Update Version	Update Description	Update Reason
Version 1 (Date: 2016-12-12)	Issue to customer	
Version 2 (Date: 2016-12-20)	1.Add MLVDS for ADAT1,ADAT2 for reserved 2. Change AGC,MCU circuit location from rear panel to Amplink pcb board 3.Add resistor for ADAT input control mode, reserved 4.Change XMOS pin45 BCLK to test point	Customer design requirement
Version 3 (Date: 2016-12-30)	1.Change J306 Pin15 change Mute# to ADAT_ERROR	Customer design requirement
Version 4 (Date: 2017-01-12)	1.Change P4B3 from ID3 to Mute_Out#, delete Q500,Q501 and resistor to connect MUTE detect on rear panel board 2.Update CM choke L308-L313(90R 100mA 0504) 3.Add Q303 to connect Soft_mute_in 4.Add two screw on AMPLINK baord and add two screw on Rear Panel baord 5.Update debug port J308 from 20pin to 6pin	Customer design requirement
Version 5 (Date: 2017-01-20)	1.Xmos reset IC change from NCP303 to NCP301 2.Change debug port to 2x3P 3.Update RJ45 LED control connections:Yellow LED controlled by MUTE/ERROR#,green LED controlled by SIGNAL_AVAILABLE,ID3 change to MUTE_OUT	Customer design requirement
Version 6 (Date: 2017-02-14)	1.Update Rear panel remote control circuit to match MiniCon2 design 2. Remove +5VB transfer to 3V3_WP circuit 3.Add FERRITE BEAD L500 for +5V,reserve for EMC issue	Customer design requirement
Version 7 (Date: 2017-03-14)	1.Correct Analog/Digital selection circuit with DG211 2.Change C384 from 0.1uF to 10uF	Update circuit and update PCB
Version 8 (Date: 2017-04-21)	1.Add optional PLL CS2100 for Amplink input to meet latency design requirement.	Update circuit and update PCB

SAFETY CONTROLLED

FreeSpace ZA 2120-HZA
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Revisions Information
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Update Version	Update Description	Update Reason
Version 9 (Date: 2017-06-08)	1.Add 150pF at both port RJ45 differential traces (3 pairs) 2.upgrade the PCB layout, GND and VCC plane, avoid gaps (such as via holes) 3.Power Reset chip (NCP301L) upgrade to NCP303L, reserve Pin5(CD) for RESET pulse width adjustment. Pull up resister R411 change from 300K to 10K, remove the cap (keep location) 4. Add R441 10K and C413 1uf at 1.0V regulator EN pin to delay the 1.0V from 3.3V. 5.Add Ferrite bead and caps for PLL(CS2100) power pin 6.Remove reserved resistors R380,R383,R384 for ADAT output Remove resistor R381,R382 for LED control 7.Add some test points for factory test 8.Add some decoupling caps between power planes 9.Changed some pull up resistors from 10K to 4.7K 10.Add one diode at power output point of MUTE Port 11.Change switch from 1P5T to 2P5T	Update circuit and update PCB
Version 10 (Date: 2017-06-13)	1.Add decoupling caps C486,C487(NC) 0.1uF between +15V and GND to improve return path for MCLK signal	Update circuit and update PCB

SAFETY CONTROLLED

FreeSpace ZA 2120-HZA
FreeSpace ZA 2120-LZA
Revisions Information
Schematic Diagrams, Rev. 01
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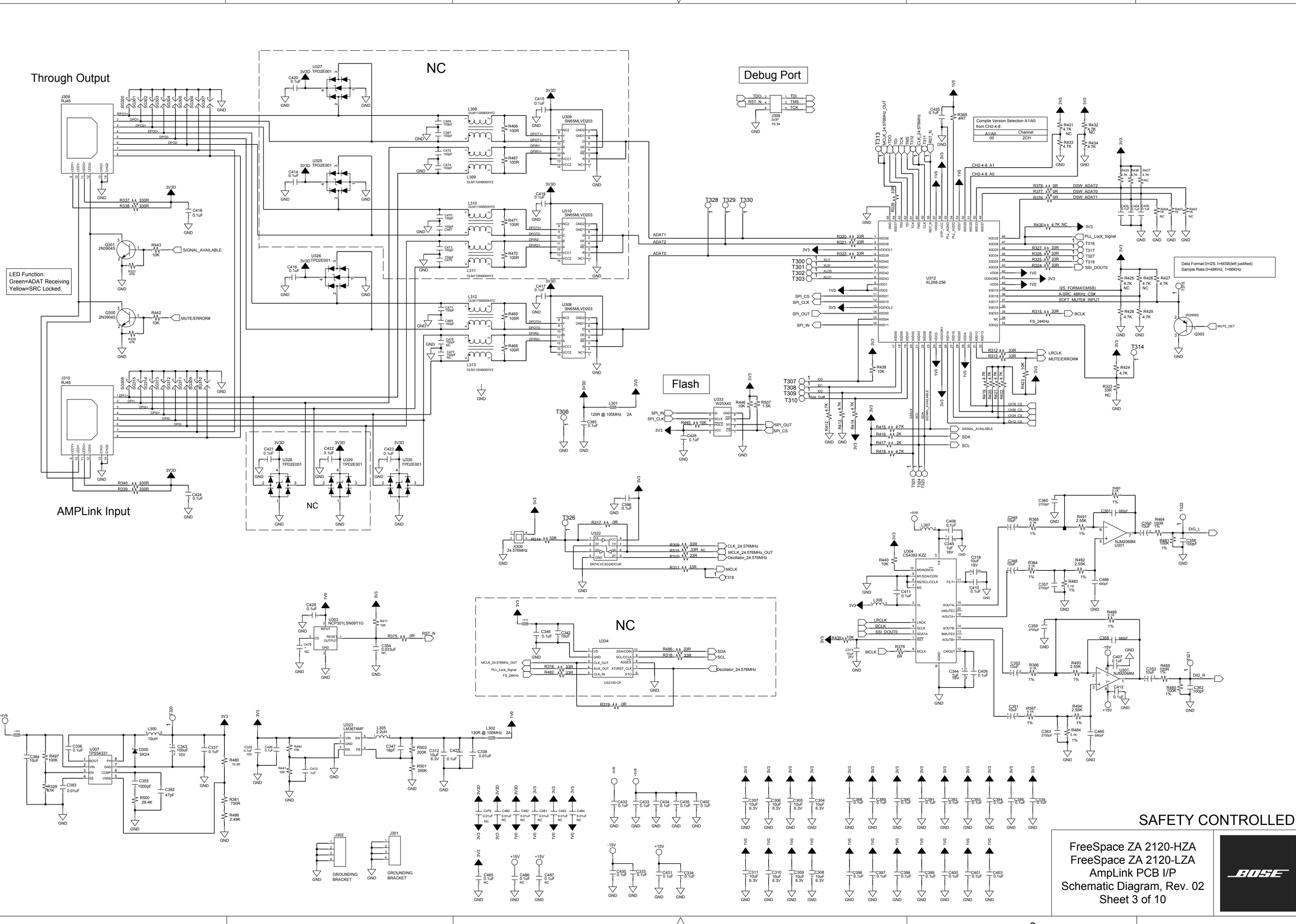
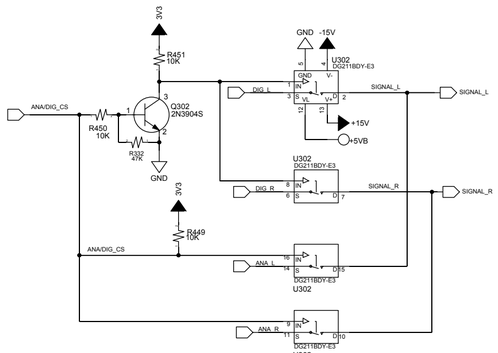
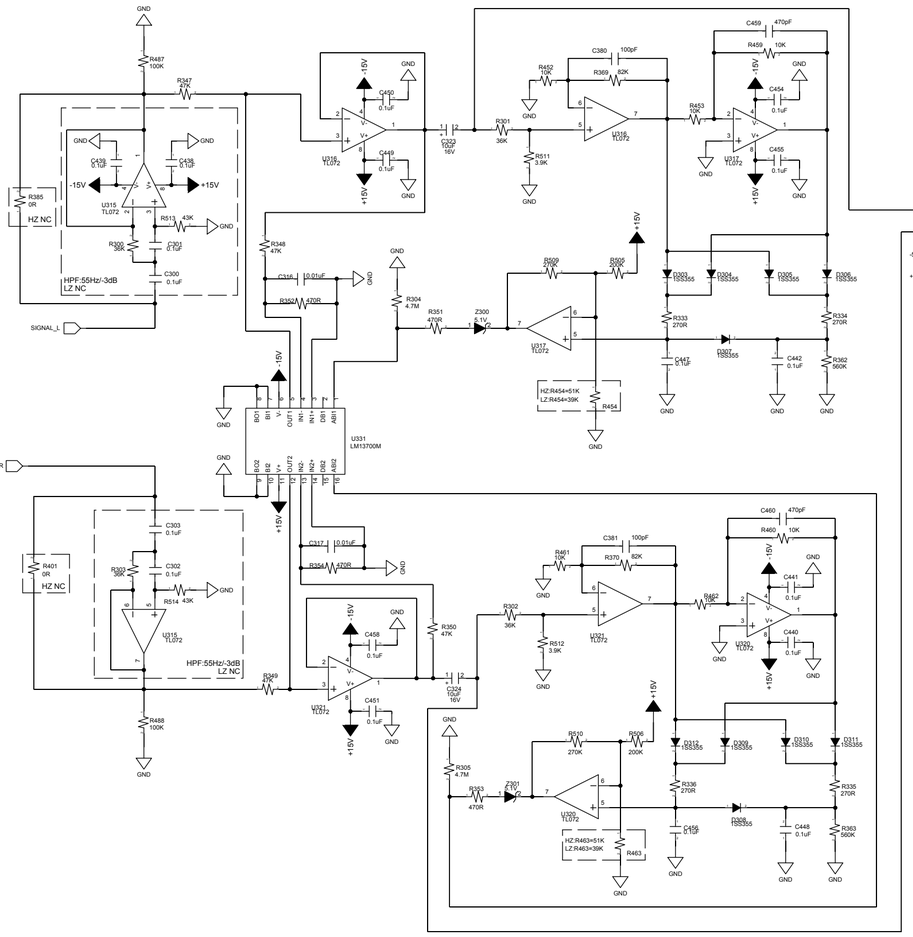
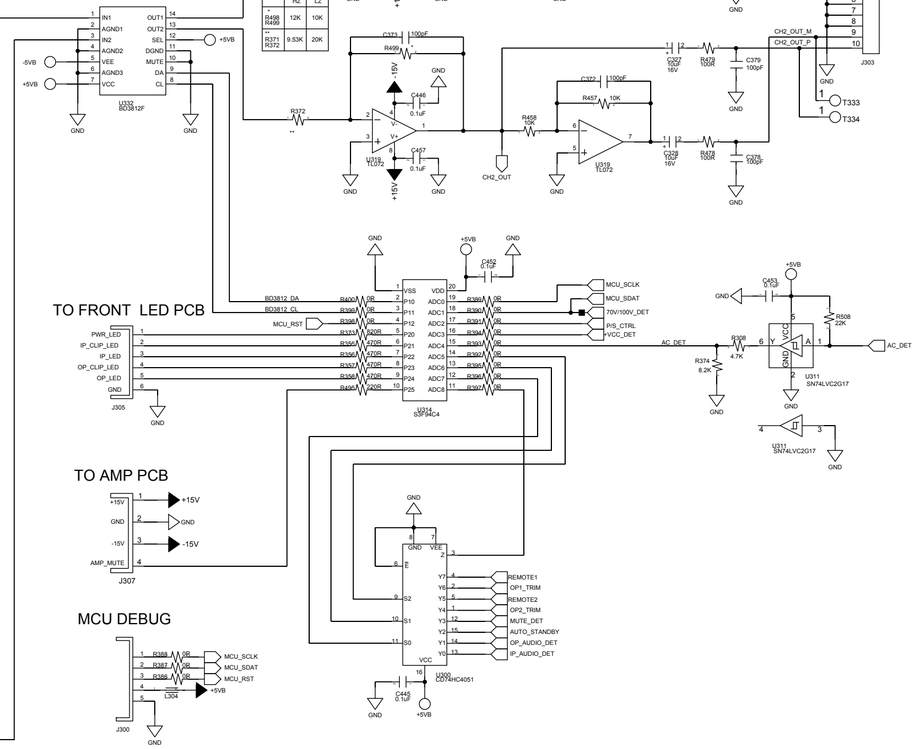
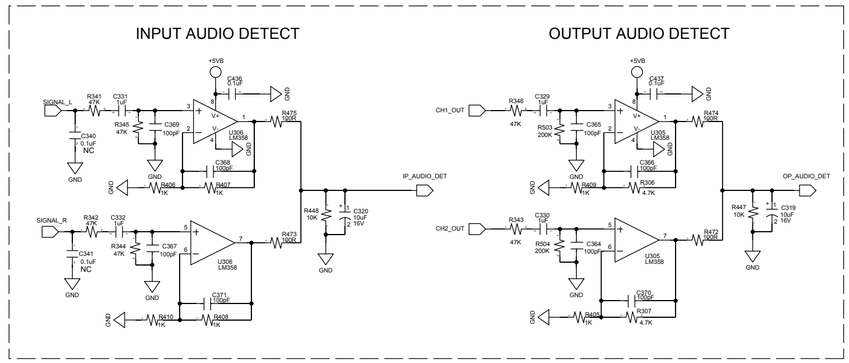
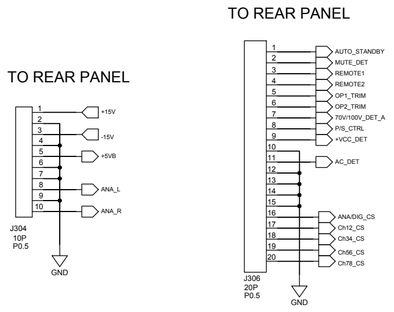

Through Output
AMPLink Input
LED Function:
Green=ADAT Receiving
Yellow=SRC Locked.
NC
Debug Port
Flash
NC
NC
NC
SAFETY CONTROLLED
FreeSpace ZA 2120-HZA
FreeSpace ZA 2120-LZA
AmpLink PCB I/P
Schematic Diagram, Rev. 02
Sheet 3 of 10
BOSE

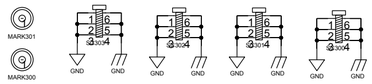












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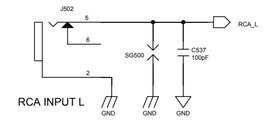
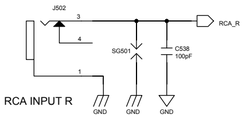
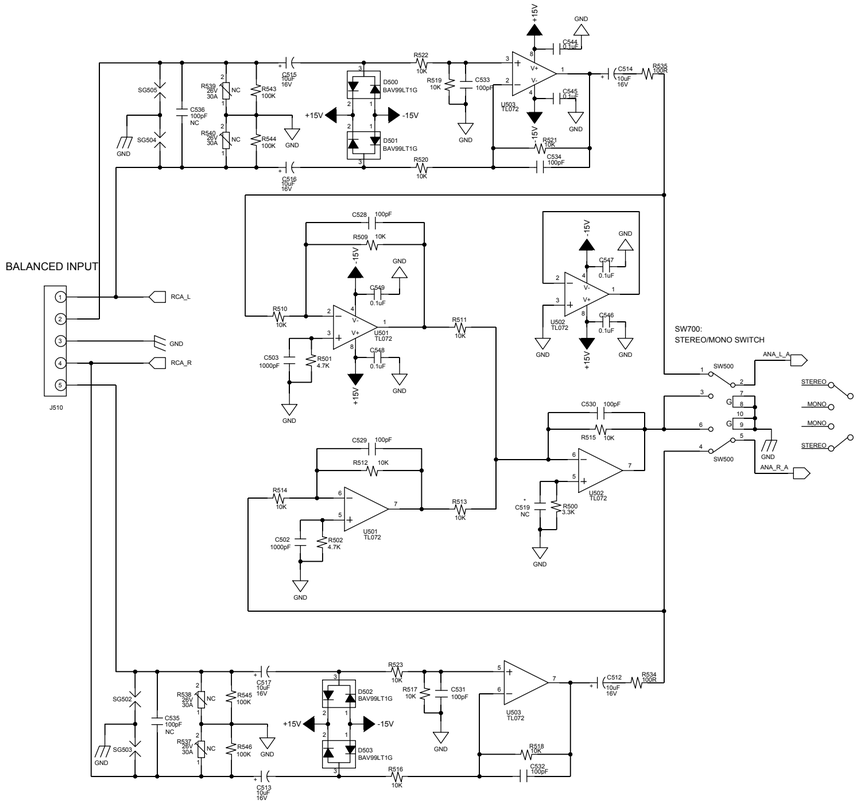
FreeSpace ZA 2120-HZA
FreeSpace ZA 2120-LZA
AmpLink PCB O/P
Schematic Diagram, Rev. 02
Sheet 4 of 10

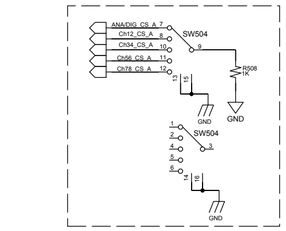
BOSE

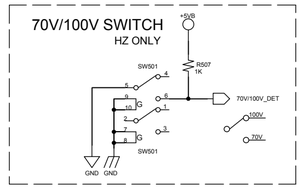
State: In Work Version: 00.1

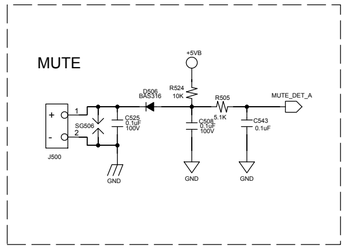


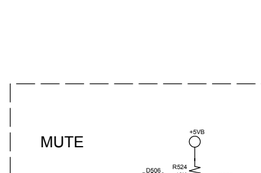


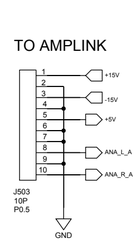


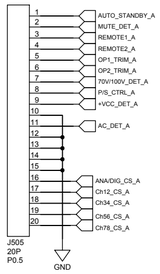


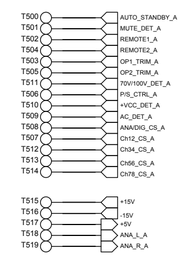


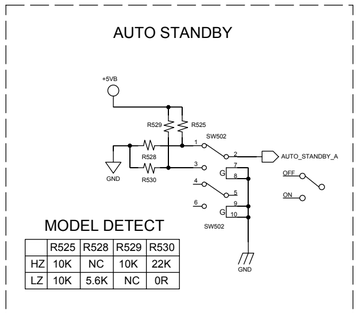




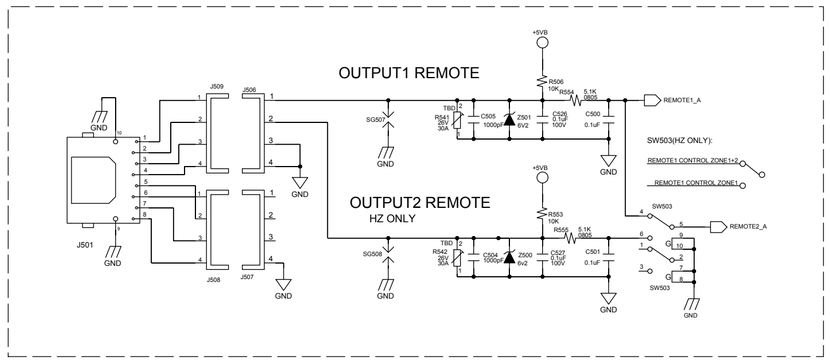


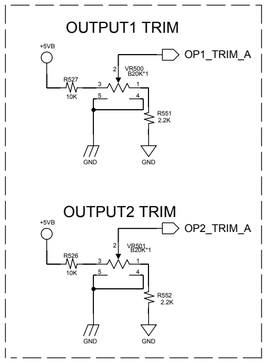


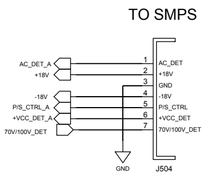


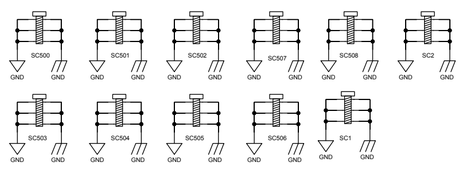


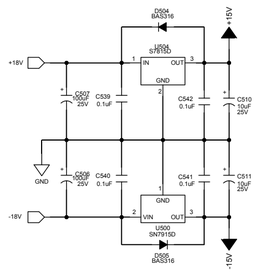
	R525	R528	R529	R530
HZ	10K	NC	10K	22K
LZ	10K	5.6K	NC	0R

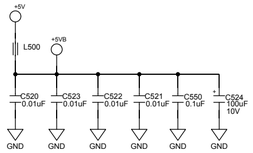












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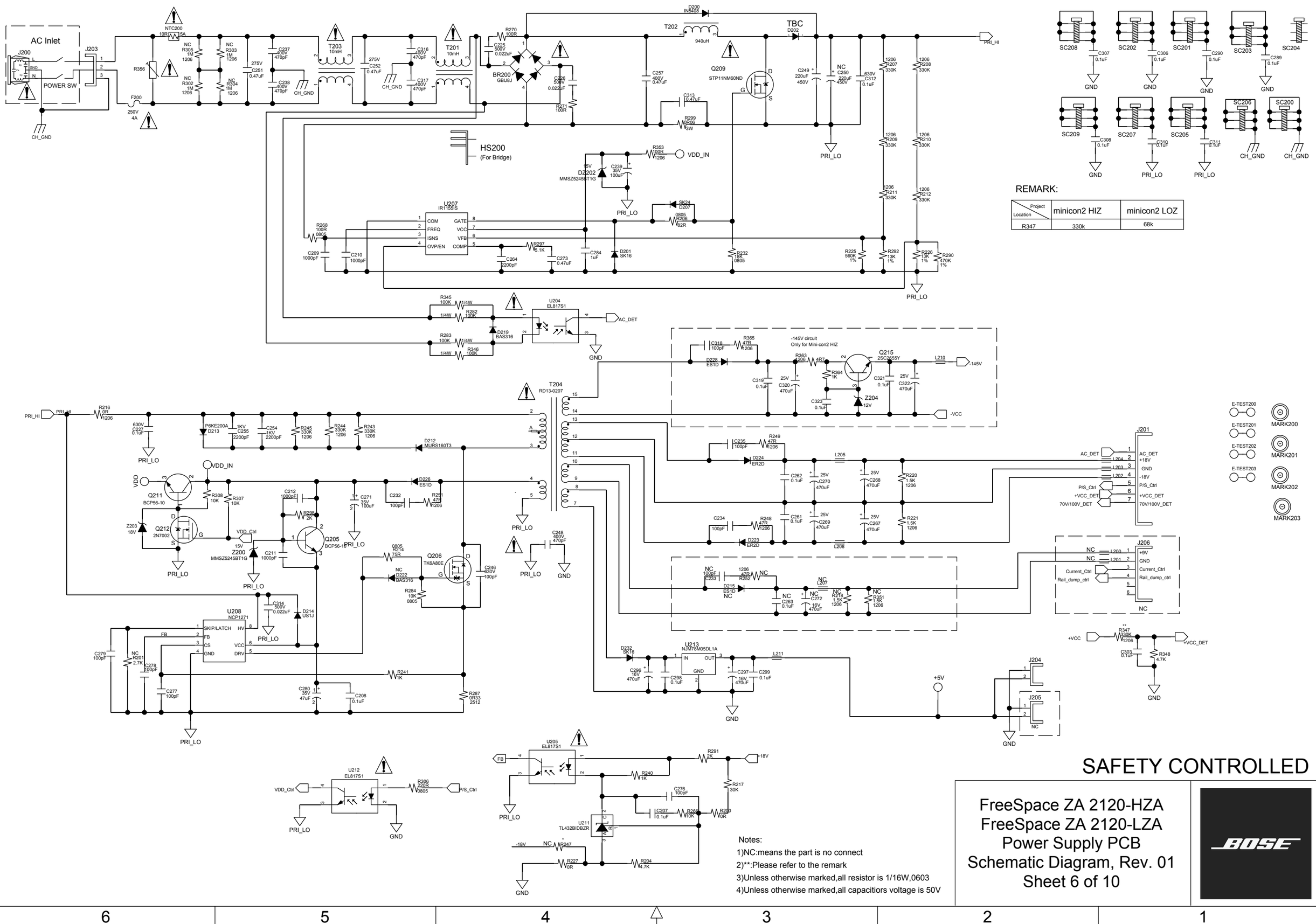
FreeSpace ZA 2120-HZA
FreeSpace ZA 2120-LZA
Rear Panel PCB
Schematic Diagram, Rev. 01
Sheet 5 of 10

BOSE



REMARK:

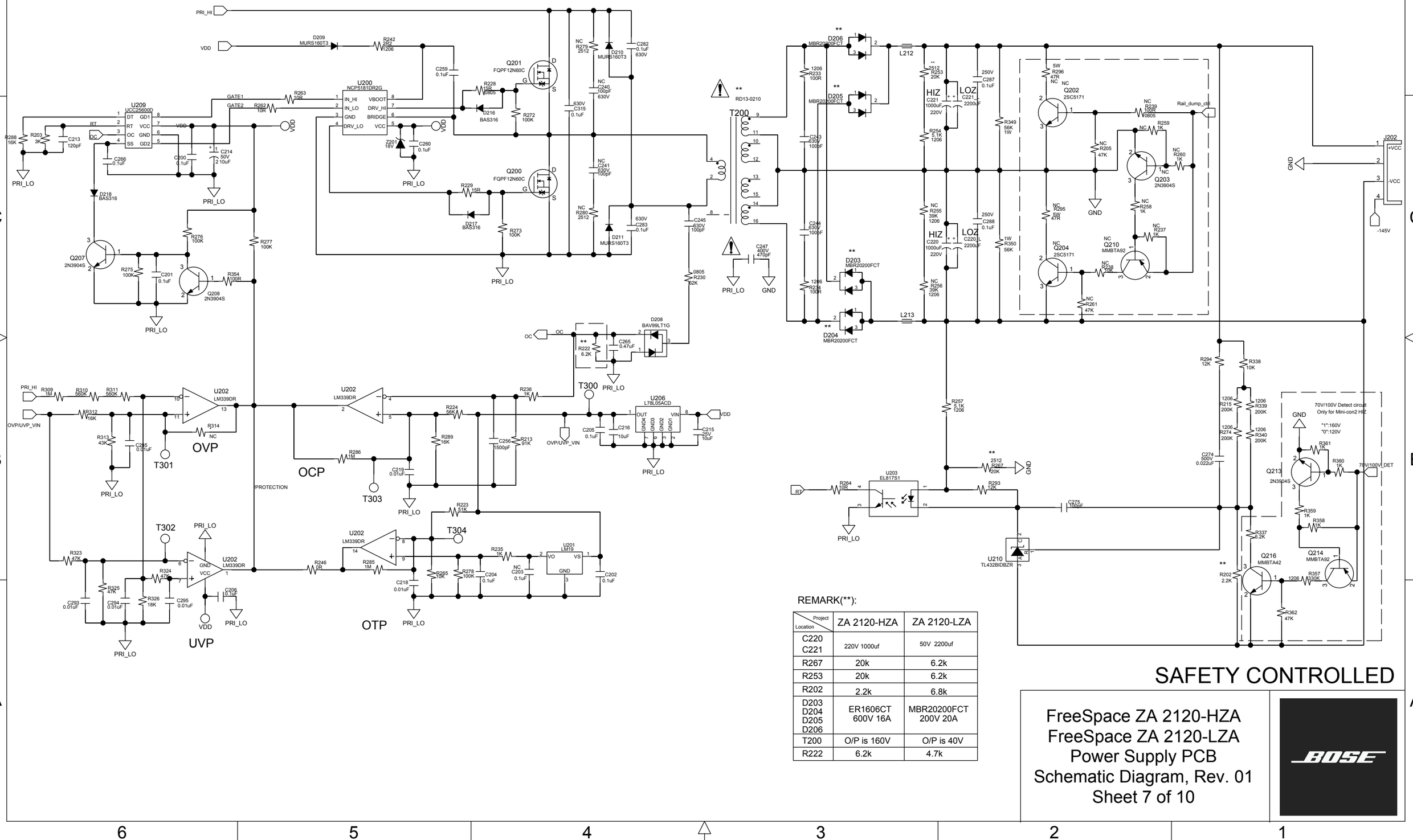
Project / Location	minicon2 HIZ	minicon2 LOZ
R347	330k	68k

Notes:
1)NC:means the part is no connect
2)**:Please refer to the remark
3)Unless otherwise marked,all resistor is 1/16W,0603
4)Unless otherwise marked,all capacitiors voltage is 50V

SAFETY CONTROLLED

FreeSpace ZA 2120-HZA
FreeSpace ZA 2120-LZA
Power Supply PCB
Schematic Diagram, Rev. 01
Sheet 6 of 10

BOSE



REMARK(**):

Project / Location	ZA 2120-HZA	ZA 2120-LZA
C220 C221	220V 1000uf	50V 2200uf
R267	20k	6.2k
R253	20k	6.2k
R202	2.2k	6.8k
D203 D204 D205 D206	ER1606CT 600V 16A	MBR20200FCT 200V 20A
T200	O/P is 160V	O/P is 40V
R222	6.2k	4.7k

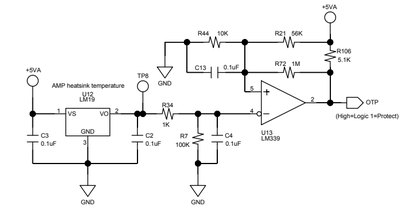
SAFETY CONTROLLED

FreeSpace ZA 2120-HZA
FreeSpace ZA 2120-LZA
Power Supply PCB
Schematic Diagram, Rev. 01
Sheet 7 of 10

BOSE

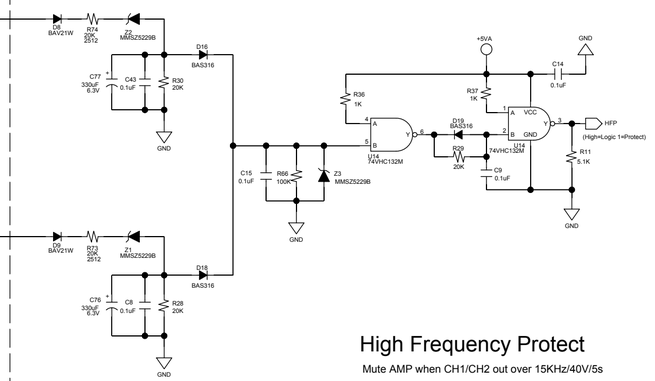
Over Temperature Protect

Mute AMP when the temperature of heatsink rises to 94'C



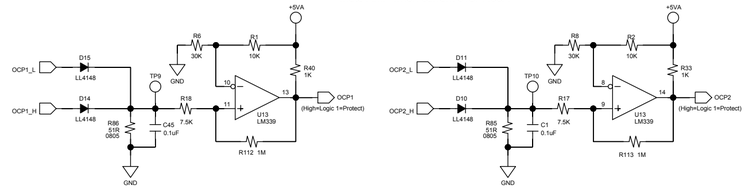
High Frequency Protect

Mute AMP when CH1/CH2 out over 15KHz/40V/5s



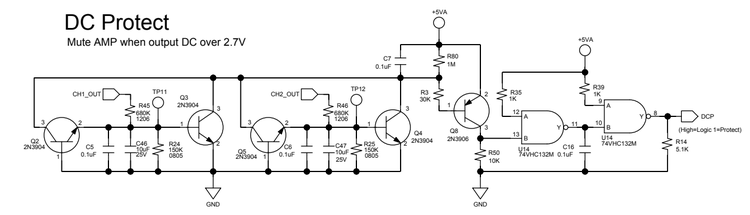
Over Current Protect

Mute AMP when current over 7.35A



DC Protect

Mute AMP when output DC over 2.7V



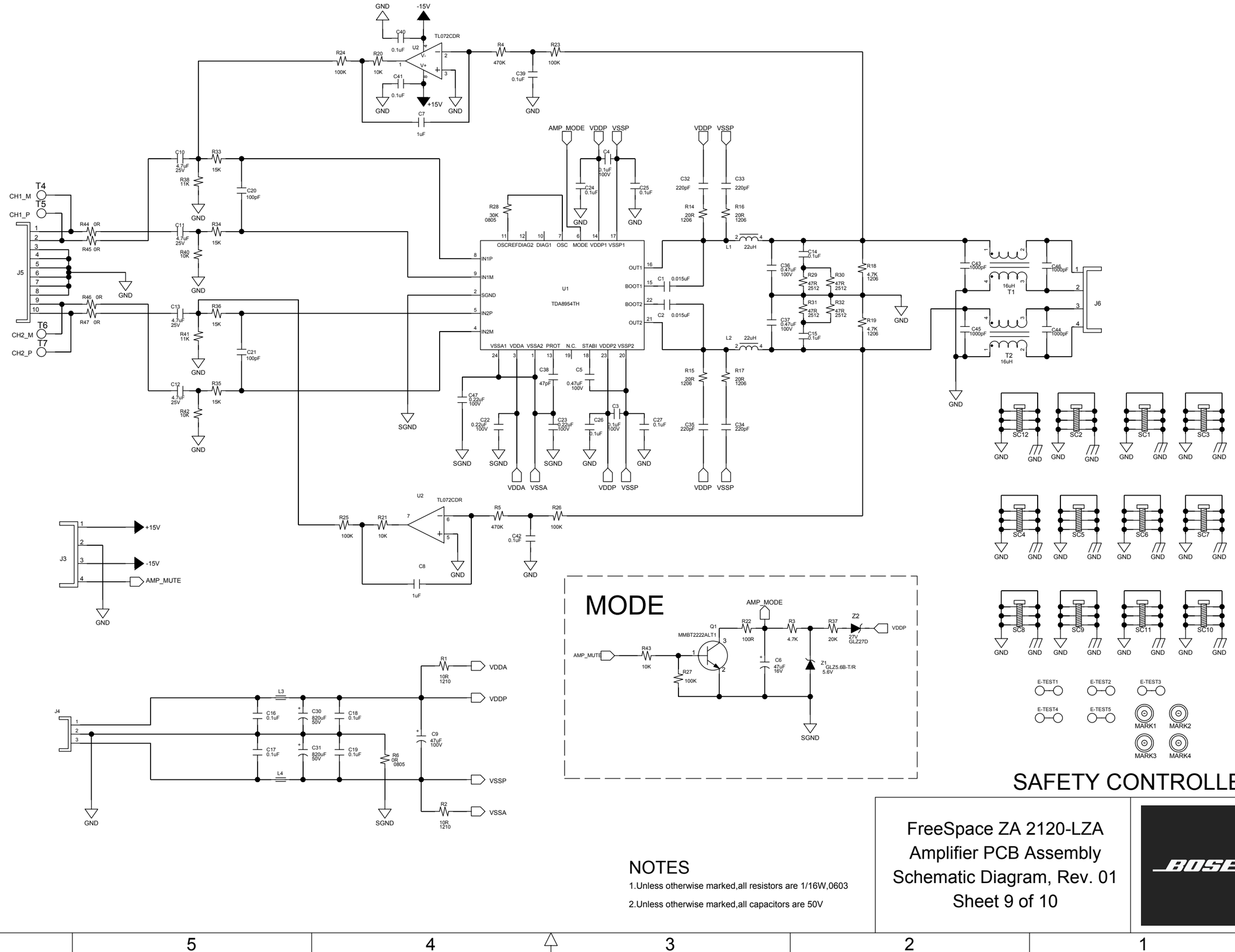
SAFETY CONTROLLED

NOTES

1. Unless otherwise marked,all resistors are 1/16W,0603
2. Unless otherwise marked,all capacitors' voltage is 50V
3. Amplifer gain = R42 / R26 * R15 / R16

FreeSpace ZA 2120-HZA
Amplifier PCB Assembly
Schematic Diagram, Rev. 01
Sheet 8 of 10

BOSE



SAFETY CONTROLLED

NOTES

1.Unless otherwise marked,all resistors are 1/16W,0603

2.Unless otherwise marked,all capacitors are 50V

FreeSpace ZA 2120-LZA
Amplifier PCB Assembly
Schematic Diagram, Rev. 01
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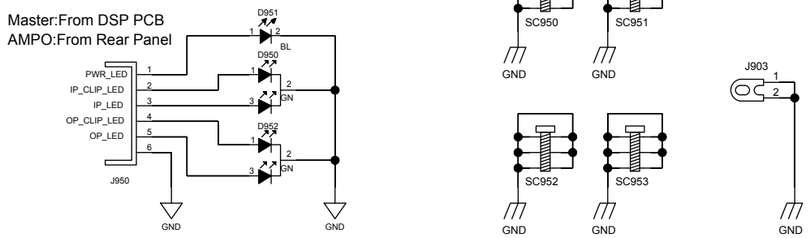
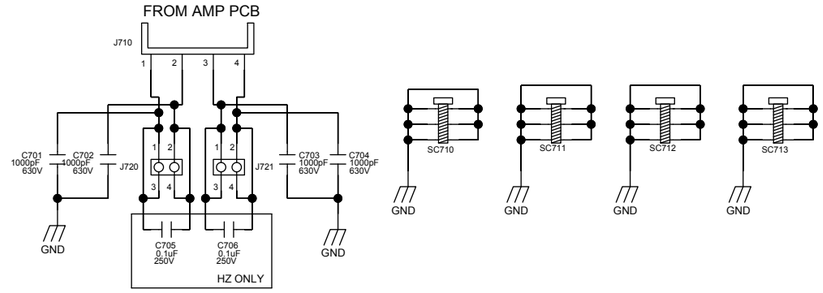
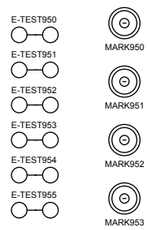
BOSE

FRONT LED



SPEAKER OUTPUT





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FreeSpace ZA 2120-HZA
FreeSpace ZA 2120-LZA
Front LED PCB Assembly
Speaker Output PCB Assembly
Schematic Diagram, Rev. 01
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