

## User Manual of “BRAVO (SA9027) EEPROM Utility” V1.6

After executing the application “Bravo (SA9027) EEPROM Utility”, it is going to pop-up a dialog like Figure 1

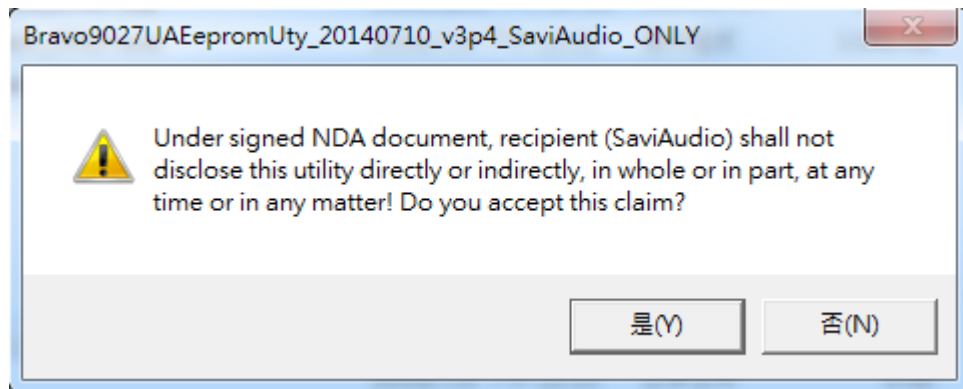


Figure 1

If you accept NDA claim, please click the button “Yes (Y)”. Otherwise, click the button “No (N)”.

After you click the button “Yes (Y)”, the main dialog will show like Figure 2.

SA9027 EEPROM Utility v3.4 (SaviAudio ONLY)

Vendor ID (Hex) 262A Product ID (Hex) 9027 Release Number (Hex, BCD) 0001 Max. Power (Dec) 500 mA (Max. 500 mA)

☐ Use EVB VID (0x262A) and PID (0x9027)

Manufacturer (String) SaviAudio ☐ Self-Powered

Product (String) SA9027 USB Audio ☐ Suspend Pin

Audio Interface (String) USB Audio Interface

I2S mode  
☒ Master ☐ Slave 0 ☐ Slave 1

Playback Stream

☒ Enable ☒ SPDIF TX ☒ AC3 / DTS

☒ 96KHz ☒ 88.2KHz ☒ 48KHz ☒ 44.1KHz ☒ 32KHz ☒ H/W Volume ☐ Native Async

☒ 24 bits ☒ 16 bits ☐ 32 bits ☐ DSD ☐ DC Remove

S/PDIF interface

Record Stream

☒ Enable ☒ I2S Line In

☒ 96KHz ☒ 88.2KHz ☒ 48KHz ☒ 44.1KHz ☒ 32KHz ☒ SPDIF RX

☒ 24 bits ☒ 16 bits

HID

☒ Play / Pause ☒ Next Track ☒ Previous Track ☒ Mute ☒ Volume Up ☒ Volume Down

File Name D:\Documents\Yinchu\902x EEPROM UT\3p4\BravoEEPROM.txt

☒ Text (.txt) ☐ Binary (.bin) Write To File Read From File

Vendor ID (Hex) 262A Product ID (Hex) 9027 ☒ EEPROM WP

Write To EEPROM

Reset Fields Exit

Figure 2

The functions of application “SA9027 EEPROM Utility” are split into 5 areas.

**Area 1:** USB product’s settings

Please fill the strings and select the functions that your own USB product has. You can check “Use EVB VID (0x262A) and PID (0x9027)” to set the default VID and PID.

You can check “Native Async” to use USB audio asynchronous mode (with Microsoft native driver), or you will use USB audio adaptive mode.

**Area 2:** Save/Restore USB product’s settings to file.

Select the file name to save/restore all the settings of your own USB product in **Area 1**. The format of saved file can be either in Text (\*.txt) mode or in Binary (.bin) mode.

### Area 3: Save USB product's settings to EEPROM

Save your own settings in [Area 1](#) to EEPROM.

For saving to EEPROM, first set the physical USB device's Vendor ID and Product ID which EEPROM your own USB product settings are written to. (If you use GPIO3 and GPIO6 to control EEPROM's WP pin, you should check "EEPROM WP".) And then click the button "Write To EEPROM".

The physical USB device's Vendor ID and Product ID can be gotten from "Device Manager" as Figure 3.

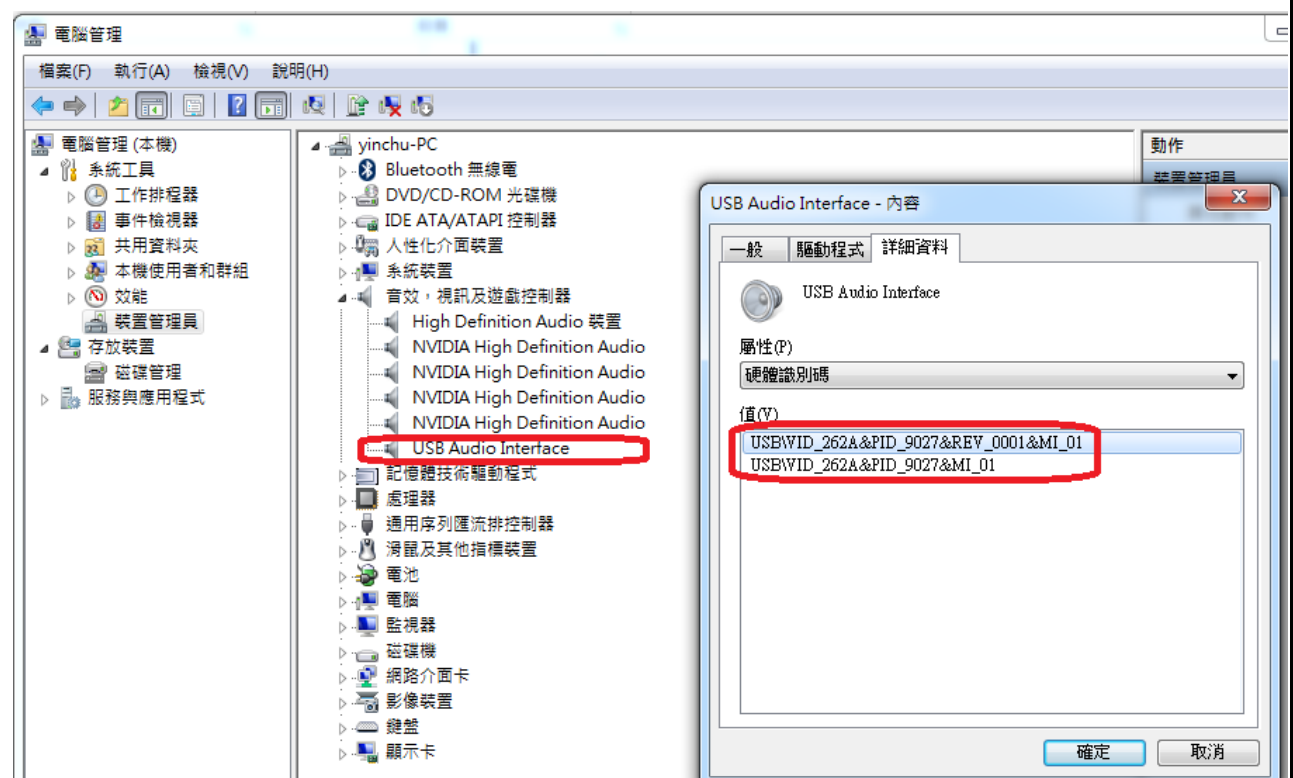


Figure 3

After finishing writing all data to EEPROM, the application is going to pop-up a window like Figure 4.

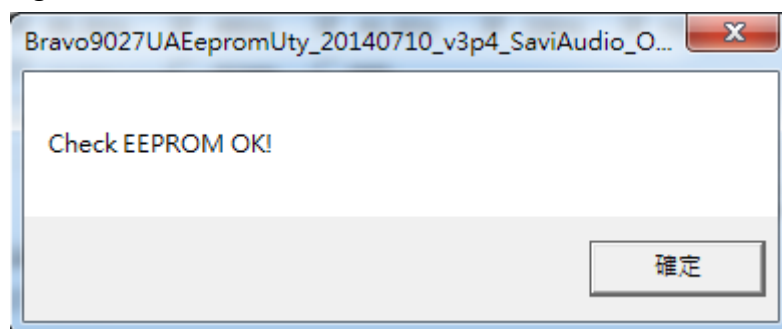


Figure 4

**Area 4:** Reset all fields

After click button “Reset Fields”, the all fields in **Area 1** and **2** will be reset to default.

**Area 5:** Exit application

After click button “Exit”, exit the application “Bravo (SA9027) EEPROM Utility”

\* If you have another questions, please refer to Q&A as below.

•Q1. In playback stream as Figure 5, why can’t “24 bits” and “32 bits” be checked at the same time?

•Ans. According to hardware design, either 24 bits or 32 bits can be checked. If you enable DSD playback, 32 bits must be checked (and 24 bits must be unchecked. It still can playback 24 bits audio source.)

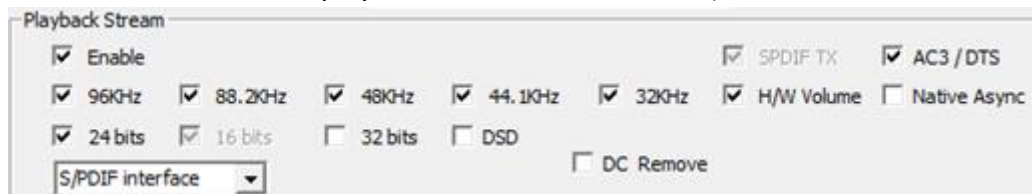


Figure 5.

•Q2. What does “Self-Powered” and “Suspend Pin” mean?

•Ans.

(1) Self-Powered-

If the designed product has an external power, its power supply can use the external power. If you don’t check this option as Figure 6, the default setting is “Bus-Powered”.

(2) Suspend Pin-

If you check this option, suspend pin will be pulled high as the USB device in suspend mode, when the USB device not in suspend mode, the pin will be pulled low.

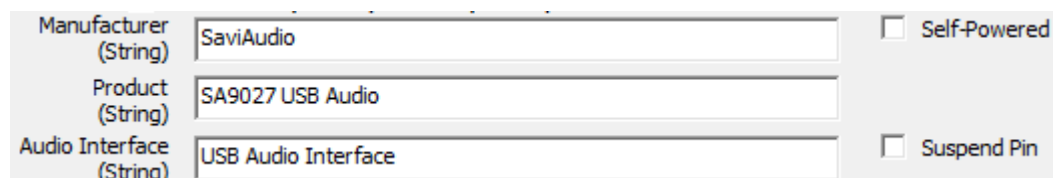


Figure 6

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- Q5. What does “DC Remove” mean?
- Ans. Spec explanation as Figure 8.

#### Volume Control and Soft mute Function

For playback stream, SA9027 can adjust volume gain range from 0dB to -55dB and mute. SA9027 also support disable “Volume Control Function” by external EEPROM which need USB Descriptor Software Tool.

For “Soft mute”, SA9027 support DC detection for soft mute / unmute. This function need enabled by external EEPROM which need USB Descriptor Software Tool.

If the data is a constant value for 8192 samples, a ramp down process begins to attenuate the volume from the current setting down to mute. When the data changes, a ramp up process begins to amplify the volume from mute up to the original setting.

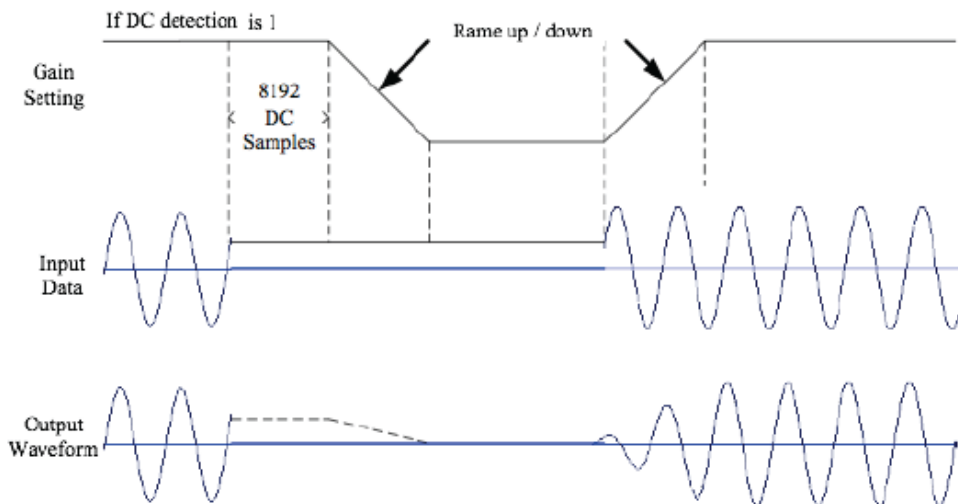


Figure 8

- Q6.”16 bits” is gray and checked as Figure 9, does it mean that it can support 16 bits per sample whatever you check?
- Ans. Yes.

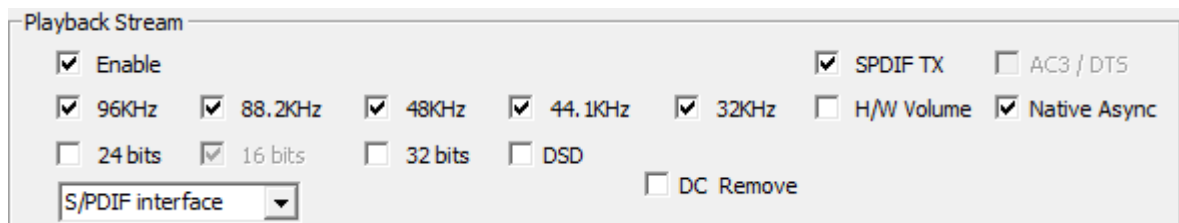


Figure 9

•Q7. What does “H/W Volume” mean? Why can “H/W Volume” be checked or not when I choose “24 bits” as Figure 10, but it is gray and unavailable when I choose “32 bits” as Figure 11?

•Ans.

(1) “H/W Volume” is control volume option of SA9027, it realizes the volume control in PC system.

(2) It doesn’t support this option when you choose “32 bits”, so it becomes gray and unavailable. When the option is gray and unavailable, the volume can still be adjusted, if O.S. provided S/W Volume is available.

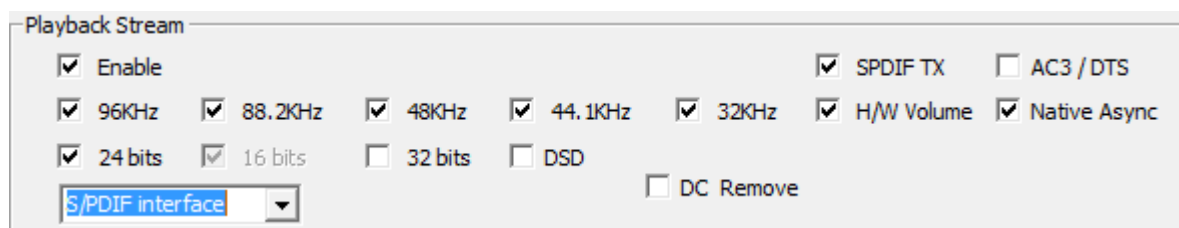


Figure 10

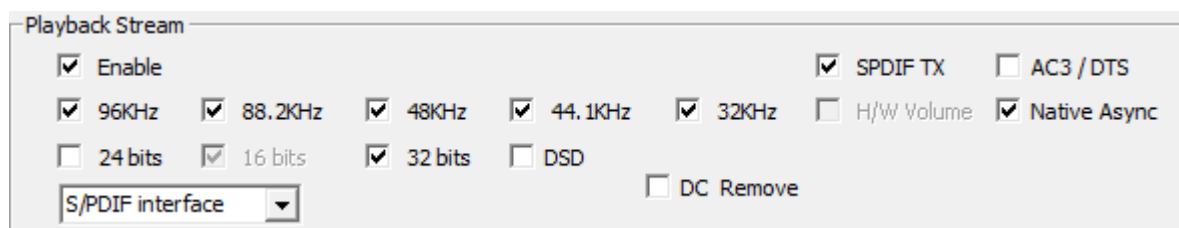


Figure 11

•Q8. When I check “DSD”, “24 bits” is gray and unavailable as Figure 12. Does it mean that SA9027 doesn’t support 24 bits audio sources?

•Ans. NO, it can still play 24 bits audio sources.

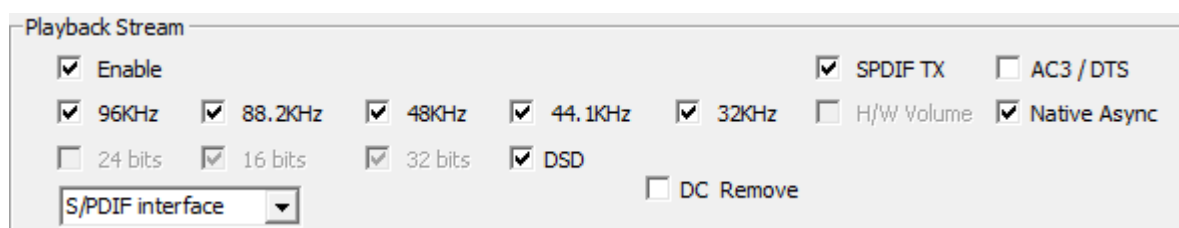


Figure 12

•Q9. What does “AC3/DTS” and “SPDIF TX” mean? Is “AC3/DTS” gray and unavailable when I didn’t check “24 bits” as Figure 13? Why is “SPDIF TX” gray and checked when I choose “24 bits” and “AC3/DTS” as Figure 14?

•Ans.

- (1) AC3/DTS and SPDIF are both audio formats, SPDIF TX enable 9027 SPDIF output.
- (2) Yes.
- (3) When you choose “AC3/DTS”, “SPDIF TX” is forced to be checked.

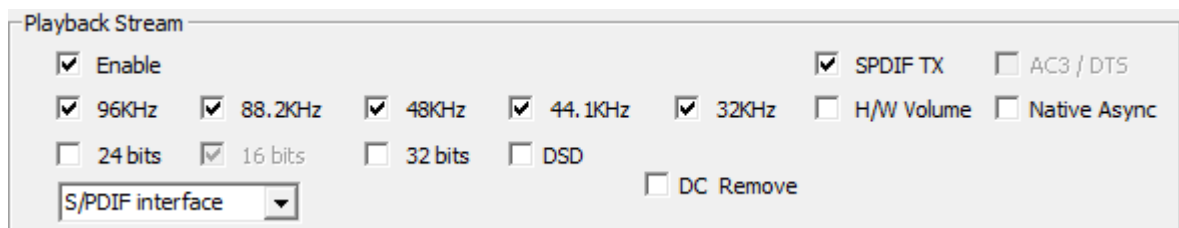


Figure 13

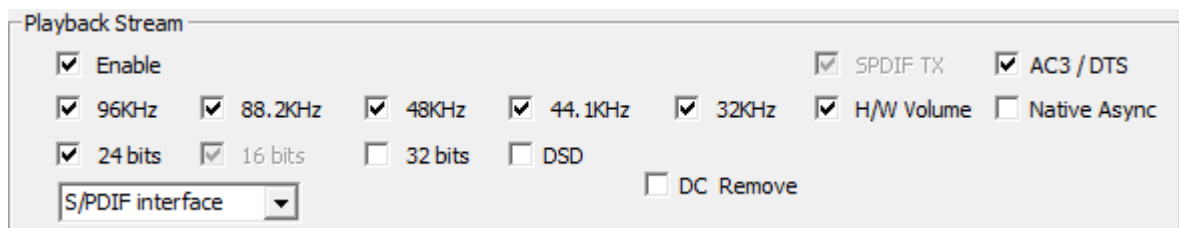


Figure 14