ER315314	Ceramic Filter SAF10.7ME5-A	53-1-170
2-FL2	ER315406	Ceramic Filter SFE10.7ML(KA)	53-1-167
2-FL3to5	ER315407	Ceramic Filter SFE10.7MM(KA)	53-1-168
2-FL6to8	ER315408	Ceramic Filter SFA10.7MF(5)	53-1-169
2-FL9	ER315409	Ceramic Filter CFM2-460AL	53-1-174
2-FL10,11	ER315315	Low Pass Filter 208BLR-3217N	23-1-325
2-T1	BT315397	FM-IF Trans. P154AC-40715X	23-1-323
2-T2	BT315316	FM-IF Trans. M127CC-20032A	23-1-324
2-T3	BT299575	FM-IF Trans. 154AC-41345Z	23-1-274
2-T4	EO314963	DET Coil TKAEA-26480AUO	23-1-327
2-T5	EO314964	DET Coil TKAEA-26482X	23-1-328
2-T6	EO315398	AM-ANT Coil RWR-43854N	23-1-316
2-T7	EO315399	AM-RF Coil 7BR-4958N	23-1-317
2-T8	EO315400	AM-OSC Coil RWR-43653N	23-1-318
2-T9	EO315401	AM-IF Coil CFMA-014	23-1-319
2-T10	EO315402	AM-IF Coil TMC-4781Y	23-1-320
2-T11	EO315403	AM-IF Coil TMC-4783Y	23-1-321
2-T12	BT293398	AM-IF Trans. RMC-42246BCH 468 kHz	23-1-276
2-L1to4	EO539820	Peaking Coil 2.2μH(K)	23-1-187
2-L5	EO650610	Inductor 144LZ 18μH(J)	23-1-240
2-L6,7	EO380564	Ferri Inductor FL7H 1.8MH(J)	23-1-3
2-L8	EO315405	Inductor 144LZ 10μH(J)	23-1-240
2-L9	EO539820	Peaking Coil 2.2μH(K)	23-1-187
2-J1	EJ315305	Connector (Bottom Entry Type) 163681-1	31-4-29
2-J2,3	EJ315309	Connector (Bottom Entry Type) 163681-5	31-4-29
2-R64	ER308849	Carbon/R. (Homing Type) F 1/4W 220 ohms(J)	35-11-25
2-R85	ER308849	Carbon/R. (Homing Type) F 1/4W 220 ohms(J)	35-11-25
2-R100	ER308849	Carbon/R. (Homing Type) F 1/4W 220 ohms(J)	35-11-25
2-R103	ER308849	Carbon/R. (Homing Type) F 1/4W 220 ohms(J)	35-11-25
2-R121	ER308849	Carbon/R. (Homing Type) F 1/4W 220 ohms(J)	35-11-25
2-R162	ER307196	Carbon/R. F 1/4W 100 ohms(J)	35-11-25
2-FR1	ER561216	Fuse/R. 1/4W 100 ohms(K) 200MA	35-14-9
2-C59	EC317129	Styrol/C. 430PF(G) 50WV	24-11-14
2-C89	EC315327	Styrol/C. (w/Rubber) 1000PF(J) 50WV	24-11-13

When ordering parts, please describe Parts Number, Description, and Model Number in detail.

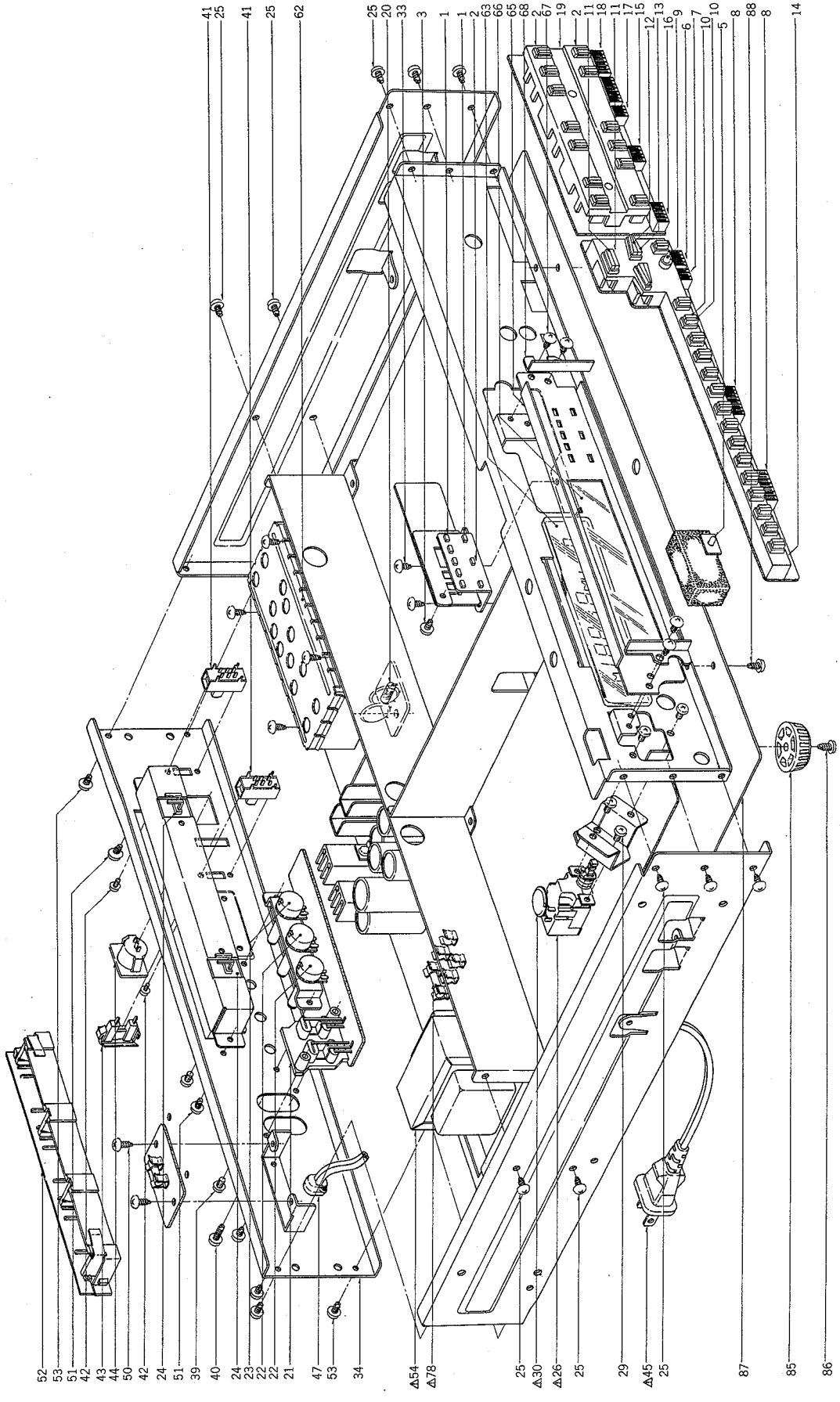
3. SYNTHESIZER P.C BOARD (PT-2002/J) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
3-1	BA314513	Synthesizer P.C Board Comp. PS-2000T	PT-2055
3-IC1	EI315378	IC TC4543BP	45-8-354
3-IC2,3	EI315379	IC TC5066BP	45-8-355
3-IC4to8	EI315380	IC TC5012BP	45-8-356
3-IC9	EI304657	IC TC4011BP	45-8-232
3-IC10	EI313797	IC TC4001BP	45-8-348
3-IC11,12	EI304657	IC TC4011BP	45-8-232
3-IC13	EI315381	IC TD6102P	45-8-362
3-IC14	EI315383	IC TC5029BP	45-8-358
3-IC15	EI315384	IC TC9123PYSTU	45-8-359
3-IC16	EI315385	IC TC5501P	45-8-360
3-IC17	EI315383	IC TC5029BP	45-8-358
3-IC18	EI315387	IC TMP4315P	45-8-363
3-IC19	EI304657	IC TC4011BP	45-8-232
3-IC20	EI306726	IC TC4069BP	45-8-263
3-TR1to6	ET308867	Transistor 2SA1015(O)(Y)(GR)	45-1-328
3-TR7to11	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
3-D1to38	ED557447	Silicon Diode 1S1588	45-3-22
3-J1	EJ315308	Connector (Bottom Entry Type) 163681-4	31-4-29
3-J2	EJ315306	Connector (Bottom Entry Type) 163681-2	31-4-29
3-J3,4	EJ315310	Connector (Bottom Entry Type) 163681-6	31-4-29
3-J5	EJ315305	Connector (Bottom Entry Type) 163681-1	31-4-29
3-J6	EJ315307	Connector (Bottom Entry Type) 163681-3	31-4-29
3-J12,13	EJ315370	22P LSI Socket	31-1-243
3-J4	EJ315377	42P LSI Socket	31-1-244
3-X1	EI315388	Crystal OSC 6.4MHz	53-1-171
3-T1	BT293398	AM-IF Trans. RMC-42246BCH 468 kHz	23-1-276
3-L1to7	EO539820	Peaking Coil 2.2μH(K)	23-1-187
3-VC1	EC315346	Trimmer/C. ECV-1ZW 50X32E	24-2-48
3-C26	EC315390	Styrol/C. 4700PF(J) 50WV	24-11-14
3-C27	EC305445	Tantalum/C. (D Type) 1μF(M) 16WV	24-15-12
3-C28	EC301432	Solid Aluminum/C. (Vert. Type) 2.2μF(K) 16V	24-19-2
3-C29	EC315348	Styrol/C. (Horm. Type) 2700PF(J) 50WV	24-11-14
3-C37	EC313532	NP/C. (Homing Type) 1μF(M) 50WV	24-17-31
3-R145	ER315389	Carbon/R. F1/2W 4700HMS(J)	35-11-27

4. POWER SUPPLY P.C BOARD (PT-2003) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
4-1	BA314502	Power Supply P.C Board Comp. PS-200T (U/T)	PT-2054
4-2	BA314503	Power Supply P.C Board Comp. PS-200T (CSA) (AAL)	PT-2054
4-3	BA313954	Power Supply P.C Board Comp. PS-200T (CEE) (UK)	PT-2054
4-IC1	EI315243	IC TA78005P	45-8-364
4-IC2	EI315364	IC UPC14308	45-8-352
4-IC3	EI315243	IC TA78005P	45-8-364
4-TR1	ET452531	Transistor 2SD313(E)(F)	45-1-105
4-TR2,3	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
4-TR4,5	ET219868	Transistor 2SB560(E)(F)	45-1-232
4-TR6	ET452531	Transistor 2SD313(E)(F)	45-1-105
4-TR7to9	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
4-TR10,11	ET308867	Transistor 2SA1015(O)(Y)(GR)	45-1-328
4-TR12,13	ET305221	Transistor 2SC1815(O)(Y)(GR)	45-1-299
4-D1to3	ED315365	Silicon Diode DS131B	45-3-55
4-D4	ED315366	Silicon Diode DS132B	45-3-56
4-D5	ED315365	Silicon Diode DS131B	45-3-55
4-D6,7	ED557447	Silicon Diode 1S1588	45-3-22
4-D8,9	ED315367	Zener Diode WZ-050	45-6-67
4-D10to13	ED224526	Silicon Diode 10D1	45-2-11
4-D14	ED315368	Zener Diode WZ-067	45-6-67
4-D15	ED315372	Zener Diode WZ-300	45-6-67
4-D16	ED539976	Zener Diode WZ-130	45-6-67
4-D17	ED237960	Zener Diode WZ-150	45-6-67
4-D18to21	ED557447	Silicon Diode 1S1588	45-3-22
4-D22,23	ED224526	Silicon Diode 10D1	45-2-11
4-VR1	EV551452	Semi-Fixed/Vol. (Solid Type) SR19R 22kB	36-19-10
4-RL1	EP249344	Reed Play, L Type L24	47-2-28
4-C1to8	EC204671	⚠ Ceramic/C. DD31-6E 0.01μF(P) 500WV	24-5-66
4-C11	EC450270	Elect./C. (Vert. Type) 1000μF 25WV	24-12-9
4-C14	EC657966	Elect./C. (Vert. Type) 2200μF 25WV	24-12-9
4-4	ZS421740	Screw, Pan Head 3x8 (Black)	
4-5	ZS447761	Tapping Screw, #2 BR 3x6 (Black)	

5. ASSEMBLY BLOCK



5. ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.
		LED P.C BOARD BLOCK	
5-1	ED311856	LED SLP137B	45-15-23
5-2	ED315361	LED SLP237B	45-15-28
5-3	ZS463353	Tapping Screw, #2 BR 3x8 (Black)	
5-4	EI315491	I.C LB1405S	45-8-365
		LED P.C BOARD (B) BLOCK	
5-5	ED311794	LED SY405T	45-15-24
		TOUCH P.C BOARD (A) BLOCK	
5-6	EJ315306	Connector (Bottom Entry Type) 163681-2	31-4-29
5-7	EJ315305	Connector (Bottom Entry Type) 163681-1	31-4-29
5-8	EJ315310	Connector (Bottom Entry Type) 163681-6	31-4-29
5-9	ED315498	LED TLR124	45-15-29
5-10	SZ315286	Touch Piece (A)	PT-2041
5-11	SZ315287	Touch Piece (B)	PT-2042
5-12	SZ315288	Touch Piece (C)	PT-2043
5-13	SZ315289	Touch Piece (D)	PT-2044
5-14	SZ315284	Touch Base (A)	PT-2039
		TOUCH P.C BOARD (B) BLOCK	
5-15	EJ315307	Connector (Bottom Entry Type) 163681-3	31-4-29
5-16	EJ315308	Connector (Bottom Entry Type) 163681-4	31-4-29
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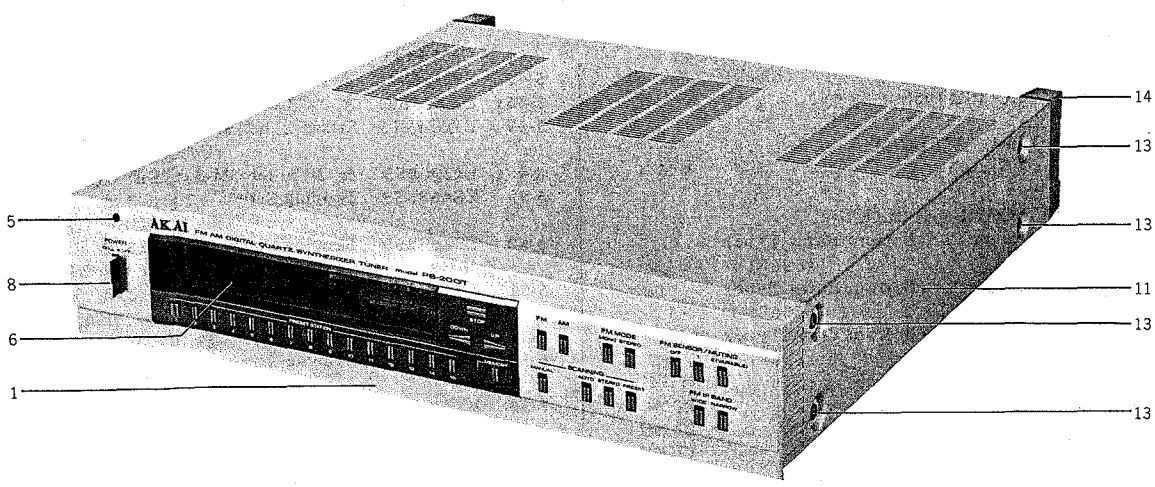
5-18	EJ315309	Connector (Bottom Entry Type) 163681-5	31-4-29
5-19	SZ315285	Touch Base (B)	PT-2040
		FILTER P.C BOARD BLOCK	
5-20	EO539820	Peaking Coil 2.2μH(K)	23-1-187
		VOL. P.C BOARD BLOCK	
5-21	EJ293365	4P Pin Jack	31-1-197
5-22	EV315493	Vol. VM10R 10kB	36-6-40
5-23	EV315495	Vol. VM10R 50kB	36-6-41
		BATTERY P.C BOARD BLOCK	
5-24	BA314383	Battery P.C Board Comp. AT-S08	ATS-8072
		ASSEMBLY BLOCK	
5-25	ZS308846	Tapping Screw #2, 3x8 (BR) (Oval Neck)	7-1-69
5-26	ES655806	⚠ Push SW. SDG1P-J TV3 CSA (U/T)	25-5-187
5-27x	ES665875	⚠ Push SW. SDG-1P U/L (CSA, AAL)	25-5-199
5-28x	ES310839	⚠ Push SW. SDG1P-E 5A/80A 250V (CEE, UK)	25-5-310
5-29	ZS355522	Screw, Pan Head 3x6 (Black)	
5-30	EC204671	⚠ Ceramic/C. DD31-6E 0.01μF(P) 500WV (U/T)	24-5-66
5-31x	EC314688	⚠ Ceramic/C. DE7150 FZ 0.01μF(P) 125WV (CSA, AAL)	24-5-87
5-32x	EC301320	⚠ MP/C. 4700PF(M) 250WV (CEE, UK)	24-9-122
5-33	ZS311745	Tapping Screw #2, 3x8 (BR) W=8 (Black)	
5-34	SP315265	Rear Panel (U/T)	PT-2024
5-35x	SP315267	Rear Panel (CSA)	PT-2024
5-36x	SP315266	Rear Panel (AAL)	PT-2024
5-37x	SP315269	Rear Panel (CEE)	PT-2025
5-38x	SP315271	Rear Panel (UK)	PT-2025
5-39	ZS355522	Screw, Pan Head 3x6 (Black)	
5-40	ZS522865	Tapping Screw, #2 BR 3x12 (Black)	
5-41	ES656335	⚠ SLIDE SW. SSB02210 (U/T, CSA, AAL)	25-3-117

Ref. No.	Parts No.	Parts Name	Schematic No.
5-42	ZS608185	Screw, Pan 2.6x4 (Black)	
5-43	EJ315244	AM Antenna Socket CS080-01-020	31-1-242
5-44	EJ315333	FM Antenna Plug TCP9106-01-01	42-1-160
5-45	EW306428	⚠ AC Cord (U/T)	26-3-64
5-46x	EW305691	⚠ AC Cord CUL (CSA, AAL)	26-3-65
5-47	EZ631945	Strain Relief SR-4N-4 (U/T, CSA, AAL)	2-7-49
5-48x	EJ296853	⚠ 3P In-let CM-3 (CEE, UK)	31-1-199
5-49	ZS463353	Tapping Screw, #2 BR 3x8 (Black) (CEE, UK)	
5-50	ZS463353	Tapping Screw, #2 BR 3x8 (Black) (CSA, AAL, CEE, UK)	
5-51	ZS463353	Tapping Screw, #2 BR 3x8 (Black)	
5-52	TA314294	Battery Case Assy PS-200T	13-2-64
5-53	ZS308846	Tapping Screw #2, 3x8 (BR) (Oval Neck)	7-1-69
5-54	BT315249	⚠ Power Trans. PS-200TT-70 (U/T)	38-4-723
5-55x	BT315357	⚠ Power Trans. PS-200TT-30 (CSA, AAL)	38-4-720
5-56x	BT315359	⚠ Power Trans. PS-200TT-40 (CEE)	38-4-721
5-57x	BT315360	⚠ Power Trans. PS-200TT-50 (UK)	38-4-722
5-58x	ZS411232	Screw, Binding Head 4x10	
5-59x	ZW237857	Washer D4.1x10x11	
5-60x	ZW273914	Spring Washer, M4	
5-61x	ZW413188	Nut M4, #1	
5-62	EE-315248	Front End VFT-51EH-22	57-2-52
5-63	TA315369	Digital Display FIP-9B13	53-1-173
5-64x	ZS312419	Screw, Pan 4x8 w/Washer (Black) (CEE, UK)	
5-65	TA315258	Panel	PT-2016,2017
5-66	SZ315259	Indication Plate	PT-2018
5-67	ZS447761	Tapping Screw, #2 BR 3x6 (Black)	
5-68	TA315260	Mask	PT-2020
5-69x	EJ315340	5P Connector Assy	26-6-337
5-70x	EJ315341	6P Connector Assy	26-6-338
5-71x	EJ315339	4P Connector Assy	26-6-336
5-72x	EJ315338	3P Connector (2) Assy	26-6-335
5-73x	EJ315344	8P Connector (1) Assy	26-6-341
5-74x	EJ315345	8P Connector (2) Assy	26-6-342
5-75x	EJ315342	7P Connector (1) Assy	26-6-339
5-76x	EJ315343	7P Connector (2) Assy	26-6-340
5-77x	EJ315337	3P Connector (1) Assy	26-6-334
5-78	EJ306124	⚠ Fuse 630MA 250V (U/T)	39-1-64
5-79x	EF306125	⚠ Fuse 315MA 250V (U/T)	39-1-64
5-80x	EF305703	⚠ Fuse 630MA 125V (CSA, AAL)	39-1-65
5-81x	EF315334	⚠ Fuse 250MA 125V (CSA, AAL)	39-1-65
5-82x	EF300586	⚠ Fuse (EAWK) 250MAT (CEE, UK)	39-1-60
5-83x	EF593706	⚠ Fuse (SEMKO T Type) 500MAT (CEE, UK)	39-1-53
5-84x	EF300574	⚠ Fuse (EAWK) 125MAT (CEE, UK)	39-1-60
5-85	SA311742	Circular Foot	PC-2032
5-86	ZS311747	Tapping Screw #2, 4x8 (PAN) (Black)	
5-87	SP315278	Bottom Plate	PT-2033
5-88	ZS308846	Tapping Screw #2, 3x8 (BR) (Oval Neck)	7-1-69

When ordering parts, please describe Parts Number, Description, and Model Number in detail.

6. FINAL ASSEMBLY BLOCK



6. FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.
6-1	BD314529	Front Panel Block PS-200T	
6-2x	BD314530	Front Panel Block PS-200T-BL	
6-3x	ZW616004	Washer D3.1×8×1t	
6-4x	ZW273756	Nut M3, #1	
6-5	SE311728	Power Lens	PC-2021
6-6	SP315282	Front Plate	PT-2036
6-7x	SE312477	Button Escutcheon	PC-2044
6-8	SB312474	Button	PC-2042
6-9x	SB312475	Button (BL)	PC-2042
6-10x	ZG312478	Spring	PC-2045
6-11	BC311730	Case	PC-2023
6-12x	BC312352	Case (BL)	PC-2023
6-13	ZS537006	Screw, Bind 4×8 (Black)	
6-14	SA311714	Foot	PC-2029
6-15x	ZS411232	Screw, Binding Head 4×10	

When ordering parts, please describe Parts Number, Description, and Model Number in detail.

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EC305445	3-C27	EJ315305	3-J5	ET308867	4-TR10,11	ZW616004	6-3x
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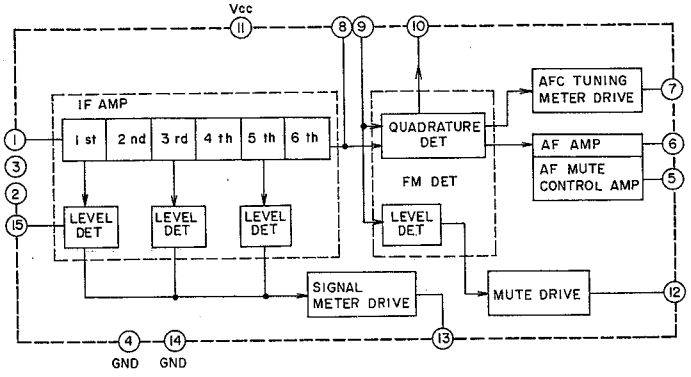
EI304657	2-IC12	ER315389	3-R145	SZ315288	5-12		
EI304657	3-IC9	ER315406	2-FL2	SZ315289	5-13		
EI304657	3-IC11,12	ER315407	2-FL3to5	TA314294	5-52		
EI304657	3-IC19	ER315408	2-FL6to8	TA315258	5-65		
EI306703	2-IC5	ER315409	2-FL9	TA315260	5-68		
EI306703	2-IC7,8	ER561216	2FR1	TA315369	5-63		
EI306726	3-IC20	ES310839	5-28x	ZG312478	6-10x		
EI313797	2-IC11	ES655806	5-26	ZS308846	5-25		

SECTION 3

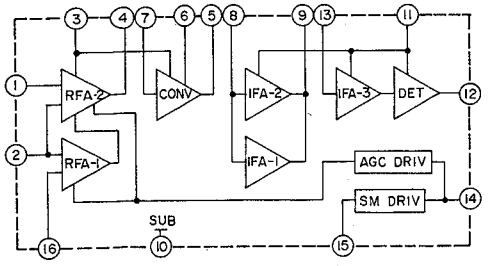
SCHEMATIC DIAGRAM

1. PS-200T NO. 4-1 1581642A CONNECTION DIAGRAM
2. PS-200T NO. 4-2 1581643A SYNTHESIZER SCHEMATIC DIAGRAM
3. PS-200T NO. 4-3 1581644A TUNER SCHEMATIC DIAGRAM
4. PS-200T NO. 4-4 1581645A POWER SUPPLY SCHEMATIC DIAGRAM

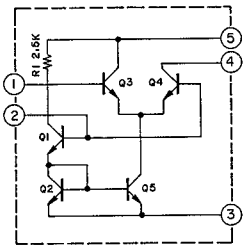
LA-1230



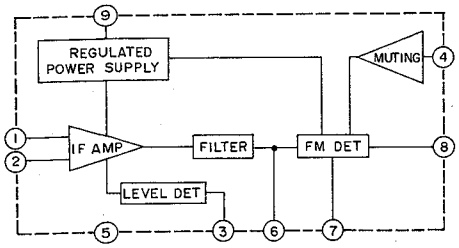
LA-1240



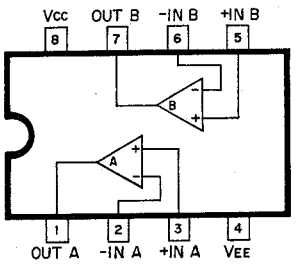
TA7060P



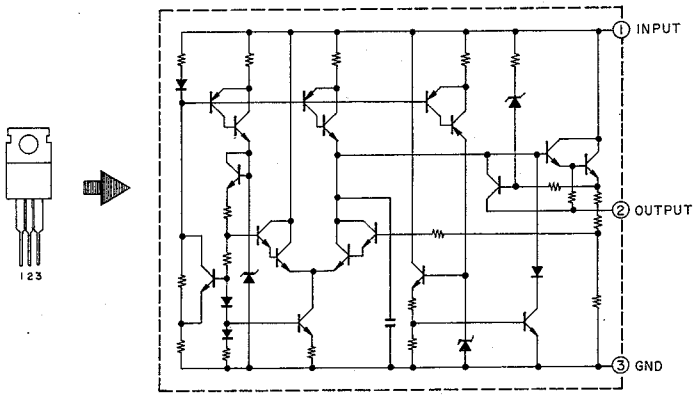
TA7303P (C)



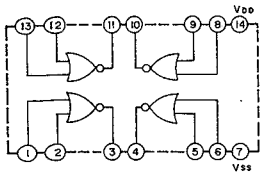
TA75458P



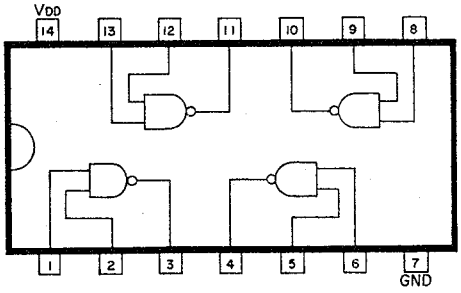
TA78005P



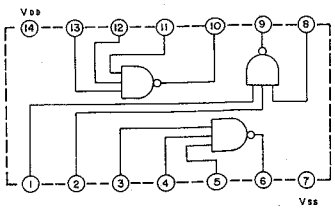
TC4001BP



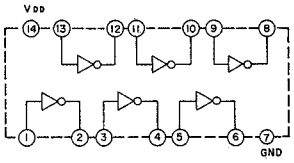
TC4011BP



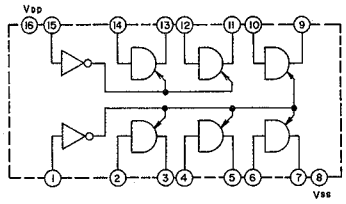
TC4023BP



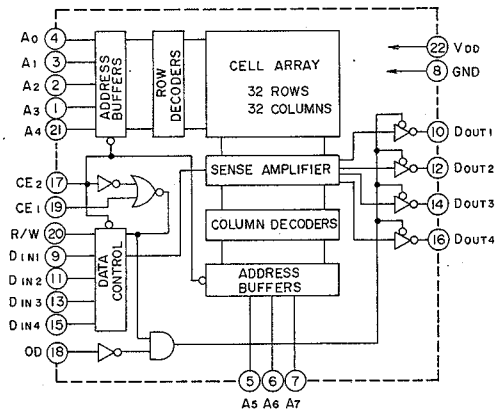
TC4069P



TC5012BP

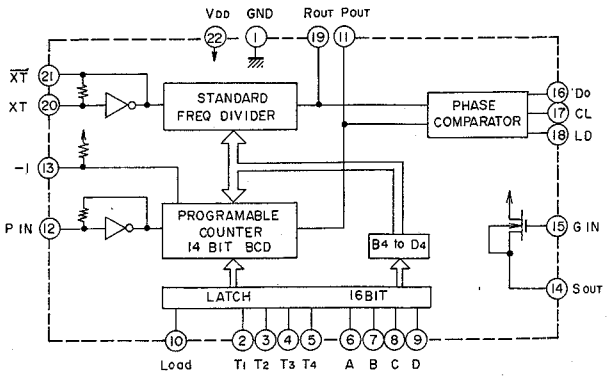


TC5501P

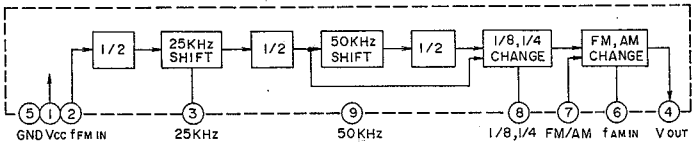


A0 to A7	ADDRESS INPUTS
R/W	READ/WRITE INPUT
$\overline{CE}_1$ CE	CHIP ENABLE
DIN1 to 4	DATA INPUT
DOUT1 to 4	DATA OUTPUT
VDD/GND	POWER SUPPLY
OD	OUTPUT DISABLE

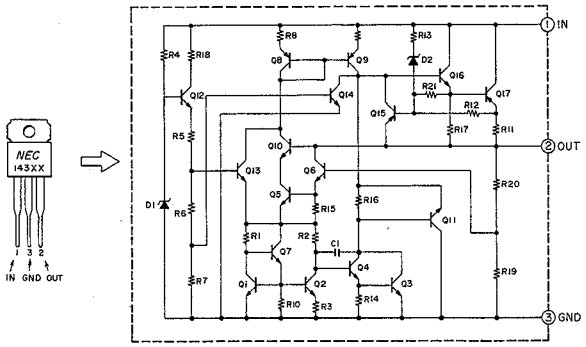
TC9123P-GR



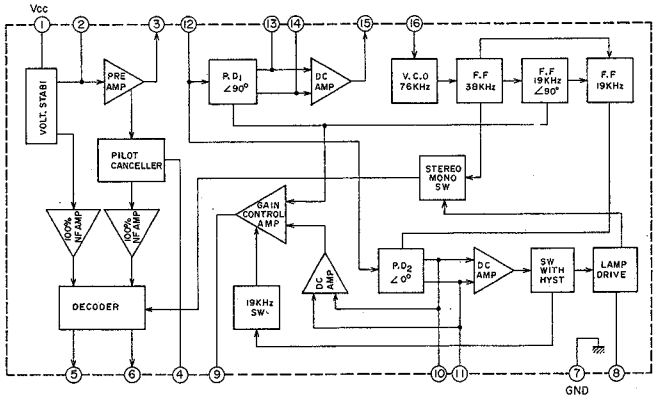
TD6102P



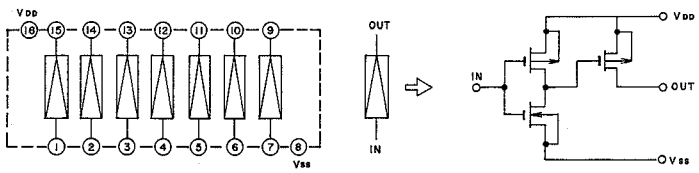
μPC14308H



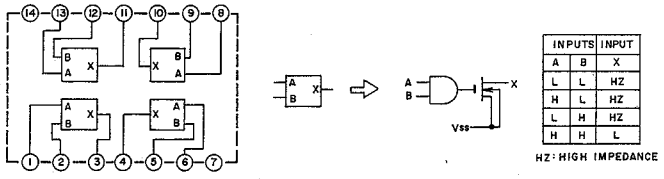
HA11233W



TC5066BP



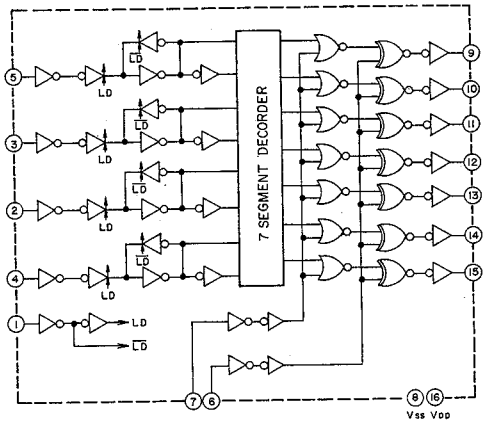
TC5029BP



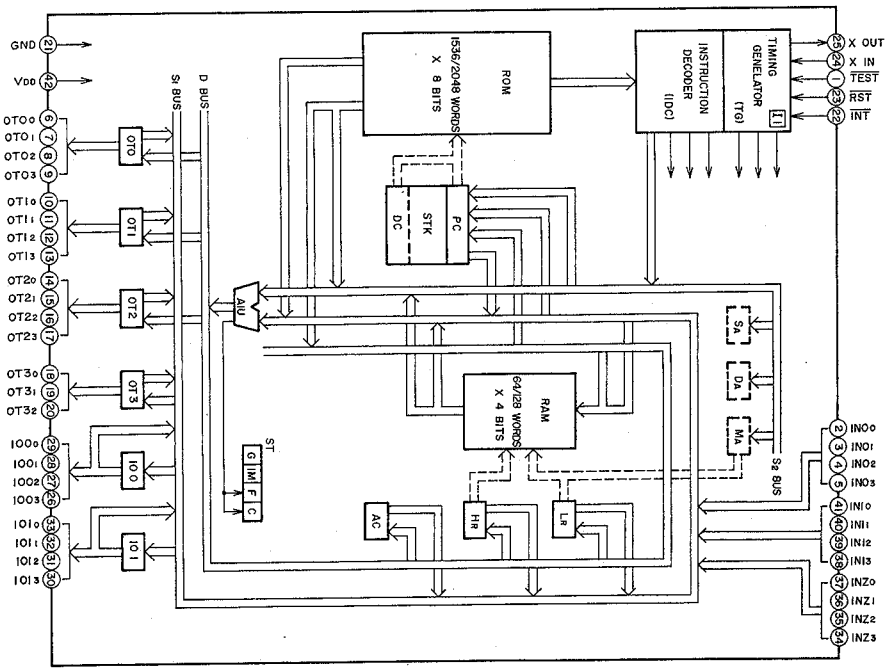
INPUTS		INPUT
A	B	X
L	L	HZ
H	L	HZ
L	H	HZ
H	H	L

HZ: HIGH IMPEDANCE

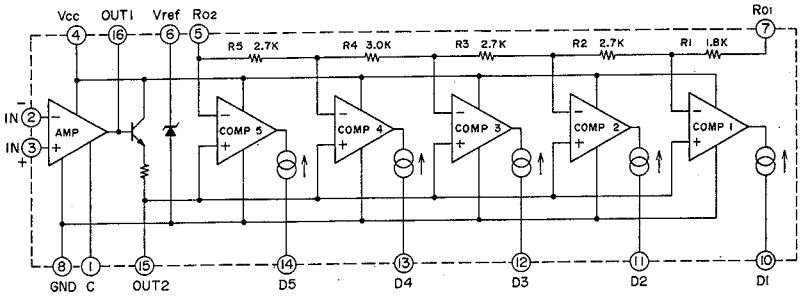
TC4543BP



AT-200A



LB1405S



PS-200T

FRONT END (VFT-5IEH-23)

FILTER P.C BOARD ATS-8038

TUNER P.C BOARD PT-2001

FROM TOUCH P.C BOARD P930

LED P.C BOARD PT-2006

SYNTHESIZER P.C BOARD PT-2002

TOUCH P.C BOARD(A) PT-2004

TOUCH P.C BOARD(B) PT-2005

POWER SUPPLY P.C BOARD PT-2003 (CSA, AAL BT-2048 CEE, UK PT-2049)

LED P.C BOARD(B) PM-1252

BATTERY P.C BOARD ATS-8039

VOLUME P.C BOARD PT-2007

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

AVERTISSEMENT: ⚠ IL INDIQUI LES COMPOSANTS CRITIQUES DE SURETÉ. 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

THE VOLTAGE AT FM, STEREO, MUTE OFF AND NARROW MODE (NO INPUT)

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

PS-200T CONNECTION DIAGRAM

NO. 4-1 1581642A 2C

0010318

PS-200T

SYNTHESIZER P. C BOARD PT-2002

PS-200T SYNTHESIZER SCHEMATIC DIAGRAM

NO. 4-2 1581643A

2C

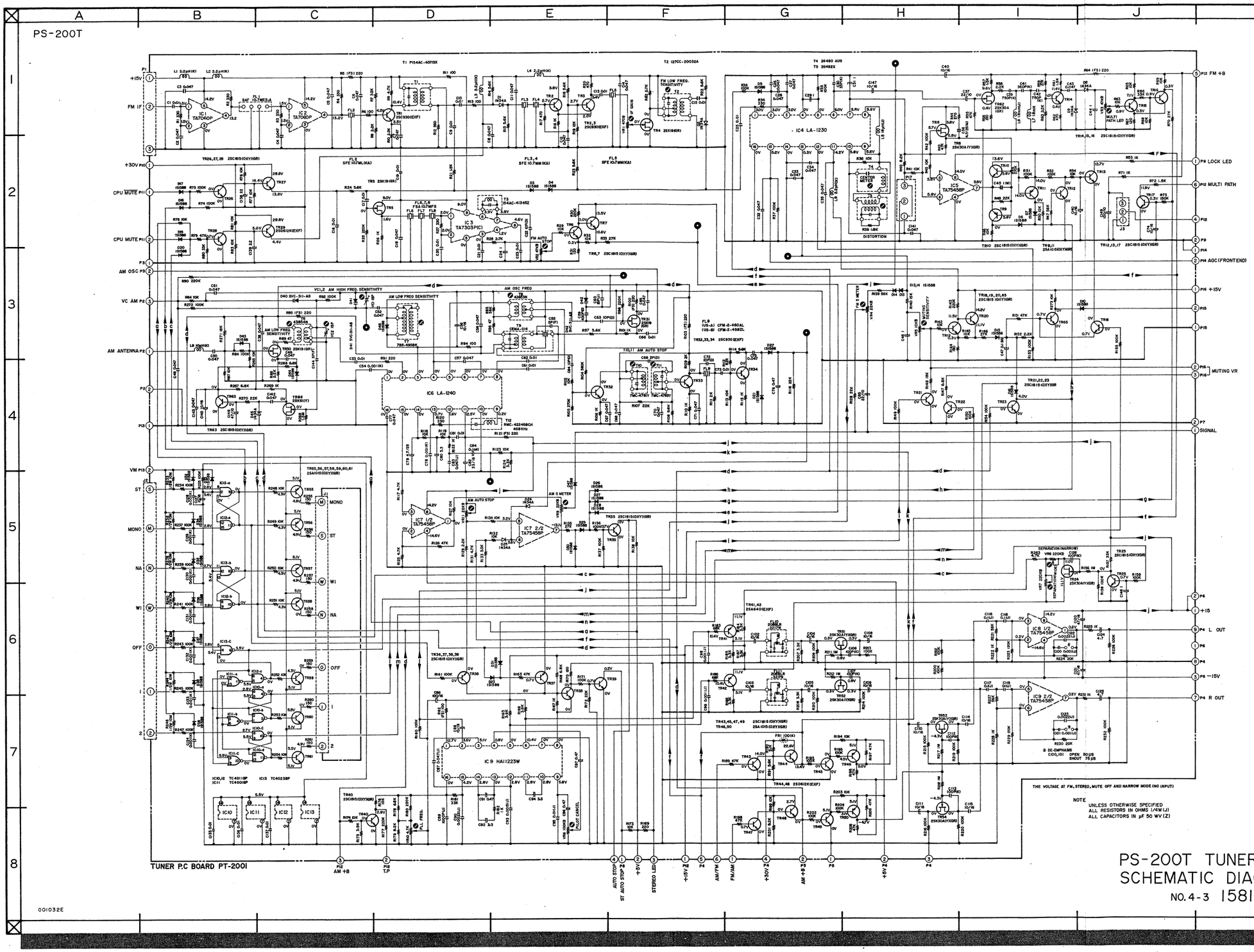
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(Z)

E C B
2SA1015(O)(Y)(GR)
2SC1815(O)(Y)(GR)

THE VOLTAGE AT FM, STEREO, MUTE OFF, AND NARROW MODE. (NO INPUT)

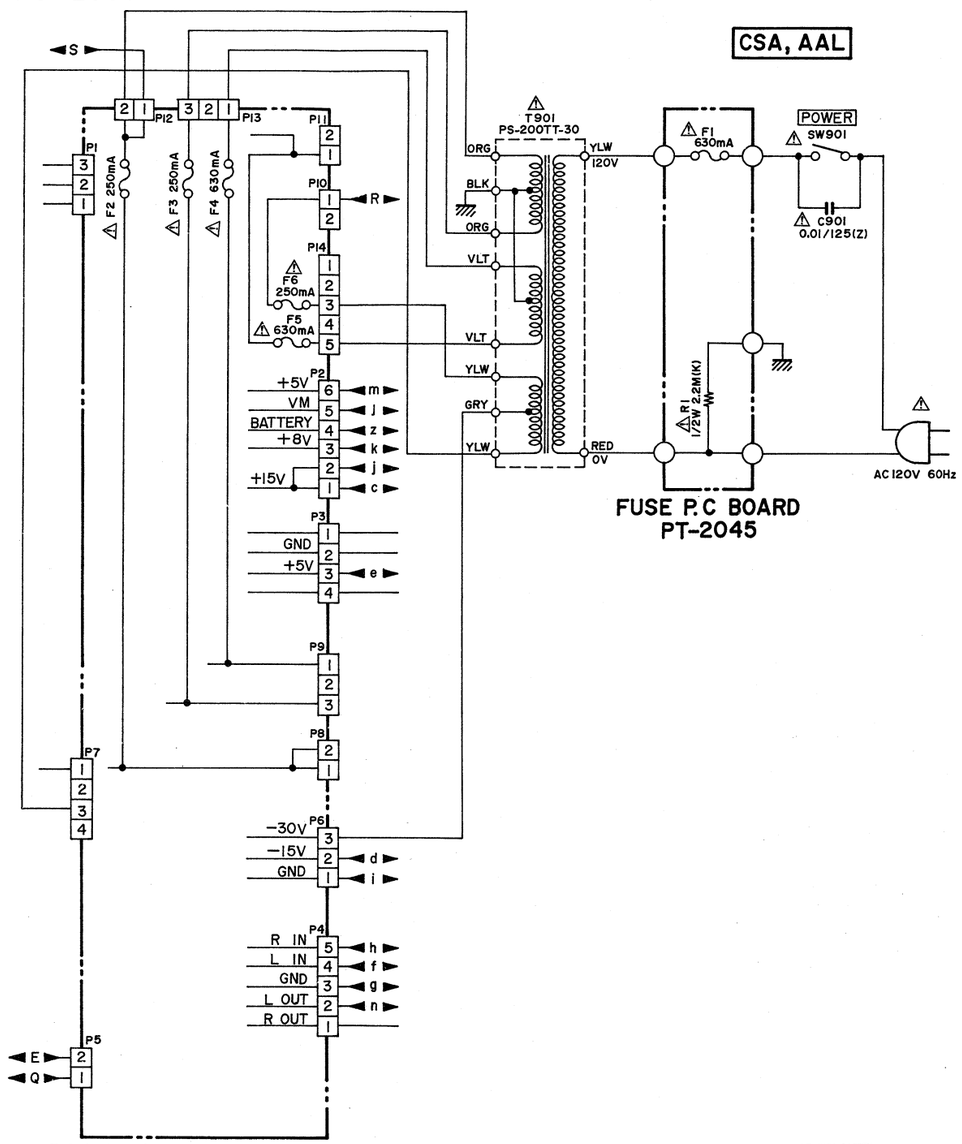
001033B

PS-200T


TUNER P.C BOARD PT-2001
PS-200T TUNER
SCHEMATIC DIAGRAM
NO.4-3 1581644A
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(Z)
THE VOLTAGE AT FM, STEREO, MUTE OFF AND NARROW MODE (NO INPUT)
IC4 LA-1230
IC5 LA-1240
IC 9 HA11223W
IC 3 TA7303P(C)
IC 1 TA7060P
IC 5 TA7060P
IC 7 2/2 TA7545BP
IC 9 2/2 TA7545BP
IC 8 1/2 TA7545BP
IC5 TA7545BP
IC 7 1/2 TA7545BP
P12 FM +B
P9 LOCK LED
P12 MULTI PATH
P12
P9
P14
P14 AGC (FRONTEND)
P16 +15V
P15
P15
P16 MUTING VR
P16
P7
P7 SIGNAL
P6
P6 +15
P4 L OUT
P6
P4
P6 -15V
P4 R OUT
P3 AM +B
P2 T.P
AUTO STOP
ST AUTO STOP
+5V
STEREO LED
+15V
AM/FM
FM/AM
+30V
AM +B
P5
+5V
P4
MONO
ST
WI
NA
OFF
I
2
MUTING
SEPARATION (NARROW)
DISTORTION
MULTI PATH LED
AM AUTO STOP
AM S METER
FM S METER
FM AUTO
PILOT CANCEL
PLL FREQ.
VC1,2 AM HIGH FREQ. SENSITIVITY
AM LOW FREQ SENSITIVITY
AM OSC FREQ
FM LOW FREQ. SENSITIVITY
AM LOW FREQ SENSITIVITY
* DE-EMPHASIS
C100,101 OPEN 50μS
SHORT 75μS
0010326

PS-200T

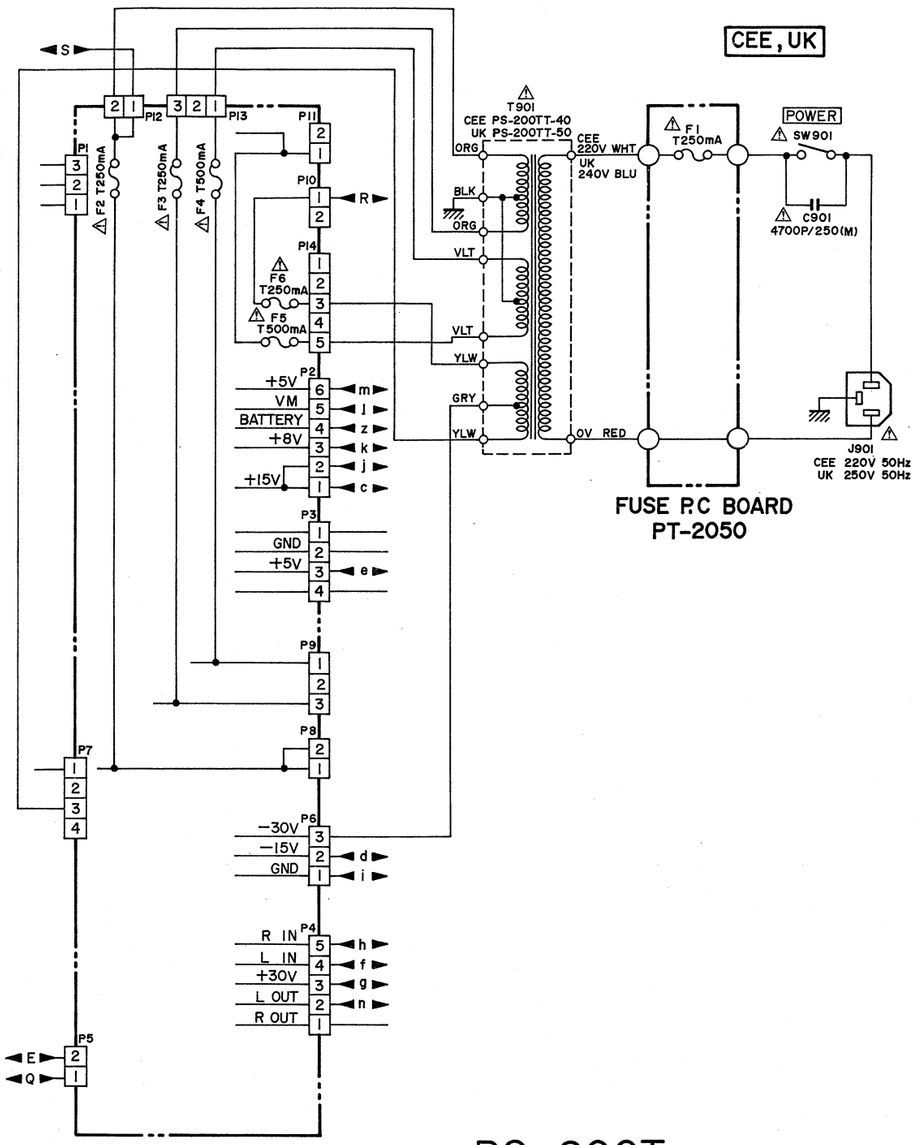
CSA, AAL



FUSE P.C BOARD
PT-2045

POWER SUPPLY P.C BOARD
PT-2048

CEE, UK



FUSE P.C BOARD
PT-2050

POWER SUPPLY P.C BOARD
PT-2049

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

PS-200T POWER SUPPLY SCHEMATIC DIAGRAM

NO. 4-4 1581645A

2C

001037A