



ESP32-A1S ES8388 version

Replace AC101 instructions

Version V1.0

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One, hardware difference

ESP32-A1S The audio codec chip is composed of AC101 Replace with ES8388 after that,ESP32-A1S The version of the module is also changed from ESP32-A1S-V1.3 Updated to ESP32-A1S-V2.3.V2.3 The module interface of the version is still compatible V1.3 Version of the interface.

But there are still some differences:



V2.3(ES8388 Version) in the red box was originally V1.3(AC101 Version) SPORP with SPOLP, After canceling, no Will affect the use, because HPOUTR with HPOUTL Is the left and right channels P Extremely, their corresponding relationship:HPOUTR Corresponds to SPORP; HPOUTL correspond SPOLP.

therefore V2.3 The audio output of the version of the module is:

The right channel output is:HPOUTR(Positive) and SPORN(Negative); The left channel output is:HPOUTL(Positive) and SPOLN(negative).

supplement:

1,8388 of Linein withMIC2 They are shared and cannot be used at the same time.

2,MIC1 withMIC2 Can be linein Use, the software can adjust the configuration

Second, the software difference

1. Difference description

Provided by Espressif SDK The routines in are all run on the basis of the board. previousAC101 Chip, Espressif SDK There is no corresponding driver component, so we all need to write AC101 of IIC Communication drive will undoubtedly increase the difficulty of development for developers.

and V2.3 Version changed to ES8388 After that, you can directly use the driver written by Espressif, we just need to After the board is equipped, the developer can even passmenuconfigConfiguration interface to chooseESP32-A1S-Audio-Kit V2.2 Development board. After selecting the development board, you can runSDK In the routine.

2. adaptation V2.3 Modular SDK Configuration process

First set up esp-adf Development environment, SDK Source code environment: <https://github.com/espressif/esp-adf>

After that, run: `idf.py menuconfig`

```
Espressif IoT Development Framework Configuration
igate the menu. <Enter> selects submenus ---> (or empty submenus ----). Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes,
exit, <?> for Help, </> for Search. Legend: [*] built-in [ ] excluded <M> module < > module capable

-----

  SDK tool configuration --->
  Application manager --->
  Audio HAL --->
  Bootloader config --->
  Recorder Engine Configuration --->
  ESP Speech Recognition --->
  ADF Features --->
  Serial flasher config --->
  Example Configuration --->
  Partition Table --->
  Compiler options --->
  Component config --->

  <Select> < Exit > < Help > < Save > < Load >
```

enter: Audio HAL... Options

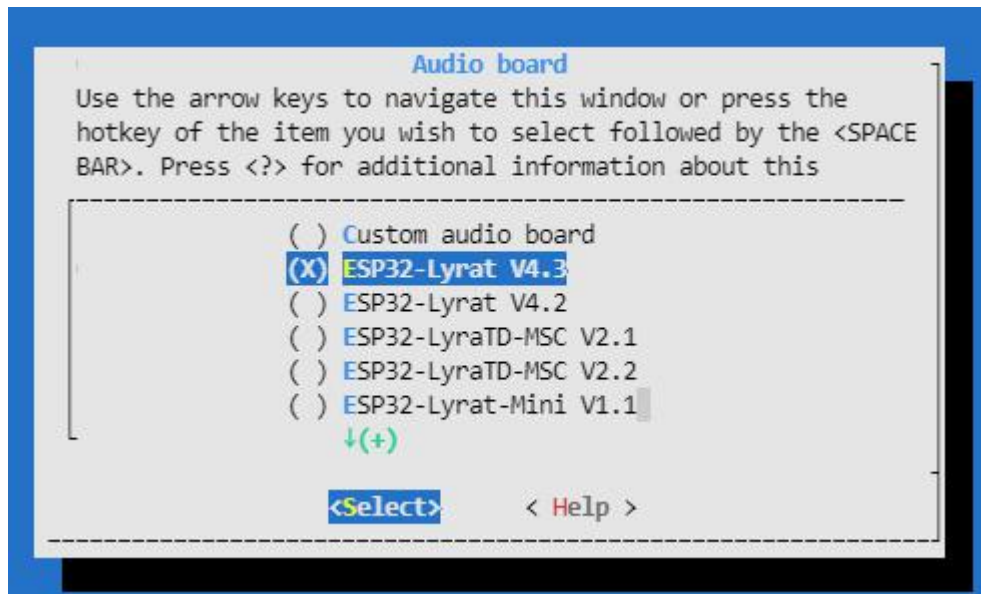
```
> selects submenus ---> (or empty submenus ----). Highlighted letters are hotkeys. Pressing <Y> includes, <N> exclude
for Search. Legend: [*] built-in [ ] excluded <M> module < > module capable

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  Audio board (ESP32-Lyrat V4.3) --->

  <Select> < Exit > < Help > < Save > < Load >
```

select: ESP32-Lyrat V4.3



modify board_pins_config.c Code, path:

esp-ADF/components/audio_board/lyrat_v4_3/board_pins_config.c

```

esp_err_t get_i2c_pins(i2c_port_t port, i2c_config_t *i2c_config)
{
    AUDIO_NULL_CHECK(TAG, i2c_config, return ESP_FAIL);
    if (port == I2C_NUM_0 || port == I2C_NUM_1) {
        i2c_config->sda_io_num = GPIO_NUM_33;
        i2c_config->scl_io_num = GPIO_NUM_32;
    } else {
        i2c_config->sda_io_num = -1;
        i2c_config->scl_io_num = -1;
        ESP_LOGE(TAG, "i2c port %d is not supported", port);
        return ESP_FAIL;
    }
    return ESP_OK;
}

esp_err_t get_i2s_pins(i2s_port_t port, i2s_pin_config_t *i2s_config)
{
    AUDIO_NULL_CHECK(TAG, i2s_config, return ESP_FAIL);
    if (port == I2S_NUM_0 || port == I2S_NUM_1) {
        i2s_config->bck_io_num = GPIO_NUM_27;
        i2s_config->ws_io_num = GPIO_NUM_25;
        i2s_config->data_out_num = GPIO_NUM_26;
        i2s_config->data_in_num = GPIO_NUM_35;
    } else {
        memset(i2s_config, -1, sizeof(i2s_pin_config_t));
        ESP_LOGE(TAG, "i2s port %d is not supported", port);
        return ESP_FAIL;
    }
    return ESP_OK;
}
    
```

修改I2C 端口

修改I2S端口

Save and exit to compile.

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