

Service Manual

Pioneer

ORDER NO.
PET99019

POWERED SUBWOOFER

HTP105/205-SW

CONTENTS

1. SAFETY INFORMATION	2
2. DISASSEMBLY	3
3. PACKING, EXPLODED VIEWS AND PARTS LIST	3
4. SCHEMATIC AND PCB CONNECTION DIAGRAMS ..	6
5. PCB PARTS LIST	8
6. PANEL FACILITIES	9
7. SPECIFICATIONS	10

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1. SAFETY INFORMATION



This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly preformed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not a qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.



NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

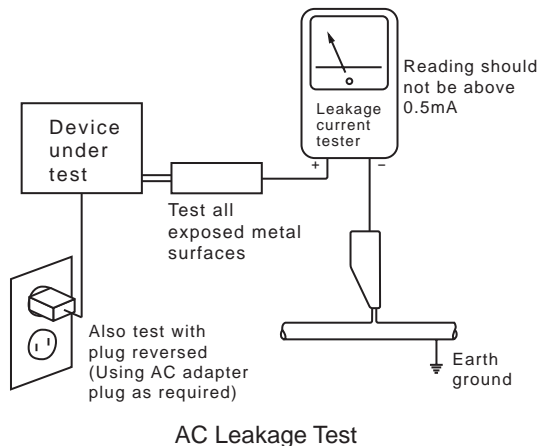
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a know earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must no exceed 0.5mA.



ANY MEASUREMENT NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RERTURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristic. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a D on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create sock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. DISASSEMBLY

• POWER AMP SECTION

- Remove the 8 screws from the power amplifier.
- Remove the connector lead, etc.

• GRILLE SECTION

- The grill is attached to the cabinet by its bosses applied with adhesive. To detach it, pry it open by inserting a flat blade screwdriver between the cabinet and the grille.

• SPEAKER

- Remove each of the 4 screws

3. PACKING, EXPLODED VIEWS AND PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

3.1 PACKING

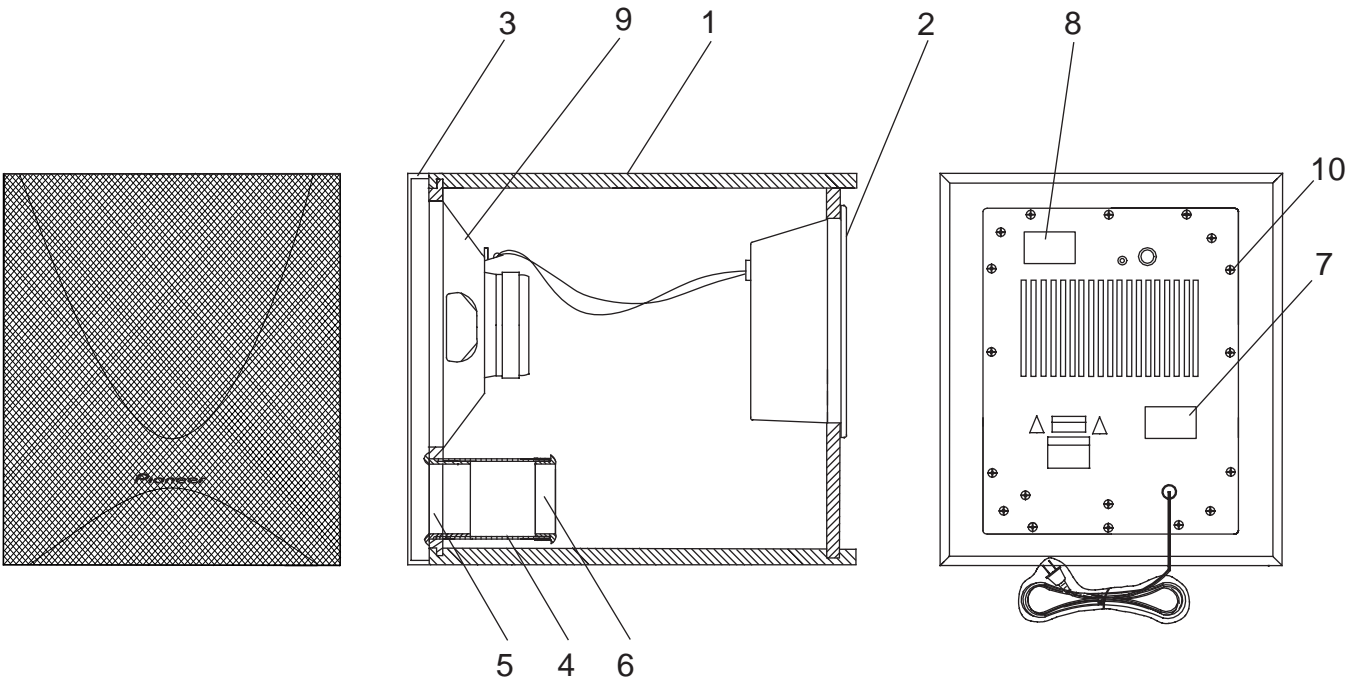
Parts List

Mark	No.	Description	Parts No.
		Operating Instructions	268206
		RCA Cable Accessory Pack	255245
		Corner Pad Assy	264333
		Poly Bag	266953
		Packing Case	264328

3.2 EXTERIOR SECTION

Parts List

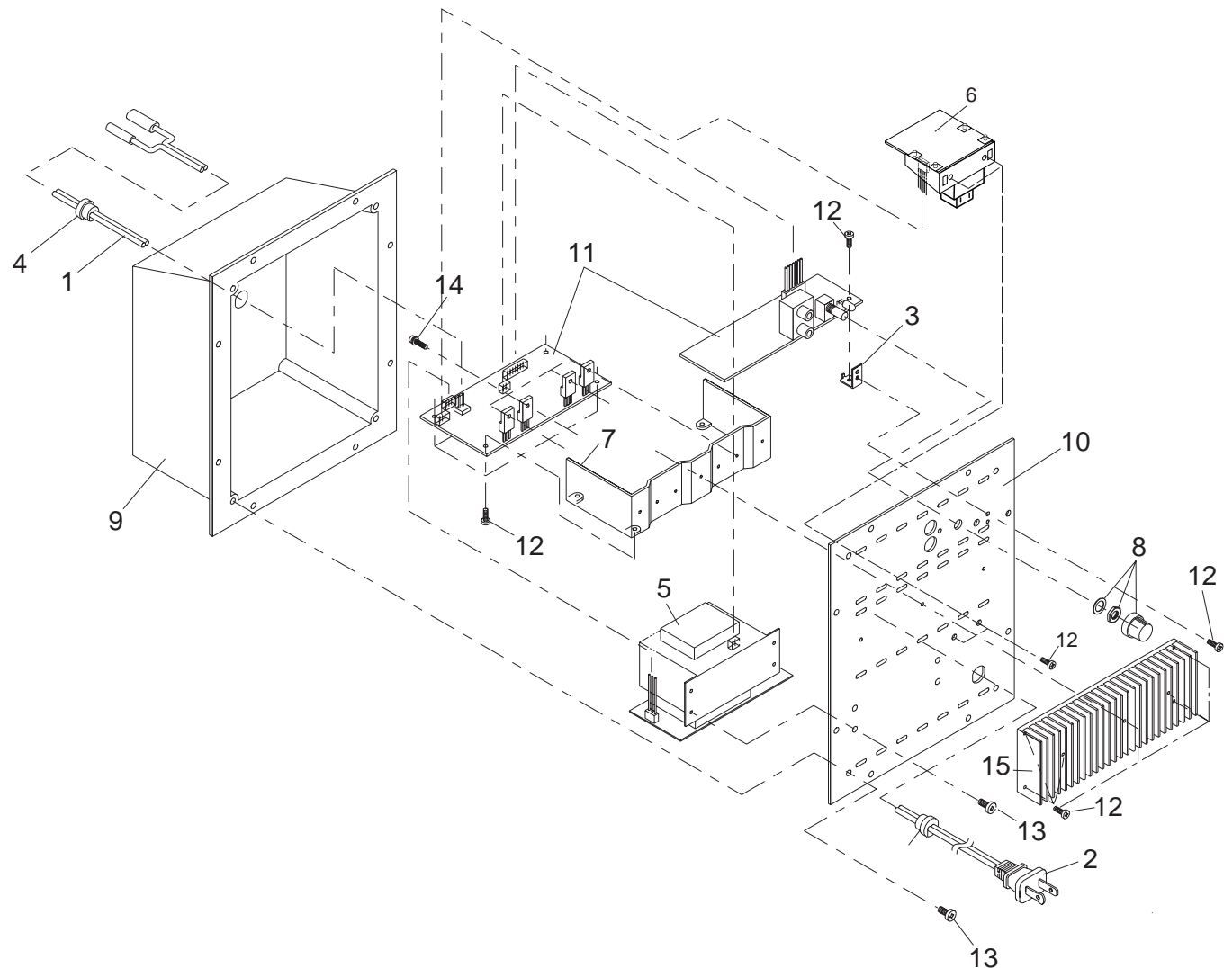
Mark	No.	Description	Parts No.
NSP	1	Cabinet Enclosure	264388
NSP	2	Amplifier Assembly	264462
	3	Grille Assembly	264353
NSP	4	Paper Port Tube	256946
NSP	5	Front Port Ring	254306
NSP	6	Rear Port Ring	254346
NSP	7	Label FTC Sticker	268182
NSP	8	UL-CUL Label	268197
	9	Transducer	264719
	10	Screw (for Amplifier and Trans)	221904



3.3 POWER AMP SECTION







Parts List

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	2P Cord	044899		10	Panel Rear Assy	046981
△	2	AC Cord	046947	NSP	11	Power Amp PCB Section	047259
	3	BRKT PCB C	077876		12	Screw (3X10 BL)	075640
NSP		Cushion Gasket	078786		13	Screw (4X10 BL)	075659
	4	Cushion Stopper	078519		14	Screw (M3X8 ZC)	075273
△	5	Trans Power	046946		15	Heatsink	046971
△	6	Trans Back Up	047073		16	Tr 2SC4008 (Q610, Q614)	084682
	7	Heatsink Sub	045576				
	8	Knob	072992				
		Cable Tie	080558				
	9	Mold Case	080336				




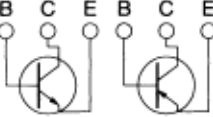

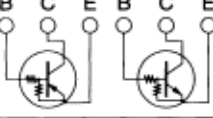

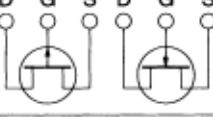

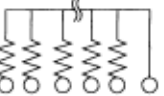

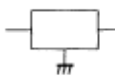
4. SCHEMATIC AND PCB CONNTCTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

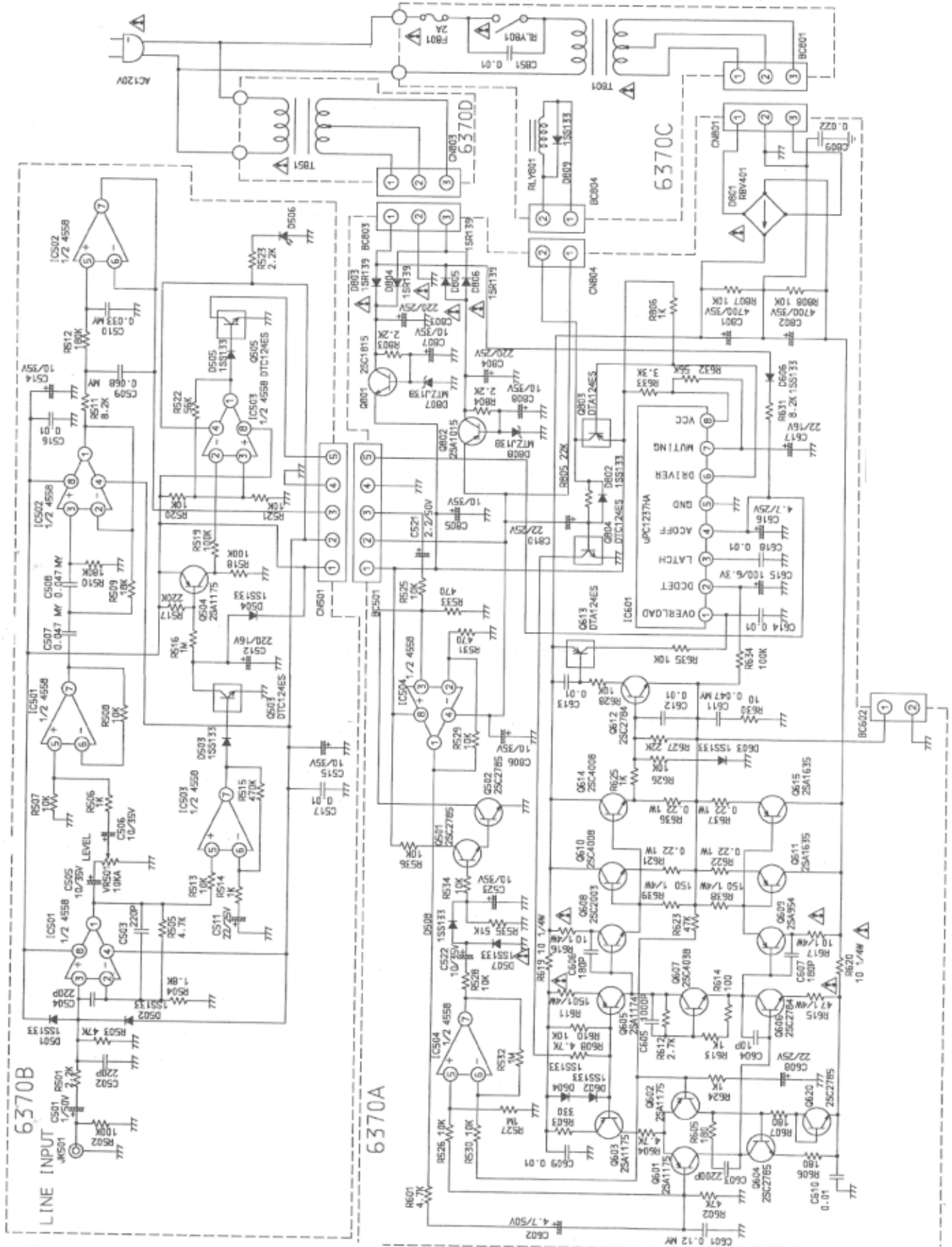
1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".
2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
3. RESISTORS:
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. CAPACITORS:
Unit: p:pF or μF unless otherwise noted.
Ratings: capacitor (μF)/voltage(V) unless othrewise noted.
Rated voltage: 50V except for electrolytic capacitors.
5. COILS:
Unit: m:mH or μH unless otherwise noted.
6. VOLTAGE AND CURRENT:
 : Signal voltage at rated output.
 or ← V:
DC voltage (V) at no input signal unless otherwise noted.
Value in () is DC voltage at rated power.
↶ mA or ← mA:
DC current at no input signal unless otherwise noted.
7. OTHERS:
•  or  : Adjusting point.
•  : Measurement point.
• The  mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. SCH-□ ON THE SCHEMATIC DIAGRAM:
• SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. SWITCHES (Underline indicates switch position):
• MAIN + CONT. ASSY
S501 : PHASE Rev / Norm
S502 : AUTO POWER ON/OFF

NOTE FOR PCB DIAGRAMS

1. Partnumbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

4.1 CIRCUIT DIAGRAM



5. PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

PCB PARTS LIST (HTP702-SW, HTP202/302-SW) POWER AMP PCB SECTION SEMICONDUCTORS

IC501, IC502, IC503	IC BA4558	070211
IC504	IC NJM4558D-D	070131
IC601	IC UPC1237HA	070293
Q501, Q502, Q604, Q620	TR 2SC2785 KEF T	068806
Q503, Q505, Q804	TR DTC124ESA T	069297
Q504, Q601, Q602, Q603	TR 2SA1175 KEF T	068611
Q605	TR 2SA1174 FP T	068608
Q606, Q612	TR 2SC2784 EF T	068804
Q607	TR 2SC4038 R TL2	068874
Q608	TR 2SC2003 LM	068754
Q609	TR 2SA954 LM	068579
Q610, Q614	TR 2SC4008	084682
Q611, Q615	TR 2SA1635	084680
Q613, Q803	TR DTA124ESA T	069250
Q801	TR 2SC1815 Y:GR T	068741
Q802	TR 2SA1015 Y T	068587
Δ D501, D502, D503, D504, D505, D507, D508, D602		
D603, D604, D606, D802, D809	D 1SS133 T-77	069460
D506	LED BL-B5134 RED	069823
Δ D801	D RBV401	069590
Δ D803, D804, D805, D806	D 1SR139-100 T-32	069532
D807, D808	ZD MTZ13B T	069173

CAPACITORS

C501	ELECTROLYTIC 50V 108M T	066329
C502, C503, C504	CERAMIC 50V 221K T	065404
C505, C506, C514, C515, C522, C523, C805,		
C806, C807, C808	ELECTROLYTIC 35V 100M T	066288
C507, C508	PEST S 50V 473J T	065118
C509	PEST S 50V 683J T	065141
C510	PEST S 50V 333J T	065092
C511, C608, C617,		
C810	ELECTROLYTIC 25V 220M T	066347
C512	ELECTROLYTIC 16V 221M T	066361
C516, C517, C609, C610, C612, C613, C614,		
C618	CERAMIC S YF 50V 103Z T	065452
C521	ELECTROLYTIC 50V 228M T	066377
C601	PEST S 50V 124K T	065026
C602	ELECTROLYTIC 50V 478M T	066459
C603	CERAMIC S YB 50V 222K T	065407
C604	CERAMIC S SL 500V 100D	065694
C605	CERAMIC S YB 50V 102K T	065385
C606, C607	CERAMIC S SL 500V 181K	065732
C611	PEST S 50V 473K T	065123
C615	ELECTROLYTIC 6.3V 101M T	066296
C616	ELECT ROLYTIC 25V 478M T	066455
C801, C802	ELECTROLYTIC 35V 472M	044461
C803, C804	ELECTROLYTIC 25V 221M T	066364
C809	CERAMIC S YF 50V 223Z T	065457
C851	PESTM R40KI 275V 103M	065262

RESISTORS

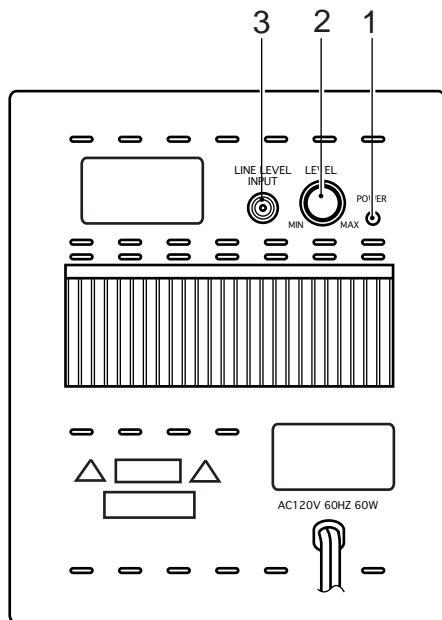
R501, R523, R803, R804	CARBONR H 1/6W 222J T	067155
R502, R518, R519, R634	CARBONR H 1/6W 104J T	067079
R503, R602, R623	CARBONR H 1/6W 473J T	067248
R504	CARBONR H 1/6W 182J T	067132
R505, R601, R604, R608	CARBONR H 1/6W 472J T	067243
R506, R514, R613, R624, R625,		
R806	CARBONR H 1/6W 102J T	067069
R507, R508, R513, R520, R521, R525, R526,		
R528, R529, R530, R534,		
R536,	CARBONR H 1/6W 103J T	067074
R509	CARBONR H 1/6W 183J T	067136
R510, R512	CARBONR H 1/6W 184J T	067138
R511, R631	CARBONR H 1/6W 822J T	067313
R515	CARBONR H 1/6W 474J T	067252
R516, R527, R532	CARBONR H 1/6W 105J T	067083
R517	CARBONR H 1/6W 224J T	067163
R522, R632	CARBONR H 1/6W 563J T	067273
R531, R533	CARBONR H 1/6W 471J T	067240
R535	CARBONR H 1/6W 513J T	067260
R603	CARBONR H 1/6W 331J T	067200
R605	CARBONR H 1/6W 181J T	067129
R606, R607	CARBONR RDF16S 181J T26A	044817
Δ R611, R638, R639	CARBONR FS 1/4W 151T S	067407
R612	CARBONR H 1/6W 272J T	067179
R614	CARBONR H 1/6W 101J T	067065
R615	CARBONR FS 1/4W 470J S	067450
Δ R616, R617, R619, R620,		
R630	CARBONR FS 1/4W 100J S	067384
R621, R622, R636,		
R637	METALR RSF 1W 229J S	068010
R627, R805	CARBONR H 1/6W 223J T	067160
R633	CARBONR H 1/6W 332J T	067203
VR551	VR 10kW A	084709

OTHERS

	Misc	064821
	Fuse Socket	074193
⚠	F801	Fuse 250V 2A 075066
	Screw (3X10 BL)	075640
	CN501	5P Cord 077378
	CN801, CN803	3P Cord 077589
	CN804	2P Cord 077567
	BC501	5P Connector 081506
	BC602	2P Connector 081661
	BC801, BC803	3P Connector 081465
	BC804	Connector 081439
	JK501	2P RCA Jack 047225
⚠	RLY801	Relay 046904

6. PANEL FACILITIES

REAR SECTION



If the output of the receiver connected to this unit is high or if the output has a low range boosted by the Bass control, Bass boost, or other means, there may be some sound distortion even if the level of the unit is lowered. In this case, lower the output level (Volume, Bass control, Bass boost) on the receiver side.

① POWER indicator

Illuminates **RED** when the power is being supplied.

② Subwoofer LEVEL knob

Volume of subwoofer is adjusted with this knob. Turn this knob clockwise to raise the level.

- Starting with "MIN", turn this knob and raise the volume slowly. If the unit is turned on with the volume set too high, it could cause hearing and/or speaker damage. Do not turn the volume up excessively high. The low frequency sound is apt to be raised too high since it is less disturbing and harder to detect than high frequencies. Caution must be taken here since the amplifier and speaker of the HTP702-SW, HTP202/302-SW will be clipped when the output of the amplifier or receiver is increased with the subwoofer level set to "MAX".

③ Subwoofer input terminal (LINE LEVEL INPUT)

Connect SUBWOOFER OUTPUT terminal of the receiver to this terminal with the accessory RCA cord.

HTP105/205-SW

A floor, bass-reflex type, with a built-in amplifier having a PVC-sheet finish with a wood pattern.

7. SPECIFICATIONS

	HTP105/205-SW
Cabinet	A floor, bass-reflex type, with a built-in amplifier having a PVC-sheet finish with a wood pattern.
Speaker	20 cm (8 inch)
Power Amplifier	Continuous Average Power Output is 50 Watts* min, at 4 ohms from 30 Hertz to 200 Hertz with no more than 1% total harmonic distortion.
Input (Sensitivity at 200 Hz/ impedance) *Line level input	180 mV / 33k ohms
Crossover Frequency	120 Hz
Outline Dimension (W x H x D)	291 x 361 x 330 mm 11-7/16 x 14-9/16 x 13 inch
Weight	9.8 kg (21 lb 10 oz)
Power Requirements	120 VAC, 60 Hz
Power Consumption	60W
Accessories	RCA cord (10ft.) x 1 Operating instructions x 1



Note: Specifications and design subject to possible modification without notice due to improvements.

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.
** Measured by Audio Spectrum Analyzer.

NOTES

