

# DA32UC User Manual

## ◆ Features

- DA32UC is a multi-channel decoder having Dolby digital AC-3, DTS etc. formats.
- Apply CS4926 or CS4936 audio DSP, CS8415 low time base error 96KHz digital receiver, 96KHz/24bit ADC and DAC.
- Support Dolby digital, Dolby pro-logic, HDCD、PRO-LOGICII etc.; And have various sound field effect replaying.
- For the analog audio output, different types low-pass filter circuits can be chosen to realize different effects.
- Can choose digital I2S inputting directly, drive directly digital power amplifier, compose entire digital home theater system.
- For internal analog input muting, when there is no analog signal, the muting process will automatically go on, making testing circuit from outside not necessary.
- Digital and analog ground wires are independent to reduce the requirement to the motherboard PCB LAYOUT and get better functions.
- Reserve digital audio interface input from outside, it can connect with digital audio of OTG series U disk MP3 etc. and directly connect with digital decoding MP3 music.
- Metal box package in the shape of radio head prevents disturbance to the sound and other components and provides excellent EMT function.
- Metal box can be directly installed on the board, being an integrated product with audio board, which improves traditional connection of the decoder board and enhances the reliability and appearance of the product.
- External STL215 FLASH single chip, have abundant resources and I/O ports, single CPU can finish complete machine functions of AV, employ the minitype QFP44 pin as encapsulation, installed directly on the audio board of user.
- STL215 single chip using new procedure can get from Internet can be upgraded directly procedure online, which provides convenience for testing and maintaining.
- Can provide the HSB II communication way, which is suitable to the need developing the user mainframe by self.

## ◆ Application Fields

- ✓ Digital audio decoder or analog audio decoder.
- ✓ AV receiving power amplifier.
- ✓ Computer multi-channel multimedia sound box.
- ✓ Entire digital home theater system applying digital power amplifier.



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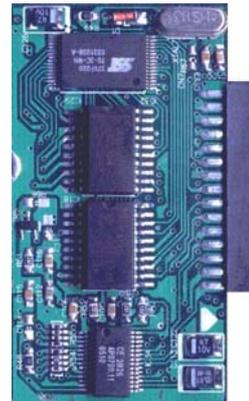
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**DA32UC decoding box**  
(length 6× width 4×height 1)

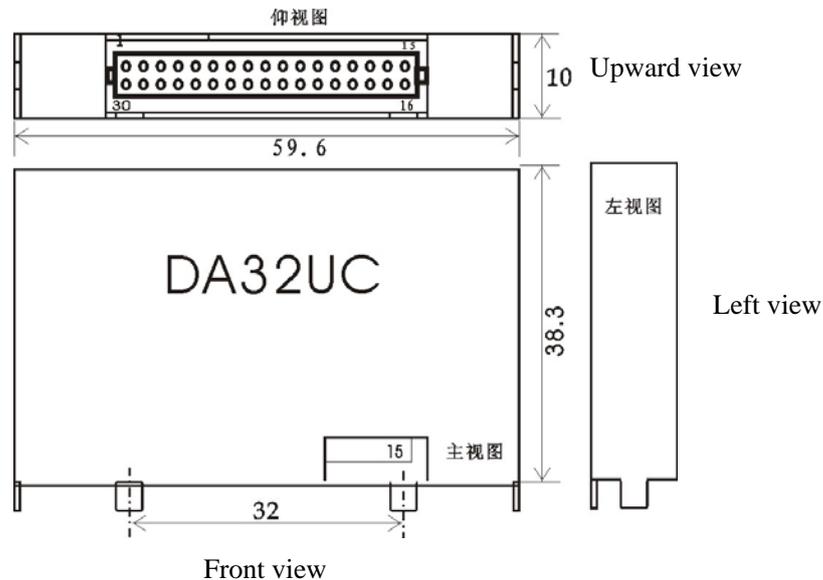


**DA32UC decoder**

#### ◆ Ground wire instructions

There is no connection between AGND and GND in DA32UC that asked for connecting on the user board. If +5V supply ground wire and analog ground wire are not in the power supply terminal, the connection point should near to the DA32UC pins. GND connects with ground wire of metal outer covering to keep the resistance of ground wire lower for a good effect. Or connecting at the place supplying is also acceptable, while the position nearing the DA32UC pins is preferable for a better effect.

#### ◆ DA32UC Dimension Diagram





## ◆ Instructions of The DA32UC Socket Ports Connection

CN1

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |

1. **SW** Extra bass channel signal output.
2. **SR** Back right channel signal output.
3. **SL** Back left channel signal output.
4. **FC** Central channel signal output.
5. **AGND** Analog ground wire audio output and power supply input, it does not connected with digital ground and required to be connected from outside.
6. **A17** STL215 single chip connection port.
7. **A16** STL215 single chip connection port.
8. **A15** STL215 single chip connection port.
9. **RRS** STL215 single chip connection port.
10. **INT** STL215 single chip connection port.
11. **+5V** Power supply +5V input.
12. **DAT** Data input port; can directly connect with data port of OTG series.
13. **MCK** I2S main clock output of user DAC; when sampling frequency is 44.1KHz, frequency of MCK is 11.2896MHz.
14. **DD4** Expansionsingle chip I/O port MUTE, it doesn't connect with pull-ups.
15. **DD3** Digital audio output, it is FC and SW channels.
16. **DD1** The first circuit data signal output, it is FL and FR channel.
17. **DD2** Digital audio output, it is SC and SR channels.
18. **BCK** I2S place clock output of user DAC; when sampling frequency is 44.1KHz, frequency of BCK is 2.822MHz.
19. **WCK** I2S group clock output of user DC; frequency of WCK is 44.1KHz.
20. **+3V3** Power supply +3V3 output.
21. **DSCL** STL215 single chip connection port.
22. **DSDA** STL215 single chip connection port.
23. **RX1** Set 1 digital input.
24. **RX2** Set 2 digital input.
25. **RX3** Set 3 digital input.
26. **DGND** Digital input ground wire.
27. **AIL** Analog left channel signal input.
28. **AIR** Analog right channel signal input.
29. **FL** Front left channel signal output.
30. **FR** Front right channel signal output.

**◆ Electrical Specification**

| <b>Item</b>              | <b>Minimum</b> | <b>Typical</b> | <b>Maximum</b> |
|--------------------------|----------------|----------------|----------------|
| +5V power supply voltage | +4.6V          | +5V            | +5.5V          |
| +5V working current      | 350mA          | 360mA          | 380mA          |
| Analog signal input      | 0.8Vrms        | 0.9Vrms        | 1.1Vrms        |
| Analog signal output@0dB | 0.7Vrms        | 0.8Vrms        | 0.9Vrms        |
| Digital RX input         | 0.1V(P-P)      | 0.5V(P-P)      | 1.0V(P-P)      |