



PS Series

PS212 Subwoofer

SERVICE MANUAL



Infinity Systems, Inc.
250 Crossways Park Dr.
Woodbury, New York 11797

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Basic Specifications PS212 Powered Subwoofer

Frequency Response:	25Hz – 150Hz (\pm 3dB)
Maximum Amplifier Output:	400 Watts RMS; 700 Watts Peak (20Hz – 150Hz with no more than 0.1% THD)
Crossover Frequencies:	50Hz – 150Hz, 24dB/octave, continuously variable
Driver:	12" (250mm) MMD®
Dimensions (H x W x D):	18" x 14-3/8" x 18-3/4" (with grille) (457mm x 365mm x 476mm)
Weight:	44.7 lb (20.3kg)

Infinity continually strives to update and improve existing products, as well as create new ones. The specifications and construction details in this and related Infinity publications are therefore subject to change without notice.

PS 212 subwoofer 400 W Powered Sub/ Plate Amp					
LINE VOLTAGE	Yes/No	Hi/Lo Line	Nom.	Unit	Notes
NA 120vac/60Hz	Yes	108-132	120	Vrms	Normal Operation
EU 230vac/50-60Hz	Yes	207-264	230	Vrms	Normal operation, MOMS required
Parameter	Specification	Unit	QA Test Limits	Conditions	Notes
Amp Section					
Type (Class AB, D, other)	D	---			
Load Impedance (speaker)	4	Ohms		Nominal	Z-curve required
Rated Output Power	300	Watts		Regulated 120 V line	
THD@ Rated Power	1	%		22k filter, 50Hz	300W
THD @ 1 Watt	0.5	%		22k filter, 50Hz	
DC Offset	undefined	mV-DC	< 20	@ Speaker Outputs	
Damping factor	20	N/A	> 15		measured at 50 Hz
Input Sensitivity					
Line Input	130 mV	mVrms		300 W @ 50Hz	1 input driven
Signal to Noise					
SNR-A-Weighted	100	dBA		relative to rated power	A-Weighting filter
SNR-unweighted	70	dBr		relative to rated power	22k filter
SNR rel. 1W-unweighted	60	dBr		relative to 1W Output	22k filter
Residual Noise Floor	2	mVrms		Volume @max, using RMS reading DMM/VOM (or A/P)	
Residual Noise Floor	1	mVrms(max)		Volume @max, w/ A/P Swept Bandpass Measurement (Line freq.+ harmonics)	
Input Impedance					
Line Input	6.5 k	ohms		Nominal	
Active Filters					
Low Pass (fixed or variable)					
Frequency	VARIABLE	--			
Slope	50 - 150	Hz			
Q	24	dB/Octave			
	Butterworth	--			
High Pass (HPF)					
Frequency	FIXXED	--			
Slope	29	Hz			
Q	12	dB/Octave			
	2	--			
Friend Circuit					
Frequency	FIXXED	--			
Slope	60	Hz		notch filter	
Q	6	dB/Octave			
	2.5	--			
Video Boost					
Boost	NONE	--			
Range		dB			
		Hz			
Switches					
Main Power ON/OFF	YES	--			
Type	rocker	--		Located on amp plate	TV-5
LFE/ Low Pass filter mode	YES	--			
Type	mini toggle	--		Located on amp plate	
Polarity Switch	YES	--		"Off": 0°; "On": 180°	
Type	mini toggle	--		Located on amp plate	
Limiters					
Limiters (yes/no)	YES				compressor and limiter
THD at Max. Output Power	less than 2	%		Maximum Output Power	Maximum THD as a result of limiting.
Output Level Control					
Volume Control Pot	YES	--		gain control mounted on amp panel	
Taper (lin/log)	log A taeor	--			
@ minimum setting	no output				
Input/Output Configuration					
Line In (L,C,R,AC3,Mono)	Stereo	--		RCA phono jack, gold plated	
LFE In	YES	--		Shared with "R" Line In jack	
Signal Sensing (ATO)					
Auto-Turn-On (yes/no)	YES	--			
ATO Input Test Frequency	100	Hz			
ATO Input Threshold	1	mV	typ.		LPF "On", BOS "Off"
ATO Low Pass cutoff	1	kHz		ATO-LPF for noise immunity	LPF "On", BOS "Off"

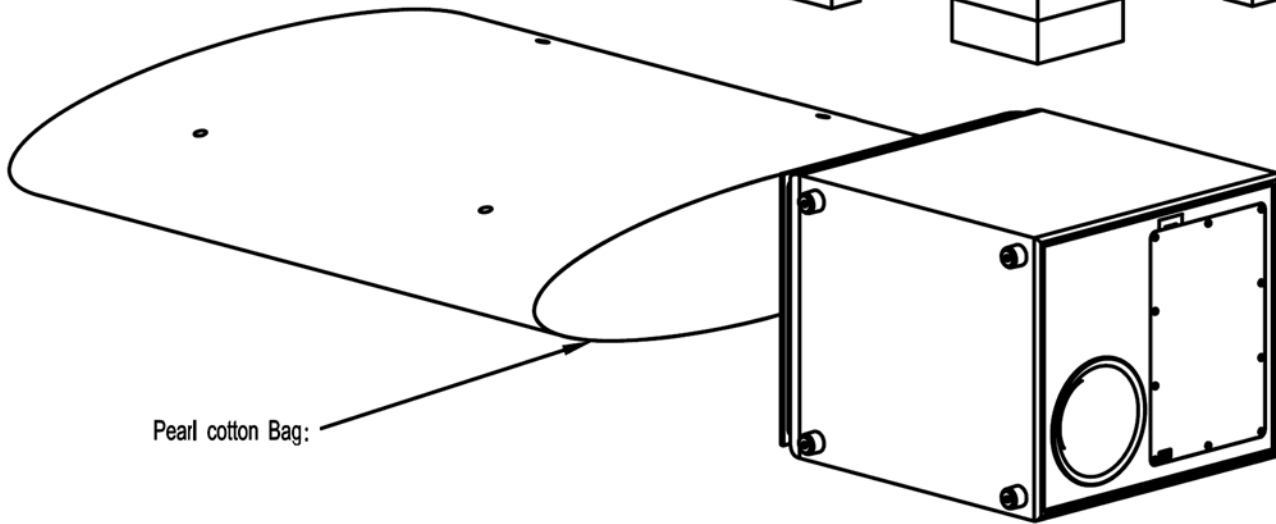
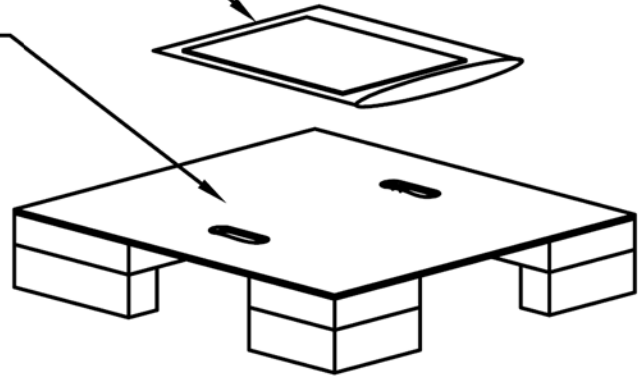
Parameter	Specification	Unit	QA Test Limits	Conditions	Notes
ATO Turn-on time	2	s		Amp connected and AC on, then input signal applied (1 W output)	
Auto Mute / Turn-OFF Time	10	minutes	5 < t < 15	Time before muting, after signal is removed	
Power on Features					
Power on Delay time	greater than 2	sec.		AC Power Applied	
Power on LED	YES	--		Bi-color LED located on amp panel	
Normal On/Off	green / red	color		ATO mode only	
ATO	--	color		"Active": green; "Standby": red	
Transients/Pops					
ATO Transient	5	mV-peak		@ Speaker Outputs	
Turn-on Transient	30	mV-peak		@ Speaker Outputs	AC Line cycled from OFF to ON
Turn-off Transient	30	mV-peak		@ Speaker Outputs	AC Line cycled from ON to OFF
Efficiency					
Stand-by Input Power	10	Watts	typ.	@ nom. line voltage	
AC Power Cons.@1W	12	Watts	typ.	@ nom. line voltage	
Power Cons.@rated power	473	Watts	typ.	@ nom. line voltage	Input power measured is REAL Watts, not VA
Efficiency	63	%	typ.	@ nom. line voltage	
Protection					
Short Circuit Protection	YES	--		Direct short at output	
Thermal Protection	YES	--		threshold ~ 65 deg. C at panel	
DC Offset Protection	YES	--		DC present at Speaker Out lead	Relay for driver/fire protection
Line Fuse Rating (120 V)	3.15	Amps		Type ADL or MDL	Fuse holder on inside surface of amp panel

PS212 PACKAGE

Owner's Manual

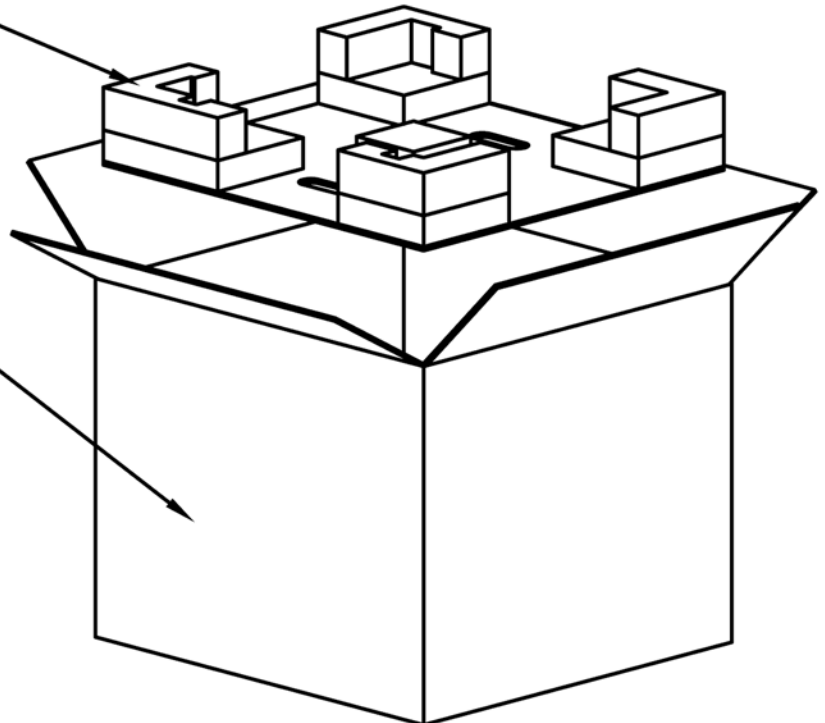
- PS212 BE/BK/CH : 406-000-05522-E 1 PCS
- PS212 BE/BK/CH 230 : 406-000-05523-E 1 PCS

Foam Packing, Top 431-000-05960-E 1 PCS



Pearl cotton Bag:

Foam Packing, Bottom: 431-000-05961-E 1 PCS

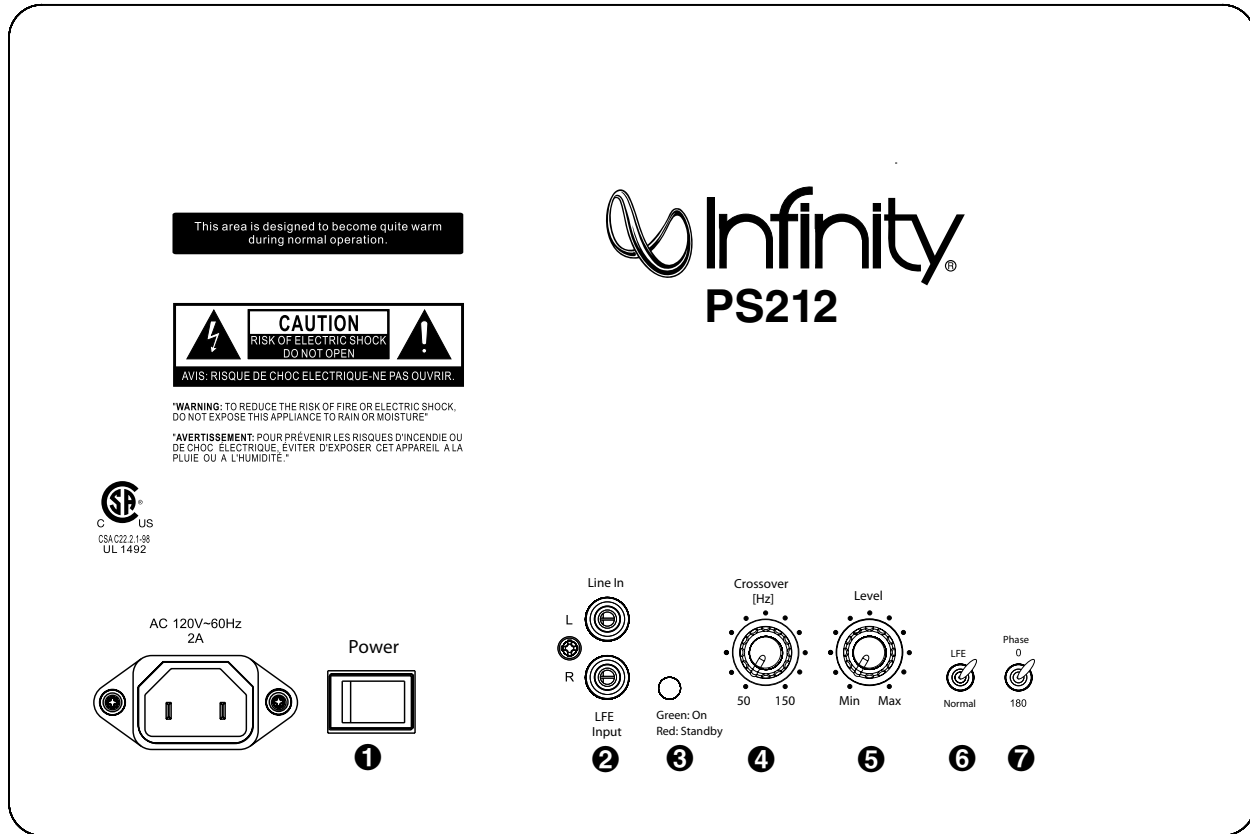


Outer Carton

- PS212BE 400-000-07249-E 1 PCS
- PS212BE/230 400-000-07250-E 1 PCS
- PS212BK 400-000-07253-E 1 PCS
- PS212BK/230 400-000-07254-E 1 PCS
- PS212CH 400-000-07252-E 1 PCS
- PS212CH/230 400-000-07251-E 1 PCS

CONTROLS AND CONNECTIONS

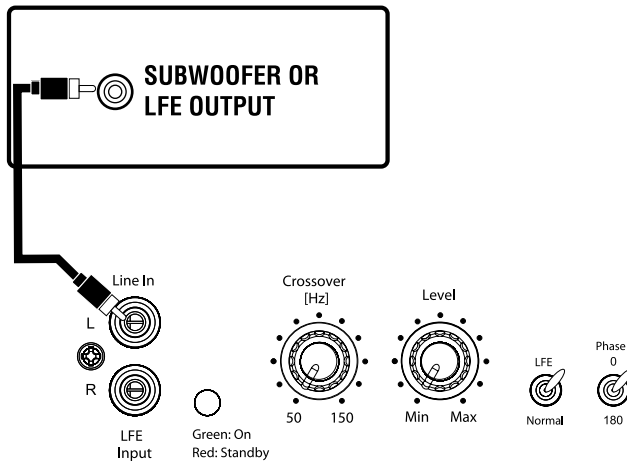
Rear Panel



- 1 Power Switch
- 2 Line-Level/LFE Input
- 3 Status LED
- 4 Crossover Adjustment
- 5 Subwoofer-Level Control
- 6 LFE/Normal Selector
- 7 Phase Switch

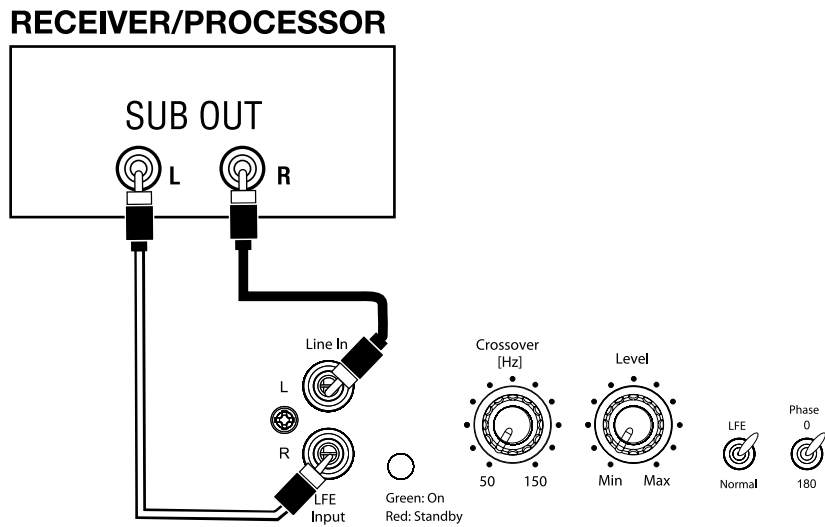
SYSTEM CONNECTIONS

If you have a Dolby® Digital or DTS® receiver/processor with a low-frequency effects (LFE) or subwoofer output:



Set LFE/Normal switch to "LFE."

If your receiver/processor does not contain a Dolby Digital or DTS processor but has subwoofer outputs:



Set line-level/LFE switch to "Normal."

NOTE: If your receiver/processor has only one sub out, you may use either the L or R input.

OPERATION

Power On

Plug your subwoofer's AC cord into a wall outlet. Do not use the outlets on the back of the receiver.

Initially set the Subwoofer-Level Control **5** to the "min" position.

Turn on your sub by pressing the Power Switch **1** on the rear panel. Turn on your entire audio system and start a CD or movie soundtrack at a moderate level.

Auto On/Standby

With the Power Switch **1** in the ON position, the Status LED **3** on the back panel will remain lit in red or green to indicate the On/Standby mode of the subwoofer.

RED = STANDBY (No signal detected, Amp Off)

GREEN = ON (Signal detected, Amp On)

The subwoofer will automatically enter the Standby mode after approximately 10 minutes when no signal is detected from your system. The subwoofer will then power ON instantly when a signal is detected. During periods of normal use, the Power Switch **1** can be left on. You may turn off the Power Switch **1** for extended periods of nonoperation, e.g., when you are away on vacation.

Adjust Gain

Turn your Subwoofer-Level Control **5** up to the halfway position. If no sound emanates from the subwoofer, check the AC-line cord and input cables. Are the connectors on the cables making proper contact? Is the AC plug connected to a "live" receptacle? Has the Power Switch **1** been pressed to the "On" position? Once you have confirmed that the subwoofer is active, proceed by playing a CD, record or cassette. Use a selection that has ample bass information.

Set the overall volume control of the preamplifier or stereo to a comfortable level. Adjust the Subwoofer-Level Control **5** until you obtain a pleasing blend of bass. Bass response should not overpower the room but rather be adjusted so there is a harmonious blend across the entire musical range. Many users have a tendency to set the subwoofer volume too loud, adhering to the belief that a subwoofer is there to produce lots of bass. This is not entirely true. A subwoofer is there to enhance bass, extending the response of the entire system so the bass can be felt as well as heard. However, overall balance must be maintained or the music will not sound natural. An experienced listener will set the volume of the subwoofer so its impact on bass response is always there but is never obtrusive.

Phase Control

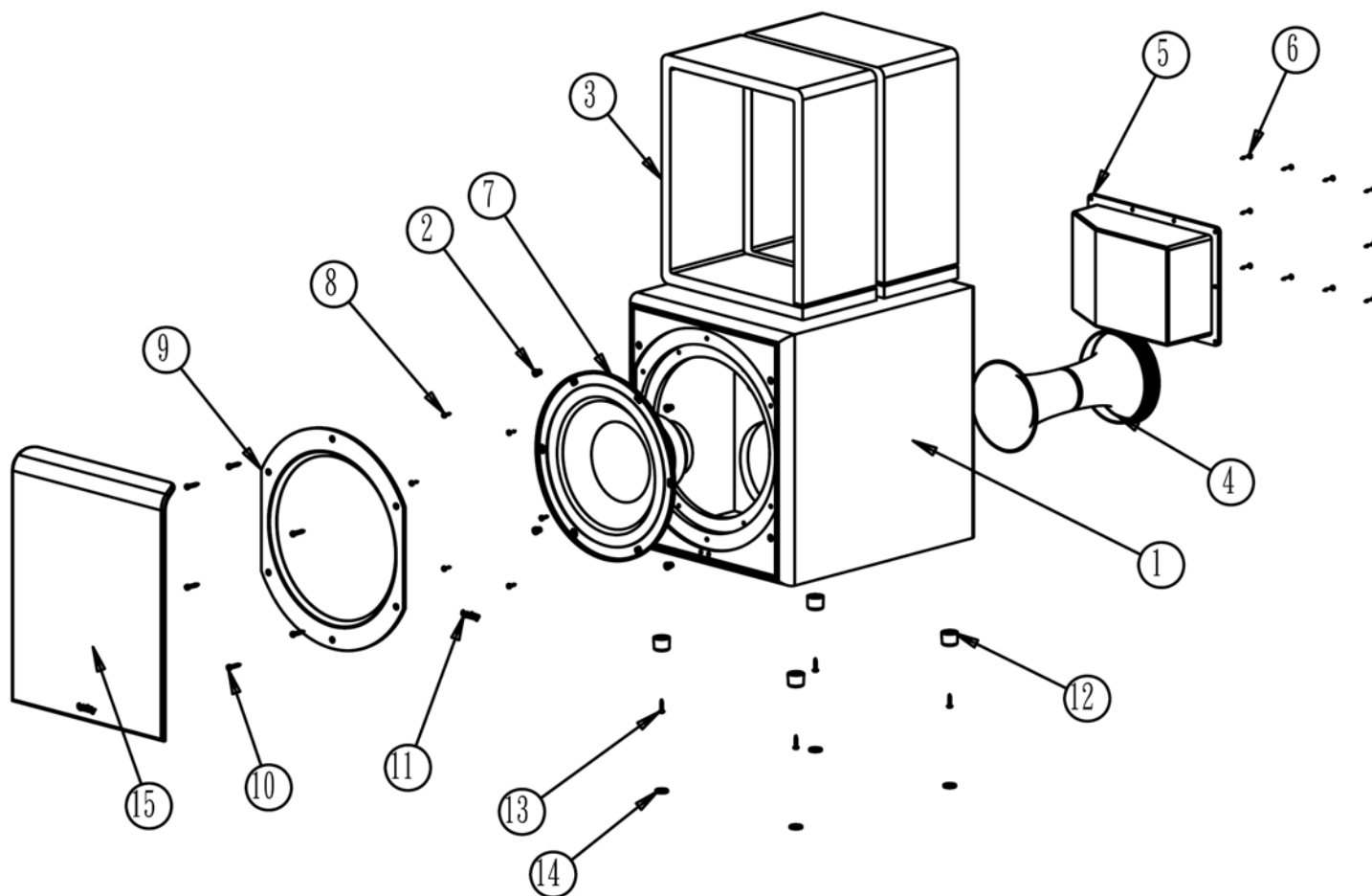
The Phase Switch **7** determines whether the subwoofer speaker's piston-like action moves in and out with the main speakers, 0°, or opposite the main speakers, 180°. Proper phase adjustment depends on several variables such as room size, subwoofer placement and listener position. Adjust the phase switch to maximize bass output at the listening position.

Crossover Adjustment

The Crossover Adjustment Control **4** determines the highest frequency at which the subwoofer reproduces sounds. If your main speakers can comfortably reproduce some low-frequency sounds, set this control to a lower frequency setting, between 50Hz and 100Hz. This will concentrate the subwoofer's efforts on the ultradeep bass sounds required by today's films and music. If you are using smaller bookshelf speakers that do not extend to the lower bass frequencies, set the Crossover Adjustment control to a higher setting, between 120Hz and 150Hz.

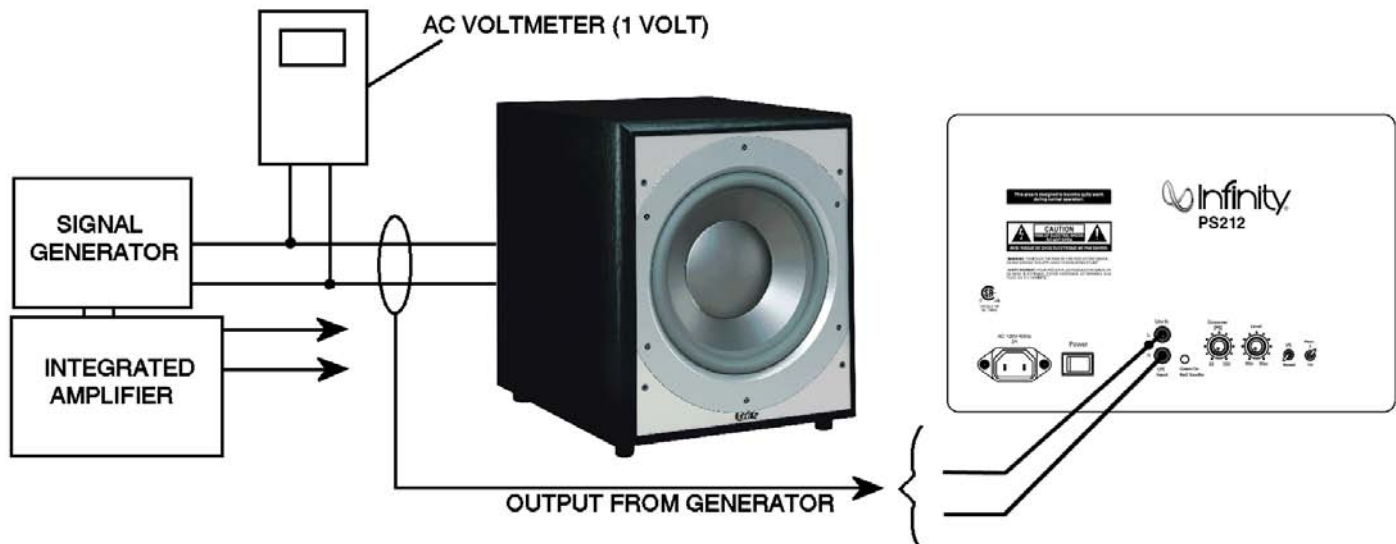
NOTE: This control will have no effect if the LFE/Normal Selector **6** is set to LFE. If you have a Dolby Digital or DTS processor/receiver, the Low-Pass Frequency is set by the processor/receiver. Consult your owner's manual to learn how to view or change this setting.

PS212 EXPLODED VIEW



Item	Part name	Descriptions	Q'ty
1	Not For Sale	PS212 ~ Cabinet	1
2	327-010-00624-E	Grille Cup	4
3	328-000-05359-0WAE	Dacron (acoustic damping Material)	2
4	249HIPS-05140-0BAE	Port tube	1
5	Not For Sale	PS212 ~ Amplifier	1
6	352-AM04020D210-E	Screw For AMP	10
7	30PR14FZL-DW02-E	12" Woofer	1
8	352-FM04014D609-E	Screw For 12" Woofer	6
9	213-120-05146-0VAE	12" Trim Ring	1
10	352-DM04025D597-E	Screw For 12" Trim ring	6
11	316-ABS-05218-0VAE	Infinity LOGO	1
12	320-ABS-00195-E	Plastic Foot	4
13	352-CM04025D604-E	Screw For plastic foot	4
14	320-RUB-00199-E	RUBBER foot	4
15	244-120-05228-0VAE	Grille	1

PS212 Test Set Up and Procedure



SYSTEM AURAL SWEEP TEST

Equipment needed:

- Function/signal generator/sweep generator
- Multimeter
- RCA cables

General Unit Function (UUT = Unit Under Test)

Switches/knobs on the amplifier faceplate:

Phase switch – either position

LFE/Normal switch – Normal

Low Pass Frequency Adjust full CW (150Hz)

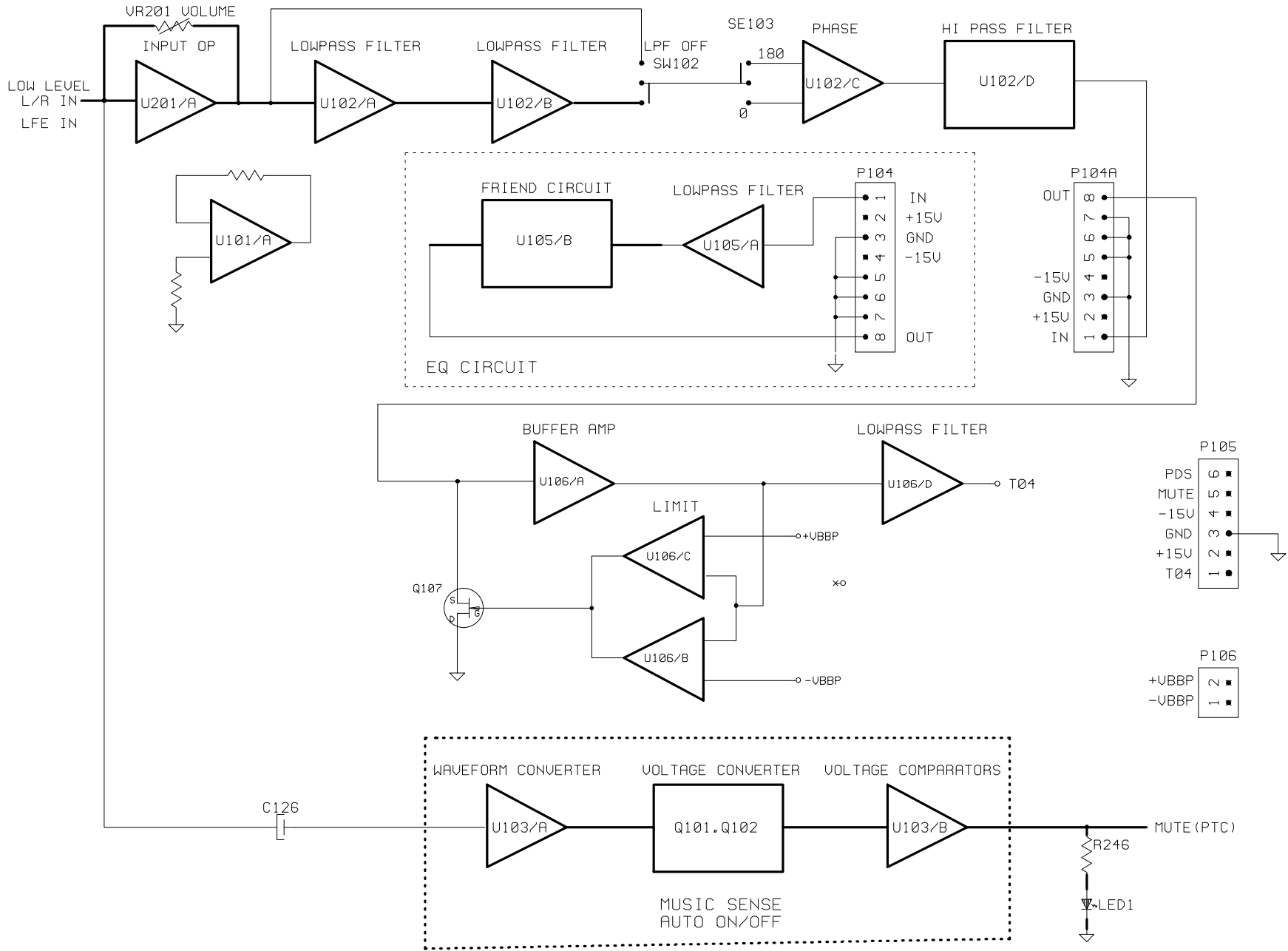
1. From the signal generator, Connect both right and left line level inputs (RCA jacks) – to signal generator and UUT. Use Y-cable if necessary from mono source.
2. On the amplifier, turn the LEVEL control full Counterclockwise (Min).
3. Turn on generator, adjust to **100mV, 50 Hz**.
4. Plug in UUT; turn the power switch ON. Turn LEVEL control full Clockwise (Max).
5. LED (on control panel) should now be Green; immediate bass response should be heard and felt from rear port tube opening.

Sweep Function

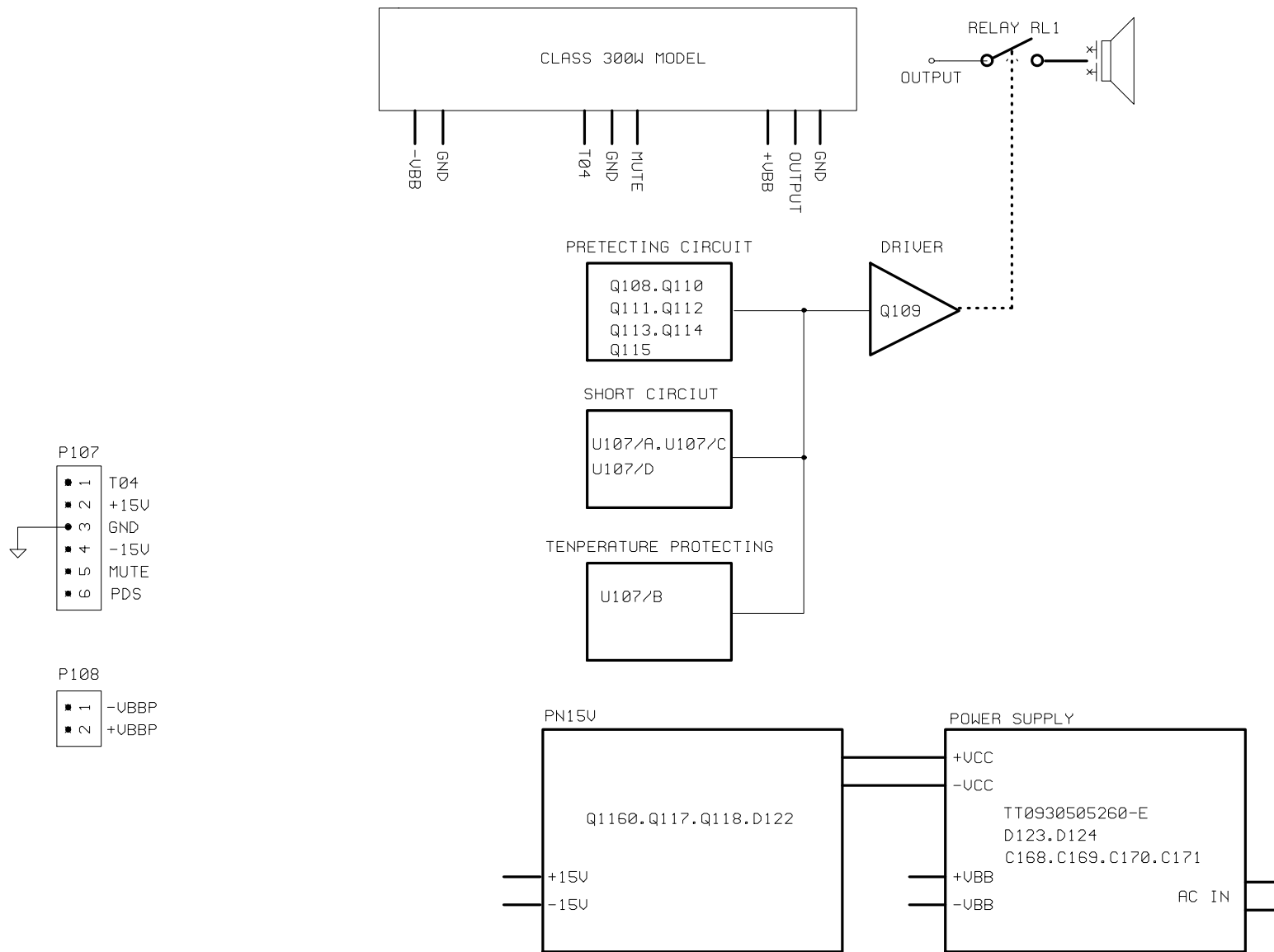
1. Follow steps 1-5 above, using a sweep generator as a signal source.
2. Sweep generator from 20Hz to 1kHz. Listen to the cabinet and drivers for any rattles, clicks, buzzes or any other noises. If any unusual noises are heard, remove woofer and test.

Driver Function (Woofer)

1. Remove woofer from cabinet; detach + and - wire clips.
2. Check DC resistance of woofer; it should be **3.3 ohms±10%**.
3. Connect a pair of speaker cables to driver terminals. Cables should be connected to an integrated amplifier fed by a signal generator. Turn on generator and adjust so that speaker level output is **5.0V**.
4. Sweep generator from 20Hz to 1kHz. Listen to driver for any rubbing, buzzing, or other unusual noises.



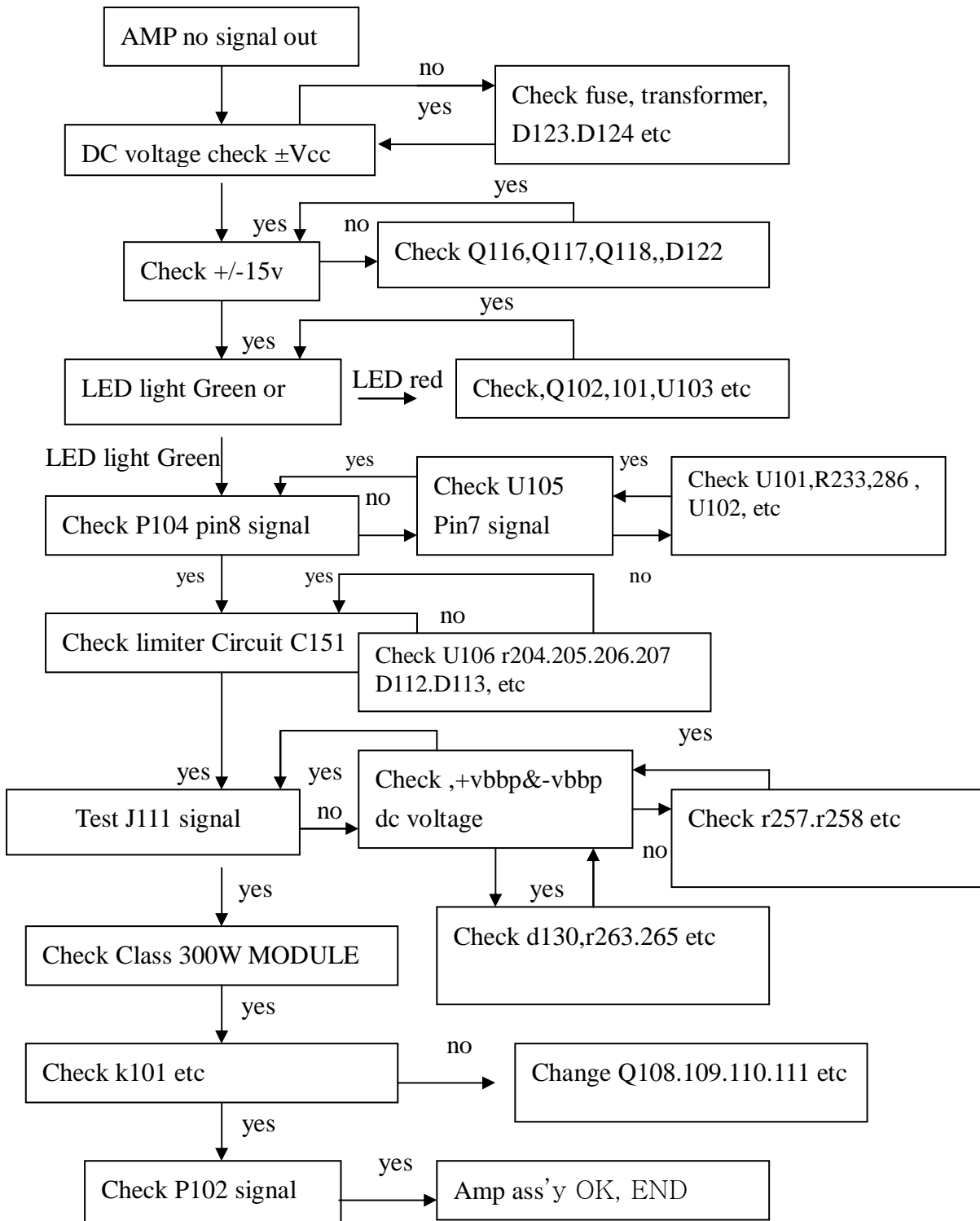
PS212(UL) BLOCK DIAGRAM(PRE & EQ & AUTO OFF)



PS212(UL) BLOCK DIAGRAM(POWER AMP & SOURCE & PROTECTOR)

PS212

Troubleshooting Flow Chart



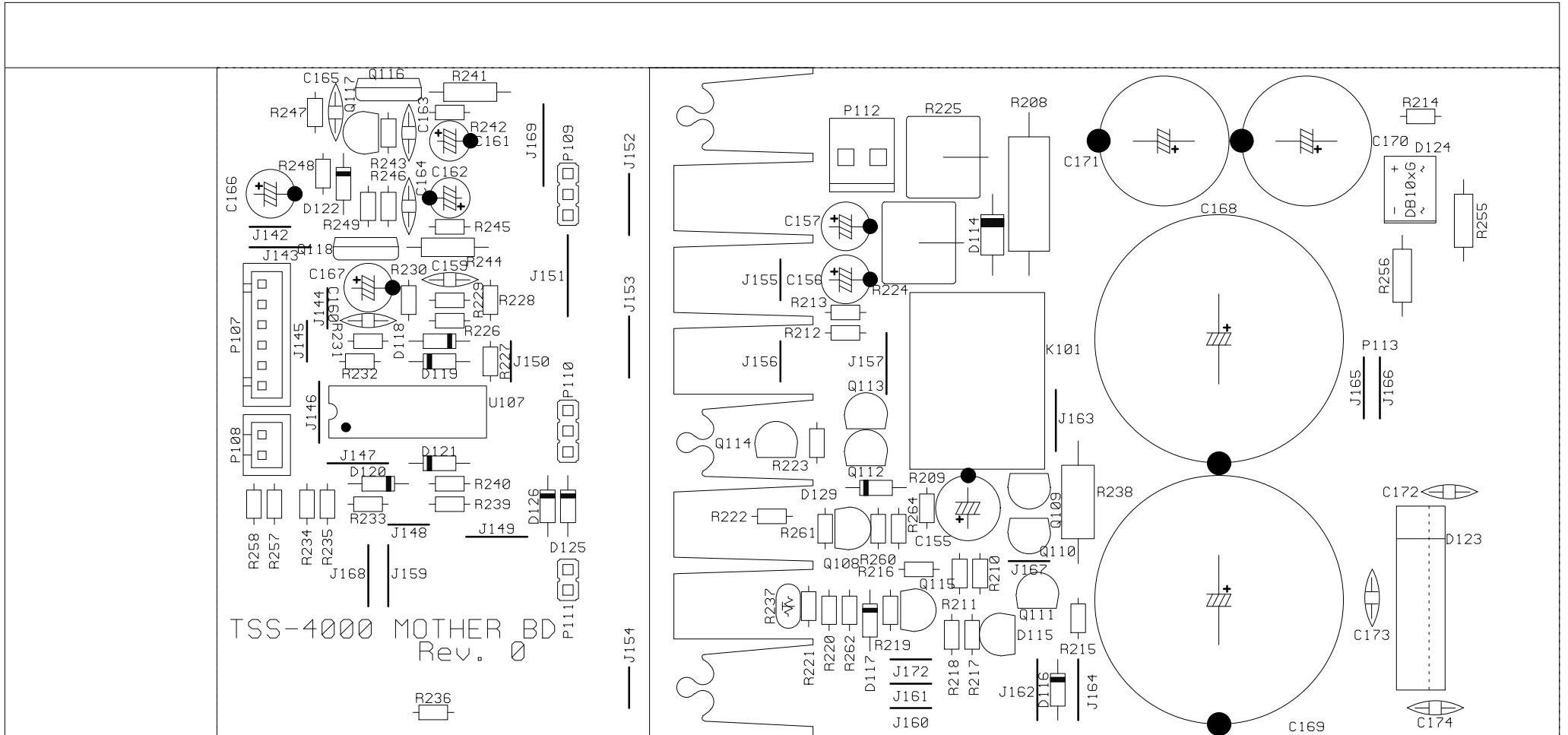
PS212 Electrical Parts List			
Part number	Description	Qty	Reference Designator
INPUT/PREAMP PCB & DAUGHTER BOARD PCB			
<i>Resistors</i>			
110-14152j26-e	resistor 1.5K 1/4W ±5% CF 26mm (RoHS)	1	R150
110-16101j26-e	resistor 100Ω 1/6W ±5% CF 26mm (RoHS)	4	R112,R113,R151,R152
110-16102j26-e	resistor 1K 1/6W ±5% CF 26mm (RoHS)	1	R140
110-16103j26-e	resistor 10K 1/6W ±5% CF 26mm (RoHS)	7	R263,R118,R133,R136,R146,R149,R199
110-16105j26-e	resistor 1M 1/6W ±5% CF 26mm (RoHS)	1	R145
110-16151j26-e	resistor 150Ω 1/6W ±5% CF 26mm (RoHS)	1	R139
110-16183j26-e	resistor 18K 1/6W ±5% CF 26mm (RoHS)	1	R147
110-16203j26-e	resistor 20K 1/6W ±5% CF 26mm (RoHS)	1	R200
110-16221j26-e	resistor 220Ω 1/6W ±5% CF 26mm (RoHS)	2	R119,R120
110-16223j26-e	resistor 22K 1/6W ±5% CF 26mm (RoHS)	2	R141,R148
110-16274j26-e	resistor 270K 1/6W ±5% CF 26mm (RoHS)	1	R138
110-16432j26-e	resistor 4.3K 1/6W ±5% CF 26mm (RoHS)	1	R254
110-16472j26-e	resistor 4.7K 1/6W ±5% CF 26mm (RoHS)	1	R144
110-16473j26-e	resistor 47K 1/6W ±5% CF 26mm (RoHS)	1	R137
110-16474j26-e	resistor 470K 1/6W ±5% CF 26mm (RoHS)	1	R143
110-1647j26-e	resistor 4.7Ω 1/6W ±5% CF 26mm (RoHS)	1	R153
116-161001f26-e	metal film resistor 1K 1/6W ±1% MF26mm (RoHS)	1	R252
116-161002f26-e	metal film resistor 10K 1/6W ±1% MF 26mm (RoHS)	3	R130,R131,R132
116-161504f26-e	metal film resistor 1.5M 1/6W ±1% MF26mm (RoHS)	1	R142
116-161542f26-e	metal film resistor 1/6W 15.4K 1% 26mm (RoHS)	4	R197,R198,R173,R178
116-161822f26-e	metal film resistor 18.2K 1/6W ±1% MF26mm (RoHS)	1	R188
116-161911f26-e	metal film resistor 1.91K 1/6W±1% MF26mm (RoHS)	2	R251,R191
116-162001f26-e	metal film resistor 2.00K 1/6W ±1% MF26mm (RoHS)	1	R202
116-162002f26-e	metal film resistor 20.0K 1/6W ±1% MF26mm (RoHS)	1	R193
116-162051f26-e	metal film resistor 2.05K 1/6W MF 26mm (RoHS)	1	R253
116-162212f26-e	metal film resistor 22.1K 1/6W ±1% MF26mm (RoHS)	2	R204,R206
116-162262f26-e	metal film resistor 22.6K 1/6W ±1% MF26mm (RoHS)	4	R209,R231,R232,R296
116-162803f26-e	metal film resistor 280K 1/6W±1% MF 26mm (RoHS)	1	R201
116-163011f26-e	metal film resistor 3.01K 1/6W±1% MF26mm (RoHS)	1	R194
116-164421f26-e	metal film resistor 4.42K 1/6W ±1% MF26mm (RoHS)	2	R205,R207
116-164751f26-e	metal film resistor 4.75K 1/6W MF 26mm (RoHS)	2	R109,R110
116-164752f26-e	metal film resistor 47.5K 1/6W ±1% MF26mm (RoHS)	2	R121,R122
116-164991f26-e	metal film resistor 4.99K 1/6W ±1% MF26mm (RoHS)	1	R265
116-165363f26-e	metal film resistor 536K 1/6W±1% MF 26mm (RoHS)	1	R195
116-165901f26-e	metal film resistor 5.90K 1/6W ±1% MF26mm (RoHS)	1	R189
116-166191f26-e	metal film resistor 6.19K 1/6W ±1% MF 26mm (RoHS)	1	R134
116-166491f26-e	metal film resistor 6.49K 1/6W ±1% MF26mm (RoHS)	2	R114,R115
116-169092f26-e	metal film resistor 90.9K 1/6W MF 26mm (RoHS)	1	R190
116-169762f26-e	metal film resistor 97.6K 1/6W±1% MF26mm (RoHS)	1	R135
115-h103a101-e	variable resistor A10K (RoHS)	1	R286
115-h503b405-e	variable resistor B50K (RoHS)	1	R233
<i>Capacitors</i>			
129-a104j633-e	0.1U 63V ±5% MSC (RoHS)	3	C110,C149,C137
129-a222j633-e	0.0022u 63V ±5% MSC (RoHS)	2	C181,C182
129-a224j633-e	0.22uF 63V ±5% MSC (RoHS)	2	C121,C122
129-a333j633-e	0.033U 63V MSC (RoSH)	2	C209,C218
129-a473j633-e	0.047U 63V ±5% MSC (RoHS)	1	C138
129-a683j633-e	0.068uF 63V ±5% MSC (RoHS)	4	C142,C143,C201,C213
130-2b221k503-e	disc capacitor 220P 50V ±10% (RoHS)	2	C107,C108
130-3f104z503-e	disc capacitor 0.1U 50V +80/-20% (RoHS)	13	C112,C114,C124,C125,C130,C133,C135,C144,C145,C153,C154,C232,C233
130-3f473m503-e	disc capacitor 0.047U 50V ±20% (RoHS)	1	C180
130-sl101k503-e	disc capacitor 100P 50V SL ±10% (RoHS)	1	C120

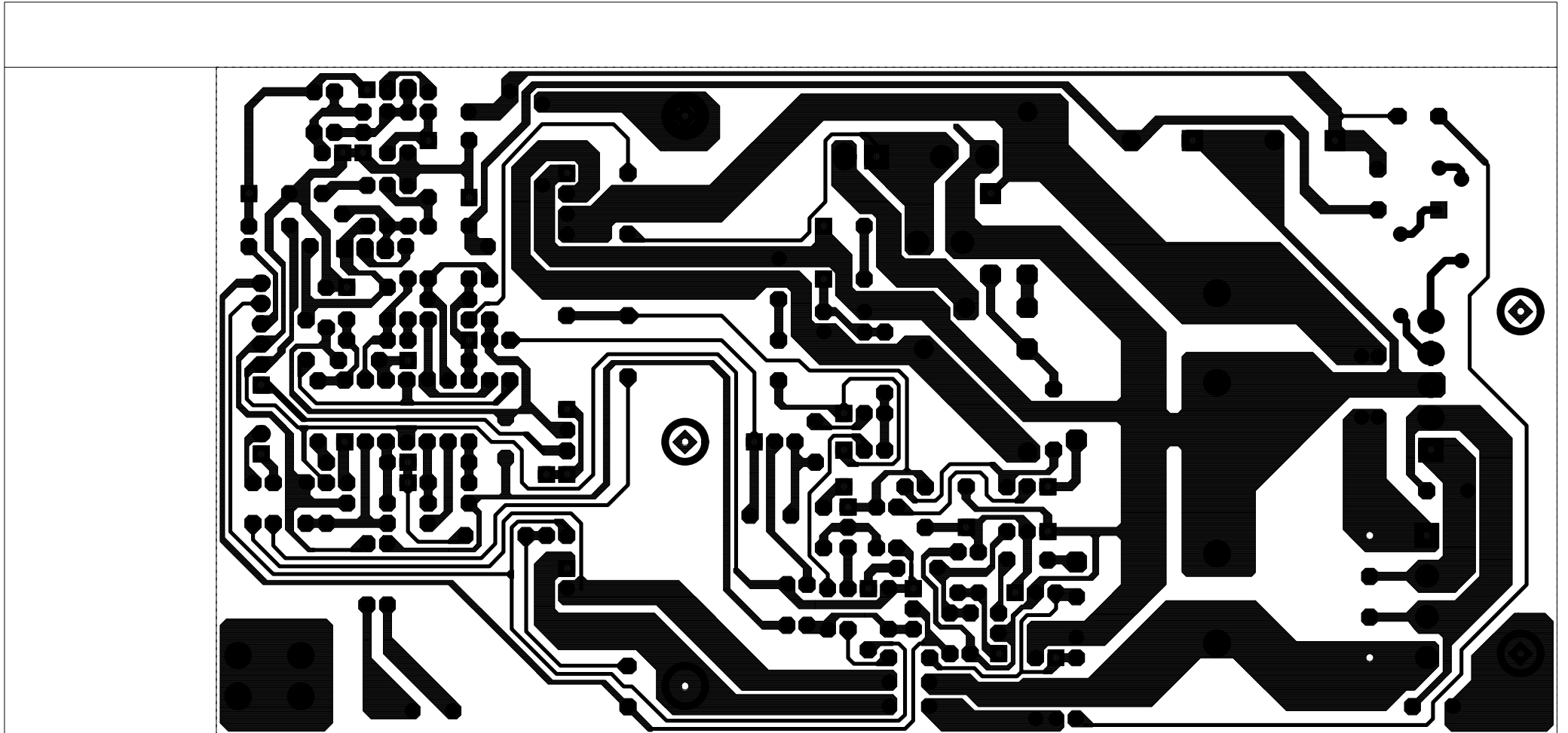
Part number	Description	Qty	Reference Designator
INPUT/PREAMP PCB & DAUGHTER BOARD PCB			
130-sl330ja03-e	disc capacitor SL 33P 100V±5% (RoHS)	1	C148
130-sl470k503-e	disc capacitor 47P 50V ±10% (RoHS)	1	C128
135-3105m50-e	electrolytic CAP. 1U 50V ±20% (RoHS)	1	C126
135-3106m50-e	electrolytic CAP. 10uF 50V ±20% (RoHS)	4	C109,C111,C123,C129
135-3107m16-e	electrolytic CAP. 100uF 16V ±20% (RoHS)	5	C113,C115,C132,C134,C136
135-3107m25-e	electrolytic CAP. 100U 25V ±20% (RoHS)	1	C152
135-3226m50-e	electrolytic CAP. 22U 50V ±20% (RoHS)	1	C151
139-3227m16-e	220uF 16V±20% TAP (RoHS)	1	C131
129-a473j633-e	metalzie CAP. 0.047U 63V ±5% MSC (RoHS)	1	C150
<i>Semiconductors</i>			
192-027c1815gr-e	transistor 2SC1815GR TOSHIBA(RoHS) NPN	3	Q101,Q102,Q103
197-031n4148-e	diode 100mA 75V SIGNAL 1N4148ROHM (RoHS)	7	D105,D106,D108,D109,D110,D112,D113
199-55000395-e	diode 3.9V 1/2W 52mm (RoHS)	1	D130
190-06m4558d-e	I.C. OPA 4558D DUAL OP-AMP (RoHS)	2	U101,U103
190-16tl072n-e	I.C. TL072N DUAL OP-AMP (RoHS)	1	U105
190-16tl074cn-e	I.C TL074CN ST QUAD OP-AMP (RoHS)	2	U102,U106
192-153j111-e	FET J111 FAIRCHILD TO-92 (RoHS)	1	Q107
195-10107egw-e	diode double color ψ5 HL-50107EGW(RoHS)	1	D201
<i>Miscellaneous</i>			
162-10169003-e	WIRE ASS'Y 160mm AWG28 white / black (RoHS)	1	P105
174-0rcb202vag-e	RCA JACK RCA-209 (RoHS)	1	JK102
175-1c02v01-e	wire connector & base 2PIN PITCH=2.5mm (RoHS)	1	P106
175-9f40hr2-e	wire connector & base 40PIN PITCH=2.54mmHR2*40 (RoHS)	0.2	
180-t000ts81-e	TACT switch L101 T2 (RoHS)	2	SW102,SW103
362-FE-00041-0LAE	PCB support 11.75*8.5*12.5H(RoHS)	1	
MAIN PCB			
<i>Resistors</i>			
109-1tsc103j0-e	thermister resistor TSC05103J (RoHS)	1	R237
110-12621j15-e	resistor 620Ω 1/2W ±5% 15mm (RoHS)	1	R238
110-20152j20-e	resistor 1.5K 2W ±5% CF 20mm KINK(RoHS)	1	R208
113-50r10j10-e	cement resistor 0.1Ω 5W ±5% (RoHS)	2	R224,R225
116-142003f26-e	metal film resistor 200K 1/4W ±1% MF26mm (RoHS)	1	R209
110-16102j26-e	resistor 1K 1/6W ±5% CF 26mm (RoHS)	3	R210,R239,R264
110-16103j26-e	resistor 10K 1/6W ±5% CF 26mm (RoHS)	9	R216,R227,R229,R230,R231,R232,R233,R260,R261
110-16153j26-e	resistor 15K 1/6W ±5% CF 26mm (RoHS)	2	R247,R249
110-16182j26-e	resistor 1.8K 1/6W ±5% CF 26mm (RoHS)	1	R248
110-16222j26-e	resistor 2.2K 1/6W ±5% CF 26mm (RoHS)	2	R242,R245
110-16223j26-e	resistor 22K 1/6W ±5% CF 26mm (RoHS)	3	R218,R220,R223
110-16274j26-e	resistor 270K 1/6W ±5% CF 26mm (RoHS)	1	R240
110-16333j26-e	resistor 33K 1/6W ±5% CF 26mm(RoHS)	1	R211
110-16391j26-e	resistor 390Ω 1/6W CF 26mm (RoHS)	2	R243,R246
110-16472j26-e	resistor 4.7K 1/6W ±5% CF 26mm (RoHS)	4	R213,R217,R219,R222
110-16473j26-e	resistor 47K 1/6W ±5% CF 26mm (RoHS)	1	R221
110-16683j26-e	resistor 68K 1/6W ±5% CF 26mm (RoHS)	1	R212
112-14101j26-e	fuse resistor 1/4W100ohm 5% (RoHS)	2	R241,R244
116-141r00j26x-e	metal oxide film resistor 1.00Ω 1/4W±5% MO 26mm (fire prevention resistor)	2	R255,R256
116-161002f26-e	metal film resistor 10K 1/6W ±1% MF 26mm (RoHS)	2	R234,R235
116-161301f26-e	metal film resistor1.30K 1/6W MF 26mm (RoHS)	3	R226,R228,R236
116-161692f26-e	metal film resistor16.9K 1/6W MF 26mm (RoHS)	1	R214
116-162001f26-e	metal film resistor 2.00K 1/6W ±1% MF26mm (RoHS)	1	R215

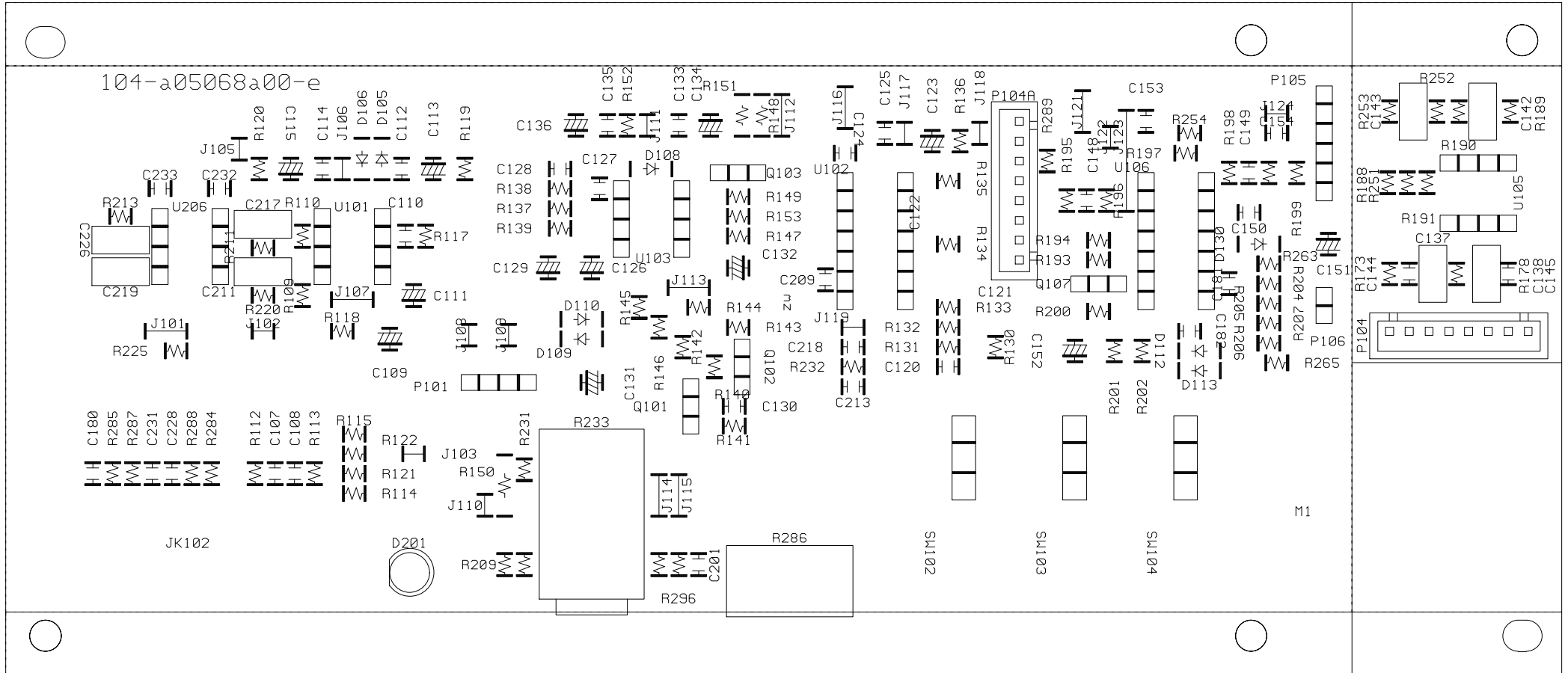
Part number	Description	Qty	Reference Designator
MAIN PCB			
116-162492f26-e	metal film resistor 24.9K 1/6W ±1% MF26mm (RoHS)	2	R257,R258
116-166813f26-e	metal film resistor 681K 1/6W ±1% MF26mm (RoHS)	1	R262
<i>Capacitors</i>			
130-2b102k503-e	disc capacitor 1000P 50V ±10% (RoHS)	1	C165
130-3f104z503-e	disc capacitor 0.1U 50V +80/-20% (RoHS)	2	C163,C164
130-ch101j503-e	disc capacitor 100P 50V ±5% (RoHS)	2	C159,C160
135-3107m16-e	electrolytic CAP. 100uF 16V ±20% (RoHS)	2	C166,C167
135-3226m50-e	electrolytic CAP. 22U 50V ±20% (RoHS)	2	C161,C162
135-3227m10-e	electrolytic CAP. 220U 10V ±20% (RoHS)	2	C156,C157
139-3227m16-e	low leakage EC. 220uF 16V±20% (RoHS)	1	C155
140-rx103ka03-e	multilayer CAP.10nF 100V X7R 10% 立式 (RoHS)	1	C174
140-rx473kb03-e	multilayer CAP. 47NF 200V X7R ±10% 立式 (RoHS)	2	C172,C173
135-4228m35-e	electrolytic CAP. 2200uF 35V ±20%(RoHS)	2	C170,C171
135-4688m80-e	electrolytic CAP. 6800U 80V ±20%(RoHS)	2	C168,C169
<i>Semiconductors</i>			
190-16l431clp1-e	IC TL431CLP (RoHS) PROGRAMMABLE PRECISION REFERENCE	1	D115
192-027c1815gr-e	transistor 2SC1815GR TOSHIBA(RoHS) NPN	4	Q110,Q112,Q114,Q117
192-028a1015gr-e	transistor 2SA1015GR TOSHIBA(RoHS) PNP	3	Q111,Q113,Q115
192-1572n5551-e	transistor FSC 2N5551 (RoHS) NPN	1	Q109
192-1582n5401-e	transistor FSC 2N5401 AI-PNP 350V500mA TO-92 (RoHS)	1	Q108
197-031n4148-e	diode 100mA 75V SIGNAL 1N4148ROHM (RoHS)	7	D117,D118,D119,D120,D121,D125,D126
199-15000565-e	zener diode 5.6V 1/2W 52mm (RoHS)	1	D116
199-15001505-e	zener diode 15V 1/2W 52mm (RoHS)	1	D122
199-15002005-e	zener diode 20V 1/2W 52mm (RoHS)	1	D129
190-16lm324n-e	I.C. LM324N (RoHS) QUAD OP-AMP	1	U107
192-991d669a-e	transistor HI-SINCERITY HSD669A (RoHS) NPN	1	Q116
192-992b649t-e	transistor HSB649T (RoHS) PNP	1	Q118
197-00db103g-e	diode 1A 200V DF02MDB103G (RoHS)	1	D124
197-00kbu1003-e	diode 10A 200V KBU1003(RoHS)	1	D123
197-101n4002-e	diode 1N4002TB (RoHS)	1	D114
<i>Miscellaneous</i>			
171-udhss124d-e	relay 5A 24V UDH-SS124D(RoHS)	1	K101
175-1c02v01-e	wire connector & base 2PIN PITCH=2.5mm (RoHS)	1	P108
175-1c06v01-e	wire connector & base 6 PIN PITCH=2.5mm (RoHS)	1	P107
175-1d02v01-e	wire connector & base 2PIN PITCH=3.96mm(RoHS)	1	P112
175-1d05v01-e	wire connector & base 5PIN 3.96mm (RoHS)	1	P113
362-FE-00041-0LAE	PCB support 11.75*8.5*12.5H(RoHS)	1	
CLASS D PCB ASS'Y (RECOMMENDED REPLACE ENTIRE MODULE PART# 051-A05022C-E)			
<i>Resistors</i>			
118-12061001f-e	SMDresistor 1K 1206 1% (RoHS)	1	R2
118-12061002f-e	SMDresistor 10K 1206 1% (RoHS)	1	R25
118-12061002j-e	SMDresistor 10.0K 1206 5% (RoHS)	5	R29,R30,R30B,R7,R9
118-120610r0j-e	SMDresistor 10.0Ω 1206 5% (RoHS)	4	R20,R20B,R22,R23
118-12062002f-e	SMDresistor 20K 1206 1% (RoHS)	1	R26
118-12062201j-e	SMDresistor 2.20K 1206 5% (RoHS)	18	R13,R16,R31,R33,R34,R35,R36,R37,R38,R39,R40,R41,R42,R43,R44,R45,R46,R32
118-12062204j-e	SMDresistor 2.20M 1206 5% (RoHS)	1	R4
118-12062211f-e	SMDresistor 2.21K 1206 1% (RoHS)	1	R6
118-12062550f-e	SMD resistor 1206 255Ω 1% (RoHS)	1	R24

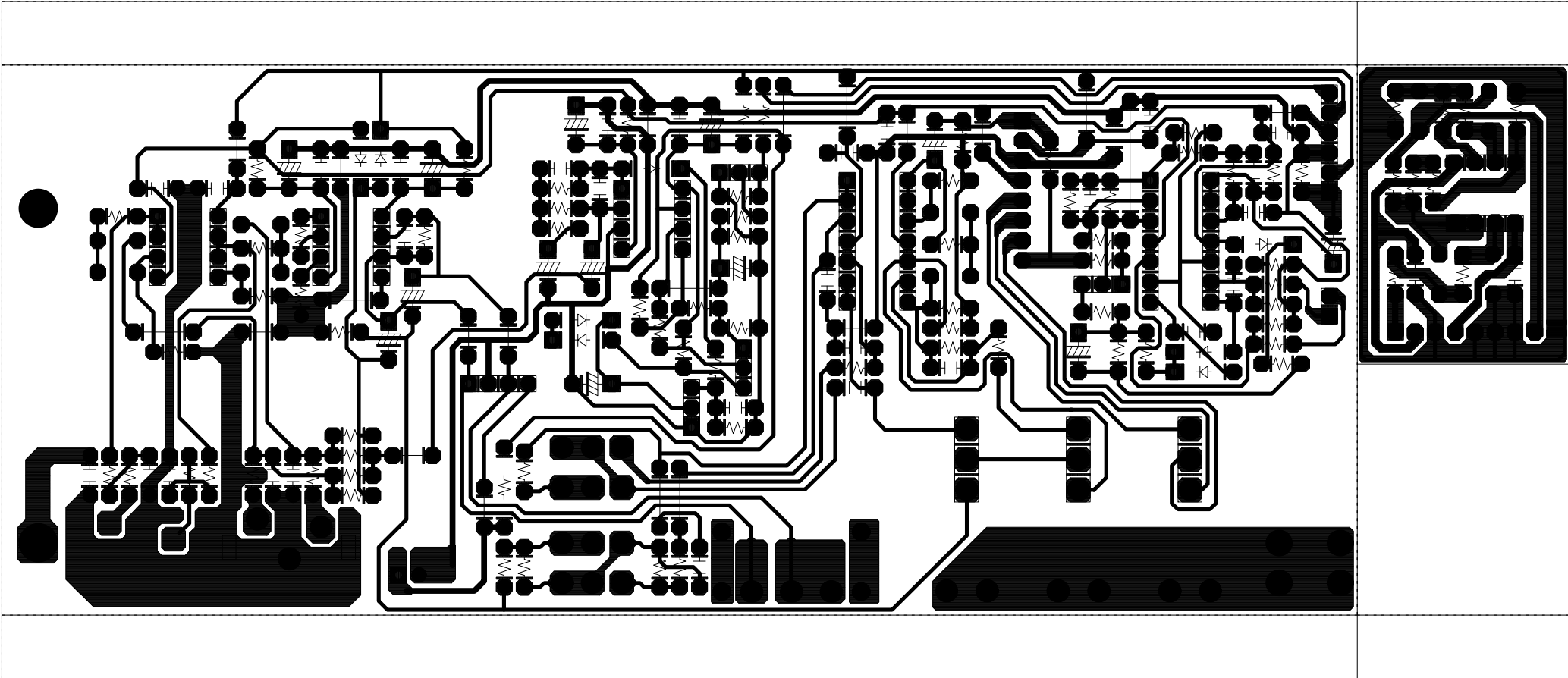
Part number	Description	Qty	Reference Designator
CLASS D PCB ASS'Y (RECOMMENDED REPLACE ENTIRE MODULE PART# 051-A05022C-E)			
118-12062701j-e	SMDresistor 2.70K 1206 5% (RoHS)	1	R10
118-12063301j-e	SMDresistor 3.30K 1206 5% (RoHS)	4	R14,R15,R27,R28
118-12063321f-e	SMDresistor 3.32K 1206 1% (RoHS)	1	R1
118-12063922f-e	SMDresistor 1206 39.2K±1% (RoHS)	1	R3
118-12064700j-e	SMDresistor 470Ω 1206 5% (RoHS)	3	R8,R11,R21
118-12064701j-e	SMDresistor 4.70K 1206 5% (RoHS)	1	R12
118-12064751f-e	SMDresistor 4.75K 1206 1% (RoHS)	1	R5
112-10180j00-e	fuse resistor FMF 1W 18Ω 5% (RoHS)	1	R47 (Added point-to-point wiring)
<i>Capacitors</i>			
128-e106ma01-se	NP electrolytic CAP. 10uF 100V 20% (RoHS)	2	C16,C17
130-sl681kb03-e	disc capacitor SL 680PF 200V (RoHS)	1	C21 (Added point-to-point wiring)
132-104kb50-e	mylar CAP. 0.1U ±10% 250V LS-10.mm MD (RoHS)	1	C20
132-105kb50-e	mylar CAP. 1uF 250V ±10%(RoHS)	1	C40
141-c0101k50-e	SMD 100pF 50V 10% 1206 NP0 (RoHS)	1	C4
141-c0220k50-e	SMD 22pF 50V 10% 1206SMT NPO (RoHS)	1	C5
141-c0561k50-e	SMD 560pF 50V 10%1206 NPO (RoHS)	1	C6
141-c5104m50-e	SMD 1206 Y5V 0.1uF50V ±20% (RoHS)	8	C2,C3,C7,C8,C9,C10,C11,C15
141-c7103k50-e	SMD 10nF 50V 1%1206 X7R (RoHS)	1	C13
141-d7104ka0-e	SMD 10nF 50V 1%1206 X7R (RoHS)	4	C12,C14,C18,C19
<i>Semiconductors</i>			
192-232irf9640-e	FET IRF9640 IR P-CH TO220(RoHS)	2	Q10,Q10B
192-233f640n-e	FET transistor IRF640N INTERNATIONAL(RoHS)	1	Q11
190-16tl072dts-e	SMD I.C. TL072CDT DUAL OP-AMP (RoHS)	1	IC1
192-09124126qs-e	SMD transistor 2SC2412K-T146Q/R ROHM (RoHS)	2	Q1,Q4
192-09139066rs-e	SMD transistor 2SC3906K-T146R ROHM(RoHS)	2	Q2,Q8
192-091sc4672-e	transistor 2SC4672(MPT3) ROHM (RoHS)	1	Q5B
192-09210376qs-e	SMD transistor 2SA1037K-T146Q/R ROHM (RoHS)	2	Q7,Q9
192-09215146rs-e	SMD transistor 2SA1514K-T146R ROHM(RoHS)	1	Q3
192-1582n5401-e	transistor FSC 2N5401 AI-PNP 350V500mA TO-92 (RoHS)	1	Q6B
197-03rls4148s-e	SMD diode RLS4148-TE11 ROHM(RoHS)	8	D1,D2,D3,D4,D5,D5B,D6,D20
199-15000563s-e	SMD ZENER 5.6V 5% PHILIPSBZX84-C5V6 (RoHS)	2	Z1,Z2
199-1500120s-e	SMD ZENER 12V 5% PHILIPSBZX84-C12 (RoHS)	4	Z3,Z4,Z5,Z6
<i>Miscellaneous</i>			
122-13151k0190-e	CHOKE SA-500-280(PT1601B*151MAA) (RoHS)	1	L1
175-9f40hr2-e	wire connector & base 40PIN PITCH=2.54mmHR2*40 (RoHS)	1	
122-14300k4-e	Ferrite core LD1215*300KU±10% (RoHS)	1	L2
MISCELLANEOUS/MECHANICAL			
150-r1107011-e	Toroidal transformer TT0930505260 (RoHS)	1	
152-u60201a02-e	power line cord 6FT UL 2PIN	1	
153-vpst101s2-e	AC outlet female socket VDE 2PINS INLETSOCKET PRONIC (RoHS)	1	
154-k31505t0-e	fuse 3.15A 250V 30mm UL/CSA/PSE (RoHS)	1	
155-630r345b-e	fuse holder UL/CSA φ6*30mm R3-45B (RoHS)	1	
162-10100023-e	WIRE UL/CSA 1617 #22 100mmBLK (RoHS)	1	
162-10151001-e	WIRE UL1617 150mm 22AWG BROWN6:6 (RoHS)	1	
162-5016d001-e	WIRE 24# 160mm black (RoHS)	1	P108
166-5070a4bd-e	speaker wire 700mm #18 UL1015#205*0.5t black /#250*0.8t red (RoHS)	1	
180-prf1003b-e	Main power switch ROCK RF-1003-BB210(RoHS)	1	
193-0s4211-e	insulation (INSULATION SPACER)42*11 (RoHS)	1	

Part number	Description	Qty	Reference Designator
MISCELLANEOUS/MECHANICAL			
193-201612tr-e	insulation T0-220 16mm*12mm(RoHS)	1	
193-201815t2-e	insulation (RoHS)	2	
302-AL-05086-0BAE	rear board 300*200*2.5T PS212/120V use (RoHS)	1	
306-ABS-00177-0BAE	rear plastic housing 198*298*102mm (RoHS)	1	
311-ABS-00028-0BAE	knob 46077-W P.V.C.(RoHS)	2	
323-AL-05000-0LAE	heat sink (RoHS)	1	
325-FE-00400-0LAE	PCB support 58*9*13.5T (RoHS)	1	
333-EVA-00188-0BAE	EVA (Gasket) pad 170x5x1t (RoHS)	1	
333-EVA-00220-0BAE	EVA (Gasket) pad 225*15*1t UL(RoHS)	1	
333-EVA-00783-0BAE	EVA (Gasket) W 198*12*2.0T	2	
333-EVA-00807-0BAE	EVA (Gasket) L 274*12*2.0T (RoHS)	2	
333-EVA-00826-0BAE	EVA (Gasket) W 198*12*1.0T (RoHS)	2	
333-EVA-00835-0BAE	EVA (Gasket) L 274*12*1.0T (RoHS)	2	
333-EVA-00866-0BAE	fire prevention EVA (Gasket) 48*18*1.5T (RoHS)	1	
333-SPG-00860-0BAE	fire prevention bubble cotton 450*50*5T (RoHS)	1	
335-NYL-00002-0BAE	power line grommet 4K-4 NO-BB(RoHS)	1	
336-RUB-05103-0BAE	RUB Pad 97*16*3.0T black (RoHS)	2	
350-EM04012D024-E	4 \varnothing *12 wood screw black(RoHS)	4	
351-AM03008A078-E	M3*8 machine screw(RoHS)	4	
351-AM03008A079-E	3*8 machine screw black(RoHS)	7	
351-AM03018A364-E	machine screw SCREW M3*18 black (RoHS)	2	
351-HM03006A308-E	machine screw M3*6mm black (RoHS)	1	
351-HM04010A217-E	M4*10 machine screw black	4	
352-AM03008D040-E	\varnothing 3*8 B type ping screw black (RoHS)	2	
352-AM03008D041-E	\varnothing 3*8 B type ping screw (RoHS)	2	
352-AM03010D065-E	\varnothing 3*10 P type ping screw black(RoHS)	1	
352-BM03010D064-E	\varnothing 3*10 B type ping screw black(RoHS)	2	
355-P07049-E	washer 7.2*12*0.5t full color (RoHS)	2	
361-FE-00002-0LAE	transformer support 90*70*15mm (RoHS)	1	
361-FE-05016-0LAE	SECC support 36*12.5*8.5 (RoHS)	1	
362-FE-00013-0LAE	PCB support L TYPE t=1.6mmS.P.C.C 89*9*1.6T (RoHS)	1	



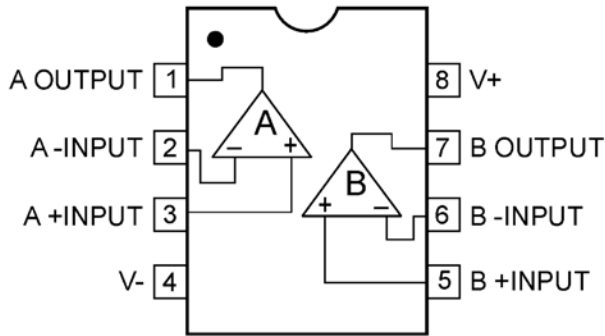




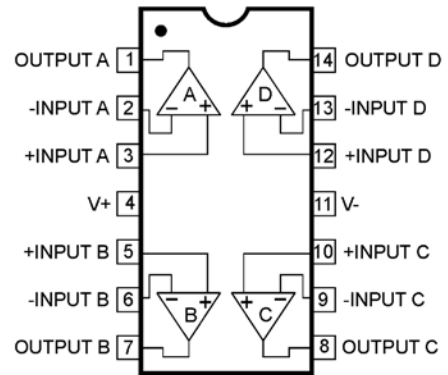


Integrated Circuit Diagrams

4558, TL072 DUAL OP-AMP
IC1, U101,103,105



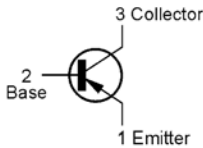
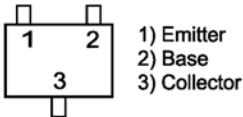
OPAMP,
QUAD 14P DIL TL074 LM324
U102,104,106,107



* MMBT3906LTI SOT23
2SC4672K(MPT3)
2Sa1037K-T146Q/r

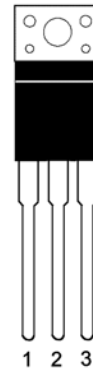
2N5401
Q6B, 108

Q1,2,3,4,5B,7,8,9

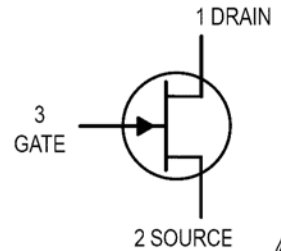


* PREFIX MAY BE "FMMT"

MOSFET IRF640, 9640
Q10,10B,11



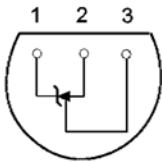
FET J111
Q107



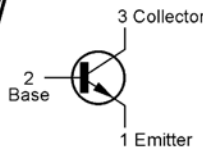
TL431 D115

T092
(Top view)

1 Cathode
2 Anode
3 Reference

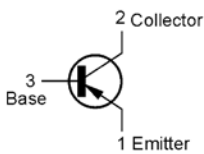


2N5551
Q109



1. G
2. D
3. S

2SA1015
Q111,113,115

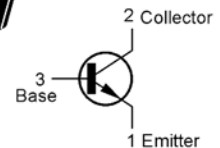


HSD669A, HSB649A
Q116,118

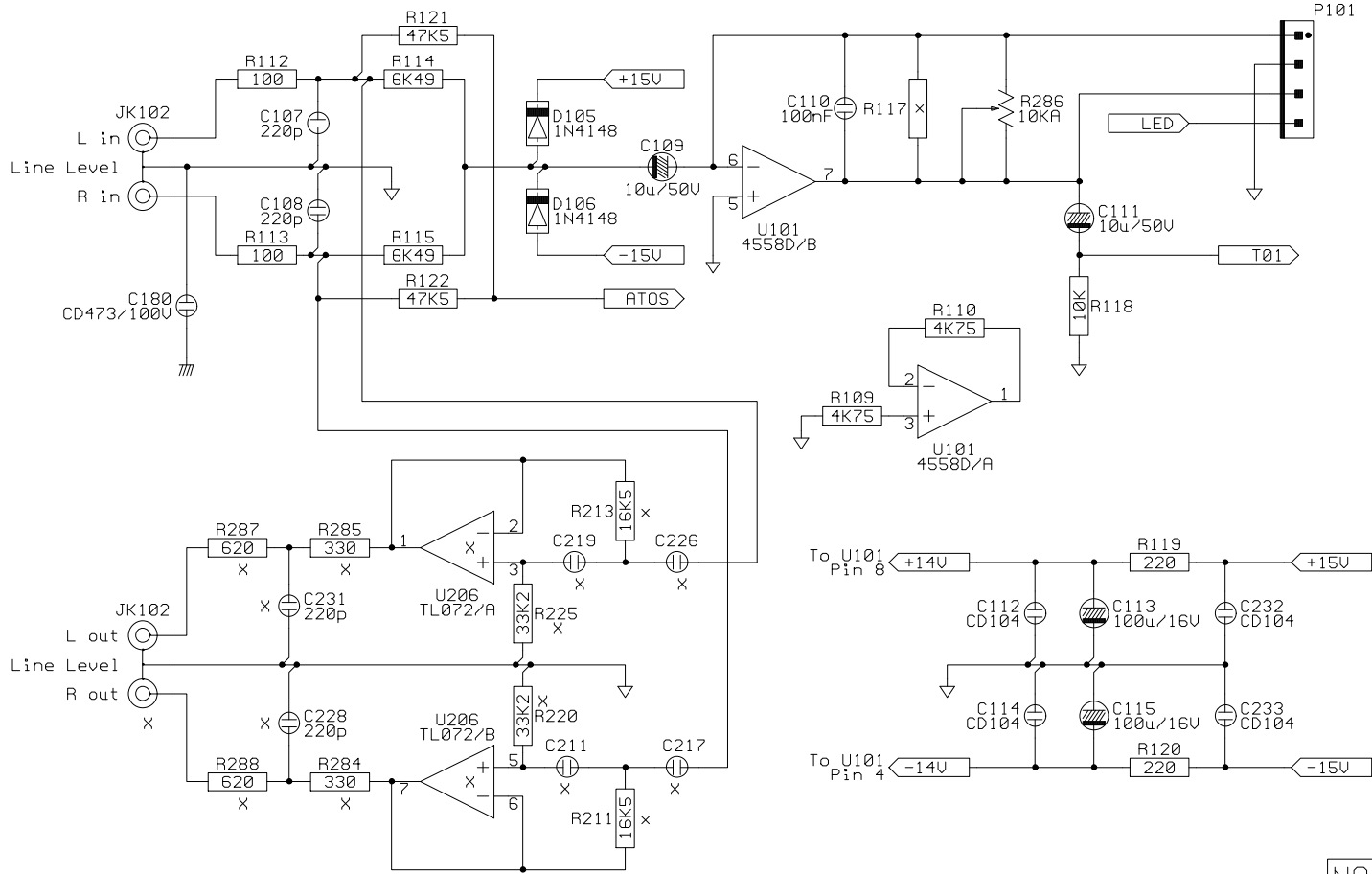


1. Emitter
2. Collector
3. Base

2SC1815
Q101,102,103,110,112,114,117

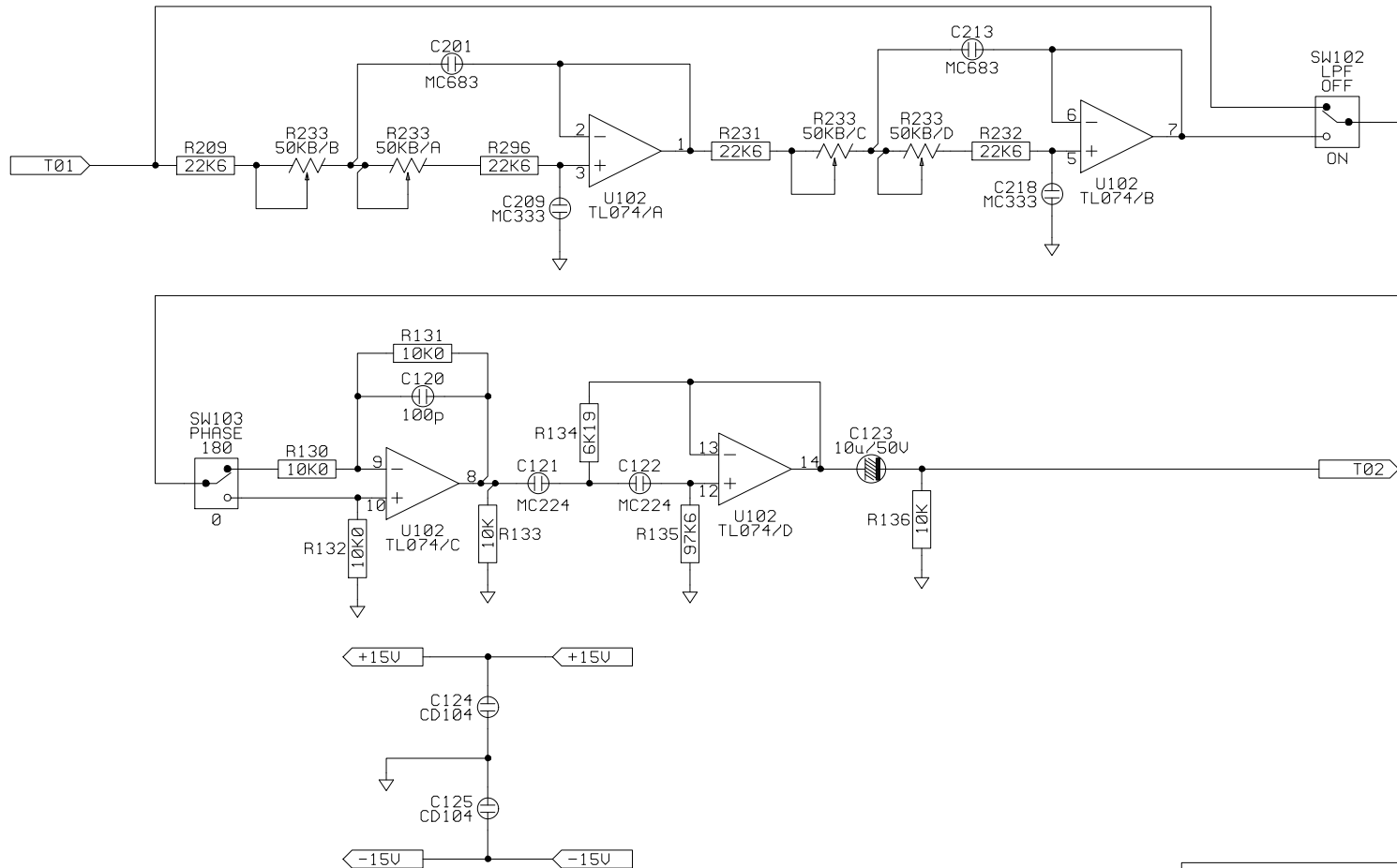


PS series PS212 subwoofer



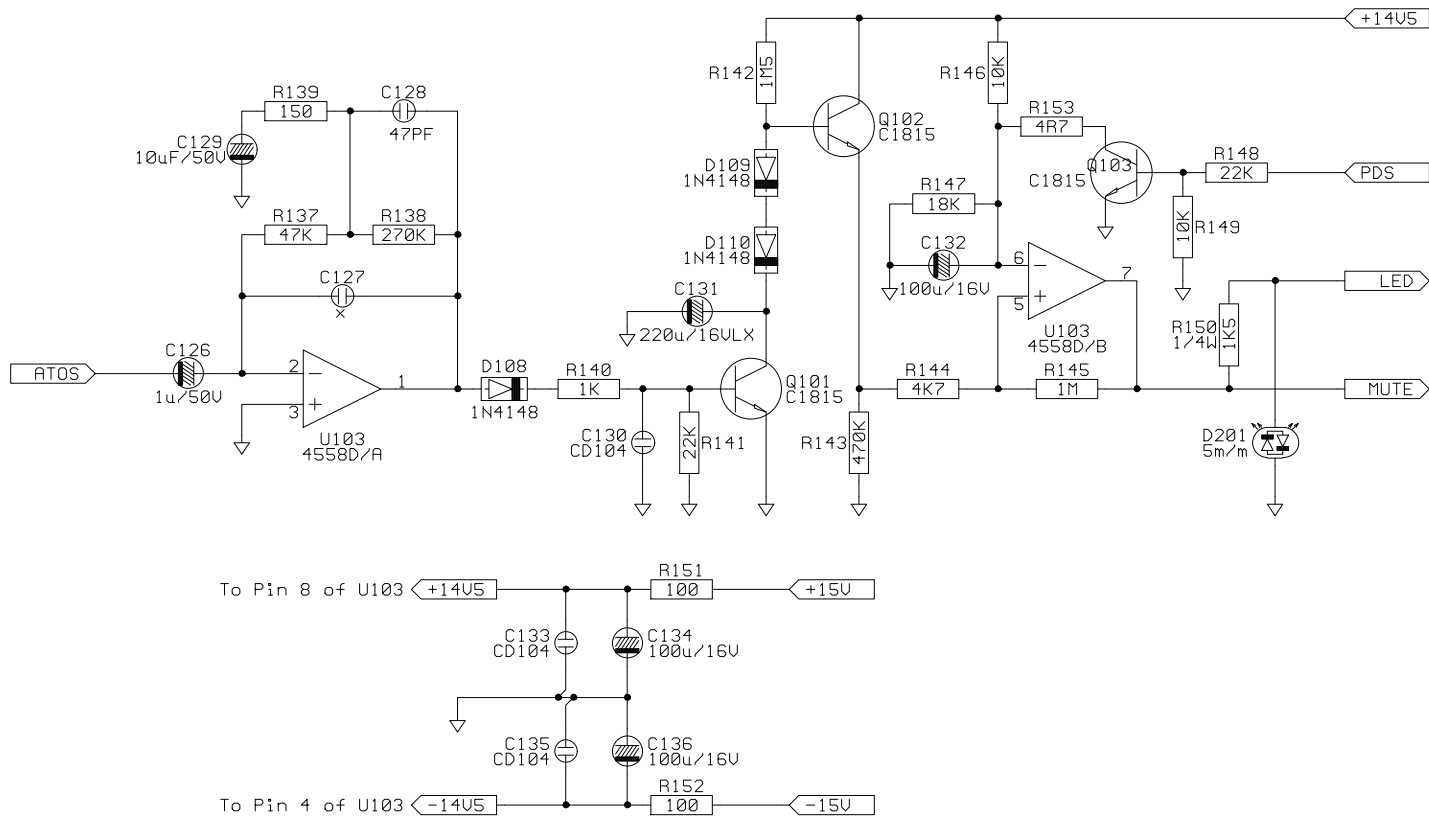
NAME : Input/PRE	1/10
MODEL : PS212/120V	REV: 0
CUSTOMER : Infinity	
DATE : 2006-9 -11	
APPROVE BY	CHECK BY DRAWING BY

PS series PS212 subwoofer

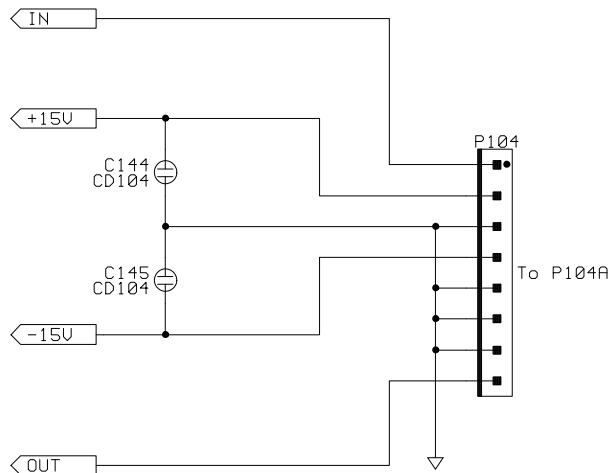
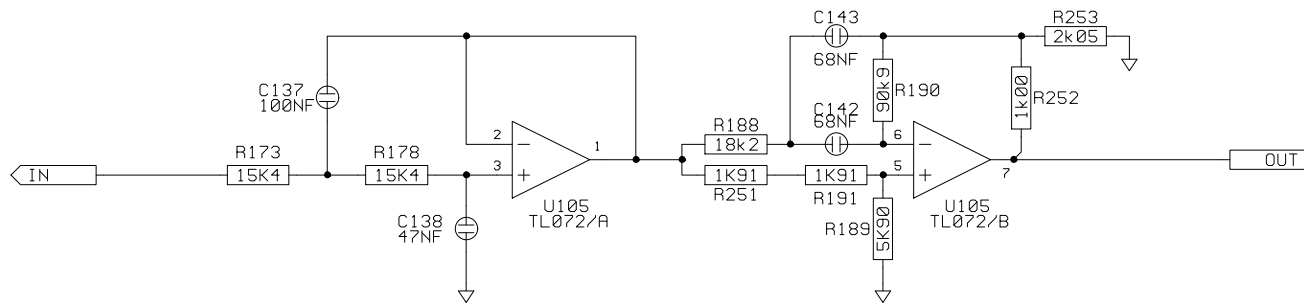


NAME : Filter/PRE	2/10
MODEL : PS212/120V	REV:0
CUSTOMER : Infinity	
DATE : 2006-9 -11	
APPROVE BY	CHECK BY DRAWING BY

PS series PS212 subwoofer

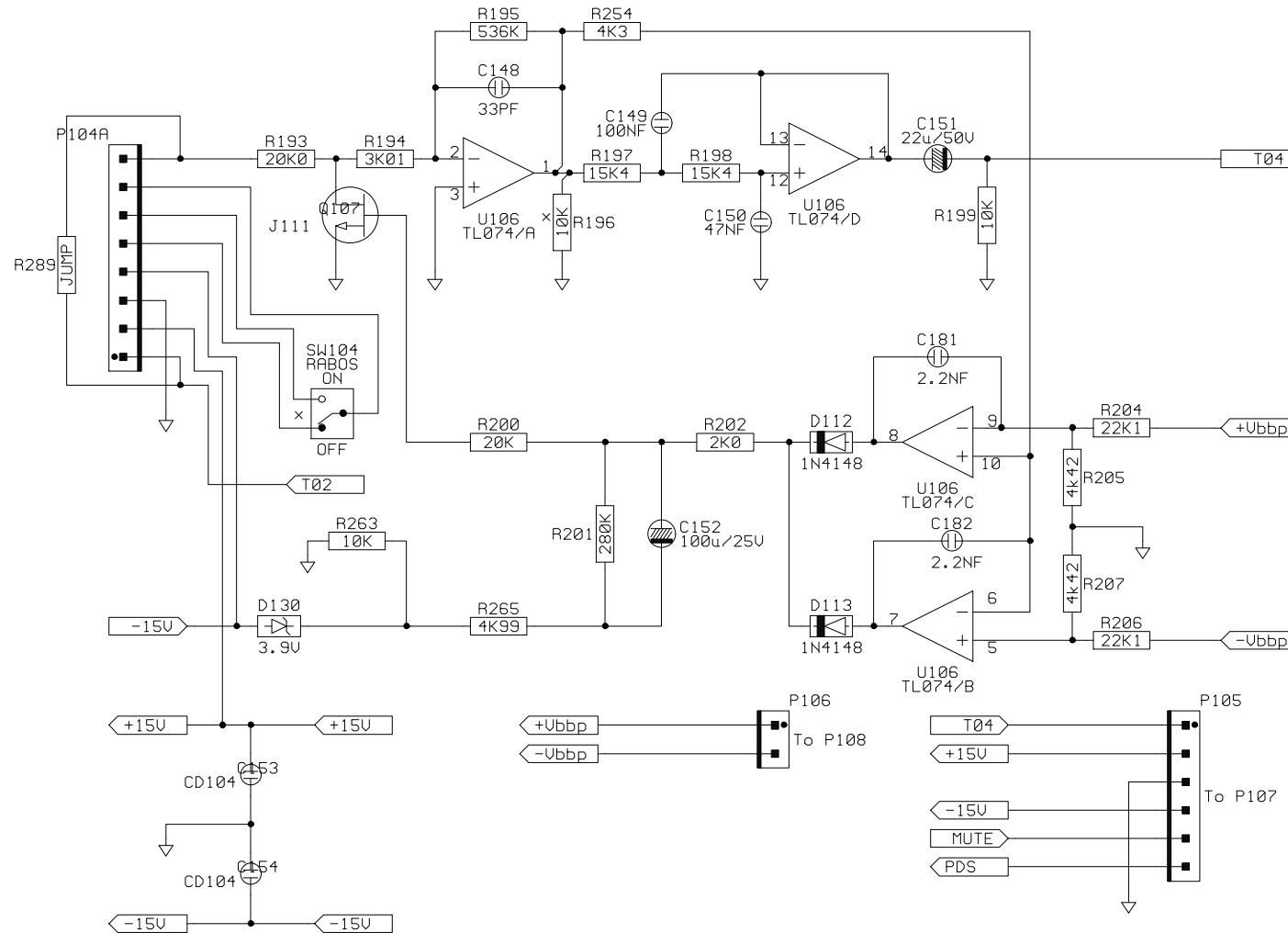


NAME : Auto on/PRE	3/10
MODEL : PS212/120U	REV:0
CUSTOMER : Infinity	
DATE : 2006-9 -11	
APPROVE BY	CHECK BY DRAWING BY



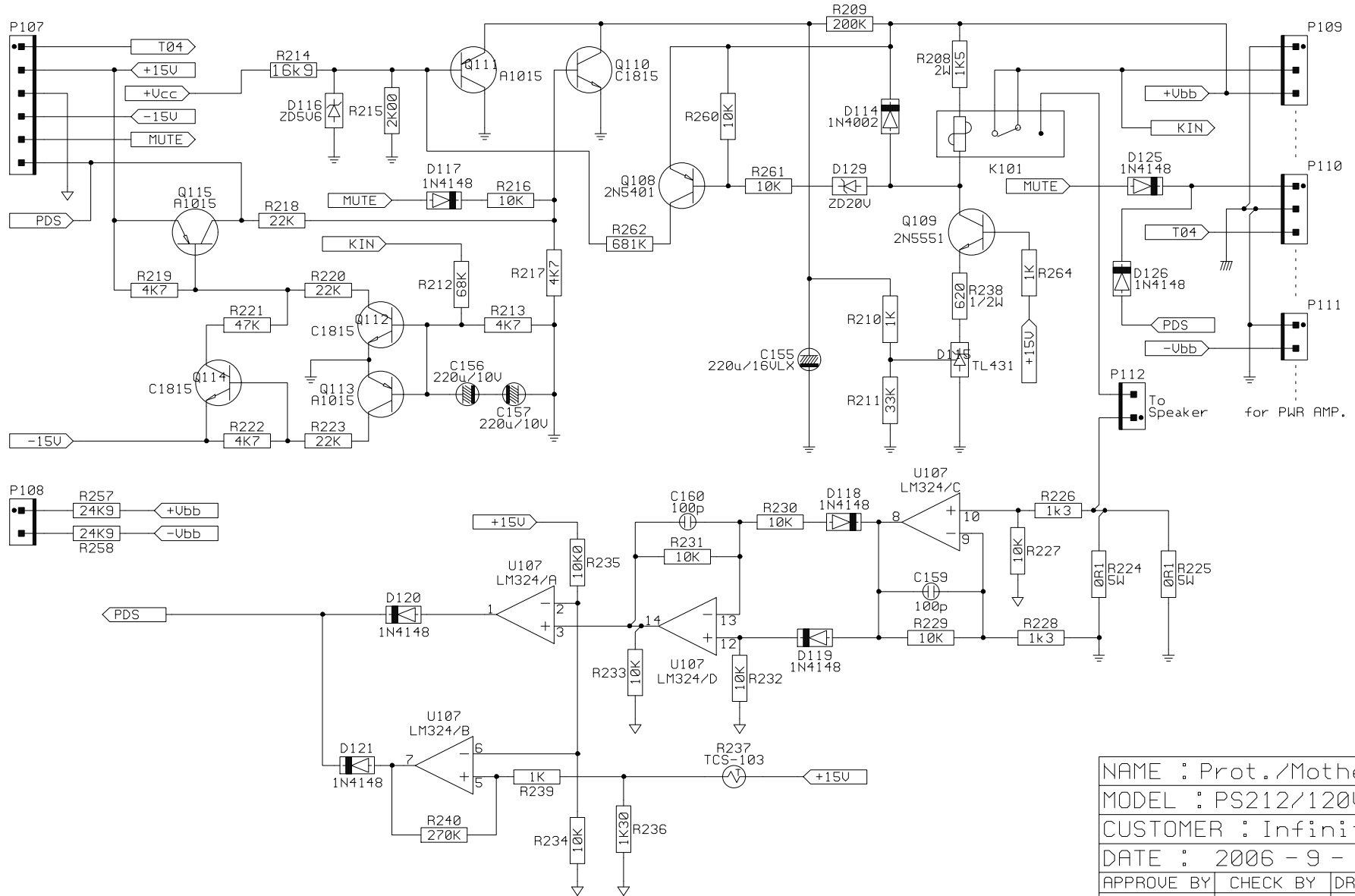
NAME : EQ CIRCUIT	4/10
MODEL : PS212/120V	REV: 0
CUSTOMER : Infinity	
DATE : 2006 -9 -11	
APPROVE BY	CHECK BY DRAWING BY

PS series PS212 subwoofer



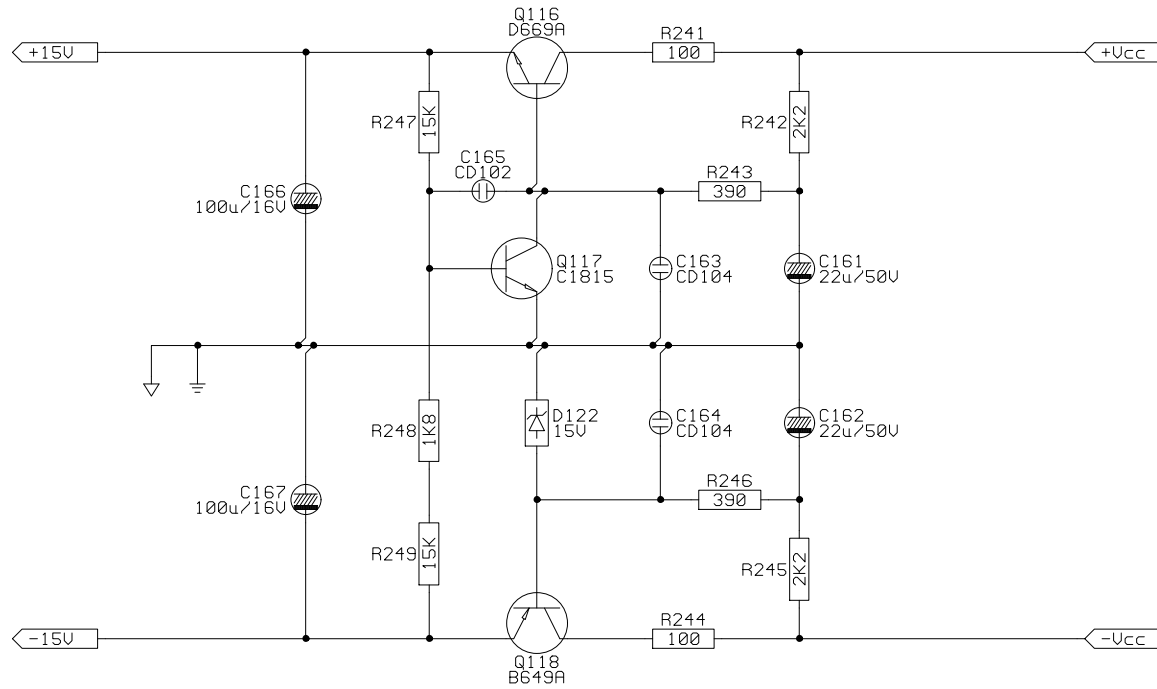
NAME : Limiter/PRE	5/10
MODEL : PS212/120V	REV: 0
CUSTOMER : Infinity	
DATE : 2006-9-11	
APPROVE BY	CHECK BY
DRAWING BY	

PS series PS212 subwoofer



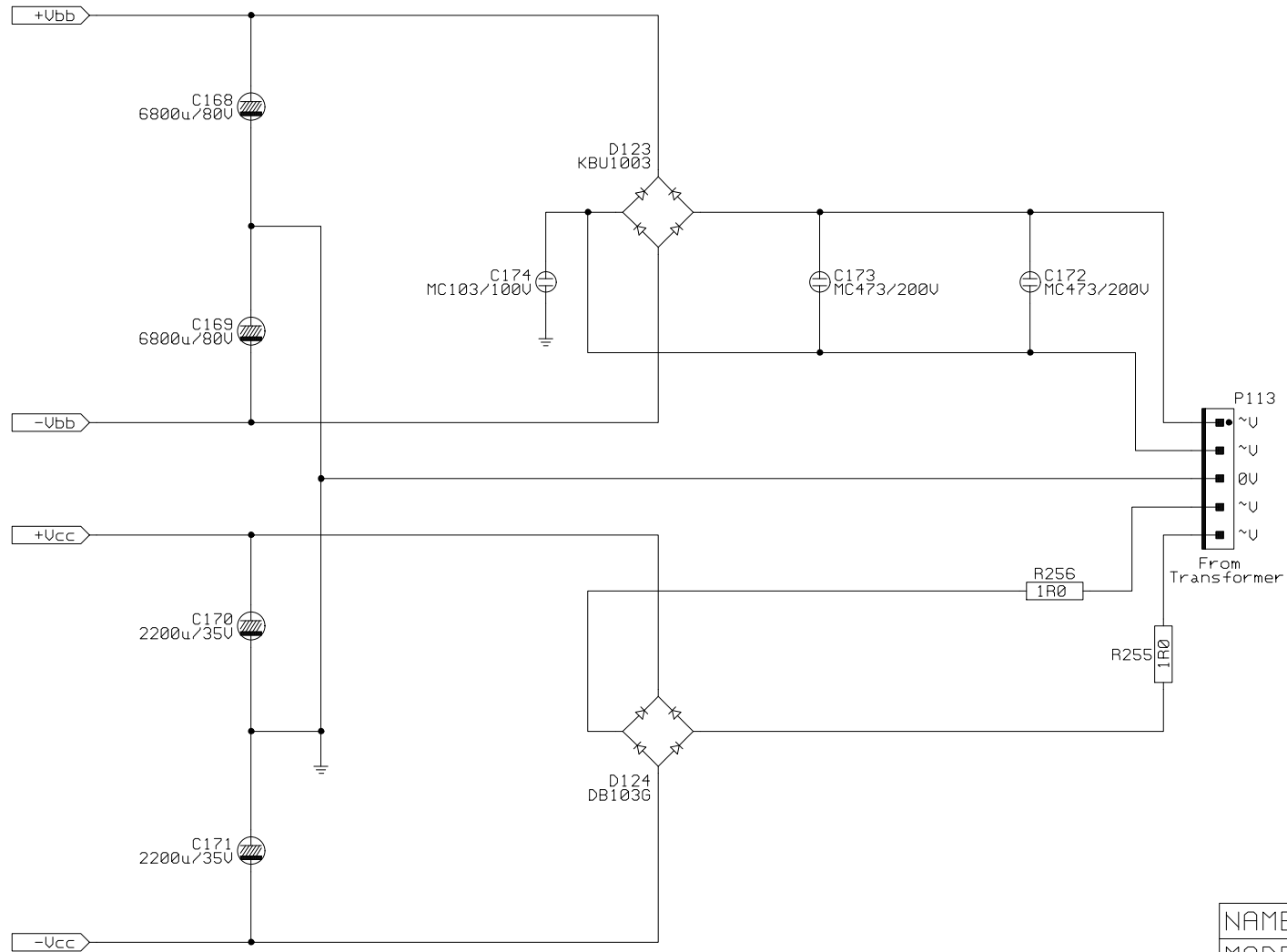
NAME : Prot./Mother 6/10		
MODEL : PS212/120V REV:0		
CUSTOMER : Infinity		
DATE : 2006 - 9 - 11		
APPROVE BY	CHECK BY	DRAWING BY

PS series PS212 subwoofer

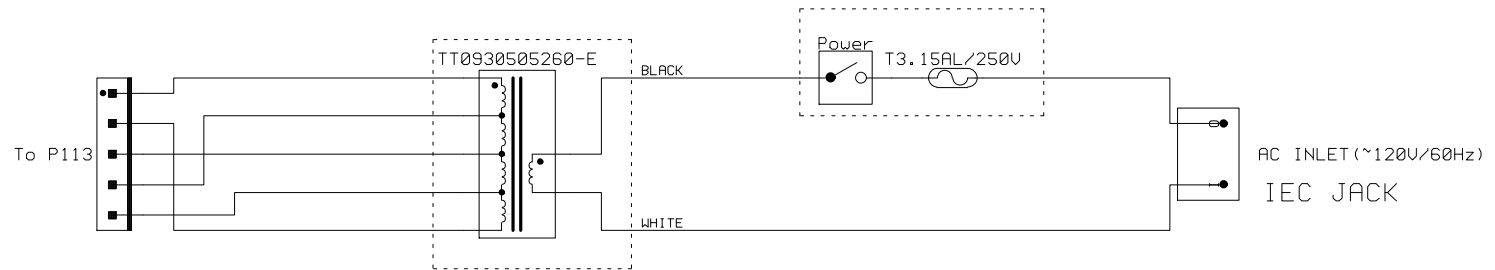


NAME : PN15V/Mother		7/10
MODEL : PS212/120V		REV:0
CUSTOMER : Infinity		
DATE : 2006-9 -11		
APPROVE BY	CHECK BY	DRAWING BY

PS series PS212 subwoofer

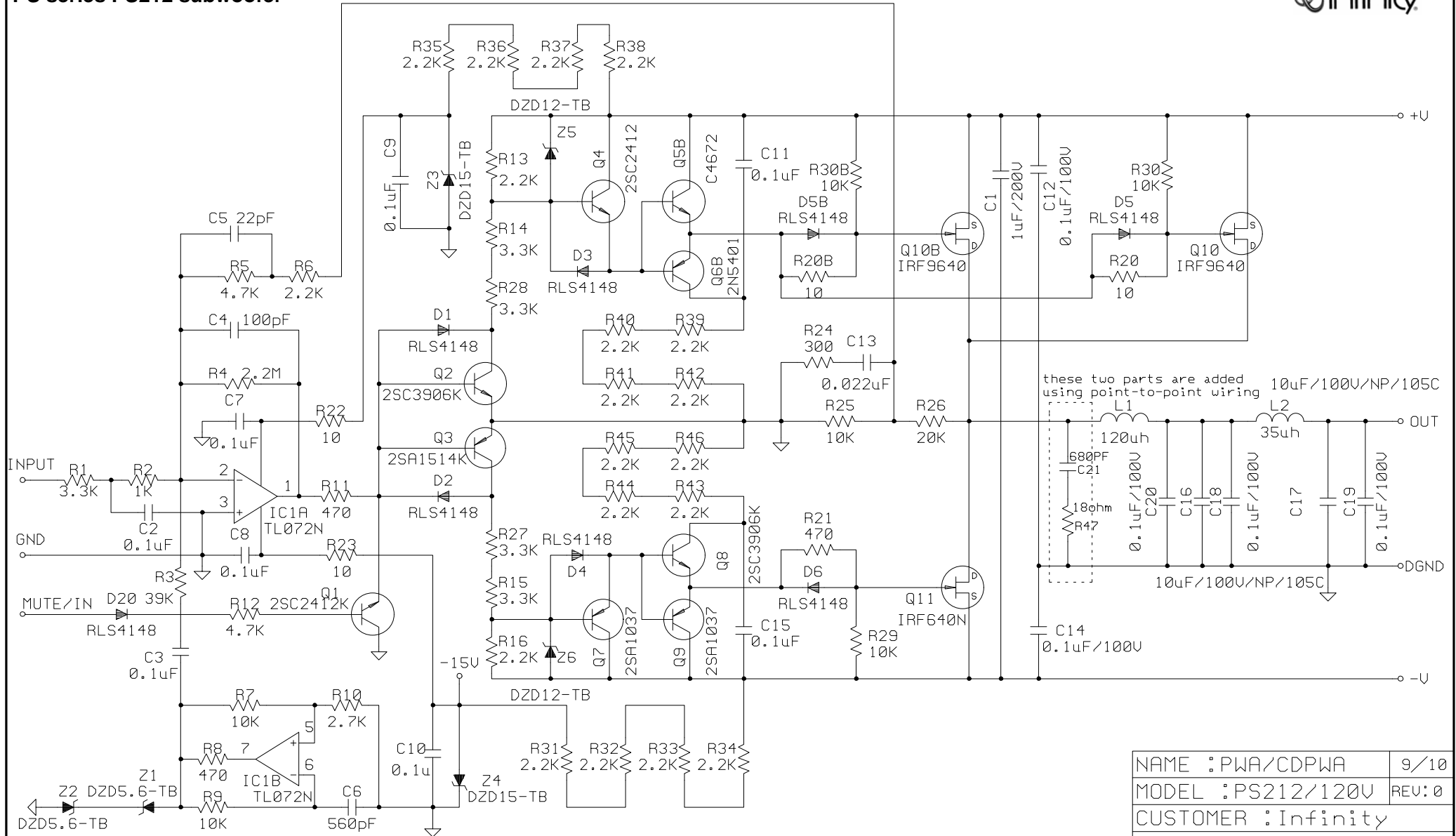


NAME : DCPWR/Mother		8/10
MODEL : PS212/120V		REV: 0
CUSTOMER : Infinity		
DATE : 2006-9 -11		
APPROVE BY	CHECK BY	DRAWING BY



APPROVE BY	CHECK BY	DRAWING BY	NAME : AC INNET	10/10
			MODEL : PS212/120V	REV: 0
			CUSTOMER : Infinity	
			DATE : 2006-9 -11	

PS series PS212 subwoofer



NAME : PWA/CDPWA	9/10
MODEL : PS212/120V	REV: 0
CUSTOMER : Infinity	
DATE : 2006-9 -11	
APPROVE BY	CHECK BY
DRAWING BY	