



**SERVICE
MANUAL**

PMS 7004/7004S

marantz®

model PMS 7004/7004S

Radio Stereo Cassette Recorder

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

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Kanagawa, Japan

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France

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

Marantz 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.

MARANTZ MODEL PMS7004/7004S RADIO/STEREO CASSETTE RECORDER

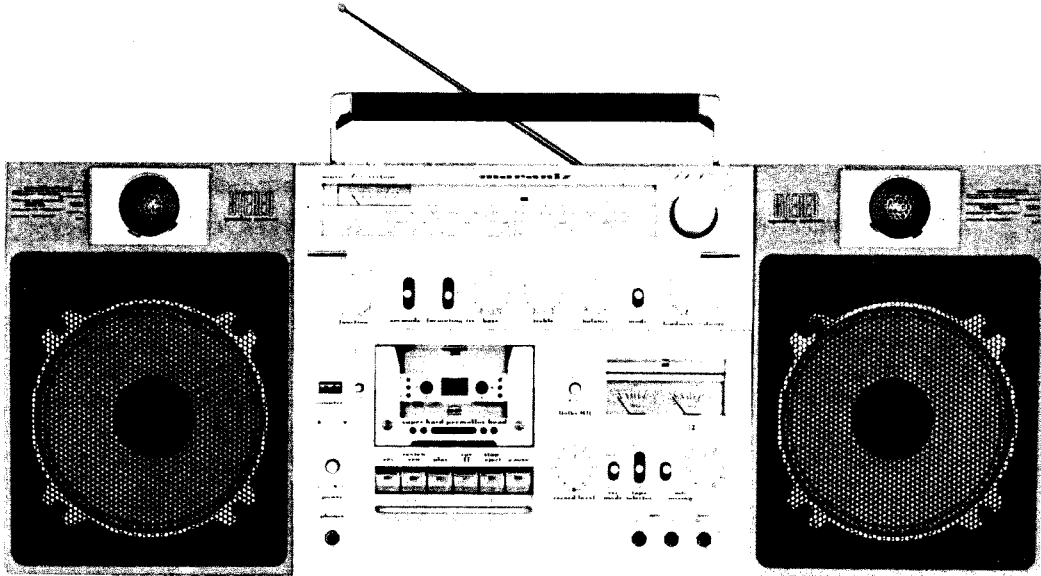


TABLE OF CONTENTS

1. SERVICE NOTE	1
2. TEST EQUIPMENT REQUIRED FOR SERVICING REPLACEMENT	1
3. CIRCUIT DESCRIPTION	1
4. UNIT DISASSEMBLY	2
5. SERVICE GUIDE	3
6. MECHANICAL ADJUSTMENTS	5
7. ELECTRICAL ADJUSTMENTS AND MEASUREMENTS	8
8. ADJUSTMENT POINTS	10
9. TUNER ADJUSTMENT	11
10. BLOCK DIAGRAM	14
11. CIRCUIT BOARD DIAGRAM	16
12. EXPLODED VIEWS AND PARTS LIST	22
12.1 [P01-99] Front Escutcheon	22
12.2 [P02-99] Front Chassis	23
12.3 [P03-99] Front Bracket and Electrical Parts	24
12.4 [P04-99] Associated Mechanism for Cassette Tape Operation	25
12.5 [P05-99] Rear Case and Battery Case	27
12.6 [P06-99] Speaker Box	29
12.7 [P07-99] Buttons for Tape Mechanism Operation	31
12.8 [P08-99] Head Chassis	31
12.9 [P09-99] Flywheel	32
12.10 [P10-99] Switch Location for Tape Mechanism Operation	32
12.11 [P11-99] Parts Assembled on the Top of the Chassis	33
12.12 [P12-99] Parts Assembled on the Reverse of the Chassis	34
12.13 [H01-99] Packing Materials	36
12.14 Electrical Parts	37
13. TECHNICAL SPECIFICATIONS	45
14. SCHEMATIC DIAGRAM	46

1. SERVICE NOTE

1.1 MOUNTED P.W. BOARD

As can be seen from the circuit diagram, the chassis of Model PSM7004/PSM7004S consists of following units. Each unit mounted on a printed circuit board is described with in the square enclosed by bold dotted line on the circuit diagram.

Tuner mounted on P.W. Board P100
Rec/Play and
Tone Amp mounted on P.W. Board P200
Power Amp mounted on P.W. Board P400
Mixing and Rec Mode mounted on P.W. Board P500
Phone Amp mounted on P.W. Board P700
Power Supply mounted on P.W. board P800
Bias OSC and
Motor Filter mounted on P.W. Board P950

2. TEST EQUIPMENT REQUIRED FOR SERVICING REPLACEMENT

2.1 AUDIO SECTION

For measuring checking the Model PMS7004/PMS7004S, the following instruments and materials are necessary.

- Audio Oscillator (at OSC)
- Attenuator (600 ohm)
- VTVM
- Distortion Meter
- Oscilloscope
- Bandpass Filter
- Wow and Flutter Meter
- Torque Meter (Cassette Type)
- Digital Frequency Counter
- Blank Tape (Completely erased with bulk eraser)
 - * AC-211 (Normal)
 - * AC-511 (CrO₂)
 - * CS-30 (Fe-Cr)
- Test Tape (New tape)
 - MTT-111 Wow and Flutter. Tape Speed.
 - MTT-112 or Measurement of output level.
 - 212 Signal to Noise Ratio.
 - MTT-150 Adjustment of output level.
 - MTT-216 or Measurement of Frequency Res-
 - 116U ponse. (For Normal)
 - MTT-316 or Measurement of Frequency Res-
 - 116K ponse. (For CrO₂, Fe-Cr)
 - MTT-121 Cross Talk.
 - MTT-141 Channel Separation.

NOTE: If any doubt is noted in a measured value, used new tape.

2.2. RADIO SECTION

FM: FM RF Signal Generator (Output Impedance 50 ohm)
Matching Box (Input 50 ohm, Output 75 ohm)
3.2 ohm Load Resistor
Audio VTVM & Distortion Meter
AM: AM RF Signal Generator (Output Impedance 50 ohm)
Test Loop Antenna MW, SW₁, LW
3.2 ohm Load Resistor
Audio VTVM & Distortion Meter
Dummy Antenna (series 30Ω with 10 pF) . . SW

3. CIRCUIT DESCRIPTION

3.1 POWER SUPPLY CIRCUIT

8V line Equalizers, tuner, and bias oscillator
12V line Power amplifier, motor, lamp, etc.
18V line Dolby NR system IC, recording equalizer, and Mic amplifier

A zener diode stabilizes the 8V and 18V lines.

3.1.1 DC-DC CONVERTER

1. The output DC18V of DC-DC converter is too low with 12V, and it is supplied into the part which is unable to exhibit its performance fully on circuit. About 50 kHz oscillating frequency is used in this circuit. The spurious from this oscillator causes beat in radio. To avoid this, it is put in the sealed case, and further, this unit is set afloat from chassis.
2. This unit is closed up completely tightly. Therefore, it is impossible to replace the parts of its inside. Please change the unit itself.

NOTE: If the DC-DC converter touches the body chassis, RF signals enter the AM band. The DC-DC converter must not touch the chassis. And, if the 18V line is accidentally grounded during servicing, peak (transient) current will flow, and damage the inside DC-DC converter.

3.2 MUTING CIRCUIT

The muting circuit is switched ON automatically by muting circuit switches incorporated in the function, recording and playback switches.

Pop noise is muted by approx. 40 dB for a muting time of approx. 1 sec and is switched ON automatically during selection of function, recording and playback.

3.3 MIXING CIRCUIT

Mixing is possible in all modes, but be sure to turn the mixing switch OFF when not mixing. The reason for this is that the left channel microphone input is supplied to both right and left channels and stereo separation will deteriorate if the mixing switch is ON.

3.4 RF CIRCUIT

3.4.1 FM RF CIRCUIT

The RF Section is a separate system consisting of RF amplifier, local oscillator, and mixer. The IF stage is a 2 IC and 1 Transistor direct amplifier, employing 3 ceramic filters to improve selectivity.

The multiplex circuit employs a BA1320 (IC for PLL MPX) to ensure an adequate voltage drop range of up to 5.5V, and the stereo indicator employs an LN217, a red angular LED.

The output of the multiplexer passes through a low-pass filter, which suppresses the frequencies between 50 Hz and 15 kHz by ± 1.0 dB.

1) muting, 2) full-time AFC, and 3) mono/stereo selection are attached circuits.

The muting circuit is designed so that the muting level can be adjusted by a preset resistor to cope with variations in transistor performance.

3.4.2 AM RF CIRCUIT

The intermediate frequency is 455 kHz. Coil and ceramic filters are used as selection elements.

3.4.3 METER CIRCUIT

The meter circuit reads the IF output of both the AM and FM signals and also detects the battery voltage.

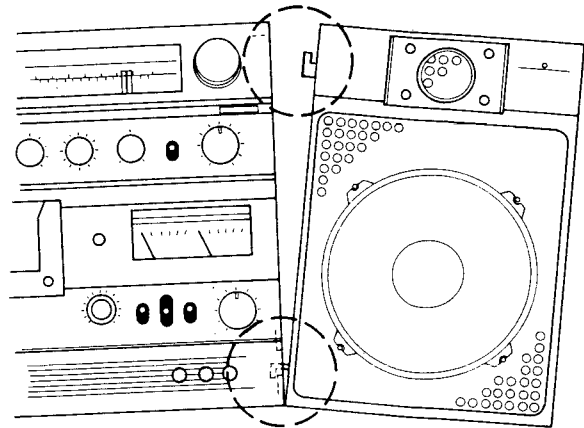
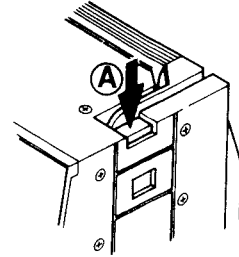
3.5 VOLTAGE CONVERSION

This unit may be converted to 110V operation by the Voltage Selector Switch (S009) located within the Battery Compartment.

4. UNIT DISASSEMBLY

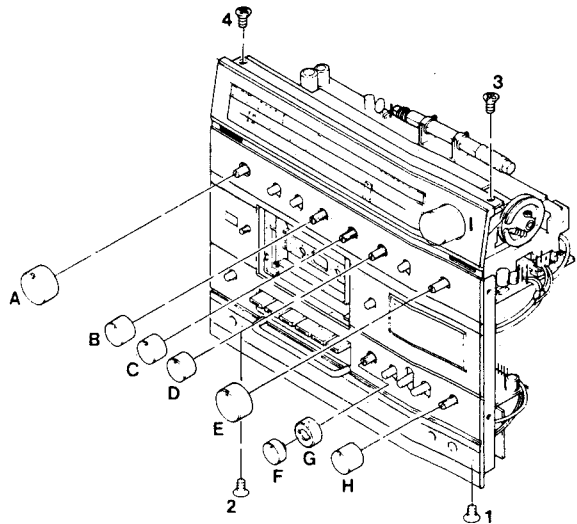
4.1 SPEAKER BOX REMOVAL

Depress reset button A and lift the body slightly to disengage the upper boss. Lift the speaker box to disengage the lower clamp.



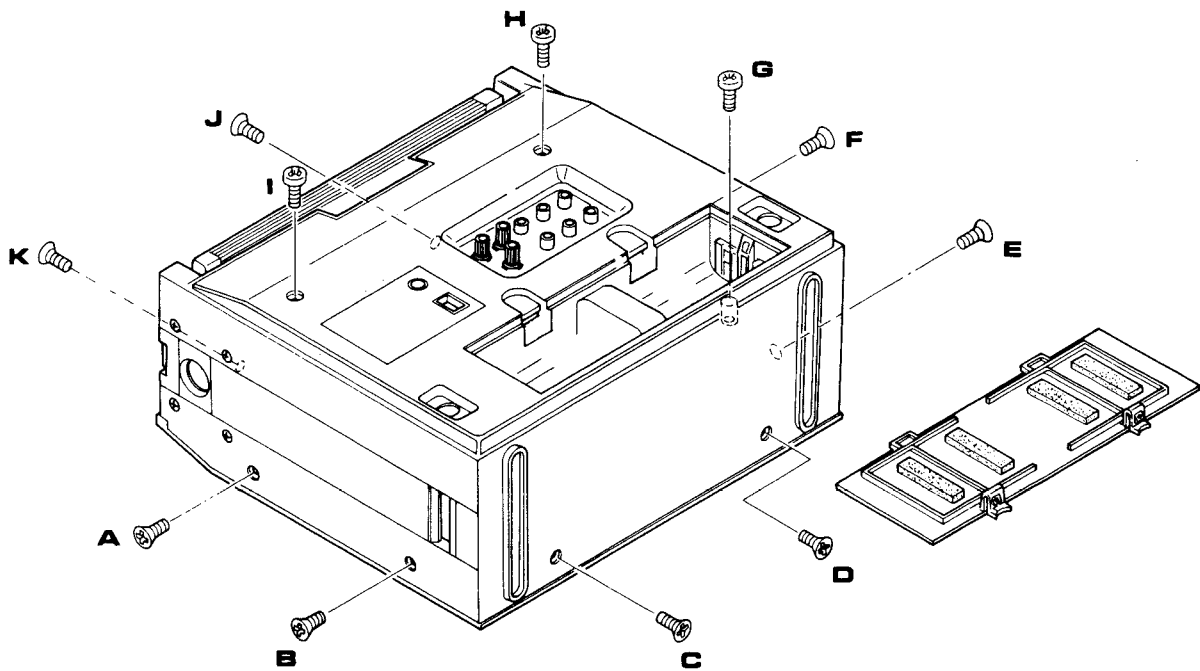
4.2 FRONT COVER REMOVAL

Remove knobs (A to I) and screws (1 to 4).



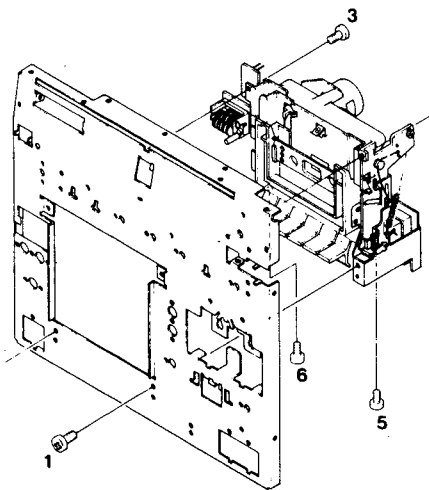
4.3 REAR COVER REMOVAL

After removing the battery lid, remove 11 screws (A to K) and remove the rear cover.



4.4 MECHANICAL PARTS REMOVAL

Remove screws (1 to 6).



5. SERVICE GUIDE

5.1 BATTERY VOLTAGE

What often happens when repairing a unit of this type is that you remedy the trouble without realizing that the battery is flat. When checking operation, always confirm that voltage is over 9V.

5.2 BATTERY POLARITY

If the polarity is wrong when the batteries are replaced, transistors and motor will be damaged. Avoid making this mistake.

5.3 DIRTY HEAD

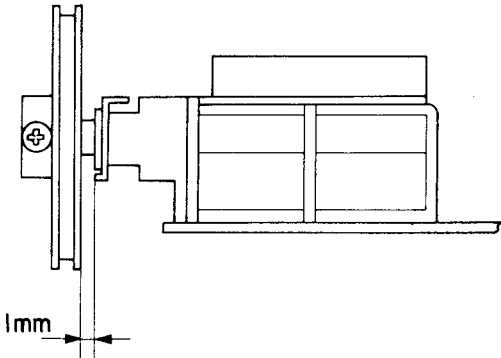
If magnetic materials from the tape or dust adhere to the heads, sound quality will deteriorate. To clean, wipe the heads with a soft cloth soaked in alcohol or carbon tetrachloride.



5.4 SERVICING NOTES

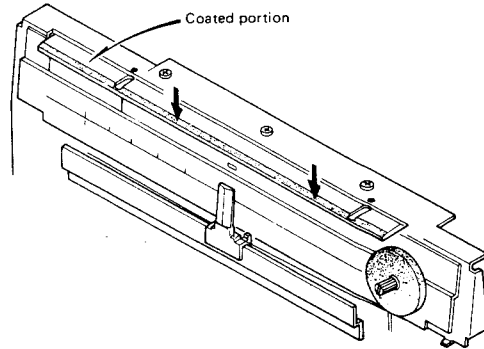
5.4.1 INSTALLING STRING DRUM

Distance between variable capacitor stopper and drum is 1 mm.



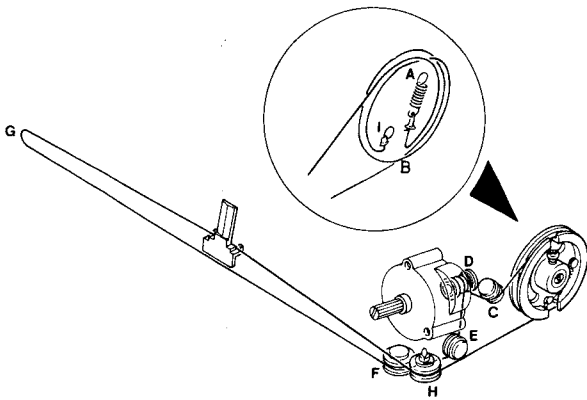
5.4.5 DIAL ILLUMINATING REFLECTOR

When the coated edge is inserted into the front chassis as shown below, take care to avoid scratching it. If it is scratched, light will be lost, reducing the amount of light reflected from the under side.



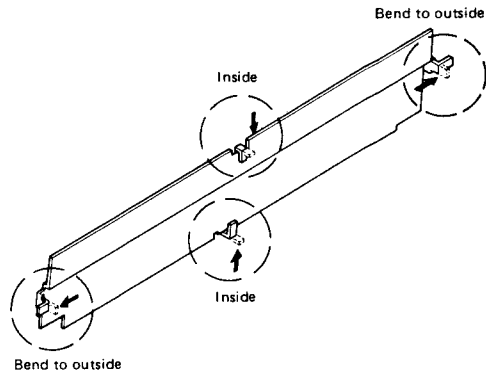
5.4.2 INSTALLING DIAL STRING

Route the string referring to the illustration.



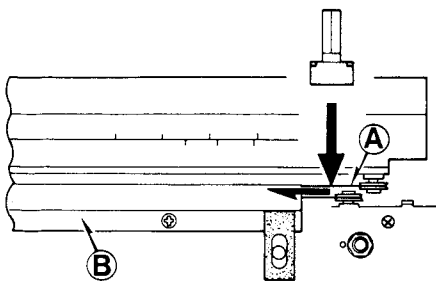
5.4.6 INSTALLING DIAL PLATE

Install the dial plate with right and left claws outside and upper and lower claws inside, respectively.



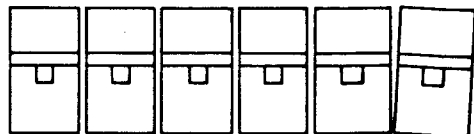
5.4.3 INSTALLING POINTER

After running the string between the right end of the guide and pulley, slide it to left to make the rest of the job easier.



5.4.7 INSTALLING PUSH BUTTONS

Make sure that the pushbuttons are installed vertical to the panel surface.

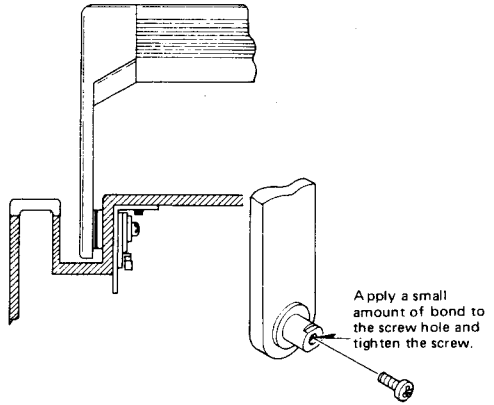




6. MECHANICAL ADJUSTMENTS

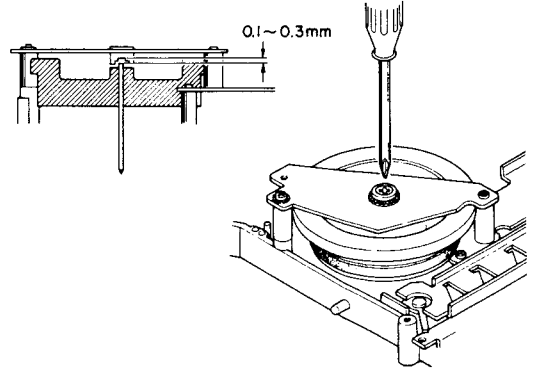
5.4.8 MOUNTING THE HANDLE SUPPORT AND REAR COVER

Apply a small amount of bond to the support screw hole as a loosening prevention measure and tighten the screw.



6.1 ADJUSTING THE FLYWHEEL THRUST

Using a Philips screwdriver, adjust the thrust screw on the flywheel bracket until the clearance between the capstan tail end and thrust bearing is 0.1 to 0.3 mm as shown. Adjustment must be effected by feel, as axial movement of the flywheel cannot be observed from above. Then paint-lock the screw.



5.5 TROUBLESHOOTING

The items listed below indicate the trouble most commonly encountered with the PMS7004/PMS7004S.

- Power supply is not turned ON.
 1. Batteries are flat.
 2. Broken fuse (F801).
 3. Incorrect connection of power connector (J804).
 4. Broken power cord.
- Abnormally low sound level

When VU meters deflect:

 1. Defective power amplifier.
 2. Defective intermediate terminal.

When VU meters do not deflect:

 1. The muting circuit is ON.
 2. REC/PLAY switches (S202) have not returned fully.
- Distorted sound

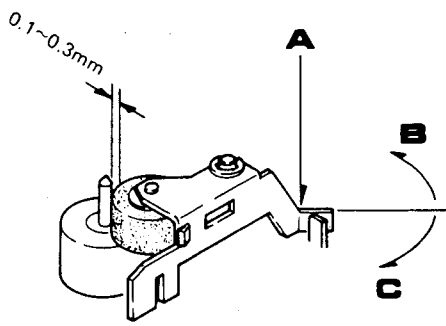
Does DC-DC converter voltage increase to 18V

 1. If does increase, check block.

6.2 ADJUSTING THE PAUSE TIMING

Set the unit in the play mode. Slowly press the pause button to stop the take-up reel. If necessary, adjust the bend angle of the pinch roller bracket arm (point A in the line drawing) until the clearance between the pinch roller and capstan is 0.1 to 0.3 mm.

NOTE: To widen the clearance, make the bend angle smaller (in the direction of C). To make the clearance narrower, widen the bend angle (in the direction of B).

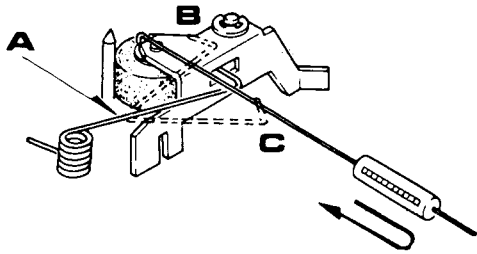




6.3 ADJUSTING THE PINCH ROLLER PRESSURE

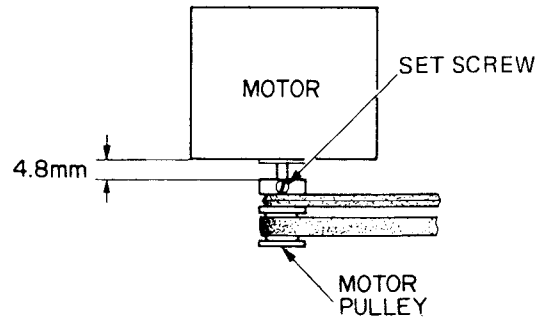
Measure the pressure of the pinch roller using a gauge as shown. Draw the pinch roller in the direction of the arrow to detach it from the capstan shaft and gradually let it return toward the capstan. Read the gauge at the time when the pinch roller starts turning. The standard pressure is $300 \pm 50g$. If the pressure is out of the range, bend the pinch roller spring around point A in the direction of B or C.

NOTE: To increase the pressure, bend in the direction of B. To decrease the pressure, bend in the direction of C.



6.5 POSITIONING THE MOTOR PULLEY

Loosen the set screw and adjust the motor pulley position until the clearance between the pulley and motor is 4.8 mm as shown. Tighten the set screw.



6.4 ADJUSTING THE PLAY TIMING

It is normal that when the PLAY button is depressed, the take-up reel table turns first, then the pinch roller rotates. The reel table and pinch roller must not start turning at the same time.

NOTE: Make certain that this operation is carried out by depressing the play button slowly without loading a tape.

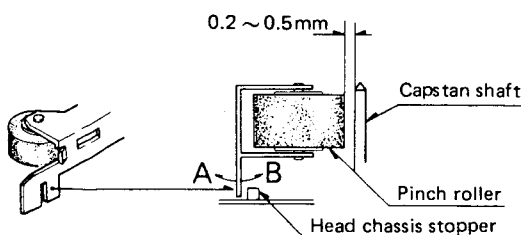
1. CHECKING FOR ADJUSTMENT

Slowly depress the PLAY button to start the take-up reel turning. Check whether or not the clearance between the pinch roller and capstan is 0.2 to 0.5 mm.

2. ADJUSTMENT

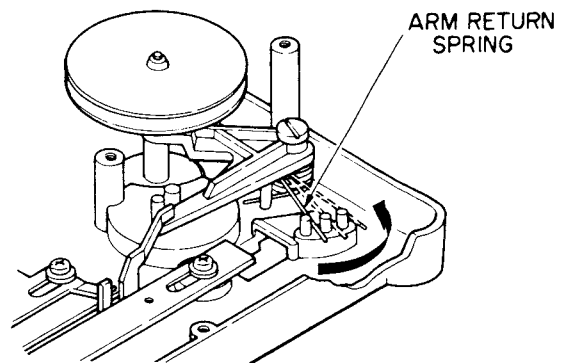
Bend the pinch roller bracket at the point that touches the head chassis stopper. In the line drawing, bending left reduces the clearance between the capstan and pinch roller.

NOTE: Make certain that the pinch roller bracket does not touch the head chassis stopper in the play mode.



6.6 ADJUSTING THE REWIND IDLER SIDE PRESSURE

Make certain that in the rewind mode, the rewind idler does not slip on the supply reel table when held by hand. If it slips, gradually change the hanging position of the rewind idler arm return spring on the chassis, in the direction of the arrow, until it ceases to slip.

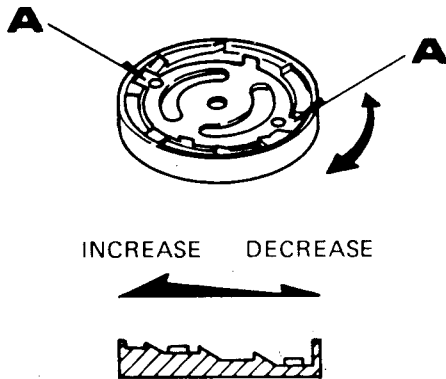




6.7 ADJUSTING THE PLAY TORQUE

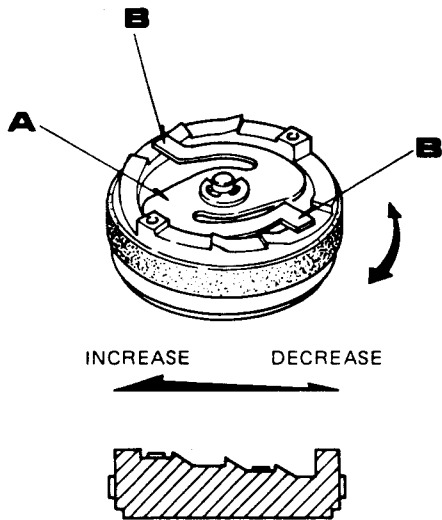
Put the two pawls of the circular plate spring in a proper stepped position on the reel rest. The adjustable torque range is 40 to 70 g-cm. To increase the torque, put the pawls on a shallow step. For lower torque, put them on a deeper step.

- Checking the take-up clutch for sliding
Make certain that the flywheel rotates freely when the reel table is locked. A flywheel should not revolve irregularly or stop.



6.8 ADJUSTING THE FAST FORWARD AND REWIND TORQUE

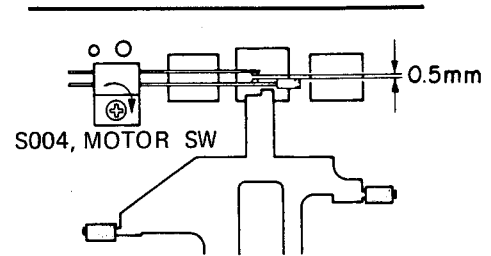
The fast forward and rewind idler has a torque adjust plate spring (part A in the line drawing), which has two pawls (part B) at its ends. Set the pawls in the proper step. To increase the torque, set the pawls in the shallowest step. For lower torque, set in the deepest step.



6.9 POSITIONING THE SWITCHES

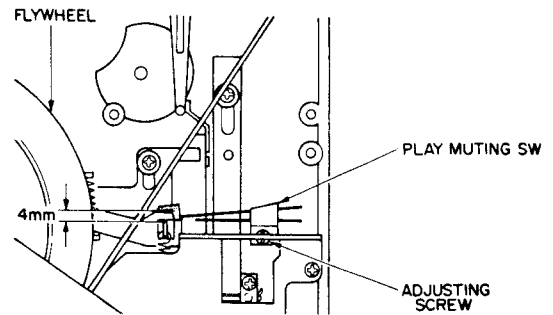
6.9.1 MOTOR SWITCH

Turn the motor switch in the direction of the arrow until it is screwed tight. Make certain that the contact gap is wider than 0.5 mm.



6.9.2 PLAY MUTING SWITCH

In the stop mode, loosen the screw holding the play muting switch and position that the clearance between its end tip and the play lever 4 mm.



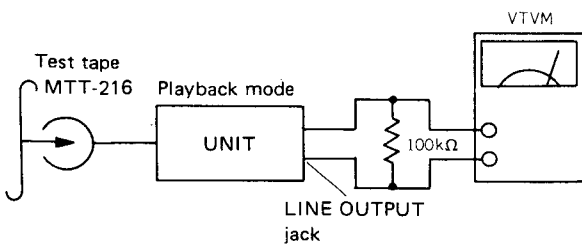
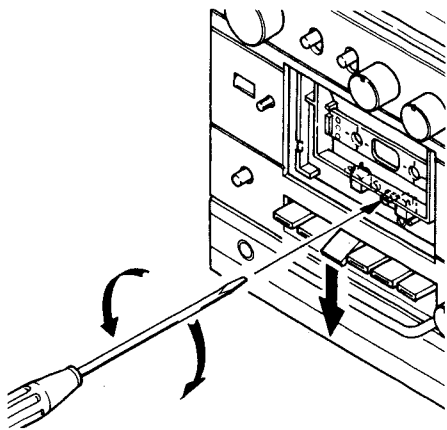
7. ELECTRICAL ADJUSTMENTS AND MEASUREMENTS

7.1 PRECAUTION FOR ADJUSTMENT AND MEASUREMENT

1. Whenever adjusting or measuring any circuit, wipe the heads clean with a soft cloth moistened with alcohol or carbon tetrachloride. Also be sure to demagnetize the heads, capstan, and similar parts.
2. The voltage at any electrical point may vary with the input signal, so measure the voltage under a non-signal condition.
3. Transistors are affected by microvoltage. Whenever measuring them, use a VTVM which has a high enough internal resistance and input sensitivity to eliminate errors in measurement.
4. In adjustment or measurement, set the TONE control to its mechanical center ("0") unless otherwise specified.
5. For measurements of output, connect a pure 3.2Ω resistor across the external speaker terminal and use a VTVM. Unless otherwise specified, adjust the VOLUME control for the standard output level, 50 mW ($0.4V/3.2\Omega$).

7.2 AZIMUTH ADJUSTMENT

1. Set TAPE SELECTOR switch to NORMAL.
2. Reproduce the 10 kHz signal on test tape MTT-216 and turn the screw for azimuth adjustment so that output voltage becomes maximum.
3. When the maximum points of L and R channels are different, adjust it to the points where the output levels of the L and R channels are equal.
4. Be sure to apply paint to lock the screws after adjustment.

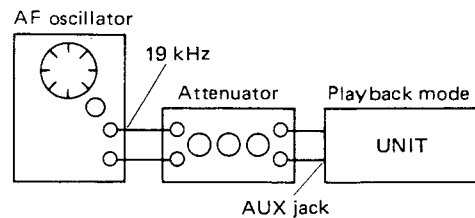


7.3 VU METER ADJUSTMENT

1. Set the unit to play mode.
2. Apply a 1 kHz, signal to AUX jack.
3. Connect the VTVM to 7P of Q209.
Adjust the input level so that the VTVM reading is 580 mV.
4. Keeping the condition in item 3, adjust R307 so that the reading of Lch VU meter is 0.
5. Connect the VTVM to 7P of Q210.
Adjust the input level so that the VTVM reading is 580 mV.
6. Keeping the condition in item 5, adjust R308 so that the reading of Rch VU meter is 0.

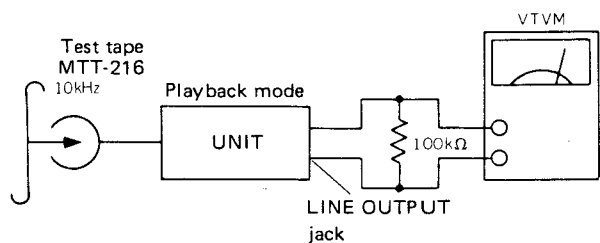
7.4 MPX FILTER ADJUSTMENT

1. Set the unit to play mode.
2. Apply a 19 kHz, signal to AUX jack.
3. Adjust L201(L) and L202(R) for minimum output level at the LINE OUTPUT jack.



7.5 PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

1. Set the TAPE SELECTOR switch to NORMAL.
2. Reproduce the 315 Hz and 10 kHz on test tape MTT-216 and adjust R219 and R220 so that the level difference is 0 dB.



7.6 PLAYBACK LEVEL ADJUSTMENT

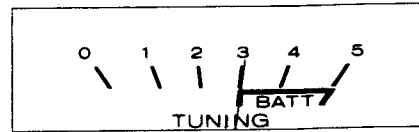
1. Set the TAPE SELECTOR switch to NORMAL.
2. Play the MTT-150 test tape. Adjust R245 and R246 so that the VU meters (G002) read "0".

7.7 ARL BALANCE ADJUSTMENT

1. Set the unit to recording mode.
2. Set REC MODE switch to AUTO.
3. Apply a 1 kHz, 300 mV signal to the AUX jack.
4. Adjust R511 so that the readings on VU meters (G002) are similar for both Lch and Rch.
5. Apply a 1 kHz, -40 dBV signal to the MIC jack. Confirm that the difference between the Lch and Rch readings on the VU meters is within 4 graduation. If the difference is not as specified, readjust R375.

7.10 ADJUSTING BATTERY CHECK CIRCUIT

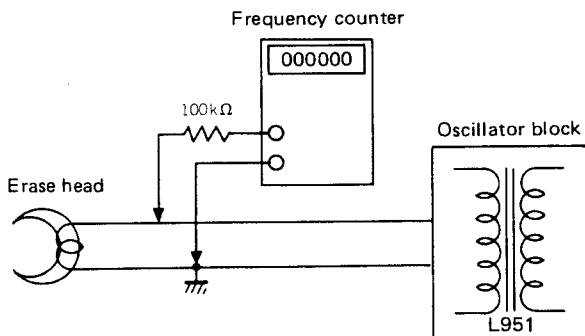
1. Connect calibrated 9.0V direct current power supply to the external DC power supply jack (DC12V) and set the unit to recording mode.
2. Adjust R801 so that the meter indicates the position shown below when the battery check switch is ON.



7.8 BIAS OSCILLATOR FREQUENCY ADJUSTMENT

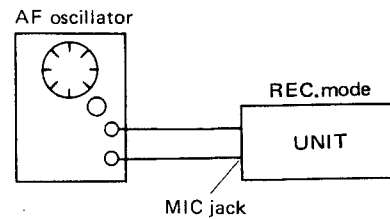
1. Set the unit to recording mode.
2. Adjust L951 so that when ISS switch is 2 position, the bias oscillator frequency becomes as follows.

47 kHz	PMS7004
100 kHz	PMS7004S



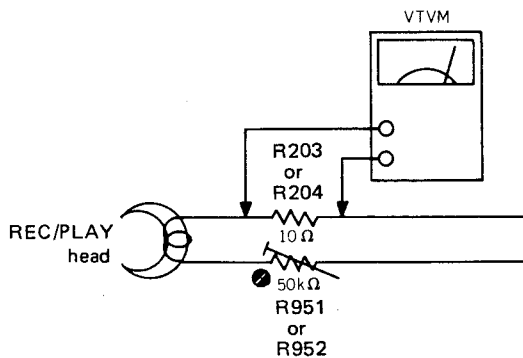
7.11 RECORDING MIC GAIN ADJUSTMENT

1. Set the unit to recording mode at tape position.
2. Set the REC mode switch to MANUAL.
3. Apply a 1 kHz, -72 dB signal to the MIC jack.
4. Set the RECORD LEVEL at Maximum position.
5. Adjust R227(L) or R228(R) until the reading of the VU meter (G002) is 0 dB.



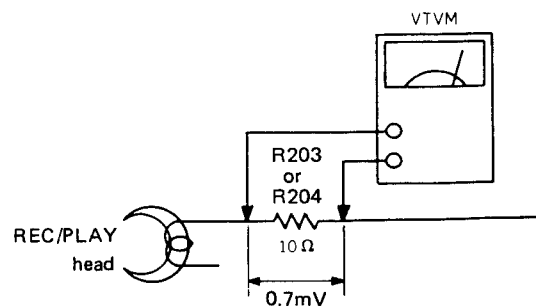
7.9 BIAS CURRENT ADJUSTMENT

1. Set the unit to recording mode.
2. Set the REC MODE switch to AUTO.
3. Set the TAPE SELECTOR switch to NORMAL.
4. Adjust R951 and R952 so that the voltage of both R203 and R204 (10Ω) entering the REC/PLAY head in series reads 3.5 mV.
5. When the TAPE SELECTOR switch is set to CrO₂, the voltage should be approx. 5 mV.



7.12 RECORDING CURRENT ADJUSTMENT

1. Set the unit to recording mode.
2. Set the REC MODE switch to MANUAL.
3. Set the TAPE SELECTOR switch to NORMAL.
4. Apply a 1 kHz, 300 mV signal to AUX jack.
5. Remove lead to R954 to stop operation of the bias oscillation circuit.
6. Adjust R335 and R336 so that the voltage of R203 and R204 (10Ω) entering the REC/PLAY heads in series reads 0.7 mV.



8. ADJUSTMENT POINTS

AUDIO

- PMS7004/PMS7004S (COMMON)

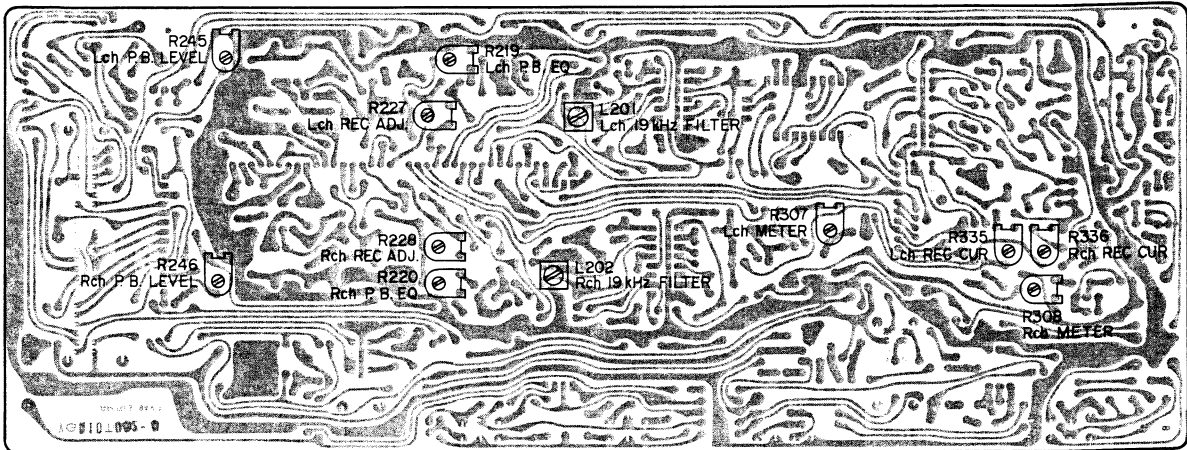


Fig. 1. P200 Audio Adjustment Points

TUNER

- *: FM/FM STEREO, : PMS7004, : PMS7004S

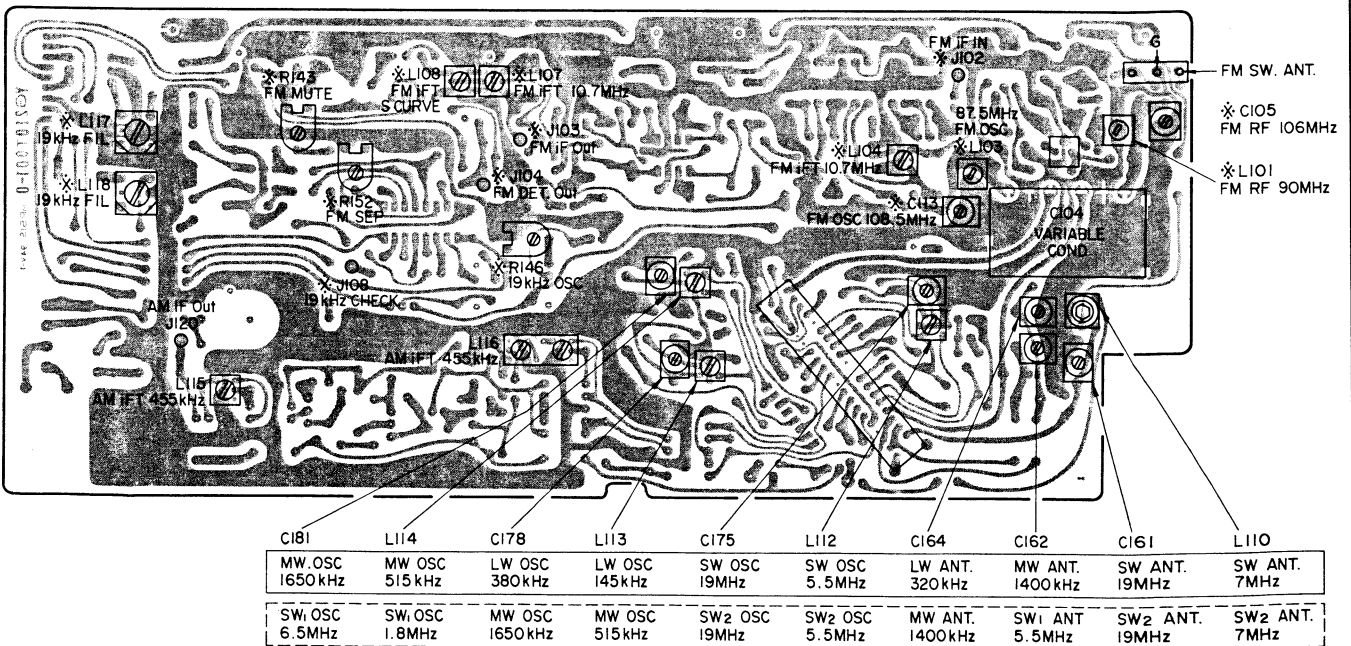
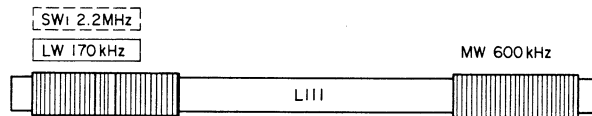


Fig. 2. P100 Tuner Adjustment Points

9. TUNER ADJUSTMENT



9.1 FM ADJUSTMENT PROCEDURE

(FUNCTION switch FM, MODE switch MONO)

Procedure	Signal generator connection	Signal generator output	Tuning dial	Measurement instrument connection	Adjustment point	Remarks
1	Connect SG to J102	10.7 MHz Sweep	—	Connect oscilloscope vertical jack to J104 or ground (J109) through diode.	L104 L107 L108	Rotate each core and adjust so that oscilloscope waveforms are highest and symmetrical on both sides.
2	Connect SG to J101 through the dummy antenna.	87.5 MHz (Modulated)	87.5 MHz (Maximum variable capacitor capacity)	Connect the output meter to the LINE OUTPUT jack.	OSC coil L103	Adjust so that the output meter reads a maximum.
3		108.5 MHz (Modulated)	108.5 MHz (Maximum variable capacitor capacity)		Trimmer C113	
4	Repeat procedures 2 and 3.					
5	Connect SG to J101 through the dummy antenna.	90 MHz (Modulated)	90 MHz	Connect the output meter to the LINE OUTPUT jack.	L101	Adjust so that the output meter reads a maximum.
6		106 MHz (Modulated)	106 MHz		Trimmer C105	
7	Repeat procedures 5 and 6.					
NOTES: 1. Connect the negative (—) jack of the oscillator to the ground (— ground) of the unit. 2. Set oscillator output to 1 kHz, 40 kHz DEV. 3. Adjust oscillator output to obtain a minimum.						

9.2 FM STEREO ADJUSTMENT PROCEDURE

(FUNCTION switch FM, MODE switch STEREO)

Procedure	Signal generator connection	Signal generator output	Tuning dial	Measurement instrument connection	Adjustment point	Remarks
1	Connect SG to J101 through the dummy antenna.	—	98 MHz	Connect frequency counter between J108 and ground (J109).	Preset resistor R146	Adjust the frequency counter so that it comes to the mechanical center of 19 kHz.
2		L Channel		Connect output meter to LINE OUTPUT jack.	Preset resistor R152	Adjust preset resistor so that output meter reading of R channel indicates minimum output.
3		R Channel		Adjust preset resistor so that output meter reading of L channel indicates minimum output.		
4	Repeat procedures 2 and 3.					

9.3 FM MUTING ADJUSTMENT PROCEDURE

(FUNCTION switch FM, MODE switch MONO)

Procedure	Signal generator connection	Signal generator output	Tuning dial	Measurement instrument connection	Adjustment point	Remarks
1	Connect SG to J101 through the dummy antenna.	98 MHz Set input level to approx. 30 dB S/N sensitivity.	98 MHz	Connect output meter to LINE OUTPUT jack.	Preset resistor R143	Adjust so that output waveforms do not change.

9.4 AM ADJUSTMENT PROCEDURE (PMS7004)

(FUNCTION switch AM-MW)

Procedure	Signal generator connection	Signal generator output	Tuning dial	Measurement instrument connection	Adjustment point	Remarks
1	Connect SG to J111	455 kHz Sweep ± 35 kHz	—	Connect oscilloscope to J120 (ground lead to J109).	L116 L115	Rotate each core and adjust so that oscilloscope waveforms are highest and symmetrical on both sides.
2	Radiate SG output to antenna coil through loop antenna.	515 kHz (Modulated)	515 kHz (Maximum variable capacitor capacity)	Connect output meter to LINE OUTPUT jack.	OSC coil L113	Adjust so that the output meter indicates a maximum.
3		1,650 kHz (Modulated)	1,650 kHz (Minimum variable capacitor capacity)		Trimmer C178	
4	Repeat procedures 2 and 3.					
5	Radiate SG output to antenna coil through loop antenna.	600 kHz (Modulated)	600 kHz	Connect output meter to LINE OUTPUT jack.	ANT coil L111	Adjust so that the output meter indicates a maximum.
6		1,400 kHz (Modulated)	1,400 kHz		Trimmer C162	
7	Repeat procedures 5 and 6.					

NOTES: 1. Connect the negative (–) jack of the oscillator to ground (– ground) of the unit during adjustment.
2. Oscillator output should be 1 kHz with 30% modulation. 3. Adjust oscillator output to obtain a minimum.

(FUNCTION switch AM-LW)

Procedure	Signal generator connection	Signal generator output	Tuning dial	Measurement instrument connection	Adjustment point	Remarks
1	Radiate SG output to antenna coil through loop antenna.	145 kHz (Modulated)	145 kHz (Maximum variable capacitor capacity)	Connect output meter to LINE OUTPUT jack.	OSC coil L114	Adjust so that the output meter indicates a maximum.
2		380 kHz (Modulated)	380 kHz (Minimum variable capacitor capacity)		Trimmer C181	
3	Repeat procedures 2 and 3.					
4	Radiate SG output to antenna coil through loop antenna.	170 kHz (Modulated)	170 kHz	Connect output meter to LINE OUTPUT jack.	ANT coil L111	Adjust so that the output meter indicates a maximum.
5		320 kHz (Modulated)	320 kHz		Trimmer C164	
6	Repeat procedures 5 and 6.					

NOTES: 1. Connect the negative (–) jack of the oscillator to ground (– ground) of the unit during adjustment.
2. Oscillator output should be 1 kHz with 30% modulation. 3. Adjust oscillator output to obtain a minimum.

(FUNCTION switch AM-SW)

Procedure	Signal generator connection	Signal generator output	Tuning dial	Measurement instrument connection	Adjustment point	Remarks
1	Radiate SG output to antenna coil through dummy antenna. (30 ohm plus 10 pF)	5.5 MHz (Modulated)	5.5 MHz (Maximum variable capacitor capacity)	Connect output meter to LINE OUTPUT jack.	OSC coil L112	Adjust so that the output meter indicates a maximum.
2		19 MHz (Modulated)	19 MHz (Minimum variable capacitor capacity)		Trimmer C175	
3	Repeat procedures 2 and 3.					
4	Radiate SG output to antenna coil through dummy antenna.	7 MHz (Modulated)	7 MHz	Connect output meter to LINE OUTPUT jack.	ANT coil L110	Adjust so that the output meter indicates a maximum.
5		19 MHz (Modulated)	19 MHz		Trimmer C161	
6	Repeat procedures 5 and 6.					

NOTES: 1. Connect the negative (–) jack of the oscillator to ground (– ground) of the unit during adjustment.
2. Oscillator output should be 1 kHz with 30% modulation. 3. Adjust oscillator output to obtain a minimum.

9.5 AM ADJUSTMENT PROCEDURE (PMS7004S)

(FUNCTION switch AM-MW)

Procedure	Signal generator connection	Signal generator output	Tuning dial	Measurement instrument connection	Adjustment point	Remarks
1	Connect SG to J112.	455 kHz Sweep ± 35 kHz	—	Connect oscilloscope to J120 (ground lead to J109).	L116 L115	Rotate each core and adjust so that oscilloscope waveforms are highest and symmetrical on both sides.
2	Radiate SG output to antenna coil through loop antenna.	515 kHz (Modulated)	515 kHz (Maximum variable capacitor capacity)	Connect output meter to LINE OUTPUT jack.	OSC coil L114	Adjust so that the output meter indicates a maximum.
3		1,650 kHz (Modulated)	1,650 kHz (Minimum variable capacitor capacity)		Trimmer C181	
4	Repeat procedures 2 and 3.					
5	Radiate SG output to antenna coil through loop antenna.	600 kHz (Modulated)	600 kHz	Connect output meter to LINE OUTPUT jack.	ANT coil L111	Adjust so that the output meter indicates a maximum.
6		1,400 kHz (Modulated)	1,400 kHz		Trimmer C164	
7	Repeat procedures 5 and 6.					

NOTES: 1. Connect the negative (–) jack of the oscillator to ground (– ground) of the unit during adjustment.
2. Oscillator output should be 1 kHz with 30% modulation. 3. Adjust oscillator output to obtain a minimum.

(FUNCTION switch AM-SW₁)

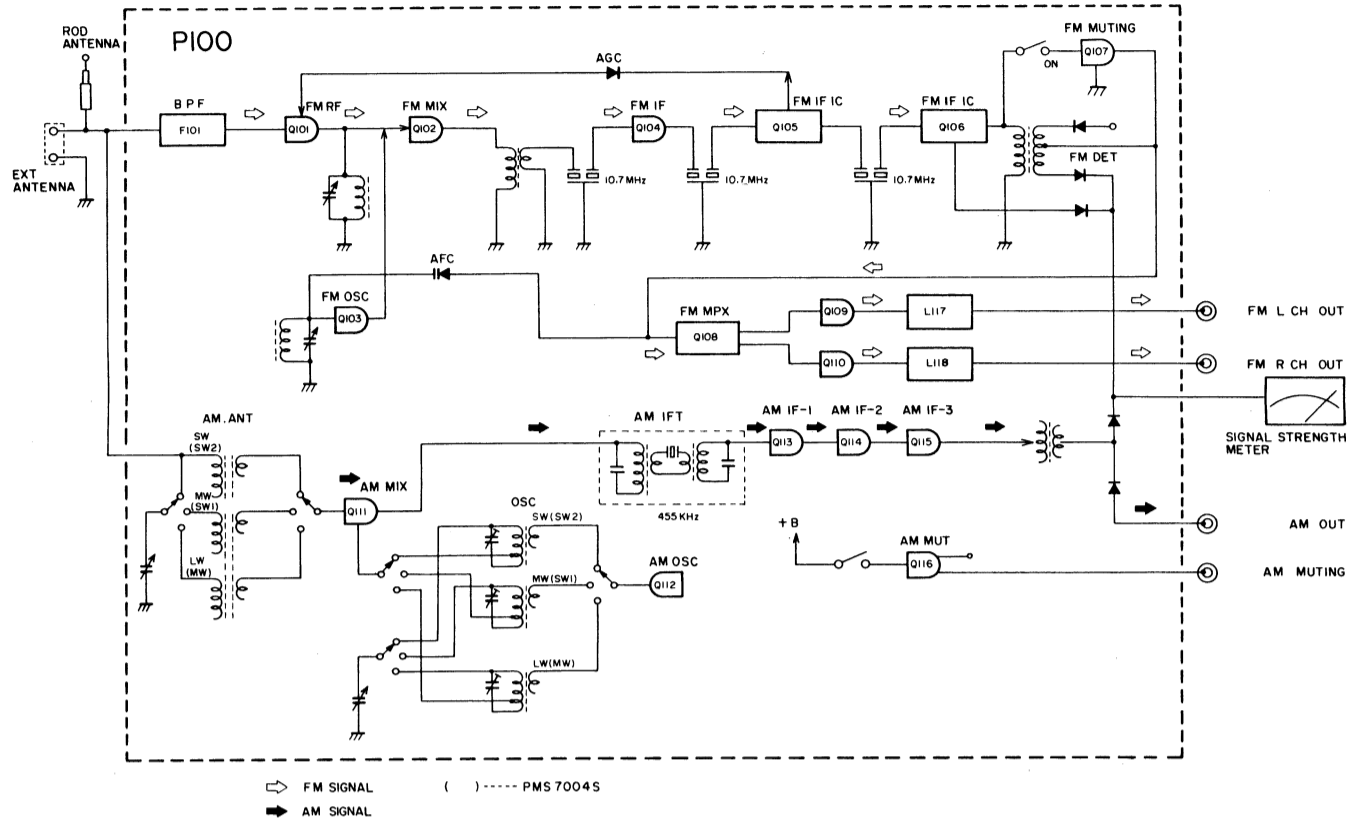
Procedure	Signal generator connection	Signal generator output	Tuning dial	Measurement instrument connection	Adjustment point	Remarks
1	Radiate SG output to antenna coil through loop antenna.	1.8 MHz (Modulated)	1.8 MHz (Maximum variable capacitor capacity)	Connect output meter to LINE OUTPUT jack.	OSC coil L113	Adjust so that the output meter indicates a maximum.
2		6.5 MHz (Modulated)	6.5 MHz (Minimum variable capacitor capacity)		Trimmer C178	
3	Repeat procedures 2 and 3.					
4	Radiate SG output to antenna coil through loop antenna.	2.2 MHz (Modulated)	2.2 MHz	Connect output meter to LINE OUTPUT jack.	ANT coil L111	Adjust so that the output meter indicates a maximum.
5		5.5 MHz (Modulated)	5.5 MHz		Trimmer C162	
6	Repeat procedures 5 and 6.					

NOTES: 1. Connect the negative (–) jack of the oscillator to ground (– ground) of the unit during adjustment.
2. Oscillator output should be 1 kHz with 30% modulation. 3. Adjust oscillator output to obtain a minimum.

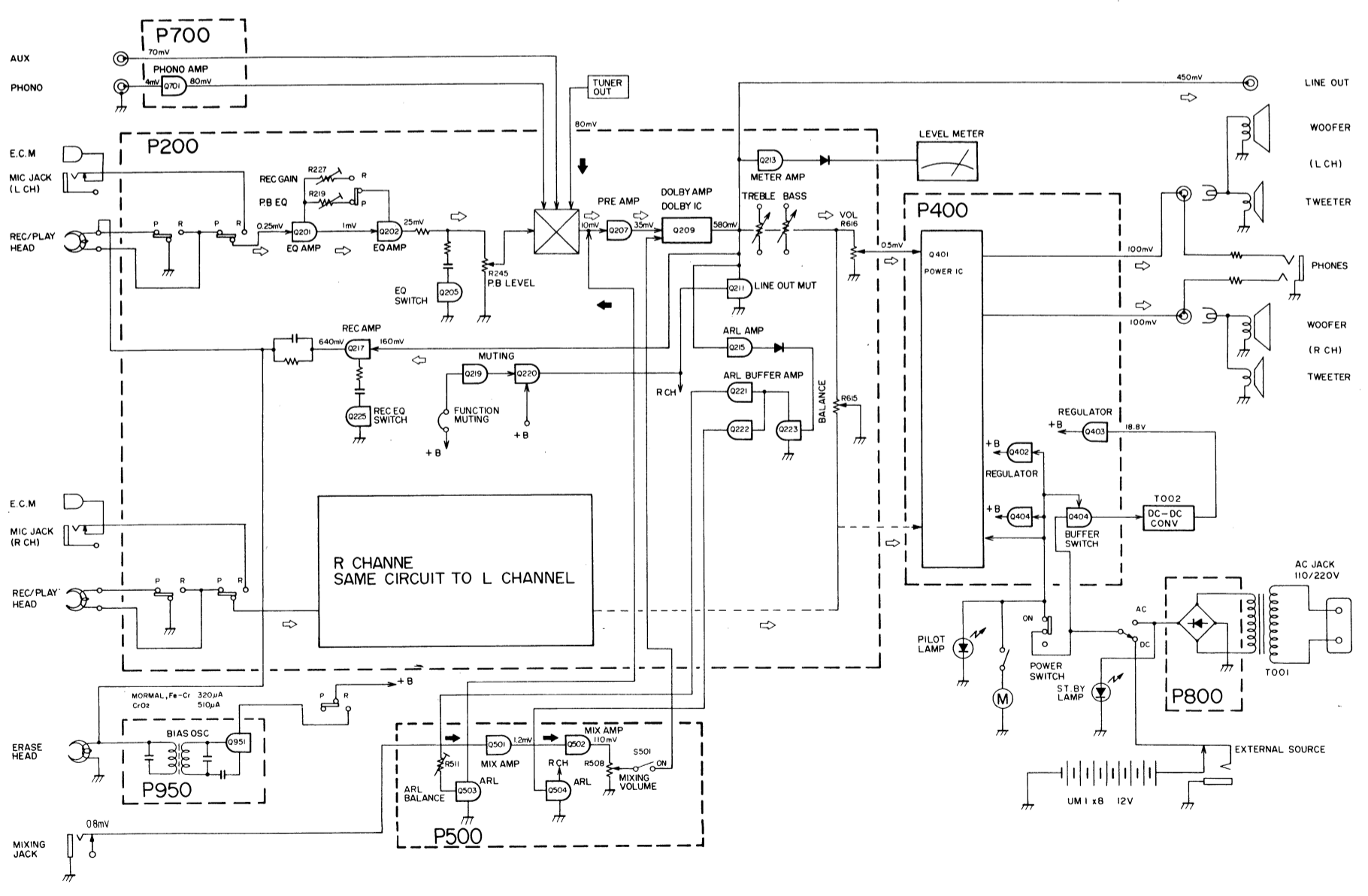
(FUNCTION switch AM-SW₂)

Procedure	Signal generator connection	Signal generator output	Tuning dial	Measurement instrument connection	Adjustment point	Remarks
1	Radiate SG output to antenna coil through dummy antenna.	5.5 MHz (Modulated)	5.5 MHz (Maximum variable capacitor capacity)	Connect output meter to LINE OUTPUT jack.	OSC coil L112	Adjust so that the output meter indicates a maximum.
2		19 MHz (Modulated)	19 MHz (Minimum variable capacitor capacity)		Trimmer C175	
3	Repeat procedures 2 and 3.					
4	Radiate SG output to antenna coil through dummy antenna.	7 MHz (Modulated)	7 MHz	Connect output meter to LINE OUTPUT jack.	ANT coil L110	Adjust so that the output meter indicates a maximum.
5		19 MHz (Modulated)	19 MHz		Trimmer C161	
6	Repeat procedures 5 and 6.					

NOTES: 1. Connect the negative (–) jack of the oscillator to ground (– ground) of the unit during adjustment.
2. Oscillator output should be 1 kHz with 30% modulation. 3. Adjust oscillator output to obtain a minimum.



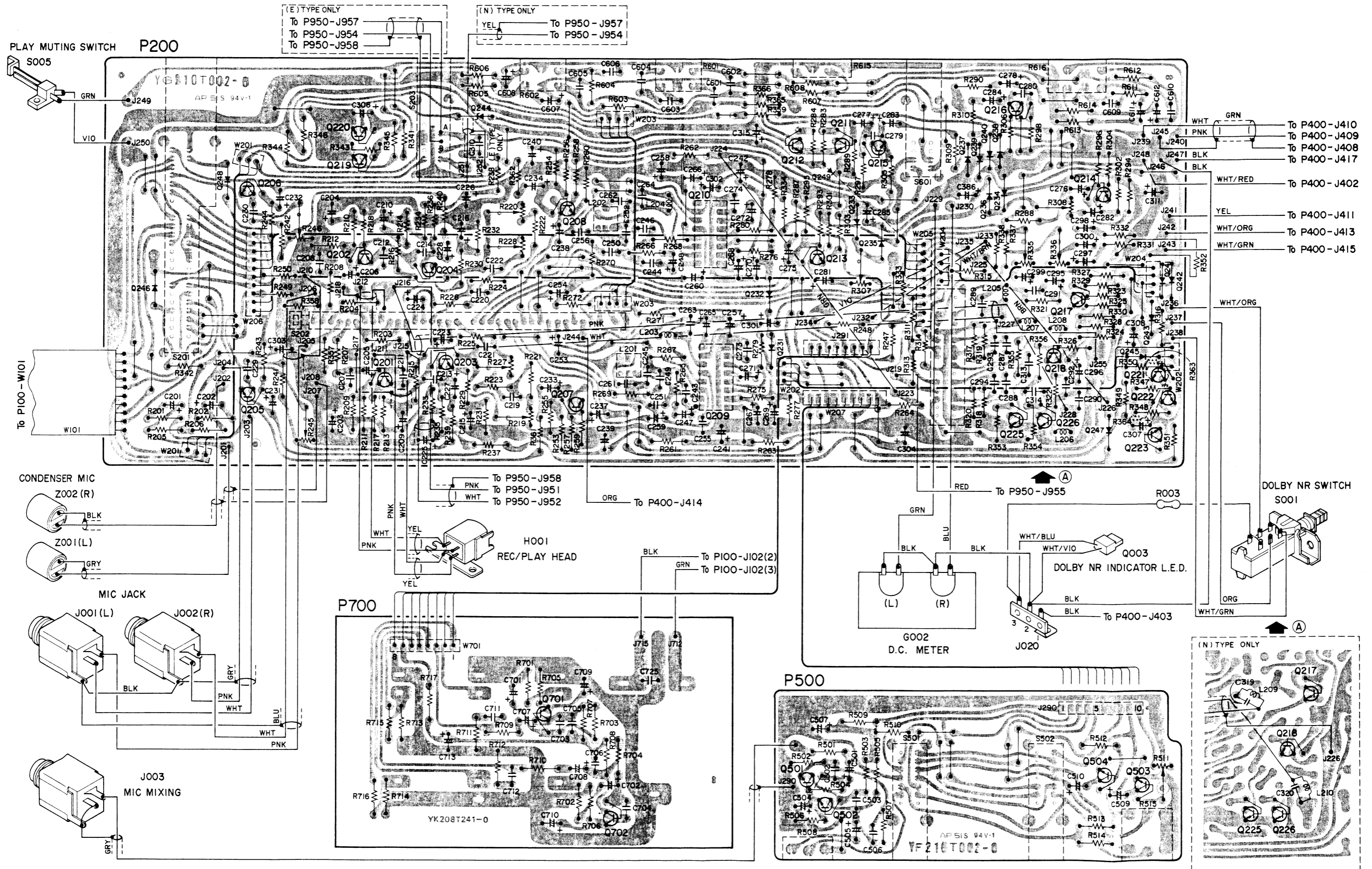
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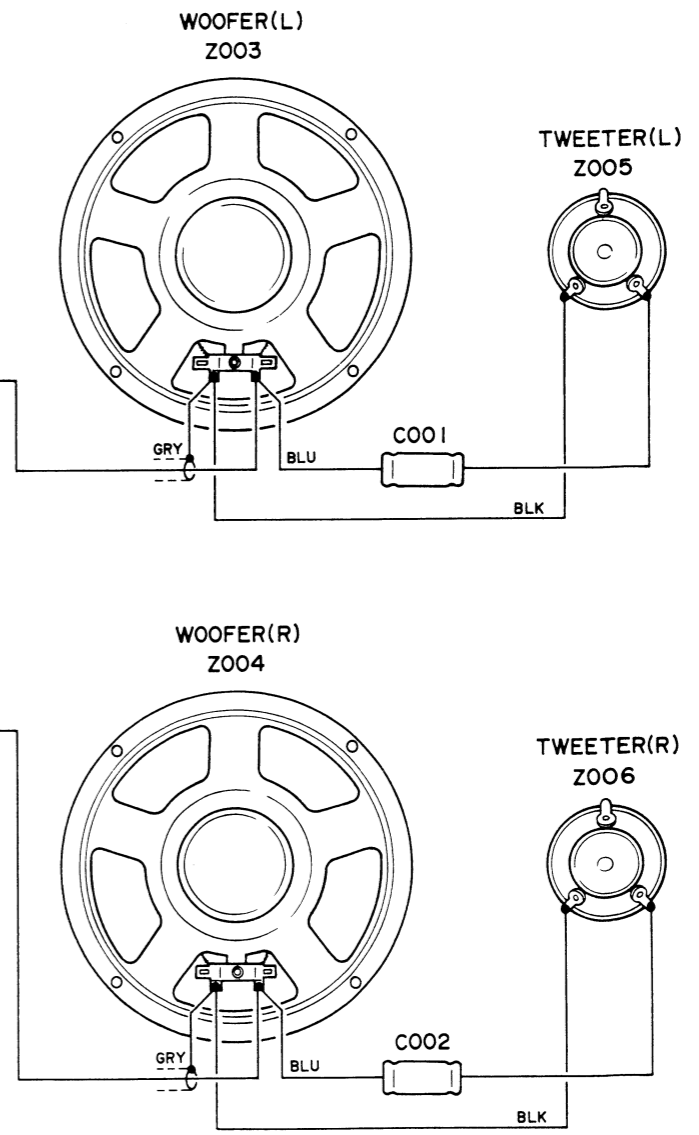
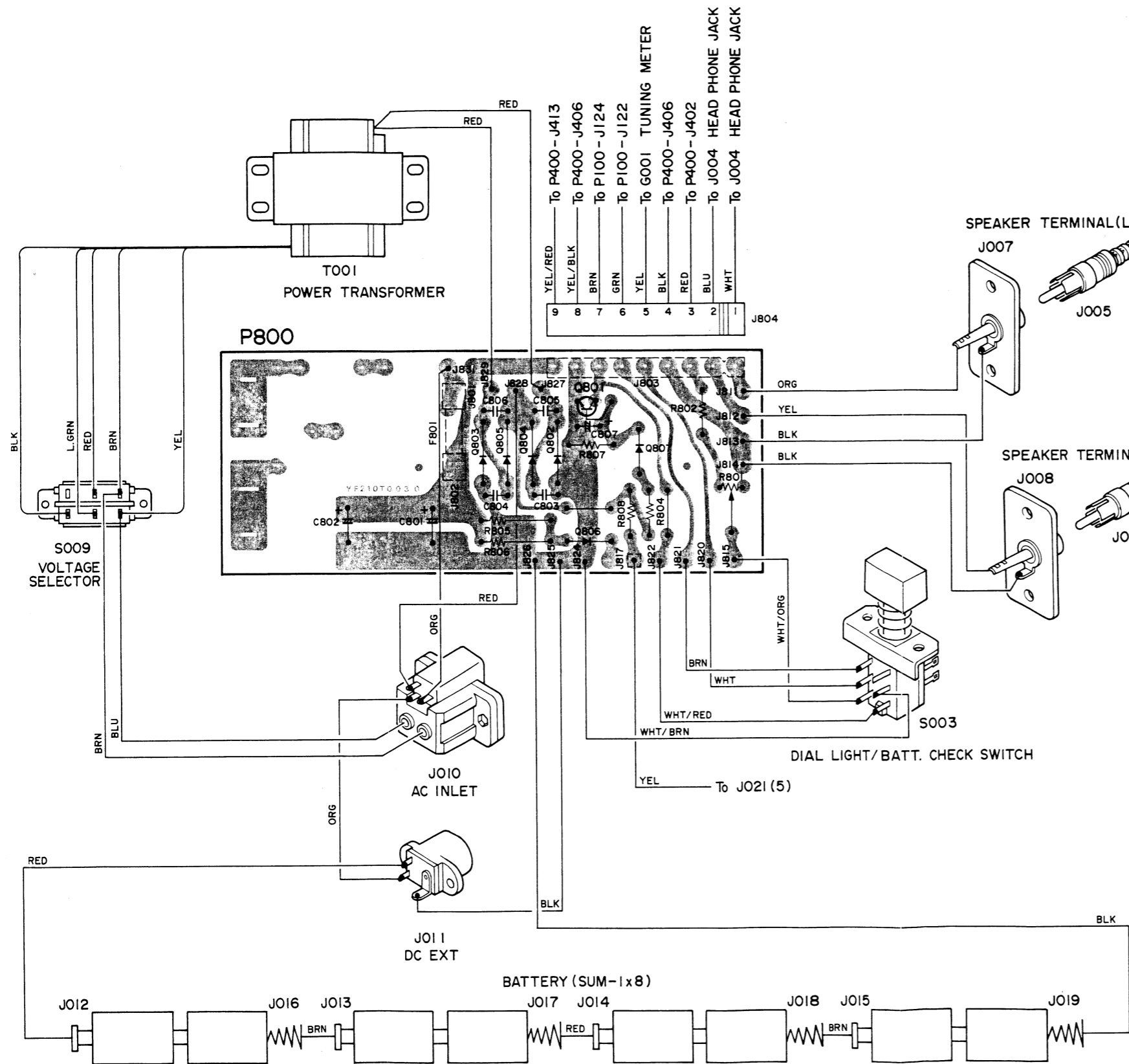
15

11. CIRCUIT BOARD DIAGRAM

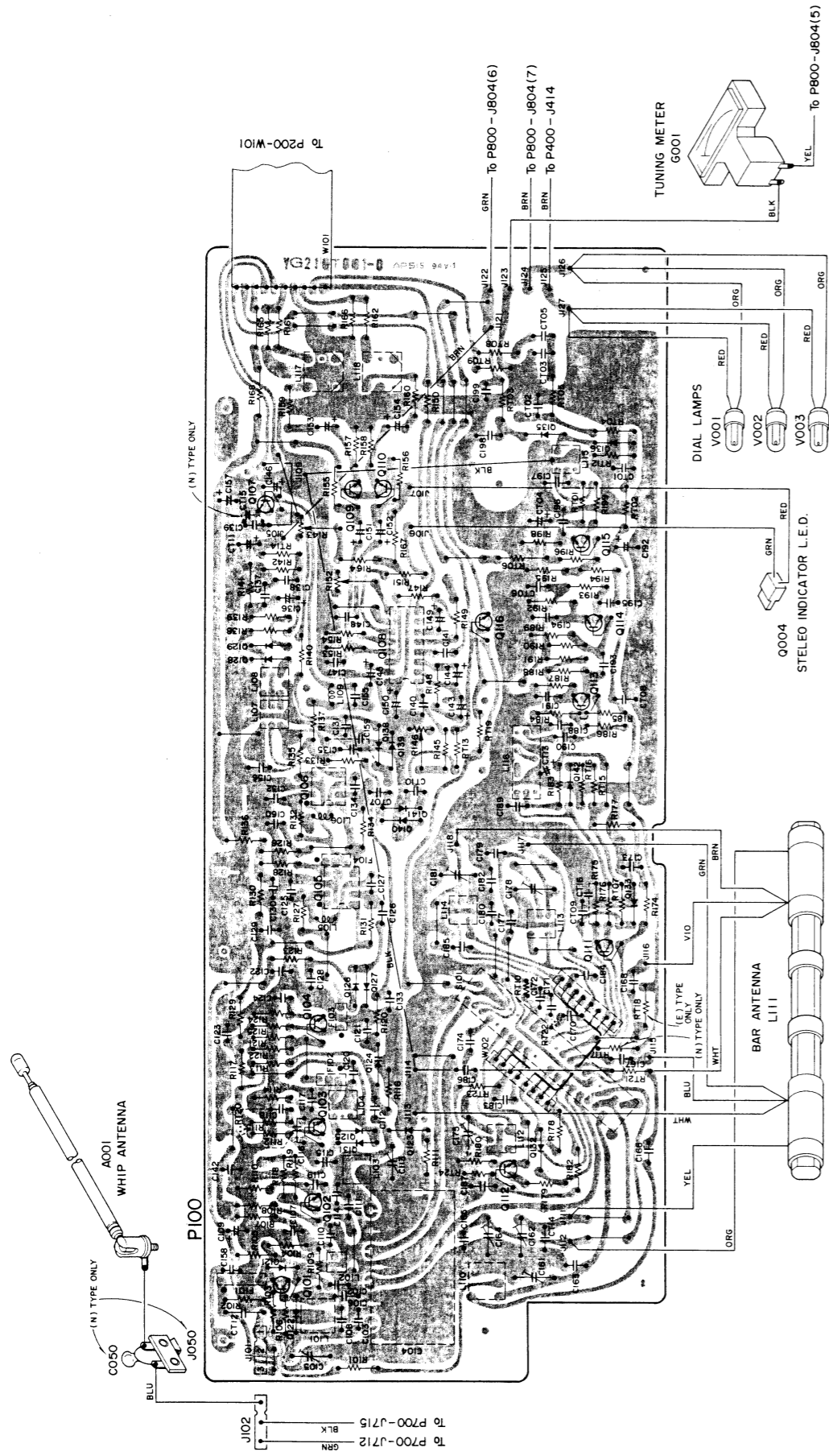
11.1 TAPE and AUDIO



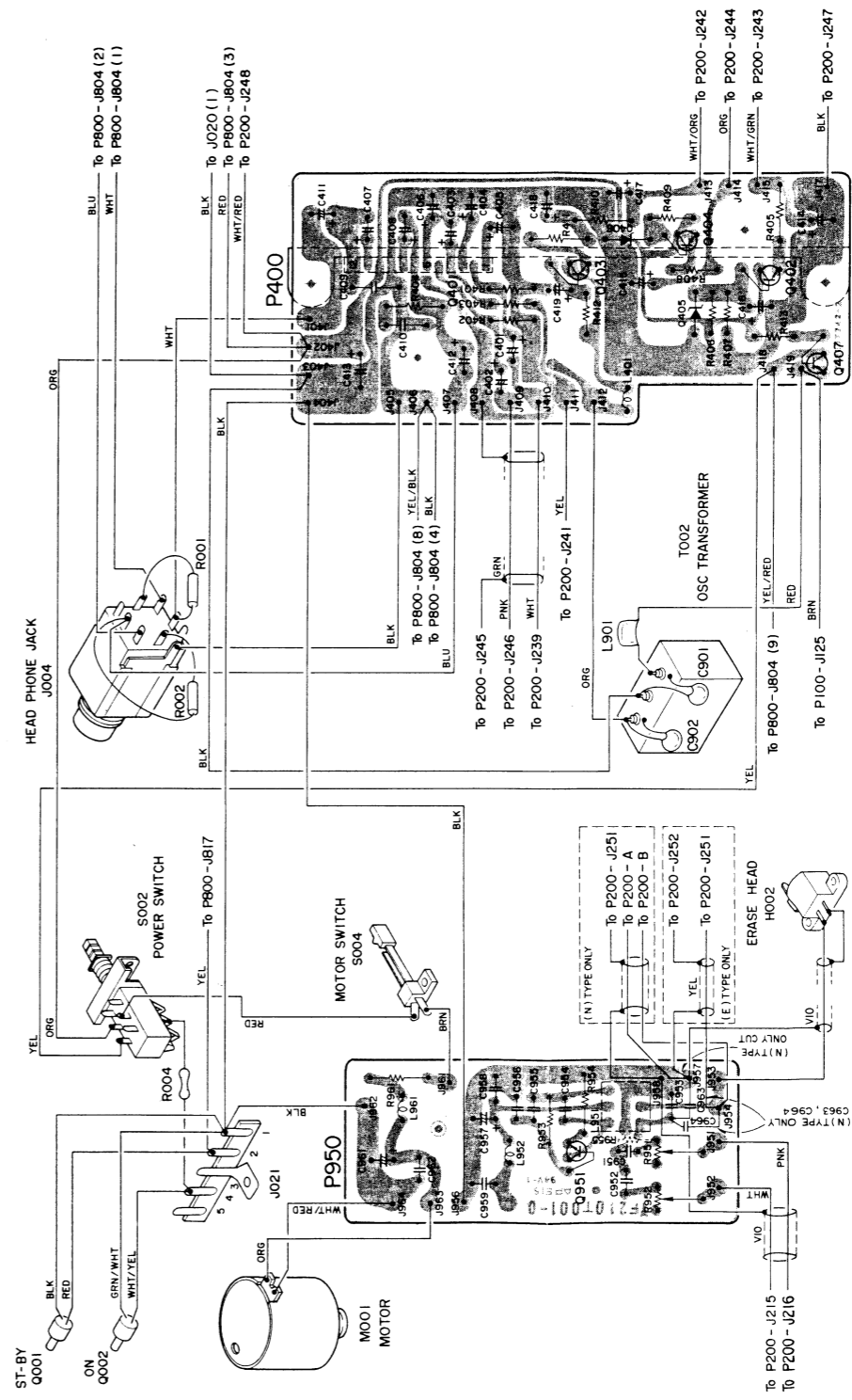
11.2 POWER SUPPLY



11.3 TUNER

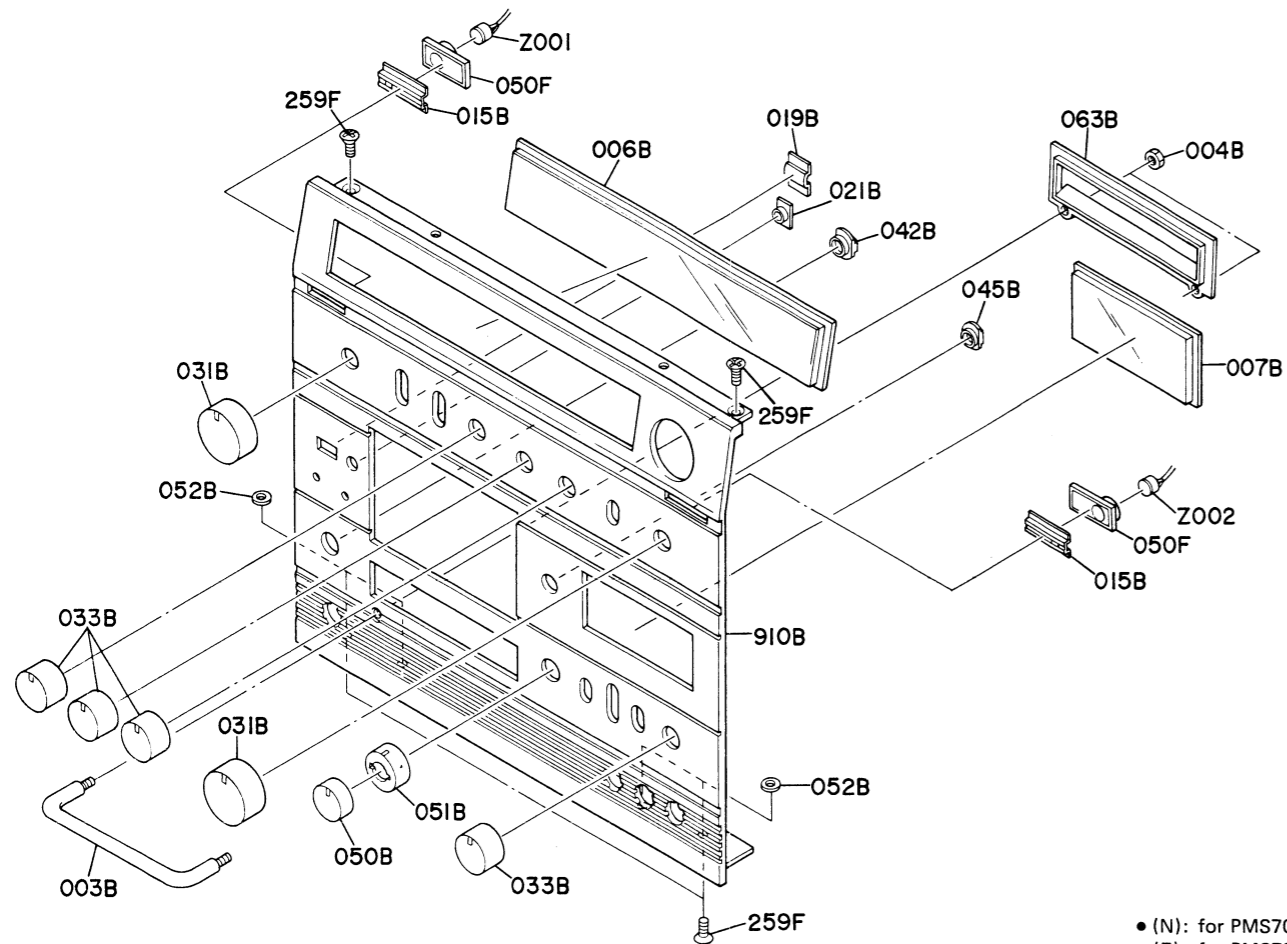


11.4 POWER AMP and TAPE BIAS OSC



12. EXPLODED VIEWS AND PARTS LIST

12.1 [P01-99] Front Escutcheon

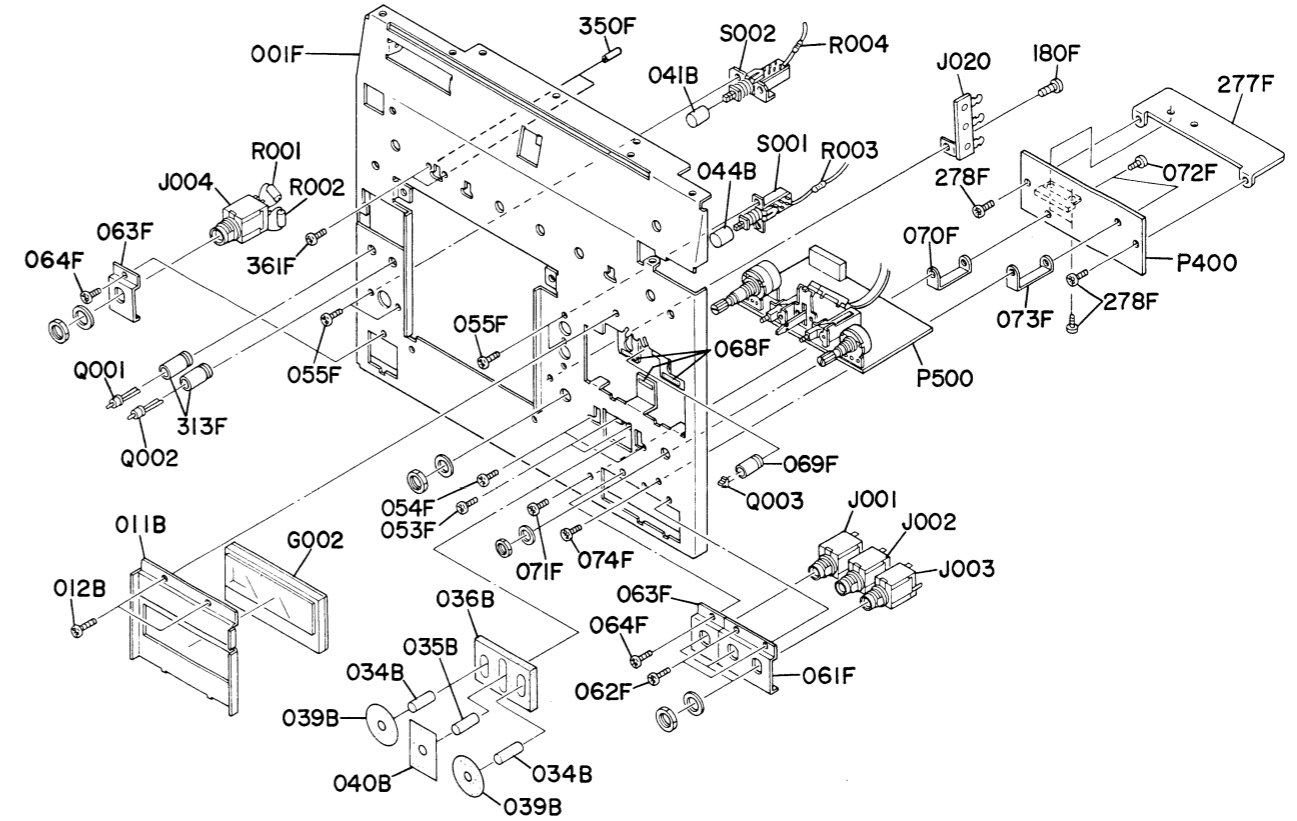


• (N): for PMS7004
• (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
A	1		210T063400	Front Panel Assembly
A1	1		211T063400	Front Panel Assembly
003B	1	1	4282051020	Guide
004B	2	2	53110303A9	Hexagon Nut
006B	1	1	4282158012	Window, Dial
007B	1	1	4282158020	Window, Meter
015B	2	2	4282063052	Escutcheon, E.C.M.
019B	1	1	4123158032	Window, Counter
021B	1	1	3448259110	Bushing, Counter
042B	1	1	2978259012	Bushing, Power
045B	1	1	3448259122	Bushing, Dolby
063B	1	1	4282259012	Bushing
910B	1		210T063500	Escutcheon, Front Panel
910B		1	211T063500	Escutcheon, Front Panel

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
031B	2	2	4197154050	Knob, Vol/Function
033B	4	4	4282154020	Knob
050B	1	1	4198154030	Knob, Rec Level
051B	1	1	4198154040	Knob, Rec Level
052B	4	4	59030805P0	Washer
050F	2	2	4282271030	Holder, E.C.M.
259F	4	4	51040306B9	F.H.M. Screw F3 x 6
Z001	1	1	MS50090070	Mic. Unit
Z002	1	1	MS50090070	Mic. Unit

12.2 [P02-99] Front Chassis

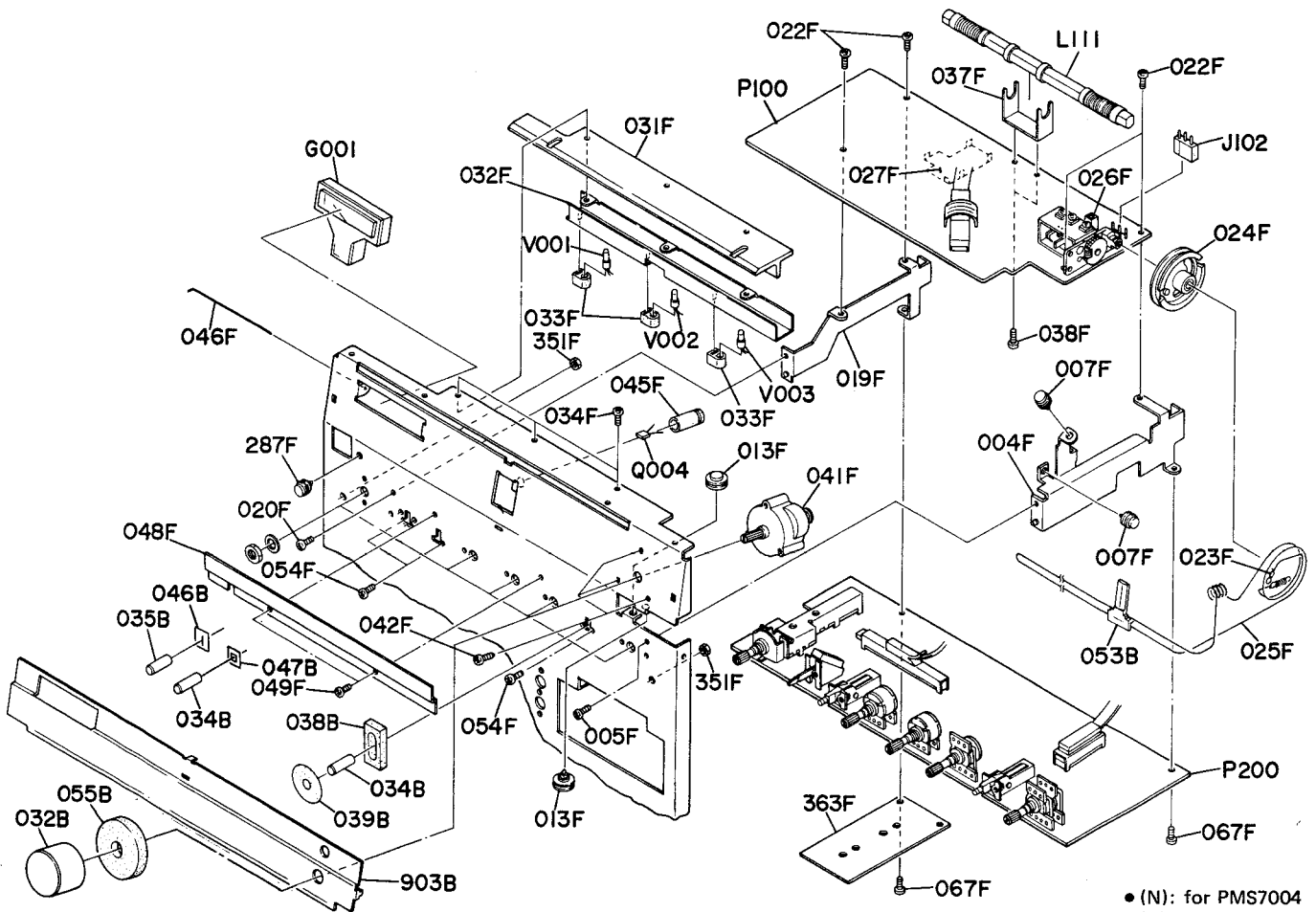


• (N): for PMS7004
• (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
011B	1	1	4282063030	Escutcheon, Meter
012B	2	2	51100306B9	B.H.M. Screw B3 x 6
034B	2	2	4282154032	Knob
035B	1	1	4282154043	Knob, Tape Selector
036B	1	1	4282056012	Buffer
039B	2	2	4282107032	Sheet
040B	1	1	4282107052	Sheet
041B	1	1	2259154040	Knob, Power
044B	1	1	3448154130	Knob, Dolby
001F	1	1	201T105010	Chassis, Front
053F	2	2	51060305A9	P.H.M. Screw P3 x 5
054F	2	2	51060305A9	P.H.M. Screw P3 x 5
055F	4	4	51100306A9	B.H.M. Screw B3 x 6
061F	1	1	4282160060	Bracket, Mic Jack
062F	2	2	51100306A9	B.H.M. Screw B3 x 6
063F	2	2	4282160070	Bracket, Headphone
064F	2	2	51100306A9	B.H.M. Screw B3 x 6
068F	3	3	3426056020	Buffer
069F	1	1	4214271022	Holder
070F	1	1	4282160130	Bracket
071F	1	1	51100306A9	B.H.M. Screw B3 x 6

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
072F	2	2	51100306A9	B.H.M. Screw B3 x 6
073F	1	1	4282160130	Bracket
074F	1	1	51100306A9	B.H.M. Screw B3 x 6
180F	1	1	51280306B0	B.H. Tapped Screw B3 x 6
277F	1	1	208T267010	Heatsink
278F	4	4	51280306B0	B.H. Tapped Screw B3 x 6
313F	2	2	4279271012	Holder
350F	2	2	210T101010	Support
361F	2	2	51100312A9	B.H.M. Screw B3 x 12
J001	1	1	YJ01001110	Jack, Mic
J002	1	1	YJ01001110	Jack, Mic
J003	1	1	YJ01001110	Jack, Mixing
J004	1	1	YJ01001210	Jack, Headphone
J020	1	1	YL01030230	Terminal (3P)
G002	1	1	IM12094010	D.C. Meter
Q001	1	1	H110014030	L.E.D. SLP-132B
Q002	1	1	H110014030	L.E.D. SLP-132B
Q003	1	1	H110014020	L.E.D. LN217RP
S001	1	1	SP02010340	Push Switch, Dolby
△S002	1	1	SP02010230	Push Switch, Power
R001	1	1	RC10101120	100Ω ±10% ½W
R002	1	1	RC10101120	100Ω ±10% ½W
R003	1	1	GD05331140	330Ω ±5% ¼W
R004	1	1	GD05102140	1KΩ ±5% ¼W

12.3 [P03-99] Front Bracket and Electrical Parts

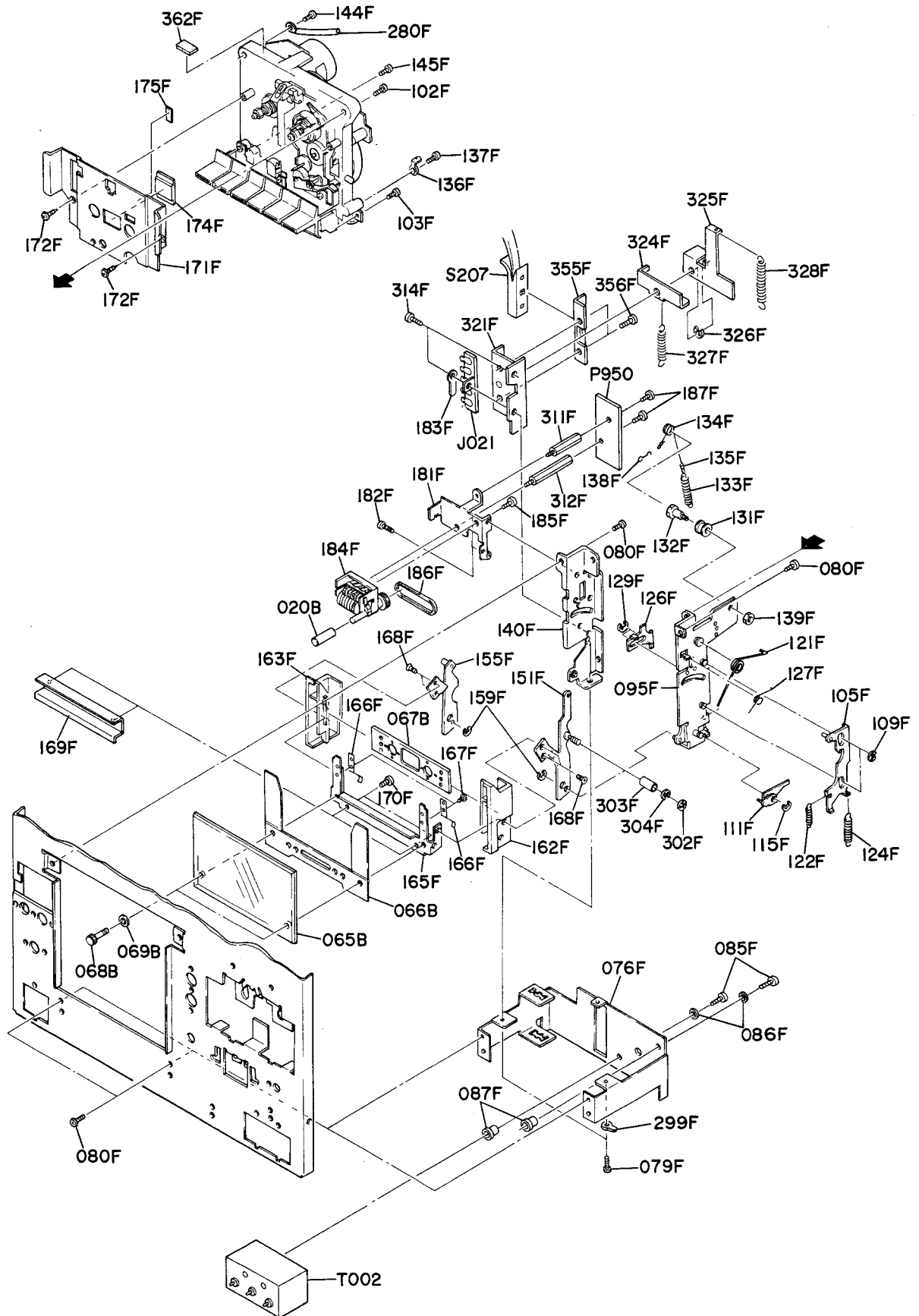


● (N): for PMS7004
● (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
032B	1	1	4282154050	Knob, Tuning
034B	2	2	4282154032	Knob
035B	1	1	4282154043	Knob
038B	1	1	4282056032	Buffer
039B	1	1	4282107032	Sheet
046B	1	1	201T107010	Sheet
047B	1	1	210T107020	Sheet
053B	1	1	4282103010	Pointer
055B	1	1	4282056040	Buffer
903B	1	1	4282302040	Dial Plate
903B	1	1	4282302050	Dial Plate
004F	1	1	4282160012	Bracket, (R)
005F	1	1	51100306A9	B.H.M. Screw B3 x 6
007F	2	2	2276262500	Pulley
013F	2	2	2286262500	Pulley
019F	1	1	4282160020	Bracket, (L)
020F	1	1	51100306A9	B.H.M. Screw B3 x 6
022F	4	4	51100306A9	B.H.M. Screw B3 x 6
023F	1	1	56302030G0	Eyelet
024F	1	1	4282159012	Drum
025F	1	1	72040805A0	String (140)
026F	1	1	3620109010	Shield
027F	1	1	4136109040	Shield
031F	1	1	4282158030	Window, Dial
032F	1	1	4282274012	Reflector
033F	3	3	4123259010	Bushing

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
034F	3	3	51102605A0	B.H.M. Screw B2.6 x 5
037F	1	1	3435271010	Holder
038F	2	2	51102605A0	B.H.M. Screw B2.6 x 5
041F	1	1	4282273012	Flywheel, Tuning
042F	3	3	51280308B0	B.H. Tapped Screw B3 x 8
045F	1	1	4214271022	Holder
046F	1	1	4282114010	Stopper
048F	1	1	4282051010	Guide
049F	2	2	51100306A9	B.H.M. Screw B3 x 6
054F	3	3	51060305A9	P.H.M. Screw P3 x 5
067F	2	2	51100306A9	B.H.M. Screw B3 x 6
287F	1	1	2276262500	Pulley
351F	2	2	53110303A9	Hexagon Nut
363F	1	1	208T109010	Shield
G001	1	1	IM11052010	D.C. Meter, Tuning
△V001	1	1	IN10140070	Lamp 110mA 14V
△V002	1	1	IN10140070	Lamp 110mA 14V
△V003	1	1	IN10140070	Lamp 110mA 14V
J102	1	1	YJ06001040	Jack (3P)
Q004	1	1	HI10014020	L.E.D. LN217RP
L111	1	1	LF11400972	Antenna Coil
L111	1	1	LF11400980	Antenna Coil

12.4 [P04-99] Associated Mechanism for Cassette Tape Operation

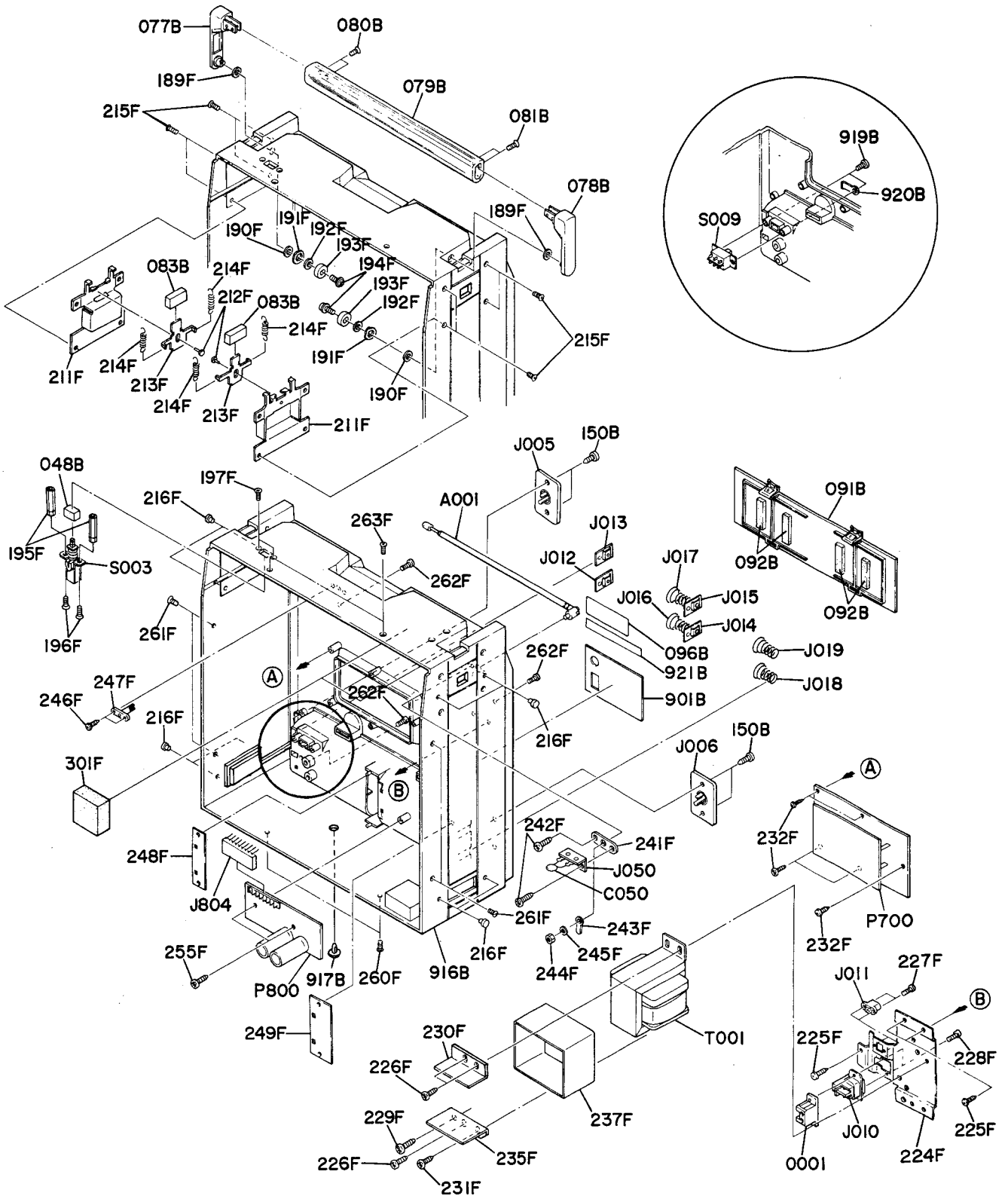


• (N): for PMS7004
 • (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
020B	1	1	3448067090	Cap, Counter
065B	1	1	4276158014	Window
066B	1	1	4276063030	Escutcheon
067B	1	1	4276063040	Escutcheon
068B	2	2	4276112010	Shaft
069B	2	2	59046502G9	Washer
076F	1	1	4282160037	Bracket
079F	2	2	51100306A9	B.H.M. Screw B3 x 6
080F	4	4	51100306A9	B.H.M. Screw B3 x 6
085F	2	2	51100308A9	B.H.M. Screw B3 x 8
086F	2	2	59030810P1	Washer
087F	2	2	2219259032	Bush
095F	1	1	4265160523	Bracket, K (R)
102F	1	1	51100308A9	B.H.M. Screw B3 x 8
103F	1	1	51100306A9	B.H.M. Screw B3 x 6
105F	1	1	4265258512	Hook, Door (K)
109F	2	2	64000200R0	RG Ring, E Type
111F	1	1	4265002522	Arm, Inter Lock (K)
115F	1	1	64002500R0	RG Ring, E Type
121F	1	1	4265115030	Spring, Lock
122F	1	1	4265115043	Spring
124F	1	1	4197115030	Spring
126F	1	1	4265354012	Lever
127F	1	1	4265115070	Spring
129F	2	2	64000200R0	RG Ring, E Type
131F	1	1	4197262010	Pulley
132F	1	1	4197112040	Shaft
133F	1	1	4197115020	Spring
134F	1	1	72081604A0	String (20)
135F	1	1	56382540G0	Eyelet
136F	1	1	62031650W0	Lug
137F	1	1	51280306B0	B.H. Tapped Screw B3 x 6
138F	1	1	4197258033	Hook

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
139F	1	1	53110303A9	Hexagon Nut
140F	1	1	4265160512	Bracket, K (L)
144F	1	1	51100308A9	B.H.M. Screw B3 x 8
145F	1	1	51100306A9	B.H.M. Screw B3 x 6
151F	1	1	4265002550	Arm, K (R)
155F	1	1	4265002540	Arm, K (L)
159F	2	2	64000200R0	RG Ring, E Type
162F	1	1	4265271014	Holder (R)
163F	1	1	4265271024	Holder (L)
165F	1	1	4265160110	Bracket
166F	2	2	4265115050	Spring
167F	2	2	51062605S0	P.H.M. Screw P2.6 x 5
168F	4	4	51042605S0	F.H.M. Screw F2.6 x 5
169F	1	1	4276053013	Cover
170F	2	2	51380206T0	P.H. Tapped Screw P2 x 6
171F	1	1	4265053022	Cover, Mecha
172F	2	2	51382606K0	P.H. Tapped Screw P2.6 x 6
174F	1	1	4197158010	Window
175F	1	1	4265118010	Spacer
181F	1	1	4282160122	Bracket
182F	2	2	51100305A9	B.H.M. Screw B3 x 5
183F	1	1	62031650W0	Lug
184F	1	1	4197052010	Counter
185F	1	1	51100305A9	B.H.M. Screw B3 x 5
186F	1	1	4197264012	Belt
187F	2	2	51100306A9	B.H.M. Screw B3 x 6
280F	1	1	4220005020	Clamper
299F	1	1	62031650W0	Lug
302F	1	1	64020200Q0	RG Ring, CS Type
303F	1	1	4265055010	Collar
304F	1	1	64000200R0	RG Ring, E Type
311F	1	1	208T101012	Support
312F	1	1	4679101010	Support
314F	2	2	51100306B9	B.H.M. Screw B3 x 6
321F	1	1	4282160522	Bracket
324F	1	1	201T354010	Lever
325F	1	1	201T354020	Lever
326F	1	1	64000400R0	RG Ring, E Type
327F	1	1	201T115010	Spring
328F	1	1	201T115020	Spring
355F	1	1	4282160170	Bracket
356F	2	2	51100305A9	B.H.M. Screw B3 x 5
362F	1	1	207T303010	Mask
J021	1	1	YL01050110	Terminal (5P)
T002	1	1	TC10500010	OSC Transformer, DC-DC Converter
S207	1	1	SB12200010	Remote Wire for REC/Play Switch

12.5 [P05-99] Rear Case and Battery Case

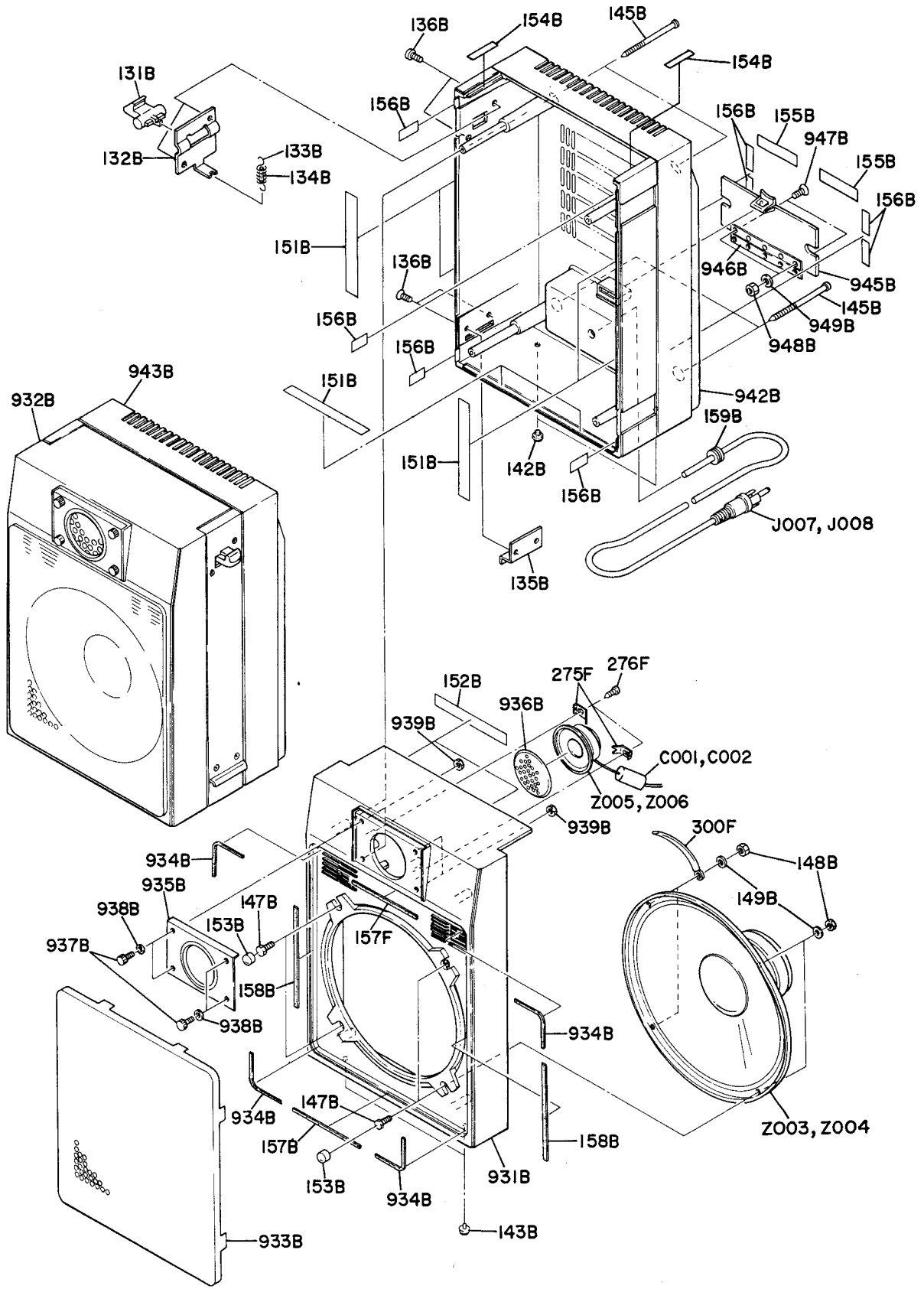


• (N): for PMS7004
• (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
B	1	1	210T257400	Lid Assembly, Rear
077B	1	1	4282104010	Retainer
078B	1	1	4282104010	Retainer
079B	1	1	4282253010	Handle
080B	2	2	51100306S9	B.H.M. Screw B3 x 6
081B	2	2	51100306S9	B.H.M. Screw B3 x 6
083B	2	2	4282154012	Knob
916B	1	1	210T257010	Lid, Rear
917B	1	1	2965005010	Clamper
919B	2	2	51100314S9	F.H.M. Screw F3 x 14
920B	1	1	203T114010	Stopper
921B	1	1	4240861010	Label
189F	2	2	59071105G9	Washer
190F	2	2	5401070010	Flat Washer, S
191F	2	2	54130800Q0	Wave Washer
192F	2	2	59071105G9	Washer
193F	2	2	207T118010	Spacer
194F	2	2	51480306A9	F. Washer Screw 3 x 6
195F	2	2	4282101040	Support
196F	2	2	51040305A9	F.H.M. Screw F3 x 5
197F	2	2	51140206S0	O.C.H.M. Screw 2 x 6
211F	2	2	207T160123	Bracket
212F	2	2	207T112050	Shaft
213F	2	2	207T354030	Lever
214F	4	4	207T115040	Lever
215F	8	8	51870308U0	O.C.H.M. Screw M3 x 8
216F	8	8	207T056010	Buffer
C	1	1	4282257470	Battery Lid Assembly
091B	1	1	4282257030	Lid, Battery
092B	4	4	3411056050	Buffer
048B	1	1	2904154023	Knob, Dial Light
096B	1	1	3333861022	Label
150B	4	4	51280308U0	B.H. Tapped Screw B3 x 8
901B	1	1	201T265010	Indicator
901B	1	1	211T265010	Indicator
224F	1	1	4282160043	Bracket
225F	3	3	51280408B0	B.H. Tapped Screw B4 x 8
226F	3	3	51280308B0	B.H. Tapped Screw B3 x 8
227F	2	2	51060206A0	P.H.M. Screw P2 x 6
228F	2	2	51062610A0	P.H.M. Screw P2.6 x 10
229F	1	1	51280412B0	B.H. Tapped Screw B4 x 12
230F	1	1	4282104043	Retainer
231F	1	1	51280312B0	B.H. Tapped Screw B3 x 12
232F	5	5	51280308B0	B.H. Tapped Screw B3 x 8
235F	1	1	4282104052	Retainer
237F	1	1	208T109030	Shield
241F	1	1	4282104030	Retainer

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
242F	2	2	51280308B0	B.H. Tapped Screw B3 x 8
243F	1	1	62051870W0	Lug
244F	1	1	53110503A9	Hexagon Nut
245F	1	1	54040502N0	Spring Washer
246F	2	2	51280308B0	B.H. Tapped Screw B3 x 8
247F	1	1	4282271020	Holder
248F	1	1	4282053040	Cover
249F	1	1	4282053050	Cover
255F	2	2	51280308B0	B.H. Tapped Screw B3 x 8
260F	2	2	51140308S9	O.C.H.M. Screw 3 x 8
261F	4	4	51140308S9	O.C.H.M. Screw 3 x 8
262F	3	3	51100306S9	B.H.M. Screw B3 x 6
263F	2	2	51140308S9	O.C.H.M. Screw 3 x 8
301F	2	2	4182056020	Buffer
0001	1	1	3370053010	Cover, AC Inlet
A001	1	1	YR06080030	Whip Antenna
C050	1	1	DD17470010	Ceramic Cap. 47pF ±20% 250V
J005	1	1	YT02010182	Terminal, Jack Board
J006	1	1	YT02010182	Terminal, Jack Board
△ J010	1	1	YJ04000500	Jack, AC Inlet
J011	1	1	YJ04000550	Jack, EXT DC
J012	1	1	YL12010710	Terminal (+)
J013	1	1	YL12010710	Terminal (+)
J014	1	1	YL12010710	Terminal (+)
J015	1	1	YL12010710	Terminal (+)
J016	1	1	YL11010090	Terminal (-)
J017	1	1	YL11010090	Terminal (-)
J018	1	1	YL11010090	Terminal (-)
J019	1	1	YL11010090	Terminal (-)
J050	1	1	YL01020080	Terminal, 2P
△ T001	1	1	TS16005140	Power Transformer
J804	1	1	YJ06001430	Jack (9P)
S003	1	1	SP02010422	Push Switch, Dial Light/Batt.
△ S009	1	1	SS02020510	Slide Switch 110V/220V

12.6 [P06-99] Speaker Box



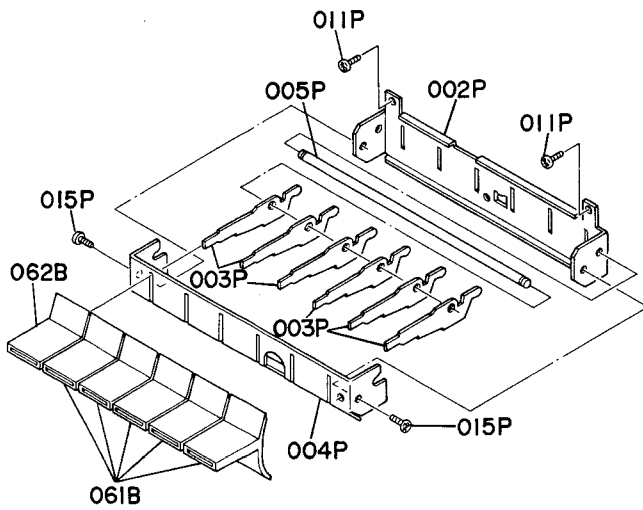
• (N): for PMS7004
 • (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
D	1	1	210T064400	Case Assembly, Speaker (R)
143B	2	2	3441057010	Leg
147B	4	4	52010415S9	H. Head Bolt 4 x 15
152B	2	2	4282107060	Sheet
153B	4	4	4282118022	Spacer
157B	2	2	4282056050	Buffer
158B	2	2	4282056060	Buffer
931B	1	1	210T064010	Case
933B	1	1	4282202012	Net
934B	4	4	4282107040	Sheet
935B	1	1	4282063042	Escutcheon
936B	1	1	4282202050	Net
937B	4	4	51214079E9	L.K. Head Screw
938B	4	4	59035402G9	Washer
939B	4	4	53110301A9	Hexagon Nut
E	1	1	210T064410	Case Assembly, Speaker (L)
143B	2	2	3441057010	Leg
147B	4	4	52010415S9	H. Head Bolt 4 x 15
152B	2	2	4282107060	Sheet
153B	4	4	4282118022	Spacer
157B	2	2	4282056050	Buffer
158B	2	2	4282056060	Buffer
932B	1	1	210T064020	Case
933B	1	1	4282202012	Net
934B	4	4	4282107040	Sheet
935B	1	1	4282063042	Escutcheon
936B	1	1	4282202050	Net
937B	4	4	51214079E9	L.K. Head Screw
938B	4	4	59035402G9	Washer
939B	4	4	53110301A9	Hexagon Nut
F	1	1	210T257420	Lid Assembly, Speaker (R)
131B	1	1	207T258010	Hook
132B	1	1	207T160132	Bracket
133B	1	1	207T115032	Spring
134B	1	1	207T056040	Buffer
135B	1	1	207T104020	Retainer
136B	4	4	51870310U0	O.C.H.M. Screw B M3 x 10
142B	2	2	3441057010	Leg
154B	2	2	4282107070	Sheet
155B	2	2	4282107070	Sheet
156B	8	8	4282107080	Sheet
942B	1	1	4282257120	Lid
945B	1	1	4282257040	Lid, Speaker Wire
946B	1	1	2366153012	Hinge
947B	2	2	51140206S0	O.C.H.M. Screw 2 x 6
948B	2	2	53110203H0	Hexagon Nut
949B	2	2	54020201S0	Washer
159B	1	1	1988259100	Bushing

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
G	1	1	210T257430	Lid Assembly, Speaker (L)
131B	1	1	207T258010	Hook
132B	1	1	207T160132	Bracket
133B	1	1	207T115032	Spring
134B	1	1	207T056040	Buffer
135B	1	1	207T104020	Retainer
136B	4	4	51870310U0	O.C.H.M. Screw B M3 x 10
142B	2	2	3441057010	Leg
154B	2	2	4282107070	Sheet
155B	2	2	4282107070	Sheet
156B	8	8	4282107080	Sheet
943B	1	1	4282257150	Lid
945B	1	1	4282257040	Lid, Speaker Wire
946B	1	1	2366153012	Hinge
947B	2	2	51140206S0	O.C.H.M. Screw 2 x 6
948B	2	2	53110203H0	Hexagon Nut
949B	2	2	54020201S0	Washer
159B	1	1	1988259100	Bushing
145B	8	8	51400370T0	B.H. Tapped Screw
148B	8	8	53110401A9	Hexagon Nut
149B	8	8	54020401A0	Flat Washer, P.
151B	12	12	4282107060	Sheet
275F	4	4	4170005010	Clamper
276F	4	4	51280308B0	B.H. Tapped Screw B3 x 8
300F	4	4	4220005040	Clamper
J007	1	1	YB01500060	Connective Cord
J008	1	1	YB01500060	Connective Cord
Z003	1	1	QK02002010	Speaker, Woofer 3.2Ω
Z004	1	1	QK02002010	Speaker, Woofer 3.2Ω
Z005	1	1	QK00502050	Speaker, Tweeter 4Ω
Z006	1	1	QK00502050	Speaker, Tweeter 4Ω
C001	1	1	EQ47505020	Elect Cap. 4.7μF 50V
C002	1	1	EQ47505020	Elect Cap. 4.7μF 50V

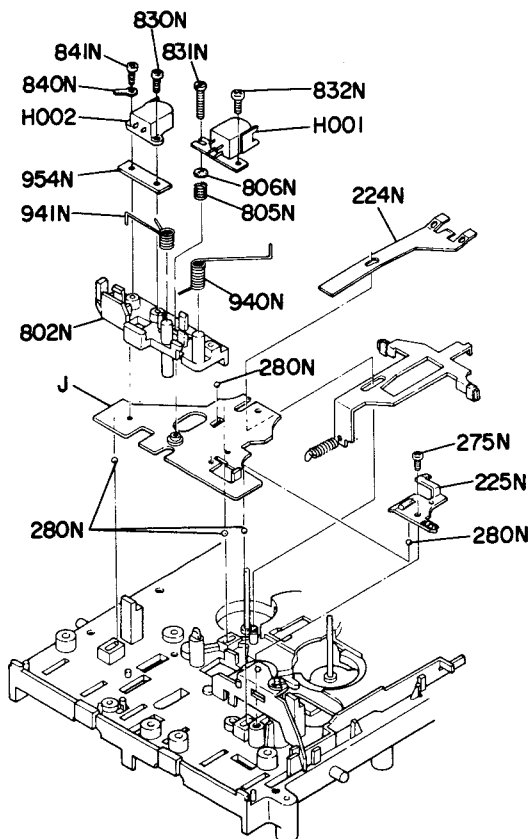
12.7 [P07-99] Buttons for Tape Mechanism Operation

• (N): for PMS7004
• (E): for PMS7004S



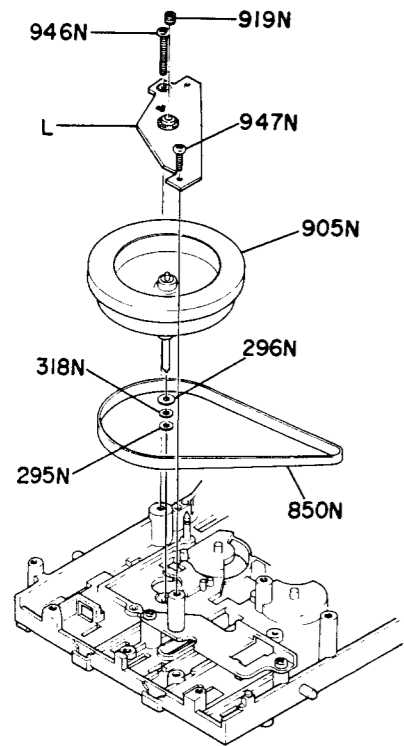
REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
061B	5	5	4276270030	Button
062B	1	1	4276270040	Button
002P	1	1	4380160015	Bracket
003P	6	6	4380354070	Lever
004P	1	1	4380051014	Guide
005P	1	1	4380112030	Shaft
011P	2	2	51300310B0	P.H. Tapped Screw P3 x 10
015P	2	2	51062603A0	P.H.M. Screw P2.6 x 3

12.8 [P08-99] Head Chassis



REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
J	1	1	4380105410	Chassis, Head
224N	1	1	4380115130	Spring
225N	1	1	4367115172	Spring
275N	1	1	51300308B0	P.H. Tapped Screw P3 x 8
280N	5	5	61020010T0	Ball
802N	1	1	4367160016	Bracket
805N	1	1	4383115030	Spring
806N	1	1	3444118070	Spacer
830N	1	1	51100210A0	B.H.M. Screw B2 x 10
831N	1	1	51190210A2	Pin
832N	1	1	51100210A0	B.H.M. Screw B2 x 10
840N	1	1	62021030W0	Lug
841N	1	1	51100212A0	B.H.M. Screw B2 x 12
940N	1	1	4367115380	Spring
941N	1	1	4367115053	Spring
954N	1	1	4367118070	Spacer
H001	1	1	LH42851050	Rec/Play Head
H002	1	1	LH31000490	Erase Head

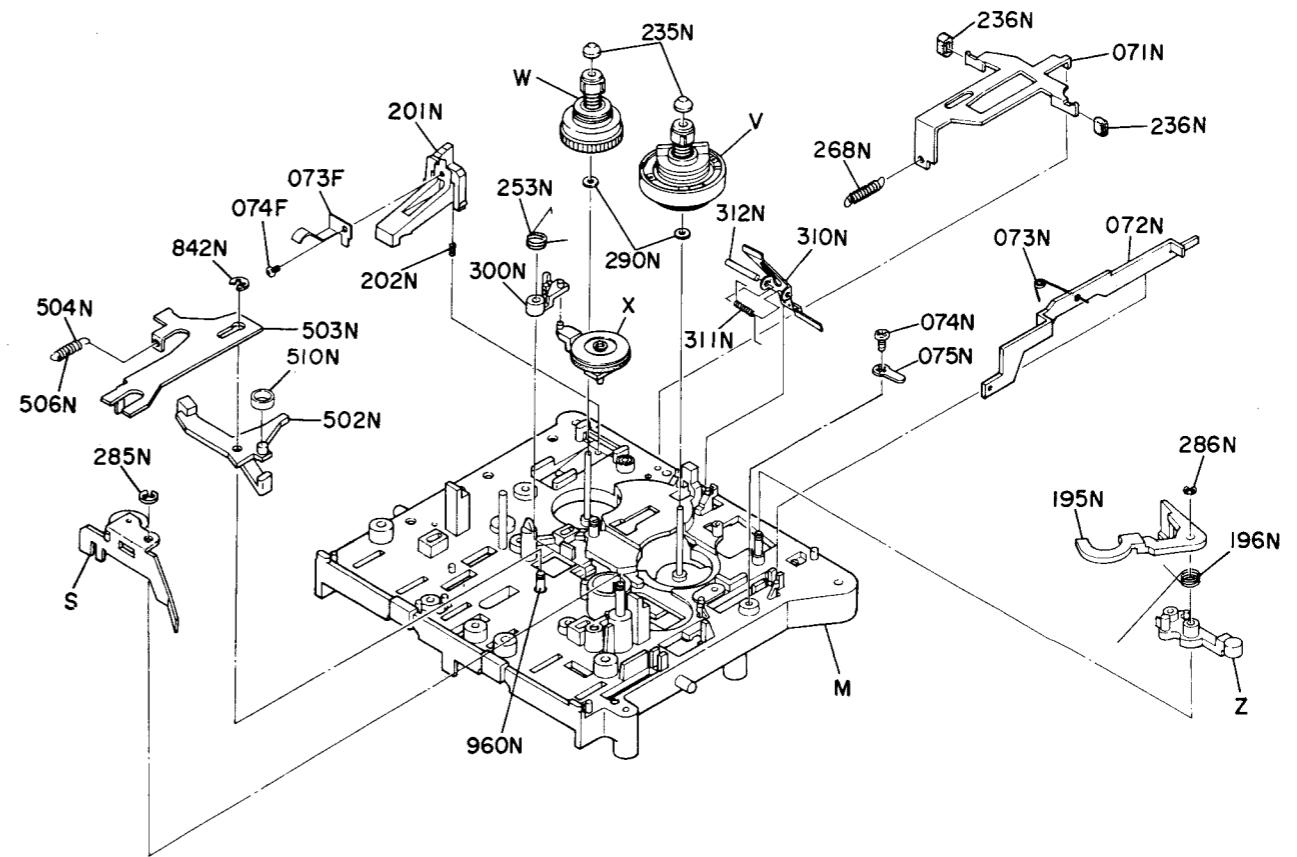
12.9 [P09-99] Flywheel



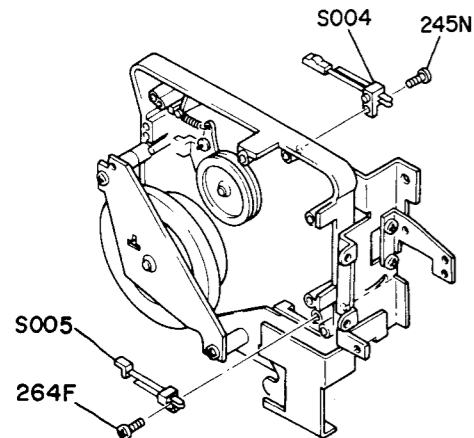
REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
L	1	1	4380104400	Retainer Assembly, Flywheel
295N	1	1	59264702G9	Washer
296N	1	1	59260702G9	Washer
318N	1	1	59264705G9	Washer
850N	1	1	4380264032	Belt
905N	1	1	4380273502	Flywheel
919N	1	1	3483164020	Adjuster
946N	1	1	51300325B0	P.H. Tapped Screw P3 x 25
947N	1	1	51100308A9	B.H.M. Screw B3 x 8

• (N): for PMS7004
• (E): for PMS7004S

12.11 [P11-99] Parts Assembled on the Top of the Chassis



12.10 [P10-99] Switch Location for Tape Mechanism Operation



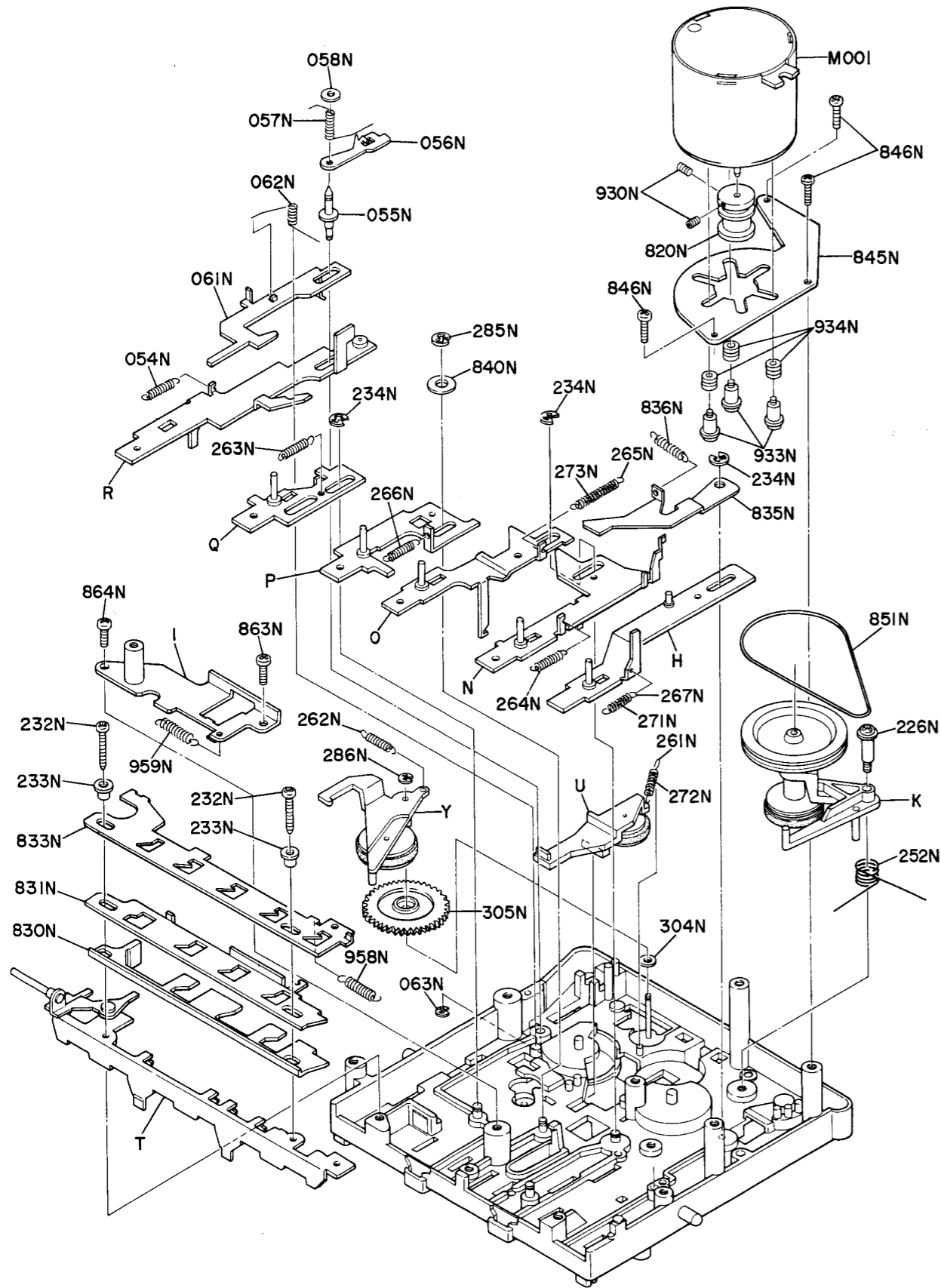
REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
264F	1	1	51400208P0	B.H. Tapped Screw B2 x 8
245N	1	1	51302608B0	P.H. Tapped Screw P2.6 x 8
S004	1	1	SM01010680	Mini Switch, Motor
S005	1	1	SM01010660	Mini Switch, Play Muting

• (N): for PMS7004
• (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
M	1	1	4380105400	Chassis Assembly
S	1	1	4367002400	Pinch Roller Assembly
V	1	1	4367004400	Table Assembly, Take Up
W	1	1	4367004410	Table Assembly, Supply
X	1	1	4367002410	Arm Assembly
Z	1	1	4380354460	Lever Assembly, TMS
071N	1	1	4367354092	Lever
072N	1	1	4367354124	Lever
073N	1	1	4380115120	Spring
074N	1	1	51282608B0	B.H. Tapped Screw B2.6 x 8
075N	1	1	62261240W0	Lug
195N	1	1	4367002055	Arm, TMS Sensor
196N	1	1	4367115130	Spring
201N	1	1	4367354085	Lever
202N	1	1	4380115060	Spring
235N	2	2	4367067010	Cap

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
236N	2	2	4367263013	Brake
253N	1	1	4367115310	Spring
268N	1	1	4367115210	Spring
285N	1	1	64002500R0	RG Ring, E Type
286N	1	1	64001500R0	RG Ring, E Type
290N	2	2	59020402G9	Washer
300N	1	1	4367354110	Lever
310N	1	1	4383115010	Spring
311N	1	1	4380115033	Spring
312N	1	1	4380112010	Shaft
502N	1	1	4367002097	Arm, Cue Review
503N	1	1	4367354170	Lever
504N	1	1	4367115320	Spring
506N	1	1	4367056050	Buffer
510N	1	1	4367055053	Collar
842N	1	1	64002500R0	RG Ring, E Type
960N	1	1	4367112190	Shaft
073F	1	1	4197115062	Spring
074F	1	1	51302606U0	P.H. Tapped Screw P2.6 x 6

• (N): for PMS7004
• (E): for PMS7004S



REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
H	1	1	4399354400	Lever Assembly, Rec
I	1	1	4380160410	Bracket Assembly, Switch
K	1	1	4380001400	Idler Assembly
N	1	1	4380354400	Lever Assembly, Rew
O	1	1	4380354490	Lever Assembly, Play
P	1	1	4380354420	Lever Assembly, F.F.
Q	1	1	4380354430	Lever Assembly, Stop
R	1	1	4380354440	Lever Assembly, Pause
T	1	1	4383051400	Guide Assembly, Push Lever
U	1	1	4367354450	FF Idler Assembly
Y	1	1	4367002410	Arm Assembly, TMS Idler
054N	1	1	4367115210	Spring
055N	1	1	4367112135	Shaft
056N	1	1	4367054032	Cam Pause Lock
057N	1	1	4367115142	Spring
058N	1	1	59020805G9	Washer
061N	1	1	4367354070	Lever, Eject
062N	1	1	4380115082	Spring
063N	1	1	64001500R0	RG Ring, E Type

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
226N	1	1	4367112182	Shaft
232N	2	2	51300312B0	P.H. Tapped Screw P3 x 12
233N	2	2	4382055012	Collar, Lock Cam
234N	3	3	64000300R0	RG Ring, E Type
252N	1	1	4380115052	Spring
261N	1	1	4367115090	Spring
262N	1	1	4367115120	Spring
263N	1	1	4367115252	Spring
264N	1	1	4367115340	Spring
265N	1	1	4367115270	Spring
266N	1	1	4367115282	Spring
267N	1	1	4380115070	Spring
271N	1	1	4367056020	Buffer
272N	1	1	4367056030	Buffer
273N	1	1	4367056020	Buffer
285N	1	1	64002500R0	RG Ring, E Type
286N	1	1	64001500R0	RG Ring, E Type
304N	1	1	4367118060	Spacer
305N	1	1	4367058500	Gear (K)
820N	1	1	4380262013	Pulley
830N	1	1	4396054010	Cam, Stop/Eject
831N	1	1	4396054023	Cam, Lock
833N	1	1	4396054032	Cam, Rec Lock
835N	1	1	4399002012	Arm, Inter Lock
836N	1	1	4399115010	Spring
840N	1	1	54110159A0	Flat Washer, L.
845N	1	1	4380160033	Bracket, DC Motor
846N	3	3	51300308B0	P.H. Tapped Screw P3 x 8
851N	1	1	4380264052	Belt, TMS
863N	1	1	51300308B0	P.H. Tapped Screw P3 x 8
864N	1	1	51300310B0	P.H. Tapped Screw P3 x 10
930N	2	2	51690305Q9	Socket Screw, HP.
933N	3	3	4367112152	Shaft
934N	3	3	4383259010	Bushing
958N	1	1	4396115030	Spring
959N	1	1	4396115030	Spring
Δ M001	1	1	MM11200142	D.C. Motor DC Governor 12V 2200rpm CCW

• (N): for PMS7004
• (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
R221	1	1	GD05332140	3.3K Ω
R222	1	1	GD05332140	3.3K Ω
R223	1	1	GD05334140	330K Ω
R224	1	1	GD05334140	330K Ω
R225	1	1	GD05153140	15K Ω
R226	1	1	GD05153140	15K Ω
R227	1	1	RA02030060	20K Ω (B), Trimming
R228	1	1	RA02030060	20K Ω (B), Trimming
R229	1	1	GD05101140	100 Ω
R230	1	1	GD05101140	100 Ω
R231	1	1	GD05102140	1K Ω
R232	1	1	GD05102140	1K Ω
R233	1	1	GD05333140	33K Ω
R234	1	1	GD05333140	33K Ω
R235	1	1	GD05562140	5.6K Ω
R236	1	1	GD05562140	5.6K Ω
R237	1	1	GD05561140	560 Ω
R238	1	1	GD05561140	560 Ω
R239	1	1	GD05272140	2.7K Ω
R240	1	1	GD05272140	2.7K Ω
R241	1	1	GD05392140	3.9K Ω
R242	1	1	GD05392140	3.9K Ω
R243	1	1	GD05472140	4.7K Ω
R244	1	1	GD05472140	4.7K Ω
R245	1	1	RA02030060	20K Ω (B), Trimming
R246	1	1	RA02030060	20K Ω (B), Trimming
R247	1	1	GD05124140	120K Ω
R248	1	1	GD05124140	120K Ω
R249	1	1	GD05332140	3.3K Ω
R250	1	1	GD05332140	3.3K Ω
R253	1	1	GD05564140	560K Ω
R254	1	1	GD05564140	560K Ω
R255	1	1	GD05104140	100K Ω
R256	1	1	GD05104140	100K Ω
R257	1	1	GD05562140	5.6K Ω
R258	1	1	GD05562140	5.6K Ω
R259	1	1	GD05821140	820 Ω
R260	1	1	GD05821140	820 Ω
R261	1	1	GD05152140	1.5K Ω
R262	1	1	GD05152140	1.5K Ω
R263	1	1	GD05100140	10 Ω
R264	1	1	GD05100140	10 Ω
R265	1	1	GD05473140	47K Ω
R266	1	1	GD05473140	47K Ω
R267	1	1	GD05332140	3.3K Ω
R268	1	1	GD05332140	3.3K Ω
R269	1	1	GD05181140	180 Ω
R270	1	1	GD05181140	180 Ω
R271	1	1	GD05332140	3.3K Ω
R272	1	1	GD05332140	3.3K Ω
R275	1	1	GD05274140	270K Ω
R276	1	1	GD05274140	270K Ω
R277	1	1	GD05564140	560K Ω
R278	1	1	GD05564140	560K Ω
R279	1	1	GD05274140	270K Ω
R280	1	1	GD05274140	270K Ω
R283	1	1	GD05103140	10K Ω
R284	1	1	GD05103140	10K Ω
R287	1	1	GD05103140	10K Ω
R288	1	1	GD05103140	10K Ω

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
R289	1	1	GD05222140	2.2K Ω
R290	1	1	GD05222140	2.2K Ω
R293	1	1	GD05154140	150K Ω
R294	1	1	GD05154140	150K Ω
R295	1	1	GD05473140	47K Ω
R296	1	1	GD05473140	47K Ω
R297	1	1	GD05564140	560K Ω
R298	1	1	GD05564140	560K Ω
R301	1	1	GD05332140	3.3K Ω
R302	1	1	GD05332140	3.3K Ω
R303	1	1	GD05561140	560 Ω
R304	1	1	GD05561140	560 Ω
R305	1	1	GD05821140	820 Ω
R306	1	1	GD05821140	820 Ω
R307	1	1	RA05020160	5K Ω (B), Trimming
R308	1	1	RA05020160	5K Ω (B), Trimming
R309	1	1	GD05102140	1K Ω
R310	1	1	GD05102140	1K Ω
R311	1	1	GG05047120	4.7 Ω 1/2W
R313	1	1	GG05121120	120 Ω 1/2W
R313	1	1	GD05390140	39 Ω
R314	1	1	GD05682140	6.8K Ω
R315	1	1	GD05472140	4.7K Ω
R316	1	1	GD05683140	68K Ω
R317	1	1	GD05470140	47 Ω
R318	1	1	GD05470140	47 Ω
R319	1	1	GD05680140	68 Ω
R320	1	1	GD05680140	68 Ω
R321	1	1	GD05103140	10K Ω
R322	1	1	GD05103140	10K Ω
R323	1	1	GD05682140	6.8K Ω
R324	1	1	GD05682140	6.8K Ω
R325	1	1	GD05102140	1K Ω
R326	1	1	GD05102140	1K Ω
R327	1	1	GD05334140	330K Ω
R328	1	1	GD05334140	330K Ω
R329	1	1	GD05473140	47K Ω
R330	1	1	GD05473140	47K Ω
R331	1	1	GD05472140	4.7K Ω
R332	1	1	GD05472140	4.7K Ω
R333	1	1	GD05222140	2.2K Ω
R334	1	1	GD05222140	2.2K Ω
R335	1	1	RA02030060	20K Ω (B), Trimming
R336	1	1	RA02030060	20K Ω (B), Trimming
R337	1	1	GD05103140	10K Ω
R338	1	1	GD05103140	10K Ω
R341	1	1	GD05822140	8.2K Ω
R342	1	1	GD05103140	10K Ω
R343	1	1	GD05224140	220K Ω
R344	1	1	GD05823140	82K Ω
R345	1	1	GD05222140	2.2K Ω
R346	1	1	GD05102140	1K Ω
R347	1	1	GD05102140	1K Ω
R348	1	1	GD05102140	1K Ω
R349	1	1	GD05105140	1M Ω
R350	1	1	GD05102140	1K Ω
R351	1	1	GD05103140	10K Ω
R352	1	1	GF05047120	4.7 Ω 1/2W
R353	1	1	GD05472140	4.7K Ω
R354	1	1	GD05472140	4.7K Ω

• (N): for PMS7004
 • (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
R355	1	1	GD05182140	1.8K Ω
R356	1	1	GD05182140	1.8K Ω
R357	1	1	GD05103140	10K Ω
R358	1	1	GD05103140	10K Ω
R359	1	1	GD05333140	33K Ω
R361	1	1	GD05103140	10K Ω
R362	1	1	GD05103140	10K Ω
R363	1	1	GD05394140	390K Ω
R364	1	1	GD05155140	1.5M Ω
R365	1	1	GD05332140	3.3K Ω
R366	1	1	GD05332140	3.3K Ω
R601	1	1	RM05030810	50K Ω (D), Variable, Treble
R602	1	1	RM05030810	50K Ω (D), Variable, Bass
R603	1	1	GD05103140	10K Ω
R604	1	1	GD05103140	10K Ω
R605	1	1	GD05102140	1K Ω
R606	1	1	GD05102140	1K Ω
R607	1	1	GD05222140	2.2K Ω
R608	1	1	GD05222140	2.2K Ω
R611	1	1	GD05103140	10K Ω
R612	1	1	GD05103140	10K Ω
R613	1	1	GD05332140	3.3K Ω
R614	1	1	GD05332140	3.3K Ω
R615	1	1	RK05030290	50K Ω (G), Variable, Balance
R616	1	1	RK05030820	50K Ω (B), Variable, Volume
P200-SEMICONDUCTORS				
Q201	1	1	HT110151B0	Transistor 2SA1015(Y)
Q202	1	1	HT110151B0	Transistor 2SA1015(Y)
Q203	1	1	HT318151D0	Transistor 2SC1815(BL)
Q204	1	1	HT318151D0	Transistor 2SC1815(BL)
Q205	1	1	HT308282A0	Transistor 2SC828(R or S)
Q206	1	1	HT308282A0	Transistor 2SC828(R or S)
Q207	1	1	HT314001E0	Transistor 2SC1400(E)
Q208	1	1	HT314001E0	Transistor 2SC1400(E)
Q209	1	1	HC10001360	IC LM1011AN
Q210	1	1	HC10001360	IC LM1011AN
Q211	1	1	HT320011K0	Transistor 2SC2001(K)
Q212	1	1	HT320011K0	Transistor 2SC2001(K)
Q213	1	1	HT308281D0	Transistor 2SC828(S)
Q214	1	1	HT308281D0	Transistor 2SC828(S)
Q215	1	1	HT308281D0	Transistor 2SC828(S)
Q216	1	1	HT308281D0	Transistor 2SC828(S)
Q217	1	1	HT318151C0	Transistor 2SC1815(GR)
Q218	1	1	HT318151C0	Transistor 2SC1815(GR)
Q219	1	1	HT308282A0	Transistor 2SC828(R or S)
Q220	1	1	HT320011L0	Transistor 2SC2001(L)
Q221	1	1	HT313271U0	Transistor 2SC1327(U)
Q222	1	1	HT313271U0	Transistor 2SC1327(U)
Q223	1	1	HT308282A0	Transistor 2SC828(R or S)
Q225	1	1	HT308282A0	Transistor 2SC828(R or S)
Q226	1	1	HT308282A0	Transistor 2SC828(R or S)
Q231	1	1	HD20001210	Diode 1S2473
Q232	1	1	HD20001210	Diode 1S2473
Q233	1	1	HD10002020	Diode OA90
Q234	1	1	HD10002020	Diode OA90
Q235	1	1	HD10002020	Diode OA90

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
Q236	1	1	HD10002020	Diode OA90
Q237	1	1	HD10002020	Diode OA90
Q238	1	1	HD10002020	Diode OA90
Q239	1	1	HD20001210	Diode 1S2473
Q240	1	1	HD20001210	Diode 1S2473
Q241	1	1	HD20001210	Diode 1S2473
Q242	1	1	HD20001210	Diode 1S2473
Q243	1	1	HD20001210	Diode 1S2473
Q244	1	1	HD30033090	Zener WZ-052
Q245	1	1	HD20001210	Diode 1S2473
Q246	1	1	HD20001210	Diode 1S2473
Q247	1	1	HD20001210	Diode 1S2473
Q248	1	1	HD20011050	Diode 1S1555
Q249	1	1	HD20011050	Diode 1S1555
P200-MISCELLANEOUS				
J291	1	1	YJ06002270	Jack (8P)
L201	1	1	LS70305010	M.P.X. Coil, 19KHz
L202	1	1	LS70305010	M.P.X. Coil, 19KHz
L203	1	1	LC22260060	Choke Coil, 22mH
L204	1	1	LC22260060	Choke Coil, 22mH
L205	1	1	LC22260060	Choke Coil, 22mH
L206	1	1	LC22260060	Choke Coil, 22mH
L207	1	1	LC24750040	Choke Coil, 4.7mH
L208	1	1	LC24750040	Choke Coil, 4.7mH
L209	1	1	LC22260010	Choke Coil, 22mH
L210	1	1	LC22260010	Choke Coil, 22mH
S201	1	1	SR06050190	Rotary Switch, Function
S202	1	1	SS12020110	Slide Switch, Rec/Play
S203	1	1	SC02030080	Switch, FM Mut/ISS
S204	1	1	SS06030180	Slide Switch, Tape Select
S205	1	1	SB11800040	Switch Band, FLX
S206	1	1	SC00030020	Switch, Tape Select
S207	1	1	SB12200010	Switch Band, FLX, Rec/Play
S601	1	1	SC02020350	Switch, Mode Mono/Stereo
W201	1	1	YU03160240	Jumper Lead, (3P) 160mm
W202	1	1	YU03160240	Jumper Lead, (3P) 160mm
W204	1	1	YU04090020	Jumper Lead, (4P) 90mm
W205	1	1	YU05240240	Jumper Lead, (5P) 240mm
W206	1	1	YU05240240	Jumper Lead, (5P) 240mm
W207	1	1	YU10250210	Jumper Lead, (10P) 250mm
P400-POWER AMP. CIRCUIT BOARD				
Δ P400	1	1	YK208T2422	P.W. Board, Power Amp.
	1	1	ZZ208T1420	P.W. Board Assembly
P400-CAPACITORS				
C401	1	1	EA47505030	Elect 4.7 μ F 50V
C402	1	1	EA47505030	Elect 4.7 μ F 50V
C403	1	1	EA22602530	Elect 22 μ F 25V
C404	1	1	EA10701030	Elect 100 μ F 10V
C405	1	1	EA10701030	Elect 100 μ F 10V
C406	1	1	EA10701030	Elect 100 μ F 10V
C407	1	1	EA10701030	Elect 100 μ F 10V
C408	1	1	EA10701030	Elect 100 μ F 10V
C409	1	1	DF16104300	Film 0.1 μ F \pm 10%
C410	1	1	DF16104300	Film 0.1 μ F \pm 10%

• (N): for PMS7004
• (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
C411	1	1	EA10801030	Elect 1000 μ F 10V
C412	1	1	EA10801030	Elect 1000 μ F 10V
C413	1	1	EA10802530	Elect 1000 μ F 25V
C414	1	1	EA47701630	Elect 470 μ F 16V
C415	1	1	EA22701630	Elect 220 μ F 16V
C416	1	1	EA47701630	Elect 470 μ F 16V
C417	1	1	EA10702530	Elect 100 μ F 25V
C418	1	1	EA22702530	Elect 220 μ F 25V
C419	1	1	EA47601630	Elect 47 μ F 16V
C450	1	1	DD15221370	Ceramic 220pF \pm 5%
C451	1	1	DD15300370	Ceramic 30pF \pm 5%
P400-RESISTORS (All Resistors are \pm 5% and $\frac{1}{4}$ W)				
R401	1	1	GD05333140	33K Ω
R402	1	1	GD05333140	33K Ω
R403	1	1	GD05122140	1.2K Ω
R404	1	1	GG05022120	2.2 Ω $\frac{1}{4}$ W
R405	1	1	GG05100120	10 Ω $\frac{1}{4}$ W
R406	1	1	GD05151140	150 Ω
R407	1	1	GD05104140	100K Ω
R408	1	1	GG05056120	5.6 Ω $\frac{1}{4}$ W
R409	1	1	GD05681140	680 Ω
R410	1	1	GG05100120	10 Ω $\frac{1}{4}$ W
R411	1	1	GG05100120	10 Ω $\frac{1}{4}$ W
R412	1	1	GD05102140	1K Ω
R413	1	1	GD05271140	270 Ω
P400-SEMICONDUCTORS				
Q401	1	1	HC10037010	IC HA1392
Q402	1	1	HT407931Q0	Transistor 2SD793(Q)
Q403	1	1	HT407931Q0	Transistor 2SD793(Q)
Q404	1	1	HT313831C0	Transistor 2SC1383(R)
Q405	1	1	HD30029090	Zener WZ-090
Q406	1	1	HD30029090	Zener WZ-090
Q407	1	1	HT407932A0	Transistor 2SD793 (R or Q)
P400-COIL				
L401	1	1	LC14730040	Choke Coil, 47 μ H
P500-MIXING-REC MODE CIRCUIT BOARD				
P500	1	1	YF210T0020	P.W. Board, Mixing-Rec Mode
	1	1	ZZ210T8020	P.W. Board Assembly
P500-CAPACITORS				
C501	1	1	EA10505030	Elect 1 μ F 50V
C502	1	1	DD15221370	Ceramic 220pF \pm 5%
C503	1	1	DD15101370	Ceramic 100pF \pm 5%
C504	1	1	EA33601030	Elect 33 μ F 10V
C505	1	1	EA10505030	Elect 1 μ F 50V
C506	1	1	DD15470370	Ceramic 47pF \pm 5%
C507	1	1	EA10702530	Elect 100 μ F 25V
C508	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
P500-RESISTORS (All Resistors are \pm 5% and $\frac{1}{4}$ W)				
R501	1	1	GD05332140	3.3K Ω
R502	1	1	GD05561140	560 Ω
R503	1	1	GD05473140	47K Ω
R504	1	1	GD05154140	150K Ω
R505	1	1	GD05332140	3.3K Ω
R506	1	1	GD05561140	560 Ω
R507	1	1	GD05823140	82K Ω
R508	1	1	RK05030300	50K Ω (A) Variable, Mixing
R509	1	1	GD05561140	560 Ω
R510	1	1	GD05102140	1K Ω
R511	1	1	RA05020160	5K Ω (B) Trimming, ARL Level
R512	1	1	GD05102140	1K Ω
R513	1	1	GD05103140	10K Ω
R514	1	1	GD05103140	10K Ω
R515	1	1	RD02030092	20K Ω (A) Variable, Rec Level
P500-SEMICONDUCTORS				
Q501	1	1	HT318151B0	Transistor 2SC1815(Y)
Q502	1	1	HT318151D0	Transistor 2SC1815(BL)
Q503	1	1	HT320011K0	Transistor 2SC2001(K)
Q504	1	1	HT320011K0	Transistor 2SC2001(K)
P500-MISCELLANEOUS				
J290	1	1	YJ06002370	Jack (10P)
S501	1	1	SC04020120	Switch, Mixing
S502	1	1	SC04020120	Switch, Rec Mode
P700-JACK CIRCUIT BOARD				
P700	1	1	YK208T2410	P.W. Board, Jack
	1	1	ZZ208T0070	P.W. Board Assembly
P700-CAPACITORS				
C701	1	1	EA47505030	Elect 4.7 μ F 50V
C702	1	1	EA47505030	Elect 4.7 μ F 50V
C703	1	1	DD15300360	Ceramic 30pF \pm 5%
C704	1	1	DD15300360	Ceramic 30pF \pm 5%
C705	1	1	DF16223300	Film 0.022 μ F \pm 10%
C706	1	1	DF16223300	Film 0.022 μ F \pm 10%
C707	1	1	EA10505030	Elect 1 μ F 50V
C708	1	1	EA10505030	Elect 1 μ F 50V
C711	1	1	DF16224300	Film 0.22 μ F \pm 10%
C712	1	1	DF16224300	Film 0.22 μ F \pm 10%
C713	1	1	EA22702530	Elect 220 μ F 25V
C725	1	1	DD15221360	Ceramic 220pF \pm 5%
P700-RESISTORS (All Resistors are \pm 5% and $\frac{1}{4}$ W)				
R701	1	1	GD05332140	3.3K Ω
R702	1	1	GD05332140	3.3K Ω
R703	1	1	RN05105140	1M Ω
R704	1	1	RN05105140	1M Ω
R705	1	1	GD05101140	100 Ω
R706	1	1	GD05101140	100 Ω
R707	1	1	GD05472140	4.7K Ω
R708	1	1	GD05472140	4.7K Ω
R709	1	1	GD05153140	15K Ω
R710	1	1	GD05153140	15K Ω

• (N): for PMS7004
• (E): for PMS7004S

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
R711	1	1	GD05152140	1.5K Ω
R712	1	1	GD05152140	1.5K Ω
R713	1	1	GD05153140	15K Ω
R714	1	1	GD05153140	15K Ω
R715	1	1	GD05222140	2.2K Ω
R716	1	1	GD05222140	2.2K Ω
R717	1	1	GD05331140	330 Ω
P700-TRANSISTORS				
Q701	1	1	HT314001E0	Transistor 2SC1400(E)
Q702	1	1	HT314001E0	Transistor 2SC1400(E)
P700-MISCELLANEOUS				
J701	1	1	BY09090010	Jack Board
W701	1	1	YU08280240	Jumper Lead, 280mm
P800-POWER SUPPLY CIRCUIT BOARD				
△P800	1	1	YF210T0030	P.W. Board, Power Supply
	1	1	ZZ210T1320	P.W. Board Assembly
P800-CAPACITORS				
C801	1	1	EA47801630	Elect 4700 μ F 16V
C802	1	1	EA47801630	Elect 4700 μ F 16V
C803	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C804	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C805	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C806	1	1	DK18103320	Ceramic 0.01 μ F +80% -20%
C807	1	1	EA10601630	Elect 10 μ F 16V
P800-RESISTORS				
R801	1	1	RA05030090	50K Ω Trimming, Batt. Check
R802	1	1	GD05683140	68K Ω \pm 5% $\frac{1}{4}$ W
R804	1	1	GD05102140	1K Ω \pm 5% $\frac{1}{4}$ W
R807	1	1	GD05104140	100K Ω \pm 5% $\frac{1}{4}$ W
R808	1	1	GD05102140	1K Ω \pm 5% $\frac{1}{4}$ W
P800-SEMICONDUCTORS				
Q801	1	1	HT313831C0	Transistor 2SC1383(R)
Q802	1	1	HD20007290	Diode S3V10
Q803	1	1	HD20007290	Diode S3V10
Q804	1	1	HD20007290	Diode S3V10
Q805	1	1	HD20007290	Diode S3V10
Q807	1	1	HD20011050	Diode 1S1555
P800-MISCELLANEOUS				
F801	1	1	FS10250800	Fuse 2.5A
J801	1	1	YJ08000200	Jack, Fuse Clip
J802	1	1	YJ08000200	Jack, Fuse Clip
J803	1	1	YP06000600	Plug (9P)
J804	1	1	YJ06001430	Jack (9P)
J817	1	1	YP06002380	Plug (1P)

REF. DESIG.	Q'TY		PART NO.	DESCRIPTION
	N	E		
P950	1	1	YF210T0010	P950-BIAS OSC/MOTOR FILTER CIRCUIT BOARD
	1	1	ZZ210T8010	P.W. Board, Bias OSC/Motor Filter
	1	1	ZZ210T8030	P.W. Board Assembly
	1	1	ZZ210T8030	P.W. Board Assembly
P950-CAPACITORS				
C951	1	1	DD15331370	Ceramic 330pF \pm 5%
C952	1	1	DD15331370	Ceramic 330pF \pm 5%
C953	1	1	DF55242510	Film 2400pF \pm 5%
C953	1	1	DF55122510	Film 1200pF \pm 5%
C954	1	1	DF16153300	Film 0.015 μ F \pm 10%
C954	1	1	DF16682300	Film 6800pF \pm 10%
C955	1	1	DF16332300	Film 3300pF \pm 10%
C955	1	1	DF16682300	Film 6800pF \pm 10%
C956	1	1	DF16153300	Film 0.015 μ F \pm 10%
C957	1	1	EA10602530	Elect 10 μ F 25V
C958	1	1	DK18473320	Ceramic 0.047 μ F +80% -20%
C959	1	1	DK18473320	Ceramic 0.047 μ F +80% -20%
C961	1	1	EA47701630	Elect 470 μ F 16V
C962	1	1	DK18473320	Ceramic 0.047 μ F +80% -20%
C963	1	1	DF55821510	Film 820pF \pm 5%
C964	1	1	DF55471510	Film 470pF \pm 5%
P950-RESISTORS (All Resistors are \pm5% and $\frac{1}{4}$W)				
R951	1	1	RA01040110	100K Ω Trimming, Bias Adj.
R952	1	1	RA01004110	100K Ω Trimming, Bias Adj.
R953	1	1	GD05153140	15K Ω
R953	1	1	GD05272140	2.7K Ω
R954	1	1	GG05100120	10 Ω $\frac{1}{2}$ W
R954	1	1	GG05022120	2.2 Ω $\frac{1}{2}$ W
R955	1	1	GD05333140	33K Ω
R961	1	1	GG05022120	2.2 Ω $\frac{1}{2}$ W
Q951	1	1	HT404711L0	P950-SEMICONDUCTOR Transistor 2SD471(L)
P950-MISCELLANEOUS				
L951	1	1	TC10140150	OSC Transformer
L951	1	1	TC10420010	OSC Transformer
L952	1	1	LC22750500	Choke Coil, 2.7mH
L961	1	1	LC14730040	Choke Coil, 47 μ H
C901	1	1	DK18473320	Ceramic 0.047 μ F +80% -20%
C902	1	1	DD15101370	Ceramic 100pF \pm 5%
L901	1	1	LC11040010	Choke Coil, 100 μ H

(W01-99) Assembly and Wiring

(T01-99) Adjustment

(X01-00) Correction

13. TECHNICAL SPECIFICATIONS

Tape Recorder Section

Style	Front load
Tape Drive System	Single Capstan Drive
Cartridge	Philips type compact cassette
Track System	Compatible Stereo 4-track 2 channel
Tape Speed	1-7/8 ips (4.75 cm/sec.)
Heads	2 Head System
Composition	Rec/Play: Superhard Permalloy Erase: Ferrite
Motor	DC Servo Controlled Motor x 1
Meters	x 2
Recording System	AC Bias
Erasing System	AC Erase
Overall Frequency Response (Dolby off):	
Ferric Oxide Tape	60 Hz to 12.5 kHz +2.5/-40 dB
CrO ₂ Tape	60 Hz to 12.5 kHz +2.5/-40 dB
Total Harmonic Distortion	
Ferric Oxide Tape	3%
CrO ₂ Tape	3%
FeCr Tape	4%
Wow and Flutter (DIN WTD)	0.18%
Fast Rewind Time	105 sec.
Fast Forward time	105 sec.

Tuner Section

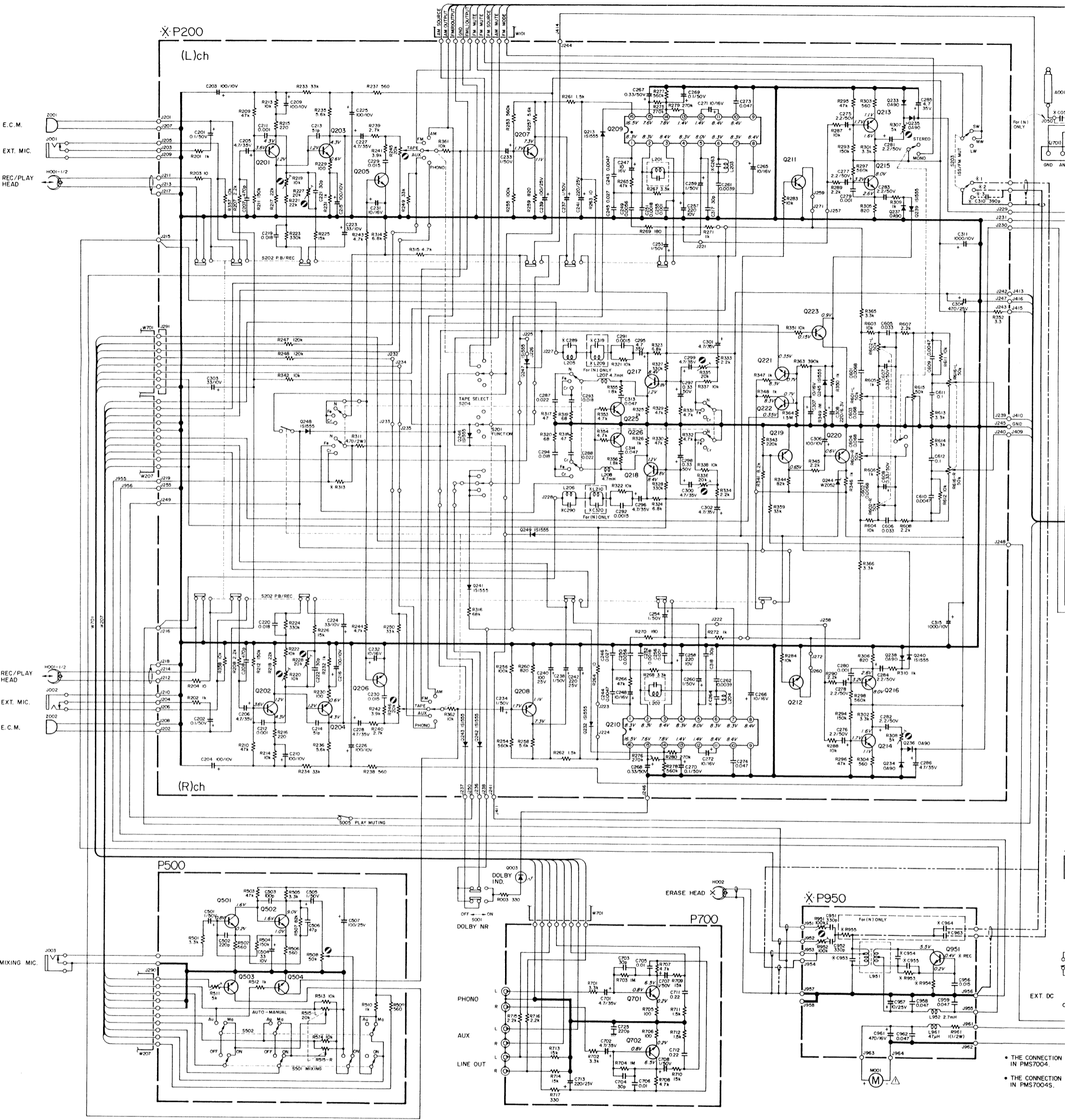
Circuit System (PMS7004)	4 Band FM/LW/MW/SW
Circuit System (PMS7004S)	4 Band FM/MW/SW ₁ /SW ₂ Superheterodyne
Frequency Range (PMS7004)	FM 88 ~ 108 MHz LW 150 ~ 370 kHz MW 525 ~ 1605 kHz SW 6 ~ 18 MHz
Frequency Range (PMS7004S)	FM 88 ~ 108 MHz MW 525 ~ 1605 kHz SW ₁ 2 ~ 6 MHz SW ₂ 6 ~ 18 MHz

General

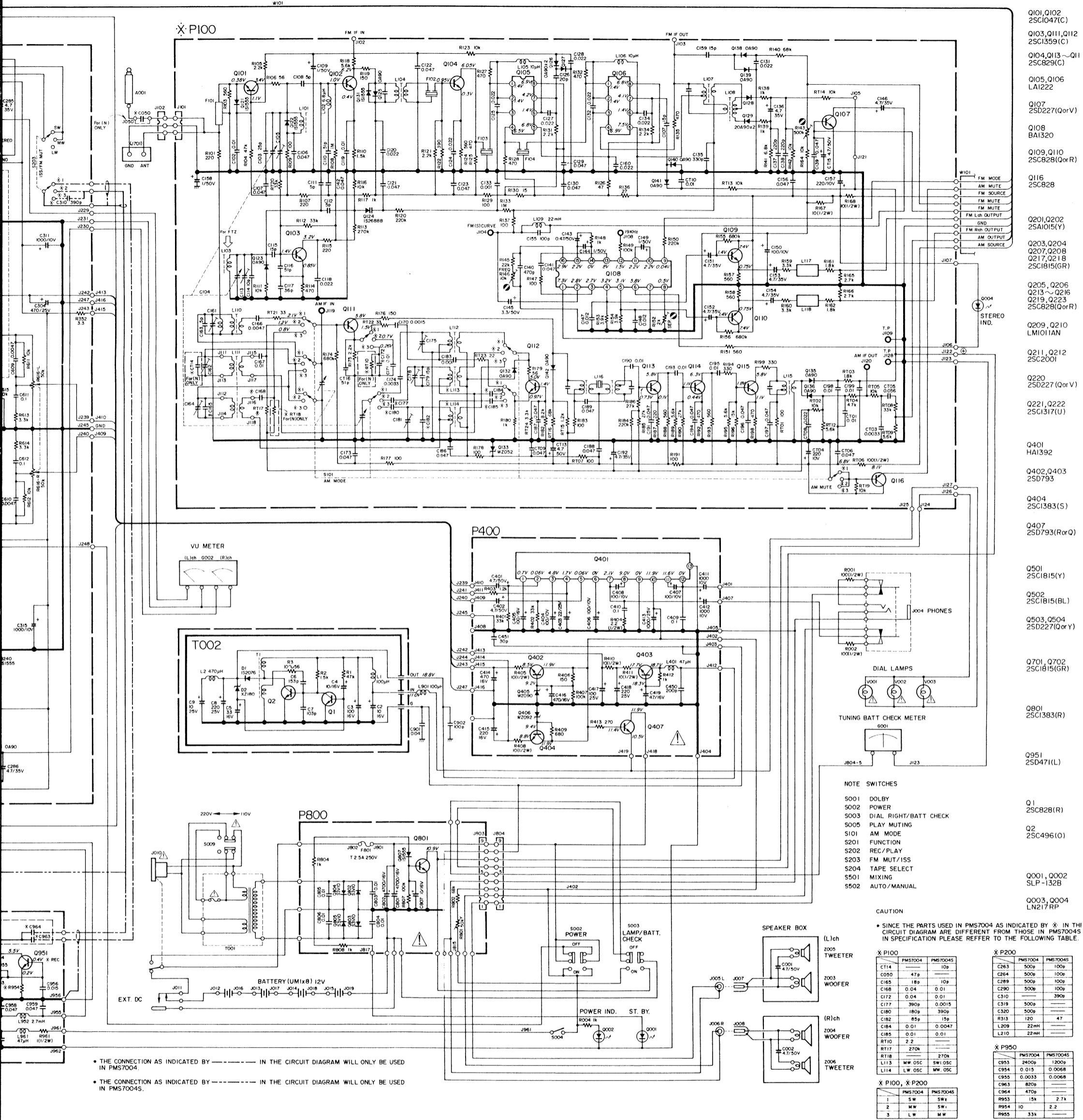
Semi-Conductor Complement:

IC's	6
FET's	2
Transistors	49
Diodes	50
Unit Weight (less batteries)	27 lb., 8 oz. (12.5 kg)
Dimensions	79.2 x 31.7 x 15.0 cm (W.H.D.) (31-3/16" x 12-1/2" x 5-15/16")
Power Output	4.0W x 2 (1 kHz 10% Dist)
Power Requirements (PMS 7004)	110/220V ~, 50/60 Hz (This unit may be converted to 110V 50/60 Hz operation by placing the Voltage Selector Switch located within the Battery Compartment to the 220V position.)
Power Requirement (PMS 7004S)	110/220V 50/60 Hz (This unit may be converted to 110V, 50/60 Hz operation by placing the Voltage Selector Switch located within the Battery Compartment to the 220V position.) 8 "D" Size Batteries External 12V DC

14. SCHEMATIC DIAGRAM



• THE CONNECTION IN PMS7004.
• THE CONNECTION IN PMS7004S.



- Q101, Q102 25C1047(C)
- Q103, Q111, Q112 25C1359(C)
- Q104, Q113 ~ Q11 25C829(C)
- Q105, Q106 LAI222
- Q107 25D227(QorV)
- Q108 BA1320
- Q109, Q110 25C828(QorR)
- Q116 25C828
- Q201, Q202 25A1015(Y)
- Q203, Q204 25D227(QorV)
- Q207, Q208 25C1359(C)
- Q217, Q218 25C815(GR)
- Q205, Q206 25D227(QorV)
- Q213 ~ Q216 25C828(QorR)
- Q219, Q223 25C828(QorR)
- Q209, Q210 LM101IAN
- Q211, Q212 25C2001
- Q220 25D227(QorV)
- Q221, Q222 25C1317(U)
- Q401 HA1392
- Q402, Q403 25D793
- Q404 25C1383(S)
- Q407 25D793(RorQ)
- Q501 25C1815(Y)
- Q502 25C1815(BL)
- Q503, Q504 25D227(QorY)
- Q701, Q702 25C1815(GR)
- Q801 25C1383(R)
- Q951 25D471(L)
- Q1 25C828(R)
- Q2 25C496(O)
- Q001, Q002 SLP-132B
- Q003, Q004 LN217RP

NOTE SWITCHES

- S001 DOLBY
- S002 POWER
- S003 DIAL RIGHT/BATT CHECK
- S005 PLAY MUTING
- S101 AM MODE
- S201 FUNCTION
- S202 REC/PLAY
- S203 FM MUT/ISS
- S204 TAPE SELECT
- S501 MIXING
- S502 AUTO/MANUAL

CAUTION

• SINCE THE PARTS USED IN PMS7004 AS INDICATED BY X IN THE CIRCUIT DIAGRAM ARE DIFFERENT FROM THOSE IN PMS7004S IN SPECIFICATION PLEASE REFER TO THE FOLLOWING TABLE

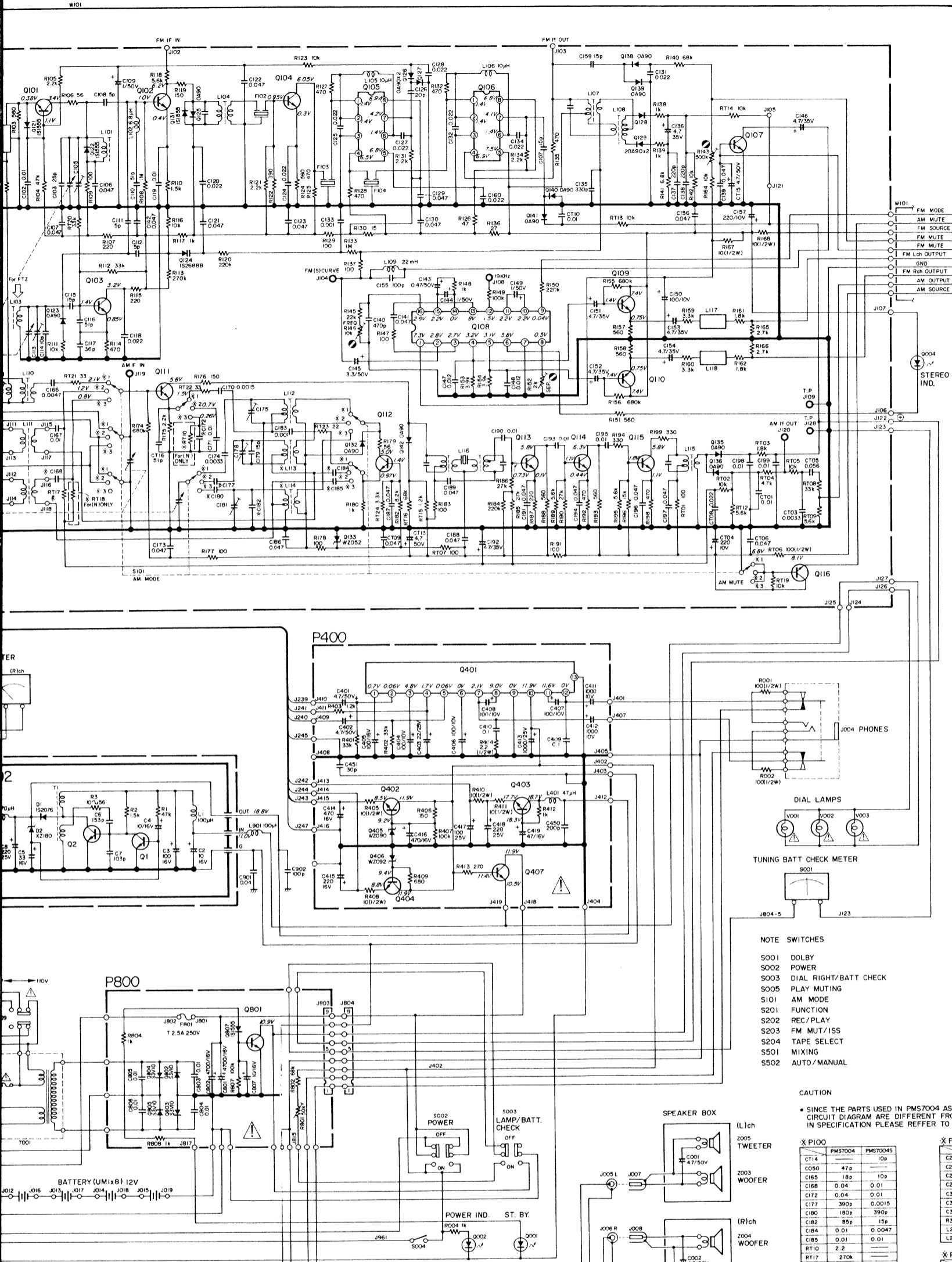
X P100		X P200	
PMS7004	PMS7004S	PMS7004	PMS7004S
CT14	10p	C263	500p
C050	47p	C264	500p
C165	18p	C269	500p
C168	0.04	C290	500p
C172	0.04	C310	390p
C177	390p	C319	500p
C180	390p	C320	500p
C182	85p	R313	12Ω
C184	0.01	L209	22mH
C185	0.01	L210	22mH
RT10	2.2		
RT17	270k		
RT18	270k		
L113	MW OSC		
L114	LW OSC		

X P100, X P200		X P950	
PMS7004	PMS7004S	PMS7004	PMS7004S
1	SW	C953	2400p
2	MW	C954	0.015
3	LW	C955	0.0033
		C964	820p
		R953	15k
		R954	10
		R955	33k

• THE CONNECTION AS INDICATED BY ----- IN THE CIRCUIT DIAGRAM WILL ONLY BE USED IN PMS7004.

• THE CONNECTION AS INDICATED BY - - - - - IN THE CIRCUIT DIAGRAM WILL ONLY BE USED IN PMS7004S.

Model PMS 7004/7004S



- Q101, Q102 2SC1047(C)
- Q103, Q111, Q112 2SC1359(C)
- Q104, Q113 ~ Q115 2SC829(C)
- Q105, Q106 LA1222
- Q107 2SD227(QorV)
- Q108 BA1320
- Q109, Q110 2SC828(QorR)
- Q116 2SC828
- Q201, Q202 2SA1015(Y)
- Q203, Q204 Q207, Q208 Q217, Q218 2SC1815(GR)
- Q205, Q206 Q213 ~ Q216 Q219, Q223 2SC828(QorR)
- Q209, Q210 LM1011AN
- Q211, Q212 2SC2001
- Q220 2SD227(QorV)
- Q221, Q222 2SC1317(U)
- Q401 HA1392
- Q402, Q403 2SD793
- Q404 2SC1383(S)
- Q407 2SD793(RorO)
- Q501 2SC1815(Y)
- Q502 2SC1815(BL)
- Q503, Q504 2SD227(QorV)
- Q701, Q702 2SC1815(GR)
- Q801 2SC1383(R)
- Q951 2SD471(L)

- NOTE SWITCHES
- S001 DOLBY
 - S002 POWER
 - S003 DIAL RIGHT/BATT CHECK
 - S005 PLAY MUTING
 - S101 AM MODE
 - S201 FUNCTION
 - S202 REC/PLAY
 - S203 FM MUT/ISS
 - S204 TAPE SELECT
 - S501 MIXING
 - S502 AUTO/MANUAL

CAUTION
 * SINCE THE PARTS USED IN PMS7004 AS INDICATED BY * IN THE CIRCUIT DIAGRAM ARE DIFFERENT FROM THOSE IN PMS7004S IN SPECIFICATION PLEASE REFER TO THE FOLLOWING TABLE.

* P100		* P200	
PMS7004	PMS7004S	PMS7004	PMS7004S
CT14	10p	C263	500p
C050	47p	C264	500p
C165	18p	C289	500p
C168	0.04	C290	500p
C172	0.04	C310	390p
C177	390p	C319	500p
C180	180p	C320	500p
C182	85p	R313	120
C184	0.01	L209	22mH
C185	0.01	L210	22mH
RT10	2.2		
RT17	270k		
RT18	270k		
LT13	MW OSC		
LT14	LW OSC		

* P100, * P200		* P950	
PMS7004	PMS7004S	PMS7004	PMS7004S
1	SW	C953	2400p
2	MW	C954	0.015
3	LW	C955	0.0033
		C963	820p
		C964	470p
		R953	15k
		R954	10
		R955	33k

--- IN THE CIRCUIT DIAGRAM WILL ONLY BE USED

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