Audio

Sephiroth Kwon

GRMA

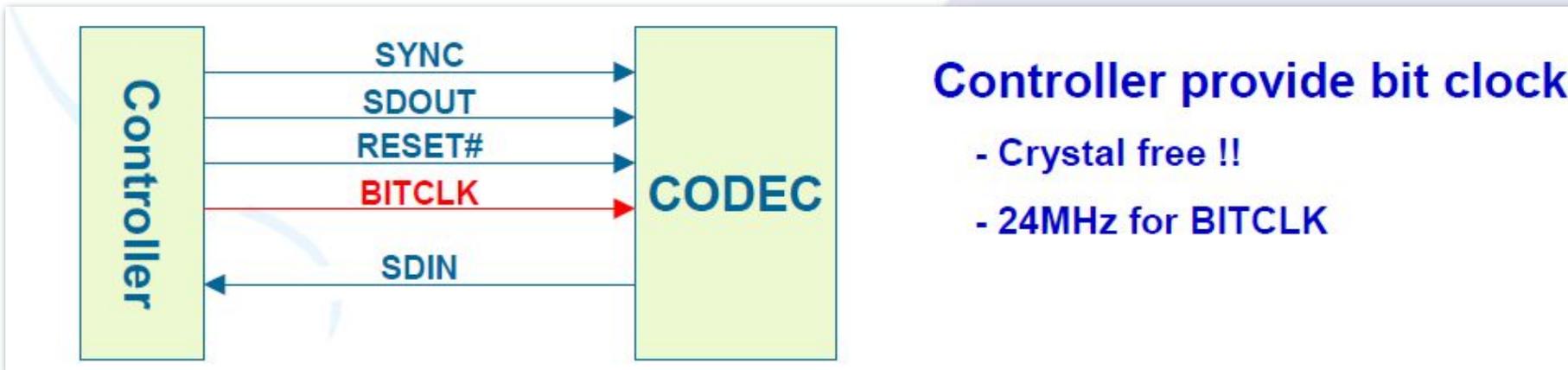26-05-2009

AUDIO

South
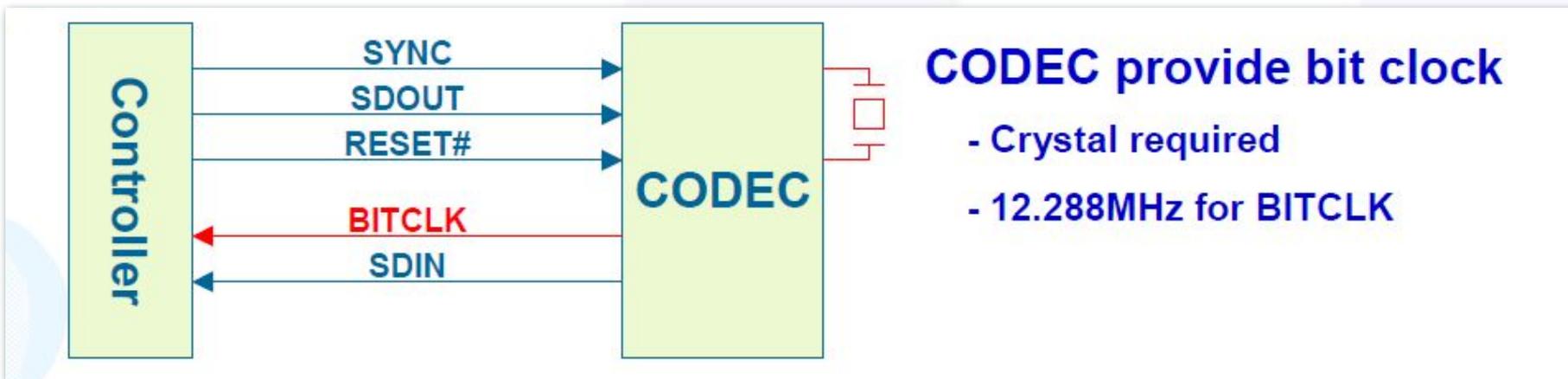Bridge
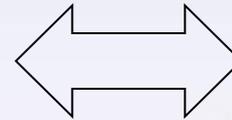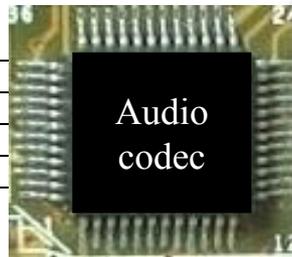
Audio
codec

5-pin serial data
transaction :
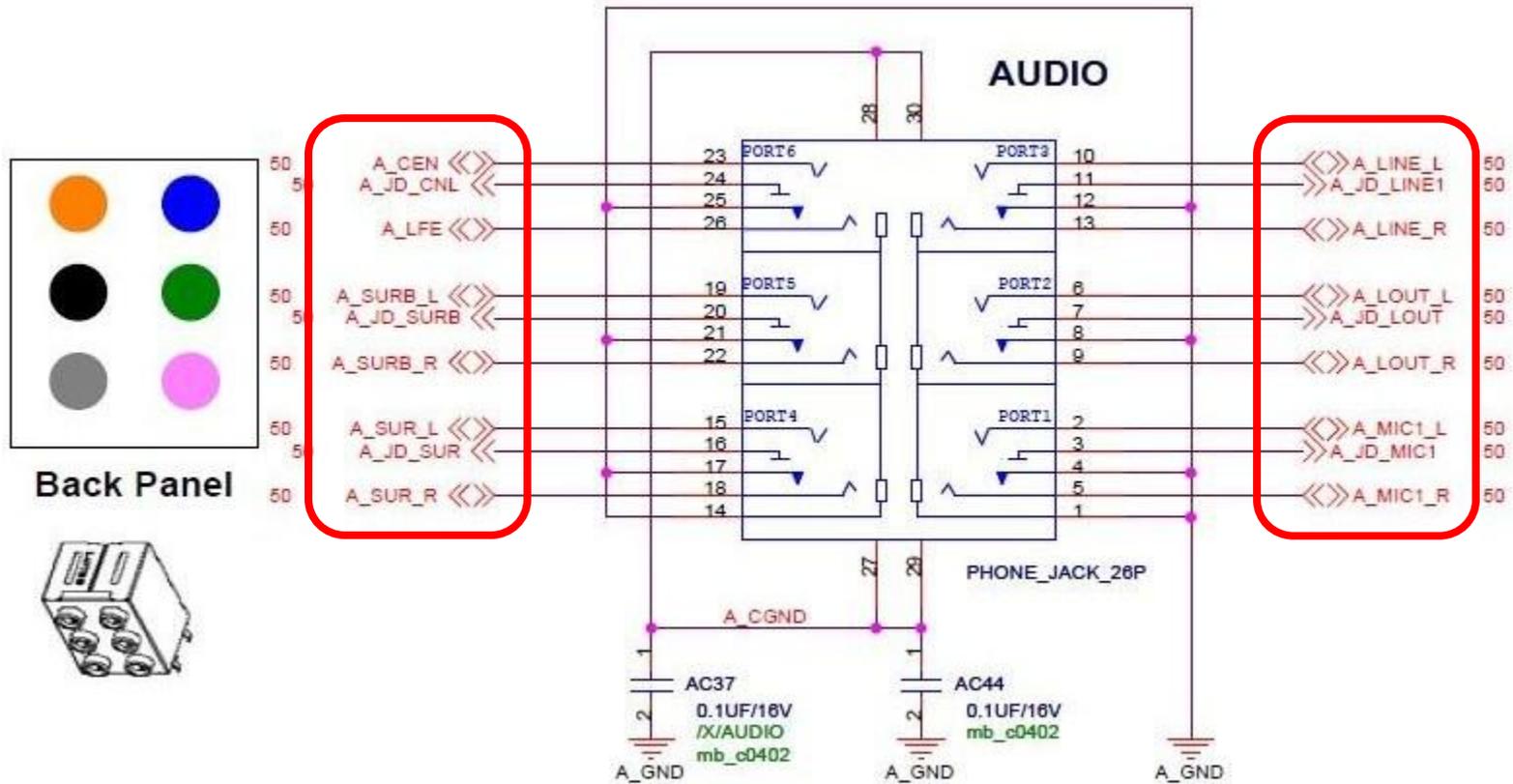BIT_CLK, SYNC, RESET,
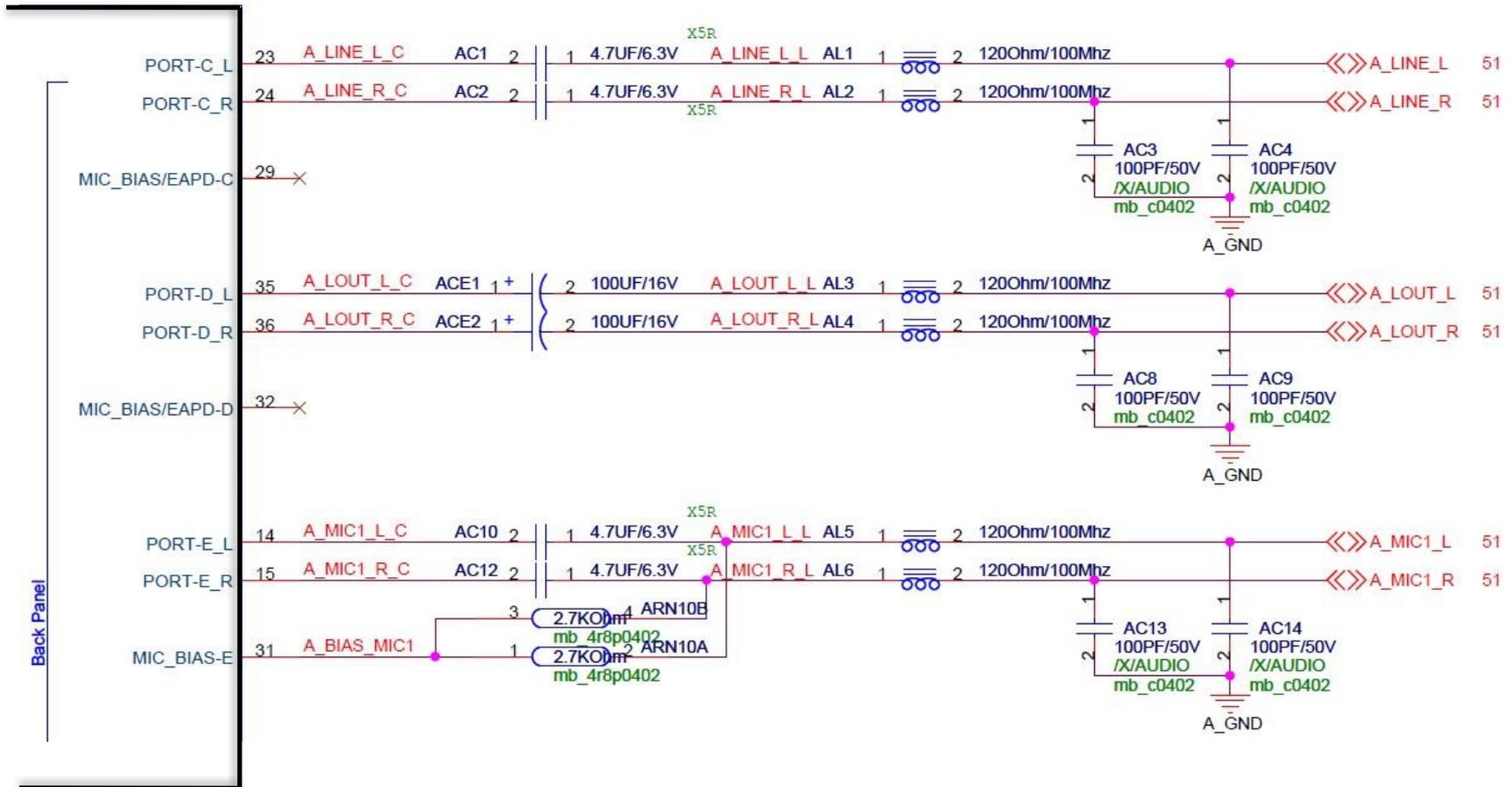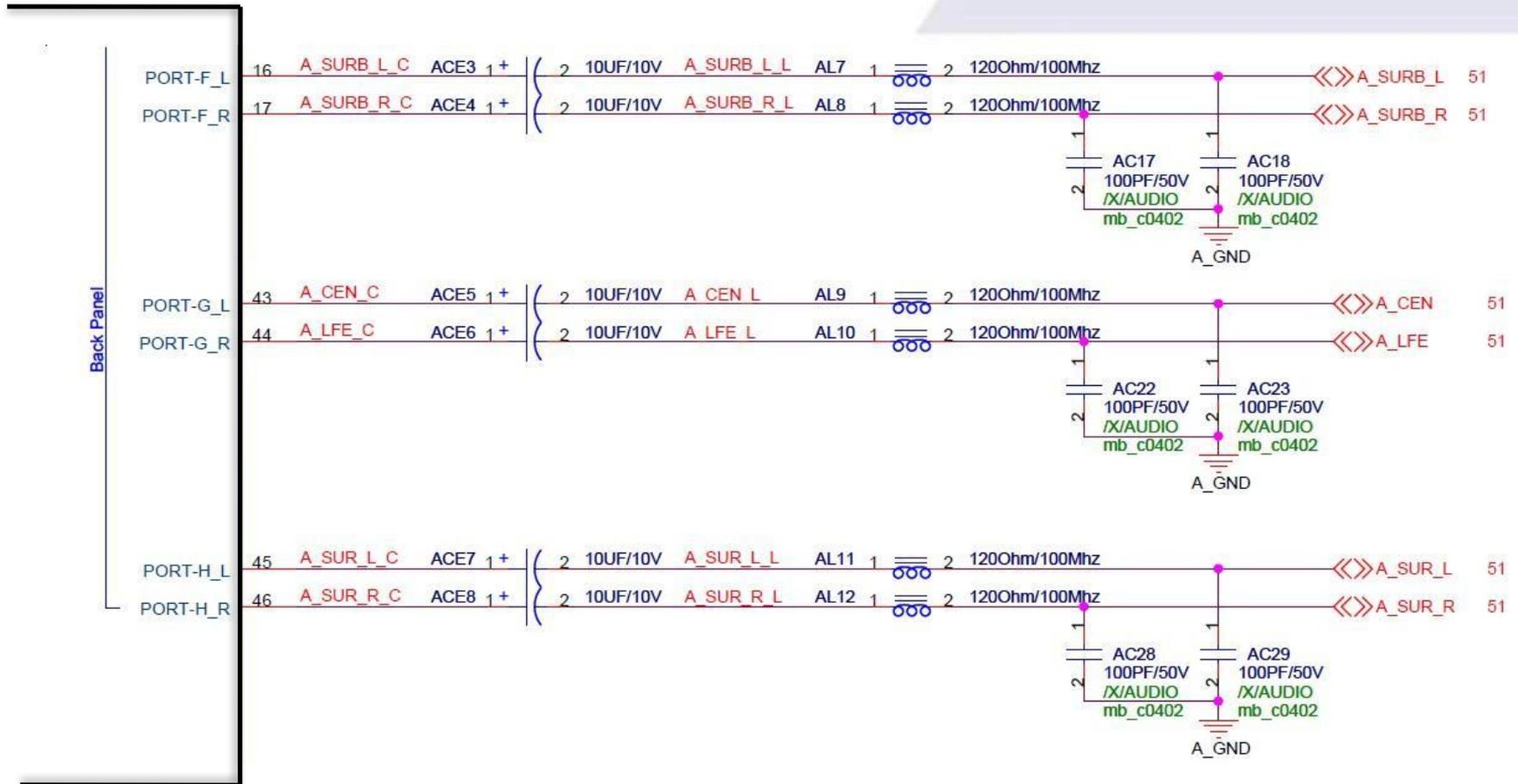SDATA_IN, SDATA_OUT
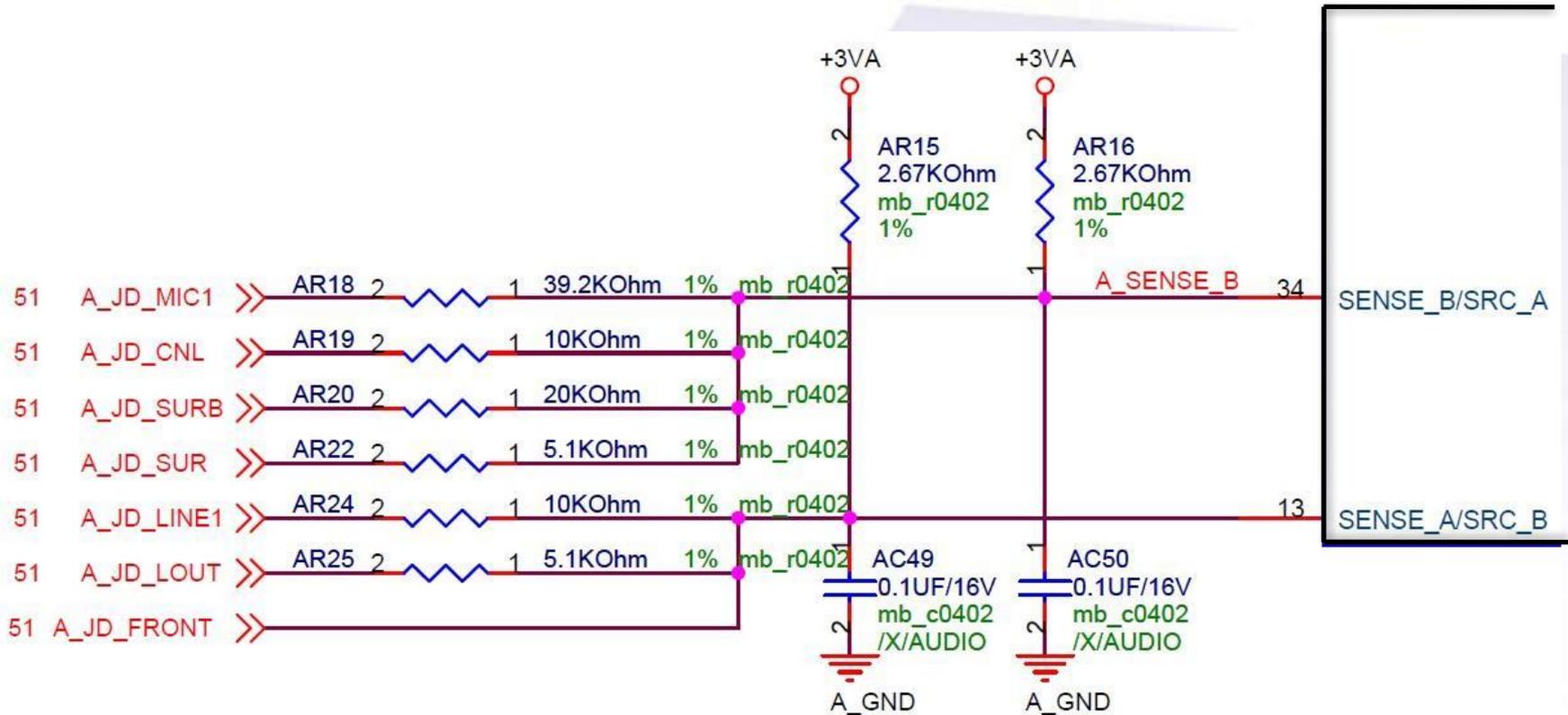
Audio Bus

Azalia

AC'97

AUDIO(Azalia) Signals Description

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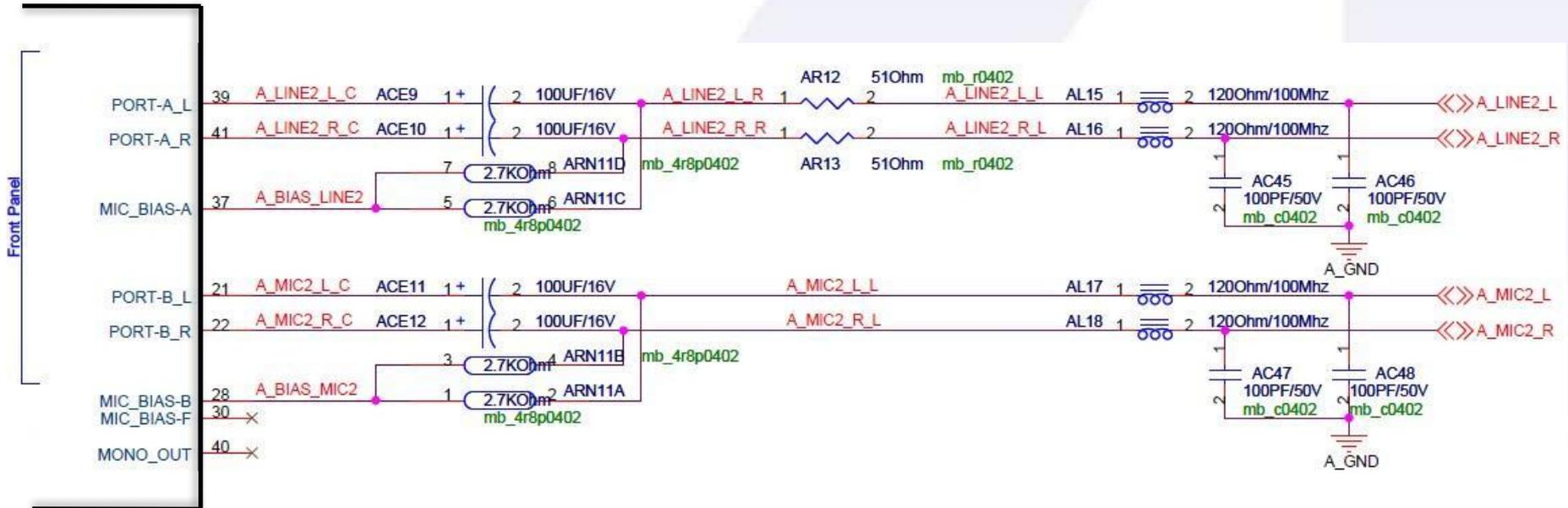# AUDIO(Azalia) Signals Description

AUDIO(Azalia) Signals Description

Repair Flow Chart

START

Visual Inspection check no phys. damaged → OK → fix any trace or damaged component → OK

NG

OK

Check Audio setting in the Bios /check jumper → Enable Audio setting in Bios/ Confirm jumper setting

OK

NG

Check Audio Voltage → Check +5VA & +3V are ok → Fix or change any R.C. L.Q. related to Voltage → OK

OK

NG

Check Audio Clock → Check Audio CLK 24.576Mhz or 14.3M → Change any component related to CLK → OK

OK

NG

Measure other Audio signals → Use meter to compare other Audio signals → Change any component related to NG signal → OK

OK

NG

Change Audio chip → OK → Finished

NG

Change SB
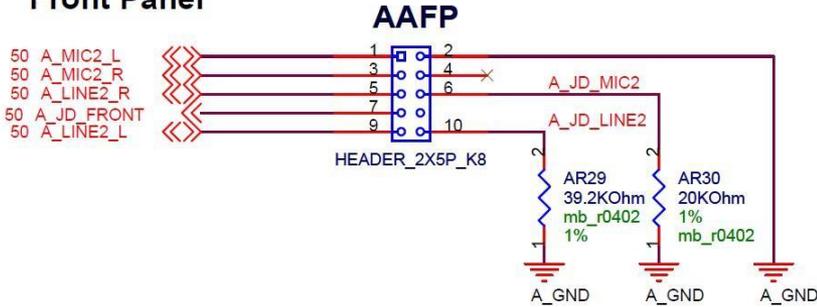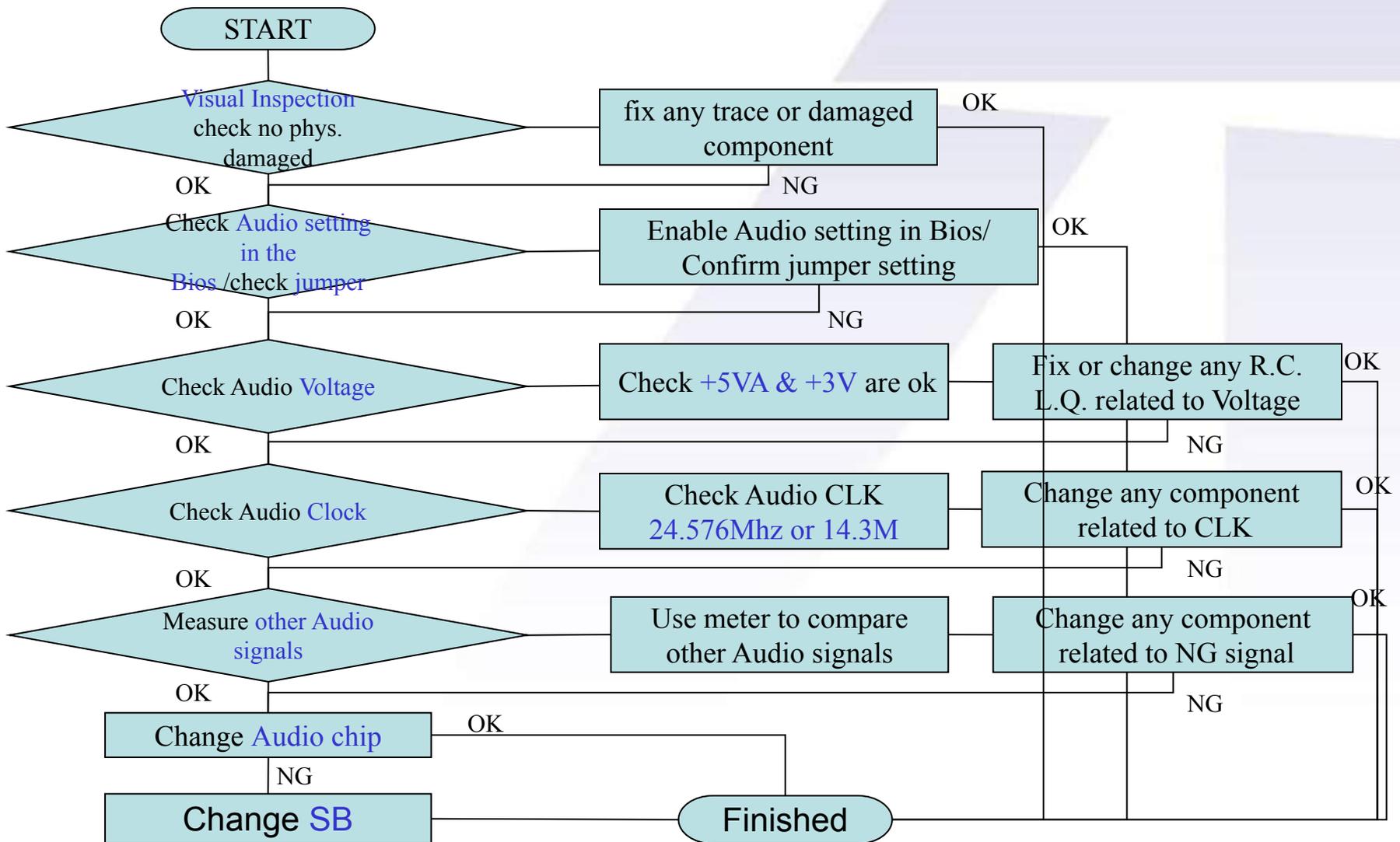
Repair Technique-Visual Inspection
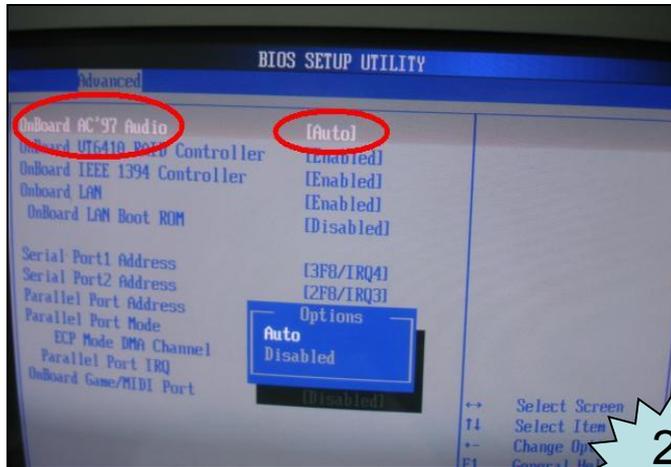

Visual Inspection to check Audio connector, Audio chip & nearby related components are not damaged.

Repair Technique-Check Bios & Jumper setting
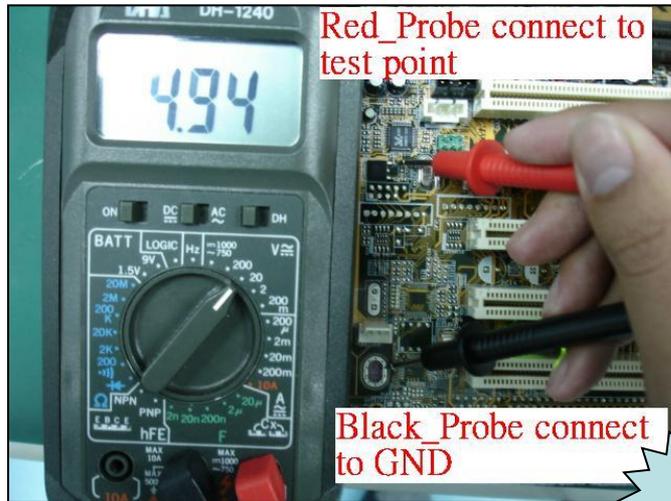

Check Audio setting is enable
in the Bios.

2-1

Take Care Audio
Jumper setting

Make sure Audio Jumper is
mounted properly.

2-2

Repair Technique-Measure Audio Voltage

Red_Probe connect to test point

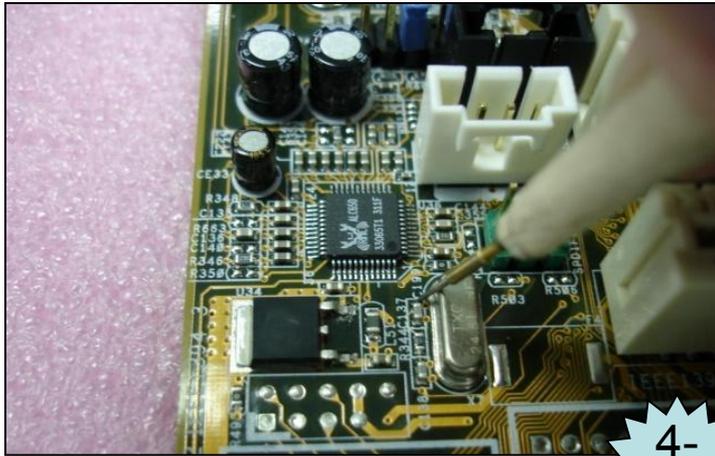Black_Probe connect to GND

3-1

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

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

3-2

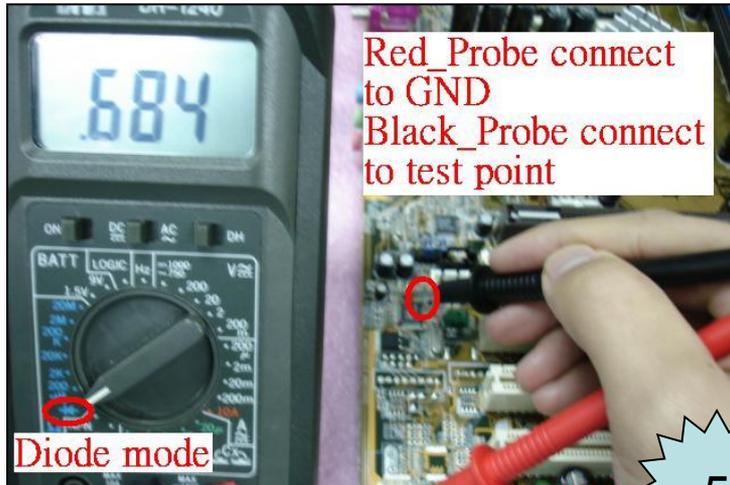# Repair Technique-Measure Audio Clock

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

4-1

Audio CLK_IN= 24.5 or 14.3 Mhz

24.5M

4-2

Repair Technique-Measure Audio signals

Red_Probe connect to GND
Black_Probe connect to test point

Diode mode

5

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!