

# Technical Manual



# JBL EON615

## SPECIFICATIONS

### ACOUSTIC & ELECTRICAL SPECIFICATIONS:

- Frequency Response ( $\pm 3$  dB): 50 Hz - 20 kHz
- Frequency Range ( $-10$  dB): 39 Hz - 20 kHz
- Maximum SPL Output: 127 dB
- Input Impedance: Ohms (balanced), Ohms (unbalanced)
- Power Rating: 1000W Peak (700W LF + 300W HF), 500W Continuous (350W LF + 150W HF)

### SYSTEM COMPONENTS:

- Cabinet: Enclosure (Not For Sale)
- Grille:
- Low Frequency Driver: 615H 15 inch (380mm) woofer
- D.C.Resistance: 5.56 ohm +/- 10%

### SYSTEM COMPONENTS: (CONT'D)

- High Frequency Driver: 2414H-1 37.5 mm (1.5" ) annular polymer diaphragm, neodymium compression driver
- D.C.Resistance: 3.60 ohm  $\pm 0.2\%$

### AURAL SWEEP TEST SPECIFICATIONS:

- A. System.Aural Sweep Test: 0.065V input, 50 Hz to 10 kHz
- B. L.F.Aural Sweep Test: 7.0V Input, 10 Hz to 300 Hz
- C. H.F.Aural Sweep Test: 0.75V Input, 500 Hz to 1.5 kHz

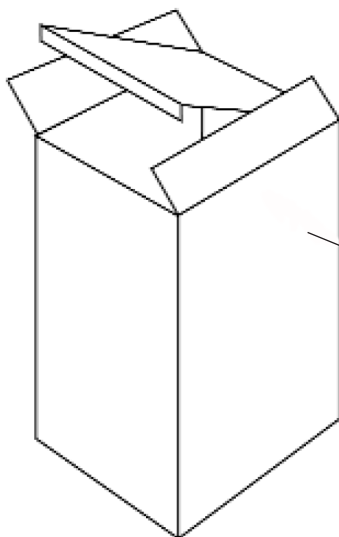
### PHYSICAL SPECIFICATIONS:

- Enclosure Dimensions: 707 x 439 x 365mm (H x W x D) (27.8 x 16.8 x 14.5i n.)
- Net Weight: 17.69 kg (39 lbs)

### WARRANTY INFORMATION:

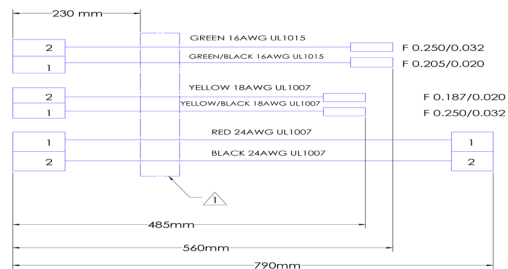
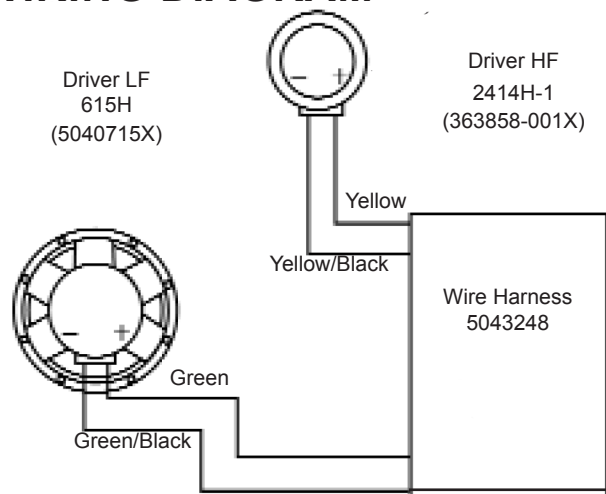
- Refer to Warranty Statement packed with each product.

## PACKAGE



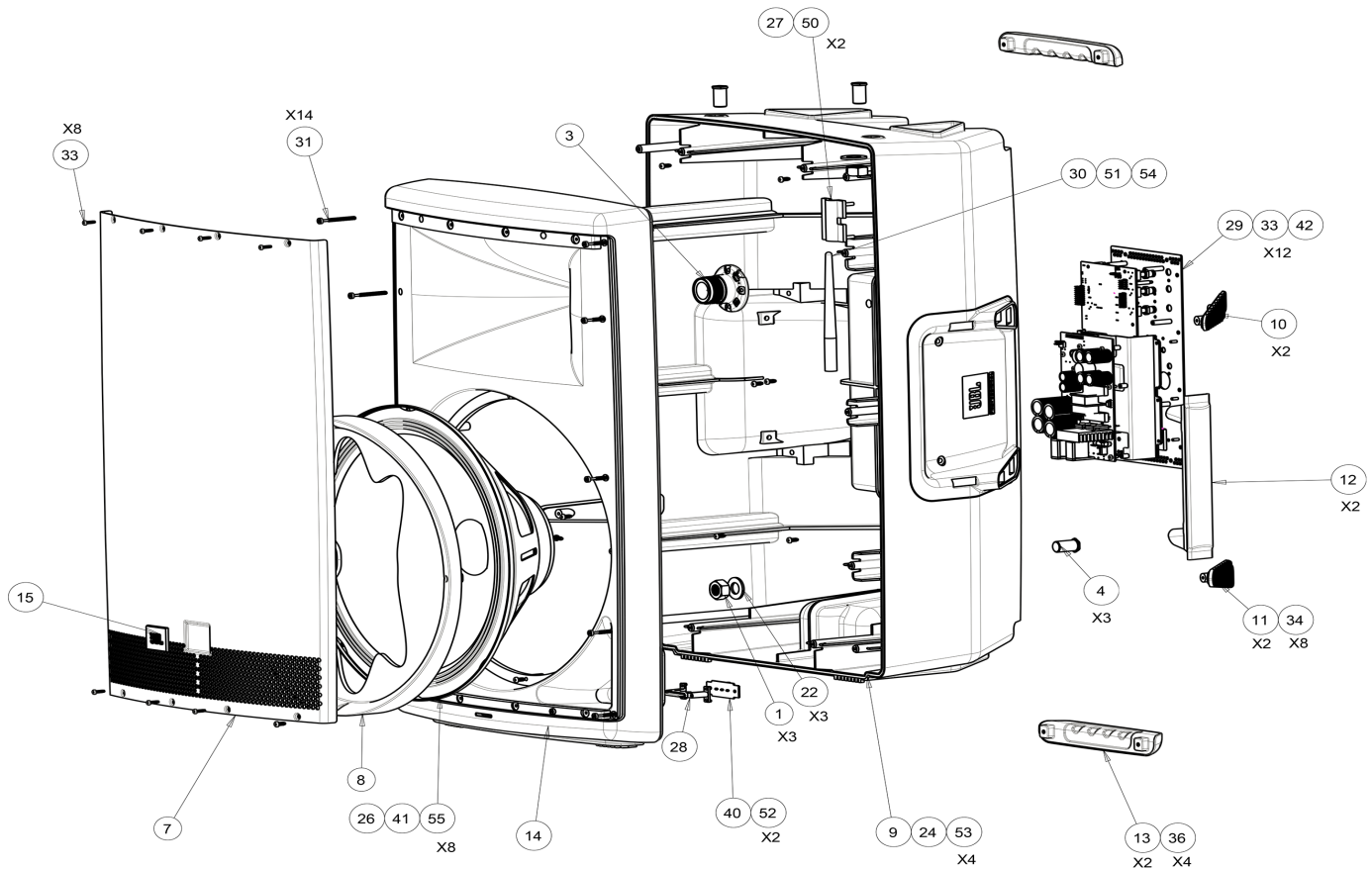
- Quick Setup Guide 5043250
- Beauty Carton 5043256
- Filler 5043260 (2)
- Shipping Carton 5043258
- Cord, AC, Line 425-00000-00 (120V) 425-00000-01 (220V)

## WIRING DIAGRAM



# JBL EON615

## COMPONENT EXPLODED VIEW



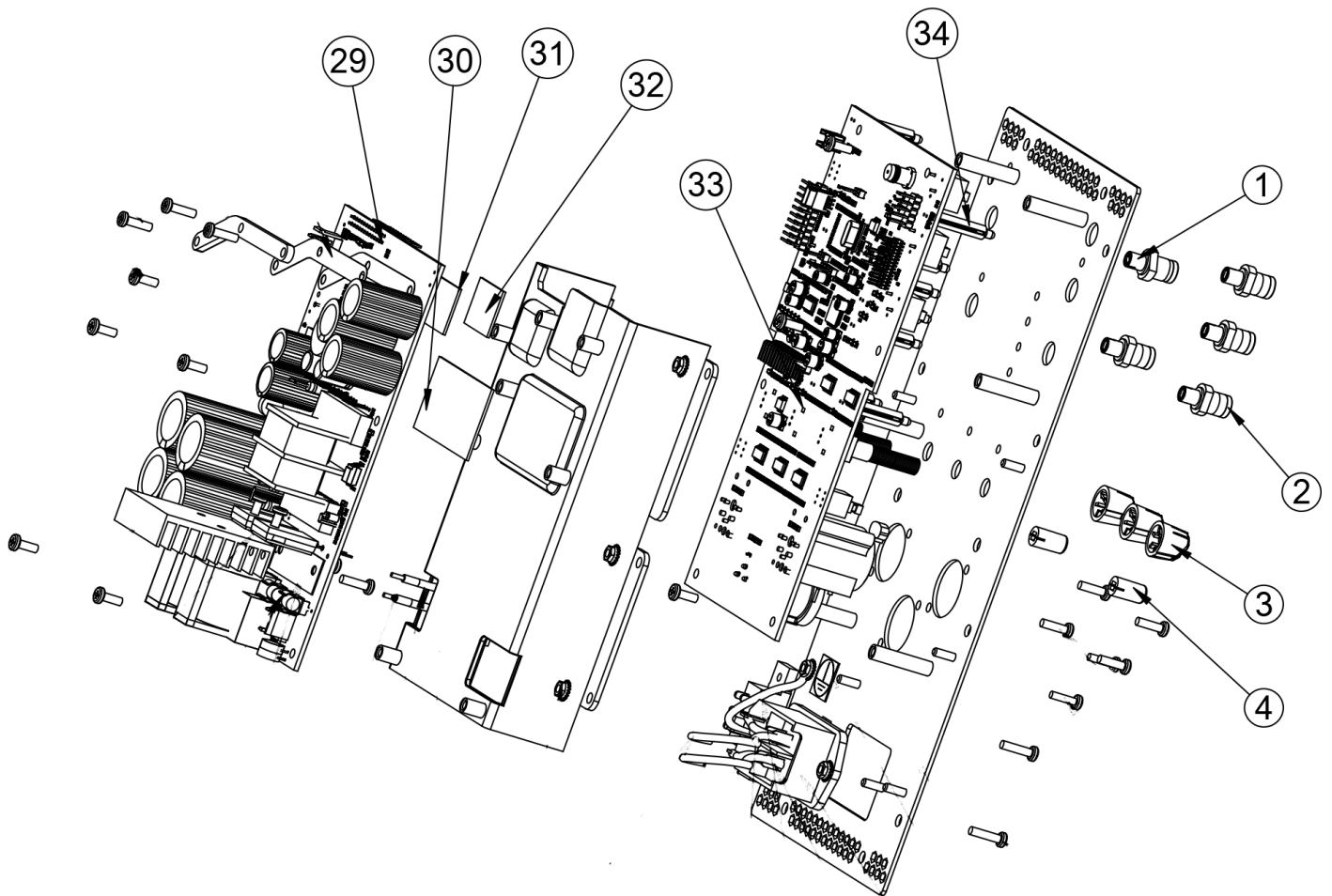
### COMPONENT PARTS LIST:

| Item | Part No.     | Qty   | Description                            |
|------|--------------|-------|--|
| 1    | 838-00900-00 | 3     | NUT, M14 FINE, CLR ZINC RH             |
| 3    | 363858-001X  | 1     | M/I, 2414H-1                           |
| 4    | 364616-001   | 3     | FLY BOLT                               |
| 7    | 5039755      | 1     | GRILLE, EON G4                         |
| 8    | 5039904      | 1     | WOOFER COVER PLATE                     |
| 9    | 5048432      | 1     | EON615, REAR ENCLOSURE                 |
| 10   | 5039907      | 2     | FOOT, LEFT                             |
| 11   | 5039908      | 2     | FOOT, RIGHT                            |
| 12   | 5039909      | 2     | SIDE HANDLE ASSEMBLY                   |
| 13   | 5039910      | 2     | HANDLE, TOP/BOTTOM                     |
| 14   | 5039926      | 1     | BAFFLE, EON615                         |
| 15   | 5040033      | 1     | LOGO BADGE, EON615                     |
| 22   | 848-00100-02 | 3     | WASHER, M14,REG, CLR ZINC              |
| 24   | 364835-001   | 11.3" | GASKET, ENCLOSURE EON515               |
| 26   | 5040715X     | 1     | 615H, 15" WOOFER                       |
| 27   | 5041398      | 1     | EON615 ANTENNA HOLDER                  |
| 28   | 5043063      | 1     | EON615, FRONT LED LENS                 |
| 29   | 5043263      | 1     | AMPLIFIER ASSY, EON615                 |
| 30   | 5044450      | 1     | COAXIAL CABLE ASSY,600MM,EON600 SERIES |
| 31   | 5049473      | 14    | SCR,PT,M4x40mm Baffle                  |

| Item | Part No.     | Qty | Description                                       |
|------|--------------|-----|---|
| 33   | 5043266      | 20  | SCREW, AMPLIFIER & GRILLE, EON600                 |
| 34   | 883-41110-12 | 8   | SCR, 8x3/4, Pan, PH, BLK Zinc, LCS                |
| 36   | 5043269      | 4   | Screw, Top/Bottom Handle                          |
| 40   | 5044213      | 1   | EON615,LIGHT PCB ASSEMBLY                         |
| 41   | 360-70002-01 | 1   | GASKET, REAR 15"                                  |
| 42   | 5043248      | 1   | Wire Harness w/Ferrite, EON615                    |
| 50   | 5044889      | 2   | EON600, LED-ANTENNA GASKET                        |
| 51   | 5044449      | 1   | ANTENNA MODULE,EON600 SERIES                      |
| 52   | 881-21400-20 | 2   | SCR,PT,K35X32MM,PANHD, PH DRIVE, BLK              |
| 53   | 5045827      | 4   | TINNERMAN CLIP                                    |
| 54   | 365462-001   | 1   | CUP PLUG  |
| 55   | 5043267      | 12  | SCR, 4x1/2, RND, PH, WD, CLR Zinc, LCS (side hdl) |
| 56   | 5046357      | 1   | LINER, EON600                                     |
| 57   | 5048960      | 1   | Ferrite Bead LED Cable                            |
| 58   | 5048962      | 1   | FERRITE BEAD ANTENNA, EON615                      |

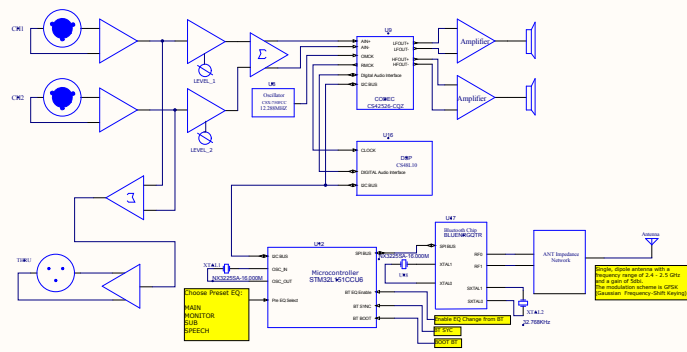
# JBL EON615

## COMPONENT EXPLODED VIEW



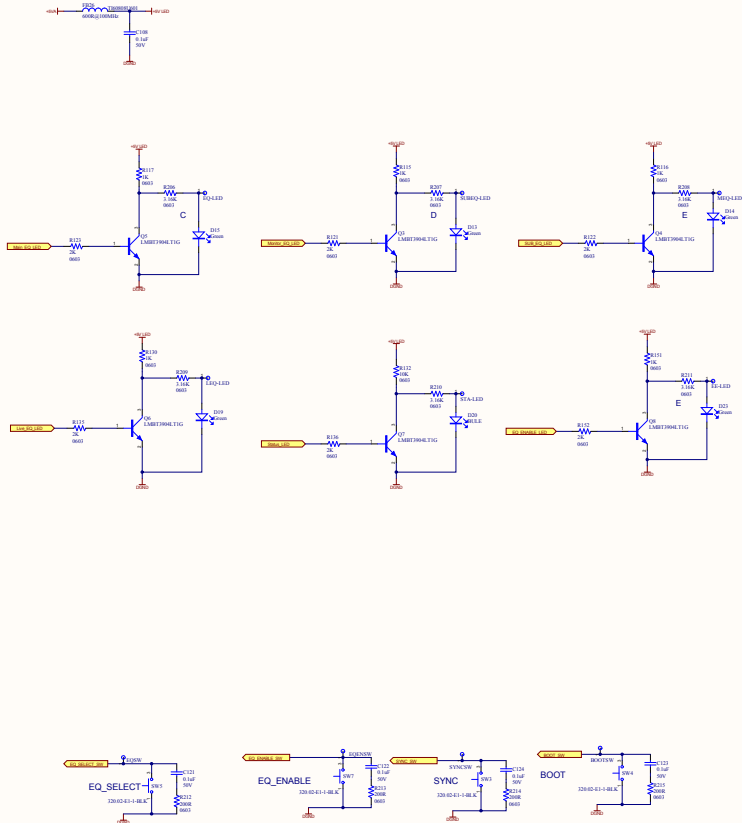
### COMPONENT PARTS LIST:

| Item | Part No. | Qty | Description  |
|------|----------|-----|--|
| 1    | 5054669  | 1   | G4-Button ABS  |
| 2    | 5054670  | 4   | G4-Button ABS  |
| 3    | 5054671  | 3   | G4-Knob ABS  |
| 4    | 5054672  | 2   | G4-Button Silicon Natural grey                       |
| 8    | xxxxxxx? | 1   | G4 rear plate SECC T=1.5mm CED Coating               |
| 10   | 5054673  | 1   | IEC AC JACK inlet+switch 10A 250V                    |
| 29   | 5054674  | 1   | JBL G4 AMP PCBA ASS'Y                                |
| 30   | 5054675  | 1   | SILICON INSULATOR L53xW28xT1.0mm xGREY,adhesive DS11 |
| 31   | 5054676  | 1   | SILICON INSULATOR L23xW18xT1.0mm xGREY,adhesive DS11 |
| 32   | 5054677  | 1   | SILICON INSULATOR L20xW10xT1.0mm                     |
| 33   | 5054678  | 1   | JBL G4 DSP PCBA ASS'Y                                |
| 34   | 5054679  | 10  | LED Spacer Nylon LE52222-5                           |



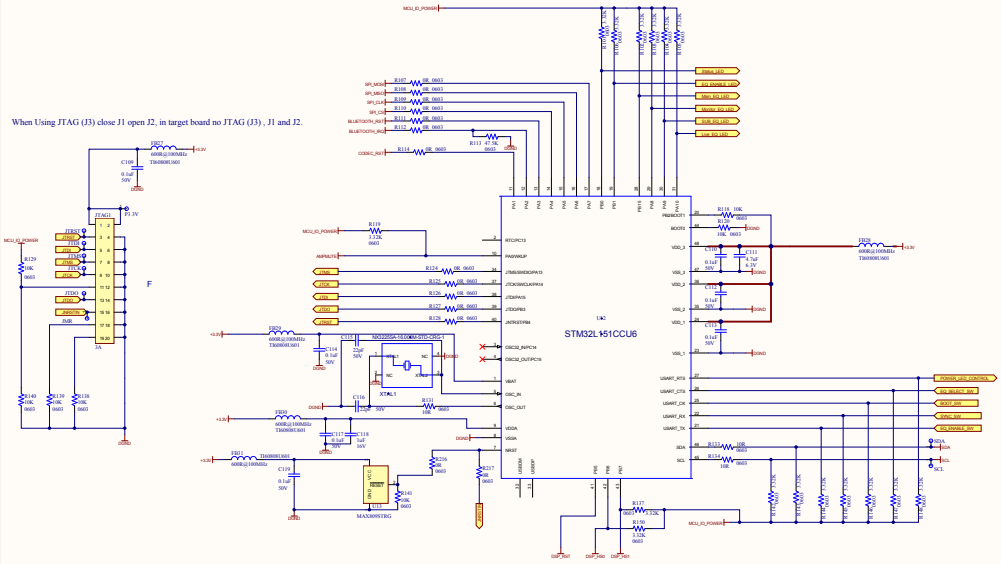
|                                  |                     |                      |          |
|----------------------------------|---------------------|----------------------|----------|
| JBL Professional                 |                     |                      |          |
| Title<br>EON 600 Block Diagram   |                     |                      |          |
| Rev<br>D                         | Page<br>1           | Block Diagram.SchDoc | Rev<br>A |
| Date<br>August 13, 2014          | Engineer<br>Wu Song | Sheet<br>1 of 1      |          |
| Filename<br>Block Diagram.SchDoc |                     | Sheet<br>1           | of<br>1  |

**SWITCHES and LED Controls**

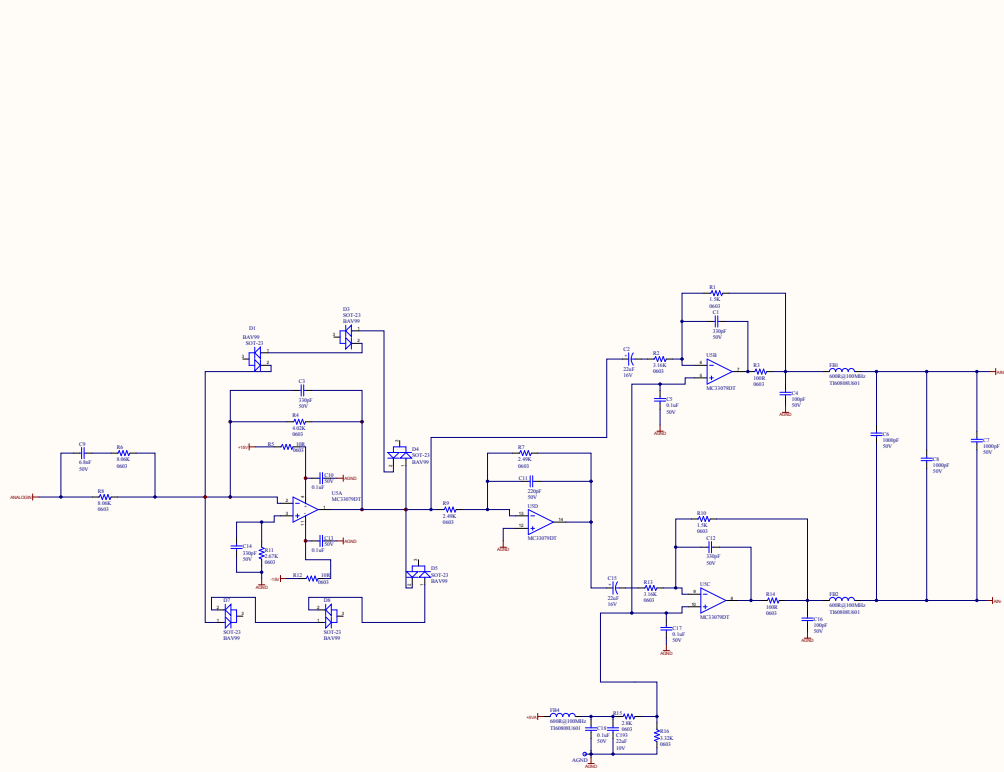


All unused I/O should be configured as analog input and all decoupling caps should be put as close as possible to the micro.

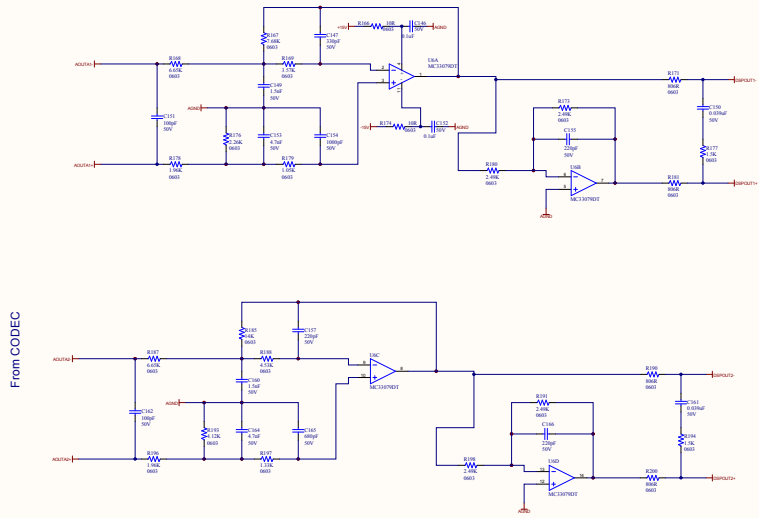
When Using JTAG (J3) close J1 open J2, in target board no JTAG (J3), J1 and J2.



|                      |                   |        |  |
|----------------------|-------------------|--------|--|
| JBL Professional     |                   |        |  |
| Title: EON 600       |                   |        |  |
| Rev: D               | Page: CPU.SchDoc  | Rev: D |  |
| Date: Apr 28, 2014   | Engineer: Wu Song |        |  |
| Filename: CPU.SchDoc | Sheet: 1          | of 7   |  |

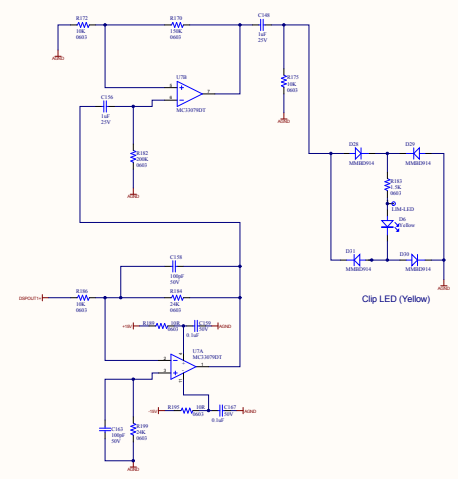


|   |   |          |  |
|---|---|----------|--|
| JBL Professional                                |   |          |  |
| Title<br>EON 600                                |   |          |  |
| Rev<br>D  | Part<br>ADC Limiter and Pre-emphasis.SchDoc | Rev<br>D |  |
| Date<br>Apr 28, 2014                            | Engineer<br>Wu Song                         |          |  |
| Filename<br>ADC Limiter and Pre-emphasis.SchDoc | Sheet<br>2                                  | of<br>7  |  |



To 26 PIN Connector

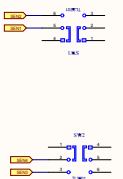
This is a comparator configuration. Monitors the DAC(CLPDAC) and when near saturation (+/- 1.20V pk) outputs a square wave. The threshold is set by the resistor network at the (+) input.



Clip LED (Yellow)

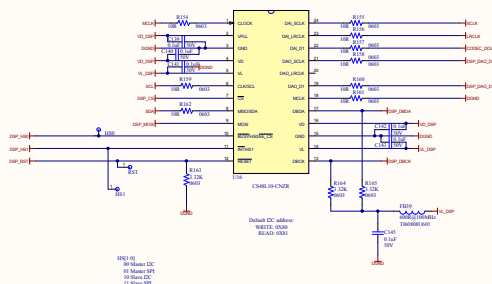
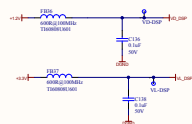
|                                 |                             |        |  |
|---------------------------------|-----------------------------|--------|--|
| JBL Professional                |                             |        |  |
| Title: EON 600                  |                             |        |  |
| Doc ID: D                       | Page: Output Filters.SchDoc | Rev: D |  |
| Date: Apr 28, 2014              | Engineer: Wu Song           |        |  |
| Filename: Output Filters.SchDoc | Sheet: 3                    | of 7   |  |

Inputs



|                                     |                                 |        |  |
|-------------------------------------|---------------------------------|--------|--|
| JBL Professional                    |                                 |        |  |
| Title: EON 600                      |                                 |        |  |
| Doc: D                              | Page: Analog Input Mixer.SchDoc | Rev: D |  |
| Date: Apr 28, 2014                  | Engineer: Wu Song               |        |  |
| Filename: Analog Input Mixer.SchDoc | Sheet: 4                        | of: 7  |  |





During standby, the output mode DSP mode is SET to AVE mode  
 MCT1 needs to clear IM and IM2 before RESET DSP

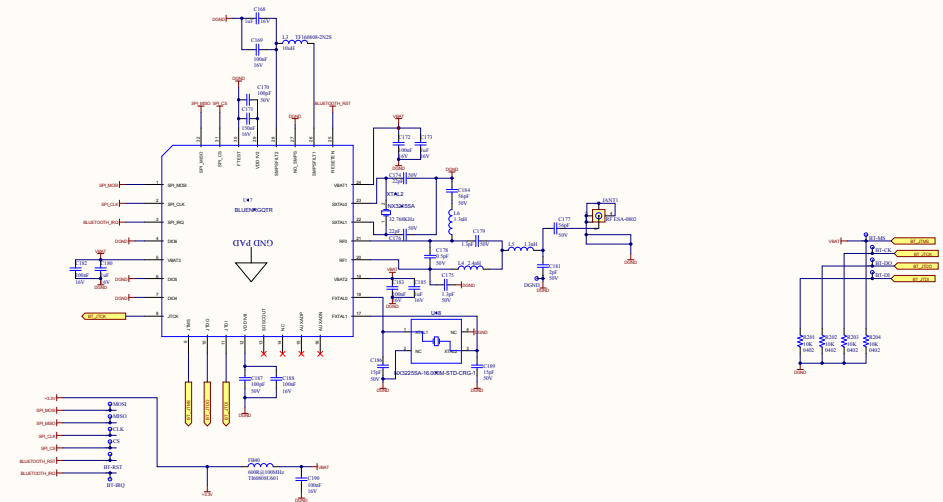
DAI0 DC  
 00 100ms DC  
 01 100ms DC  
 10 100ms DC  
 11 100ms DC

DAI0 DC address  
 WRITE: 0000  
 READ: 0001

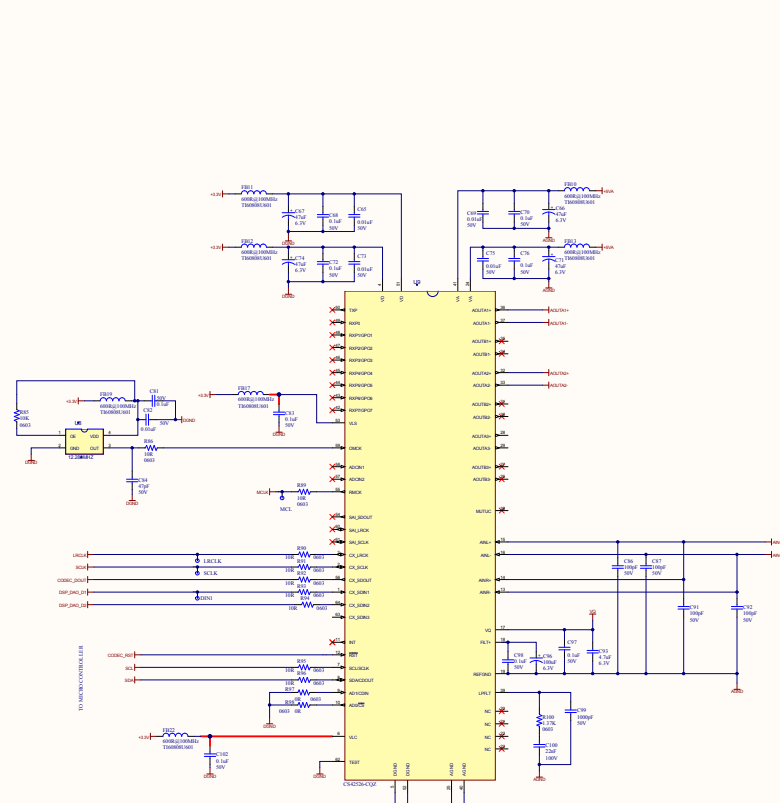
CONFIG DSP in 1 DAI3 DAO mode, DAO\_1 HF, DAO\_2 (DAO\_SCLK) LF and DAO\_3 (DAO\_LRCLK) thru out, DAO clock slave to DAI clock, also config DAI clock as slave

|                        |                     |                 |  |
|------------------------|---------------------|-----------------|--|
| JBL Professional       |                     |                 |  |
| Title<br>EON 600       |                     |                 |  |
| Rev<br>D               | Page<br>DSP.SchDoc  | Rev<br>D        |  |
| Date<br>Apr 28, 2014   | Engineer<br>Wu Song | Drawn<br>5 of 7 |  |
| Filename<br>DSP.SchDoc | Sheet<br>H          |                 |  |

From Manufacturer

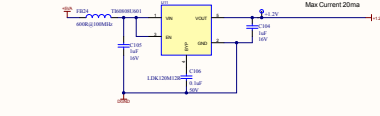
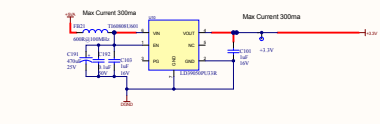
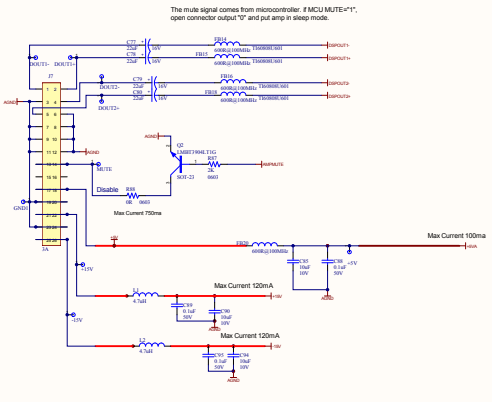
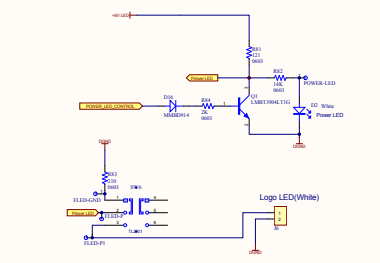


|                                     |                                 |          |  |
|-------------------------------------|---------------------------------|----------|--|
| JBL Professional                    |                                 |          |  |
| Title<br>EON 600                    |                                 |          |  |
| Doc<br>D                            | Page<br>Bluetooth Module.SchDoc | Doc<br>D |  |
| Date<br>Apr 28, 2014                | Engineer<br>Wu Song             |          |  |
| Filename<br>Bluetooth Module.SchDoc | Sheet<br>6                      | of<br>7  |  |

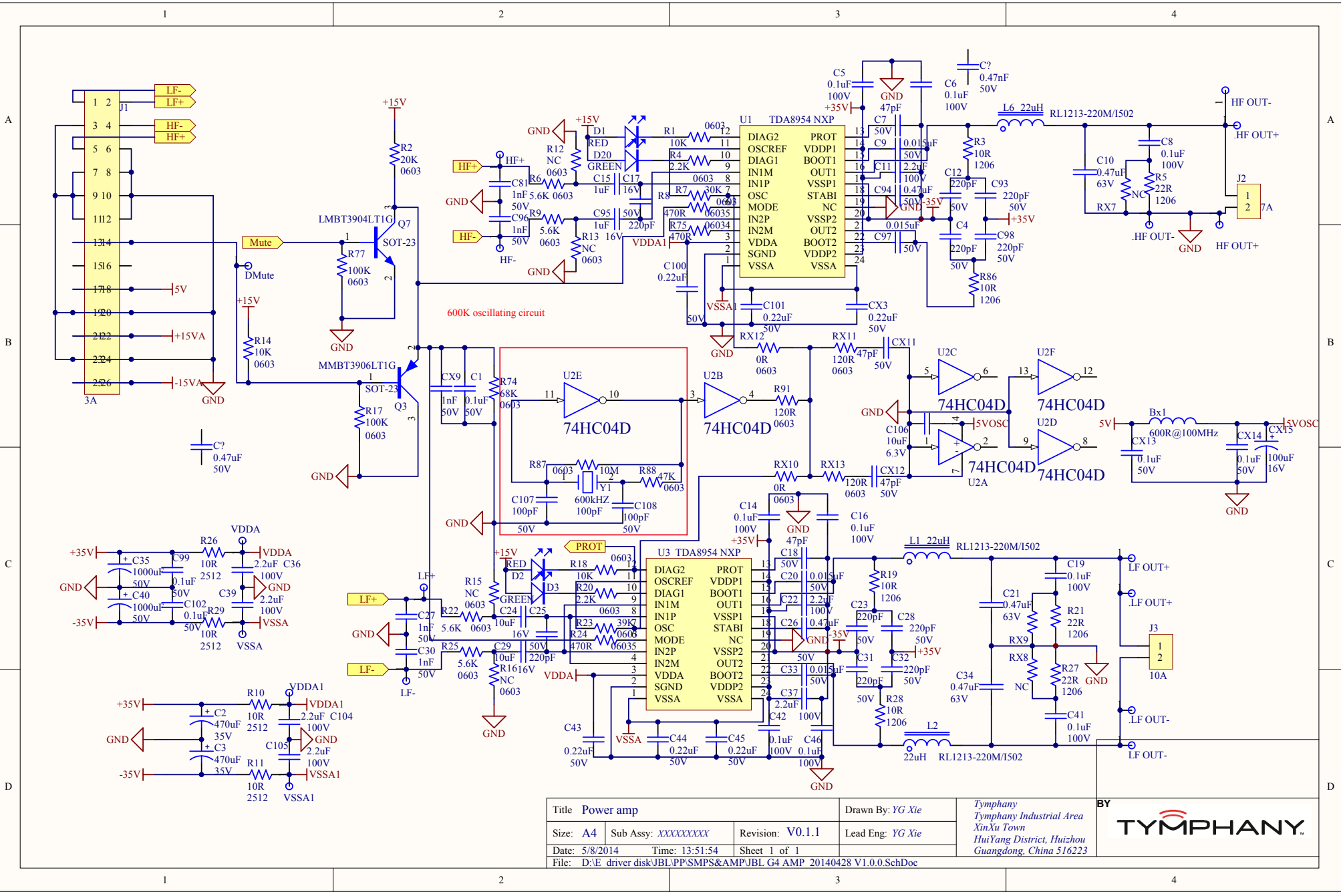



Route DMO\_1 I/F to AOKTA1<1>, DMO\_2 I/F to AOKTA2<1> and DMO\_3 I/F out to AOKTA3<1>.  
 Do not DC connect TEST1, TEST2, TEST3, TEST4, TEST5, TEST6, TEST7, TEST8, TEST9, TEST10, TEST11, TEST12, TEST13, TEST14, TEST15, TEST16, TEST17, TEST18, TEST19, TEST20, TEST21, TEST22, TEST23, TEST24, TEST25, TEST26, TEST27, TEST28, TEST29, TEST30, TEST31, TEST32, TEST33, TEST34, TEST35, TEST36, TEST37, TEST38, TEST39, TEST40, TEST41, TEST42, TEST43, TEST44, TEST45, TEST46, TEST47, TEST48, TEST49, TEST50, TEST51, TEST52, TEST53, TEST54, TEST55, TEST56, TEST57, TEST58, TEST59, TEST60, TEST61, TEST62, TEST63, TEST64, TEST65, TEST66, TEST67, TEST68, TEST69, TEST70, TEST71, TEST72, TEST73, TEST74, TEST75, TEST76, TEST77, TEST78, TEST79, TEST80, TEST81, TEST82, TEST83, TEST84, TEST85, TEST86, TEST87, TEST88, TEST89, TEST90, TEST91, TEST92, TEST93, TEST94, TEST95, TEST96, TEST97, TEST98, TEST99, TEST100.

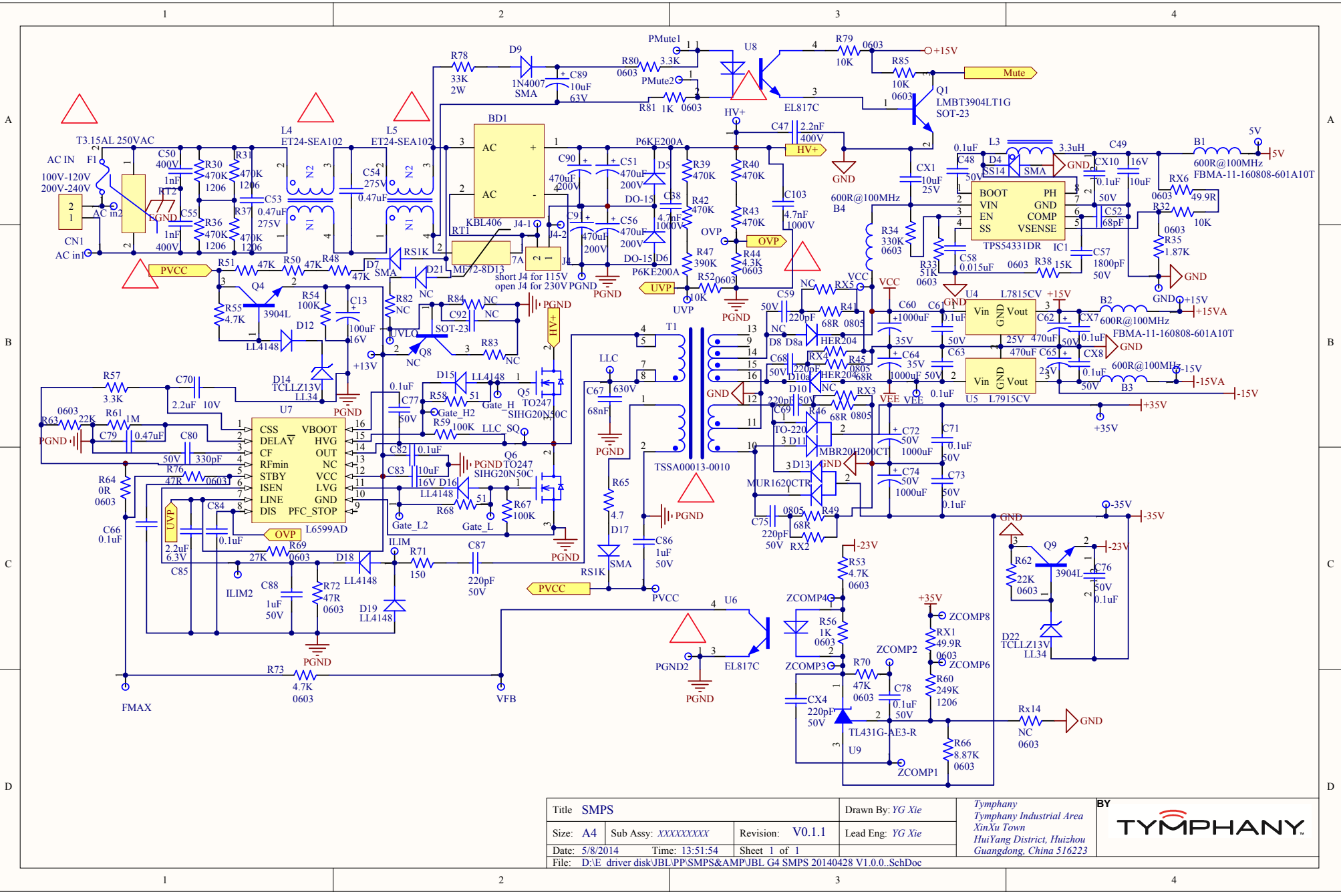
When BTM music stream presents, set CODEC\_SP as slave, otherwise set CODEC\_SP as Master



|                         |                                   |          |          |
|-------------------------|-----------------------------------|----------|----------|
| <b>JBL Professional</b> |                                   |          |          |
| <b>EON 600</b>          |                                   |          |          |
| Doc ID                  | Doc Name                          | Doc ID   | Doc Name |
| D                       | Codec and Power management.SchDoc | D        |          |
| Date                    | Apr 28, 2014                      | Engineer | Wu Song  |
| Filename                | Codec and Power Management.SchDoc | Sheet    | 7 of 7   |



|  |                     |                  |                  |  |  |
|--|---------------------|------------------|------------------|--|--|
| Title Power amp  |                     | Drawn By: YG.Xie |                  | Tymphony<br>Tymphony Industrial Area<br>XinXu Town<br>HuiYang District, Huizhou<br>Guangdong, China 516223 |  |
| Size: A4   | Sub Assy: XXXXXXXXX | Revision: V0.1.1 | Lead Eng: YG.Xie | BY                    |  |
| Date: 5/8/2014   | Time: 13:51:54      | Sheet 1 of 1     |                  |  |  |
| File: D:\E driver disk\JBL\PP\SMPS&AMP\JBL G4 AMP 20140428 V1.0.0.SchDoc |                     |                  |                  |  |  |



|   |                    |                  |                  |  |  |               |
|---|--------------------|------------------|------------------|--|--|---------------|
| Title SMPS  |                    | Drawn By: YG Xie |                  | Tymphony<br>Tymphony Industrial Area<br>XinXu Town<br>HuiYang District, Huizhou<br>Guangdong, China 516223 |  | <b>BY</b><br> |
| Size: A4  | Sub Assy: XXXXXXXX | Revision: V0.1.1 | Lead Eng: YG Xie |  |  |               |
| Date: 5/8/2014  | Time: 13:51:54     | Sheet 1 of 1     |                  |  |  |               |
| File: D:\E driver disk\JBL\PP\SMPS&AMP\JBL G4 SMPS 20140428 V1.0.0_SchDoc |                    |                  |                  |  |  |               |
|   |                    |                  |                  |  |  |               |