aP58WC Writer

User Guide

Aplus Integrated Circuits, Inc.

www.aplusinc.com.tw

sales@aplusinc.com.tw

Introduction

The aP58WC8x Writer is designed to support Aplus aP58Mx series Voice chips. It is suitable for:

- aP58M1 – **DIP8**
- aP58M1 – **SOP8**
- aP58M1 – **SOP16**
- aP58M2 – **DIP8**
- aP58M2 – **SOP8**
- aP58M2 – **SOP16**

This development system serves three main functions:

Compiler – to create rom file from user's Voice files
Writer – to download the rom file into the aP58WC8x Writer

The **Compiler** is used to combine the edited voice files into the chip to form the desired Voice Group and to define the playback functions of each Voice Group by selecting different Options and Trigger Modes of each individual Voice Group.

The **Writer** is used to download the rom file into the aP58Mx devices that resulted from the Compiler Function. A Writer Board connected to the PC via USB port is required.

Installation

Hardware Installation

aP58WC writer is a USB based writer programmer. It is intended to be used in Win7,Win8,Win10, Win11 computer.

aP58WC writer does not need to be installed, just click the executable file aP58WC_Compiler.exe to start it.

aP58WC8D   aP58WC8S   aP58WC16S

Operate：

Power supply: The writer uses 5V power supply from the USB interface, and the red light is on when it is powered on. And can be copying independently.

Download the ROM File to the Buffer of aP58WC8x writer.

BLANK Button: Press the blank key, the blue light is on, indicating that the blank is being checked
          The red light is on, indicating that the empty search has failed;
          The green light is on, indicating that the air check has passed.

PROGRAM Button: Press the programming key, the blue light is on, indicating that programming is in
          Progress.
          The red light is on, indicating that the programming failed.
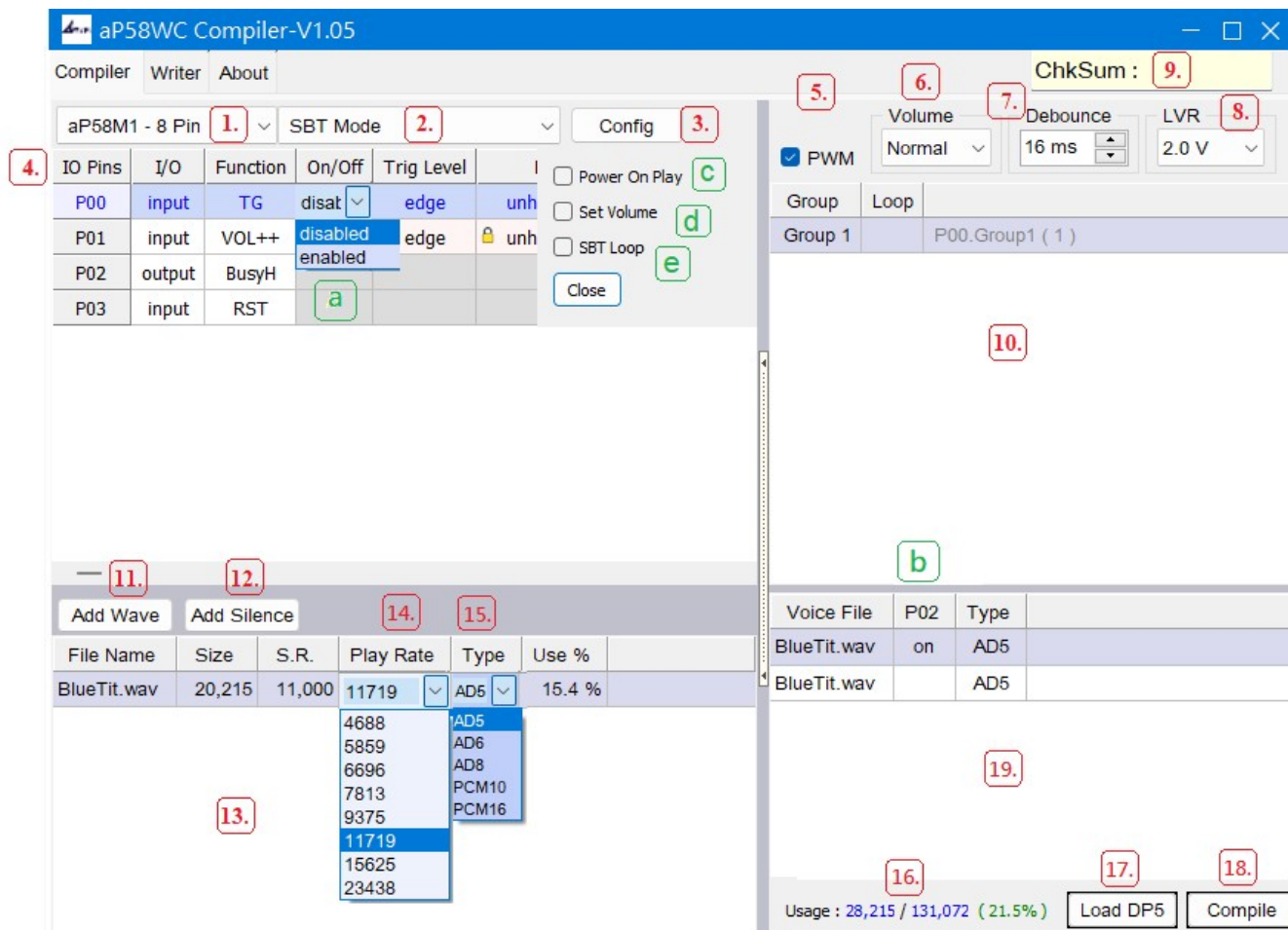   The green light is on, indicating that the programming is successful.

VERIFY Button: Press the verify key , the blue light is on, indicating that the verification is in progress
          The red light is on, indicating that the verification failed;
          The green light is on, indicating that the verification is successful.

Running The Software

aP58Mx ic accepts WAV format、16 Bit、MONO channel. Sample rate 23k max.

Double click the file **aP58WC_Compiler.exe** to launch the software.
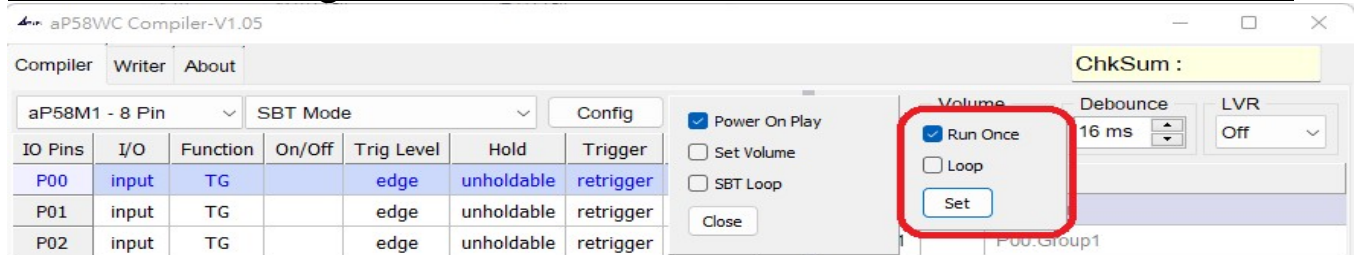
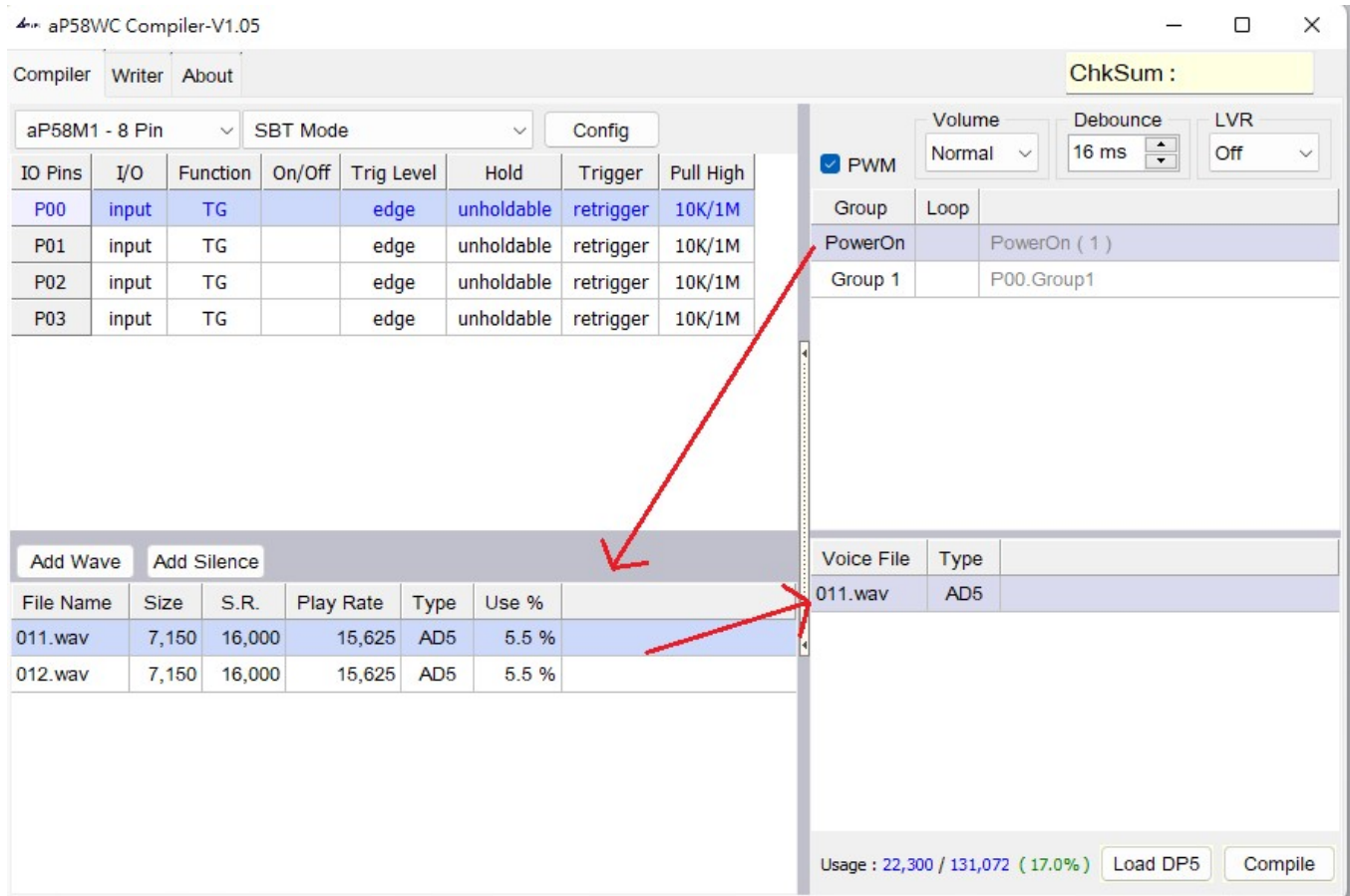▪ **COMPILER :**

COMPILER DESCRIPTION:

1. Select your required IC body.
    --- aP58M1-8pin or 16pin
    --- aP58M2-8pin or 16pin

2. Select your required trigger mode.
    ---   SBT Mode / KEY Mode / KEY(Matrix) Mode / MP3 Mode / 1-Wire Mode / 2-Wire Mode /
        3-Wire Mode.

3. IC body configures advanced function.
    --- Power On Play / Set Volume / SBT Loop
        The options in configures will generate different options according to your trigger mode.
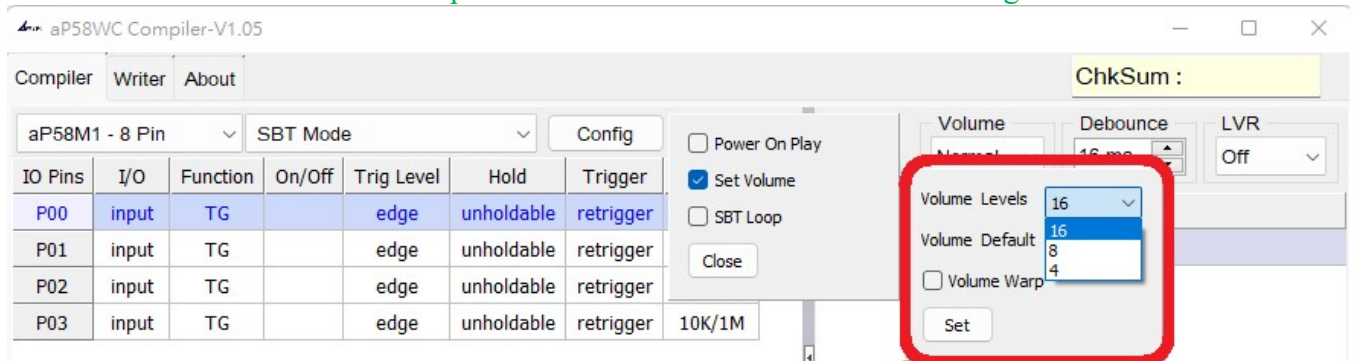
4. Select I/O function
   --- The different i/o pin function will generate different function options according to your trigger mode.

5. Select voice output mode.

6. Select PWM voice output volume.
   --- Low / Normal / High

7. Select required debounce time.
   --- 0ms ~ 170ms.

8. Select if using low voltage detect.
   --- There are 2v / 2.5v / off three options

9. Display the check sum generated by the compiler.

10. Setting your required voice sections.

11. Select your required voice file [xxx.wav] folder.

12. Select if adding the silence.
    --- 4ms ~ 240s.

13. Loading the required *.wav files

14. Choose play rate.
    --- 4688 / 5859 / 6696 / 7813 / 9375 / 11719 / 15625 / 23438.

15. Select the compression mode.
    --- AD5 / AD6 / AD8 / PCM10 / PCM16.

16. Show the memory of your usage. / Show the IC body memory size.

17. Load dp5 to re-edit setting.

18. Compiler: After setting the voices & function, push the button to create xxx.rom & xxx.dp5 & xxx.htm three files.

19. Show your final voice list.

a. Setting ON/OFF enable/disable. (The function is only available in SBT MODE)

b. There are optional outputs in all trigger modes, which can be turned on or off for each voice

c. Power on play : There are two options of Run once and Loop

Click PowerOn, then go to the left area and double click to select the voice to be placed to the right area.

d. Set Volume : There are three options of 16/8/4 level volume control setting available.

e. SBT Loop : In SBT mode, you can choose to play the voice once or automatically loop

Comparison table of play rate and compression.

aP58M1 duration table

Play Rate / Compression	4688 Hz	5859 Hz	6696 Hz	7813 Hz	9375 Hz	11719 Hz	15625 Hz	23438 Hz
AD5	42 sec	33.6 sec	29.4 sec	25.2 sec	21 sec	16.8 sec	12.6 sec	8.4 sec
AD6	35 sec	28 sec	24.5 sec	21 sec	17.5 sec	14 sec	10.5 sec	7 sec
AD8	26.2 sec	21 sec	18.3 sec	15.7 sec	13.1 sec	10.5 sec	7.8 sec	5.2 sec
PCM10	20.9 sec	16.7 sec	14.6 sec	12.5 sec	10.4 sec	8.3 sec	6.2 sec	4.1 sec
PCM16	17.5 sec	14 sec	12.2 sec	10.5 sec	8.7 sec	7 sec	5.2 sec	3.5 sec

＊＊This table is for reference. Please be subject to software confirmation.

In **SBT mode** , **KEY mode** , **KEY(Matrix) mode** , some function selections can be made for a single segment of TG. The function selection is one of two, there are Edge/Level , Holdable/Unholdable , Retrigger/Non-retrigger. The following will be done for the function explain

Edge and Level Trigger :
For both Edge and Level trigger, the chip starts to play when the trigger button is pressed. For Level Trigger, if the trigger key is pressed and keep holding at the pressed position, the chip will continue to play the same sound again and again until the trigger key is released.

However, if the chip is programmed to Edge Trigger, the chip will play the sound only for one time even the trigger key is kept pressing.

Holdable and Unholdable Trigger :
For Holdable Trigger, the chip will play only when he trigger key is kept pressing. Sound playback will stop immediatly once the key press is released.

For Unholdable Trigger, the sound section will be played to finished once the trigger is pressed no matter the trigger key is kept pressing or released.

Retrigger and Non-retrigger :
For retrigger option, the currently playing sound will be stoped and new sound section will be played when another trigger key is pressed.

For non-retrigger option, new trigger action will not be granted until the current sound section is finished playing.
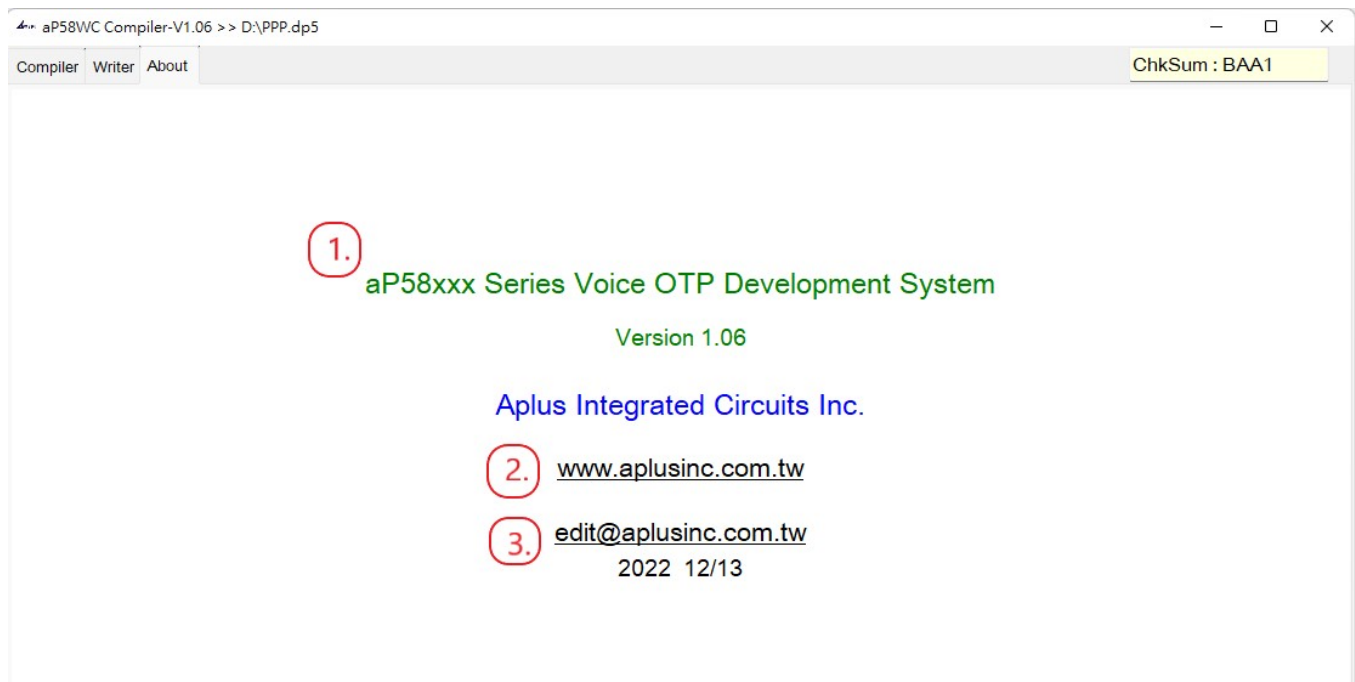
▪ **WRITER :**

WRITER DESCRIPTION:

1. Loading your programming file. (xxx.rom)

2. Download the ROM File to the Buffer of aP58WC8x.

3. The id code of the burning file

- **About :**

ABOUT DESCRIPTION:

1. Show software version.

2. Show website of Aplus Integrated Circuits Inc.

3. Contact for technical issues.

HISTORY

12/12/2022
   aP58WC Writer User Guide.

20/02/2023
   Add Comparison table of play rate and compression in page 7.