



SERVICE  
MANUAL

**SR1000**



**marantz**

**model SR1000**

*Stereophonic Receiver*

## MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ Company has created the ultimate in stereo sound. Only original MARANTZ parts can insure that your MARANTZ product will continue to perform to the specifications for which it is famous.

Parts for your MARANTZ stereo are generally available within 72 hours throughout the nation via a toll-free line to our National Parts Depot in California. The sales professionals who take your call immediately refer to their own desk top computer terminal and can quickly determine the availability and price information you require. If, for some reason, your order should exceed our available stock, we usually can instantly provide an alternate replacement part or current delivery information. When the order is placed and confirmed, the computer simultaneously generates "hard copy" orders at the distribution center. As hard copies come directly from the computer to the national parts depot, your requested stock is assembled and prepared for shipment and placed on the first available carrier for delivery to you.

### ORDERING PARTS

Phone orders will eliminate mail delays, and we encourage the use of this method. If you order by mail, use MARANTZ parts order forms which are available from our National Parts Depot located at the following address:

SUPERSCOPE NATIONAL PARTS DEPARTMENT  
20525 Nordhoff Street  
Chatsworth, California 91311  
Phone: 1-800-423-5108  
1-213-998-9333

The following information must be supplied to eliminate delays in processing your order:

1. Complete address.
2. Complete part numbers.
3. Complete description of parts.
4. Model number for which part is required (indicate MARANTZ).
5. Account number (for account customers only).

Direct consumers will be provided with the current retail price quotation on available parts in order to advise them of the cost of the parts and shipping.

### OVERSEAS PARTS ORDERING

Parts may also be ordered from the following overseas addresses:

#### CANADA

Superscope Canada, Ltd.  
3710 Nashua Drive  
Mississauga  
Ontario, Canada L4V1M5

#### AUSTRALIA

Superscope (Australasia) Pty., Ltd.  
32 Cross Street (P.O. Box 604)  
Brookvale 2100 N.S.W.  
Australia

#### JAPAN

Marantz Japan, Inc.  
3622 Kamitsuruma  
Sagamihara Shi  
Kanagawa, Japan

#### EUROPE

Superscope Europe, S.A.  
Avenue Leopold III, 2  
7120 Peronnes-Lez-Binche  
Belgium

Marantz France  
Rue Louis Armand 9  
92600 Asnieres  
Hauts-de-Seine  
France

Marantz Audio U.K. Ltd.  
London Road, 203  
Staines  
Middlesex  
England

Superscope GmbH  
Max-Planck-Strasse 22  
D-6072 Dreieich 1  
West Germany

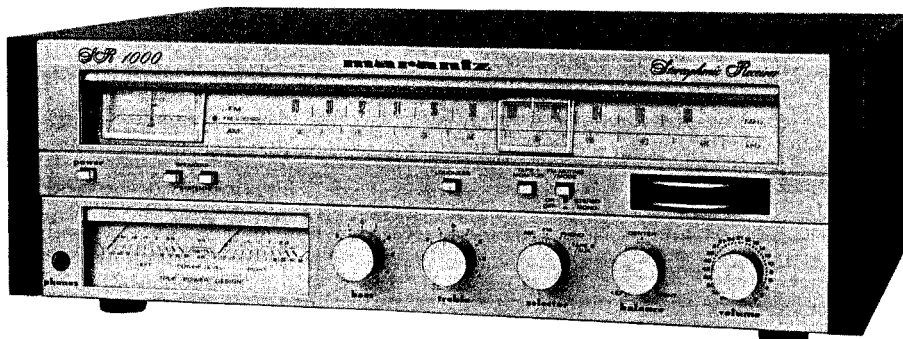
All of the above locations are fully equipped to take care of your total service needs. Because various countries have differing configuration requirements, it is necessary that you contact the service facility in your particular country. In the event that there is no service location listed for your country, please contact the nearest facility for the necessary assistance.

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We sound better.

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### MODEL SR-1000 STEREOGRAPHIC RECEIVER



## INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model SR-1000 Stereophonic Receiver.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operation of the receiver.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can usually be obtained through local suppliers.

## 1. P.W. BOARDS

As can be seen from the circuit diagram the chassis of Model SR-1000 consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Tuner . . . . . mounted on P.W. Board P100
2. Main Amp/Power Supply  
. . . . . mounted on P.W. Board P700
3. Volume/Balance . . . . . mounted on P.W. Board PE00
4. Tone Control . . . . . mounted on P.W. Board PF00
5. Pushswitch . . . . . mounted on P.W. Board PS00
6. Headphone Jack . . . . . mounted on P.W. Board PW00
7. Speaker Terminal . . . . . mounted on P.W. Board PW50
8. Power Meter/Speaker Switch  
. . . . . mounted on P.W. Board PX00
9. Stereo LED . . . . . mounted on P.W. Board PY00
10. Dial Pointer Lamp . . . . . mounted on P.W. Board PZ50
11. Tuning Meter Lamp . . . . . mounted on P.W. Board PZ50

## 2. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model SR-1000 Receiver.

Item	Manufacturer and Model No.	Use
AM Signal Generator		Signal source for AM alignment
Test Loop		Use with AM Signal Generator
FM Signal Generator MPX Signal Generator	Sound Technology Model 1000A	Signal source for FM alignment Stereo separation alignment and trouble shooting
Distortion Analyzer Audio Oscillator AC VTVM	Sound Technology Model 1700A	Distortion measurements Sinewave and squarewave signal source Voltage measurements (AC)
Oscilloscope	Tektronix Model T932 Philips Model 3232	Waveform analysis and trouble shooting and ASO alignment
Frequency Counter	Fluke Model 1900A	MPX Oscillator adjustment (VCO)
Circuit Tester		Trouble shooting
DC VTVM	Fluke Model 8000 "Digital" Simpson Model 313, Triplet Model 801	Voltage measurements (DC)
AC Wattmeter	Simpson Model 1379	Monitors primary power to amplifier
AC Ammeter	Commercial Grade (1-10A)	Monitors amplifier output under short circuit condition
Line Voltmeter	Simpson Model 1359	Monitors potential of primary power to amplifier
Variable Autotransformer	Superior Electronic Co., Powerstat Model 116B-10A	Adjusts level of primary power to amplifier
Shorting Plug	Use phono plug with 600-ohm across center pin and shell	Shorts amplifier input to eliminate noise pickup
Output Load (8 ohms, ±0.5%, 100W)	Commercial Grade	Provides 8-ohm load for amplifier output termination
Output Load (4 ohms, ±0.5%, 100W)	Commercial Grade	Provides 4-ohm load for amplifier output termination

### 3. FM ALIGNMENT PROCEDURES

(Selector switch in the FM position)

#### 3.1 TUNING METER ALIGNMENT

1. Set the FM signal generator to no signal.
2. Adjust the secondary core of L201 (A) so that the tuning meter may read zero (center position).

**NOTE:** Place the tuning pointer at 98 MHz adjacency.

#### 3.2 FM TRACKING ALIGNMENT

1. Connect an FM signal generator to the FM antenna terminals and an oscilloscope and an audio distortion analyzer to the TAPE OUT jacks on the rear panel.
2. Set the FM signal generator to 87.3 MHz and provide about 3 to 5  $\mu$ V. Place the tuning pointer at the low frequency end by rotating the tuning knob and adjust the core of oscillator coil L105 (D) to obtain maximum audio output.
3. Set the FM signal generator to 109 MHz and provide about 3 to 5  $\mu$ V. Rotate the tuning knob and place the tuning pointer at the high frequency end and adjust the trimming capacitor C114 (D) for maximum output.

**NOTE:** Keep the C114 at a half of satisfied capacitance.

6. Set the FM signal generator to 106 MHz and tune the receiver to the same frequency. Adjust the trimming capacitors TC<sub>1</sub> (B) and TC<sub>2</sub> (C) for minimum distortion.
7. Repeat steps 5 and 6 until no further adjustment is necessary.

#### 3.3 FM IF ALIGNMENT

1. Set the FM signal generator to 98 MHz and increase its usable output level and tune the receiver to the same frequency.
2. The L106 (E) should be adjusted for maximum output waveform with decreasing the FM signal generator input level so that the amount of noise should be the same on and beneath the waveform. Readjust the L201 for correct zero point as turning the L106 deviates zero point.

#### 3.4 MONO DISTORTION ALIGNMENT

1. Set the FM signal generator to provide 60 dB at 98 MHz.
2. Set the modulation of FM signal generator to 1 kHz, 100%.
3. Place the tuning meter pointer at the center position.
4. Adjust the primary core (upper) of L201 (F) for minimum distortion.

#### 3.5 STEREO DISTORTION ALIGNMENT

1. Set the FM signal generator to provide stereo composite signal and tune the receiver to the same frequency.
2. Adjust the L106 (E) for minimum distortion.
3. Repeat the adjustment of L201 so that the tuning meter may read zero.

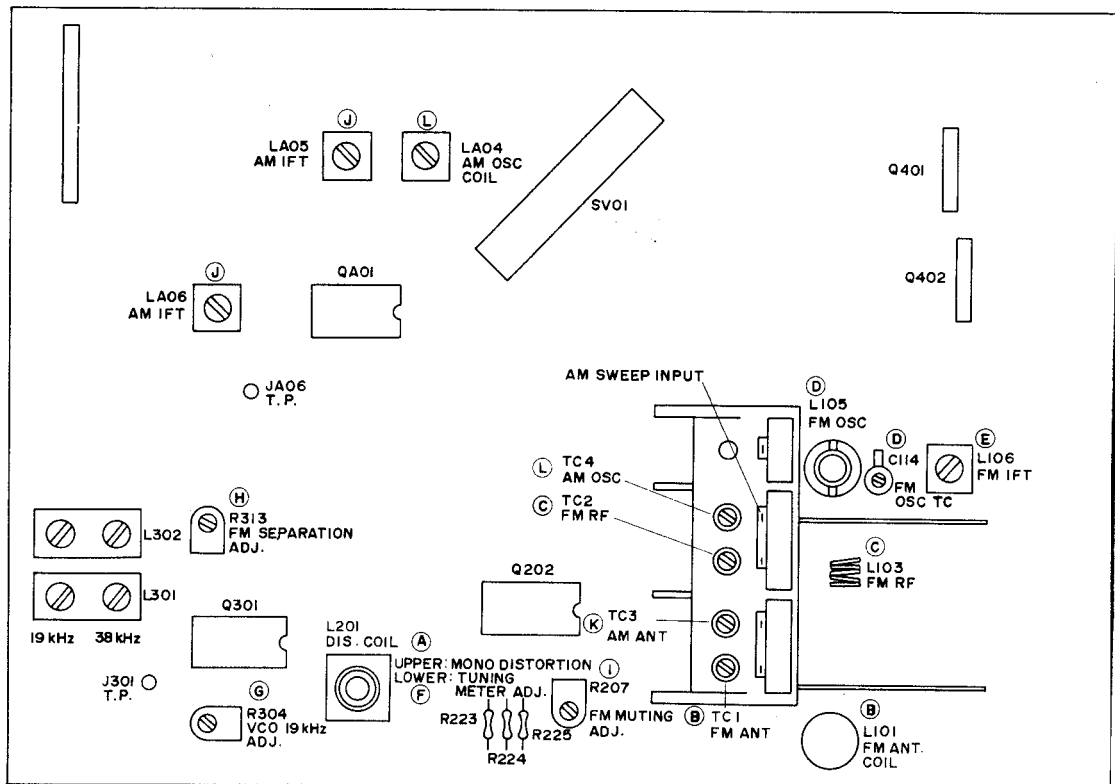


Figure 1. Adjustment Point Location

### 3.6 MULTIPLEX ALIGNMENT

1. Connect a frequency counter to test point J301.
2. Set the FM signal generator to provide 60 dB (1 mV) at 98 MHz.
3. Tune the receiver to the same frequency so that the center tuning meter pointer indicates its center.
4. Turn off the modulation of the FM signal generator and adjust the R304 (Ⓒ) so that the frequency counter may precisely read 19.08 kHz.

### 3.7 STEREO SEPARATION ALIGNMENT

1. Set the FM signal generator to provide stereo composite signal and tune the receiver to the same frequency so that the center tuning meter pointer indicates its center.
2. Adjust the R313 (Ⓗ) for maximum and same separation in both channels.

### 3.8 MUTING LEVEL ALIGNMENT

1. Set the FM signal generator to provide 22 dB (12.5  $\mu$ V) at 98 MHz.
2. Set the modulation of FM signal generator to 1 kHz, 100%.
3. Tune the receiver to the same frequency so that the center tuning meter pointer indicates its center.
4. Turn on FM MUTING pushswitch.
5. Turn the R207 (Ⓐ) until the output waveform disappears and adjust it to a point where the waveform comes to appear again:

## 4. AM ALIGNMENT PROCEDURES

(Selector switch in the AM position)

### 4.1 AM IF ALIGNMENT

1. Connect a sweep generator to the tuning capacitor C120 (for AM oscillator) and an alignment scope to the test point JA06.
2. Rotate each core of IF transformers LA05 (Ⓙ) and LA06 (⓵) for maximum height and flat top symmetrical response.

### 4.2 AM TRACKING ALIGNMENT

1. Set the AM signal generator to 520 kHz. Turn the tuning capacitor fully closed (place the tuning pointer at the low end) and adjust the oscillator coil LA04 (Ⓛ) for maximum audio output.
2. Set the AM signal generator to 1650 kHz. Place the tuning pointer in the high frequency end and adjust the trimming capacitor TC<sub>4</sub> (Ⓛ) for maximum audio output.
3. Repeat steps 1 and 2 until no further adjustment is necessary.
4. Set the AM signal generator to 600 kHz and tune the receiver to the same frequency and adjust a slug core of AM ferrite-rod antenna L051 (Ⓚ) for maximum output.
5. Set the generator to 1400 kHz and tune the receiver to the same frequency and adjust the antenna trimming capacitor TC<sub>3</sub> (Ⓚ) for maximum output.
6. Repeat steps 4 and 5 until no further adjustment is necessary.

**NOTE:** Use the loop for AM tracking alignment.

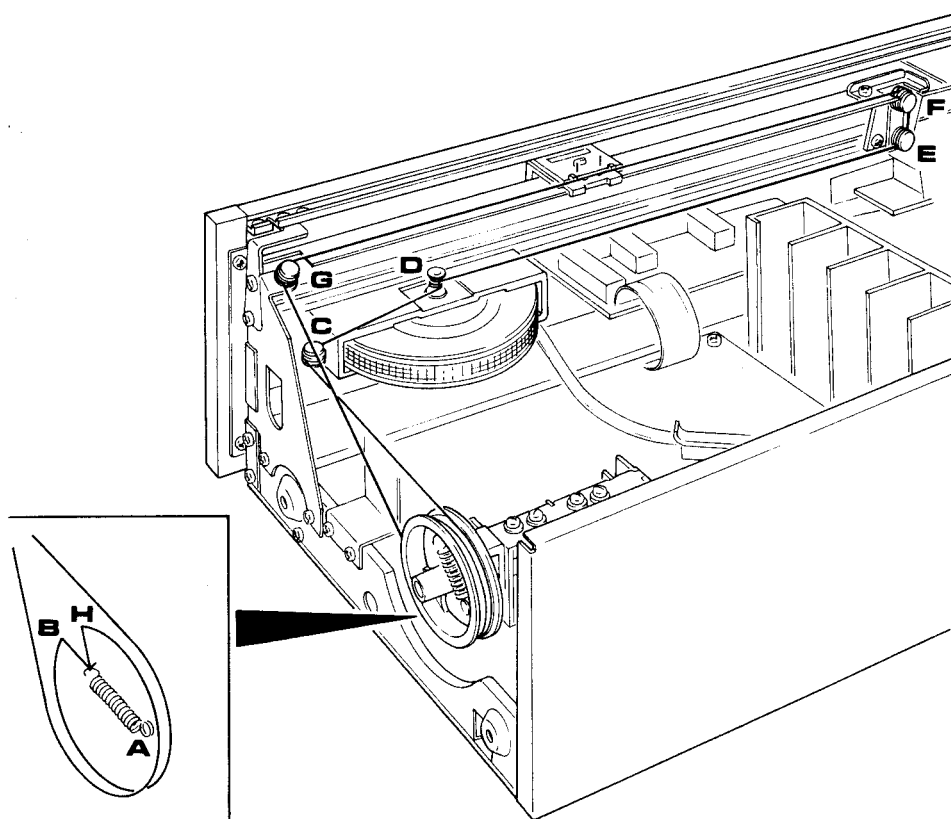


Figure 2. Dial Stringing

## 5. AUDIO ADJUSTMENT

### 5.1 VOLTAGE ADJUSTMENT

1. Turn on the POWER pushswitch and connect a DC voltmeter across the J837 and J723.
2. Check that DC voltmeter reading is  $34 \pm 1$  V.

### 5.2 POWER METER CALIBRATION

Adjust the trimming resistors RX09 (M) and RX10 (M) so that the power meter reading is 0 dB (20W) at 1 kHz, 20 W outputs ( $8 \Omega$  load).

## 6. VOLTAGE CONVERSION

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

**CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTELY.**

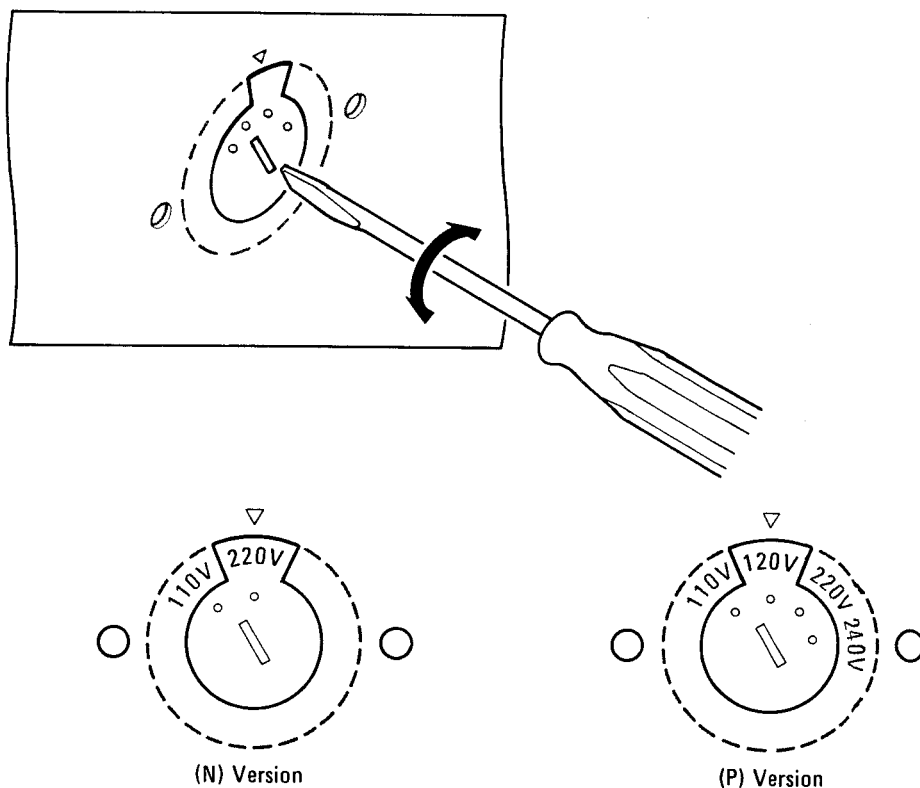


Figure 3. Voltage Conversion

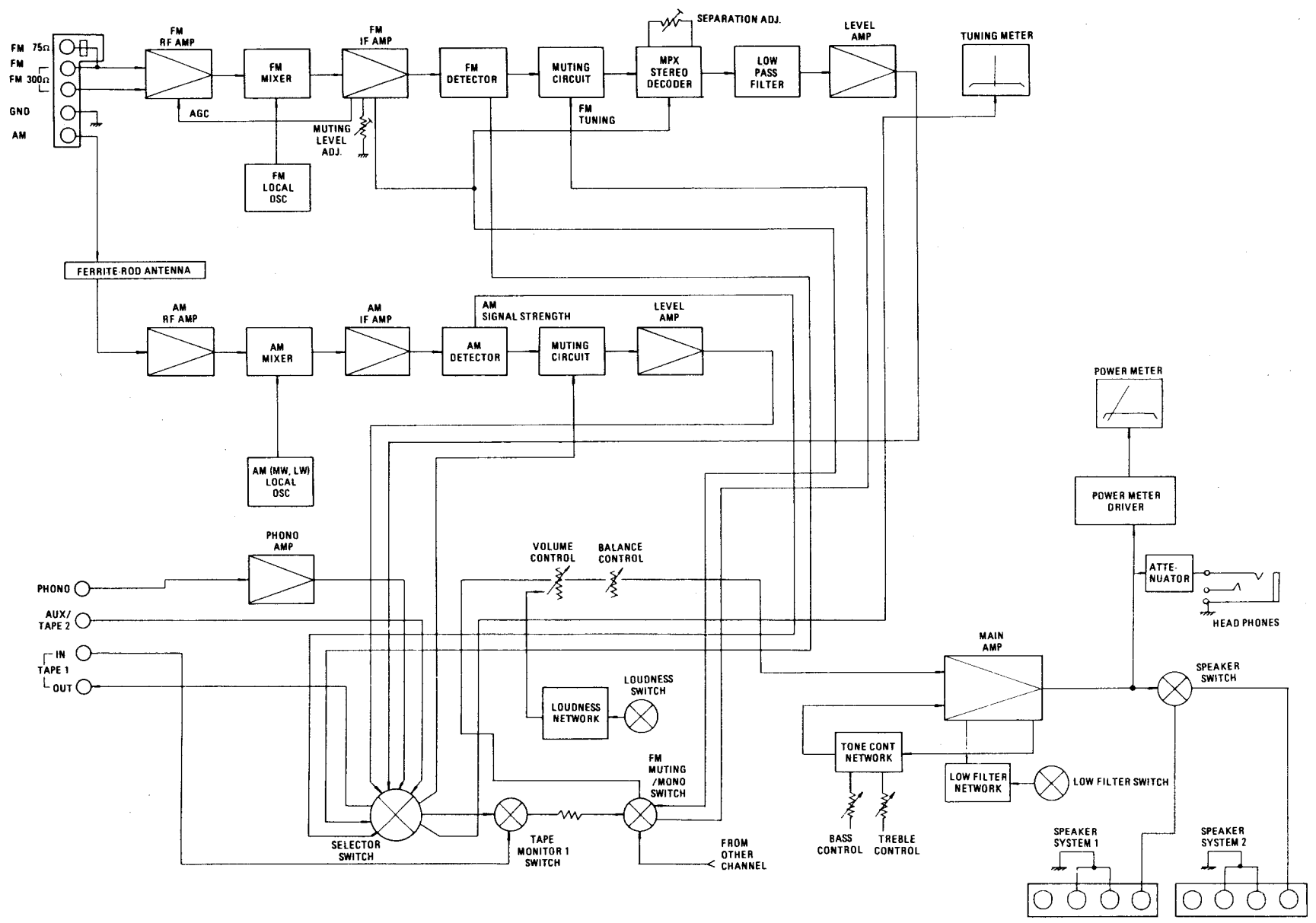
(Note on safety: The parts marked with  $\Delta$  are important parts on the safety. Please use the parts having the designated parts numbers without fail.)

## FTZ REGULATION

Instruction for the use in the range other than specified in FTZ codes.

**Achtung für die Leute, die in dem Gebiet wohnen, wo die FTZ-Bestimmungen vorherrschend sind.**

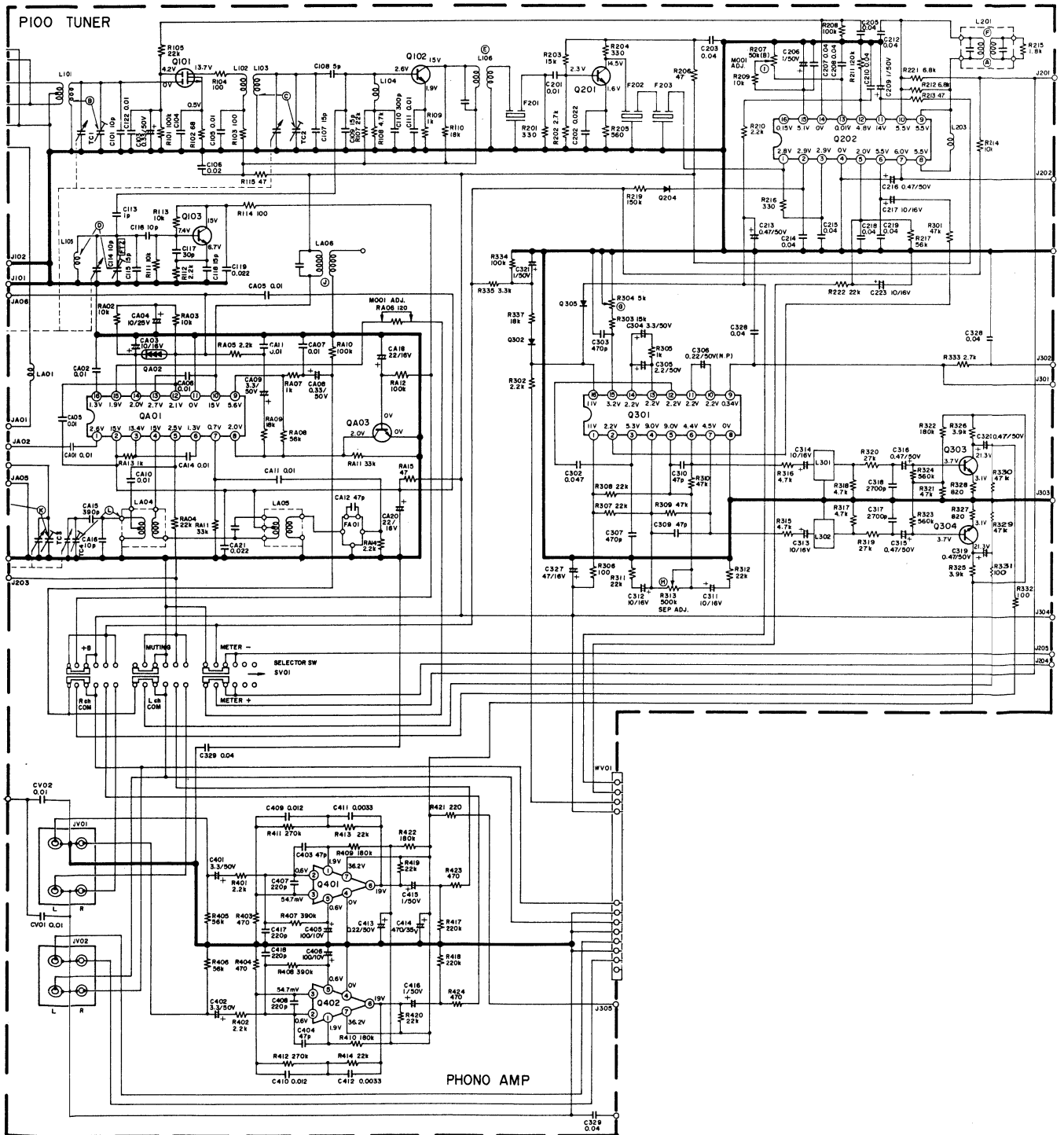
Sollte das Gerät auch für Frequenzen ausserhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangebereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatortspule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

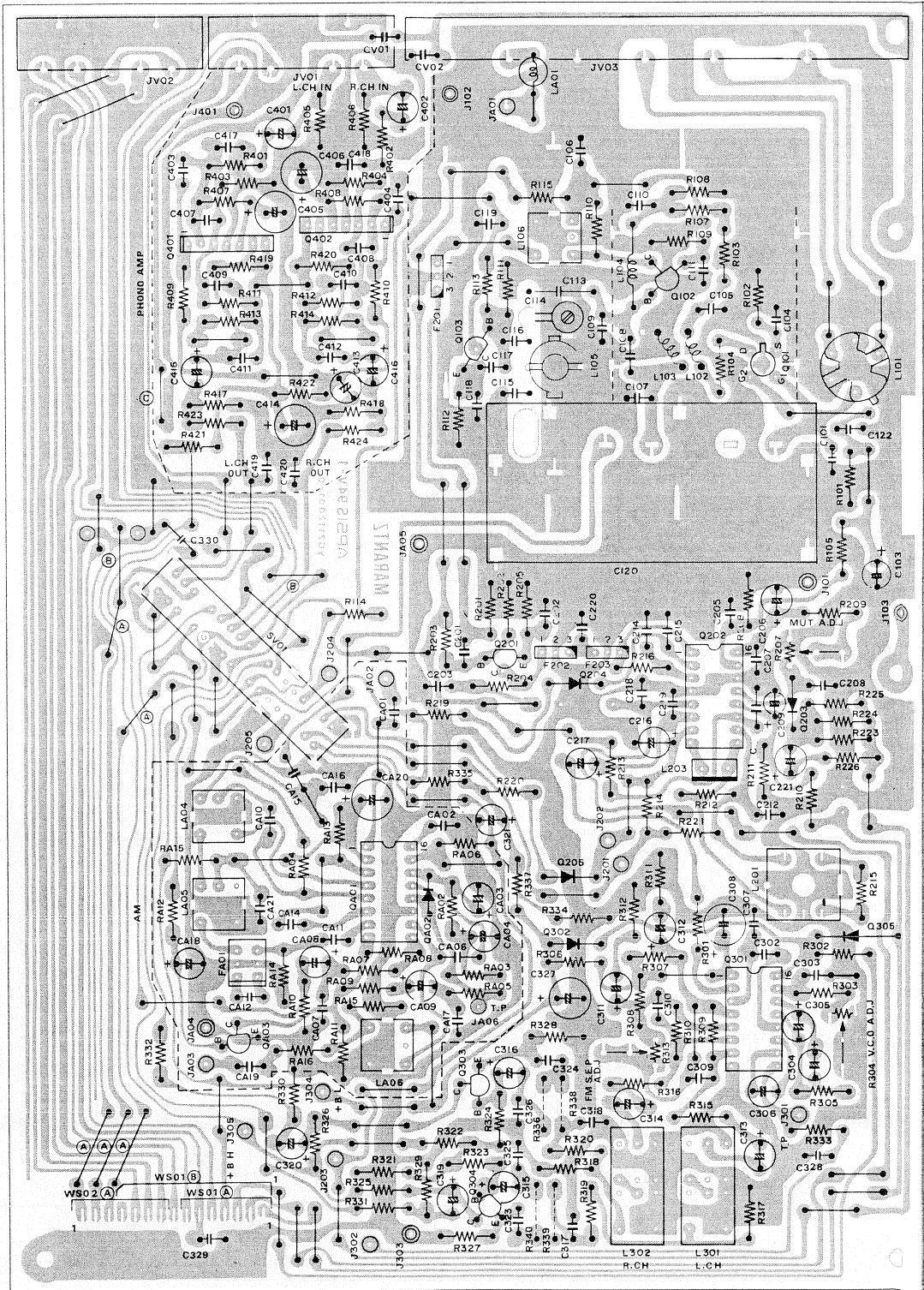


7. DIAGRAMS  
7.1 BLOCK DIAGRAM



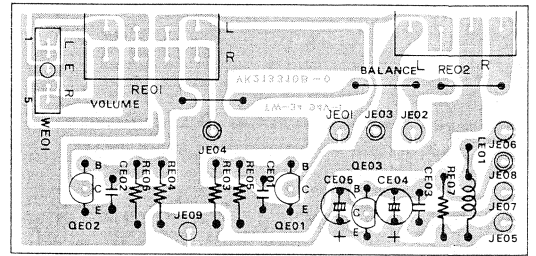
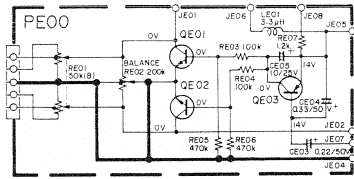
## 7.2 TUNER BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - P100



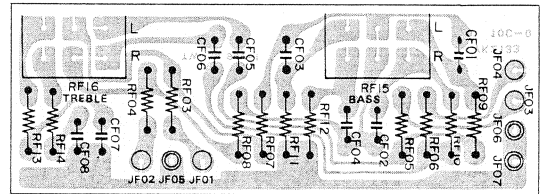
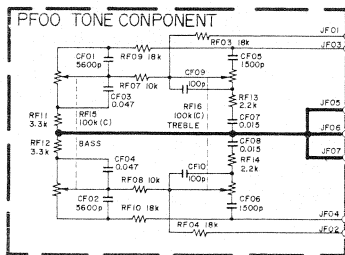




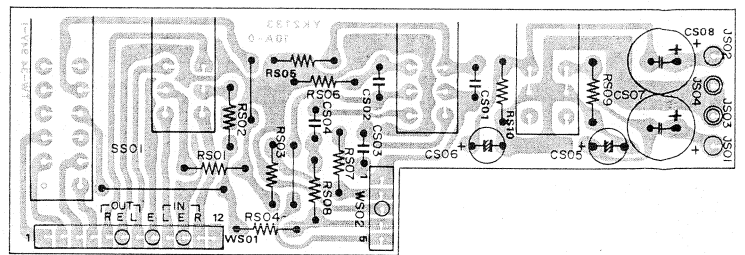
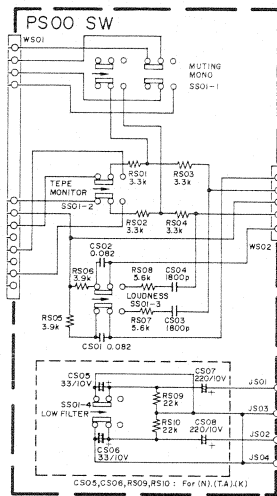
7.4 VOLUME/BALANCE BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PE00



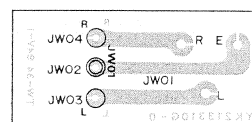
7.5 TONE CONTROL BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS-PF00



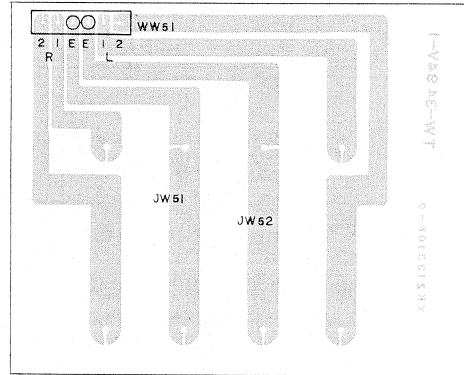
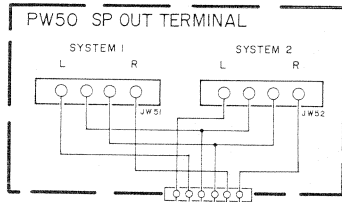
7.6 PUSH SWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PS00



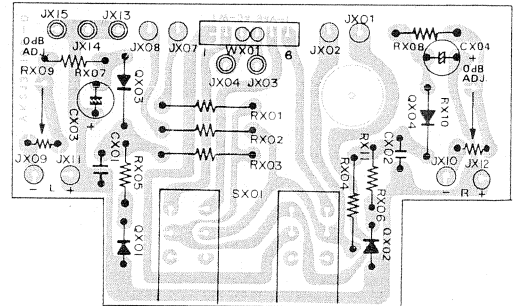
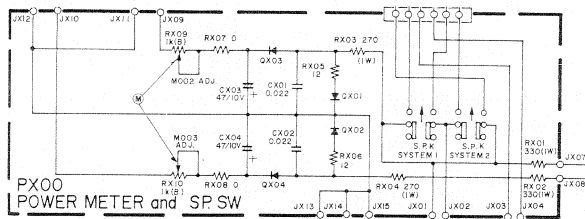
7.7 HEADPHONE JACK BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PW00



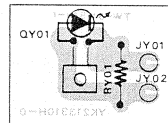
7.8 SPEAKER TERMINAL BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PW50



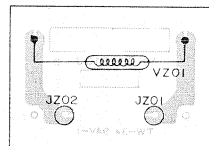
7.9 POWER METER/SPEAKER SWITCH BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PX00



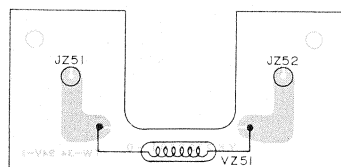
7.10 STEREO LED BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PY00



7.11 DIAL POINTER LAMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PZ00

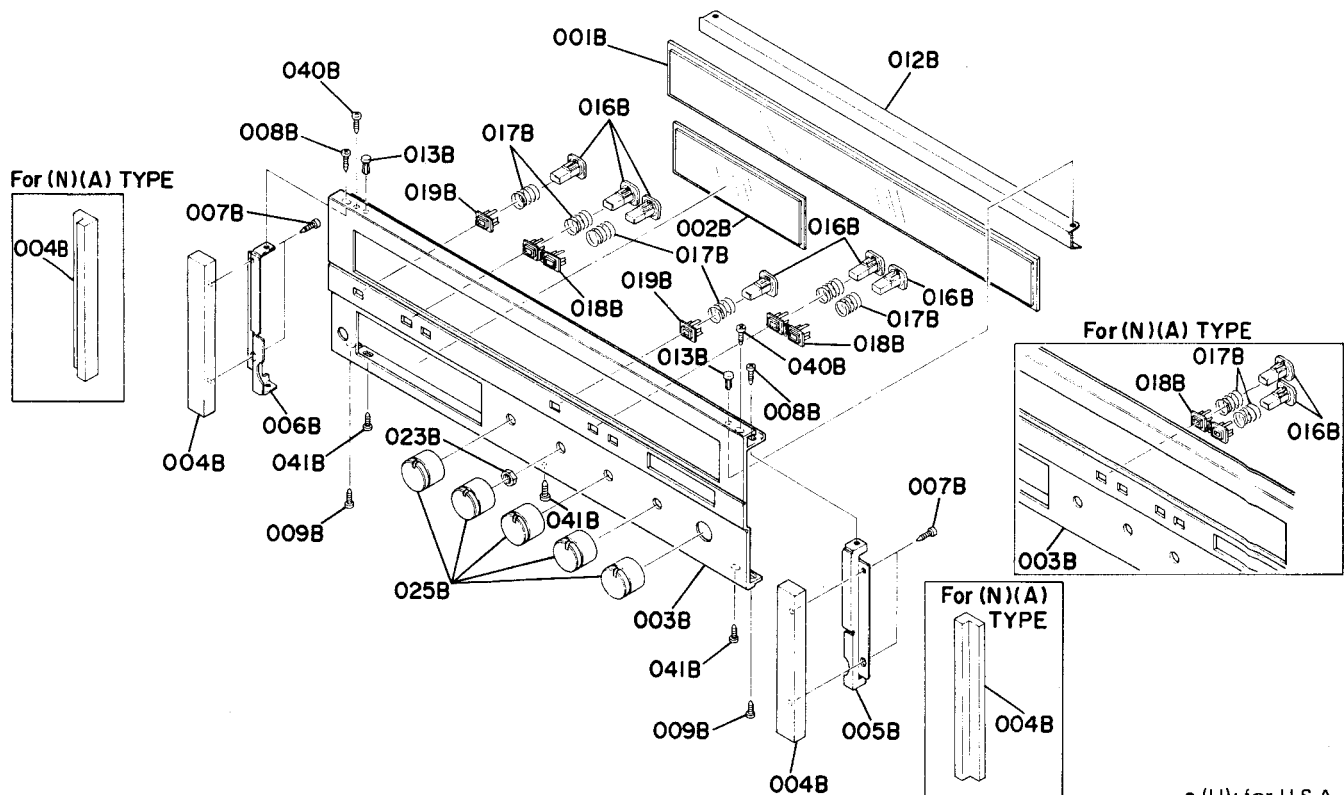


7.12 TUNING METER LAMP BOARD SCHEMATIC DIAGRAM AND COMPONENT LOCATIONS - PZ50



## 8. EXPLODED VIEWS AND PARTS LIST

### 8.1 [C01-99] FRONT PANEL

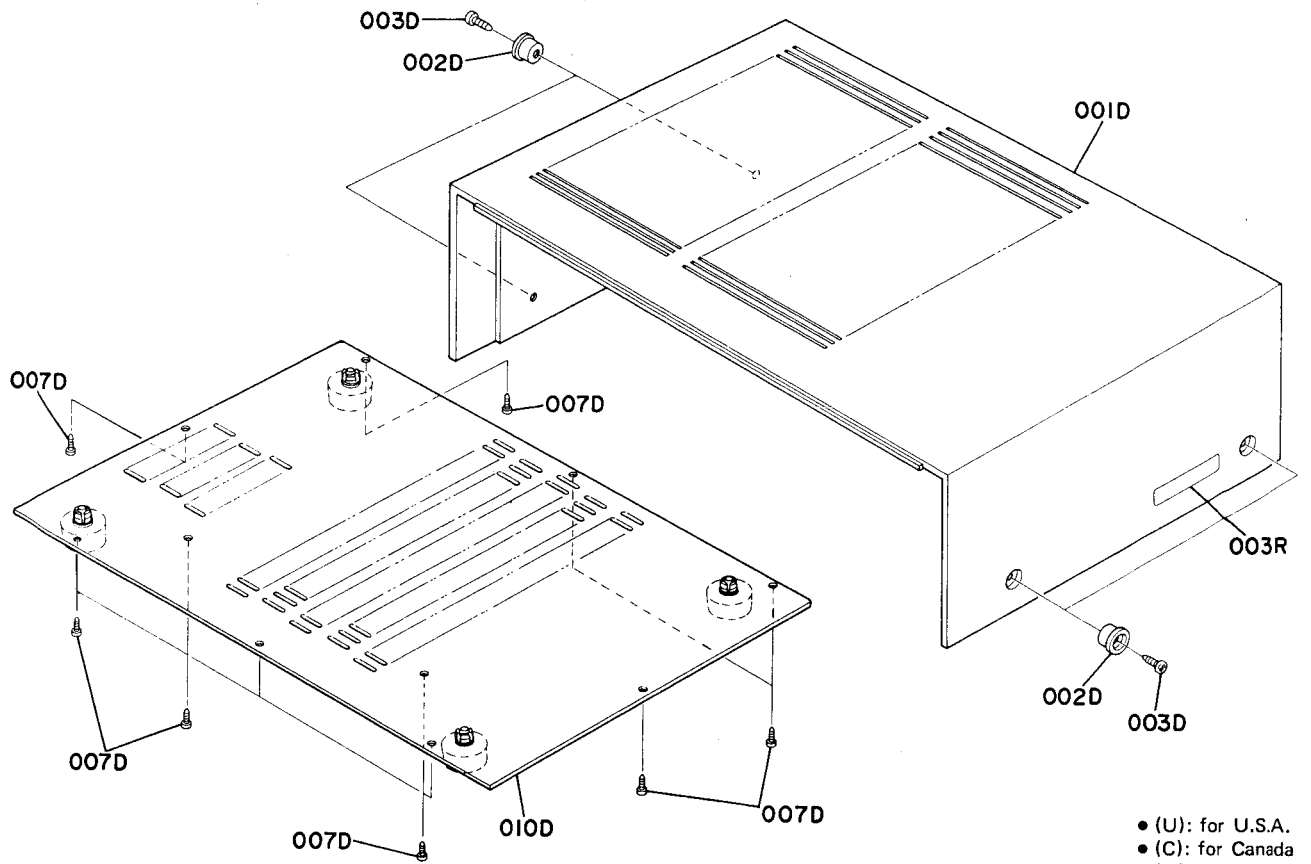


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
A	1	1			2133063400	Front Panel Assembly
A1			1	1	2133063410	Front Panel Assembly
001B	1	1	1	1	2112158110	Window
002B	1	1	1	1	2112158120	Window, Meter
003B	1	1			2133063012	Escutcheon
003B			1	1	2133063112	Escutcheon, Low Filter
004B	2	2			2112063044	Escutcheon, Wood
004B			2	2	2112063052	Escutcheon, AL
005B	1	1	1	1	2112160020	Bracket (R)
006B	1	1	1	1	2112160030	Bracket (L)
007B	4	4			51400310A0	B.H. Tapped Screw B3 x 10
007B			4	4	51280306B0	B.H. Tapped Screw B3 x 6
008B	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
009B	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
012B	1	1	1	1	2112303010	Mask
013B	2	2	2	2	2276005050	Clamper
018B	2	2	3	3	2112259020	Bushing
019B	2	2	1	1	2112259030	Bushing

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
016B	6	6	7	7	2112154010	Knob
017B	6	6	7	7	2112115010	Spring
023B	1	1	1	1	53118169A0	Hexagon Nut
025B	5	5	5	5	2112154020	Knob
040B	2	2	2	2	51100308A9	B.H. Tapped Screw B3 x 8
041B	3	3	3	3	51280308B0	B.H. Tapped Screw B3 x 8

8.2 [C02-99] TOP COVER

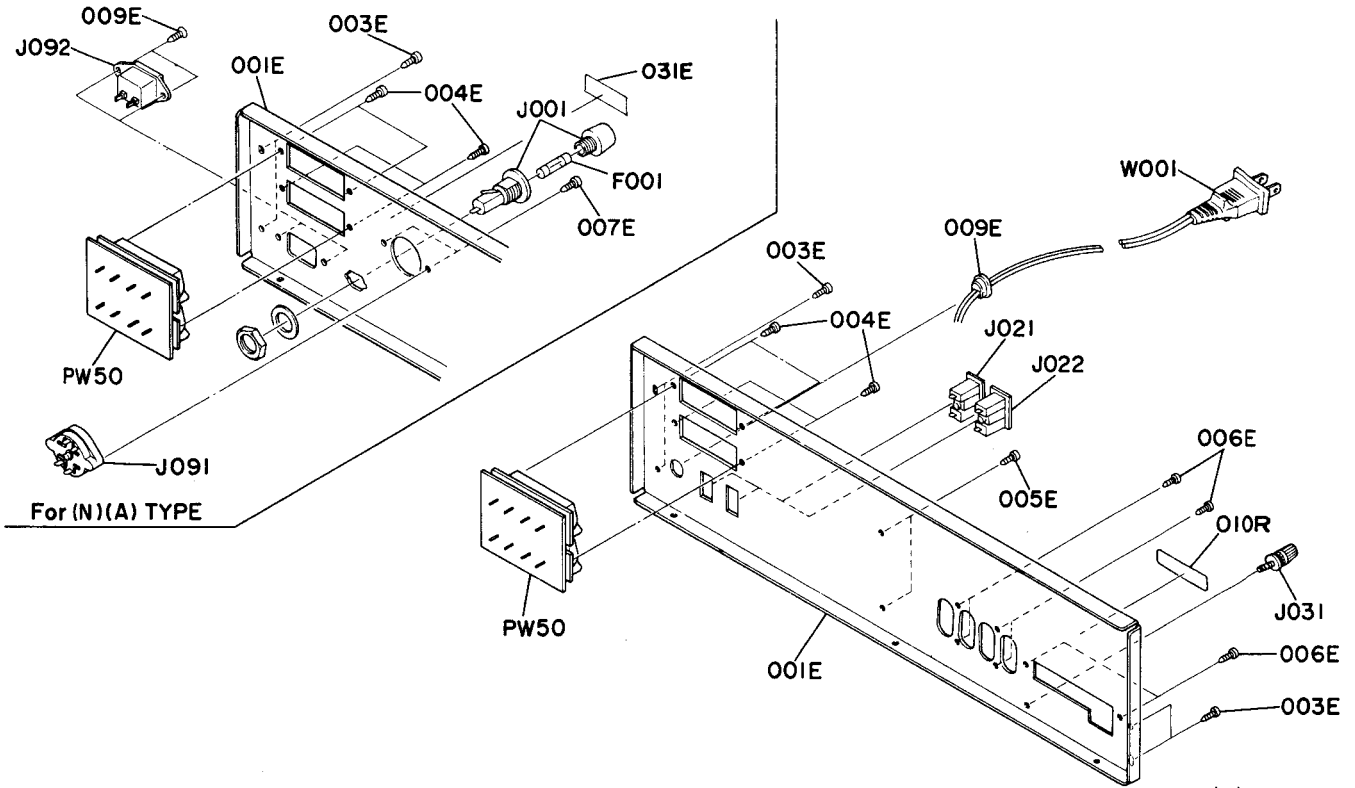


- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
001D	1		1	1	2112064014	Case, Wood
001D		1			2112064110	Case, Wood
002D	4	4	4	4	3906259010	Bushing
003D	4	4	4	4	51280414U0	B.H. Tapped Screw B4 x 14
007D	10	10	10	10	51280410U0	B.H. Tapped Screw B4 x 10
010D	1	1	1	1	2133257502	Lid, Bottom Cover

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
003R	1				2932861012	Label
003R		1			2911861143	Label

8.3 [C03-99] REAR PANEL



- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

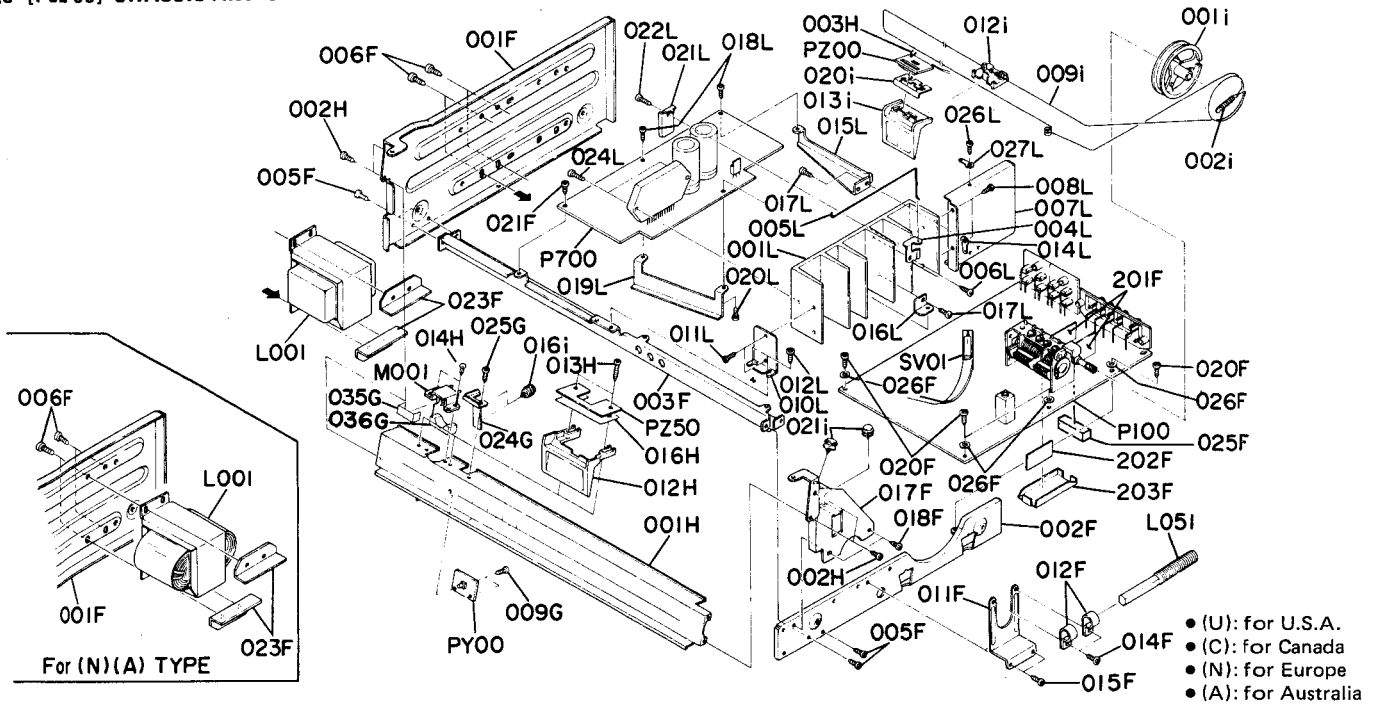
REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
001E	1				2133160212	Bracket, Rear Panel
001E		1			2133160252	Bracket, Rear Panel
001E			1		2133160222	Bracket, Rear Panel
001E				1	2133160232	Bracket, Rear Panel
003E	4	4	4	4	51280308U0	B.H. Tapped Screw B3 x 8
004E	4	4	4	4	51280308U0	B.H. Tapped Screw B3 x 8
005E	2	2	2	2	51280308U0	B.H. Tapped Screw B3 x 8
006E	6	6	6	6	51280308U0	B.H. Tapped Screw B3 x 8
007E			2	2	51280308U0	B.H. Tapped Screw B3 x 8
009E	1	1			1455259030	Bushing
009E		2	2		51420308T0	O.C.H. Tapped Screw 3 x 8
011E				1	2112259040	Bushing
031E				1	4581861010	Label

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
△F001				1	FS10125800	Fuse 1.25AT 250V
△J001				1	YJ08000290	Jack, Fuse Holder
△J021	1	1			YJ04000560	Jack, AC Outlet
△J022	1	1			YJ04000560	Jack, AC Outlet
J031	1	1	1	1	YL03010240	Terminal, Ground
△J091				1	BY05060013	Plug, Voltage Selector
△J091				1	BY05030012	Plug, Voltage Selector
△J092				1	YP04000590	Plug, AC Inlet
△W001	1	1			YC01900070	A.C. Power Cord
010R	1	1	1	1	2112265010	Indicator





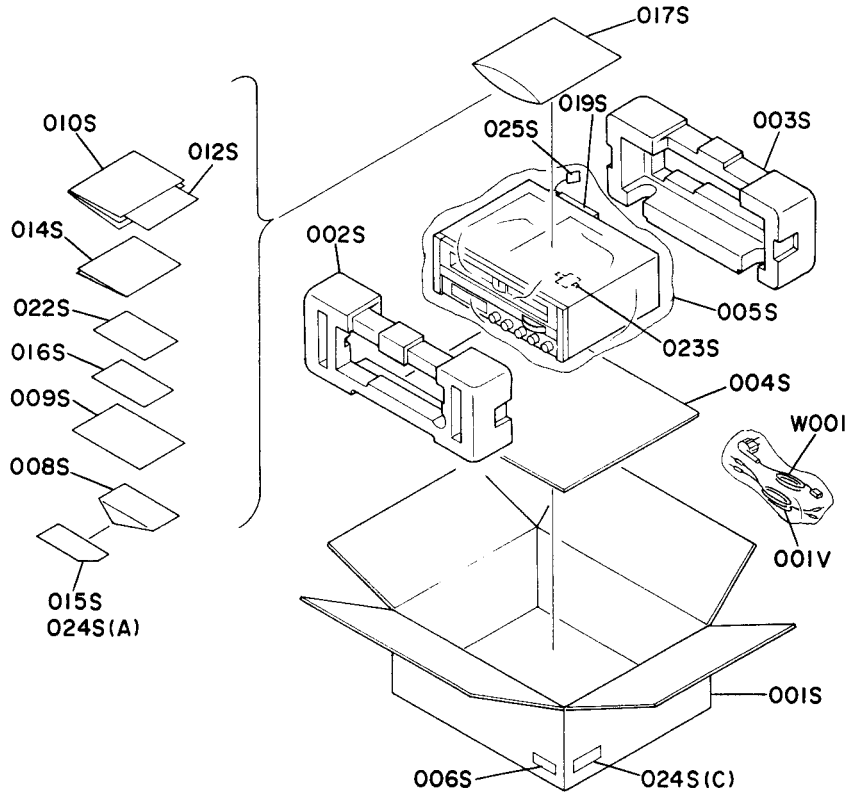
8.5 [P02-99] CHASSIS AND OTHER PARTS



REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
001F	1	1	1	1	2112105014	Chassis, (L)
002F	1	1	1	1	2112105020	Chassis, (R)
003F	1	1	1	1	2112126012	Stay
005F	4	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
006F	4	4	4	4	51280410B0	B.H. Tapped Screw B4 x 10
011F	1	1	1	1	2112271010	Holder
012F	2	2	2	2	1502271010	Holder
014F	2	2	2	2	51260310B0	B.H. Tapped Screw B3 x 10
015F	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
017F	1	1	1	1	2116160052	Bracket
018F	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
020F	4	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
021F	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
023F	2	2	2	2	2133005010	Clamper
025F	1	1	1	1	2116056012	Buffer
026F	4	4	4	4	54110099A0	Washer
009G	2	2	2	2	51282605B0	B.H. Tapped Screw B2.6 x 5
024G	1	1	1	1	2112160072	Bracket
025G	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
032G	1	1	1	1	2112053030	Cover
035G	1	1	1	1	2112053010	Cover
036G	1	1	1	1	2112053030	Cover
001H	1	1	1	1	2112302010	Dial
002H	4	4	4	4	51280308B0	B.H. Tapped Screw B3 x 8
003H	1	1	1	1	72040805A0	String (10)
012H	1	1	1	1	2112274040	Reflector
013H	2	2	2	2	51280312B0	B.H. Tapped Screw B3 x 12
014H	2	2	2	2	2276005050	Clamper
016H	1	1	1	1	2112303050	Mask
001i	1	1	1	1	2112159010	Drum
002i	1	1	1	1	71101689L0	Spring
009i	1	1	1	1	72040805A0	String (180)
012i	1	1	1	1	2112103010	Pointer
013i	1	1	1	1	2112103020	Pointer
016i	2	2	2	2	2276262500	Pulley, (K)
020i	1	1	1	1	2112303030	Mask
021i	2	2	2	2	2276262500	Pulley

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
001L	1	1	1	1	2133267012	Heatsink
004L	1	1	1	1	2112271020	Holder
005L	1	1	1	1	2112272013	Pole
006L	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
007L	1	1	1	1	2133160012	Bracket
008L	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
010L	1	1	1	1	2133160030	Bracket
011L	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
012L	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
014L	1	1	1	1	62030049W0	Lug
015L	1	1	1	1	2112160050	Bracket
016L	1	1	1	1	2133160040	Bracket
017L	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
018L	2	2	2	2	51280308B0	B.H. Tapped Screw B3 x 8
021L	1	1	1	1	2207267020	Heatsink
022L	1	1	1	1	51280314B0	B.H. Tapped Screw B3 x 14
024L	2	2	2	2	51280316B0	B.H. Tapped Screw B3 x 16
△L001	1				TS16619010	Power Transformer
△L001		1			TS16619020	Power Transformer
△L001			1		TS16705010	Power Transformer
△L001				1	TS16705020	Power Transformer
L051	1				LF11000250	Antenna Coil
L051		1	1	1	LF11000240	Antenna Coil
M001	1	1	1	1	IM11000010	D.C. Meter
SV01	1	1	1	1	SS06040020	Slide Switch
201F	2	2	2	2	2259109040	Shield
202F	1	1	1	1	2259109060	Shield
203F	1	1	1	1	2112109010	Shield
019L	1	1	1	1	2133160020	Bracket
020L	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
026L	1	1	1	1	51280308B0	B.H. Tapped Screw B3 x 8
027L	1	1	1	1	62030049W0	Lug

8.6 [H01-99] PACKING MATERIALS



- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	QTY				PART NO.	DESCRIPTION
	U	C	N	A		
001S			1	1	2133801020	Packing Case
001S	1	1			2133801012	Packing Case
002S	1	1	1	1	2112809012	Cushion
003S	1	1	1	1	2112809020	Cushion
004S	1	1	1	1	2918107250	Sheet
005S	1	1	1	1	9090909040	Polyethy Sheet
006S	3				9526019010	Serial NO. Card
006S		3			9526019020	Serial NO. Card
006S			3	3	9526019060	Serial NO. Card
008S		1			2918813010	Envelope
009S	1				2818854020	Guarantee Card
009S		1			2818854040	Guarantee Card
010S	1				2112851010	Instructions
010S		1	1	1	2112851310	Instructions
012S	1				2133851020	Instructions
012S		1			2133851050	Instructions
012S			1	1	2133851030	Instructions

REF. DESIG.	QTY				PART NO.	DESCRIPTION
	U	C	N	A		
014S			1		2133856010	Circuit Diagram
015S		1			9630000180	Guarantee Card
016S		1			9650000050	S. Station Card
017S	1	1	1	1	9013025010	Polyethy Bag
019S	1	1	1	1	2864804010	Sleeve
022S		1			2886851100	Instruction
023S			1	1	2731821010	Silicagel
024S		2			9510901020	Label
024S			1		9630000200	Guarantee Card
025S		1	1		9560000040	Hang Tag
001V	1	1	1	1	ZA02000070	EXT. Antenna
△W001			1		ZC01805020	A.C. Power Cord
△W001				1	ZC01804030	A.C. Power Cord

### 8.7 ELECTRICAL PARTS

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
P100	1	1	1	1	YG21120010	<b>P100-TUNER CIRCUIT BOARD</b>
	1	1			ZZ21122010	P.W. Board, Tuner
			1	1	ZZ21126010	P.W. Board Assembly
					ZZ21126010	P.W. Board Assembly
<b>P100-CAPACITORS</b>						
CA01	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
CA02	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
CA03	1	1	1	1	EA10601690	Elect 10 $\mu$ F 16V
CA04	1	1	1	1	EA10602530	Elect 10 $\mu$ F 25V
CA05	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
CA06	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
CA07	1	1	1	1	DF17103300	Film 0.01 $\mu$ F $\pm$ 20%
CA08	1	1	1	1	EA33405030	Elect 0.33 $\mu$ F 50V
CA09	1	1	1	1	EA33505090	Elect 3.3 $\mu$ F 50V
CA10	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
CA11	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
CA12	1	1	1	1	DD15470370	Ceramic 47pF $\pm$ 5%
CA14	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
CA15	1	1	1	1	DF55391090	Film 390pF $\pm$ 5%
CA16	1	1	1	1	DD11100370	Ceramic 10pF $\pm$ 0.5pF
CA17	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
CA18	1	1	1	1	EA22601690	Elect 22 $\mu$ F 16V
CA20	1	1	1	1	EA22601690	Elect 22 $\mu$ F 16V
CA21	1	1	1	1	DK18223320	Ceramic 0.022 $\mu$ F +80%–20%
CV01	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
CV02	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
C101	1	1	1	1	DD11100300	Ceramic 10pF $\pm$ 0.5pF
C103	1	1	1	1	EA33405030	Elect 0.33 $\mu$ F 50V
C104	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
C105	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
C106	1	1	1	1	DK18223320	Ceramic 0.022 $\mu$ F +80%–20%
C107	1	1	1	1	DD15150300	Ceramic 15pF $\pm$ 5%
C108	1	1	1	1	DD10050370	Ceramic 5pF $\pm$ 0.25pF
C109	1	1			DD15150370	Ceramic 10pF $\pm$ 0.5pF
C109			1	1	DD15200300	Ceramic 20pF $\pm$ 5%
C110	1	1	1	1	DD15301360	Ceramic 300pF $\pm$ 5%
C111	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
C113	1	1	1	1	DD10010300	Ceramic 1pF $\pm$ 0.25pF
C114	1	1	1	1	CT11000080	Trimming 10pF $\pm$ 0.5pF
C115	1	1	1	1	DD15150340	Ceramic 15pF $\pm$ 5%
C116	1	1	1	1	DD11100300	Ceramic 10pF $\pm$ 0.5pF
C117	1	1	1	1	DD15300300	Ceramic 30pF $\pm$ 5%
C118	1	1	1	1	DD15150300	Ceramic 15pF $\pm$ 5%
C119	1	1	1	1	DK18223320	Ceramic 0.022 $\mu$ F +80%–20%
C120	1	1	1	1	CA32400100	Variable, FM-3, AM-2
C201	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%–20%
C202	1	1	1	1	DK18223320	Ceramic 0.022 $\mu$ F +80%–20%
C203	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C205	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C206	1	1	1	1	EA22505030	Elect 2.2 $\mu$ F 50V
C207	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C208	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C209	1	1	1	1	EA10505030	Elect 1 $\mu$ F 50V
C210	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C212	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
C214	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C215	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C216	1	1	1	1	EA47405030	Elect 0.47 $\mu$ F 50V
C217	1	1	1	1	EA10602530	Elect 10 $\mu$ F 25V
C218	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C219	1	1	1	1	DD15151370	Ceramic 150pF $\pm$ 5%
C220			1	1	DD15470370	Ceramic 47pF $\pm$ 5%
C221	1				EA10601690	Elect 10 $\mu$ F 16V
C222	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C302	1	1	1	1	DF17473300	Film 0.047 $\mu$ F $\pm$ 20%
C303	1	1	1	1	DF55471090	Film 470pF $\pm$ 5%
C304	1	1	1	1	EA33505090	Elect 3.3 $\mu$ F 50V
C305	1	1	1	1	EA22505030	Elect 2.2 $\mu$ F 50V
C306	1	1	1	1	EQ22405010	Elect 0.22 $\mu$ F $\pm$ 20%
C307	1	1	1	1	DD15471360	Ceramic 470pF $\pm$ 5%
C308	1	1	1	1	EA47601690	Elect 47 $\mu$ F 16V
C309	1	1	1	1	DD15470370	Ceramic 47pF $\pm$ 5%
C310	1	1	1	1	DD15470370	Ceramic 47pF $\pm$ 5%
C311	1	1	1	1	EA10602530	Elect 10 $\mu$ F 25V
C312	1	1	1	1	EA10601690	Elect 10 $\mu$ F 16V
C313	1	1	1	1	EA10602530	Elect 10 $\mu$ F 25V
C314	1	1	1	1	EA10602530	Elect 10 $\mu$ F 25V
C315	1	1	1	1	EA47405030	Elect 0.47 $\mu$ F 50V
C316	1	1	1	1	EA47405030	Elect 0.47 $\mu$ F 50V
C317	1	1			DF16272300	Film 2700pF $\pm$ 10%
C317			1	1	DF16182300	Film 1800pF $\pm$ 10%
C318	1	1			DF16272300	Film 2700pF $\pm$ 10%
C318			1	1	DF16182300	Film 1800pF $\pm$ 10%
C319	1	1	1	1	EA10505030	Elect 1 $\mu$ F 50V
C320	1	1	1	1	EA10505030	Elect 1 $\mu$ F 50V
C321	1	1	1	1	EA10505030	Elect 1 $\mu$ F 50V
C327	1	1	1	1	EA47601690	Elect 47 $\mu$ F 16V
C328	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C329	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C330	1	1	1	1	DK18403320	Ceramic 0.04 $\mu$ F +80%–20%
C401	1	1	1	1	EA33505030	Elect 3.3 $\mu$ F 50V
C402	1	1	1	1	EA33505030	Elect 3.3 $\mu$ F 50V
C403	1	1	1	1	DD15470370	Ceramic 47pF $\pm$ 5%
C404	1	1	1	1	DD15470370	Ceramic 47pF $\pm$ 5%
C405	1	1	1	1	EA10701090	Elect 100 $\mu$ F 10V
C406	1	1	1	1	EA10701090	Elect 100 $\mu$ F 10V
C407	1	1	1	1	DK16221300	Ceramic 220pF $\pm$ 5%
C408	1	1	1	1	DK16221300	Ceramic 220pF $\pm$ 5%
C409	1	1	1	1	DF16123350	Film 0.012 $\mu$ F $\pm$ 10%
C410	1	1	1	1	DF16123350	Film 0.012 $\mu$ F $\pm$ 10%
C411	1	1	1	1	DF16332300	Film 0.0033 $\mu$ F $\pm$ 10%
C412	1	1	1	1	DF16332300	Film 0.0033 $\mu$ F $\pm$ 10%
C413	1	1	1	1	EA22405030	Elect 0.22 $\mu$ F 50V
C414	1	1	1	1	EA47703590	Elect 470 $\mu$ F 35V
C415	1	1	1	1	EA10505030	Elect 1 $\mu$ F 50V
C416	1	1	1	1	EA10505030	Elect 1 $\mu$ F 50V
C417	1	1	1	1	DK16221300	Ceramic 220pF $\pm$ 10%
C418	1	1	1	1	DK16221300	Ceramic 220pF $\pm$ 10%

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
<b>P100-RESISTORS</b> (All Resistors are $\pm 5\%$ and $\frac{1}{4}W$ )						
RA02	1	1	1	1	GD05103140	10K $\Omega$
RA03	1	1	1	1	GD05103140	10K $\Omega$
RA04	1	1	1	1	GD05223140	22K $\Omega$
RA05	1	1	1	1	GD05222140	2.2K $\Omega$
RA06	1	1	1	1	GD05121140	120 $\Omega$
RA07	1	1	1	1	GD05102140	1K $\Omega$
RA08	1	1	1	1	GD05563140	56K $\Omega$
RA09	1	1	1	1	GD05273140	27K $\Omega$
RA10	1	1	1	1	GD05104140	100K $\Omega$
RA11	1	1	1	1	GD05333140	33K $\Omega$
RA12	1	1	1	1	GD05104140	100K $\Omega$
RA13	1	1	1	1	GD05102140	1K $\Omega$
RA14	1	1	1	1	GD05222140	2.2K $\Omega$
RA15	1	1	1	1	GD05470140	47 $\Omega$
RA18	1	1	1	1	GD05333140	33K $\Omega$
R101	1	1	1	1	GD05104140	100K $\Omega$
R102	1	1	1	1	GD05680140	68 $\Omega$
R103	1	1	1	1	GD05101140	100 $\Omega$
R104	1	1	1	1	GD05101140	100 $\Omega$
R105	1	1	1	1	GD05223140	22K $\Omega$
R107	1	1	1	1	GD05223140	22K $\Omega$
R108	1	1	1	1	GD05472140	4.7K $\Omega$
R109	1	1	1	1	GD05102140	1K $\Omega$
R110	1	1	1	1	GG05183140	18K $\Omega$
R111	1	1	1	1	GD05103140	10K $\Omega$
R112	1	1	1	1	GD05272140	2.7K $\Omega$
R113	1	1	1	1	GD05103140	10K $\Omega$
R114	1	1	1	1	GD05101140	100 $\Omega$
R115	1	1	1	1	GG05470140	47 $\Omega$
R201	1	1	1	1	GD05331140	330 $\Omega$
R202	1	1	1	1	GD05272140	2.7K $\Omega$
R203	1	1	1	1	GD05153140	15K $\Omega$
R204	1	1	1	1	GD05331140	330 $\Omega$
R205	1	1	1	1	GD05561140	560 $\Omega$
R207	1	1	1	1	RA05030090	50K $\Omega$ (B) Trimming
R208	1	1	1	1	GD05104140	100K $\Omega$
R209	1	1	1	1	GD05103140	10K $\Omega$
R210	1	1	1	1	GD05222140	2.2K $\Omega$
R211	1	1	1	1	GD05124140	120K $\Omega$
R212	1	1	1	1	GD05682140	6.8K $\Omega$
R213	1	1	1	1	GG05470140	47 $\Omega$
R214	1	1	1	1	GD05103140	10K $\Omega$
R215	1	1	1	1	GD05332140	3.3K $\Omega$
R216	1	1	1	1	GD05331140	330 $\Omega$
R219	1	1	1	1	GD05154140	150K $\Omega$
R221	1	1	1	1	GD05682140	6.8K $\Omega$
R227	1	1	1	1	GD05473140	47K $\Omega$
R301	1	1	1	1	GD05473140	47K $\Omega$
R302	1	1	1	1	GD05222140	2.2K $\Omega$
R303	1	1	1	1	GD05153140	15K $\Omega$

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
R304	1	1	1	1	RA05020160	5K $\Omega$ (B) Trimming
R305	1	1	1	1	GD05102140	1K $\Omega$
R306	1	1	1	1	GG05101140	100 $\Omega$
R307	1	1	1	1	GD05223140	22K $\Omega$
R308	1	1	1	1	GD05223140	22K $\Omega$
R309	1	1	1	1	GD05473140	47K $\Omega$
R310	1	1	1	1	GD05473140	47K $\Omega$
R311	1	1	1	1	GD05393140	39K $\Omega$
R312	1	1	1	1	GD05393140	39K $\Omega$
R313	1	1	1	1	RA05040090	500K $\Omega$ (B) Trimming
R315	1	1	1	1	GD05472140	4.7K $\Omega$
R316	1	1	1	1	GD05472140	4.7K $\Omega$
R317	1	1	1	1	GD05472140	4.7K $\Omega$
R318	1	1	1	1	GD05472140	4.7K $\Omega$
R319	1	1	1	1	GD05273140	27K $\Omega$
R320	1	1	1	1	GD05273140	27K $\Omega$
R321	1	1	1	1	GD05473140	47K $\Omega$
R322	1	1	1	1	GD05184140	180K $\Omega$
R323	1	1	1	1	GD05564140	560K $\Omega$
R324	1	1	1	1	GD05564140	560K $\Omega$
R325	1	1	1	1	GD05392140	3.9K $\Omega$
R326	1	1	1	1	GD05392140	3.9K $\Omega$
R327	1	1	1	1	GD05821140	820 $\Omega$
R328	1	1	1	1	GD05821140	820 $\Omega$
R329	1	1	1	1	GD05473140	47K $\Omega$
R330	1	1	1	1	GD05473140	47K $\Omega$
R331	1	1	1	1	GD05101140	100 $\Omega$
R332	1	1	1	1	GD05101140	100 $\Omega$
R333	1	1	1	1	GD05272140	2.7K $\Omega$
R334	1	1	1	1	GD05104140	100K $\Omega$
R335	1	1	1	1	GD05332140	3.3K $\Omega$
R337	1	1	1	1	GD05183140	18K $\Omega$
R401	1	1	1	1	GD05222140	2.2K $\Omega$
R402	1	1	1	1	GD05222140	2.2K $\Omega$
R403	1	1	1	1	GD05471140	470 $\Omega$
R404	1	1	1	1	GD05471140	470 $\Omega$
R405	1	1	1	1	GD05563140	56K $\Omega$
R406	1	1	1	1	GD05563140	56K $\Omega$
R407	1	1	1	1	GD05394140	390K $\Omega$
R408	1	1	1	1	GD05394140	390K $\Omega$
R409	1	1	1	1	GD05184140	180K $\Omega$
R410	1	1	1	1	GD05184140	180K $\Omega$
R411	1	1	1	1	GD05274140	270K $\Omega$
R412	1	1	1	1	GD05274140	270K $\Omega$
R413	1	1	1	1	GD05223140	22K $\Omega$
R414	1	1	1	1	GD05223140	22K $\Omega$
R417	1	1	1	1	GD05224140	220K $\Omega$
R418	1	1	1	1	GD05224140	220K $\Omega$
R419	1	1	1	1	GD05223140	22K $\Omega$
R420	1	1	1	1	GD05223140	22K $\Omega$
R421	1	1	1	1	GG05221140	220 $\Omega$
R422	1	1	1	1	GD05184140	180K $\Omega$
R423	1	1	1	1	GD05471140	470 $\Omega$
R424	1	1	1	1	GD05471140	470 $\Omega$

- (U): for U.S.A.
- (C): for Canada
- (N): for Europe
- (A): for Australia

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
<b>P100-SEMICONDUCTORS</b>						
QA01	1	1	1	1	HC10025060	IC $\mu$ PC1178C
QA02	1	1	1	1	HV00006120	Varistor MV-203
QA03	1	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
Q101	1	1	1	1	HF400451B0	F.E.T. 3SK45(B)
Q102	1	1	1	1	HT310471C0	Transistor 2SC1047(C)
Q103	1	1	1	1	HT308291C0	Transistor 2SC829(C)
Q201	1	1	1	1	HT308291C0	Transistor 2SC829(C)
Q202	1	1	1	1	HC10028030	IC LA1231
Q204	1	1	1	1	HD20011050	Diode 1S1555
Q301	1	1	1	1	HC10024060	IC $\mu$ PC11610
Q302	1	1	1	1	HD20011050	Diode 1S1555
Q303	1	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
Q304	1	1	1	1	HT326342B0	Transistor 2SC2634(S or T)
Q305	1	1	1	1	HD20011050	Diode 1S1555
Q401	1	1	1	1	HC10012060	IC $\mu$ PC1024H
Q402	1	1	1	1	HC10012060	IC $\mu$ PC1024H
<b>P100-MISCELLANEOUS</b>						
FA01	1	1	1	1	FF10045200	Ceramic Filter 450KHz
F201	1	1	1	1	FF11070050	Ceramic Filter 10.7MD1
F202	1	1			FF11070050	Ceramic Filter 10.7MD1
F203	1	1			FF11070050	Ceramic Filter 10.7MD1
JV01	1	1	1	1	YT02040280	Terminal, RCA Phono/Aux
JV02	1	1	1	1	YT02040280	Terminal, RCA Tape In/Out
JV03	1	1	1	1	YT01050010	Terminal, Antenna
LA01	1	1	1	1	LC11540020	Choke Coil 150 $\mu$ H
LA04	1	1	1	1	LO10010480	OSC Coil
LA05	1	1	1	1	LI10010730	I.F.T. 450KHz
LA06	1	1	1	1	LI10010740	I.F.T. 450KHz
L101	1	1	1	1	LA12028040	Ant. Coil
L102	1	1	1	1	LL24800030	Coil
L103	1	1	1	1	LK11800030	Coil
L104	1	1	1	1	LC17510010	Choke Coil 0.75 $\mu$ H
L105	1	1	1	1	LO12036010	OSC Coil
L106	1	1	1	1	LI10016010	I.F.T.
L201	1	1	1	1	LI14016240	I.F.T.
L203	1	1	1	1	LC11830010	Choke Coil 18 $\mu$ H
L301	1	1	1	1	LS20013010	M.P.X. Coil
L302	1	1	1	1	LS20013010	M.P.X. Coil
KS00	1	1	1	1	SR06040130	Rotary Switch, Selector

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
<b>P700-MAIN AMP./POWER SUPPLY CIRCUIT BOARD</b>						
P700	1	1	1	1	YK213310D0	P.W. Board Main Amp./Power Supply
	1				ZZ213310D0	P.W. Board Assembly
		1			ZZ213320D0	P.W. Board Assembly
			1		ZZ213380D0	P.W. Board Assembly
				1	ZZ213370D0	P.W. Board Assembly
<b>P700-CAPACITORS</b>						
C701	1	1	1	1	EA47505030	Elect 4.7 $\mu$ F 50V
C702	1	1	1	1	EA47505030	Elect 4.7 $\mu$ F 50V
C703	1	1	1	1	DD15221370	Ceramic 220pF $\pm$ 5%
C704	1	1	1	1	DD15221370	Ceramic 220pF $\pm$ 5%
C705	1	1	1	1	DD10050370	Ceramic 0.5pF $\pm$ 0.25pF
C706	1	1	1	1	DD10050370	Ceramic 0.5pF $\pm$ 0.25pF
C707	1	1	1	1	EA47605030	Elect 47 $\mu$ F 50V
C708	1	1	1	1	EA47605030	Elect 47 $\mu$ F 50V
C711	1	1	1	1	DF17104300	Film 0.1 $\mu$ F $\pm$ 20%
C712	1	1	1	1	DF17104300	Film 0.1 $\mu$ F $\pm$ 20%
C713	1	1	1	1	EA10703590	Elect 100 $\mu$ F 35V
C715	1	1	1	1	EA10605030	Elect 10 $\mu$ F 50V
C716	1	1	1	1	EA10605030	Elect 10 $\mu$ F 50V
$\Delta$ C801	1	1	1	1	EB68804520	Elect 6800 $\mu$ F 45V
$\Delta$ C802	1	1	1	1	EB68804520	Elect 6800 $\mu$ F 45V
C803	1	1	1	1	EA47706390	Elect 470 $\mu$ F 63V
C804	1	1	1	1	EA22605090	Elect 22 $\mu$ F 50V
C805	1	1	1	1	EA22701690	Elect 220 $\mu$ F 16V
C806	1	1	1	1	EA10602590	Elect 10 $\mu$ F 25V
C807	1	1	1	1	EA10605030	Elect 10 $\mu$ F 50V
C808	1	1	1	1	DK18103320	Ceramic 0.01 $\mu$ F +80%—20%
<b>P700-RESISTORS</b>						
(All Resistors are $\pm$ 5% and $\frac{1}{2}$ W)						
R701	1	1	1	1	GD05102140	1K $\Omega$
R702	1	1	1	1	GD05102140	1K $\Omega$
R703	1	1	1	1	GD05333140	33K $\Omega$
R704	1	1	1	1	GD05333140	33K $\Omega$
R705	1	1	1	1	GD05272140	2.7K $\Omega$
R706	1	1	1	1	GD05272140	2.7K $\Omega$
R707	1	1	1	1	GD05333140	33K $\Omega$
R708	1	1	1	1	GD05333140	33K $\Omega$
R709	1	1	1	1	GD05332140	3.3K $\Omega$
R710	1	1	1	1	GD05332140	3.3K $\Omega$
R711	1	1	1	1	GD05102140	1K $\Omega$
R712	1	1	1	1	GD05102140	1K $\Omega$
R713	1	1	1	1	GO10332020	0.33 $\Omega$ $\pm$ 10% 2W
R714	1	1	1	1	GO10332020	0.33 $\Omega$ $\pm$ 10% 2W
R715	1	1	1	1	RC10047120	4.7 $\Omega$ $\pm$ 10% $\frac{1}{2}$ W
R716	1	1	1	1	RC10047120	4.7 $\Omega$ $\pm$ 10% $\frac{1}{2}$ W
R717	1	1	1	1	RC10022120	2.2 $\Omega$ $\pm$ 10% $\frac{1}{2}$ W
R718	1	1	1	1	RC10022120	2.2 $\Omega$ $\pm$ 10% $\frac{1}{2}$ W
R719	1	1	1	1	GG05101120	100 $\Omega$ $\frac{1}{2}$ W
R721	1	1	1	1	GD05183140	18K $\Omega$
R722	1	1	1	1	GD05183140	18K $\Omega$

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REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
R801	1	1	1	1	GG05272140	2.7K $\Omega$
R802	1	1	1	1	GD05102140	1K $\Omega$
R804	1	1	1	1	HD20009290	10K $\Omega$
R805	1	1	1	1	GD05822140	8.2K $\Omega$
R806	1	1	1	1	GP05151030	150 $\Omega$
R807	1	1			RC10225120	2.2M $\Omega$ $\pm$ 10% $\frac{1}{2}$ W
<b>P700-SEMICONDUCTORS</b>						
$\Delta$ Q701	1	1	1	1	HC10035030	IC STK-463N
$\Delta$ Q801	1	1	1	1	HD20009290	Diode S2V-20
$\Delta$ Q802	1	1	1	1	HD20009290	Diode S2V-20
$\Delta$ Q803	1	1	1	1	HD20009290	Diode S2V-20
$\Delta$ Q804	1	1	1	1	HD20009290	Diode S2V-20
Q805	1	1	1	1	HT403131Q0	Transistor 2SD313E
Q806	1	1	1	1	HT309452A0	Transistor 2SC945 (Q or R)
Q807	1	1	1	1	HD30021090	Zener BZ-140
Q808	1	1	1	1	HD20005010	Diode W06B
<b>P700-MISCELLANEOUS</b>						
F701	1	1			FS20350910	Fuse 3.5A 250V
F701			1	1	FS10250800	Fuse 2.5AT 250V
F702	1	1			FS20350910	Fuse 3.5A 250V
F702			1	1	FS10250800	Fuse 2.5AT 250V
$\Delta$ F801	1				FS10200060	Fuse 2A 250V
$\Delta$ F802		1			FS10100090	Fuse 1A 250V
$\Delta$ F802			1	1	FS10100800	Fuse 1AT 250V
$\Delta$ F803	1				FS10100090	Fuse 1A 250V
$\Delta$ F803			1	1	FS10100800	Fuse 1AT 250V
J701			4	4	YJ08000270	Jack, Fuse Holder
J704						
J801	1				YJ08000170	Jack, Fuse Holder
J802	1				YJ08000170	Jack, Fuse Holder
J803		1			YJ08000170	Jack, Fuse Holder
J803			1	1	YJ08000270	Jack, Fuse Holder
J804		1			YJ08000170	Jack, Fuse Holder
J804			1	1	YJ08000270	Jack, Fuse Holder
J805	1				YJ08000170	Jack, Fuse Holder
J805		1			YJ08000270	Jack, Fuse Holder
J806		1			YJ08000170	Jack, Fuse Holder
J806			1	1	YJ08000270	Jack, Fuse Holder
$\Delta$ G801	1	1			DK18103530	Ceramic Cap. 0.01 $\mu$ F
L701	1	1	1	1	LC21020020	Coil
L702	1	1	1	1	LC21020020	Coil
<b>PE00-VOLUME/BALANCE CIRCUIT BOARD</b>						
PE00	1	1	1	1	YK213310B0	P.W. Board, Volume/Balance
	1	1	1	1	ZZ213310B0	P.W. Board, Assembly
CE03	1	1	1	1	EA22405030	Elect 0.22 $\mu$ F 50V
CE04	1	1	1	1	EA33405030	Elect 0.33 $\mu$ F 50V
CE05	1	1	1	1	EA10602530	Elect 10 $\mu$ F 25V
RE01	1	1	1	1	RM05030800	Variable Resist, 50K $\Omega$ (B)
RE02	1	1	1	1	RK02040080	Variable Resist, 200K $\Omega$ (W)
RE03	1	1	1	1	GD05104140	Resistor 100K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W
RE04	1	1	1	1	GD05104140	Resistor 100K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W
RE05	1	1	1	1	GD05474140	Resistor 470K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W
RE06	1	1	1	1	GD05474140	Resistor 470K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W
QE01	1	1	1	1	HT309452A0	Transistor 2SC945
QE02	1	1	1	1	HT309452A0	Transistor 2SC945
QE03	1	1	1	1	HT107332A0	Transistor 2SA733

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
PF00	1	1	1	1	YK213310C0	<b>PF00-TONE CONTROL CIRCUIT BOARD</b>
	1	1	1	1	ZZ213310C0	P.W. Board, Tone Control P.W. Board Assembly
<b>PF00-CAPACITORS</b>						
CF01	1	1	1	1	DF17562300	Film 5600pF $\pm$ 20%
CF02	1	1	1	1	DF17562300	Film 5600pF $\pm$ 20%
CF03	1	1	1	1	DF17473300	Film 0.047 $\mu$ F $\pm$ 20% -20%
CF04	1	1	1	1	DF17473300	Film 0.047 $\mu$ F $\pm$ 20% -20%
CF05	1	1	1	1	DF17152300	Film 1500pF $\pm$ 20%
CF06	1	1	1	1	DF17152300	Film 1500pF $\pm$ 20%
CF07	1	1	1	1	DF17153300	Film 0.015 $\mu$ F $\pm$ 20%
CF08	1	1	1	1	DF17153300	Film 0.015 $\mu$ F $\pm$ 20%
CF09	1	1	1	1	DD15101370	Ceramic 100pF
CF10	1	1	1	1	DD15101370	Ceramic 100pF
<b>PF00-RESISTORS</b> (All Resistors are $\pm$ 5% and $\frac{1}{4}$ W)						
RF03	1	1	1	1	GD05183140	18K $\Omega$
RF04	1	1	1	1	GD05183140	18K $\Omega$
RF07	1	1	1	1	GD05103140	10K $\Omega$
RF08	1	1	1	1	GD05103140	10K $\Omega$
RF09	1	1	1	1	GD05183140	18K $\Omega$
RF10	1	1	1	1	GD05183140	18K $\Omega$
RF11	1	1	1	1	GD05332140	3.3K $\Omega$
RF12	1	1	1	1	GD05332140	3.3K $\Omega$
RF13	1	1	1	1	GD05222140	2.2K $\Omega$
RF14	1	1	1	1	GD05222140	2.2K $\Omega$
RF15	1	1	1	1	RM01040290	100K $\Omega$ (C) Variable
RF16	1	1	1	1	RM01040290	100K $\Omega$ (C) Variable
<b>PS00-PUSH SWITCH CIRCUIT BOARD</b>						
PS00	1	1	1	1	YK213310A0	P.W. Board, Push Switch
	1	1			ZZ213310A0	P.W. Board Assembly
					ZZ213380A0	P.W. Board Assembly
<b>PS00-CAPACITORS</b>						
CS01	1	1	1	1	DF17823300	Film 0.082 $\mu$ F $\pm$ 20%
CS02	1	1	1	1	DF17823300	Film 0.082 $\mu$ F $\pm$ 20%
CS03	1	1	1	1	DF17182300	Film 0.0018 $\mu$ F $\pm$ 20%
CS04	1	1	1	1	DF17182300	Film 0.0018 $\mu$ F $\pm$ 20%
CS05	1	1	1	1	EA33601090	Elect 33 $\mu$ F 10V
CS06	1	1	1	1	EA33601090	Elect 33 $\mu$ F 10V
CS07	1	1	1	1	EA22701090	Elect 220 $\mu$ F 10V
CS08	1	1	1	1	EA22701090	Elect 220 $\mu$ F 10V
<b>PS00-RESISTORS</b> (All Resistors are $\pm$ 5% and $\frac{1}{4}$ W)						
RS01	1	1	1	1	GD05332140	3.3K $\Omega$
RS02	1	1	1	1	GD05332140	3.3K $\Omega$
RS03	1	1	1	1	GD05332140	3.3K $\Omega$
RS04	1	1	1	1	GD05332140	3.3K $\Omega$
RS05	1	1	1	1	GD05392140	3.9K $\Omega$
RS06	1	1	1	1	GD05392140	3.9K $\Omega$
RS07	1	1	1	1	GD05562140	5.6K $\Omega$
RS08	1	1	1	1	GD05562140	5.6K $\Omega$
RS09	1	1	1	1	GD05223140	22K $\Omega$
RS10	1	1	1	1	GD05223140	22K $\Omega$
<b>PS00-MISCELLANEOUS</b>						
SS01	1	1			SP04030160	Push Switch
SS01			1	1	SP04040210	Push Switch
WS01	1	1	1	1	YU12110010	Jumper Lead
WS02	1	1	1	1	YU12110010	Jumper Lead

- (U): for U.S.A.
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REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
PW00	1	1	1	1	YK213310G0	<b>PW00-HEADPHONE JACK CIRCUIT BOARD</b> P.W. Board, Headphone Jack
	1	1	1	1	ZZ213310G0	P.W. Board Assembly
JW01	1	1	1	1	YJ01001340	Jack, Headphone
PW50	1	1	1	1	YK213310F0	<b>PW50-SPK. TERMINAL CIRCUIT BOARD</b> P.W. Board, SPK. Terminal
	1	1	1	1	ZZ213310F0	P.W. Board Assembly
JW51	1	1	1	1	YT03040180	Terminal
JW52	1	1	1	1	YT03040180	Terminal
PX00	1	1	1	1	YK213310E0	<b>PX00-POWER METER/SPK SW CIRCUIT BOARD</b> P.W. Board, Power Meter/ SPK SW
	1	1	1	1	ZZ213310E0	P.W. Board Assembly
CX01	1	1	1	1	DF17223300	Film 0.022 $\mu$ F $\pm$ 20%
CX02	1	1	1	1	DF17223300	Film 0.022 $\mu$ F $\pm$ 20%
CX03	1	1	1	1	EA47601090	Elect 47 $\mu$ F 10V
CX04	1	1	1	1	EA47601090	Elect 47 $\mu$ F 10V
RX01 RX02 RX03 RX04 RX05 RX06 RX09 RX10	1	1	1	1	GA05331010	<b>PX00-RESISTORS</b> (All Resistors are $\pm$ 5% and $\frac{1}{4}$ W) 330 $\Omega$ 1W
	1	1	1	1	GA05331010	330 $\Omega$ 1W
	1	1	1	1	GA05221010	220 $\Omega$ 1W
	1	1	1	1	GA05221010	220 $\Omega$ 1W
	1	1	1	1	GG05120140	12 $\Omega$
	1	1	1	1	GG05120140	12 $\Omega$
	1	1	1	1	RA01020110	1K $\Omega$ (B) Trimming
	1	1	1	1	RA01020110	1K $\Omega$ (B) Trimming
	1	1	1	1	HD20003210	<b>PX00-SEMICONDUCTORS</b> Diode 1S2471
	1	1	1	1	HD20003210	Diode 1S2471
1	1	1	1	HD10001010	Diode 1N34A	
1	1	1	1	HD10001010	Diode 1N34A	
SX01	1	1	1	1	SP02020420	<b>PX00-SWITCH</b> Push Switch, Speaker
PY00	1	1	1	1	YK213310H0	<b>PY00-STEREO LED CIRCUIT BOARD</b> P.W. Board; Stereo LED
	1	1	1	1	ZZ213310H0	P.W. Board Assembly
QY01	1	1	1	1	HI10009020	L.E.D. LN26RP
RY01	1	1	1	1	GD05222141	Resistor 2.2K $\Omega$ $\pm$ 5% $\frac{1}{4}$ W

REF. DESIG.	Q'TY				PART NO.	DESCRIPTION
	U	C	N	A		
PZ00	1	1	1	1	YK213310J0	<b>PZ00-DIAL POINTER LAMP CIRCUIT BOARD</b> P.W. Board, Dial Pointer Lamp
	1	1	1	1	ZZ213310J0	P.W. Board Assembly
VZ01	1	1	1	1	IN10080460	Lamp 100mA 8V
PZ50	1	1	1	1	YK213310I0	<b>PZ50-TUNING METER LAMP CIRCUIT BOARD</b> P.W. Board, Tuning Meter Lamp
	1	1	1	1	ZZ213310I0	P.W. Board Assembly
VZ51	1	1	1	1	IN10080460	Lamp 100mA 8V

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction



## 9. TECHNICAL SPECIFICATIONS

[FOR U.S.A. & CANADA]

### AMPLIFIER SECTION

RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN	25 W
POWER BAND	20 Hz to 20 kHz
TOTAL HARMONIC DISTORTION	0.2%
LOAD IMPEDANCE	4 OHMS
RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN	20 W
POWER BAND	20 Hz to 20 kHz
TOTAL HARMONIC DISTORTION	0.09%
LOAD IMPEDANCE	8 OHMS

#### I.M. Distortion

(I.H.F. method, 60 Hz and 7 kHz mixed 4:1 at rated power output)

at 8 ohm load impedance	0.09%
at 4 ohm load impedance	0.2%
Damping Factor (at 20 Hz)	36

### PREAMPLIFIER SECTION

#### Phono

Input Overload at 1 kHz	130 mV
Equivalent Input Noise ("A" Weighted)	0.5 $\mu$ V
Dynamic Range (Dynamic Range is the ratio of input overload to equivalent input noise)	108 dB
Input Sensitivity	2.7 mV
Input Impedance	47 kohms
Input Capacitance	220 pF
Frequency Response, RIAA 20 Hz to 20 kHz	$\pm$ 0.75 dB
Signal-to-Noise Ratio ("A" Weighted) (at rated output and 10 mV input)	84 dB
High Level (Aux and Tape)	
Input Sensitivity	160 mV
Input Impedance	20 kohms
Frequency Response (includes power amp)	15 Hz to 40 kHz $\pm$ 1.0 dB
Signal-to-Noise Ratio ("A" Weighted) (ref. to rated output and 775 mV input)	96 dB
Output Levels	
Tape Out (ref. 10 mV at Phone inputs)	580 mV
Output Impedance	
Tape Out	500 ohms

### FM TUNER SECTION

#### Sensitivity

IHF Usable	10.8 dBf (1.9 $\mu$ V)
IHF 50 dB Quieting (Mono)	14.9 dBf (2.9 $\mu$ V)
(Stereo)	37.7 dBf (42 $\mu$ V)

#### Quieting Slope (Mono)

RF Input for 30 dB Quieting	9.3 dBf (1.6 $\mu$ V)
Quieting at:	
20 dBf ( 5.5 $\mu$ V)	55 dB
25 dBf ( 10 $\mu$ V)	60 dB
40 dBf ( 55 $\mu$ V)	70 dB
65 dBf (1000 $\mu$ V)	75 dB

Quieting Slope (Stereo)	
Quieting at:	
30 dBf ( 17 $\mu$ V) . . . . .	40 dB
40 dBf ( 55 $\mu$ V) . . . . .	52 dB
50 dBf ( 173 $\mu$ V) . . . . .	60 dB
65 dBf (1000 $\mu$ V) . . . . .	68 dB
Distortion (Mono) at 65 dBf (1000 $\mu$ V)	
100 Hz . . . . .	0.2%
1000 Hz . . . . .	0.15%
6000 Hz . . . . .	0.2%
Distortion (Stereo) at 65 dBf (1000 $\mu$ V)	
100 Hz . . . . .	0.35%
1000 Hz . . . . .	0.3%
6000 Hz . . . . .	0.5%
Frequency Response	
30 Hz to 15 kHz	
Mono and Stereo . . . . .	+0.5 dB, -1.0 dB
Capture Ratio at 65 dBf (1000 $\mu$ V) . . . . .	1.0 dB
Alternate Channel Selectivity . . . . .	60 dB
Spurious Response Rejection . . . . .	80 dB
Image Response Rejection . . . . .	50 dB
I.F. Rejection (Balanced) . . . . .	80 dB
A.M. Suppression . . . . .	50 dB
Stereo Separation at 1 kHz . . . . .	45 dB
Subcarrier Rejection . . . . .	60 dB

**AM TUNER SECTION**

IHF Usable Sensitivity . . . . .	20 $\mu$ V
Signal-to-Noise Ratio . . . . .	50 dB
Alternate Channel Selectivity . . . . .	45 dB
Image Rejection . . . . .	45 dB
Spurious Response Rejection . . . . .	55 dB
I.F. Rejection . . . . .	40 dB

**GENERAL**

Power Requirements . . . . .	120 VAC, 60 Hz
Power Consumption at rated output, both channels operating . . . . .	150 W
Idling Power (Volume Control at zero) . . . . .	28 W
Dimensions:	
Panel Width . . . . .	466 mm (18-3/8")
Panel Height . . . . .	140 mm ( 5-1/2")
Depth . . . . .	323 mm (12-3/4")
Weight:	
Unit alone . . . . .	6.5 kg (14.3 lbs)
Packed for Shipment . . . . .	8.5 kg (18.7 lbs)

[FOR EUROPE]

**AUDIO SECTION**

POWER OUTPUT, DIN, 4 OHM, PER CHANNEL .....	41 W
POWER OUTPUT, FTC AMERICAN STANDARDS, 4 OHM, PER CHANNEL .....	25 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT .....	0.3%
I.M. DISTORTION AT RATED POWER OUTPUT	
(250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1) .....	0.3%
POWER OUTPUT, DIN, 8 OHM, PER CHANNEL .....	32 W
POWER OUTPUT, FTC AMERICAN STANDARDS, 8 OHM, PER CHANNEL .....	20 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT .....	0.1%
I.M. DISTORTION AT RATED POWER OUTPUT	
(250 Hz AND 8 kHz MIXED, AMPLITUDE RATIO 4:1) .....	0.1%
POWER BANDWIDTH .....	10 Hz ~ 40 kHz
	(40 Hz) (1 kHz) (12.5 kHz)
DAMPING FACTOR 8 OHM .....	50      50      45
Frequency Response	
Phono (RIAA) .....	±1.0 dB
Aux (±1 dB) .....	18 Hz ~ 30 kHz
Signal-to-Noise Ratio	
Phono .....	70 dB
Aux .....	80 dB
Input Terminals	
Phono: Input Impedance .....	47 k ohms
Input Capacitance .....	100 pF
Input Sensitivity .....	2.7 mV
Overload Margin .....	35 dB
Aux: Input Impedance .....	20 k ohms
Input Sensitivity .....	160 mV
Phono Equivalent Input Noise .....	1.4 µV
Phono Dynamic Range (Ratio of input overload to equivalent input noise) .....	100 dB
Channel Balance (0 to -40 dB/40 Hz ~ 16 kHz)	
Phono .....	2.5 dB
Aux .....	2.0 dB
Interchannel Crosstalk	
Phono 1 kHz .....	35 dB
Aux 1 kHz .....	50 dB
Tape 1 kHz .....	50 dB
Intersource Crosstalk (Worst Point)	
1 kHz .....	50 dB
Output Voltage, 1 kHz	
Tape Out .....	450 mV
Output Impedance, 1 kHz	
Tape Out .....	500 ohms
Headphone Jack Load Impedance .....	8 ohms

**FM TUNER SECTION**

Frequency Range .....	87.5 ~ 108 MHz
Usable Sensitivity 40 kHz Deviation, 98 MHz	
Mono, S/N 26 dB .....	1.6 µV
Stereo, S/N 46 dB .....	40 µV
Alternate Channel Selectivity, 98 MHz±300 kHz .....	50 dB
Image Response Rejection, 98 MHz .....	54 dB
IF Rejection, 98 MHz .....	100 dB
Spurious Response Rejection, 98 MHz .....	90 dB
AM Suppression, 98 MHz .....	57 dB

Signal-to-Noise Ratio, 98 MHz		
Unweighted:	Mono	72 dB
	Stereo	65 dB
Weighted:	Mono	62 dB
	Stereo	55 dB
Pilot Signal & Subcarrier Rejection		
	19 kHz	60 dB
	38 kHz	60 dB
Total Harmonic Distortion, 98 MHz		
	Mono	0.2%
	Stereo	0.4%
Frequency Response		
	30 Hz ~ 15 kHz	+0.3 dB, -1.0 dB
Separation		
	Stereo	45 dB
Channel Balance		0.5 dB
Output Voltage, 1 kHz		600 mV
Output Impedance, 1 kHz		3 k ohms
Acceptable Load Impedance, 1 kHz		47 k ohms
Antenna Terminals		
	Balanced	300 ohms
	Unbalanced	75 ohms

## AM TUNER SECTION

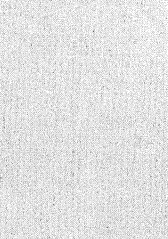
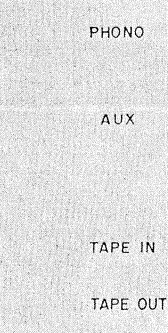
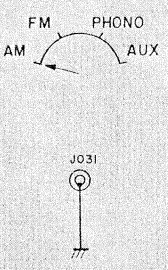
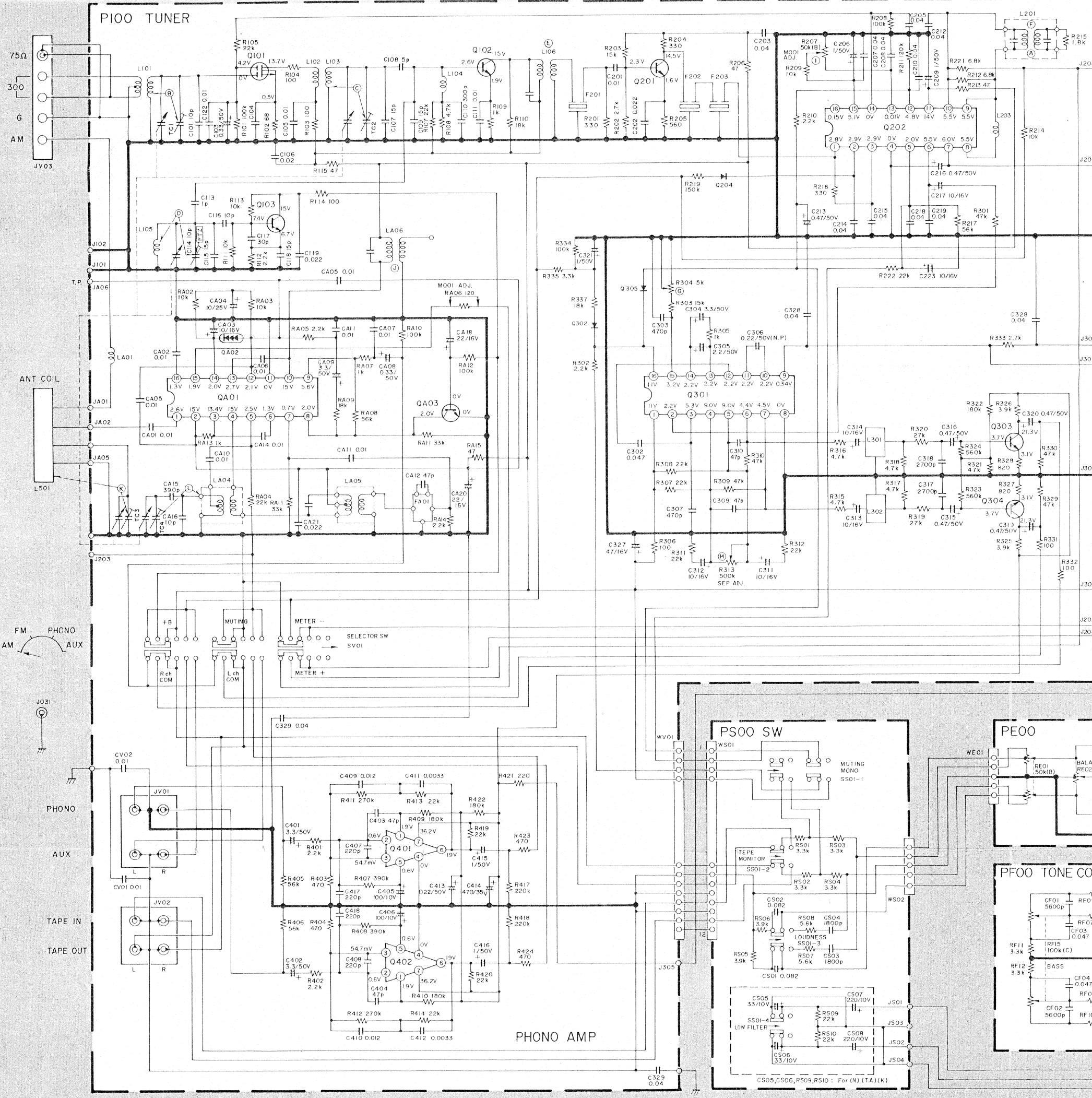
Frequency Range	515 ~ 1650 kHz
Usable Sensitivity (26 dB S/N 30% Mod., 1 MHz)	20 $\mu$ V
Selectivity, 1 kHz $\pm$ 9 kHz	24 dB
Image Rejection, 1 MHz	40 dB
IF Rejection, 1 MHz	40 dB
Spurious Response Rejection, 1 MHz	46 dB
Signal-to-Noise Ratio, 1 MHz	44 dB
Frequency Response, 1 MHz $\pm$ 3 dB	35 Hz ~ 1.8 kHz
Total Harmonic Distortion, 1 MHz	0.8%

## GENERAL

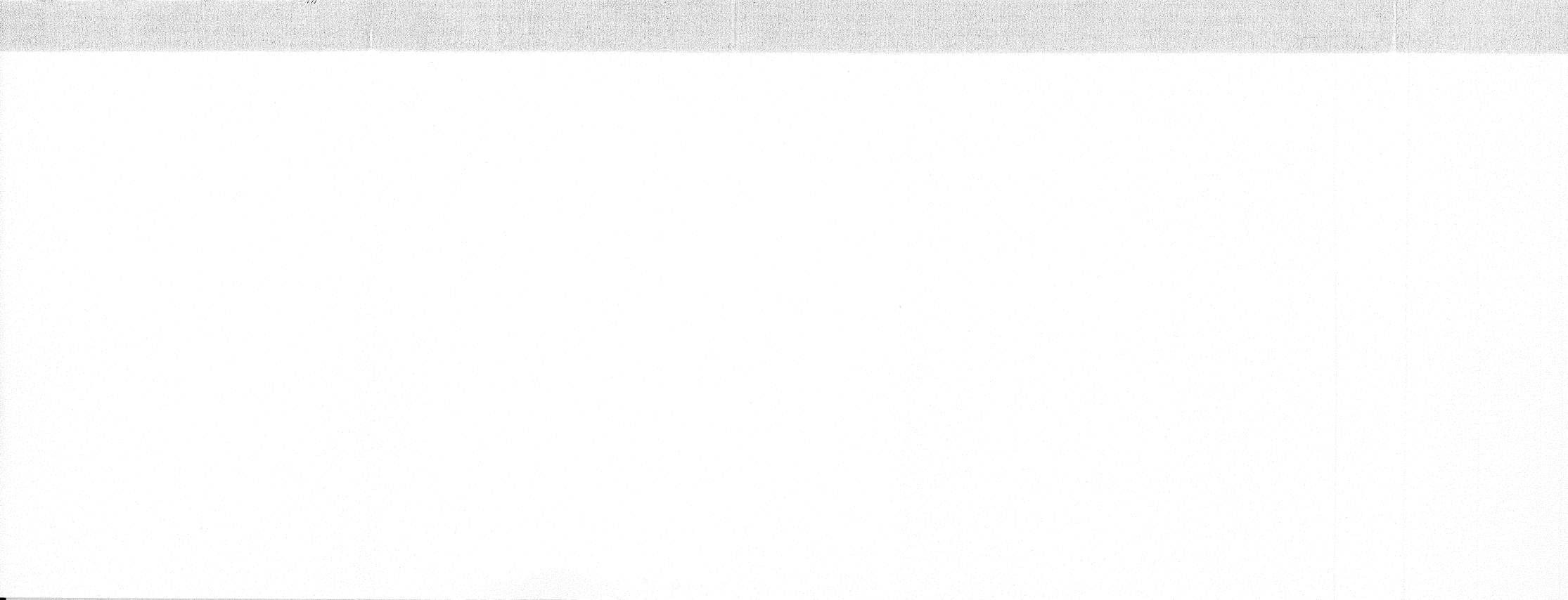
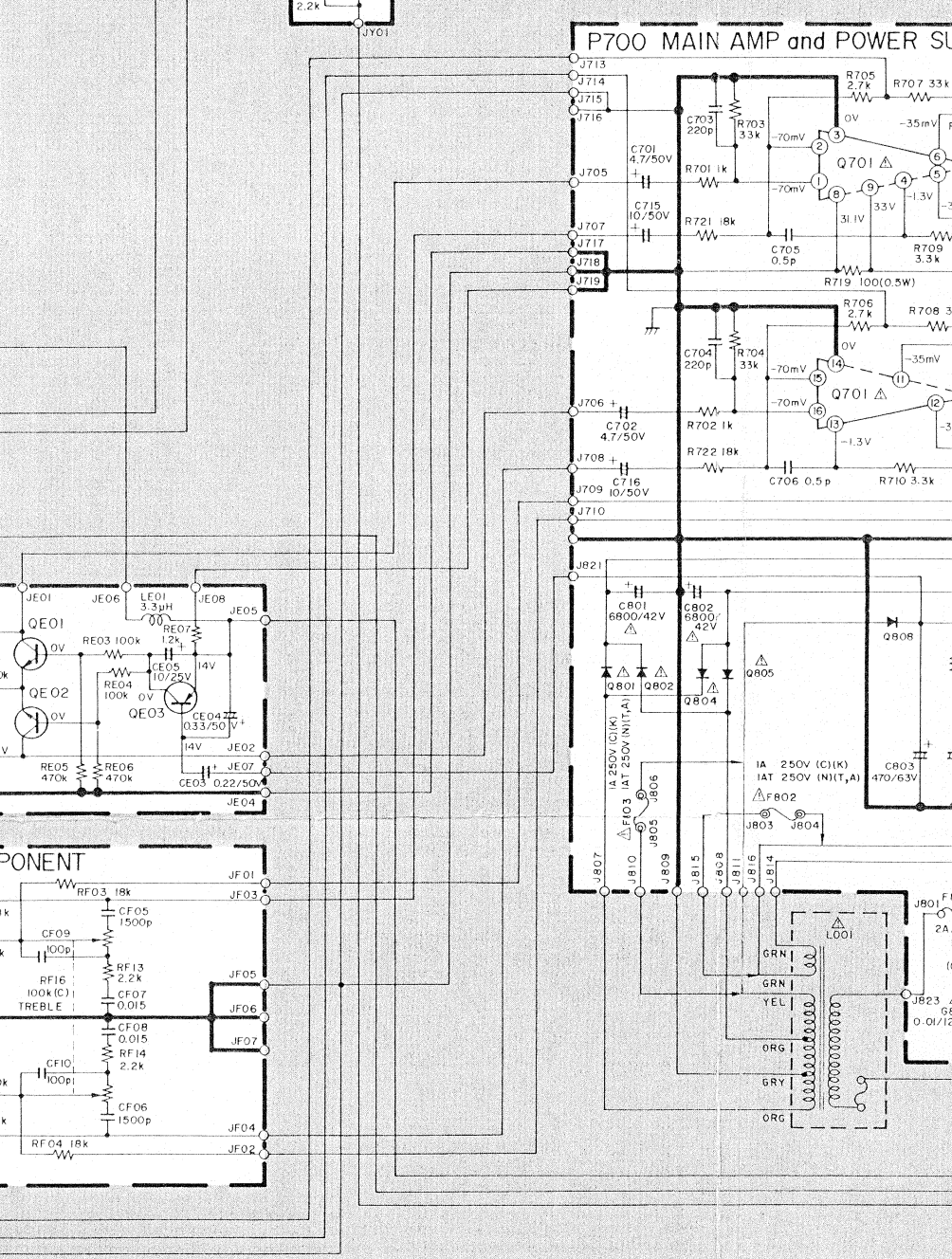
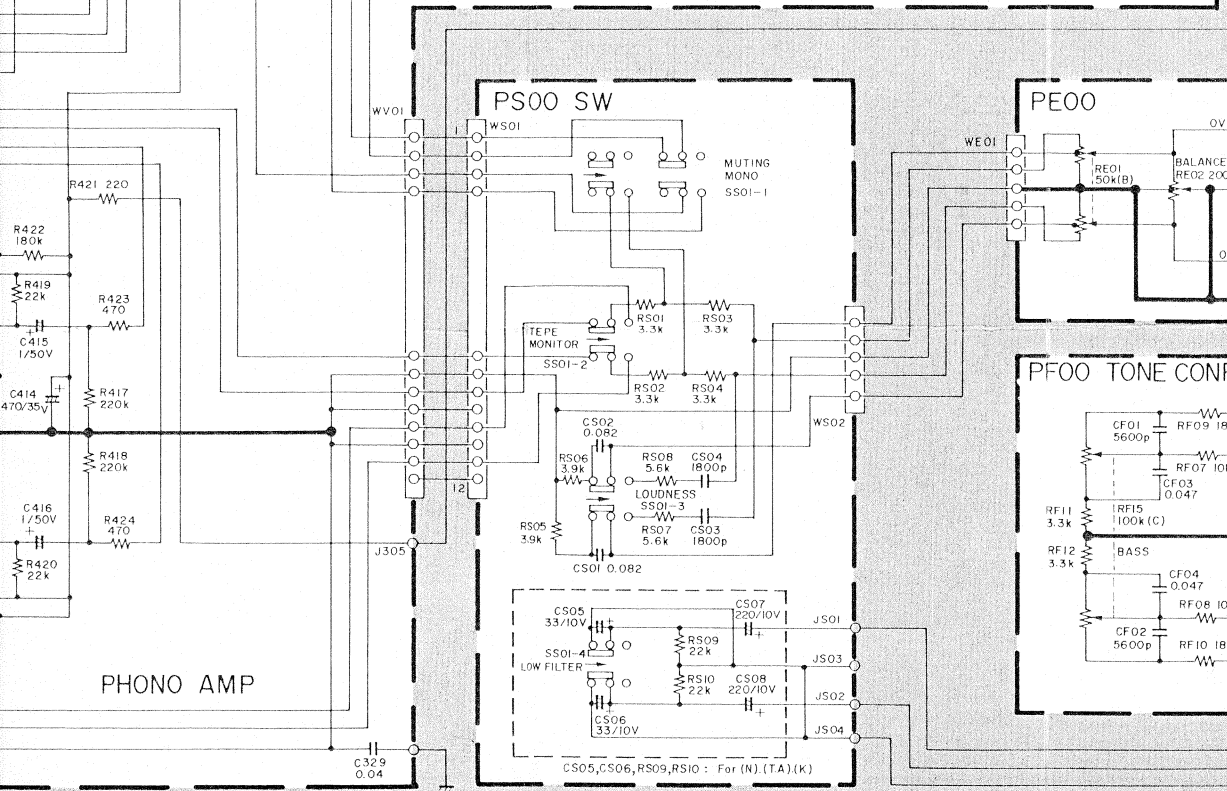
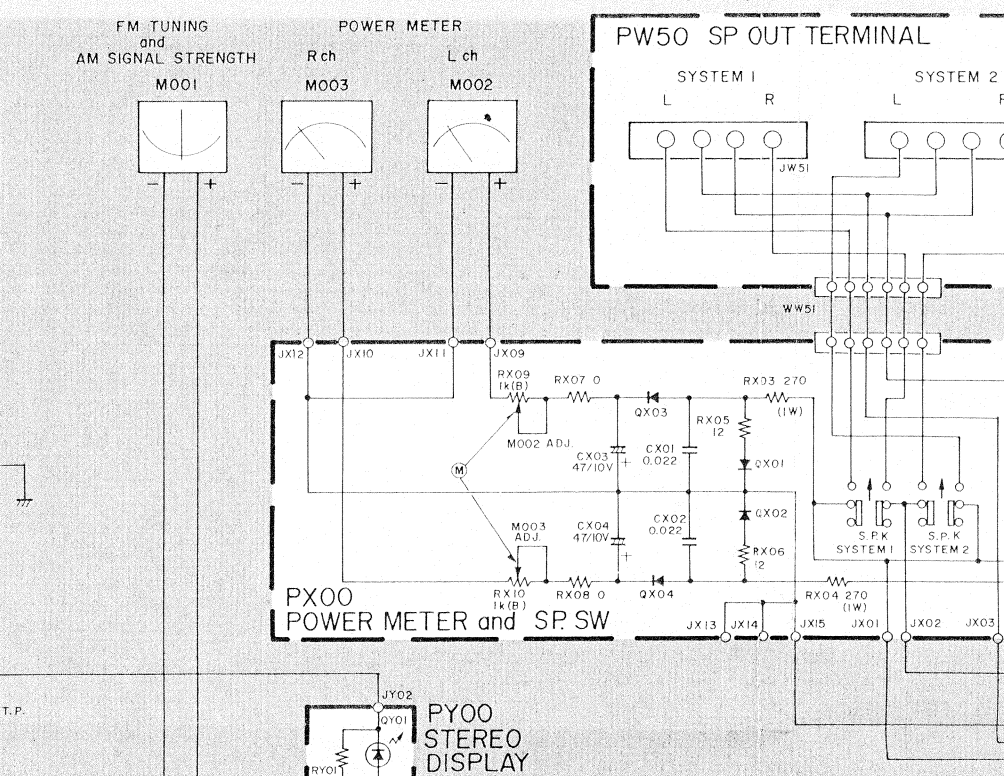
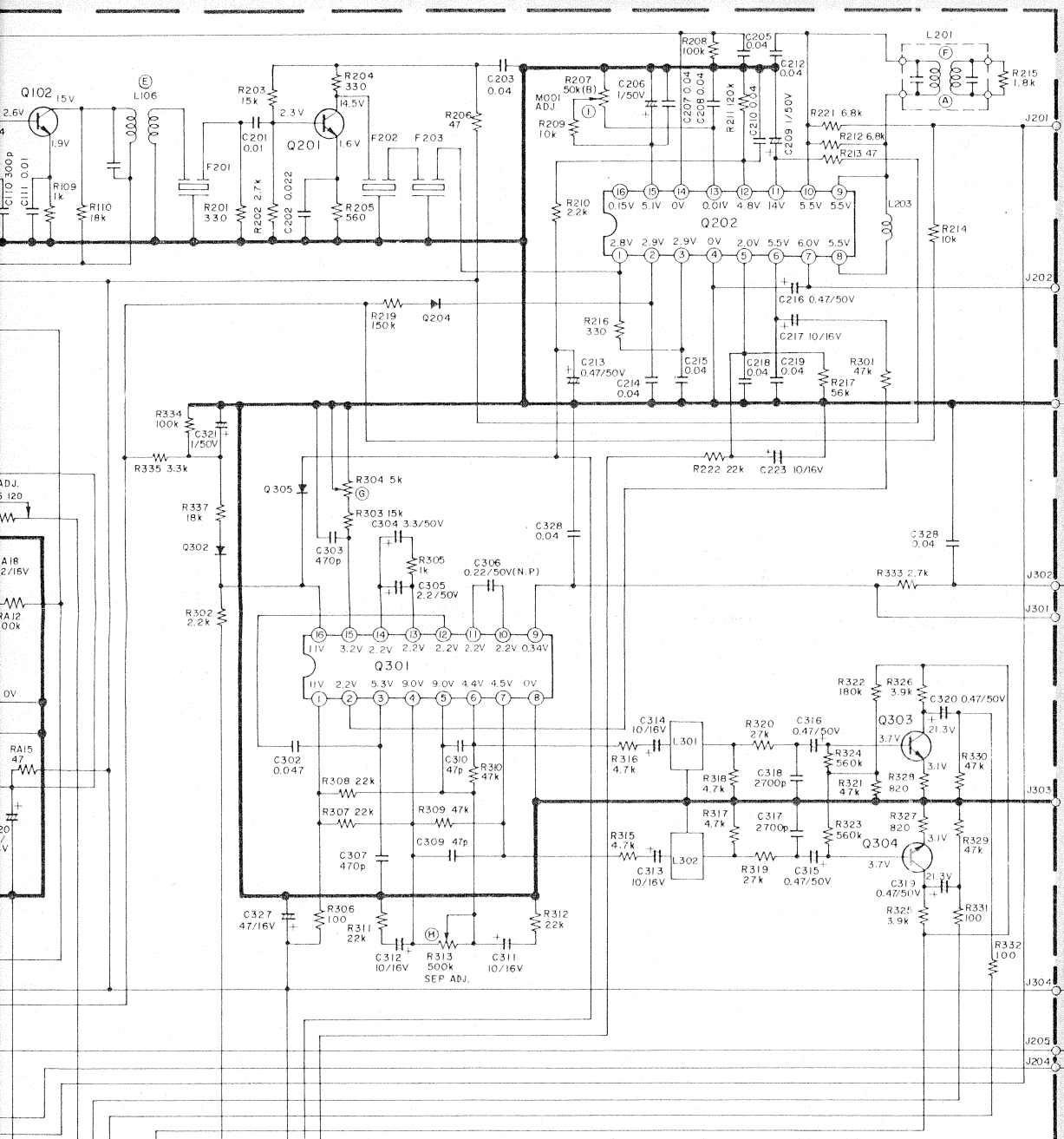
Power Requirements	220 V AC, 50 Hz
	(N version is featuring an external voltage selector for use on 110 V. Other versions can be converted by a qualified technician to operate on 240 V.)
Power Consumption at Rated Output, Both Channels Operating	120 W
Idling Power	20 W
Semiconductor Complement	
Integrated Circuits	7
Transistors	8
Diodes	13
Field Effect Transistors	1
Dimensions	
Panel Width	18-3/8" (466 mm)
Panel Height	5-1/2" (140 mm)
Depth	12-3/4" (323 mm)
Weight	
Unit alone	14.3 lbs (6.5 kg)
Packed for shipment	18.7 lbs (8.5 kg)

**SCHEMATIC DIAGRAM**

Q101 HF400451B0 3SK45B	Q102 HT310471C0 2SC1047(C)	Q103, Q201 HT308291C0 2SC829(C)	Q202 HC10028030 LA1231	Q204, Q302, Q305 HD20011050 1S1555	Q301 HC10024060 μPC11610	Q303, Q304 HT326342B0 2SC2634(S or T)	Q401, Q402 HC10012060 μPC1024H	Q701 HC10035030 STK-461M	Q801~Q804 HD20009290 S2V-20	Q805 HT403131Q0 2SD313E	Q805 HT309452A0 2SC945(Q or R)
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Q305 HCI0024060 μPCI1610  
 Q301 HCI0024060 μPCI1610  
 Q303, Q304 HT326342B0 25C2634 (S or T)  
 Q401, Q402 HCI0012060 μPCI024H  
 Q701 HCI0035030 STK-461M  
 Q801~Q804 HD20009290 S2V-20  
 Q805 HT403131Q0 25D313E  
 Q806 HT309452A0 25C945(Q or R)  
 Q807 HD3002109 BZ-140  
 Q808 HD20005010 W06B  
 QA01 HCI0025060 μPCI178C  
 QA02 HV00006120 MV-203  
 QA03 HT326342B0 25C2634 (S or T)  
 QE01, QE02 HT309452A0 25C945  
 QE03 HT10732 25A73



07 3002109 -140  
 Q808 HD20005010 W06B  
 QA01 HC10025060 pPC1178C  
 QA02 HV00006120 MV-203  
 QA03 HT326342B0 2SC2634(S or T)  
 QE01, QE02 HT309452A0 2SC945  
 QE03 HT107332A0 2SA733  
 QX01, QX02 HD20003210 IS2471  
 QX03, QX04 HD10001010 IN34A

