

SERVICE
MANUAL

PM553/PM453

85

marantz®

model PM553/PM453

Stereo Amplifier

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How to use this service manual

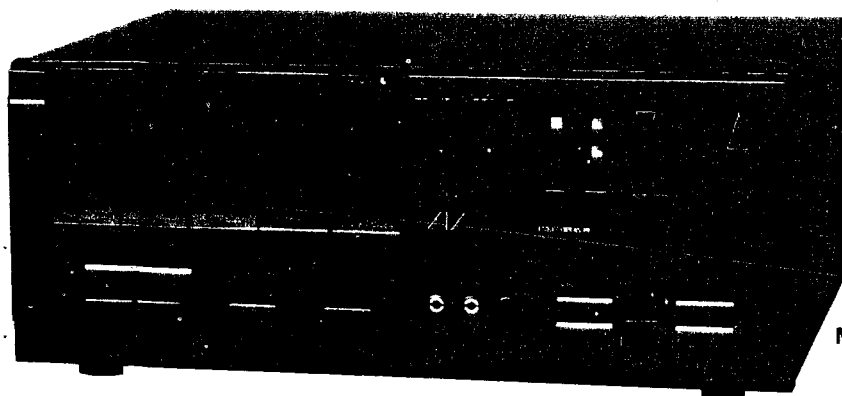
- The "Common parts" which Marantz Japan, Inc. has established are eliminated from this service manual.
- These "Common parts" are applied to all models in the service manuals arranged and issued by MJL.
- To indicate clearly the common parts in the schematic diagram, a line is drawn above or under the Ref. Desig. No. of applicable parts.
- "Common parts" can be supplied from the Marantz service center as ever.
In case of ordering, please establish the parts number of 10 figures following the procedure mentioned in this service manual "How to establish the parts number for common parts".

(NOTE)

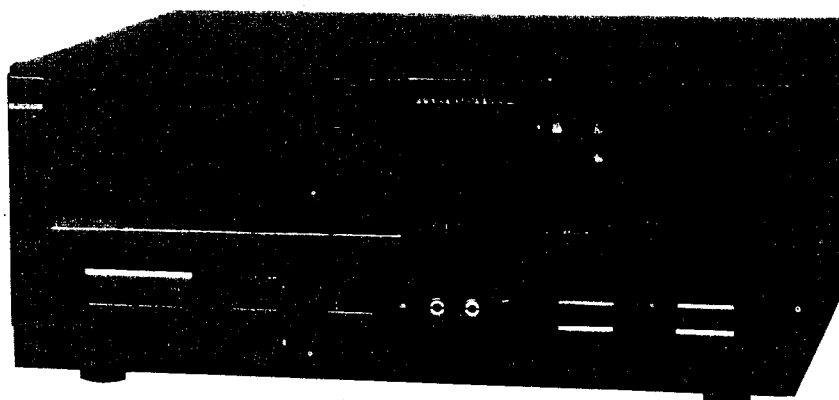
When you order parts to the Marantz parts center, please take notice of the following points.

- 1) Please correctly write the parts number of 10 figures following the rule.
- 2) Since ordering parts by the Ref. Desig. No. or ratings indicated in the schematic diagram does not satisfy the above conditions, the Marantz parts supply system does not work properly.
As this case is apt to cause a trouble, please pay attention to it.

MODEL PM453/PM553 STEREO AMPLIFIER



Model PM553



Model PM453

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AC W

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INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for the Marantz Model PM453/PM553 Stereo Amplifier.

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

The parts list furnishes complete ordering information. Most replacement parts should be ordered from the Marantz Company. However, a simple description is included for parts which can be obtained locally.

1. P.W. BOARDS

As can be seen from the circuit diagram the chassis of Model PM453/PM553 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. Voltage Amp mounted on P.W. Board P700
2. Main Amp mounted on P.W. Board P701
3. Headphon mounted on P.W. Board P702
4. Speaker Terminal mounted on P.W. Board P703
5. Power Supplu mounted on P.W. Board P800
6. MIC Jack mounted on P.W. Board PJ00
7. Video Selector mounted on P.W. Board PL00
8. Power Switch mounted on P.W. Board PP00
9. Phono/Selector/
Surround mounted on P.W. Board PS00
10. Micon/Tone/
Mic Amp mounted on P.W. Board PU00
11. Front AV Terminal mounted on P.W. Board PV00
12. Remote Easy VCR
Terminal mounted on P.W. Board PW00

2. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model PM453/PM553 Stereo Amplifier.

Item	Use
Distortion Analyzer	Distortion measurements
Audio Oscillator	Sinewave and squarewave signal source
AC VTVM	Voltage measurements (AC)
Oscilloscope	Waveform analysis and trouble shooting and ASO alignment
Circuit Tester	Trouble shooting
DC VTVM	Voltage measurements (DC)
AC Wattmeter	Monitors primary power to amplifier
Line Voltmeter	Monitors potential of primary power to amplifier
Variable Autotransformer (0 ~ 140V AC, 10A)	Adjust level of primery power to amplifier
Shorting Plug	Shorts amplifier input to eliminate noise pickup

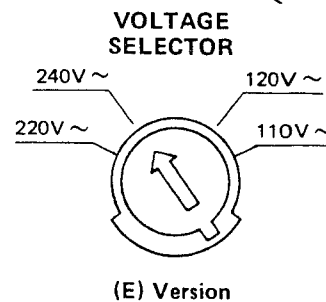
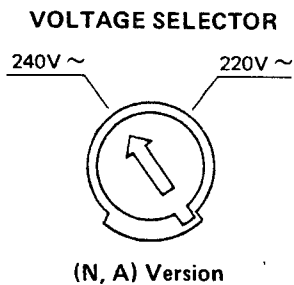
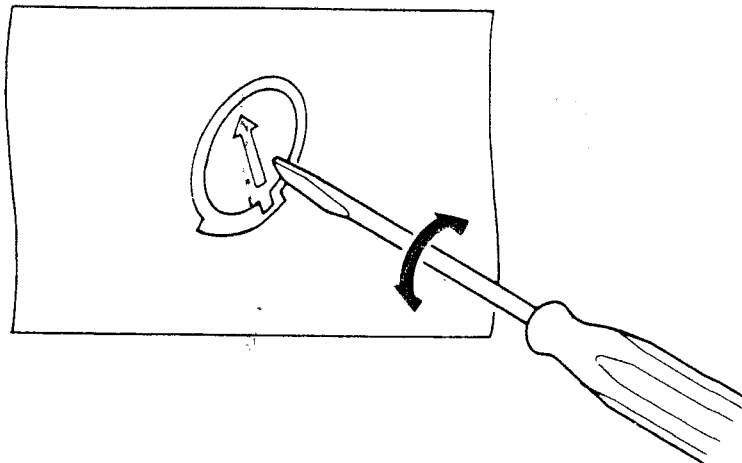
3. VOLTAGE CONVERSION

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.

Note on safety:

Symbol $\triangle$ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol $\triangle$. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.



chassis of
units. Each
is located within
the circuit

card P700
card P701
card P702
card P703
card P800
card PJ00
card PL00
card PP00

card PS00

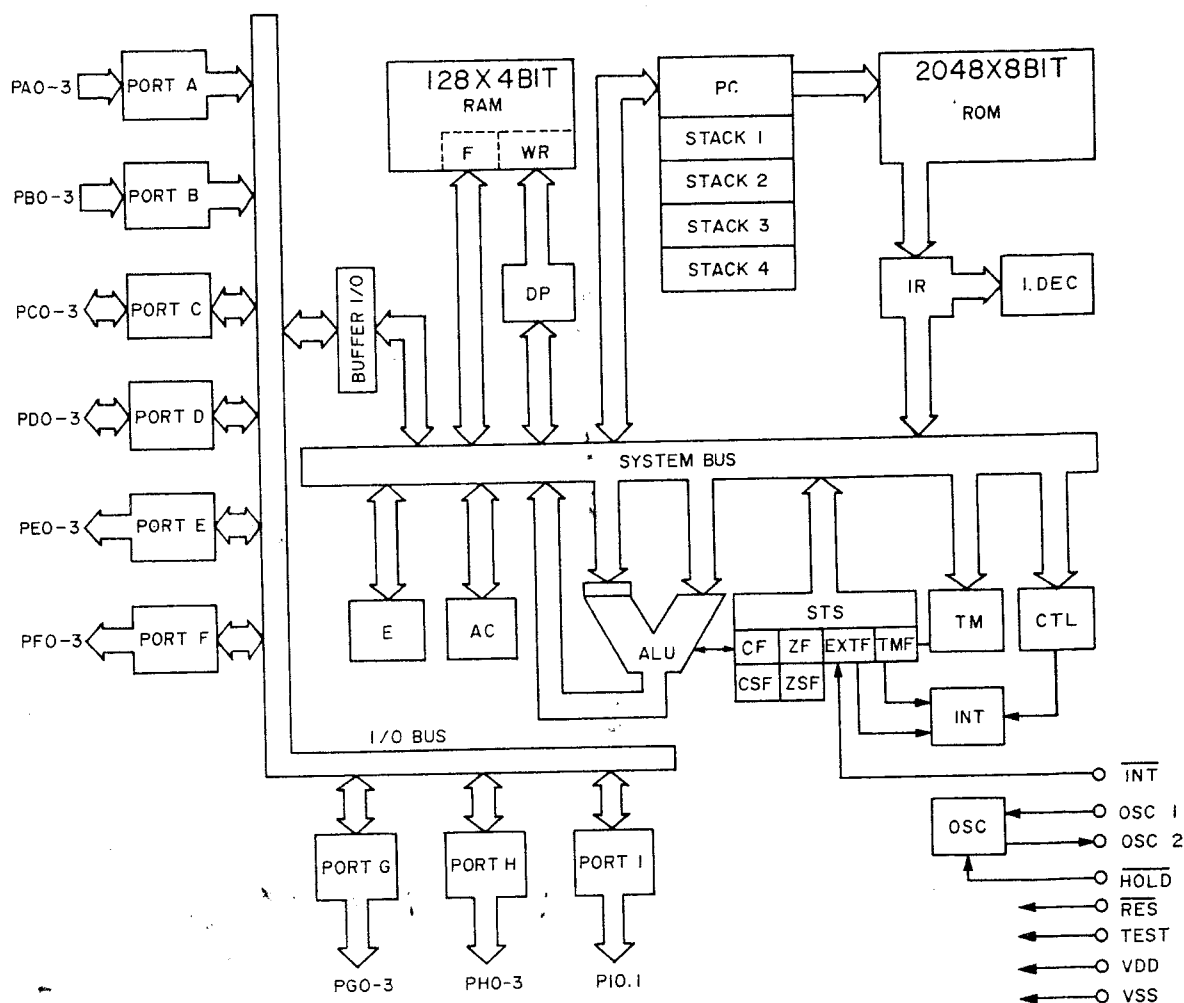
card PU00
card PV00

card PW00

4. CIRCUIT DESCRIPTION

SINGLE-CHIP 4-BIT MICROCOMPUTER LC6502C (QU01)

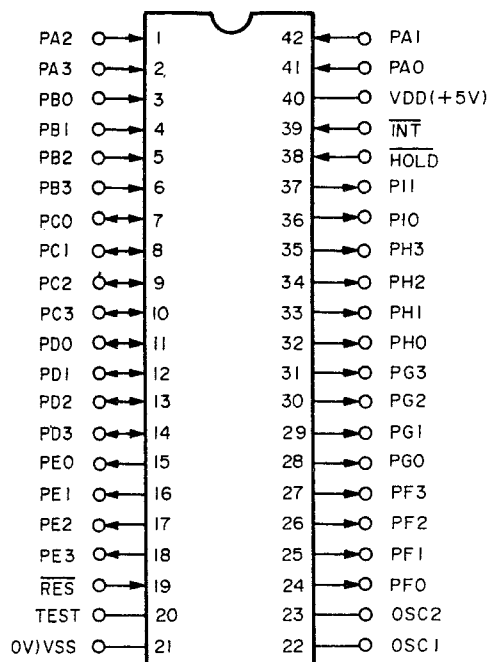
BLOCK DIAGRAM



RAM: data memory
 F: flag
 WR: working register
 AC: accumulator
 ALU: logical operator unit
 DP: data pointer
 E: E register
 CTL: control register
 OSC: oscillator circuit
 TM: timer
 STS: status register

ROM: program memory
 PC: program counter
 INT: interrupt control
 IR: instruction register
 I.DEC: instruction decoder
 CF, CSF: carry flag, carry save flag
 ZF, ZSF: zero flag, zero save flag
 EXTF: external interrupt request flag
 TMF: internal interrupt request flag

Terminal Connections



- INT
- OSC 1
- OSC 2
- HOLD
- RES
- TEST
- VDD
- VSS

flag.
flag

Terminal Function

Terminal Name	I/O	Function
INT	Input	Pseudo interrupt request input terminal.
HOLD	Input	Hold mode request input terminal.
RES	Input	Reset input terminal.
PA3-0	Input	Input ports A3 to A0 In input mode, 4-bit input and bit test are allowed. Used for HALT mode release and request input.
PB3-0	Input	Input ports B3 to B0 In input mode, 4-bit input and bit test are allowed.
PC3-0	I/O	I/O ports C3 to C0 In input mode, 4-bit input and bit test are allowed. In output mode, 4-bit output, bit set/reset output are allowed.
PD3-0	I/O	I/O ports D3 to D0 In input mode, 4-bit input and bit test are allowed. In output mode, 4-bit output, bit set/reset output are allowed.
PE3-0	Output	Output ports E3 to E0 4-bit output and bit set/reset are allowed. Input of output latch contents in 4-bit units and testing of output latch of bit is possible.
PF3-0	Output	Output ports F3 to F0 4-bit output and bit set/reset are allowed. Input of output latch contents in 4-bit units and testing of output latch of bit is possible.
PG3-0	Output	Output port G3 to G0 4-bit output and bit set/reset are allowed. Input of output latch contents in 4-bit units and testing of output latch of bit is possible.
PH3-0	Output	Output ports H3 to H0 4-bit output and bit set/reset are allowed. Input of output latch contents in 4-bit units and testing of output latch of bit is possible.
PI0, 1	Output	Output ports I0, 1 2-bit output and bit set/reset are allowed. Input of output latch contents in 4-bit units and testing of output latch of bit is possible.
OSC1	Input	Terminal operated with clock signal externally supplied. A ceramic resonator and CR are connected to the space between the X'tal and this terminals when using the local clock signal oscillator.
OSC2	I/O	External terminal of the resonance circuit for local clock signal oscillation.
VDD	Input	Power terminal, usually connected to +5V.
VSS		Connected to 0V of power supply.
TEST	Input	LSI test terminal, usually connected to VSS (0V).

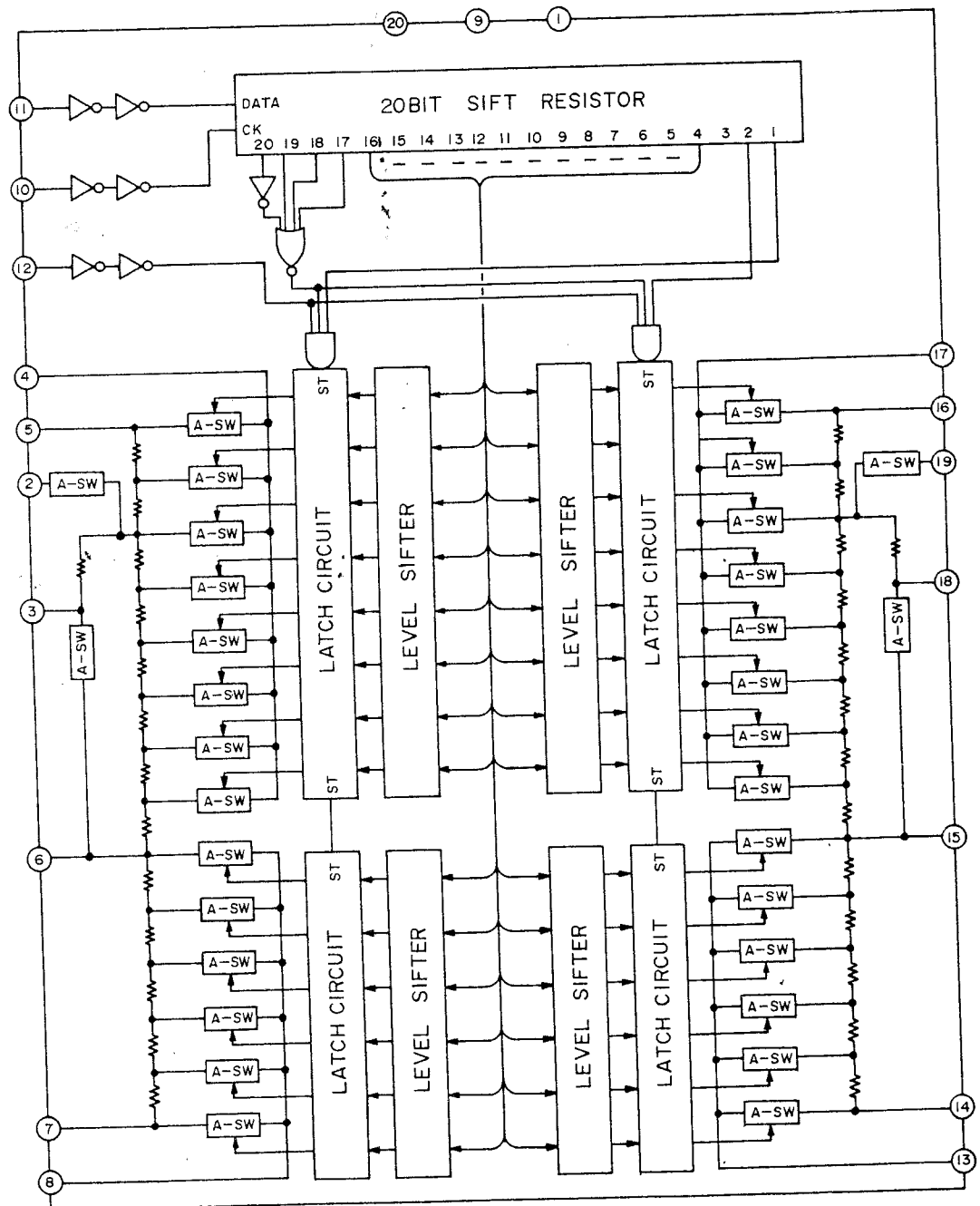
Maximum Ratings ($T_a = 25^\circ\text{C}$, $V_{SS} = 0\text{V}$)

Item	Symbol	Condition	Min.	Max.	Unit
Maximum supply voltage	V_{DD} max.		-0.3	+7	V
Input voltage	V_{IN}		-0.3	$V_{DD}+0.3$	V
Output voltage	V_{OUT}	Output transistor OFF	-0.3	$V_{DD}+0.3$	V
Allowable power dissipation	P_d max.	-30°C to $+70^\circ\text{C}$		350	mW
Ambient operating temperature	T_{opg}		-30	+70	$^\circ\text{C}$
Ambient storage temperature	T_{stg}		-55	+125	$^\circ\text{C}$

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ELECTRON VOLUME IC TC9177P (QS03)

BLOCK DIAGRAM



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Terminal Connections

VSS	1	20	VDD
L-LOUDNESS 1	2	19	R-LOUDNESS 1
L-LOUDNESS 2	3	18	R-LOUDNESS 2
L-OUT 1	4	17	R-OUT 1
L-IN 1	5	16	R-IN 1
A-GND	6	15	A-GND
L-IN 2	7	14	R-IN 2
L-OUT 2	8	13	R-OUT 2
GND	9	12	ST
CK	10	11	DATA

Terminal Function

Pin No.	Name	Function Description
2, 3 18, 19	L-LOUDNESS 1, 2 R-LOUDNESS 1, 2	Pins for loudness When loudness data is input, these pins becomes -20 dB dampened pins. Loudness control is possible through the connection of high and low range boosting circuits to these pins.
4, 17	L-OUT ₁ R-OUT ₁	10 dB step attenuator output. The signal applied to IN is attenuated in 8 10 dB steps from 0 to 70 dB.
5, 16	L-IN ₁ R-IN ₁	10 dB attenuator input.
6, 15	A-GND	AC ground pin.
7, 14	L-IN ₂ L-IN ₂	2 dB attenuator pin.
8, 13	L-OUT ₂ R-OUT ₂	2 dB attenuator output. The signal applied to IN is attenuated in 5 2 dB steps from 0 to 8 dB.
11	DATA	Data input for amount of attenuation and channel selection. Input by CK signal, configured in 20 bits.
10	CK	Clock input. Clock input for fetching data from DATA pin.
12	ST	Strobe input. The data for the amount of attenuation and channel selection fetched from the DATA and CK pins is latched when this pin is "high". The previous data remains effective when a high level is not applied to this pin.
20	VDD	Pin for (+) voltage.
9	GND	Ground pin.
1	VSS	Pin for (-) voltage.

Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Supply voltage	VDD	VSS-0.3 ~ VSS+36	V
Input voltage	VIN	VSS-0.3 ~ VDD+0.3	V
Power dissipation	PD	300	mW
Operating temperature	Topr	-30 ~ 75	°C
Storage temperature	Tstg	-55 ~ 125	°C

Termina

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating power voltage range	V _{DD} -V _{SS}		7.5	~	32	V
Operating supply current	I _{DD}			0.5	3.0	mA
Input voltage	"H" V _{IH}	DATA, CK, ST terminal	4.0	~	V _{DD} +0.3	V
Input voltage	"L" V _{IL}		-0.3	~	1.0	V
Total resistance value (ATT ₁)	R _{ATT1}		90	120	160	KΩ
Total resistance value (ATT ₂)	R _{ATT2}		10	14	20	KΩ
Step error (ATT ₁)	STEP(1)	f _{in} =DC~20 kHz R _L =∞	9.2	10	10.8	dB
		0 ~ 30 dB	8.8		11.8	
		-40 ~ 70 dB				
Step error (ATT ₂)	STEP(2)	f _{in} =DC~20 kHz R _L =∞	-1.2	2	2.8	dB
Total harmonic distortion (ATT ₁)	THD(1)	f _{in} =20~20 kHz, V _{in} =1.0Vrms 0 dB		0.003	0.005	%
Total harmonic distortion (ATT ₂)	THD(2)	f _{in} =20~20 kHz, V _{in} =1.0Vrms 0 dB		0.003	0.005	%
Maximum amount of attenuation	ATT (max.)		90			dB
Output noise voltage	V _N	0 dB Position f _{out} =20~20 kHz R _g =1KΩ		2	10	μVrms
Channel separation	C.S	V _{in} =1 Vrms f _{in} =1 kHz	80			dB
CONTROL INPUT SECTION						
Maximum operating frequency	f(max)				500	kHz
Minimum clock width ("H")	T _{CK(H)}		1.0			μsec
Minimum clock width ("L")	T _{CK(L)}		1.0			μsec

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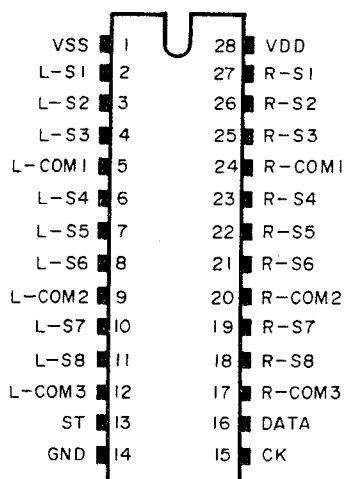
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Discussion

Max.	Unit
32	V
3.0	mA
D+0.3	V
1.0	V
160	K Ω
20	K Ω
0.8	dB
1.8	
2.8	dB
0.005	%
0.005	%
	dB
10	μ Vrms
	dB
500	kHz
	μ sec
	μ sec

Terminal Connections



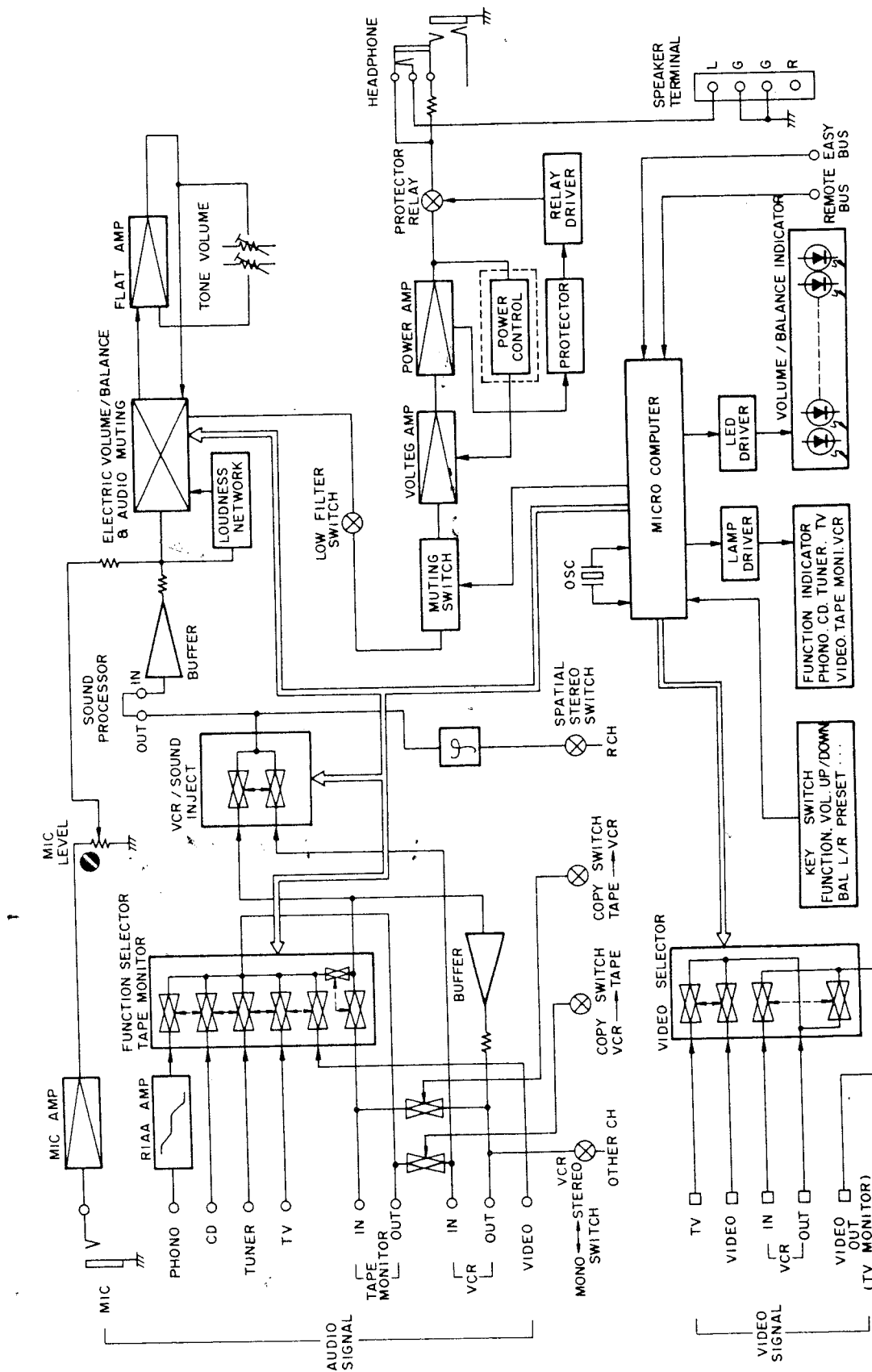
Maximum Ratings

Item	Symbol	Ratings	Unit
Supply voltage (1)	V_{DD} V_{SS}	34	V
Supply voltage (2)	V_{DD} GND	17	V
Input voltage	V_{IN}	$V_{SS}-0.3 \sim V_{DD}+0.3$	V
Power dissipation	P_D	300	mW
Operating temperature	T_{opr}	$-30 \sim 75$	$^{\circ}\text{C}$
Storage temperature	T_{stg}	$-55 \sim 125$	$^{\circ}\text{C}$

Electrical Characteristics ($V_{DD}=16\text{V}$, $V_{SS}=-16\text{V}$, $\text{GND}=0\text{V}$, $T_a=25^{\circ}\text{C}$)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Operating supply voltage (1)	$V_{DD}-\text{GND}$		8	~	16	V
Operating supply voltage (2)	$\text{GND}-V_{SS}$		-8	~	-16	V
Operation supply current	I_{DD}	$V_{DD}=16\text{V}$, $V_{SS}=-16\text{V}$, $\text{GND}=0\text{V}$	—	~	3	mA
Backup voltage	V_B		4	~	16	V
Backup current	I_B	$V_{DD}=4.0\text{V}$, $V_{SS}=\text{GND}=0\text{V}$	—	1	10	μA
High level input voltage	V_{IH}	$V_{DD}=16\text{V}$, CK, DATA, ST	4	—	16	V
Low level voltage	V_{IL}	$V_{DD}=16\text{V}$, CK, DATA, ST	0	—	10	V
Operating minimum pulse width	t_{in}		5	—	—	μsec
Switch ON resist.	R_{ON}		—	100	200	Ω
Total harmonic distortion.	THD	$f_{in}=0 \sim 20 \text{ kHz}$, $V_{in}=1\text{Vrms}$	—	0.002	0.005	%
Nois voltage.	V_{NO}	$f=20 \sim 50 \text{ kHz}$	—	2	10	μVrms

5. BLOCK DIAGRAM



PM553 ONLY

6. DIA

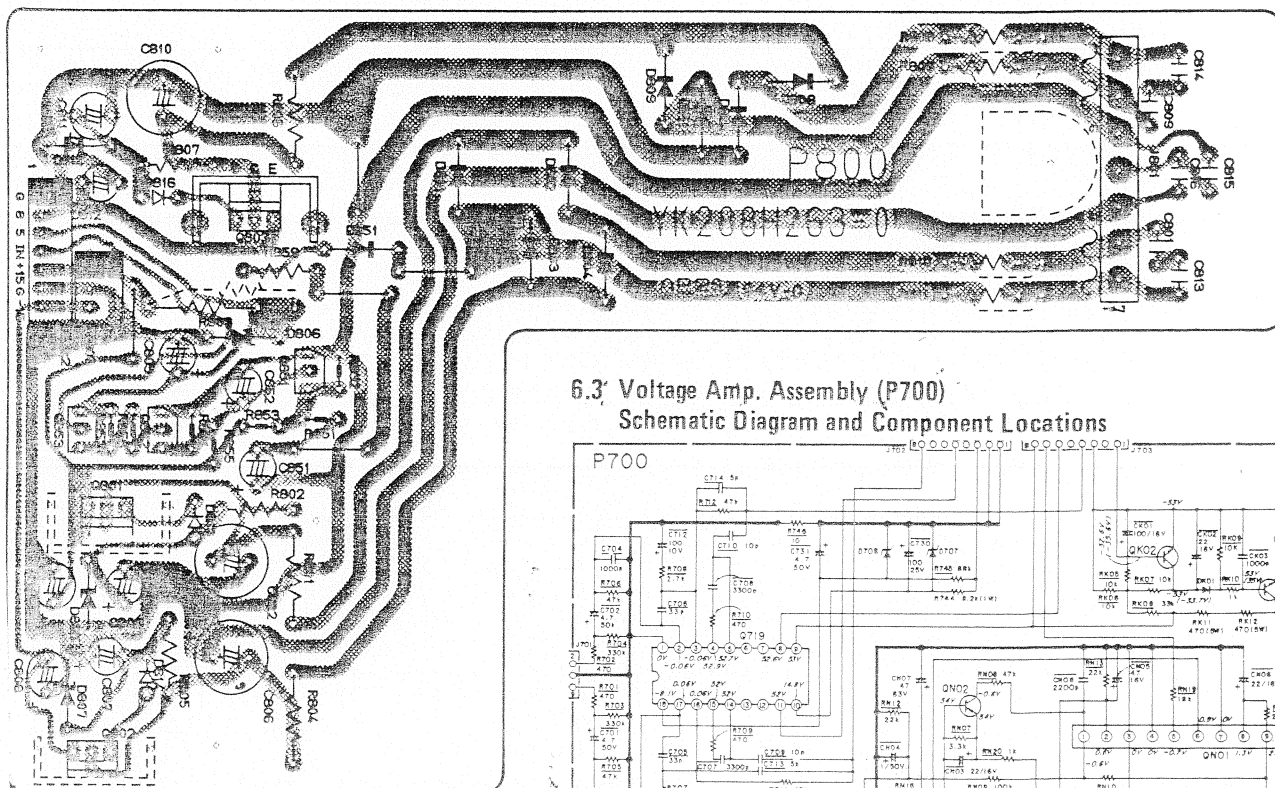
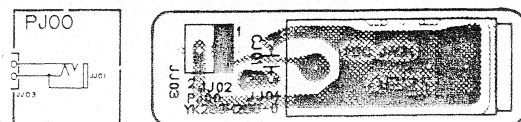
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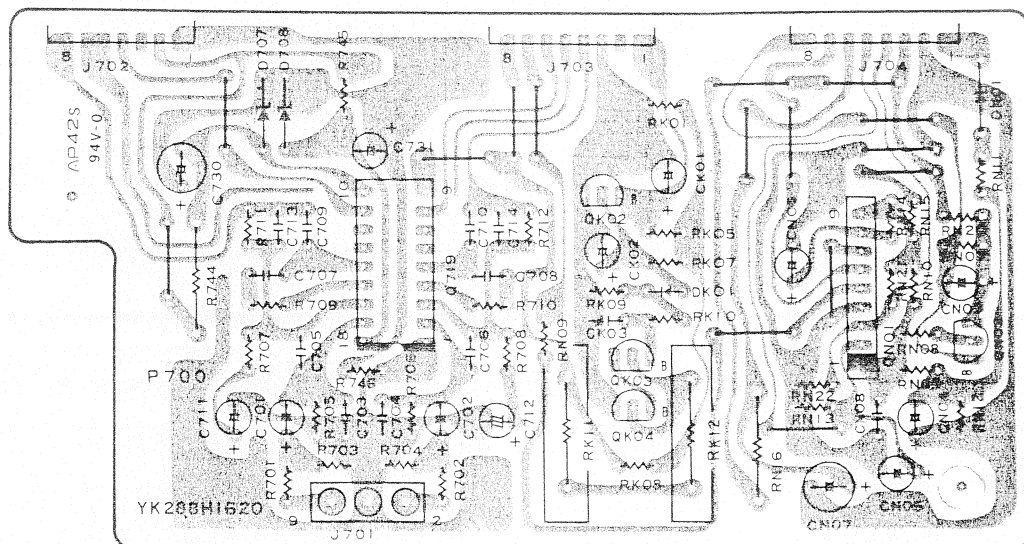
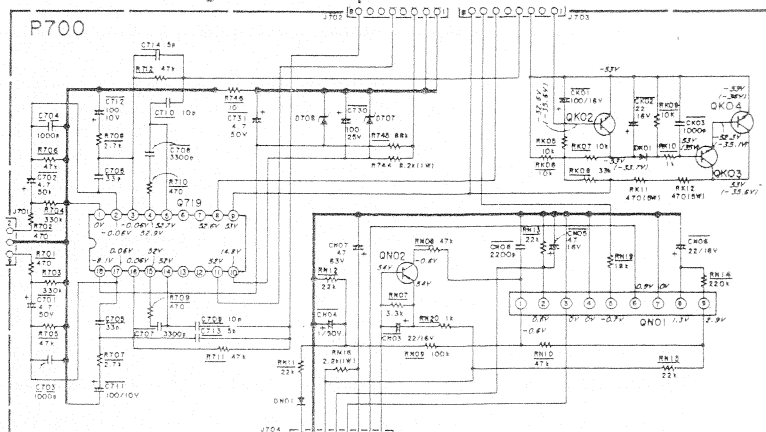
PM553 ONLY

Schematic Diagram and Component Locations

Schematic Diagram and Component Locations



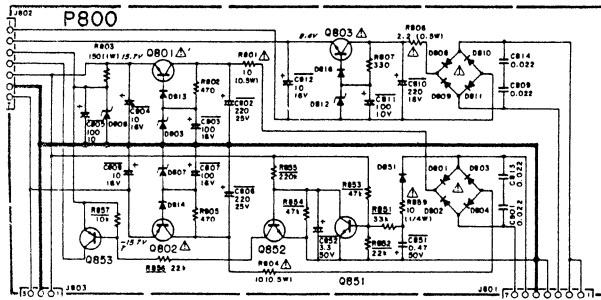
Schematic Diagram and Component Locations



6. DIAGRAM AND COMPONENT LOCATIONS

6.1 Power Supply Assembly (P800)

Schematic Diagram and Component Locations



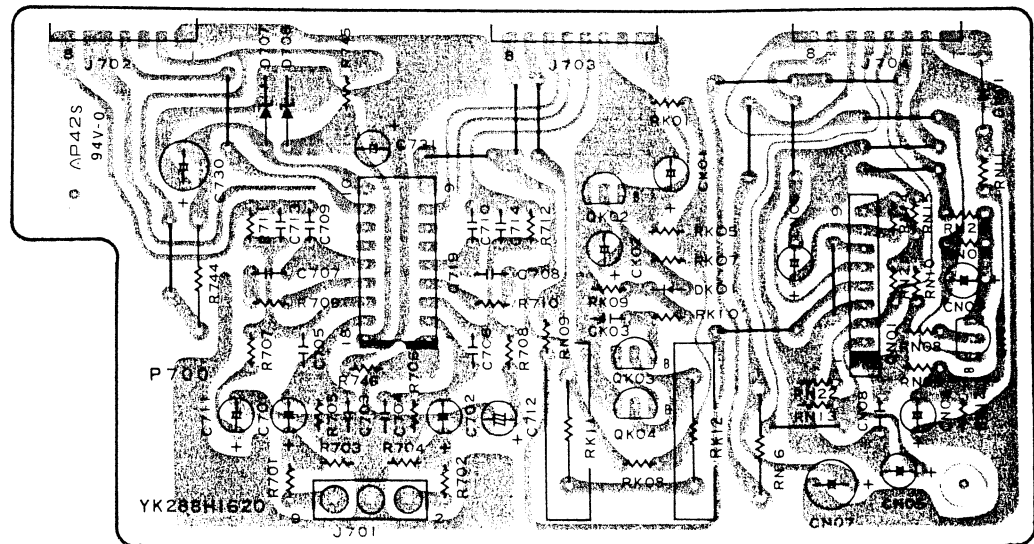
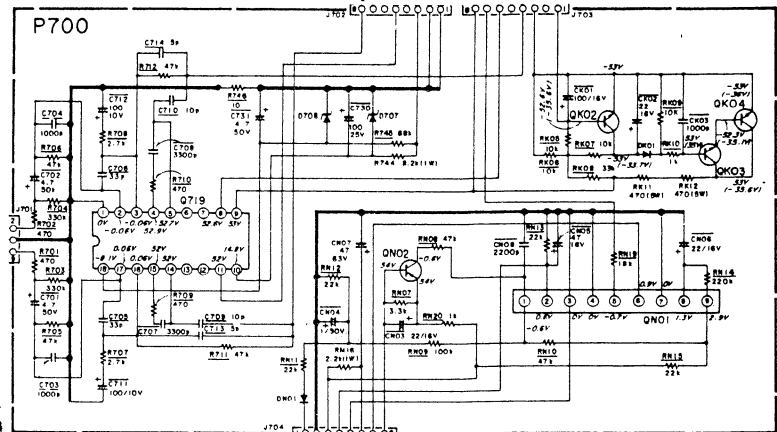
6.2 Mic Jack Assembly (PJ00)

Schematic Diagram and Component Locations

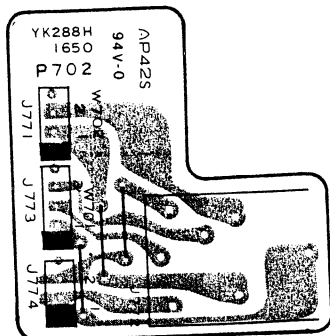
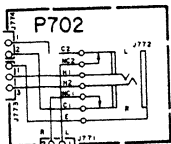


6.3 Voltage Amp. Assembly (P700)

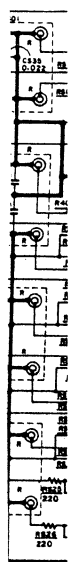
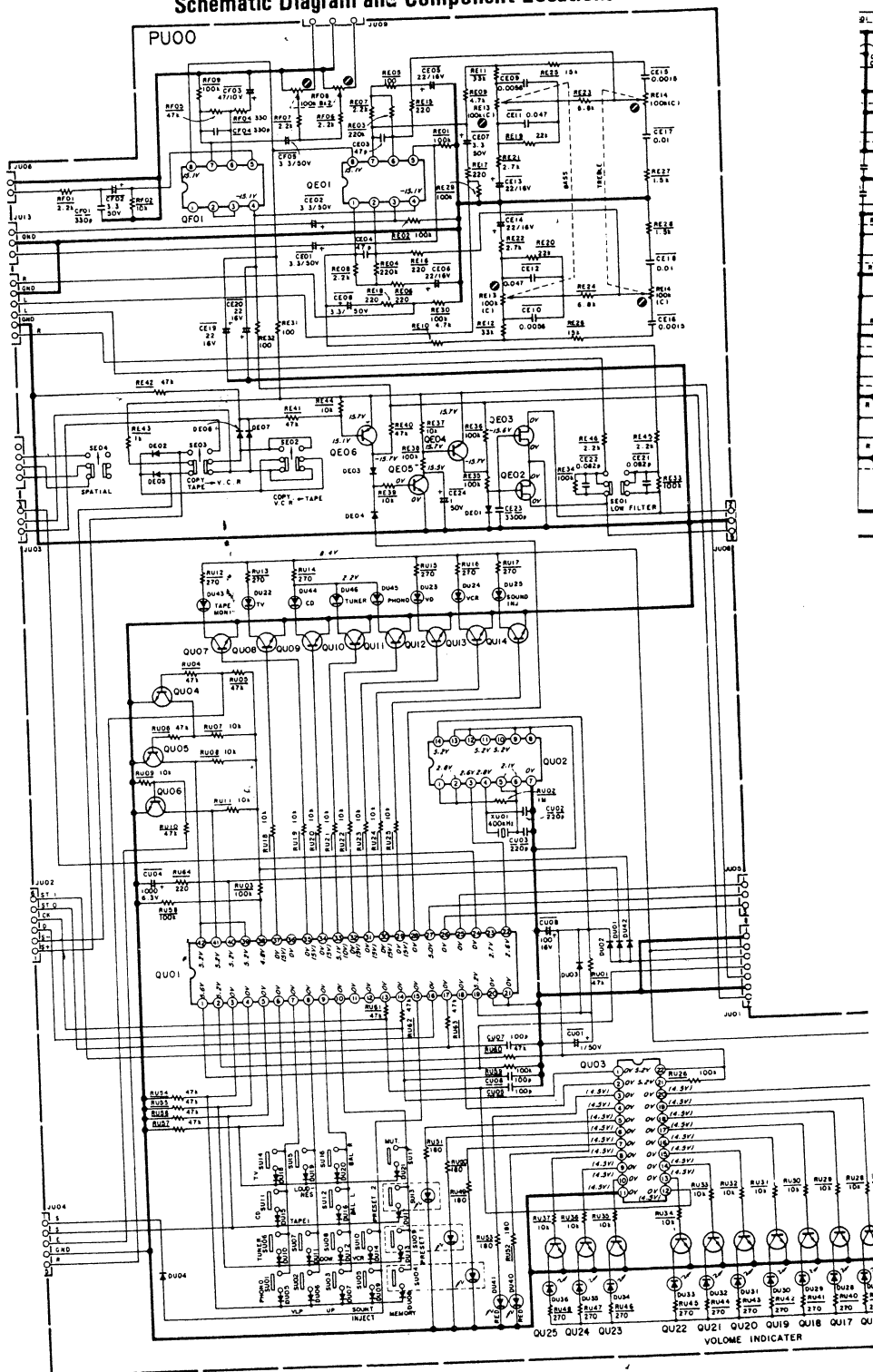
Schematic Diagram and Component Locations



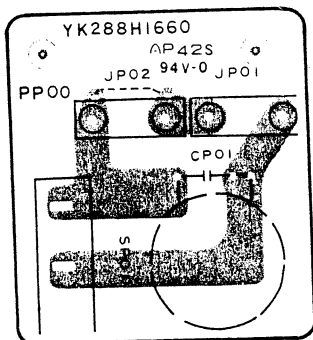
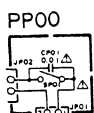
6.4 Headphone Assembly (P702) Schematic Diagram and Component Locations



6.6 Micon/Tone/Mic Amp. Assembly (PU00) Schematic Diagram and Component Locations



6.5 Power Switch Assembly (PP00) Schematic Diagram and Component Locations

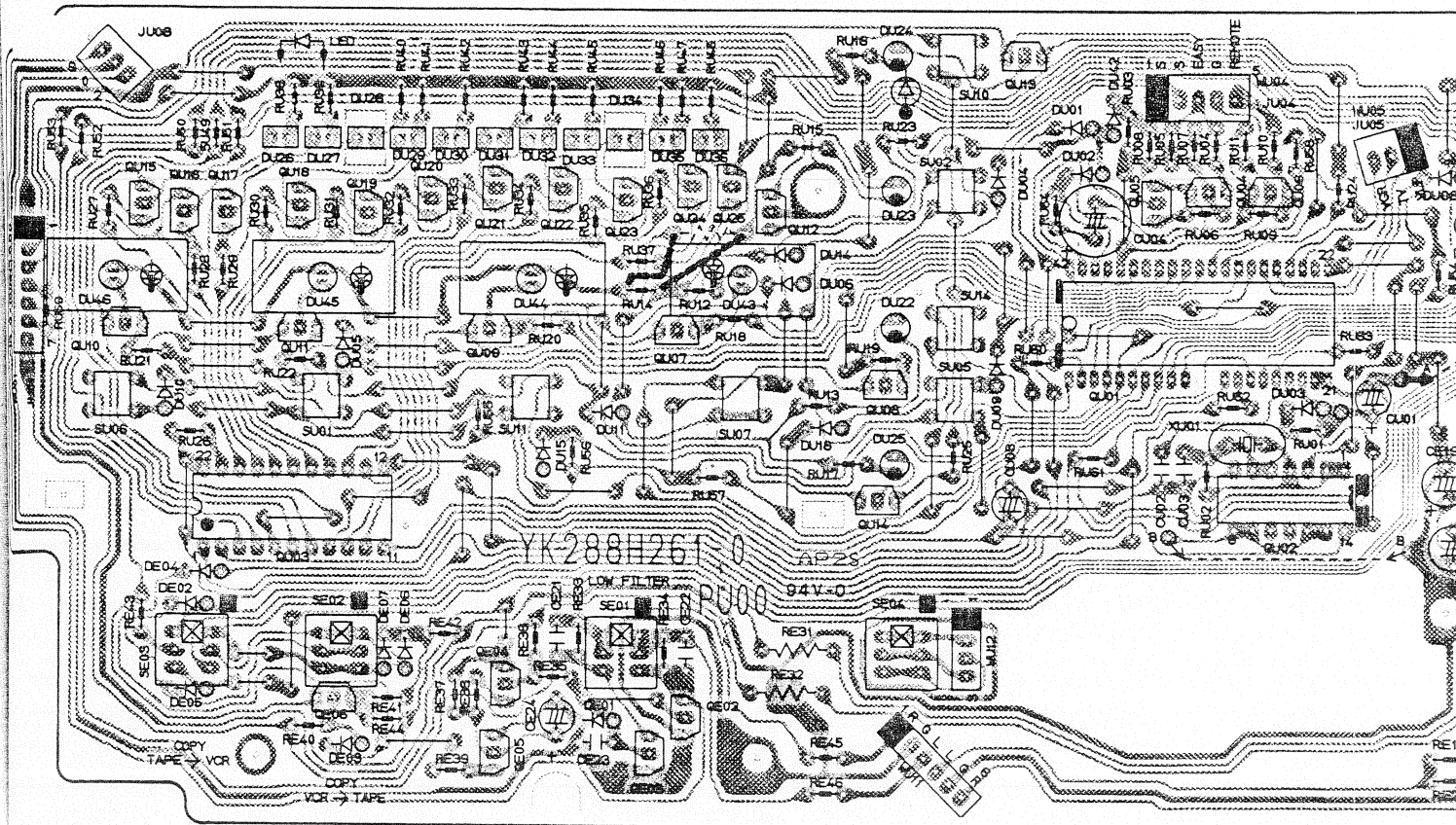


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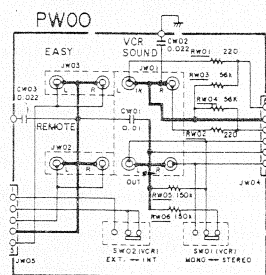
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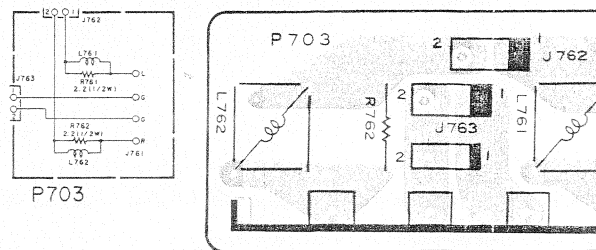
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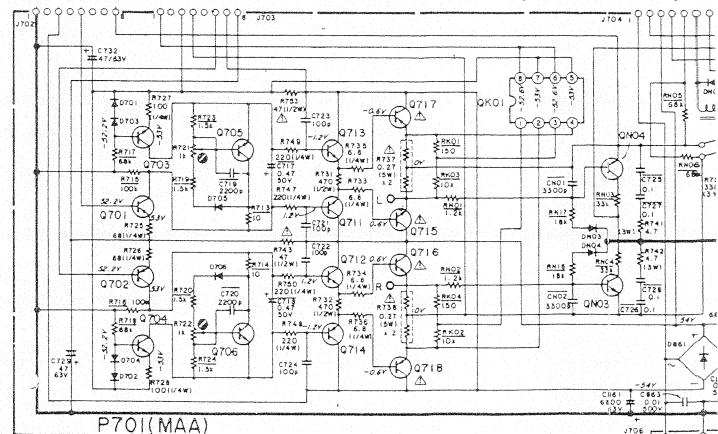
6.7 Remote Easy VCR Terminal Assembly (PW00)
Schematic Diagram and Component Locations

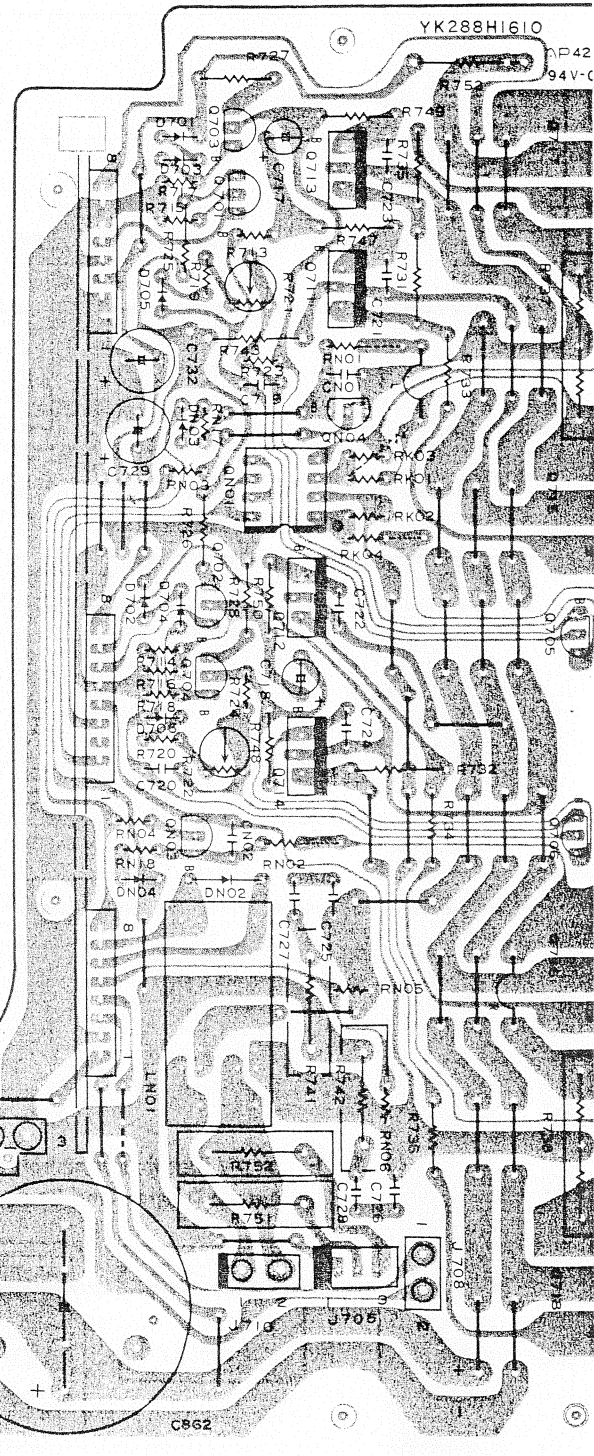
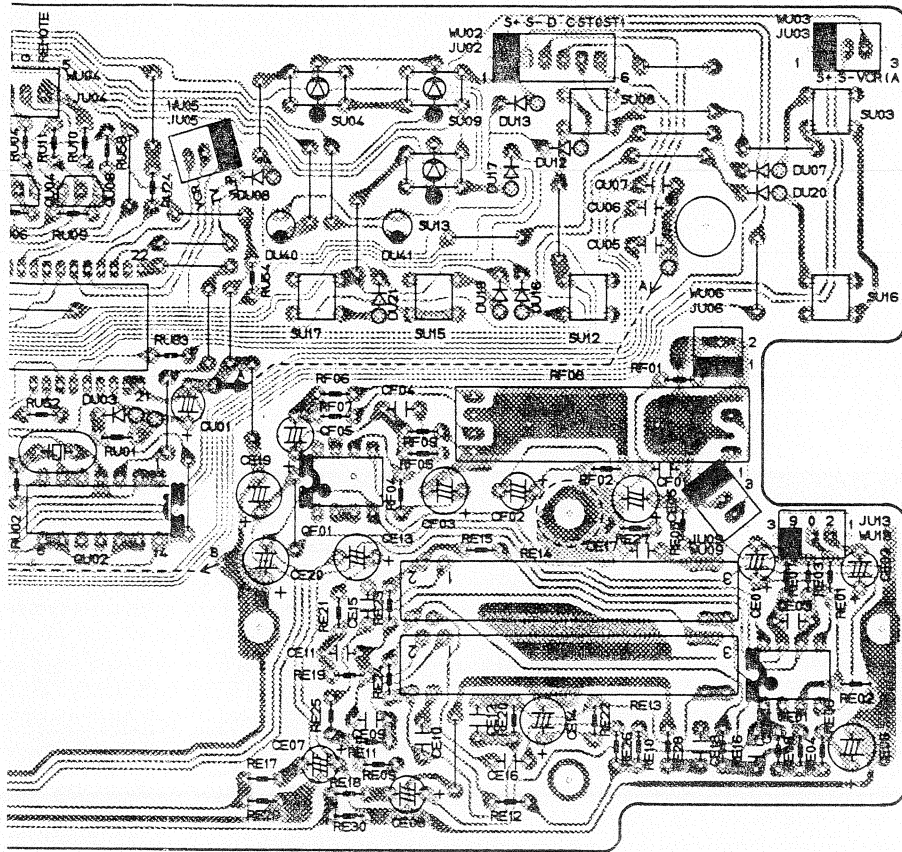


6.8 Speaker Terminal Assembly (P703) Schematic Diagram

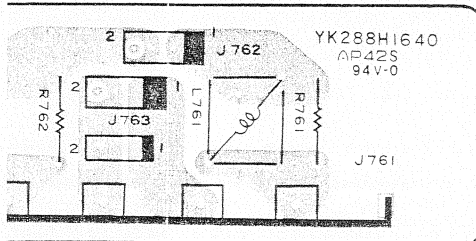


6.9 Main Amp. Assembly (P701) Schematic Diagram and Compon

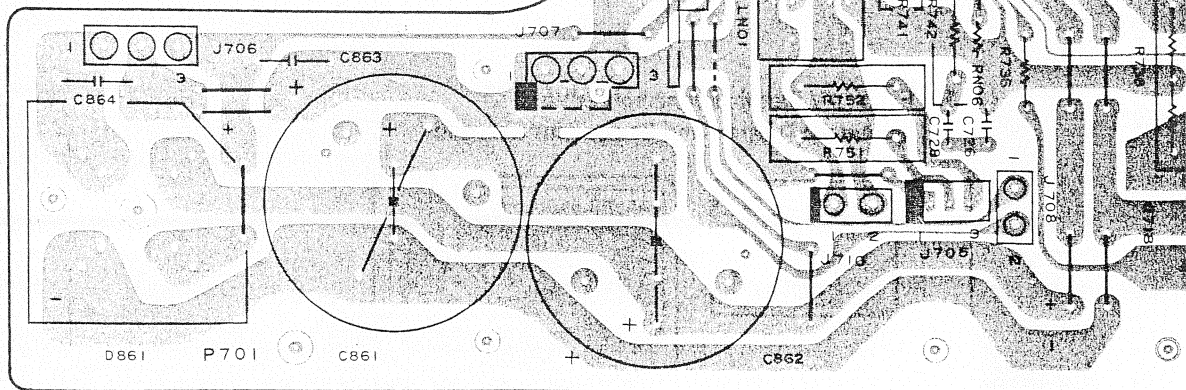
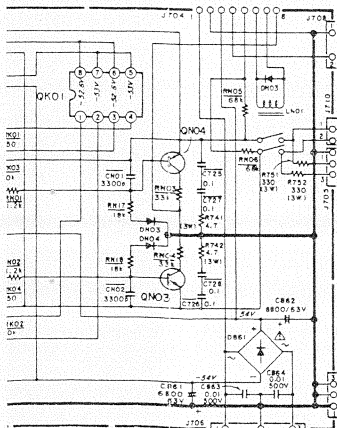


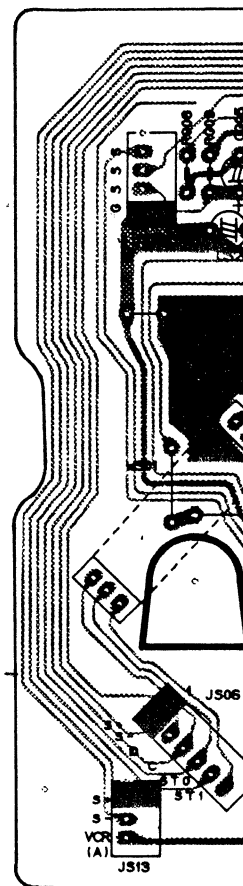
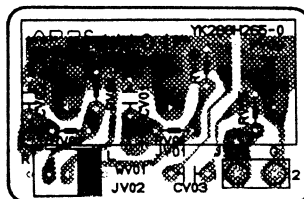


ly (P703) Schematic Diagram and Component Locations



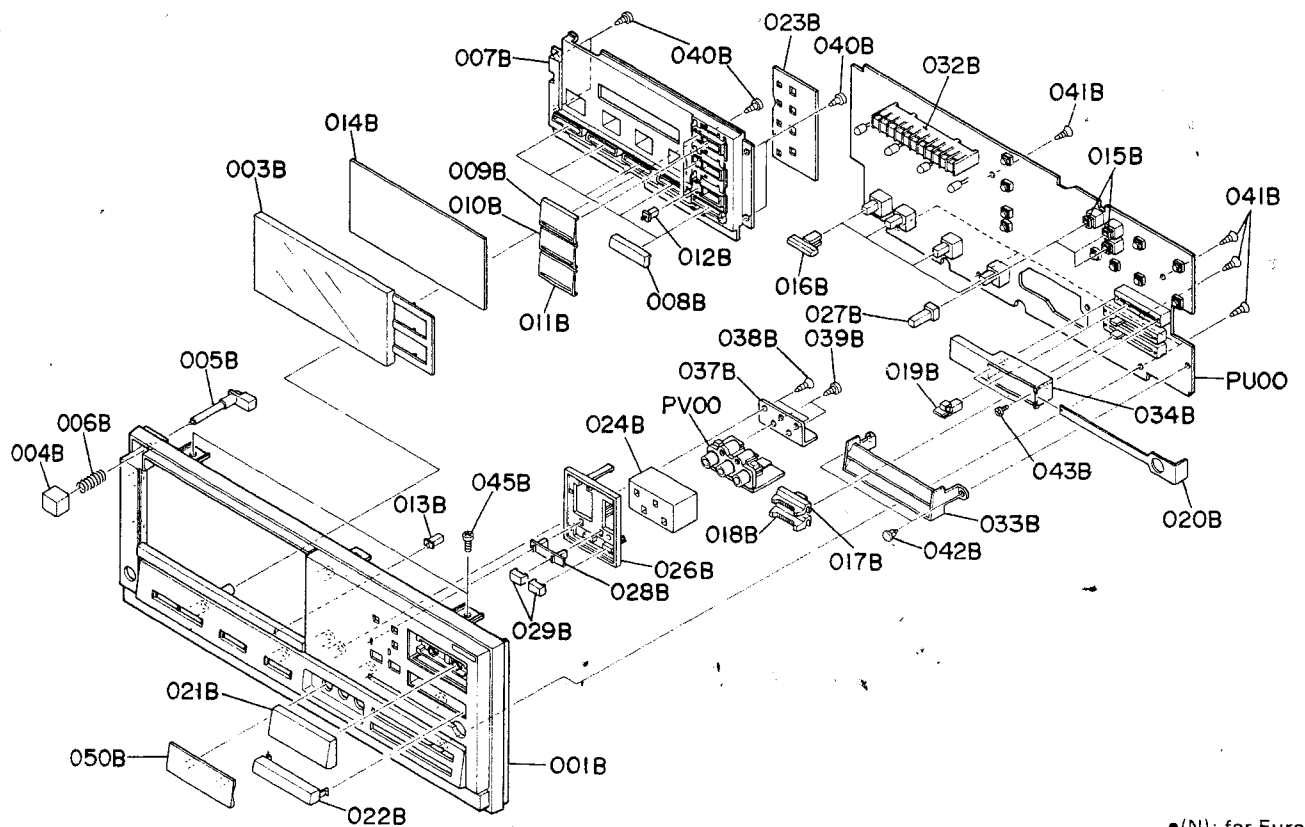
atic Diagram and Component Locations



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7. EXPLODED VIEW AND PARTS LIST

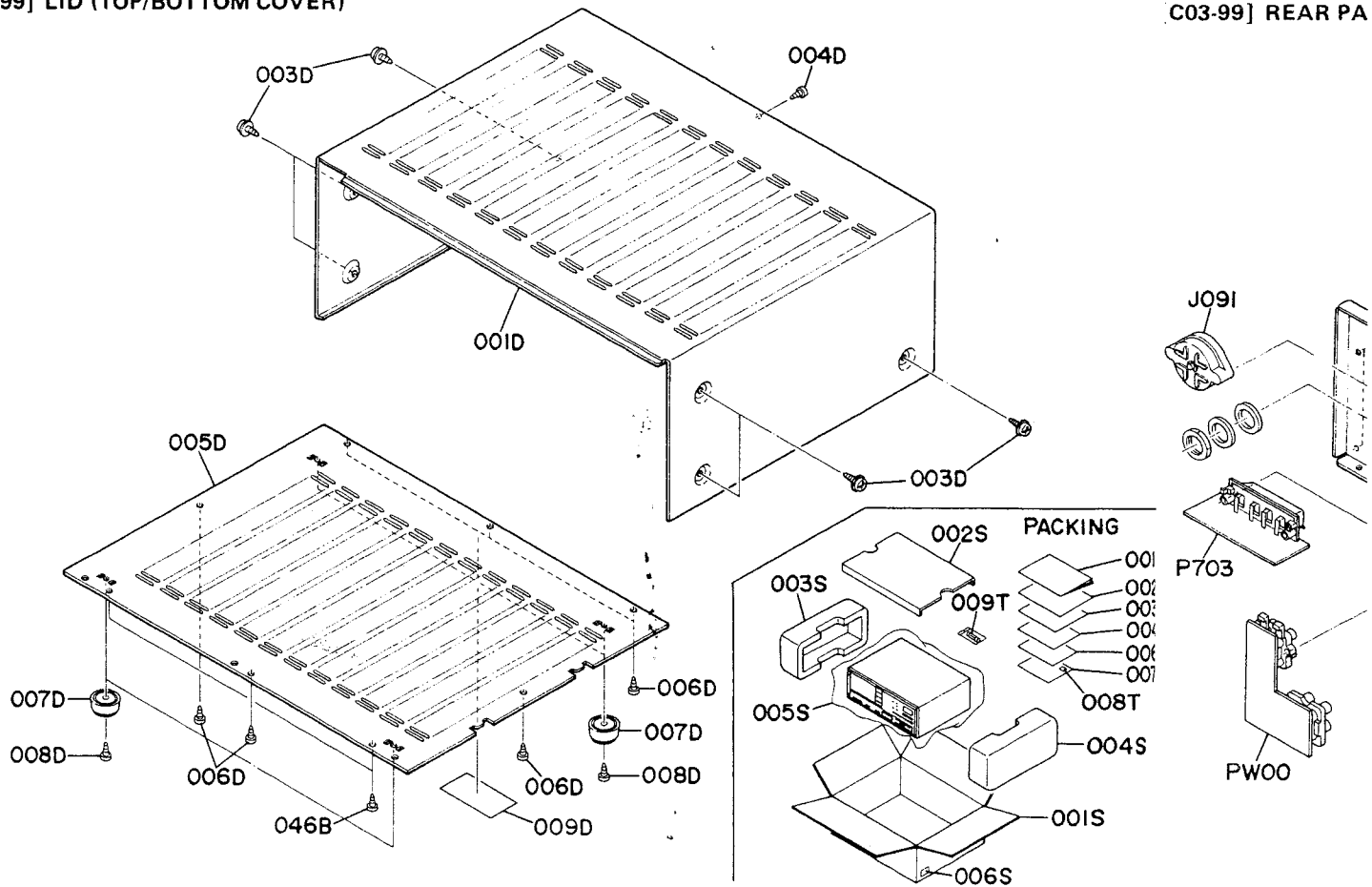
[C01-99] FRONT PANEL



•(N): for Europe
•(E): for Europe
•(A): for Austral
•(F): for Japan

REF. DESIG.	PART NO.	DESCRIPTION
A	288H248400	Front Panel Assembly (PM553)
001B	288H248010	Front Panel
013B	288H355030	Lens, Sound Eject
026B	288H271010	Holder
028B	288H355020	Lens, Muting/Loudness
029B	289H270110	Button, Muting/Loudness
A	287H248400	Front Panel Assembly (PM453)
001B	287H248010	Front Panel
013B	288H355030	Lens, Sound Eject
026B	288H271010	Holder
028B	288H355020	Lens, Muting/Loudness
029B	289H270110	Button, Muting/Loudness
003B	288H158010	Window, Front
004B	139T154360	Knob, Power Switch
005B	012H121010	Link, Power Switch
006B	139T115020	Spring, Power Switch
007B	288H271030	Holder, Selector
008B	288H270040	Button, Input Selector
009B	288H270010	Button, VCR/MON
010B	288H270020	Button, Video
011B	288H270030	Button, TV
012B	288H355040	Lens

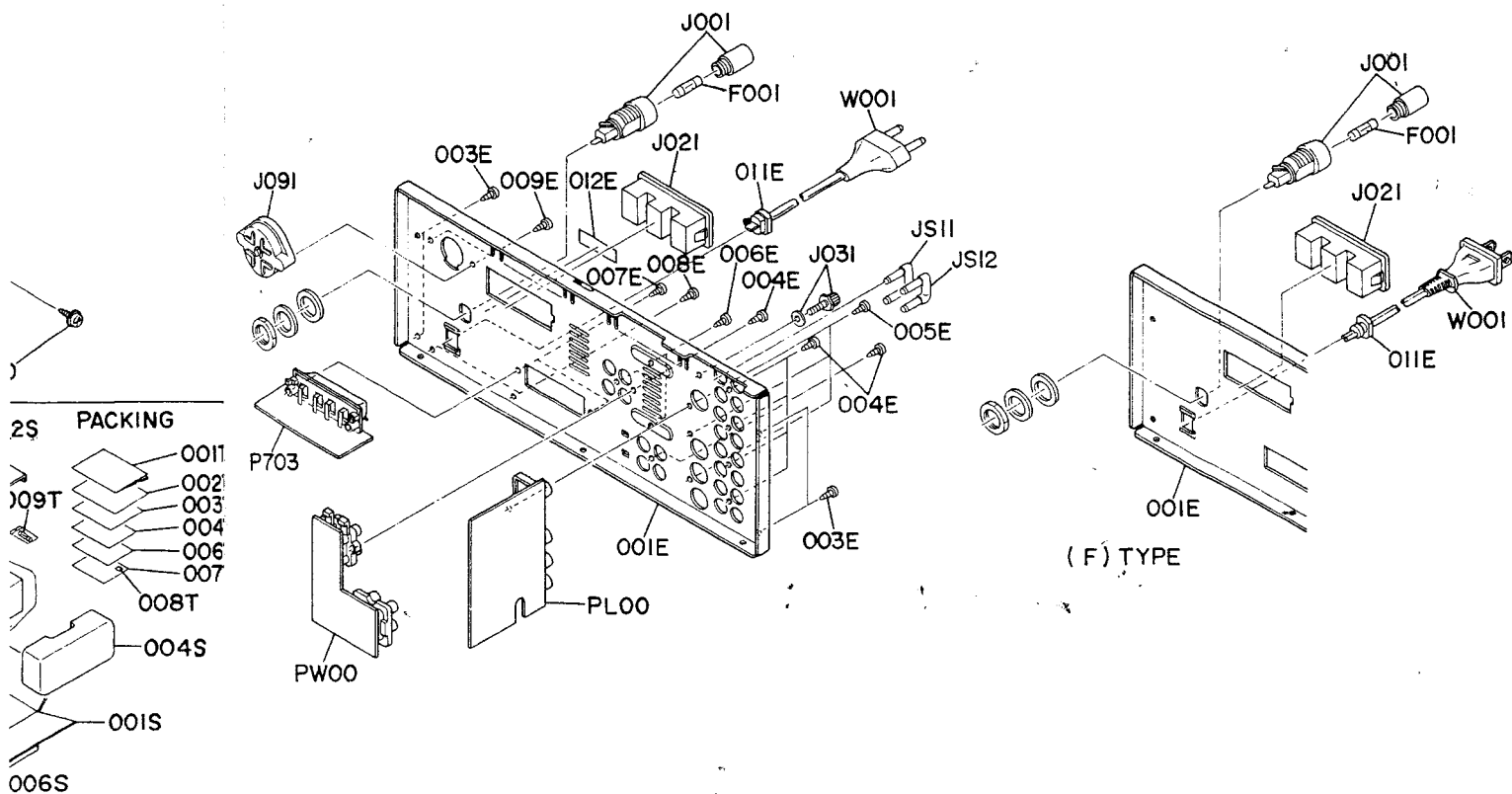
REF. DESIG.	PART NO.	DESCRIPTION
014B	288H265010	Indicator
015B	288H259010	Bushing
016B	288H270050	Button, Copy/Low Filter/Spatial
017B	288H154010	Knob, Treble
018B	288H154020	Knob, Bass
019B	012H154170	Knob, Mic
020B	288H303010	Mask, Mic
021B	471H270140	Button, Volume
022B	289H154120	Knob, Balance
023B	288H303020	Mask, VCR/MON. Video/TV
024B	288H303030	Mask, Muting/Loudness
027B	288H355010	Lens, Memo/M1/M2
032B	288H051010	Guide, Volume LED
033B	288H051020	Guide, Treble
034B	288H051030	Guide, Mic
037B	288H160030	Bracket, Video Terminal
038B	51330308B0	F.H. Tapped Screw
039B	51280308B0	B.H. Tapped Screw
040B	51280308B0	B.H. Tapped Screw
041B	51280308B0	B.H. Tapped Screw
042B	2276005050	Clamper
043B	51100203A0	B.H.M. Screw
045B	51280308B0	B.H. Tapped Screw
050B	288H053010	Cover, 3 Pin Jack



REF. ESIG.	PART NO.	DESCRIPTION
046B	51280308B0	B.H. Tapped Screw B3 x 8
001D	179T257010	Lid, Top Cover
003D	51260308U0	B.T. Screw B3 x 8
004D	51280308B0	B.H. Tapped Screw B3 x 8
005D	288H257020	Lid, Bottom Cover
006D	51280308B0	B.H. Tapped Screw B3 x 8
007D	011T057010	Leg
008D	51280408B0	B.H. Tapped Screw B4 x 8
009D	2911861110	Label, Caution [N, E, A]
001S	288H801010	PACKING Packing Case (PM553), [N, A, F]
	288H801030	Packing Case (PM553), [E]
	287H801010	Packing Case (PM453), [N, A, F]
	287H801030	Packing Case (PM453), [E]
002S	288H807010	Reinforcing [E]
003S	179T809010	Cushion, (L)
004S	179T809020	Cushion, (R)
005S	9090808030	Polyethylene Sheet

REF. DESIG.	PART NO.	DESCRIPTION	EF. SIG.	PART NO.
006S	9526019060	Serial No. Card [N, E]	01E	288H250030
	9526019030	Serial No. Card [A]		288H250010
	9526019040	Serial No. Card [F]		288H250040
001T	288H851310	User Manual [N, E, A]		288H250020
	288H851110	User Manual [F]		287H250010
002T	288H851320	User Manual, Spec [N, E, A]		287H250040
003T	288H856010	Circuit Diagram (PM553), [N, E]	03E	287H250020
	287H856010	Circuit Diagram (PM453), [N, E]	04E	51280308B0
004T	9631000090	Warranty Card [A]	05E	51280308B0
	9631000130	Warranty Card [F]		
006T	128T854010	Warranty Card [F]	06E	51280308B0
007T	9611000050	User's Card [F]	07E	51280308B0
008T	9540000010	License	08E	51280308B0
009T	FS10400800	Fuse 4A 250V (PM553),	09E	51280308B0
	FS10315800	Fuse 3.15A 250V (PM453),	10E	1455259130
			2E	2112265010
				2112265110

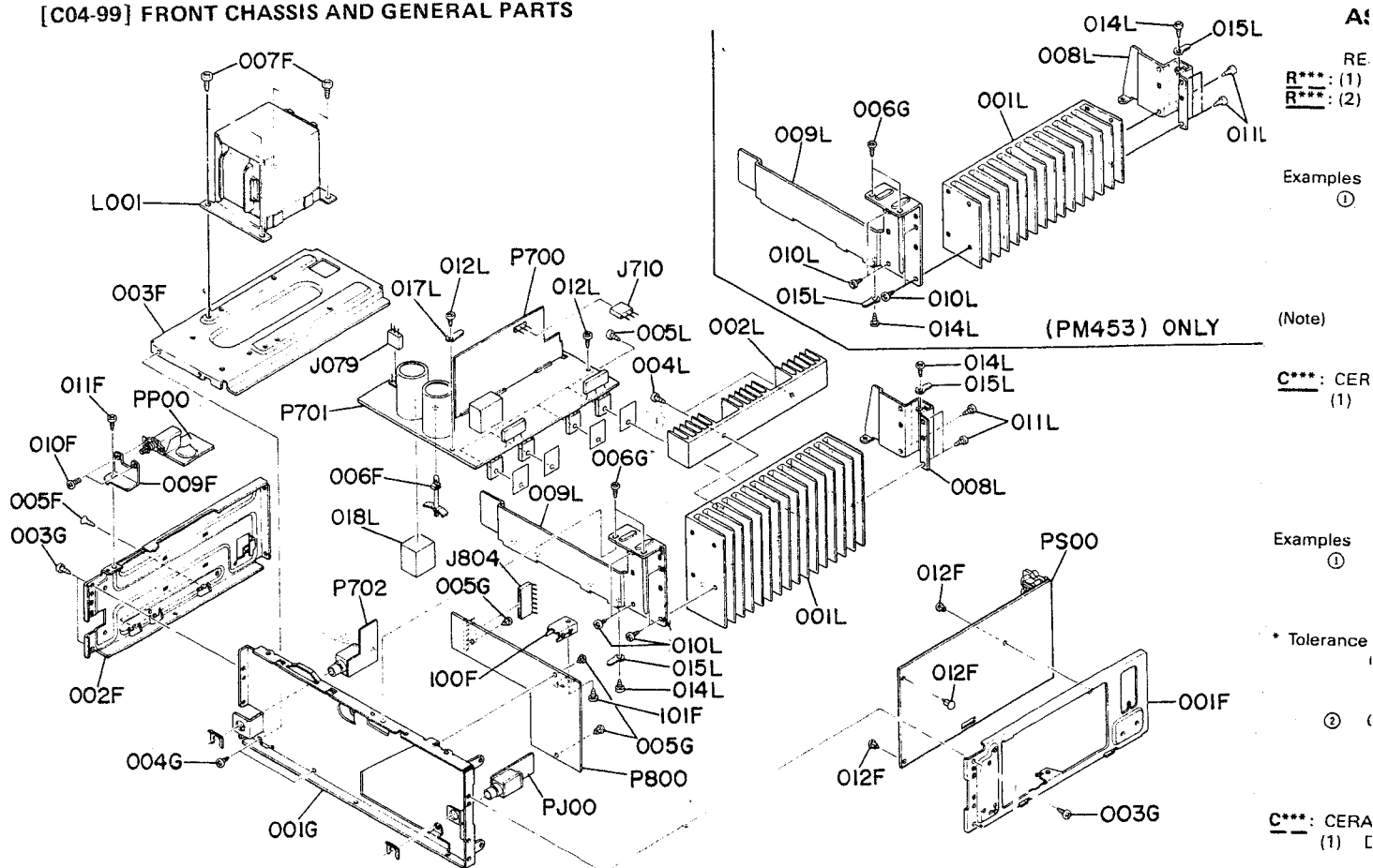
[C03-99] REAR PANEL



DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
ard [N, E]	01E	288H250030	Rear Panel (PM553), [U]
ard [A]		288H250010	Rear Panel (PM553), [N, A]
ard [F]		288H250040	Rear Panel (PM553), [E]
		288H250020	Rear Panel (PM553), [F]
l [N, E, A]		287H250010	Rear Panel (PM453), [N, A]
l [F]		287H250040	Rear Panel (PM453), [E]
il, Spec [N, E, A]		287H250020	Rear Panel (PM453), [F]
gram (PM553), [N, E]	03E	51280308B0	B.H. Tapped Screw B3 x 8
gram (PM453), [N, E]	04E	51280308B0	B.H. Tapped Screw B3 x 8
ard [A]	05E	51280308B0	B.H. Tapped Screw B3 x 8
ard [F]			
ard [F]	06E	51280308B0	B.H. Tapped Screw B3 x 8
[F]	07E	51280308B0	B.H. Tapped Screw B3 x 8
	08E	51280308B0	B.H. Tapped Screw B3 x 8
250V (PM553), [E]	09E	51280308B0	B.H. Tapped Screw B3 x 8 [N, E, A]
5A 250V (PM453), [E]	11E	1455259130	Bushing, AC Power Cord
	12E	2112265010	Indicator, Serial No. [F]
		2112265110	Indicator, Serial No. [N, E, A]

REF. DESIG.	PART NO.	DESCRIPTION
△ F001	FS10200800	Fuse T2.0A 250V (PM553), [N, E, A]
	FS10400600	Fuse 4A 250V (PM553), [F]
	FS10140800	Fuse T1.4A 250V (PM453), [N, E, A]
	FS10300600	Fuse 3A 250V (PM453), [F]
△ J001	YJ08000300	Jack, Fuse Holder [F]
	YJ08000290	Jack, Fuse Holder [N, E, A]
△ J021	YJ04001180	Jack, AC Outlet [E, F]
J031	YL03010250	Terminal, GND
△ J091	BY05030040	Voltage Selector [N, A]
	BY05080050	Voltage Selector [E]
JS11	YQ01000080	Shote Plug
JS12	YQ01000080	Shote Plug
△ W001	YC01800340	A.C. Power Cord [N]
	YC01900080	A.C. Power Cord [E, F]
	YC02000230	A.C. Power Cord [A]

[C04-99] FRONT CHASSIS AND GENERAL PARTS



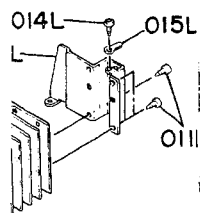
REF. DESIG.	PART NO.	DESCRIPTION
001F	288H105020	Chassis, Side; (R)
002F	288H105030	Chassis, Side; (L)
003F	288H105040	Chassis, Transformer
005F	51280308B0	B.H. Tapped Screw B3 x 8
006F	288H101020	Support, Main Amp PWB
007F	51280408B0	B.H. Tapped Screw B4 x 8
009F	288H160040	Bracket, Power Switch
010F	51100306A0	B.H.M. Screw B3 x 8
011F	51280308B0	B.H. Tapped Screw B3 x 8
012F	2276005030	Clamper
100F	250H267020	Heatsink, (Q803)
011F	51280308B0	B.H. Tapped Screw B3 x 8
001G	288H105010	Chassis, Front
003G	51280308B0	B.H. Tapped Screw B3 x 8
004G	51280308B0	B.H. Tapped Screw B3 x 8
005G	2276005030	Clamper
006G	51280308B0	B.H. Tapped Screw B3 x 8

REF. DESIG.	PART NO.	DESCRIPTION
001L	288H267010	Heatsink, Main (PM553)
002L	288H267110	Heatsink, Main (PM453)
004L	51280308B0	B.H. Tapped Screw B3 x 8 (PM553)
005L	51280310B0	B.H. Tapped Screw B3 x 10
008L	288H160010	Bracket, Heatsink; Rear
009L	288H160050	Bracket, Heatsink; Front
010L	51280308B0	B.H. Tapped Screw B3 x 8
011L	51280308B0	B.H. Tapped Screw B3 x 8
012L	51280308B0	B.H. Tapped Screw B3 x 8
014L	51280308B0	B.H. Tapped Screw B3 x 8
015L	62030039W0	Lug
017L	62030039W0	Lug
018L	288H056010	Buffer
J709	YJ06001040	Jack, 3P
J710	YJ06001040	Jack, 3P
J804	YJ06001260	Jack, 7P
Δ L001	TS19623030	Power Transformer (PM553), (N, A)
	TS19623040	Power Transformer (PM553), (F)
	TS19623010	Power Transformer (PM553), (F)
	TS17631010	Power Transformer (PM453), (N, A)
	TS17631030	Power Transformer (PM453), (E)
	TS17631020	Power Transformer (PM453), (F)

8. ELECTRICAL PARTS LIST

•(N): for Europe
•(E): for Europe
•(A): for Australia
•(F): for Japan

ASSIGNMENT OF COMMON PARTS CODES.



RESISTOR
 (1) GD05 --- 140, Carbon film fixed resistor, $\pm 5\%$, 1/4W
 (2) GD05 --- 160, Carbon film fixed resistor, $\pm 5\%$, 1/6W
 ① — Resistance value

Examples

① Resistance value
 0.1 Ω ...001 10 Ω ...100 1k Ω ...102 100k Ω ...104
 0.5 Ω ...005 18 Ω ...180 2.7k Ω ...272 680k Ω ...684
 1 Ω ...010 100 Ω ...101 10k Ω ...103 1Mk Ω ...105
 6.8 Ω ...068 390 Ω ...391 22k Ω ...223 4.7Mk Ω ...475

PM553) ONLY

Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

CERAMIC CAP.

(1) DD1 --- 370, Ceramic condenser
 Disc type
 Temp. coeff. P350 ~ N1000, 50V
 ① ②
 Capacity value
 Tolerance

Examples

① Tolerance (Capacity deviation)
 $\pm 0.25\text{pF}$...0
 $\pm 0.5\text{pF}$...1
 $\pm 5\%$...5

Tolerance of COMMON PARTS handled here are as follows:

0.5pF ~ 5pF... $\pm 0.25\text{pF}$
 6pF ~ 10pF... $\pm 0.5\text{pF}$
 12pF ~ 560pF... $\pm 5\%$
 ② Capacity value
 0.5pF...005 3pF...030 100pF...101
 1pF...010 10pF...100 220pF...221
 1.5pF...015 47pF...470 560pF...561

CERAMIC CAP.

(1) DK16 --- 300, High dielectric constant ceramic condenser
 Disc type
 Temp. chara. 2B4, 50V
 ①
 Capacity value

Example

② Capacity value
 100pF...101 1000pF...102 10000pF...103
 470pF...471 2200pF...222

ELECTROLY CAP. ($\neq$), FILM CAP. ($\neq$)

(1) EA --- 10, Electrolytic condenser
 One-way lead type, Tolerance $\pm 20\%$
 ① ②
 Dielectric strength
 Capacity value

Examples

① Capacity value
 0.1 μF ...104 4.7 μF ...475 100 μF ...107
 0.33 μF ...334 10 μF ...106 330 μF ...337
 1 μF ...105 22 μF ...226 1100 μF ...108
 2200 μF ...228

② Working voltage
 6.3V...006 25V...025
 10V...010 35V...035
 16V...016 50V...050

(2) DF15 --- 350, Plastic film condenser
 One-way type, Mylar $\pm 5\%$ 50V
 ①
 Capacity value

Examples

① Capacity value
 0.001 μF (1000pF)...102 0.1 μF ...104
 0.0018 μF ...182 0.56 μF ...564
 0.01 μF ...103 1 μF ...105
 0.015 μF ...153

REF. DESIG.	PART NO.	DESCRIPTION
P700	YK288H1620 ZZ288H8620 ZZ287H8620	P700-VOLTAGE AMP CIRCUIT BOARD P.W. Board, Voltage Amp P.W. Board Assembly (PM553) P.W. Board Assembly (PM453)
CN07	EA47606310	P700-CAPACITOR Elect 47 μF 63V
RK11 RK12	GP05471050 GP05471050	P700-RESISTORS 470 Ω $\pm 5\%$ 5W (PM553) 470 Ω $\pm 5\%$ 5W (PM553)
RN16	GA05222010 GA05182010	2.2K Ω $\pm 5\%$ 1W (PM553) 1.8K Ω $\pm 5\%$ 1W (PM453)
R744	GA05822010	8.2K Ω $\pm 5\%$ 1W
DK01 DN01 D707 D708	HD20015210 HD20022030 HD30012020 HD30024020	P700-SEMICONDUCTORS Diode 1SS133 (PM553) Diode DSF10C Zener MA1150 Zener MA1082
QK02 QK03 QK04 QN01 QN02 Q719	HT322401A0 HT322401A0 HT322401A0 HC10042050 HT109701A0 HC10066020	Transistor 2SC2240(GR) (PM553) Transistor 2SC2240(GR) (PM553) Transistor 2SC2240(GR) (PM553) IC TA7317P Transistor 2SA970(GR) IC AN7062
J701 J702 J703 J704 J710	YP06001040 YP07001580 YP07001580 YP07001580 YJ06001040	P700-MISCELLANEOUS Plug, 3P Plug, 8P Plug, 8P Plug, 8P Jack, 3P
P701	YK288H1610 ZZ288H8610 ZZ287H8610	P701-MAIN AMP CIRCUIT BOARD P.W. Board, Main Amp P.W. Board Assembly (PM553) P.W. Board Assembly (PM453)
C721 C722 C723 C724 C729 C732 C861 C862 C863 C864	DD15101560 DD15101560 DD15101560 DD15101560 EA47606310 EA47606310 EB68806310 EB68806310 DK18103560 DK18103560	P701-CAPACITORS Ceramic 100pF $\pm 5\%$ 500V Ceramic 100pF $\pm 5\%$ 500V Ceramic 100pF $\pm 5\%$ 500V Ceramic 100pF $\pm 5\%$ 500V Elect 47 μF 63V Elect 47 μF 63V Elect 6800 μF 63V Elect 6800 μF 63V Ceramic 0.01 μF 500V Ceramic 0.01 μF 500V
R721 R722 R725 R726 R727 R728 R731 R732 R733 R734	RA01020600 RA01020600 GG05680140 GG05680140 GG05101140 GG05101140 GG05471120 GG05471120 GG05068140 GG05068140	P701-RESISTORS (All Resistors are $\pm 5\%$) 1K Ω , Trimming 1K Ω , Trimming 68 Ω $\frac{1}{4}\text{W}$ 68 Ω $\frac{1}{4}\text{W}$ 100 Ω $\frac{1}{4}\text{W}$ 100 Ω $\frac{1}{4}\text{W}$ 470 Ω $\frac{1}{4}\text{W}$ 470 Ω $\frac{1}{4}\text{W}$ 6.8 Ω $\frac{1}{4}\text{W}$ 6.8 Ω $\frac{1}{4}\text{W}$

REF. DESIG.	PART NO.	DESCRIPTION
R735	GG05068140	6.8Ω ¼W
R736	GG05068140	6.8Ω ¼W
Δ R737	BW10000030	0.27Ωx2 ±10% 5W, Composite(PM553)
	BW10000040	0.27Ωx2 ±10% 3W, Composite(PM453)
Δ R738	BW10000030	0.27Ωx2 ±10% 5W, Composite(PM553)
	BW10000040	0.27Ωx2 ±10% 3W, Composite(PM453)
R741	GP05047030	4.7Ω 3W
R742	GP05047030	4.7Ω 3W
Δ R743	NH05740120	47Ω ¼W, Fusible
R747	GG05221140	220Ω ¼W
R748	GG05221140	220Ω ¼W
R749	GG05221140	220Ω ¼W
R750	GG05221140	220Ω ¼W
R751	GP10331030	330Ω ±10% 3W
R752	GP10331030	330Ω ±10% 3W
Δ R753	NH05470120	47Ω ¼W, Fusible
P701-SEMICONDUCTORS		
DN02	HD20022030	Diode DSF10C
DN03	HD20015210	Diode 1SS133
DN04	HD20015210	Diode 1SS133
D701	HD20015210	Diode 1SS133
D706	HE20009290	Diode S5VB20 (PM553)
Δ D861	HD20008290	Diode S4VB20 (PM453)
QK01	HW10004320	Photo Unit PC827
QN03	HT322401A0	Transistor 2SC2240(GR)
QN04	HT322401A0	Transistor 2SC2240(GR)
Q701	HT112082A0	Transistor 2SA1208(R, S)
Q702	HT112082A0	Transistor 2SA1208(R, S)
Q703	HT329102A0	Transistor 2SC2910(R, S)
Q704	HT329102A0	Transistor 2SC2910(R, S)
Q705	HT309452B0	Transistor 2SC945(P, Q)
Q706	HT309452B0	Transistor 2SC945(P, Q)
Q711	HT332982D0	Transistor 2SC3298(O, Y)
Q712	HT332982D0	Transistor 2SC3298(O, Y)
Q713	HT113062D0	Transistor 2SA1306(O, Y)
Q714	HT113062D0	Transistor 2SA1306(O, Y)
Δ Q715	HT329872A0	Transistor 2SC2987A(R, Q) (PM553)
	HT330122A0	Transistor 2SC3012A(R, Q) (PM453)
Δ Q716	HT329872A0	Transistor 2SC2987A(R, Q) (PM553)
	HT330122A0	Transistor 2SC3012A(R, Q) (PM453)
Δ Q717	HT112272A0	Transistor 2SA1227A(R, Q) (PM553)
	HT112322A0	Transistor 2SA1232A(R, Q) (PM453)
Δ Q718	HT112272A0	Transistor 2SA1227A(R, Q) (PM553)
	HT112322A0	Transistor 2SA1232A(R, Q) (PM453)
P701-MISCELLANEOUS		
J706	YP06001040	Plug, 3P
J707	YP06001040	Plug, 3P
J708	YP06000610	Plug, 2P (PM553)
J709	YJ06001040	Jack, 3P
LN01	LY20240190	Relay, AP2U-24V (PM553)
	LY20240260	Relay, DH2SU-24V (PM453)
P702-HEADPHONE CIRCUIT BOARD		
P702	YK288H1650	P.W. Board, Headphone
	ZZ288H8650	P.W. Board Assembly
J772	YJ01002090	Jack, Headphone
W701	YU05200240	Jumper Lead, 5P
W702	YU02320240	Jumper Lead, 3P

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.
P703	YK288H1640	P703-SPEAKER TERMINAL CIRCUIT BOARD	PJ00
	ZZ288H8640	P.W. Board, Speaker Terminal	
		P.W. Board Assembly	
R761	GG05022120	Resistor 22Ω ±5% ¼W	JJ01
R762	GG05022120	Resistor 22Ω ±5% ¼W	JJ03
J761	YT03040230	Terminal, 4P	
L761	LL23905120	Coil	PL00
L762	LL23905120	Coil	Y
W703	YU02220240	Jumper Lead, 2P	Z
P800	YK288H2630	P800-POWER SUPPLY CIRCUIT BOARD	CL07
	ZZ288H2630	P.W. Board, Power Supply	D
		P.W. Board Assembly	CL08
			D
Δ C801	DK18223310	P800-CAPACITORS	RL29
Δ C809	DK18223310	Ceramic 0.022μF 50V	RL30
C813	DK18223310	Ceramic 0.022μF 50V	G
C814	DK18223310	Ceramic 0.022μF 50V	DL01
			DL02
			DL03
Δ R801	NH05100120	P800-RESISTORS	QL01
R802	GG05471140	10Ω ±5% ¼W, Fusible	H
R803	GA05151010	470Ω ±5% ¼W	QL02
Δ R804	NH05100120	150Ω ±5% 1W	H7
R805	GG05471140	10Ω ±5% ¼W, Fusible	QL07
Δ R806	NH05022120	470Ω ±5% ¼W	QL08
R807	GG05331140	2.2Ω ±5% ¼W, Fusible	HT
Δ R859	NH05100140	330Ω ±5% ¼W	QL11
		10Ω ±5% ¼W, Fusible	
Δ D801	HD20022030	P800-SEMICONDUCTORS	JL01
Δ D802	HD20022030	Diode DSF10C	YT
Δ D803	HD20022030	Diode DSF10C	JL02
Δ D804	HD20022030	Diode DSF10C	YJC
D805	HD30020020	Diode DSF10C	JL03
D806	HD30005020	Zener MA1160	YPC
D807	HD30020020	Zener MA1056	WL01
Δ D808	HD20022030	Zener MA1160	YUC
Δ D809	HD20022030	Diode DSF10C	
Δ D810	HD20022030	Diode DSF10C	PP00
Δ D811	HD20022030	Diode DSF10C	YK2
D812	HD30007020	Zener MA1091	ZZ21
D813	HD20015210	Diode 1SS133	ZZ22
D814	HD20015210	Diode 1SS133	Δ CP01
D816	HD20015210	Diode 1SS133	DK11
D851	HD20022030	Diode DSF10C	JP01
Δ Q801	HT332982D0	Transistor 2SC3298(O, Y)	YPOE
Δ Q802	HT113062D0	Transistor 2SA1306(O, Y)	JP02
Δ Q803	HT332982D0	Transistor 2SC3298(O, Y)	YPOE
Q851	HT30001000	Transistor 2SC536SP(F, G), etc	Δ SP01
Δ Q852	HT30001000	Transistor 2SC536SP(F, G), etc	SP01
Q853	HT30001000	Transistor 2SC536SP(F, G), etc	
J801	YP06001060	P800-MISCELLANEOUS	
J802	YJ06002460	Plug, 7P	
J803	YJ06002430	Jack, 7P	
J804	YJ06001260	Jack, 3P	
		Jack, 7P	

REF. DESIG.	PART NO.	DESCRIPTION
		PJ00-MIC JACK CIRCUIT BOARD P.W. Board, Mic Jack P.W. Board Assembly
PJ00	YK288H2660 ZZ288H2660	
JJ01	YJ01002110	Jack, Mic
JJ03	YJ07001720	Jack, 2P
		PL00-VIDEO SELECTOR CIRCUIT BOARD P.W. Board, Video Selector P.W. Board Assembly [N, A] P.W. Board Assembly [E, F]
PL00	YK288H1630 ZZ288H8630 ZZ288H7630	
		PL00-CAPACITORS
CL07	DK18103310	Ceramic 0.01μF 50V
CL08	DK18173310	Ceramic 0.01μF 50V
		PL00-RESISTORS
RL29	GA05221010	220Ω ±5% 1W
RL30	GA05221010	220Ω ±5% 1W
		PL00-SEMICONDUCTORS
DL01	HD30004020	Zener MA1051A
DL02	HD30004020	Zener MA1051A
DL03	HD20015210	Diode 1S133
QL01	HC406603C0	IC LC4066BH
QL02		
	HT327852D0	Transistor 2SC2785(FF, EF)
QL07		
QL08		
	HT111752D0	Transistor 2SA1175(FE, EF)
QL11		
		PL00-MISCELLANEOUS
JL01	YT01040340	Terminal, 4P; AV [N, A]
	YT01040560	Terminal, 4P; AV [E, F]
JL02	YJ07001730	Jack, 3P
JL03	YJ07001730	Jack, 3P
JL04	YP06000610	Plug, 2P
WL01	YU03150260	Jumper Lead, 3P
		PP00-POWER SWITCH CIRCUIT BOARD P.W. Board, Power Switch P.W. Board Assembly [N, A] P.W. Board Assembly [E]
PP00	YK288H1660 ZZ288H8660 ZZ288H7660	
ΔCP01	DK18103840	Ceramic Cap. 0.01μF
JP01	YP06003400	Plug, 2P
JP02	YP06003400	Plug, 2P [N, A]
ΔSP01	SP01010960	Push Switch, Power

REF. DESIG.	PART NO.	DESCRIPTION
		PS00-PHONO SELECTOR SURROUND CIRCUIT BOARD P.W. Board, Phono Selector Surround P.W. Board Assembly
PS00	YK288H2620 ZZ288H2620	
		PS00-CAPACITORS
CS19		
CS24	DK18103310	Ceramic 0.01μF +80% -20%
		PS00-RESISTORS
RS56	GG05181140	180Ω ±5% ¼W
RS57	GG05181140	180Ω ±5% ¼W
RS58	GG05470140	47Ω ±5% ¼W
RS59	GG05470140	47Ω ±5% ¼W
R415	GG05181140	180Ω ±5% ¼W
R416	GG05181140	180Ω ±5% ¼W
		PS00-SEMICONDUCTOR
QG01	HT327852D0	Transistor 2SC2785(FF, EF)
QG02	HT327852D0	Transistor 2SC2785(FF, EF)
QS01	HC10117050	IC TC9163N
QS02	HC10150030	IC LC4966
QS03	HC10116050	IC TC9177P
QS05	HC10150030	IC LC4966
QS06	HC10150030	IC LC4966
QS07	HC10008090	IC NJM4558DD
QS08	HT10001000	Transistor 2SA608SP(F, G), etc.
QS09	HT10001000	Transistor 2SA608SP(F, G), etc.
QS10	HT30001000	Transistor 2SC536SP(F, G), etc.
QS71	HC10008090	IC NJM4558DD
Q401	HC10008090	IC NJM4558DD
		PS00-MISCELLANEOUS
JS01	YT02040500	Terminal, 4P; RCA
JS02	YT02040500	Terminal, 4P; RCA
JS03	YT02040500	Terminal, 4P; RCA
JS04	YT02040500	Terminal, 4P; RCA
JS05	YJ06002440	Jack, 4P
JS06	YJ06002450	Jack, 6P
JS07	YJ06002430	Jack, 3P
JS08	YJ06002430	Jack, 3P
JS09	YJ06002430	Jack, 3P
JS10	YJ06002450	Jack, 6P
JS11	YQ01000080	Shote Plug
JS12	YQ01000080	Shote Plug
JS13	YJ06002430	Jack, 3P
JS14	YJ06002430	Jack, 3P
JS15	YJ06002430	Jack, 3P
JS16	YJ06002430	Jack, 3P
JS17	YJ06002430	Jack, 3P
WS01	YU03060260	Jumper Lead, 3P
WU07	YU03120260	Jumper Lead, 3P
		PU00-MICON/TONE/MIC AMP CIRCUIT BOARD P.W. Board, Micon/Tone/Mic Amp P.W. Board Assembly
PU00	YK288H2610 ZZ288H2610	
		PU00-CAPACITORS
CE03	DD15470300	Ceramic 47pF ±5%
CE04	DD15470300	Ceramic 47pF ±5%

9. TECHN

AUDIO SECT

POWER OUT

DIN 4 OH

RMS 4 OH

DIN 8 OH

RMS 8 OH

TOTAL HAF

I.M. DISTOF

DAMPING F

MM CARTR

Frequency R

Signal to Noi

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MIC. INPUT

Input Impedi

Input Sensiti

AUX. INPUT

Input Impedi

Input Sensiti

Frequency Re

Signal to Noi

OUTPUT VO

Tape Out . .

OUTPUT IMF

Tape Out . .

GENERAL

Power Requir

Power Consum

Dimensions

Panel Width

Panel Height

Depth . . .

Weight

Unit Alone

REF. DESIG.	PART NO.	DESCRIPTION
PU00-RESISTORS		
RE13	RS01040340	100K Ω (C), Variable; Tone Volume(L)
RE14	RS01040340	100K Ω (C), Variable; Tone Volume(R)
RE31	GG05101140	100 Ω $\pm 5\%$ $\frac{1}{4}W$
RE32	GG05101140	100 Ω $\pm 5\%$ $\frac{1}{4}W$
RF08	RS01040200	100K Ω , Variable; Mic Mix
PU00-SEMICONDUCTORS		
DE01 }	HD20015210	Diode 1SS133
DE07 DU01 }		
DU21 DU22 }	HD20015210	Diode 1SS133
DU25 DU26 }		
DU36	HI10053320	L.E.D. GL-3NG1
	HI10034320	L.E.D. GL-9EG14; Green
DU40		
DU41	HI10037030	L.E.D. SLP-981C; Red
DU42	HI10037030	L.E.D. SLP-981C; Red
DU43	HD20015210	Diode 1SS133
DU44	HI10038030	L.E.D. SLP-281F; Green
DU45	HI10038030	L.E.D. SLP-281F; Green
DU46	HI10038030	L.E.D. SLP-281F; Green
	HI10039030	L.E.D. SLP-281F; Green
QE01		
QE02	HC10008090	IC NJM4558DD
QE03	HF203722A0	F.E.T. 2SK372(GR, BL)
QE04	HF203722A0	F.E.T. 2SK372(GR, BL)
QE05	HT111752D0	Transistor 2SA1175(FF, EF)
QE06	HT327852D0	Transistor 2SC2785(FF, EF)
	HT111752D0	Transistor 2SA1175(FF, EF)
QF01	HC10008090	IC NJM4558DD
QU01	HC10169030	IC LM6502C
QU02	HC401100B0	IC 4011
QU03	HC10001260	IC MSM59371RS
QU04 }	HT327852D0	Transistor 2SC2785(FF, EF)
QU25		
PU00-MISCELLANEOUS		
JU08	ZP01030010	Wire Holder, 3P
SE01 }	SP02020670	Push Switch, SPH-1
SE04		
SU01	SP01010970	Push Switch, Tact
SU02	SP01010970	Push Switch, Tact
SU03	SP01010970	Push Switch, Tact
SU04	SP01010980	Push Switch, Tact
SU05	SP01010970	Push Switch, Tact
SU06	SP01010970	Push Switch, Tact
SU07	SP01010970	Push Switch, Tact

REF. DESIG.	PART NO.	DESCRIPTION
SU08	SP01010970	Push Switch, Tact
SU09	SP01010990	Push Switch, Tact
SU10	SP01010970	Push Switch, Tact
SU11	SP01010970	Push Switch, Tact
SU12	SP01010970	Push Switch, Tact
SU13	SP01010990	Push Switch, Tact
SU14	SP01010970	Push Switch, Tact
SU15	SP01010970	Push Switch, Tact
SU16	SP01010970	Push Switch, Tact
SU17	SP01010970	Push Switch, Tact
WU01	YU07340260	Jumper Lead, 7P
WU02	YU06120260	Jumper Lead, 6P
WU03	YU03120260	Jumper Lead, 3P
WU04	YU05300260	Jumper Lead, 5P
WU05	YU03400260	Jumper Lead, 3P
WU06	YU02100260	Jumper Lead, 2P
WU09	YU03100260	Jumper Lead, 3P
WU10	YU03200260	Jumper Lead, 3P
WU11	YU03220260	Jumper Lead, 3P
WU12	YU04220260	Jumper Lead, 4P
WU13	YU03100260	Jumper Lead, 3P
XU01	FQ04003010	Seramic Vibrator, CSB-400P
PV00-FRONT AV TERMINAL CIRCUIT BOARD		
PV00	YK288H2650	P.W. Board, Front AV Terminal
	ZZ288H2650	P.W. Board Assembly
JV01	YT02030020	Terminal, 3P; RCA
WV01	YU03200260	Jumper Lead, 3P
PW00-REMOTE/EASY/VCR TERMINAL CIRCUIT BOARD		
PW00	YK288H2640	P.W. Board, Remote/Easy/VCR Terminal
	ZZ288H2640	P.W. Board Assembly
CW01	DK18103310	Ceramic Cap. 0.01 μF +80% -20%
CW02	DK18223310	Ceramic Cap. 0.022 μF +80% -20%
CW03	DK18223310	Ceramic Cap. 0.022 μF +80% -20%
JW01	YT02040600	Terminal, 4P; VCR IN/OUT
JW02	YT02020340	Terminal, 2P; Remote
JW03	YT02020350	Terminal, 2P; Easy
SW01	SS01020520	Slide Switch, Mono/Stereo
SW02	SS01020520	Slide Switch, Exit/Int
WW01	YU06120260	Jumper Lead, 6P

NOTE ON SAFETY:

Symbol $\triangle$ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol $\triangle$. Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

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

9. TECHNICAL SPECIFICATIONS

(Model PM553)

AUDIO SECTION

POWER OUTPUT PER CHANNEL

DIN 4 OHMS	85 W
RMS 4 OHMS	70 W
DIN 8 OHMS	80 W
RMS 8 OHMS	70 W
TOTAL HARMONIC DISTORTION AT RMS 8 OHMS	0.05%
I.M. DISTORTION	0.05%
DAMPING FACTOR 8 OHMS (1 kHz)	35

MM CARTRIDGE INPUT

Frequency Response (RIAA)	±0.5 dB
Signal to Noise Ratio	80 dB
Input Impedance	47 k ohms
Input Capacitance	330 pF
Input Sensitivity	2.5 mV
Equivalent Input Noise	1.6 µV
Dynamic Range	103 dB

MIC. INPUT

Input Impedance	12 k ohms
Input Sensitivity	2.5 mV

AUX. INPUT

Input Impedance	22 k ohms
Input Sensitivity	150 mV
Frequency Response	10 Hz ~ 25 kHz
Signal to Noise Ratio	95 dB

OUTPUT VOLTAGE

Tape Out	150 mV
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OUTPUT IMPEDANCE

Tape Out	550 ohms
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GENERAL

Power Requirements	N and T versions	220/240 V AC, 50/60 Hz
	E version	110/120/220/240 V AC, 50/60 Hz
Power Consumption at Rated Output, both Channels Operating		290 W
Dimensions		
Panel Width		320 mm
Panel Height		125 mm
Depth		260 mm
Weight		
Unit Alone		7.9 kg

Specifications and appearance are subject to change for modification without notice.

(Model PM453)

AUDIO SECTION

POWER OUTPUT PER CHANNEL

DIN 4 OHMS	65 W
RMS 4 OHMS	50 W
DIN 8 OHMS	60 W
RMS 8 OHMS	50 W
TOTAL HARMONIC DISTORTION AT RMS 8 OHMS	0.05%
T.H. DISTORTION	0.05%
DAMPING FACTOR 8 OHMS (1 kHz)	35

MM CARTRIDGE INPUT

Frequency Response (RIAA)	±0.5 dB
Signal to Noise Ratio	80 dB
Input Impedance	47 k ohms
Input Capacitance	330 pF
Input Sensitivity	2.5 mV
Equivalent Input Noise	1.6 μ V
Dynamic Range	103 dB

MIC. INPUT

Input Impedance	12 k ohms
Input Sensitivity	2.5 mV

AUX. INPUT

Input Impedance	22 k ohms
Input Sensitivity	150 mV
Frequency Response	10 Hz ~ 25 kHz
Signal to Noise Ratio	95 dB

OUTPUT VOLTAGE

Tape Out	150 mV
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OUTPUT IMPEDANCE

Tape Out	550 ohms
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GENERAL

Power Requirements	N and T versions	220/240 V AC, 50/60 Hz
	E version	110/120/220/240 V AC, 50/60 Hz
Power Consumption at Rated Output, both Channels Operating		230 W
Dimensions		
Panel Width		320 mm
Panel Height		125 mm
Depth		260 mm
Weight		
Unit Alone		7.1 kg

Specifications and appearance are subject to change for modification without notice.

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, MARANTZ company has created the intimate 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 equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS:

Parts can be ordered either by mail or by telex. In both cases, correct part number has to be specified. If you order by mail, fulfil MARANTZ order forms.

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

- . Complete address
- . Complete part numbers and quantities required
- . Description of parts
- . Model number for which part is required
- . Way of shipment
- . Signature: any order form or telex must be signed otherwise such part order will be considered as null and void.

PARTS ORDERING

Parts may be ordered at the following addresses:

AUSTRIA ORNYPHON Betriebsgesellschaft GmbH Fleinerbergstrasse 1 1101 Wien Austria Telex: 132.332	EIRE MARANTZ IRELAND Ltd. Newstead Glionkeagh Dublin 4 Telex: 25200	NORWAY MARANTZ DIVISION OF PHILIPS A/S Sandstuveien 40 Oslo 6 Norway Telex: 72640	KUWAIT AL ALAMIAH ELECTRONICS Ussama Building Fahd al Saleem Street P.O.Box 23781 Safat-Kuwait Telex: 22694	SWITZERLAND DYNAXOX ELECTRONICS Route de Villars 105 1701 Fribourg Switzerland Telex: 942377
AUSTRALIA MARANTZ AUSTRALIA TY., Ltd. 9 Chard Road Brookvale, NSW 2100 Australia Telex: 24121	FINLAND MARANTZ DIVISION OF OY PHILIPS Ab Kaivokatu 8 00100 Helsinki Finland Telex: 124811	GREAT BRITAIN MARANTZ AUDIO U.K. Ltd Unit 15/16 Saxon Way Industrial Estate Moor Lane Harmondsworth UB7 0LW Great Britain Telex: 935196	SAUDI ARABIA AL ALAMIAH ELECTRONICS P.O.Box 5954 University Street Riyadh 11432 Saudi Arabia Telex: 201530	TURKEY DOGRUOL Ltd. I.M.C. 6 Blok N°6310 Unkapani Istanbul Turkey Telex: 22085
BELGIUM VD DIVISION MARANTZ Industrielaan 1 720 Groot-Bijgaarden Belgium Telex: 24466	FRANCE MARANTZ FRANCE 4 Rue Bernard Palissy 92600 Asnières France Telex: 611651	GREECE ADAMCO S.A. P.O.Box 21025 Hippokratous Street 188 Athens 11410 Greece Telex: 216.795	SOUTH AFRICA MARANTZ DIVISION OF PHILIPS S.A. Rainer House Ove Street, 10 Doornfontein Johannesburg Telex: 483.456	MALTA CACHIA & GALEA Republic Street, 68D Valetta Telex: 1682
CANADA MARANTZ DIVISION OF PHILIPS S.A. V. Santa Maria, 0760 Casilla 2687 Santiago Telex: 240.239	GERMANY MARANTZ GERMANY GmbH Max-Planck-Strasse 22 6072 Dreieich 1 Germany Telex: 529821	ITALY MARANTZ ITALIANA S.p.A. Via Monte Napoleone 10 20121 Milano Italia	SPAIN PHONO S.A. Ignacio Iglesias 10 Badalona (Barcelona) Spain Telex: 59355	U.S.A. MARANTZ COMPANY, Inc. National Service Department P.O.Box 577 Chatsworth, CA 91311 U.S.A.
DENMARK MARANTZ DIVISION OF PHILIPS SERVICE A/S Rags Boulevard 80 Postbox 1919 DK-2300 København S Denmark Telex: 31201	THE NETHERLANDS MARANTZ De Limiet 3 4131 NR Vianen The Netherlands Telex: 47679	JAPAN MARANTZ JAPAN, Inc. 35-1, 7-chome, Sagamiono Sagamihara-shi, Kanagawa Japan	SWEDEN MARANTZ DIVISION OF PHILIPS Försäljning AB Tegeluddsvägen 1 S-115 84 Stockholm Sweden Telex: 14060	

If 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.

In case of difficulties, do not hesitate to contact the Technical Department at abovementioned address.

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