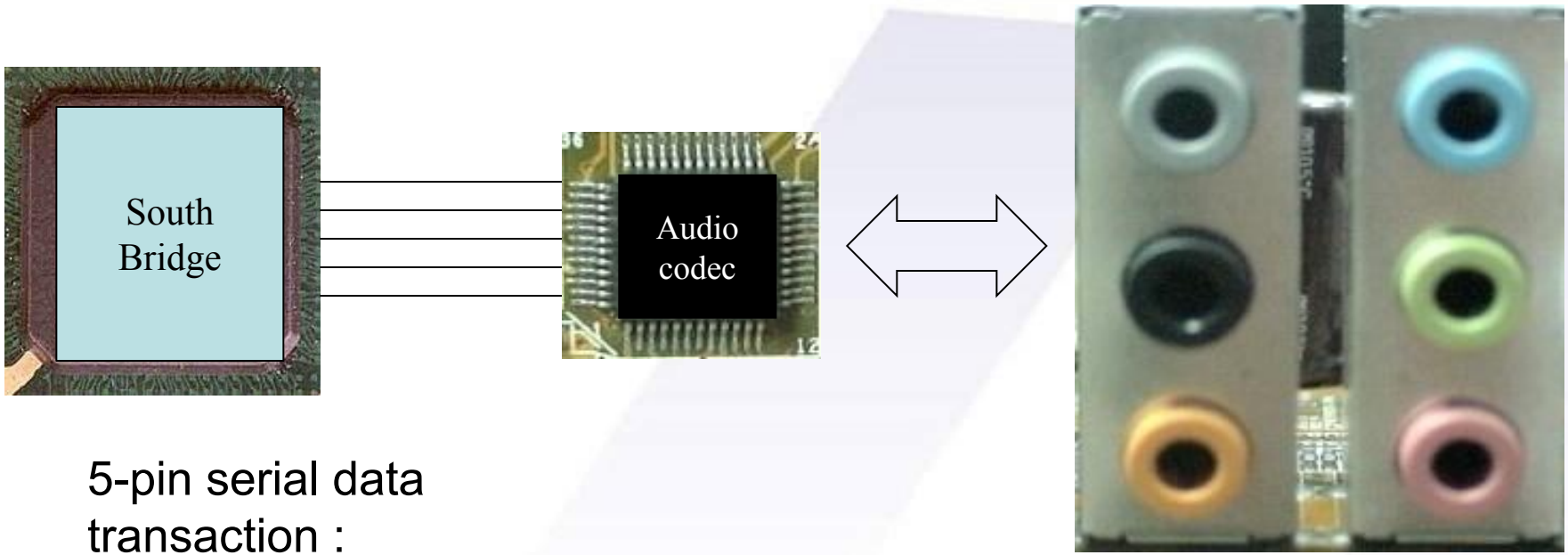
Audio

Sephiroth Kwon
GRMA
26-05-2009

AUDIO



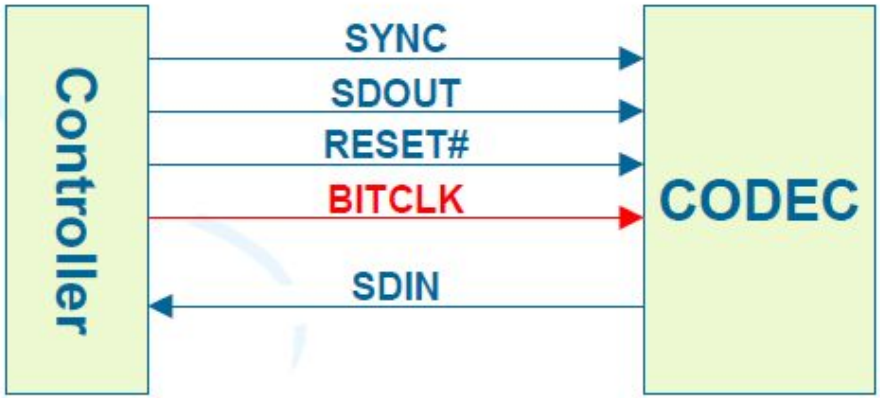
5-pin serial data transaction :

BIT_CLK, SYNC, RESET,

SDATA_IN, SDATA_OUT

Audio Bus

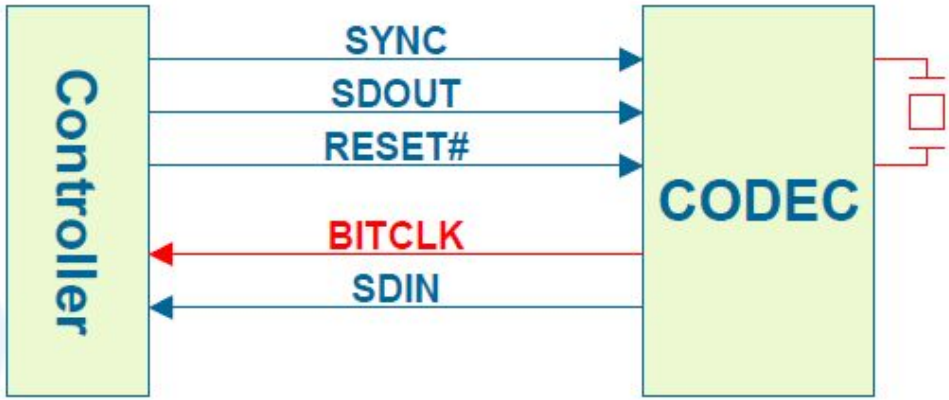
Azalia



Controller provide bit clock

- Crystal free !!
- 24MHz for BITCLK

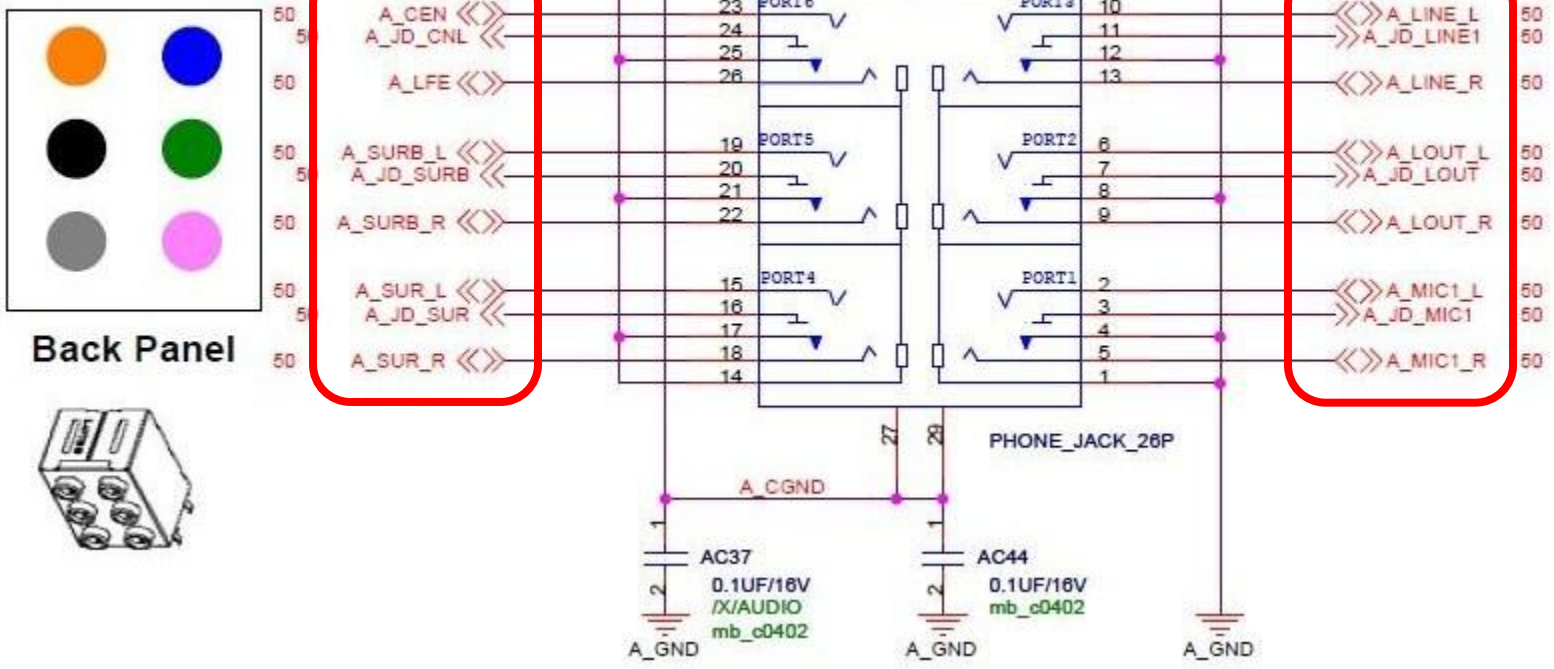
AC'97



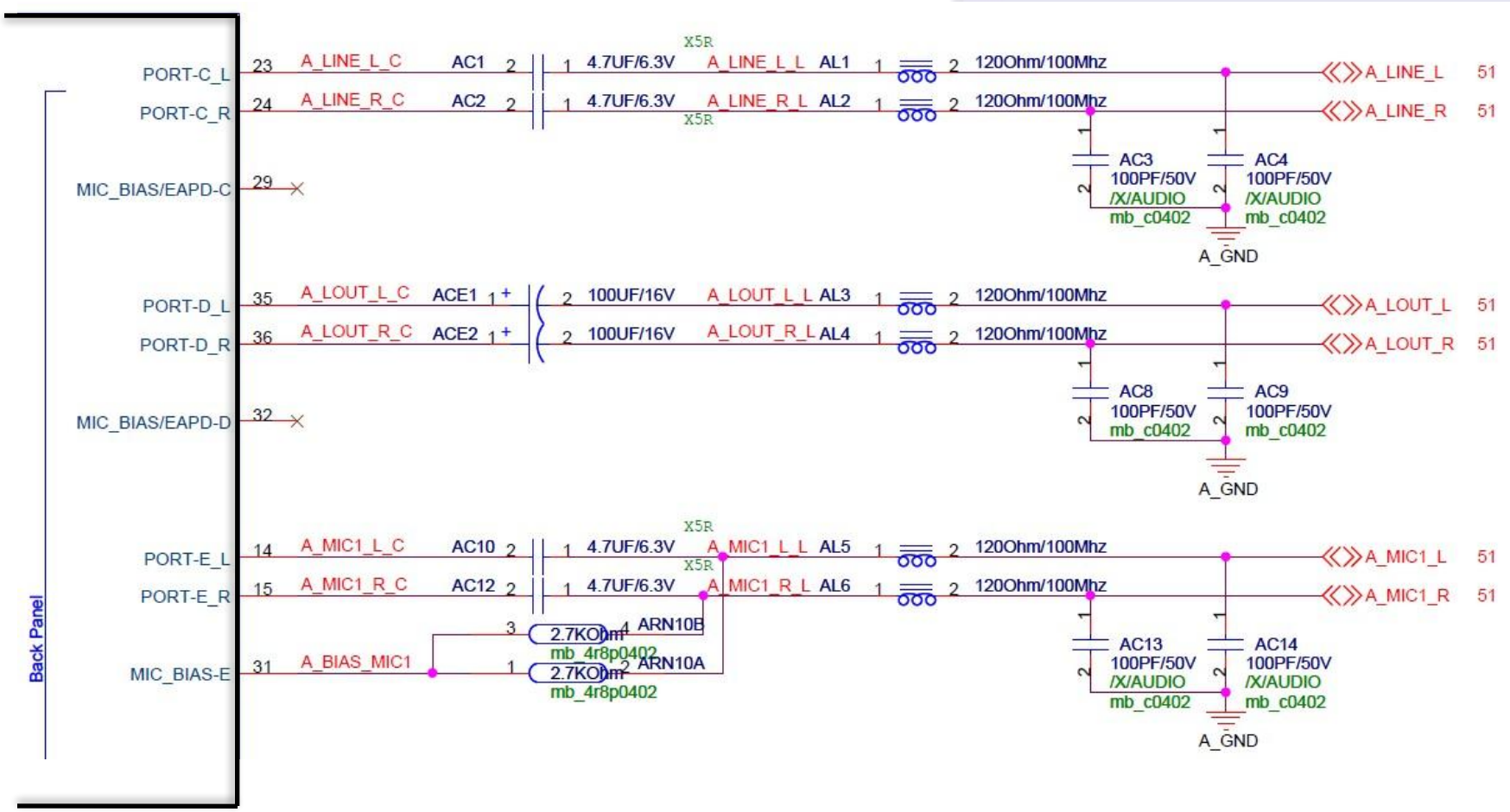
CODEC provide bit clock

- Crystal required
- 12.288MHz for BITCLK

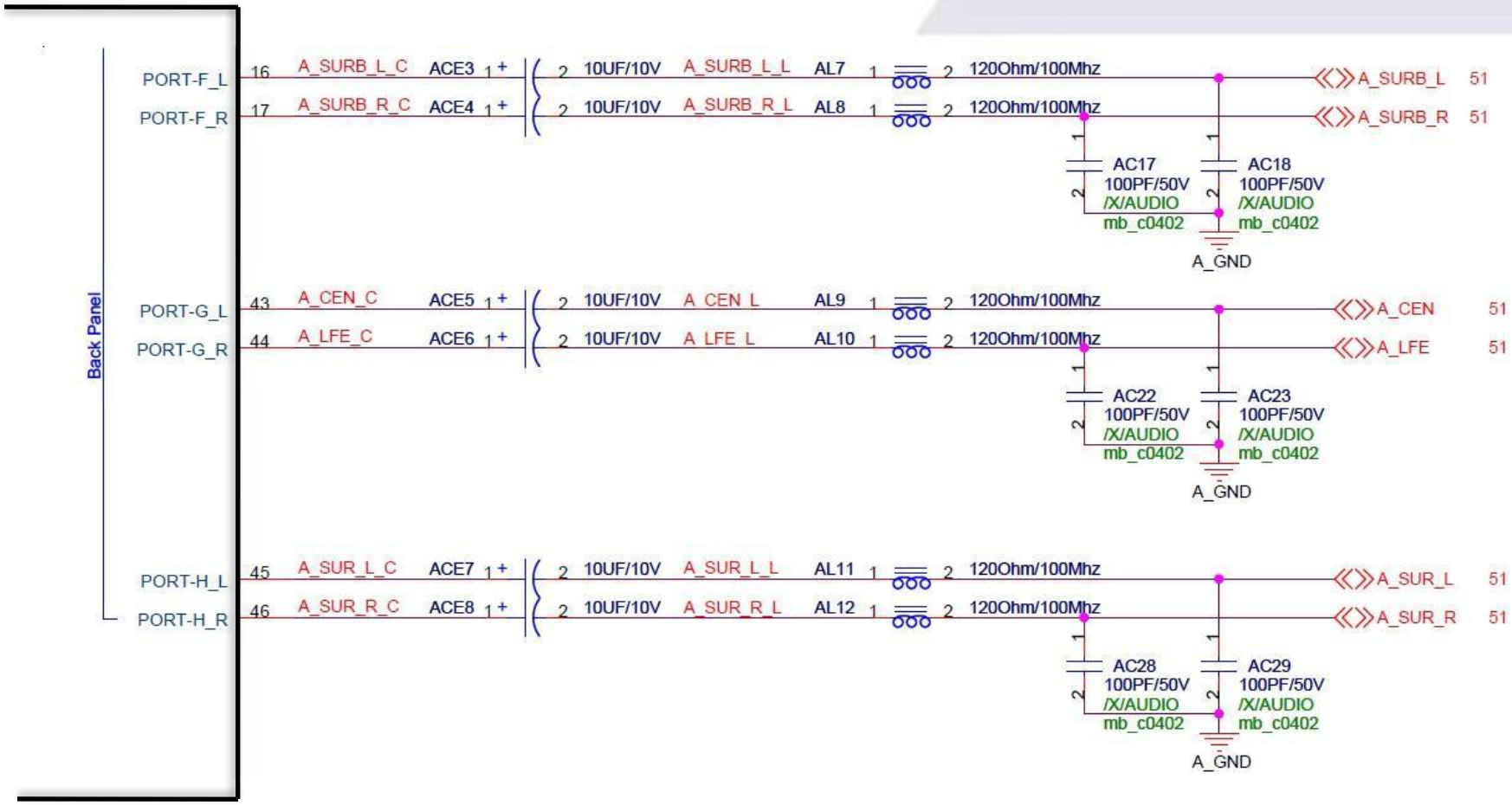
AUDIO(Azalia) Signals Description



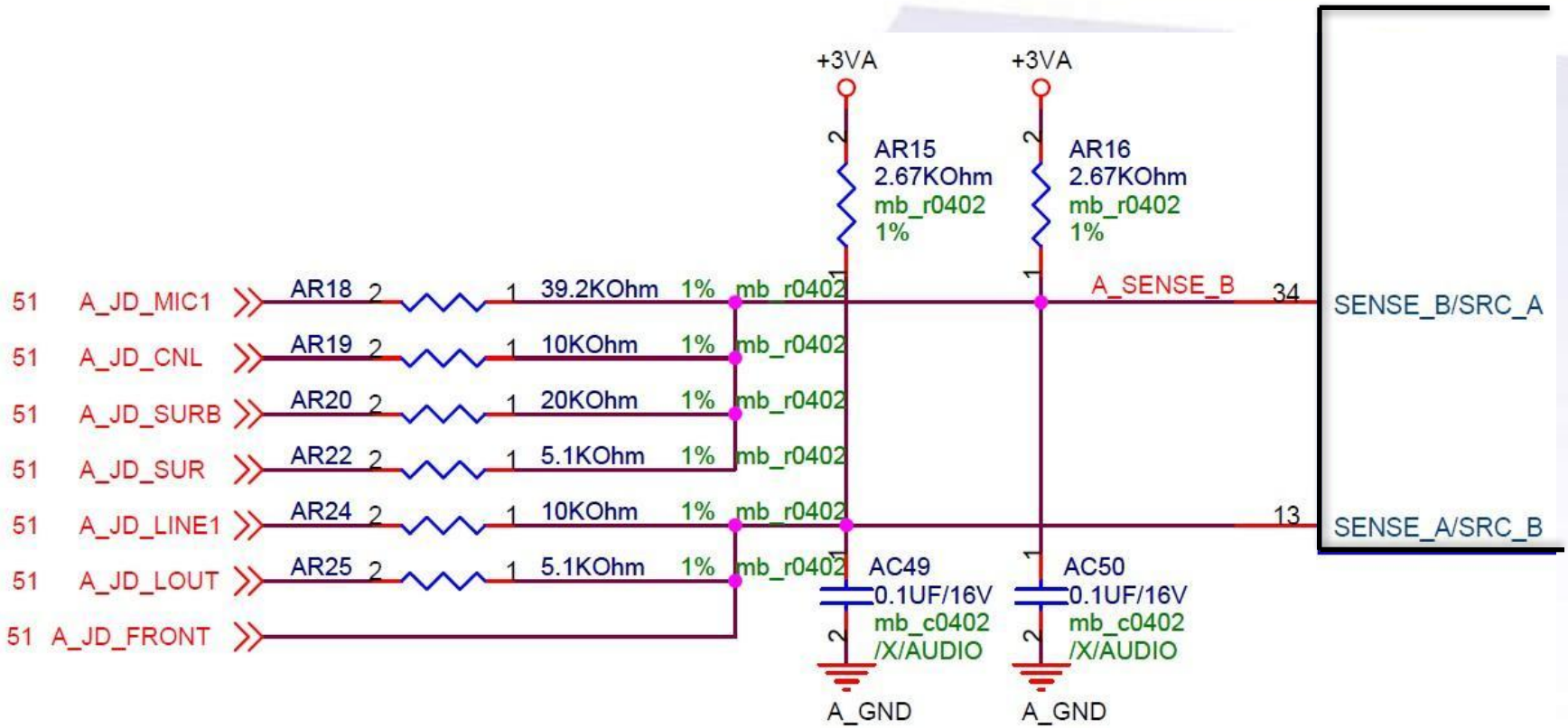
AUDIO(Azalia) Signals Description



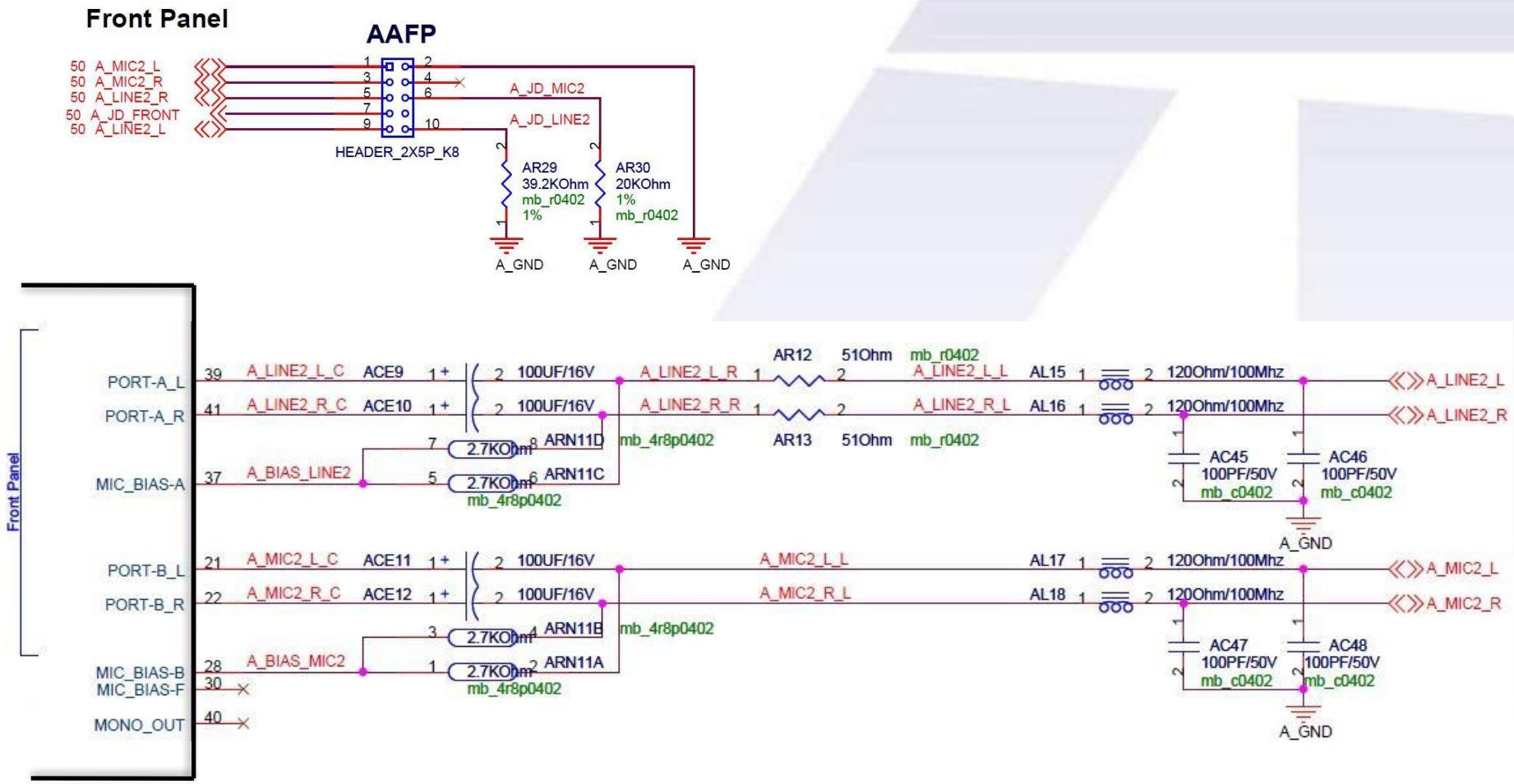
AUDIO(Azalia) Signals Description



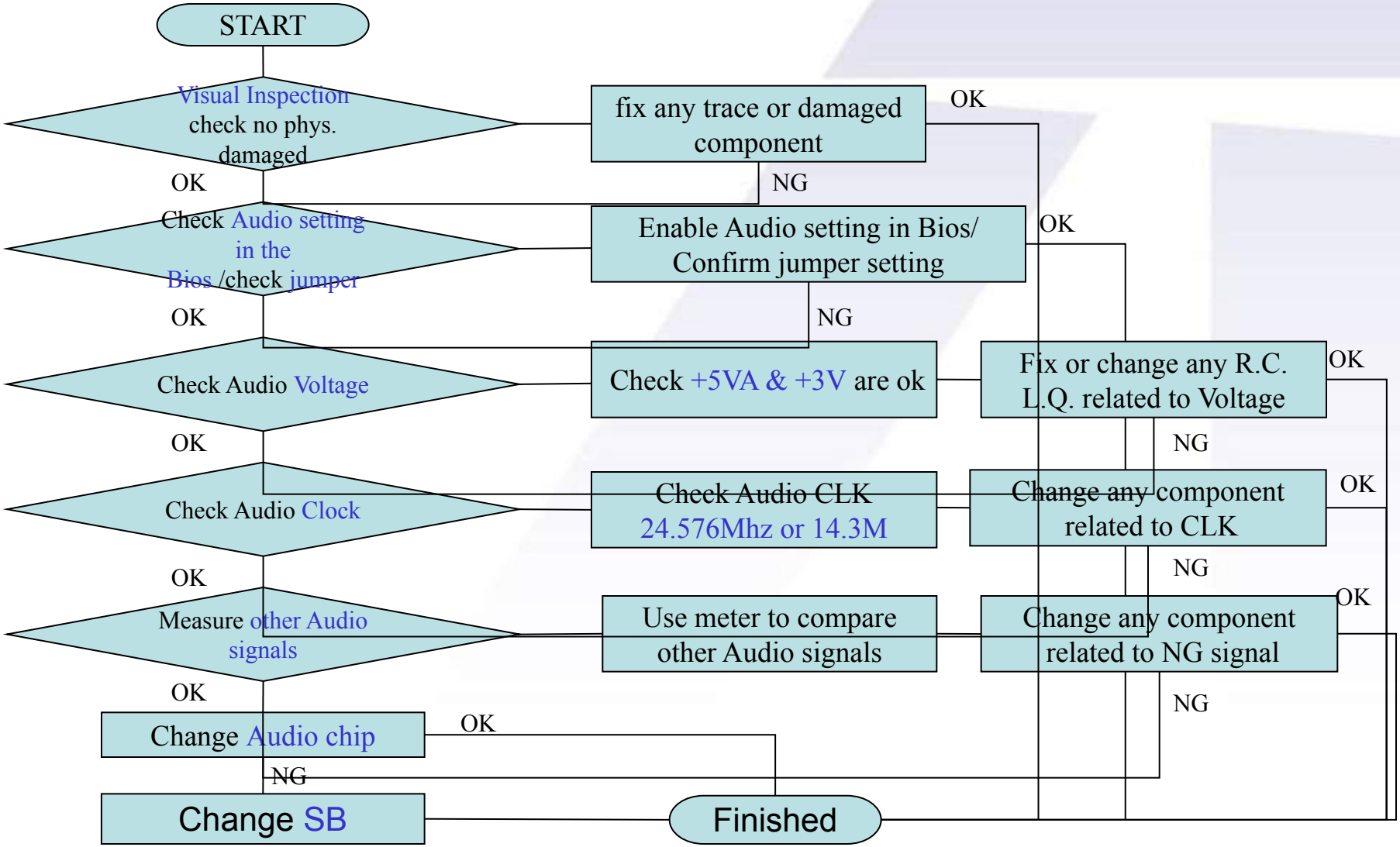
AUDIO(Azalia) Signals Description



AUDIO(Azalia) Signals Description



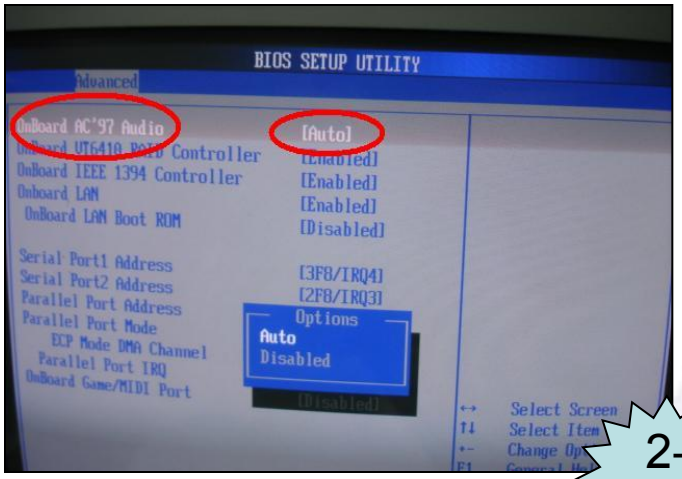
Repair Flow Chart



Repair Technique-Visual Inspection

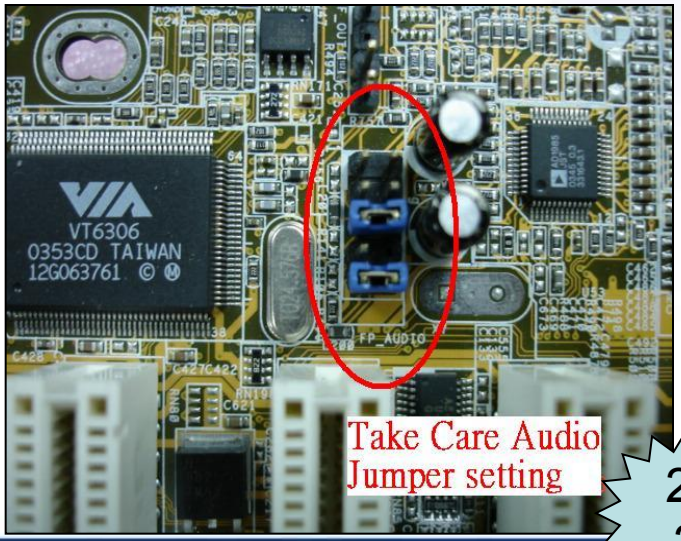
Visual Inspection to check Audio connector, Audio chip & nearby related components are not damaged.

Repair Technique-Check Bios & Jumper setting



2-1

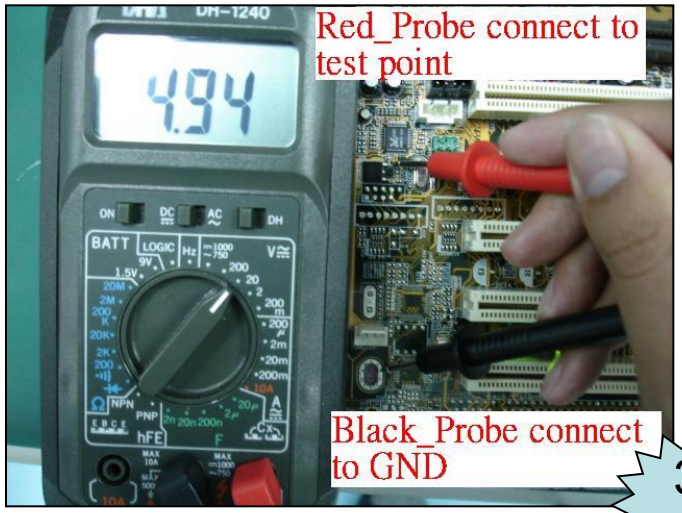
Check Audio setting is enable in the Bios.



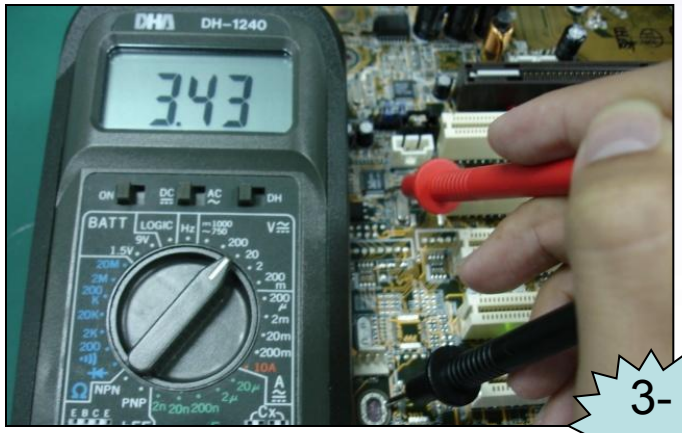
2-2

Make sure Audio Jumper is mounted properly.

Repair Technique-Measure Audio Voltage



3-1

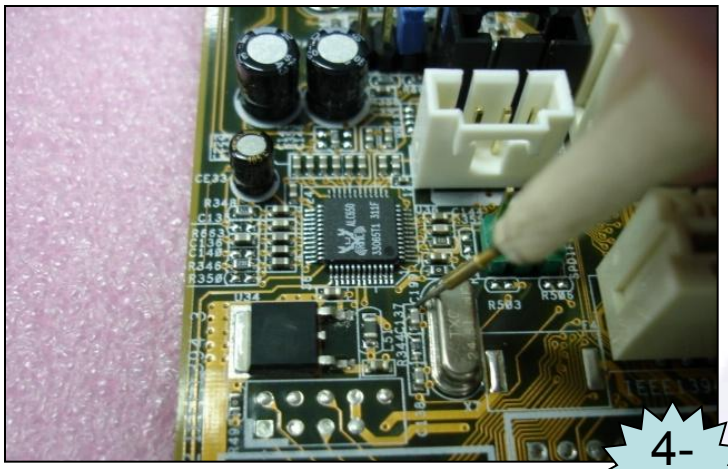


3-2

Use Multi-Meter to measure AUD +5V & 3.3V.

P.S. Audio +5V is transferred by small regulator like 78L05 (+12V to AUD+5V)

Repair Technique-Measure Audio Clock

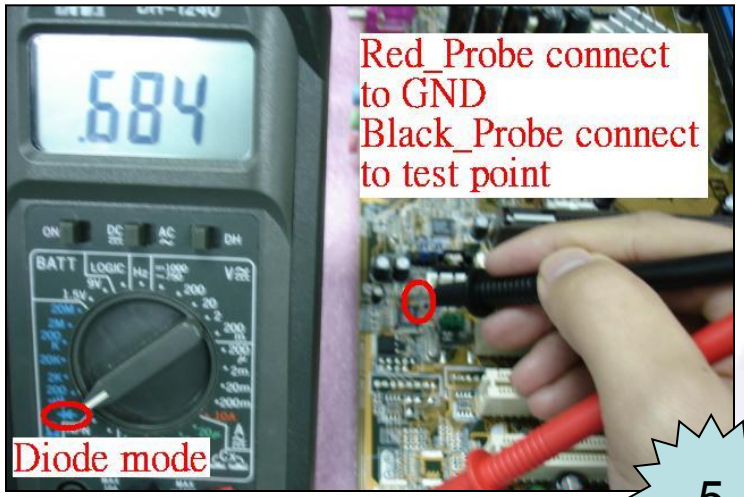


4-1

Use Oscilloscope to measure Audio CLK 24.576Mhz (from X'TAL) or 14.318Mhz (from CLK Generator)

4-2

Repair Technique-Measure Audio signals



Use Multi-Meter to measure other Audio signals' bias voltage value.

(This method should be compared with good MB)

If the symptom is still existing please try to change Audio chip.

After change Audio chip the problem is still constant please try to change SB at last.

P.S.

AC97 Audio chip through AC97 link connect to SB.

HA Audio chip through Azalia link connect to SB.

Thank You!