TSS-Sub1200

(TSS-1200 SYSTEM)

SERVICE MANUAL

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

Rev0 12/2006

Note: The TSS-Sub1200 is part of the TSS-1200 system

Satellite loudspeakers:
(Charcoal) order Infinity part# TSS-SAT1200CHR
(Platinum) order Infinity part# TSS-SAT1200PLT
Center channel:
(Charcoal) order Infinity part# TSS1200CHR CEN
(Platinum) order Infinity part# TSS1200PLT CEN

CONTENTS

TSS-Sub1200 Specifications

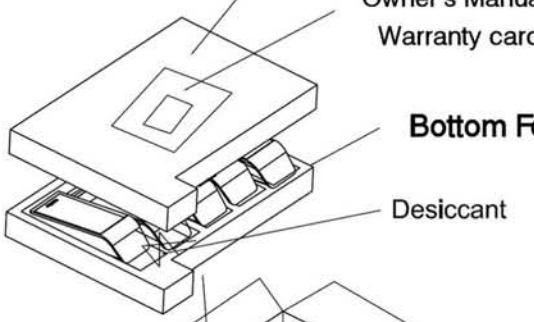
Frequency Range:	29Hz – 150Hz (±3dB)
Amplifier Output:	250 Watts RMS; 500 Watts peak
Low-Frequency Driver:	12" (305mm)
Crossover Frequency:	50Hz – 150Hz, 24dB/Octave, continuously variable
Dimensions (H x W x D):	18-1/2" x 12-3/4" x 18-1/2" (470mm x 324mm x 470mm)
Weight:	44 lb (20kg)

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.

INFINITY TSS-1200 250W Powered Sub/ Plate Amp					
LINE VOLTAGE	**Yes/No**	**Hi/Lo Line**	**Nom.**	**Unit**	**Notes**
US 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	n/a	n/a		
Load Impedance (speaker)	5.6	Ohms	n/a	Nominal	
Rated Output Power (120VAC	150	Watts	125		Domestic version only 120 VAC-60 Hz
Rated Output Power (230VAC	150	Watts	125		EU Version only 230 VAC-50 Hz
AVG RMS Dynamic Power	250	Watts	225	5.6 Ohms	Average RMS power, 3/20 Cycles 50 Hz, Driven 6dB above its input sensitivity sensitivity
AVG RMS Dynamic Power	250	Watts	189	4 Ohms	Reference
THD @ Rated Power	0.5	%	1	22K filter	
THD @ 1 Watt	0.1	%	0.3	22K filter	
DC Offset	10	mV-DC	30	Amplifier output	
Damping factor	>50	DF	20	Measured at amplifier board	Measured at the amplifier board. 120 Watts @ 50 Hz, THD must be less tan 0.1%
Input Sensitivity					
Input Frequency	35	Hz	35	Nominal Freq.	
L or R input	16.8	mVrms	±2dB	To 1 Watt, Ap Zo=600 Ohms	Single input driven, Normal mode
L or R input	16.8	mVrms	±2dB	To 1 Watt , Ap Zo=600 Ohms	Single input driven, LFE mode switch ON
Gain L & R	140		±2dB	43 dB	Reference
Signal to Noise					
SNR-A-Weighted	90	dBA	85	relative to rated power	A-Weighting filter
SNR-unweighted	85	dBr	85	relative to rated power	22K filter
SNR rel. 1W-unweighted	65	dBr	65	relative to 1W Output	22K filter
Residual Noise Floor	1	mVrms(max)	1.5	Volume @max, w/ A/P Swept Bandpass Measurement (Line freq.+ harmonics) (BW=20 Khz)	Line level inputs must be terminated using 1KOHM
Input Impedance					
Line Input (L, R)	> 10K	ohms	n/a	Nominal	
Filters					
LP filter 4th order	50-150	Hz	± 10	2nd Order variable and 2nd order fix	See AP curves 2nd order variable + 2nd order fix-24 db/Octave
HP Filter 2nd order	Fixed				
LFE Low pass 2nd order	200>LP<1K	Hz		LFE input driven only	
Notch filter (Friend circuit)				F=61 Hz, Q=3.607, Av=-8.62dB	
Limiter					
THD at Max. Output Power	n/a	n/a	functional	Maximum Output Power	Maximum THD as a result of limiting.
Features	--				
Volume pot Taper (lin/log)	LOG	--	functional		A Taper
Phase switch	0-180	deg	functional		
LP Filter defeat switch (LFE-Normal)	YES		functional		Disables LP filter, intended for LFE
Input Configuration					
Line In (L,R) & LFE	YES	--	functional		Dual RCA jack
Signal Sensing (ATO)					
Auto-Turn-On (yes/no)	YES		functional		
ATO Input test frequency	50	Hz	functional	"	
ATO Level LFE Input	2	mV	functional	"	Maximum acceptable level.
ATO Turn-on time	5	ms	functional	Amp connected and AC on, then input signal applied	
Auto Mute/ Turn-OFF Time	15	minutes	18	T before muting, after line or speaker level signal is removed	Auto turn of time (T) must be 5 > T < 18 Minutes
Power on Delay time	3	sec.	4	AC Power Applied	
Transients/Pops					
ATO Transient	5	mV-peak	n/a	@ Speaker Output	

Parameter	Specification	Unit	QA Test Limits	Conditions	Notes
Turn-on Transient	50	mV-peak	2V-pk-pk	@ Speaker Output	AC Line cycled from OFF to ON
Turn-off Transient	50	mV-peak	2V-pk-pk	@ Speaker Output	AC Line cycled from ON to OFF
Efficiency					
Efficiency	67	%	65		Nominal Line voltage 120 VAC
Stand-by Input Power	20	Watts	22	@ nom. line voltage	Maximum allowable input power under nominal Input voltage and frequency, HOT or COLD operation.
Power Cons. @ rated power	185	Watts	187	@ nom. line voltage	125 Watts into 5.6 Ohms @ nominal line voltage
Protections					
Short Circuit Protection	YES		functional	Direct short at output	Amplifier should resume operation after short circuit condition removal
Thermal Protection	YES		functional	@1/8 max unclipped Power at 1.06 times the input voltage	Temperature rise in accessible metal parts should not exceed 35K rise for domestic version or 30K rise for European versions (refer to requirements sheet).
DC Offset Protection	YES		-	DC present at Speaker Out leads	Design must insure no Offset at the speaker output under any operating condition including abnormal operation
Line Fuse Rating					
USA-Domestic	2	Amps	2	Type-T or Slo Blo-250 V	Internal fuse with UL/SEMKO rated holder
EU	1.25	Amps	1.25	Type-T or Slo Blo-250 V, Low Breaking capacity	Internal fuse with UL/SEMKO rated holder

PACKAGE



Top Foam :431-000-05854-E

Owner's Manual 406-000-05483-1E

Warranty card 405-000-05110-E

Bottom Foam 431-000-05855-E

Desiccant

Screws (1/4" x 20)	PLAT	371-000-05147-E	1 Bag x 2,4,8 Pc.
	CHR	371-000-05148-E	
Center Channel Base	PLAT	376-000-01075-E	1 Pc.
	CHR	376-000-01074-E	
Adjustable Wall Bracket	PLAT	326-ABS-05013-E	5 Sets
	CHR	326-ABS-05013-0BAE	
Nut Wrench		399-000-00043-E	1 Pc.
Fixed Wall Brackets	PLAT	376-000-01071-E	1 Bag x 5 Pc.
	CHR	376-000-01070-E	
40' (12m) speaker wires		370-000-00276-E	2 Pc.
20' (6m) speaker wires		370-000-00277-E	3 Pc.
Single RCA Cable 15 ft.		166-015F011-E	1 Pc.
Rear Plastic Foot	PLAT	321-ABS-05077-0VAE	4 Pc.
	CHR	321-ABS-05077-0BAE	
Rubber Tip for Foot	PLAT	320-RUB-05093-0AAE	4 Pc.
	CHR	320-RUB-05093-0BAE	
Spring Tab (for Fixed Wall Bracket)		376-000-01078-E	1 Bag x 5 Pc.

Top Foam 431-000-05830-E

Bottom Foam 431-000-05831-E

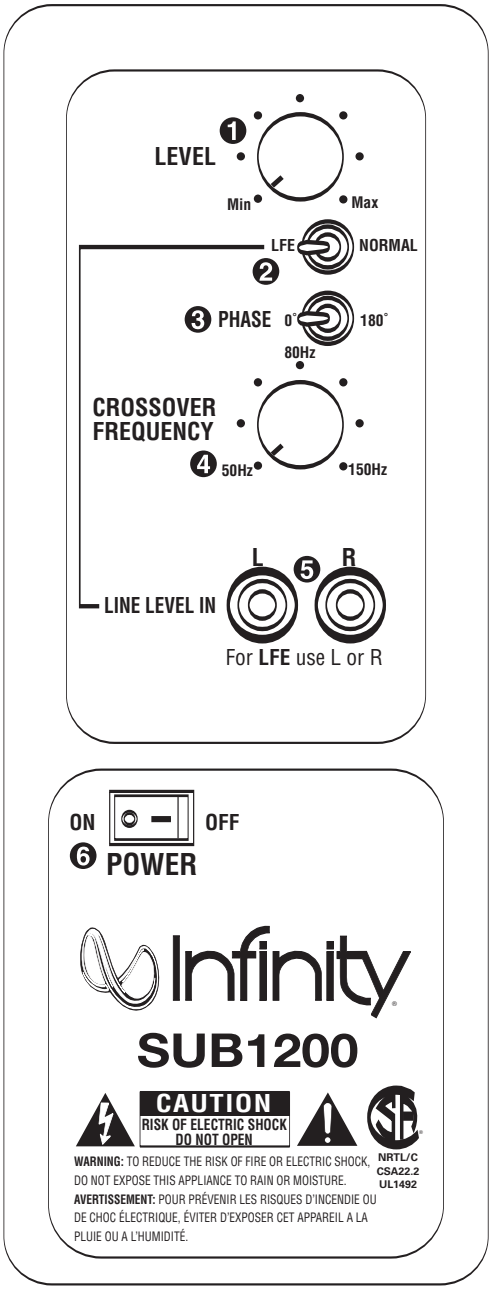
Desiccant

PLAT Outer Carton 402-000-05657-E

CHR Outer Carton 402-000-05658-E

Subwoofer Controls

Rear Panel



1. Subwoofer-Level Control
2. LFE/Normal Switch
3. Phase Switch
4. Crossover-Frequency Control
5. Line-Level (LFE) Inputs
6. Power Switch

A Few Suggestions

We recommend that you do not operate your speakers or subwoofer with the bass, treble and loudness controls set to full boost. This will place undue strain on your electronics and speakers and could damage them.

The volume control setting on your processor/preamp or receiver is not a specific indication of the overall loudness level of the speakers. The only important consideration is the loudness level at which the system can be played, regardless of where the volume control is set.

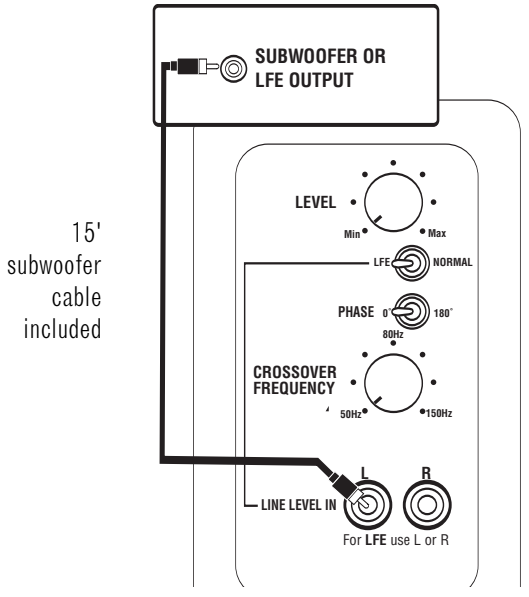
Always turn down the volume control setting on your processor/preamp or receiver when changing a cassette or CD, or switching inputs to AM or FM operation. Excessively loud transients (clicks or popping sounds) can damage the satellite speakers and possibly the subwoofer.

Important!

Whenever changing cables, pulling plugs, etc., ALWAYS TURN OFF ALL EQUIPMENT, including the subwoofer.

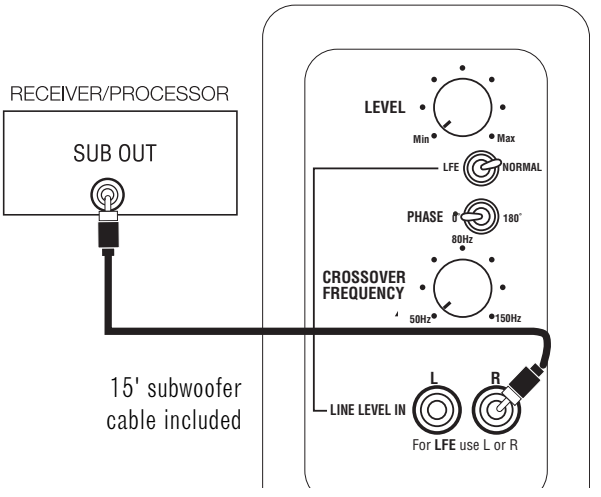
Subwoofer Connections

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



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

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



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

Surround Modes

When using the system in a Dolby Digital or DTS home theater system, make sure all speakers are set to "Small". When using the TSS-1200 in a Dolby Pro Logic® home theater system, make sure the receiver's center channel mode is set to "Normal."

Some Dolby Digital-equipped receivers/processors offer different setup options for each source or surround mode (e.g., CD-stereo, videotape, Dolby, Pro Logic). In each case, follow your equipment's instructions to ensure that the subwoofer output is turned on and that the speakers are set to "Small" in each mode.

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 ❶ to the "Min" position.

Turn on the subwoofer by pressing the Power Switch ❻ on the rear panel.

Turn on your entire audio system and start a CD or movie soundtrack at a moderate level.

Auto On/Stand-By

The subwoofer will automatically enter the Stand-By 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 ❻ can be left on. You may turn off the Power Switch ❻ for extended periods of nonoperation, e.g., when you are away on vacation.

Adjust Level

Turn the Subwoofer-Level Control ❶ up about halfway. 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 ❻ been pressed to the "On" position? Once you have confirmed that the subwoofer is active, proceed by playing a CD or DVD. Use a selection that has ample bass information.

Set the overall volume control of the receiver/processor to a comfortable level. Adjust the Subwoofer-Level Control ❶ 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 never obtrusive.

Crossover Adjustment

The Crossover-Frequency Control ❹ determines the highest frequency at which the subwoofer reproduces sounds. For the TSS-1200, it is recommended that this control be set at 120Hz (approximately the 3 o'clock position).

NOTE: This control will have no effect if the LFE/Normal Switch ❷ is set to "LFE." If you have a Dolby Digital or DTS receiver/processor, the low-pass frequency is set by the receiver/processor. Set the LFE/Normal Switch ❷ on the subwoofer to "LFE." Consult your owner's manual to learn how to view or change this setting. A setting of 120Hz – 150Hz is recommended.

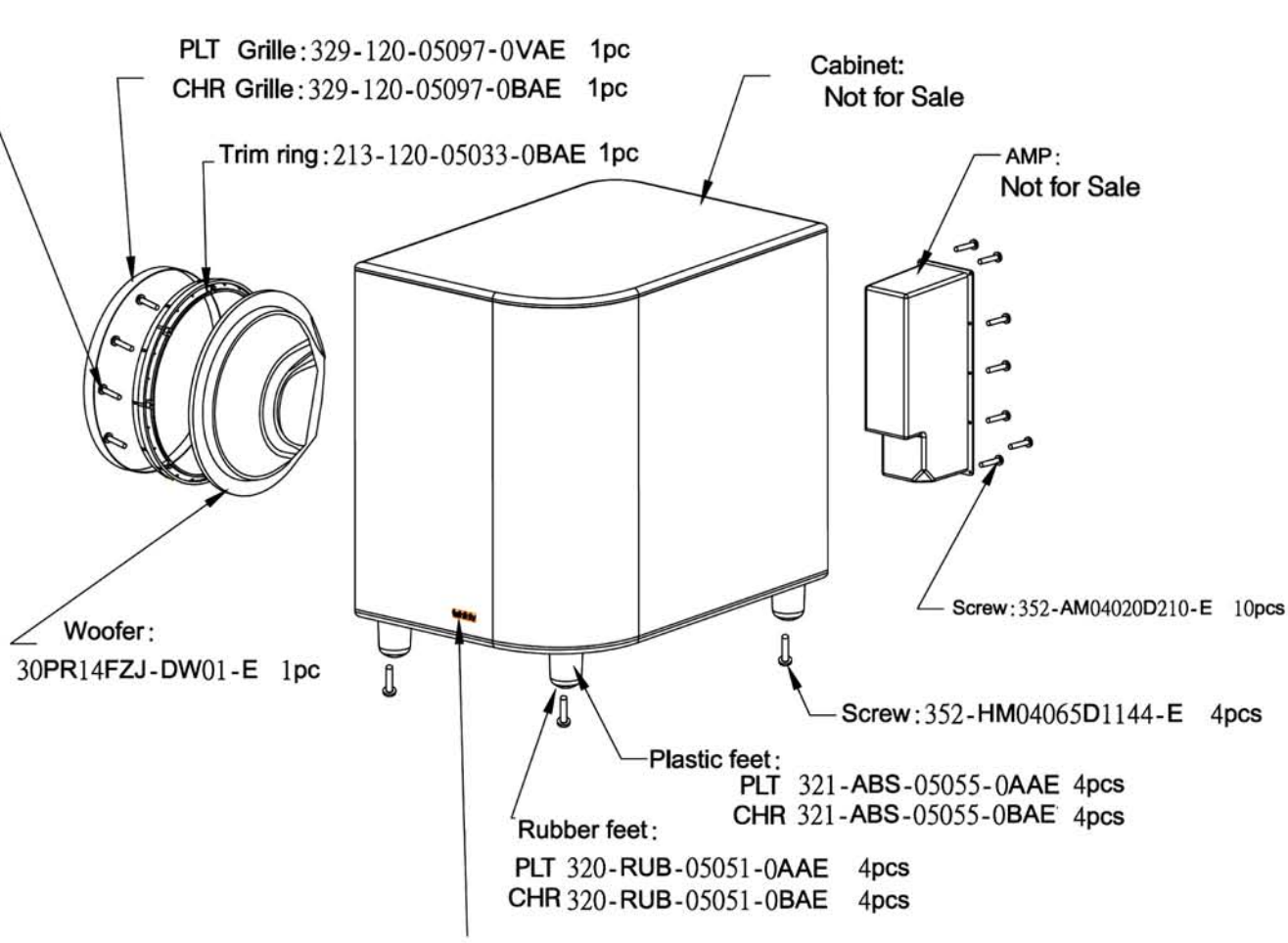
Phase Control

The Phase Switch ❸ 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 ❸ to maximize bass output at the listening position.

Final Positioning

After correctly connecting the TSS-1200 system and verifying that both the subwoofer and all satellite speakers are playing, it is time to optimize the system for your particular listening room. Earlier, you placed the subwoofer in its general location. Finding the exact location for optimum performance sometimes only involves moving the speakers up to a few inches in any direction. We urge you, therefore, to experiment with placement, if possible, until your speakers deliver their full potential.

TSS SUB1200 EXPLODED VIEW



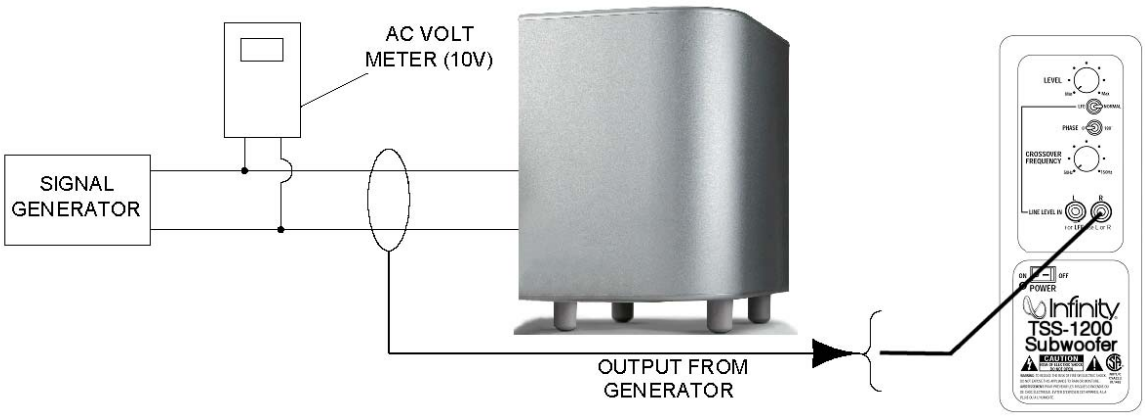
SERVICE NOTE

Access to woofer:

1) Carefully pry metal grille out of its recess with a sharp pointed instrument such as an awl or dental pick – USE CAUTION and protect the surface of the subwoofer from scratches or dents from the work tool. Work evenly around the perimeter until the grill w/ gasket can be removed.
2) Remove the (8) Phillips screws holding the trim ring to the cabinet.
3) Remove the (8) Phillips screws holding the woofer to the cabinet.

REPLACEMENT: Assure when the woofer is replaced, it is exactly centered in the counterbore. If it is offset, replacement of the trim ring and grille will be difficult.

TSS1200 sub Test Set Up and Procedure



SYSTEM AURAL SWEEP TEST

Equipment needed:

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

General Unit Function (UUT = Unit Under Test)

Switches/knobs on the amplifier faceplate:

Crossover Frequency Adjust full CW (150Hz)
Phase switch – either position
Normal/LFE switch - Normal

1. From the signal generator, Connect one RCA cable to either right or left line level input (RCA jack) – to signal generator and UUT.
2. On the amplifier, turn the LEVEL control full Counterclockwise (Min).
3. Turn on generator, adjust to **150mV, 50 Hz**.
4. Plug in UUT; turn the power switch ON. Turn LEVEL control full Clockwise (Max).
5. Immediate bass response should be heard and felt from bottom port tube opening.

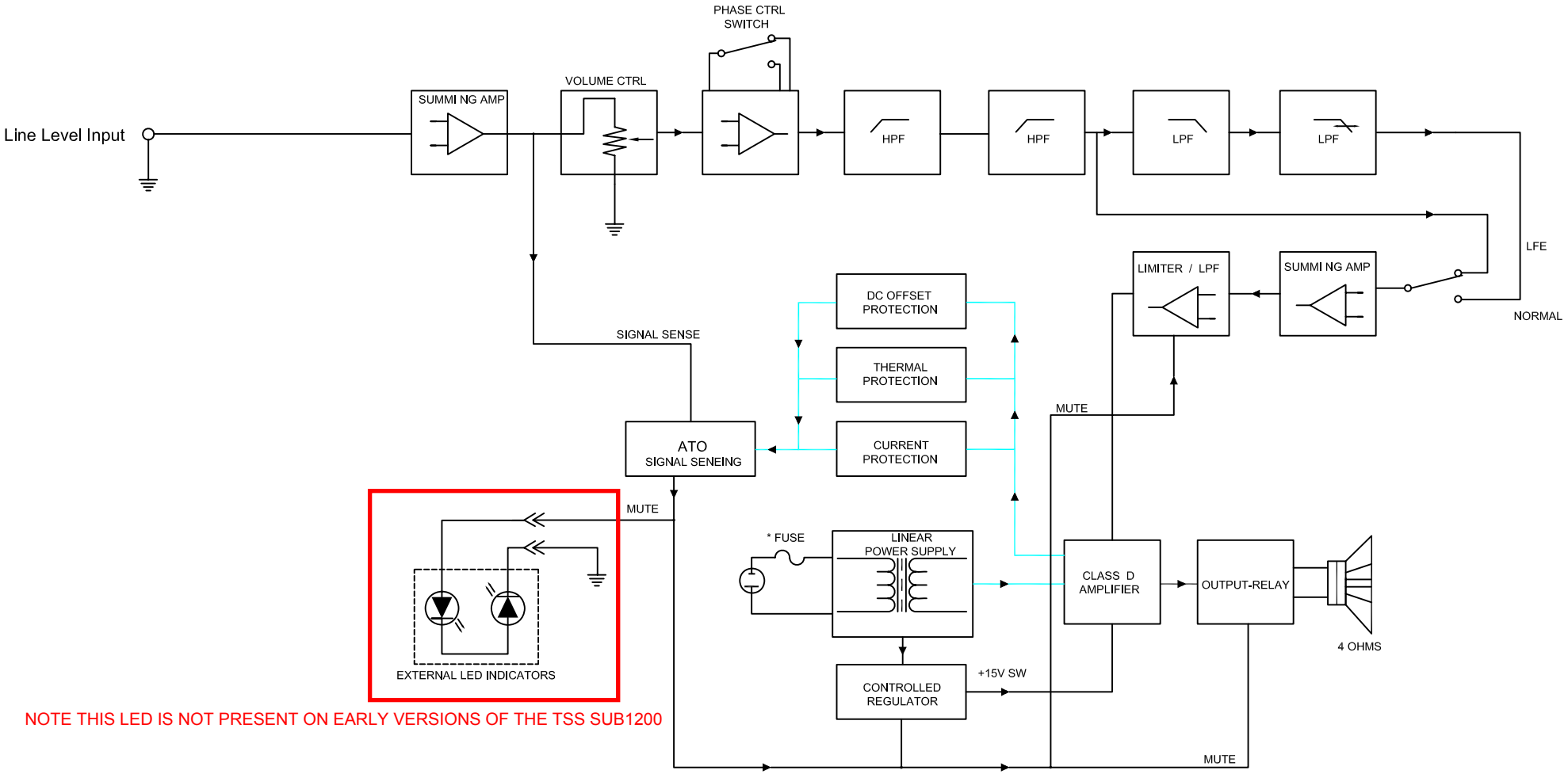
Sweep Function

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 (follow steps on exploded view page); detach + and - wire clips.
2. Check DC resistance of woofer; it should be **3.4 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 **5.0**V.
4. Sweep generator from 20Hz to 1kHz. Listen to driver for any rubbing, buzzing, or other unusual noises.

TSS SUB1200 BLOCK DIAGRAM

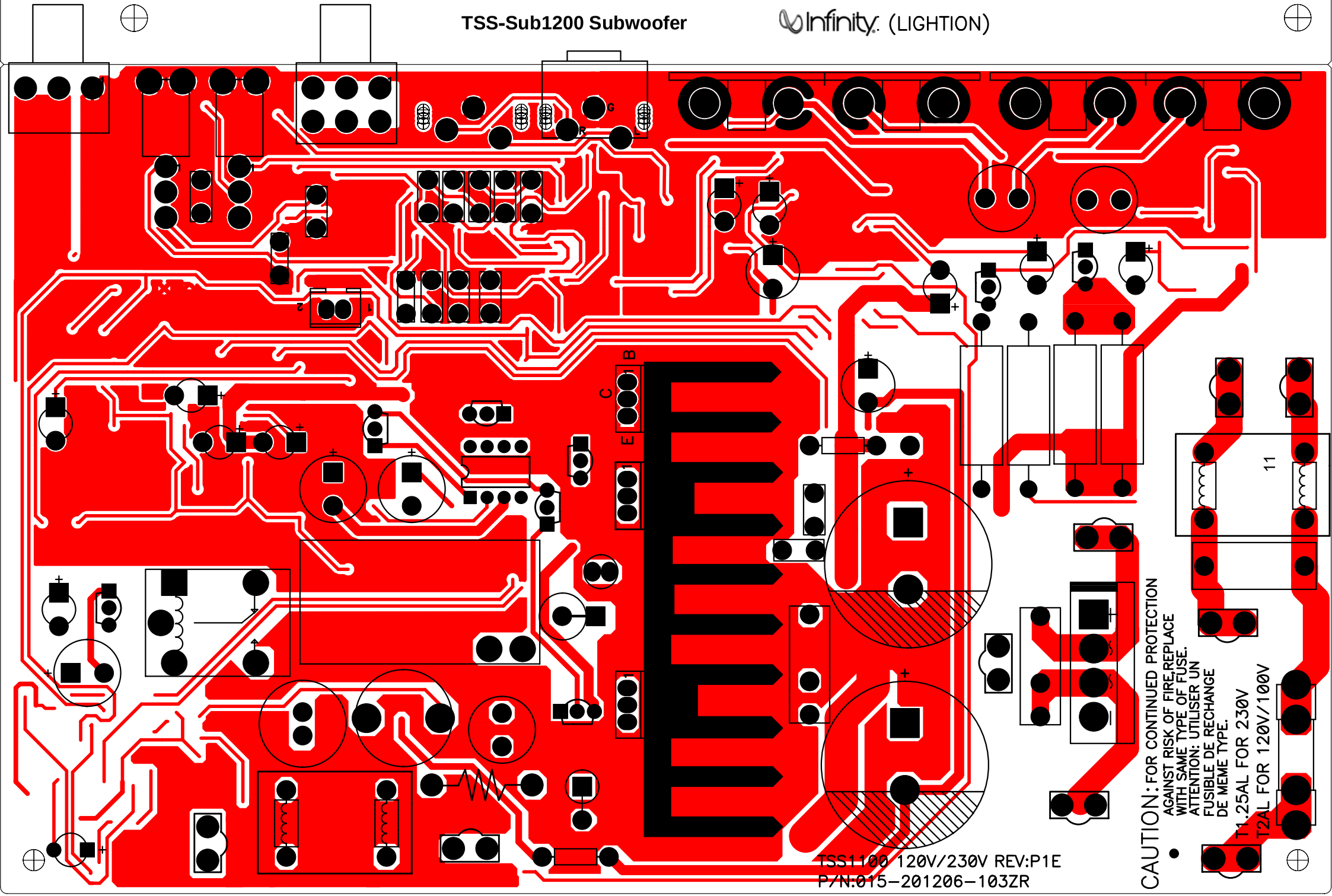


NOTE THIS LED IS NOT PRESENT ON EARLY VERSIONS OF THE TSS SUB1200

NOTE :
120 VAC T1.25A-250V
230 VAC T0.8A-250V

TSS-Sub1200 Subwoofer

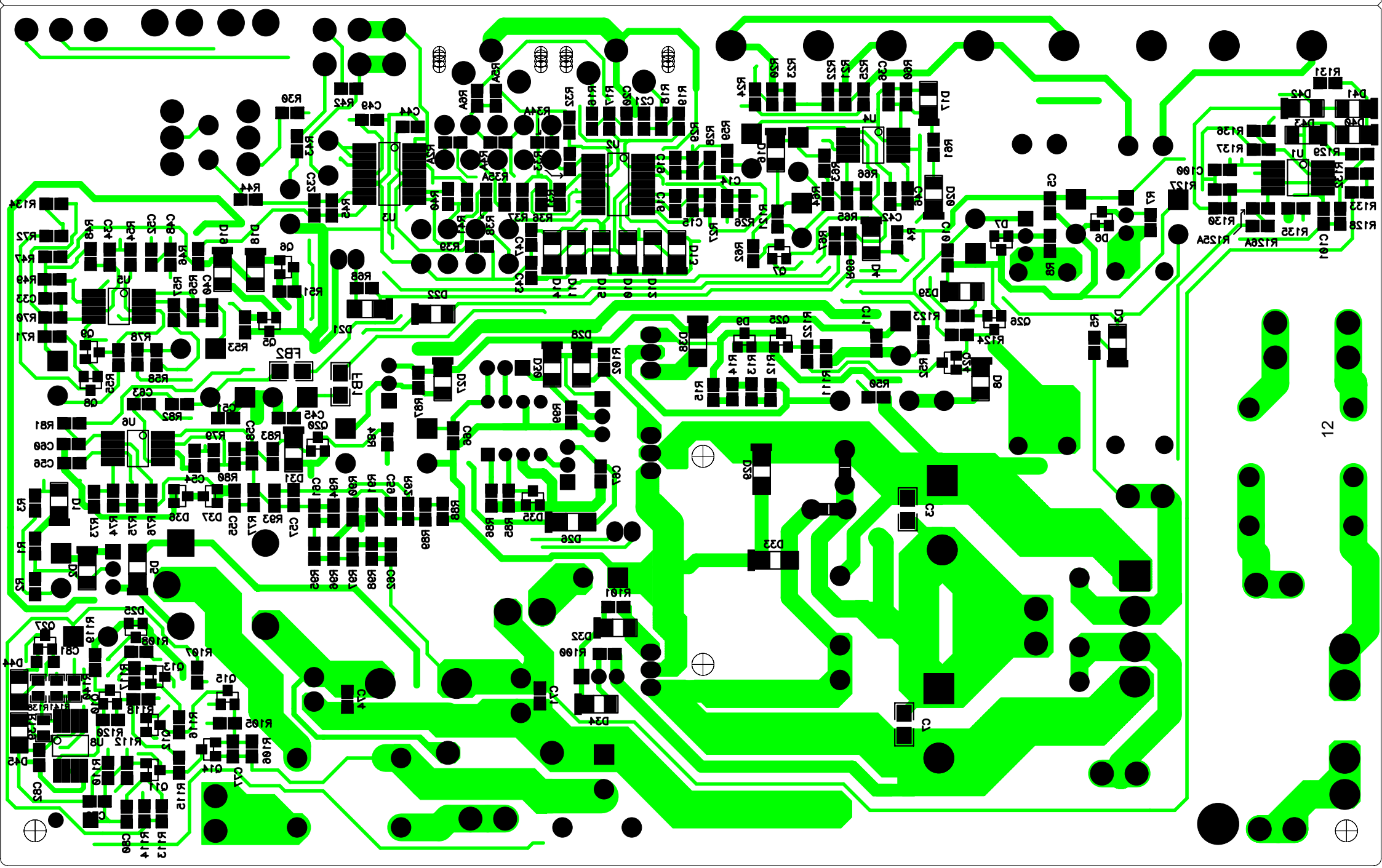
Infinity (LIGHTION)



COMPONENT SIDE

TSS-Sub1200 Subwoofer

Infinity



PB10/PB12 BOTTOM SIDE

TSS-1200 120V ELECTRICAL PARTS LIST			
Part Number	Qty	Description	Reference Designator
Capacitors			
032-270393-300ZR	1	GR Mylar cap. (ESK) 0u27/63V J (R) P:5	C29
034-100625-300ZS	1	GS electrolytic cap. 100uF/25V M (R)6.3x11 P:5	C64
034-220525-301ZS	5	GS Elect. Cap. 22uF/25V M (R)5x11 P:5	C4,9,41,50,53
034-330515-000ZS	1	GS elctrolytic cap. 33uF/16V M (R)0511 P:5	C39
034-330525-300ZR	1	GR electrolytic cap. 33uF/25V M (R)0511 P:5	C1
034-330615-300ZS	2	GS Electrolytic cap. 330uF/16V M (R)0812 P:5	C12,78
034-470415-301ZS	1	GS electrolytic cap. 4u7/50V M (R)0511 P:5	C2
034-470515-307ZR	1	GR electro cap. LOW ESR 85℃ESR<5Ω 47uF/16V M	C65
035-100393-301ZR	1	GR Mylar cap. (ESK) 0u1/63V J P:5 ESK063S10JT	C28,
035-220393-300ZR	1	GR PE cap. 0u22/63V J P:5	C27,
038-100363-300ZR	2	GR MPE cap. P:5 0u1/100V J	C68,69
031-100144-103AZS	1	GS SMD 0u001/50V K 0805 X7R	C79
031-100184-100AZS	2	GS SMD 0u01/250V K 0805 X7R	C3,7
031-100244-100AZS	7	GS SMD Ceramic cap. 0u01/50V K 0805 X7R	C66,67,5,10C,33,45,51,
031-100343-100AZS	2	GS SMD 100pF/50V J 0805 NPO	C36,58
031-100344-100AZS	18	GS SMD 0u1/50V K 0805 X7R	C11,42-44,46-49,52,54,55,60,63, 71,74,77,81,82,
031-220243-103AZS	1	GS SMD 0u022/50V J 0805 X7R	C40
031-220344-300AZS	3	GS SMD 220pF/50V K 0805 NPO	C20,21,19
031-330444-300ZS	1	GS SMD 3300pF/50V K 0805 X7R	C34
031-470244-102AZS	2	GS SMD 0u047/50V K 0805 X7R	C62,59
031-470344-100AZS	1	GS SMD 470pF/50V K 0805 X7R	C80
031-560243-100AZS	2	GS SMD 56pF/50V J 0805 NPO	C57,61
031-820343-101AZS	1	GS SMD 820pF/50V J 0805 NPO	C56
032-820244-200ZR	1	GR mylar cap. 0u082/100V K (R)	C30
033-470464-270ZS	1	GS NPE cap.1K 4u7/100V K10 (R)1015 GNE	C73
033-680464-270ZS	1	GS NPE cap. 6u8/100V K10 (R)1020 GNE	C72
034-100525-300ZS	1	GS Eletrolytic cap. 10uF/25V M (R)0511 P:5	C35
034-330780-300ZR	2	GR electrolytic cap. 85℃ 3300uF/80V M (R)22x48	C6,8
034-470515-200ZR	1	GR electro cap. 47uF/16V M (R)0511 P:2.5	C37
035-100393-301ZR	1	GR mylar cap. (ESK) 0u1/63V J P:5 PN:ESK063S10JT	C2A
035-100443-300ZR	2	GR mylar cap. (ESK) 1uF/63V J P:5 PN:ESK063W10JT	C25,26,
035-470293-300ZR	1	GR PE cap. 0u047/63V J P:5	C1A,
039-100384-100ZR	1	GR Safety cap.(0u1/250V) HQX0.1K275VACx2	CXAC1
032-100484-200ZS	2	GS END mylar cap. 1uF/250V K P:15	C70,C70B
Semiconductors			
051-000600-100ZR	1	GR Transistor NPN MPSW06RLRA TO-92 (ON)	Q16
051-222200-100ZR	1	GR Transistor NPN (ON) MPS2222ARLRAR TO-92	Q21
051-290700-100ZR	2	GR Transistor PNP (ON) MPS2907A RLRAR TO-92	Q19,23
054-000100-100ZR	5	GR GS SMD DIODE: ES1D 200V 1A (PANJIT)	D5,26,29,33,38
054-007200-100ZR	3	SMD IC TL072CDR SO-8 DUAL OP-AMP	U5,6,8,
054-007400-100ZR	2	SMD IC TL074CDR QUAD OP-AMP	U2,3
054-008406-000ZR	1	GR SMD ZENER DIODE: BZX84C10-7-F SOT-23	D35
054-008407-000ZR	3	GR SMD ZENER DIODE: BZX84C15-7-F SOT-23	D6,7,9
054-008408-000ZR	2	GR SMD ZENER DIODE: BZX84C5V6-7-F SOT-23	D36,37
054-008409-000ZR	1	GR SMD ZENER DIODE: BZX84C3V0-7-F SOT-23	D25
054-011400-100ZR	1	GR SMD Transistor DTC114TKA SMT3 (ROHM	Q7
054-033904-100ZR	8	GR SMD (TRANSISTOR) MMBT3904LT1G SOT23	Q11,14,13,5,8,25,9,27
054-033906-100ZR	4	GR SMD Transistor (ON) MMBT3906LT1G SOT23	Q6,10,12,15
054-045580-100ZS	1	GS SMD IC:(OP) NJM4558M-DUAL OP-AMP	U4
054-414803-100ZS	23	GS SMD DIODE: LL4148 MINI-MELF	D1-4,8,27,30,31,34,39, 11,14,16,17,20-22, 18,19,28,32,44,45,
054-540100-100ZR	3	GR SMD Transistor PNP (ON SEN) MMBT5401 SOT-23	Q20,24,26
051-000600-100ZR	1	GR Transistor NPN MPSW06RLRA TO-92 (ON)	Q2

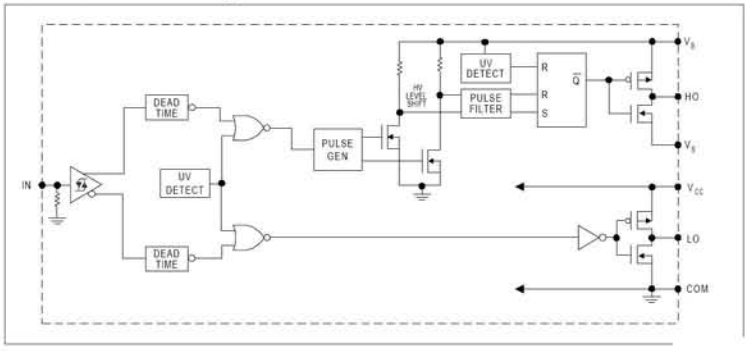
Part Number	Qty	Description	Reference Designator
051-005600-100ZR	1	GR Transistor PNP MPSW56RLRAR TO-92 (ON)	Q3
051-540101-000ZR	1	GR Transistor PNP(FAIRCHILD 2N5401 TO-92	Q1
051-555100-000ZR	1	GR Transistor NPN 2N5551 TO-92	Q17
052-400080-000ZR	1	GR Bridge Rectifier RS804 400V,8A	BR1
053-211100-000ZR	1	IC, IR2111 HALF-BRIDGE DRIVER	U7
050-505200-001ZS	1	GS LED LT-2402-21	D1A,B NOTE THIS PART IS MISSING FROM EARLY VERSIONS
051-003100-000ZS	1	GS Transistor NPN TIP 31C TO-220 (MOSPEC)	Q4
051-640001-000ZR	2	GR MOSFET N-Channel IRF640NPBF TO-220 (IR)	Q18,22
Resistors			
024-100298-120ZS	2	GS SMD Resistor 10R 1/8W J 0805	R81,82
024-100398-120ZS	1	GS SMD Resistor 100R 1/8W J 0805	R62
024-100498-100ZS	1	GS SMD 1K 1/8W F 0805	R110
024-100498-120ZS	7	GS SMD 1K 1/8W J 0805	R79,83,92,95,96,105,65
024-100598-120ZS	29	GS SMD 10K 1/8W J 0805	R2,17,19,37,54,58,63,71,72,74,75,84,88,89, 97,106,113-117,111,123,124,119,120, 138,139,141,
024-100698-120ZS	2	GS SMD 100K 1/8W J 0805	R3,112
024-100898-120ZS	1	GS SMD 10M 1/8W J 0805	R121
024-110498-120ZS	1	GS SMD 1K1 1/8W J 0805	R2A
024-110598-100ZS	1	GS SMD 11K 1/8W F 0805	R98
024-110698-100ZS	1	GS SMD 110K 1/8W F 0805	R4A
024-133598-100ZS	1	GS SMD 13K3 1/8W F 0805	R35A
024-137698-100ZS	1	GS SMD 137K 1/8W F 0805	R32
024-160398-120ZS	1	GS SMD 160R 1/8W J 0805	R6A
024-162598-100ZS	1	GS SMD 16K2 1/8W F 0805	R39
024-178498-100ZS	1	GS SMD 1K78 1/8W F 0805	R38
024-180598-100ZS	1	GS SMD 18K 1/8W F 0805	R29
024-187698-100ZS	1	GS SMD 187K 1/8W F 0805	R45
024-200498-120ZS	1	GS SMD 2K 1/8W J 0805	R108
024-200598-120ZS	1	GS SMD 20K 1/8W J 0805	R94
024-220398-120ZS	1	GS SMD 220R 1/8W J 0805	R90
024-220498-121ZS	4	GS SMD 2K2 1/8W J 0805	R1,87,61,68
024-220598-120ZS	1	GS SMD 22K 1/8W J 0805	R118
024-220798-120ZS	1	GS SMD 2M2 1/8W J 0805	R80
024-237598-120ZS	1	GS SMD 23K7 1/8W F 0805	R48
024-270498-120ZS	2	GS SMD 2K7 1/8W J 0805	R73,64
024-280498-100ZS	2	GS SMD 2K8 1/8W F 0805	R51,53
024-300398-120ZS	1	GS SMD 300R 1/8W J 0805	R55
024-300598-120ZS	1	GS SMD 30K 1/8W J 0805	R56
024-330498-120ZS	8	GS SMD 3K3 1/8W J 0805	R7,8,12-15,59,67
024-330598-120ZS	2	GS SMD 33K 1/8W J 0805	R4,5
024-332498-100ZS	2	GS SMD 3K32 1/8W F 0805	R26,27
024-390498-120ZS	1	GS SMD 3K9 1/8W J 0805	R93
024-390598-120ZS	1	GS SMD 39K 1/8W J 0805	R77
024-430498-120ZS	1	GS SMD 4K3 1/8W J 0805	R78
024-453498-100ZS	1	GS SMD 4K53 1/8W F 0805	R36
024-453598-100ZS	1	GS SMD 45K3 1/8W F 0805	R30
024-470298-120ZS	2	GS SMD 47R 1/8W J 0805	R101,102
024-470398-120ZS	3	GS SMD 470R 1/8W J 0805	R76,99,100
024-470498-120ZS	2	GS SMD 4K7 1/8W J 0805	R85,86
024-470598-120ZS	4	GS SMD 47K 1/8W J 0805	R44,47,49,107
024-470698-120ZS	1	GS SMD 470K 1/8W J 0805	R70
024-470798-120ZS	1	GS SMD 4M7 1/8W J 0805	R60
024-510398-120ZS	1	GS SMD 510R 1/8W J 0805	R57
024-560498-120ZS	1	GS SMD 5K6 1/8W J 0805	R140,
024-560598-120ZS	1	GS SMD 56K 1/8W J 0805	R122
024-620398-100ZS	2	GS SMD 620R 1/8W F 0805	R16,18
024-680398-120ZS	1	GS SMD 680R 1/8W J 0805	R5A

Part Number	Qty	Description	Reference Designator
024-680498-120ZS	6	GS SMD 6K8 1/8W J 0805	R46,91,40-43
024-680598-120ZS	6	GS SMD 68K 1/8W J 0805	R33,34A,31,50,52,66
024-820598-120ZS	1	GS SMD 82K 1/8W J 0805	R69
020-000098-400ZS	4	GS Carbon Film Resistor 0R 1/8W	C22-24,31,
020-220497-120ZS	1	GS Carbon film resistor 2K2 1/4W J	R11
021-100401-120ZS	1	GS MOF Resistor 1K 1W J INK MO-100	R103
021-220202-120ZS	1	GS MOF resistor 22R 2W(S) J MB TYPE 15x8	R10
021-240405-020ZS	4	GS MOF Resistor 2K4/5WS J 17x6 KINK	R6,9,R7A,R9A
022-500003-020ZS	1	GS Resistor KNP 0R05 3WS J FK TYPE	R104
026-200595-269ZS	1	GS VR PN:RD163121R03D-20KBx2(EJ) FREQUENCY	VR2
026-500495-005ZS	1	GS VR 5K PN:RD163111R22B-5K15A-EJ LEVEL	VR1
Miscellaneous			
044-100100-000ZS	2	GS SMD FERRITE BEAD PN:321611 600R/100MHz 1206	FB1,FB2
041-115001-000ZR	1	GR BEAD COIL PN:YT-10911	L5
043-300101-000ZR	1	GR INDUCTOR PN:YT-10033 30uH	L2
043-324300-000ZR	1	GR INDUCTOR 324uH YT-10778	L4
043-560200-000ZR	1	GR INDUCTOR 56uH YT-10779	L1
043-840100-000ZR	1	GR Inductor PN:YT-14389 84uH TSS1100/230V	L3
072-010305-000ZS	1	GS RCA JACK PN:B217BK 2P	CONN1
073-050001-000ZS	2	GS FUSE CLIP P/N:CT-FH1206	
074-030002-000ZR	2	GR TOGGLE SW PN:L101-T2B4QE PHASE, LFE	SW5,SW6
074-300018-000ZR	1	GR RELAY PN:943-1C-48D	K1
077-100102-100ZR	1	GR PN:JS-1001-02 P:2.5 2P	CONN3A
093-105202-300ZR	1	GR FUSE:UL GSL(2AG) FUSE:2A,250V,5*20mm	F1
025-010300-000ZR	1	GR Thermister PN:NTSE103KZ072 K L:50mm	TH1
042-010147-000ZR	1	GR Transformer PN:YT-15250 (TSS1100/120V)	PT1
061-020000-000ZS	2	GS Knob ABS HTS-10/20 20x15m/m UL94V-0 BLK	LEVEL, CROSSOVER
061-400014-000BZR	4	GR RUBBER FOOT ID:6.2 OD:11.5 t:2mm 55 BLK	
061-700044-000ZR	3	GR Mica 13x18mm TO-220	for Q4,18,22
063-010012-000ZR	4	GR Bracket for Transistor P/N:TRK-1	ICx4
063-321101-000ZR	1	GR Panel 322x105.7x15mm BLK ABS-94V0	
063-531808-000ZR	1	GR bucket (PB-10/12) ABS 322x105.7x146.5mm BLK (94VO)	
073-011006-400ZR	2	GR BRACKET 16x34mm t:0.8mm	PANELx2
073-032315-601ZS	1	GS HeatSink 70x58x20mm Alum. (PB-12)	
074-020018-000ZR	1	GR ROCKER SW (POWER) PN:RF1003-BB4-0	
086-021818-005ZR	1	GR Power Cord NISPT-2 18AWGx2 L:1830mm 105C+T187	
230V VERSION DIFFERENCES			
086-021818-030BZR	1	Power Cord VDE 6 feet long	
093-205201-320ZR	1	Fuse VBSUTE 1.25A/250V 5mm*20mm	F1
042-010148-000ZR	1	GR Transformer YT-15251	PT1

Integrated Circuit Diagrams

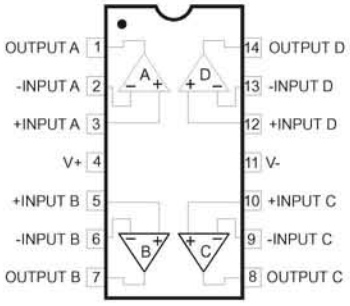
IR2111 HALF BRIDGE DRIVER

Functional Block Diagram

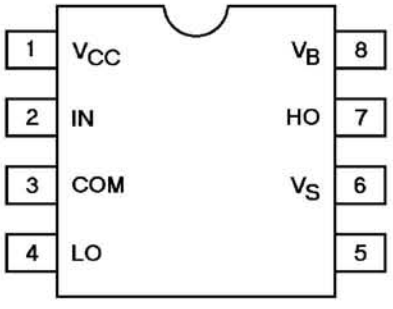


OPAMP, QUAD 14P TL074

U2,3

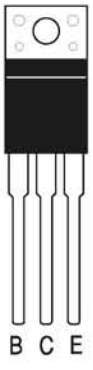


IR2111 U7



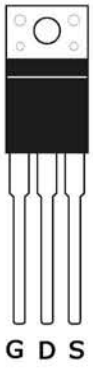
TRANS, NPN T0220

TIP31C Q4



MOSFET, IRF640 T0220

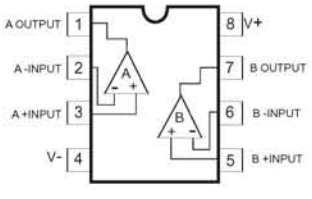
Q18,22



OPAMP, DUAL 8PIN

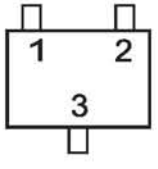
TL072, NJM4558M

U4-6,8



* MMBT3904LTI SOT23,
* MMBT3906LTI SOT23,
DTC114TK SMT3
* MMBT5401 LTI

Q5-15,20,24-27

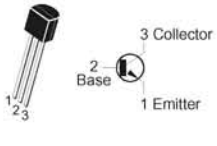


1) Emitter
2) Base
3) Collector

* PREFIX MAY BE "FMMT"

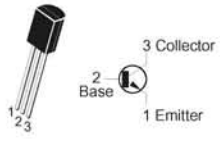
TRANS NPN MPS2222A, 2N5551

Q17,21



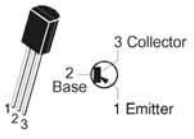
TRANS NPN MPSW06

Q2,16



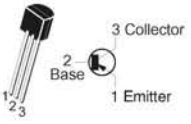
TRANS PNP MPSW56,

Q3

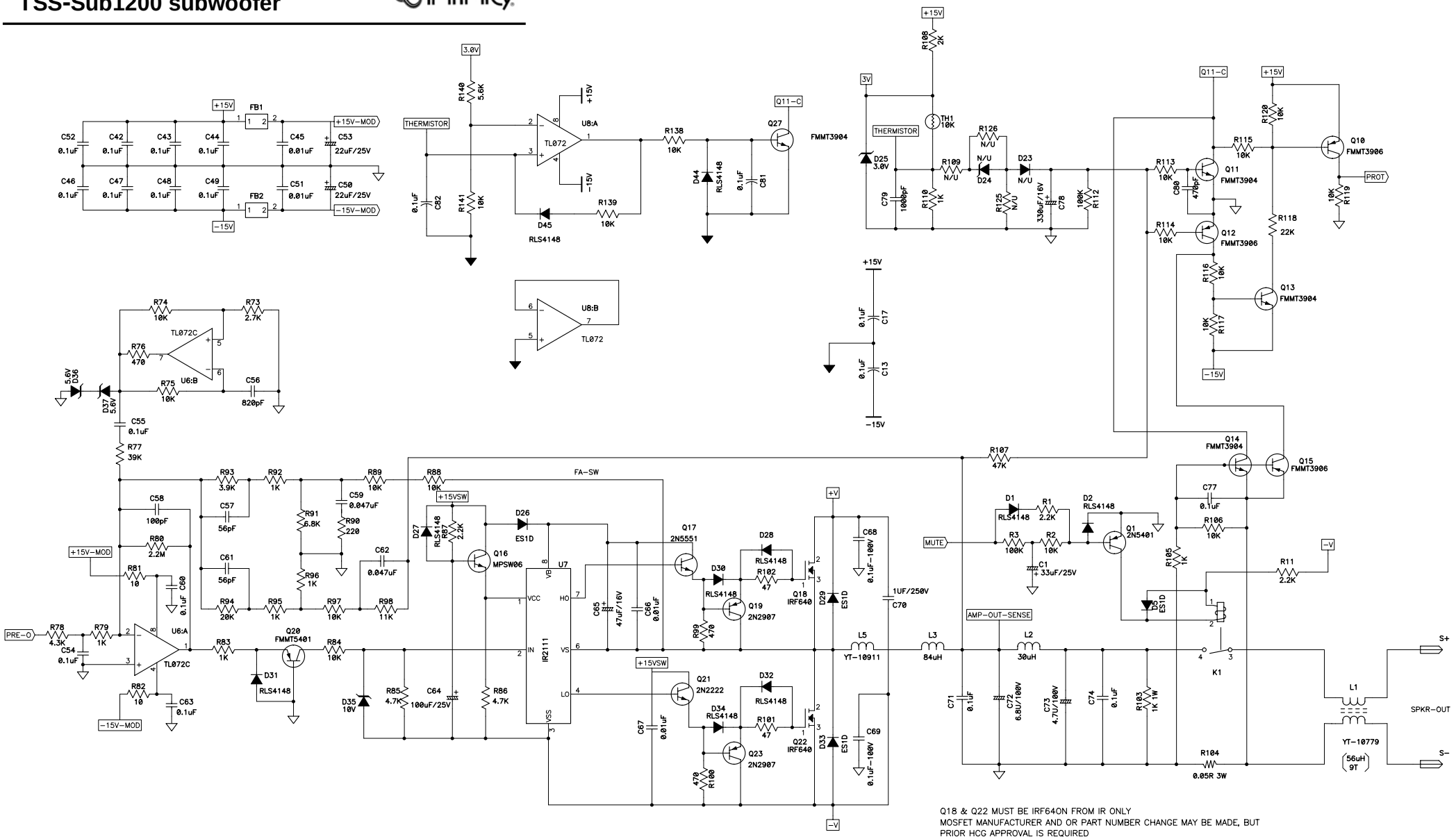


TRANS PNP MPS2709A, 2N5401

Q1,19,23



TSS-Sub1200 subwoofer



Q18 & Q22 MUST BE IRF640N FROM IR ONLY
MOSFET MANUFACTURER AND OR PART NUMBER CHANGE MAY BE MADE, BUT
PRIOR HCG APPROVAL IS REQUIRED

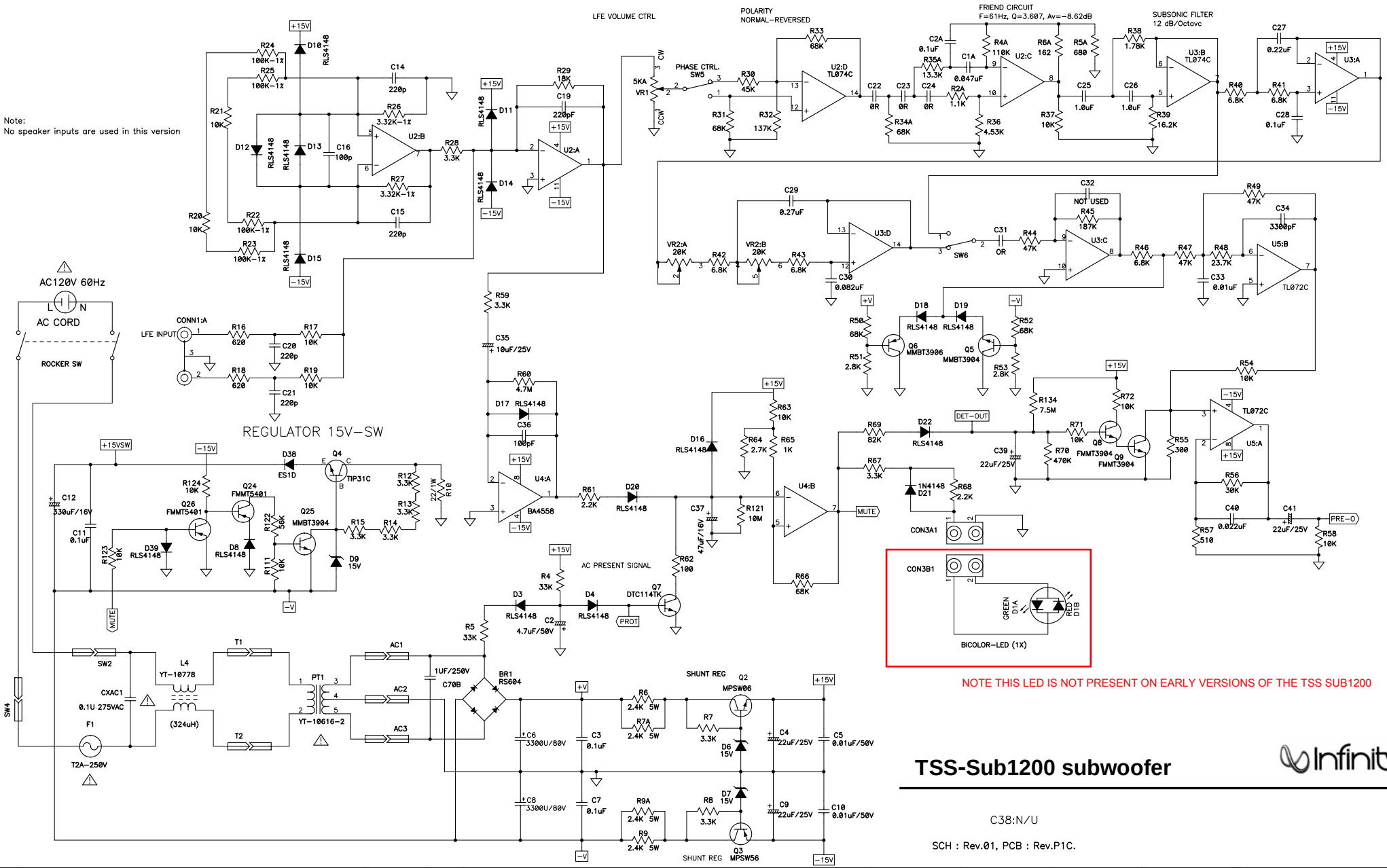
SCH : Rev.01, PCB : Rev.P1C.

Rev:	Notes:	Date:	Rev:	Notes:
01	NEW Design	2006/02/07		

Draw by	Designed by	Checked by	Approved By

	INFINITY
:	481-05C2101
Model no:	TSS-1200 (120V) Version
Sch name:	POWER AMP PCB
Issue no:	ET-01-21-5623
Date:	2006/02/07
Sheet: 14	Rev: 01
Size: A2	Author: GEORGE

-AX:+886-2-2



TSS-Sub1200 subwoofer

C38:N/U

SCH : Rev.01, PCB : Rev.P1C.

Rev:	Notes:	Date:
01	NEW Design	2006/02/07

Rev:	Notes:

Draw by	Designed by	Checked by	Approved By

	INFINITY
:	481–05C2101
Model no:	TSS–1200 (120V) Version
Sch name:	PRE AMP PCB
Issue no:	ET–01–21–5623
Date:	2006/02/07
Sheet: 13	Rev: 01
Size: A2	Author: GEORGE