

# User's Manual

## ***AWCL-300-6P-Series***

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3 Channels PWM/Audio Synchronized Color  
LED Controller

**User's Manual**

***Preliminary update***

***Version 1.0 – Dec. 02, 2009***



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# 1 Introduction

## 1.1 Description

AWCL-300-6P-Series are that one is simple and apt to operate general purpose RGB LED Controller. This controller besides can be regarded as a LED dimmer that supported IR-remote control interface, having offered and built-in six programs. In addition, the voice control of this control is different in market the common simple voice triggered control product. This controller has utilized the unique sound signal processing algorithm, causes the product function to present the value of market demand. On the hardware, we have used the high power switch driver for LED Control directly that caused the end user on the connected LED Module the conveniences.

In this series of products, we have offered support the standard DMX512-A console control function. By this DMX-512A interface, may let this product many functions are easier to go to link with the DMX512-A dimmer products in the market.

AWCL-300-6P-Series includes the serial number of two kinds of products at present :

- **AWCL-300-6P-Audio : A general purpose RGB LED Dimmer and voice controller ◦**
- **AWCL-300-6P-Audio-DMX : A general purpose RGB LED Dimmer and voice controller, support standard DMX-512A console controller.**

## 1.2 Features

- Support IR-remote control interface ◦
  - R、G、B brightness can be adjusted individually, and auto-save the setting ◦
  - Built-in six LED dynamic programs; dynamic mode can be set Fade/Jump and changed the dynamic speed.
  - Real Audio Synchronized color LED Control.
  - Automatically control mode switched between Audio Synchronized modes with Silent color fade mode.
  - Adjustable Sensitivity for audio synchronized mode (including Microphone and Line-in sources).
  - Audio source option for Line-in or Microphone.
  - Built-in high power switch driver, the LED driver capability : 150W/12V or 300W/24V ◦
  - **Supported DMX512-A Console control interface, including 17 data slots of DMX-512A. \***
  - **The Data slot of DMX512-A may include the data string of audio synchronized mode, can be used as a 16 steps Volume Unit meter in the DMX-512 Dimmers ◦ \***
- \* : AWCL-300-6P-Audio-DMX Supported only ◦

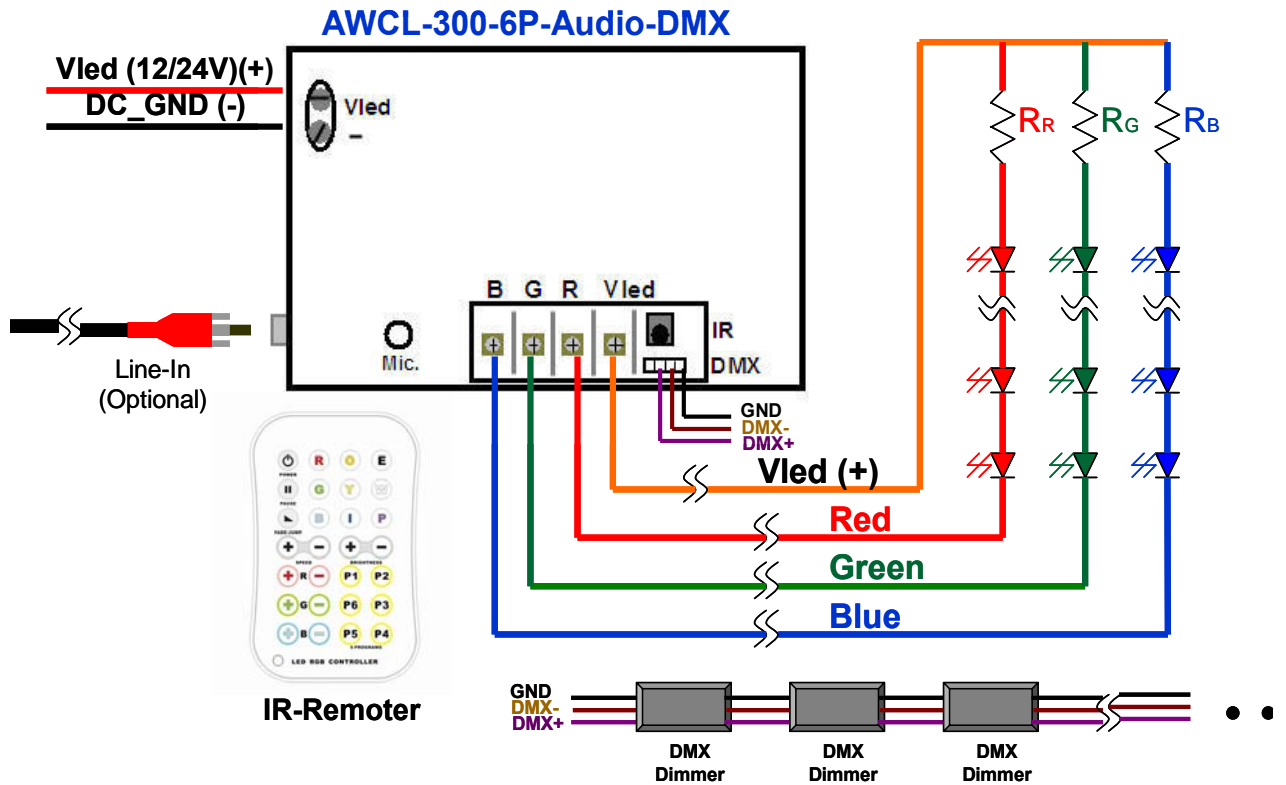
## 1.3 Specifications

Operation Voltage	DC12V~24V ◦	Power Consumption	< 20mA/12VDC
LED Output Power	150W/12V or 300W/24V	Weight	~ 300 g ◦
LED Module Type	Common anode / Constant Voltage	Size	L:65mmxW:38mmxH:22mm
Microphone sensitivity	-44± 2dB	Operation Temperature	0°C ~ 70 °C
Frequency response	100 ~ 20,000 Hz	Storage Temperature	-20°C ~ 85 °C

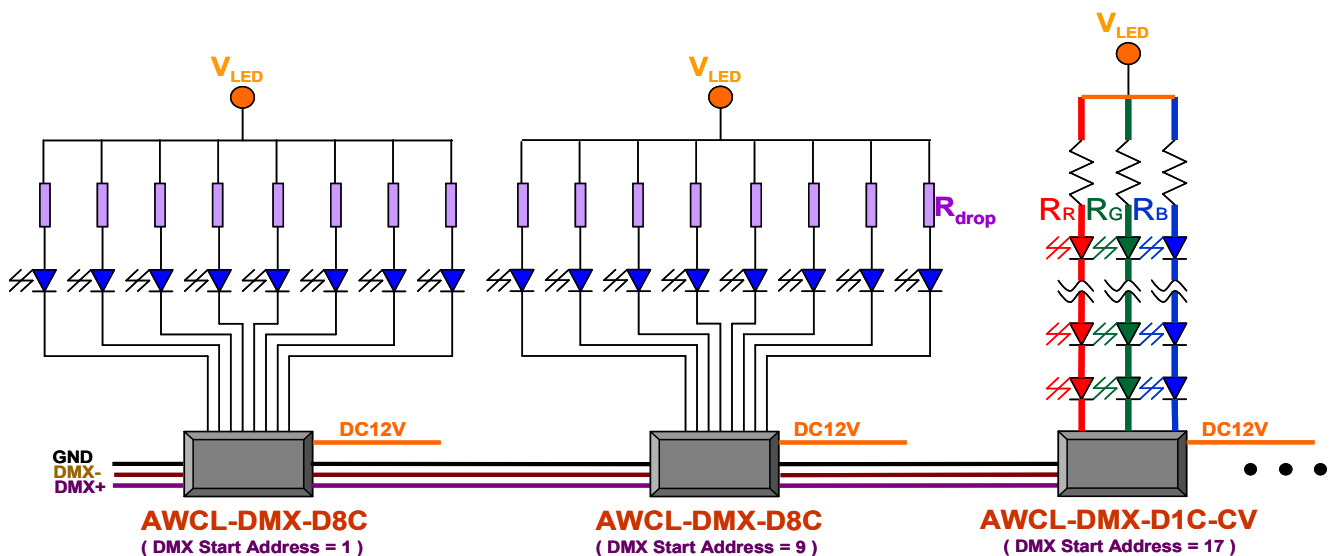
## 2 Introduction

### 2.1 Connection Diagram

➤ **AWCL-300-6P-Audio-DMX** Connection diagram :

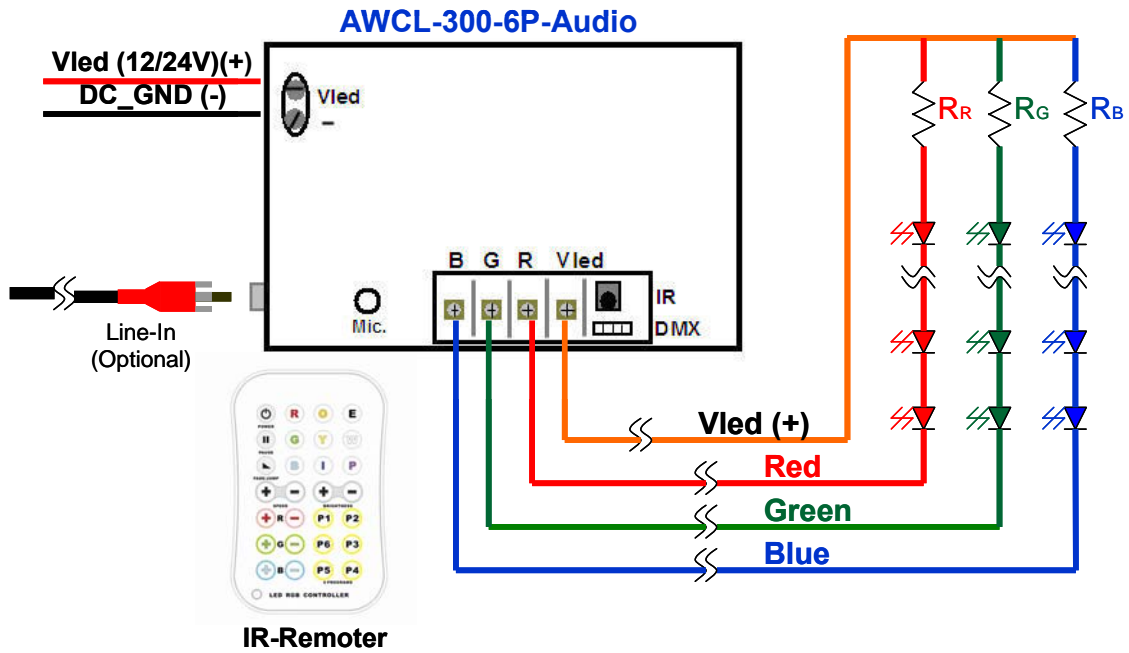


The connection diagram of minimum DMX dimmers requirement for **AWCL-300-6P-Audio-DMX** :

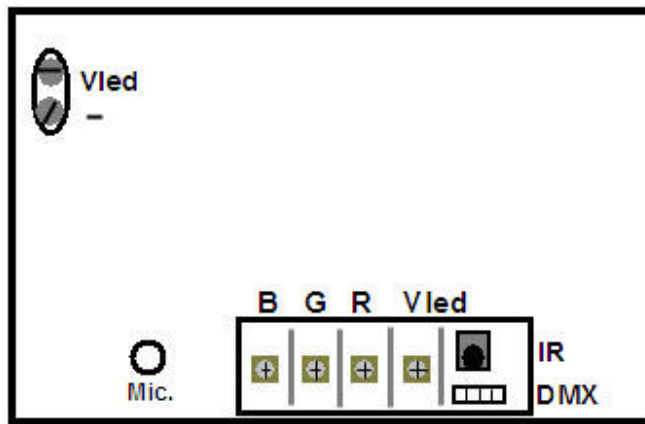


(Alike volume unit meter consist of two AWCL-DMX-8C, and the LED Control of AWCL-DMX-D1C-CV and AWCL-300-6P-Audio-DMX synchronization ◦)

➤ **AWCL-300-6P-Audio** Connection diagram :

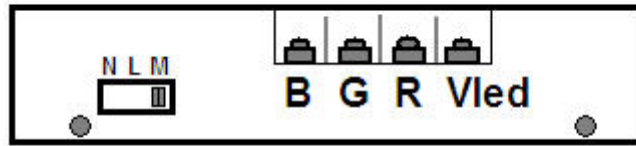


The Connector diagram of AWCL-300-6P-Series :



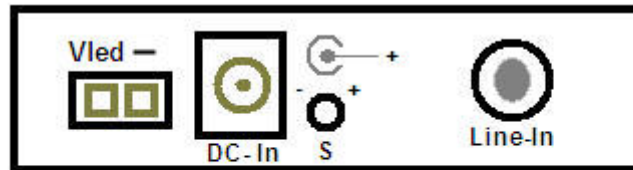
( Top View )

- **Vled** : The connector of LED's power supply which is based on the LED Module. (DC 12V/24V) ◦
- “ — ” : Ground of power supply ◦
- **B** : The connector of the Blue LED ◦ ( cathode of Blue LED module )
- **G** : The connector of the Green LED ◦ ( cathode of Green LED module )
- **R** : The connector of the Red LED ◦ ( cathode of Red LED module )
- **IR** : The Receiver of IR Remote Controller ◦
- **DMX** : The Output connector of DMX ◦ (AWCL-300-6P-Audio-DMX supported only)
- **Mic.** : The microphone ◦



( Side view )

- **Vled** : The connector of LED's power supply which is based on the LED Module. (DC 12V/24V) ◦
- **B** : The connector of the Blue LED ◦ ( cathode of Blue LED module )
- **G** : The connector of the Green LED ◦ ( cathode of Green LED module )
- **R** : The connector of the Red LED ◦ ( cathode of Red LED module )
- **“N”** : The switcher of audio input source ◦ No Audio input Option ◦
- **“L”** : The switcher of audio input source ◦ Audio Line-in Option ◦
- **“M”** : The switcher of audio input source ◦ Microphone Option ◦

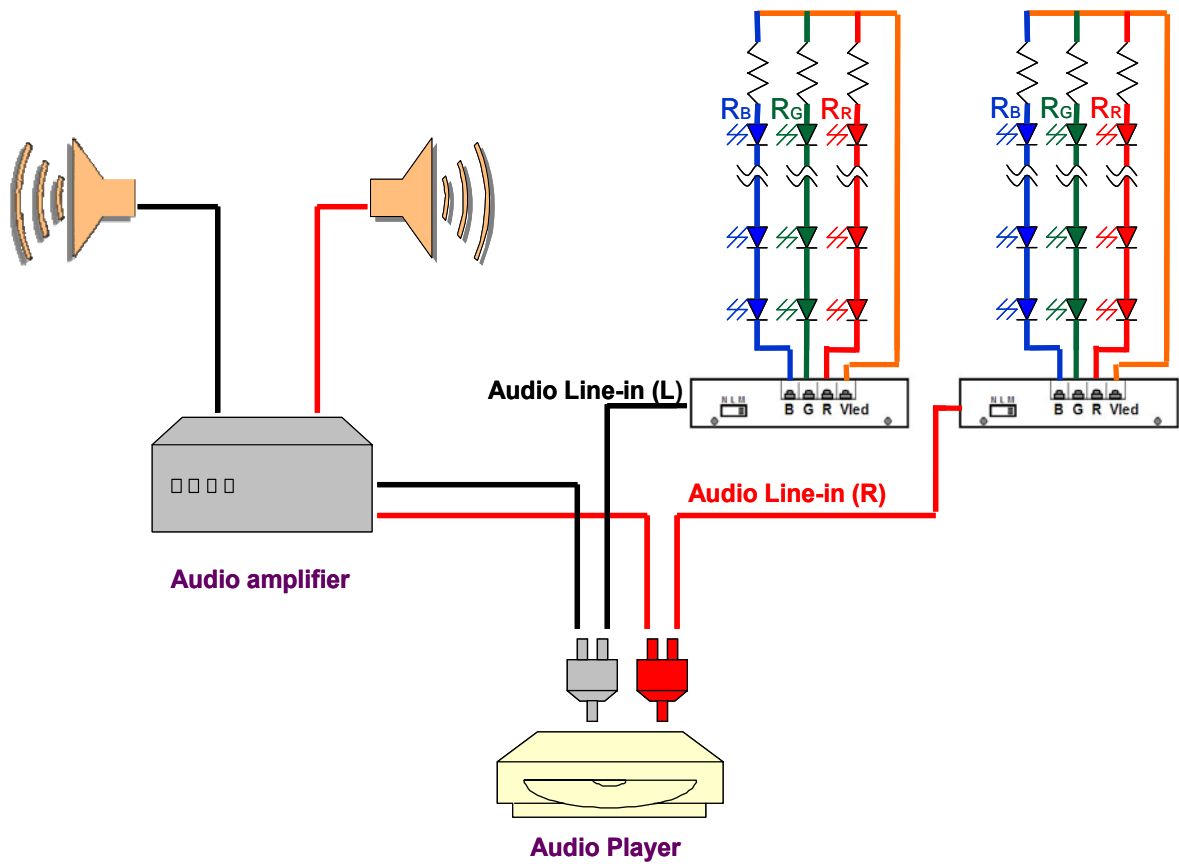


( Front View )

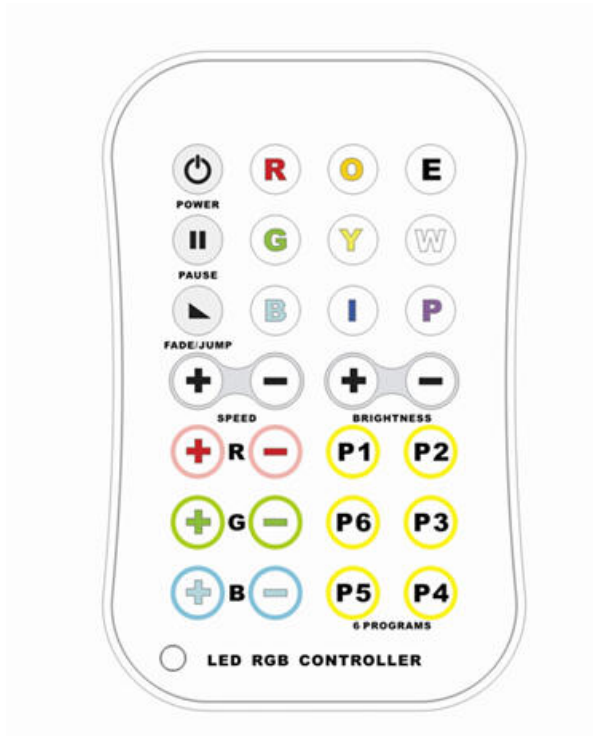
- **Vled** : The Power Connector of Led ◦ The Voltage is based on the LED strips ◦ 12V/24V supported ◦
- **“ — ”** : The Ground of Power Supply ◦
- **DC-In** : The Power adapter input of AWCL-300-6P-Series, Shorted to Vled in default ◦ 12V/24V Supported ◦
- **“S”** : The adjustment VR of sensitivity for Audio input ( included Line-in and microphone ) ◦ Increase the sensitivity in clockwise ◦
- **Line-In** : The plug of Audio Line-in ◦

If you want to connect the AWCL-300-6P-Series to the generic audio equipment, we recommend utilizing the AV splitter connecting AWCL-300-6P-Series and generic audio equipment simultaneously. It is easier to adjust the sensitivity of AWCL-300-6P-Series. Thus, would not in fact causes the volume of the stereo is regulated. The Connect diagram is shown as followed :

The connect diagram of AWCL-300-6P-Series combine the generic audio equipments :



## 2.2 The function of IR-Remoter





**POWER** : System Power switch. When System power is off, then there is some current existed ◦ (<20mA)



**PAUSE** : Pause the program when the P1 ~ P6 play ◦ Toggle pause and play ◦



**FADE/JUMP** : Switch the Jump/Fade mode when P1 ~ P6 play ◦ Toggle Jump and Fade ◦



**SPEED** : Adjust the Jump/Fade speed of P1 ~ P6 ◦ There are 24 various speed option ◦



**BRIGHTNESS** : Adjust the Brightness of LED ◦ There are 16 various brightness option ◦ Hint : If you had adjusted the LED brightness individually, then is maybe not 16 various brightness option anymore ; Beside, it can be used to adjust the sensitivity of Audio under the audio Synchronized mode. Decreasing the brightness means to decrease the sensitivity (16 various sensitivity) ◦ But, this setting will be not auto-saved, if you want to fix the specific sensitivity, using the adjustment VR of Sensitivity to do.



: Set the LED color as 100 % Brightness RED ◦



: Set the LED color as 100 % Brightness Green ◦



: Set the LED color as 100 % Brightness Blue ◦



: Set the LED color as Orange then 100 % Brightness RED and 50 % Brightness Green ◦



: Set the LED color as Yellow then 100 % Brightness RED and 100 % Brightness Green ◦



: Set the LED color as Indigo then 100 % Brightness Blue and 100 % Brightness Green ◦



: Reserved extended key ◦ Used to Enable/inhibit the audio Synchronized mode supported ◦



: Set the LED color as white then 100 % Brightness RED, 100 % Brightness Green and 100 % Brightness Blue



: Set the LED color as Purple then 100 % Brightness RED and 100 % Brightness Green ◦



: Set the individual RED brightness ◦ There are 16 various option ◦



: Set the individual Green brightness ◦ There are 16 various option ◦



: Set the individual Blue brightness ◦ There are 16 various option ◦

**P1** : Fade/Jump Program 1 ◦ Red 100 % → Red 100 %+Green 100 % → Green 100 % →  
Green 100 %+ Blue 100% → Blue 100 % → Red 100 %+ Blue 100% → Red 100 % ...

**P2** : Fade/Jump Program 2 ◦ Red 100 % → Red 100 %+ Green 50 % → Red 100 %+ Green 100 % →  
Red 50 %+Green 100 % → Green 100 % → Green 100 %+Blue 50% → Green 100 %+Blue 100% →  
Green 50 %+ Blue 100% → Blue 100 % → Red 50 %+ Blue 100% → Red 100 %+ Blue 100% →  
Red 100 %+ Blue 50% → Red 100 % ...

**P3** : Fade/Jump Program 3 ◦ Red 100 % → Green 100 % → Blue 100 % → Green 100 % → Red 100 % ...

**P4** : Fade/Jump Program 4 ◦ Red 100 % → Dark → Red 100 %+ Green 100 % → Dark → Green 100 % →  
Dark → Green 100 %+ Blue 100% → Dark → Blue 100 % → Dark → Red 100 %+ Blue 100% →  
Dark → Red 100 % ...

**P5** : Fade/Jump Program 5 ◦ Red 100 % → Red 100 %+ Green 100 % → Green 100 % →  
Green 100 %+ Blue 100% → Red 100 %+ Green 100 %+ Blue 100% → Blue 100 % → Dark →  
Red 100 %+ Blue 100% → Red 100 % ...

**P6** : Fade/Jump Program 6 ◦ Red 100 %+ Blue 100% → Dark → Red 100 %+ Green 100 % → Dark  
→ Green 100 %+ Blue 100% → Dark → Red 100 %+ Blue 100% ...



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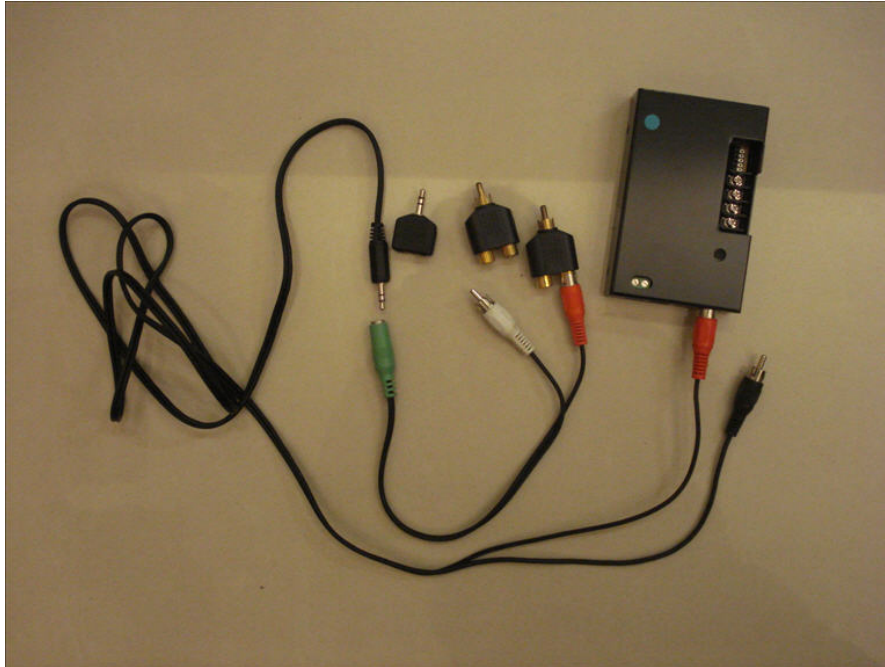
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### 3 Appendix

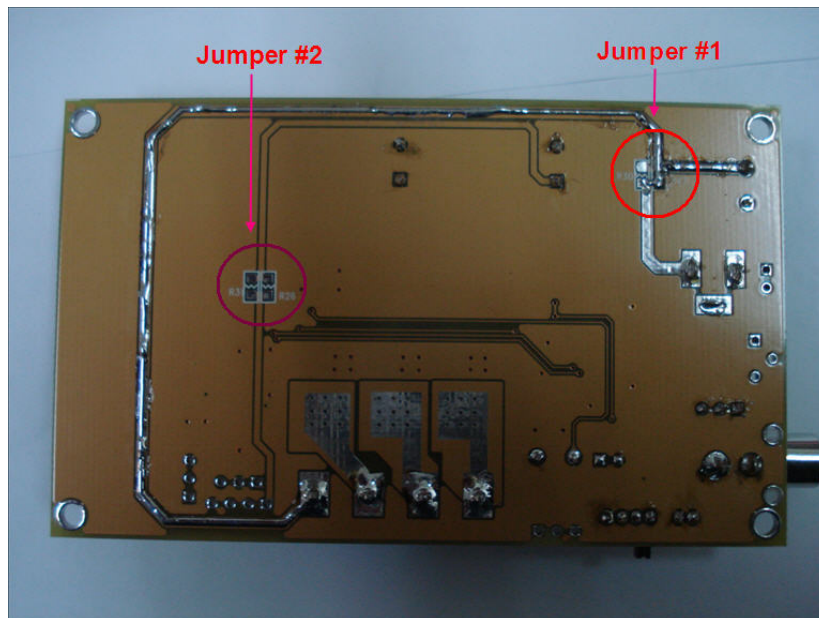
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#### 3.1 The Accessory of AWCL-300-6P-Series for Audio Line-in ◦



#### 3.2 AWCL-300-6P-Series Application Notes :



Jumper #1 : The Option Jumper of Vled and DC-in . That is Shorted in factory set. i.e. Vled and DC-in used same power source , and the Voltage ranged is 12VDC~24VDC ◦

Jumper #2 : The DMX Power option jumper. If it is shorted, the DMX connector will powered from DC-In ◦ Default is N.C. (Non-Connection) ◦

## **Revision History**

<b>Revision</b>	<b>Date</b>	<b>By</b>	<b>Remark</b>
V1,0	16/12/2009	Mr. Taiwanese	First edition